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April 6, 2018

**VIA FEDERAL EXPRESS  
AND E-MAIL**

Mayor Randy Casale  
and Members of the City Council  
City of Beacon City Hall  
1 Municipal Plaza  
Beacon, New York 12508

Re: Edgewater – Special Permit Application for Multi-Family Development  
Premises: 22 Edgewater Place, Beacon, New York  
Tax Parcel IDs: 5954-25-581985, 5955-19-590022, 5954-25-566983 and 5954-25-574979

Dear Mayor Casale and Members of the City Council,

On behalf of the Scenic Beacon Developments, LLC, (the “Applicant”), we respectfully submit this letter in furtherance of the above-referenced application for a Special Use Permit (the “SUP Application”) for a transit-oriented multi-family development project commonly referred to as Edgewater (hereinafter the “Project” or “Edgewater”).

In addition to the Applicant’s presentations and discussions with the Council at the Council’s March 12<sup>th</sup> and March 26<sup>th</sup> Work Sessions, this letter and its enclosures provide further supplemental written responses to the matters discussed at the Work Sessions.<sup>1</sup> The Applicant looks forward to appearing again before this Council at its April 9<sup>th</sup> Work Session to further address these matters.

**THE PROPOSED MULTI-FAMILY DEVELOPMENT COMPLIES WITH ZONING AND SATISFIES THE SPECIAL PERMIT CRITERIA**

As more fully detailed in the Applicant’s submission to the Council dated January 30, 2018, the proposed Edgewater multi-family development is a permitted use in the zoning code. In accordance with the Zoning Code’s Schedule of Use Regulations for Residential Districts, multi-dwellings are expressly considered “Principal Permitted Uses” in the RD-1.7 District, subject to obtaining Special Permit Approval from the City Council as set forth in set forth in Zoning Code

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<sup>1</sup> The Applicant has also submitted correspondence dated January 30, 2018, February 20, 2018 and March 26, 2018, including eleven (11) additional letters of support.

§§ 223-18 and 223-19, concerning special permits and individual standards for the regulation of certain special uses.<sup>2</sup>

As we noted during our presentations during the Work Sessions, New York Court of Appeals, New York's highest court, provides that:

a special exception [permit/use] gives permission to use property in a way that is consistent with the zoning ordinance, although not necessarily allowed as of right. The significance of this distinction is that the 'inclusion of the permitted use in the ordinance is tantamount to a legislative finding that the permitted use is in harmony with the general zoning plan and will not adversely affect the neighborhood'...<sup>3</sup>

In contrast to a variance, for example, a special permit use is expressly permitted by the ordinance, and therefore has been deemed to be compatible with the principal uses of the zoning district, if certain reasonable conditions are imposed on the use. The inclusion of a use in a zoning law as a special permit use "is tantamount to a legislative finding that the permitted use is in harmony with the [community's] general zoning plan and will not adversely affect the neighborhood."<sup>4</sup> Because of this pre-existent legislative determination underlying any specially permitted use, a designation as a special permit use results in a strong presumption in favor of the use,<sup>5</sup> and constitutes "a per se finding that it is in harmony with the neighborhood."<sup>6</sup> In short, a special permitted use provided for by a zoning ordinance is a permitted use when approved,<sup>7</sup> and the grant of a special use permit validates a use which is permitted by the zoning ordinance.<sup>8</sup>

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<sup>2</sup> Zoning Code Section 223-17C, Schedule of Regulations for Residential Districts, provides that "... multiple dwelling[s] in any RD or RMF District..." are "subject to the special permit approval procedure set forth in §§ 223-18 and 223-19."

<sup>3</sup> Retail Prop. Trust v. Bd. of Zoning Appeals of Town of Hempstead, 98 N.Y.2d 190, 195, 774 N.E.2d 727 (2002) (citing Matter of North Shore Steak House v. Board of Appeals of Inc. Vil. of Thomaston, 30 N.Y.2d 238, 243 (1972) [citations omitted]); see also Nathan v. Bd. of Appeals of Town of Hempstead, 125 A.D.3d 866, 5 N.Y.S.3d 127 (N.Y. App. Div. 2015) (holding that "[a]n applicant for a special exception permit need only show that it has complied with every legislatively imposed condition on the permitted use"); see also Juda Const., Ltd. v. Spencer, 21 A.D.3d 898, 900, 800 N.Y.S.2d 741, 743 (2005) (the Supreme Court, Appellate Division, Second Department held that "[a] use permitted by special exception use permit is a use that has been found by the local legislative body to be appropriate for the zoning district and 'in harmony with the general zoning plan and will not adversely affect the neighborhood'" [citations omitted] and further held that "[t]he [special] permit must be granted if the application satisfies the criteria set forth in the zoning law (citing Matter of Pleasant Val. Home Constr. v. Van Wagner, 41 N.Y.2d 1028, 1029, 395 N.Y.S.2d 631, 363 N.E.2d 1376).

<sup>4</sup> See Matter of North Shore Steak House v. Board of Appeals of Inc. Vil. of Thomaston, 30 N.Y.2d 238, 243 (1972).

<sup>5</sup> See Cove Pizza v. Hirshon, 61 A.D.2d 210, 401 N.Y.S.2d 838 (2d Dept. 1978).

<sup>6</sup> See Pilato v. Zoning Board of Appeals of the Town of Mendon, 155 A.D.2d 864, 895, 548 N.Y.S.2d 950, 951 (4th Dept. 1989).

<sup>7</sup> See Orange and Rockland Utilities, Inc. v. Town Board of the Town of Stony Point, 214 A.D.2d 573, 624 N.Y.S.2d 640 (2d Dept. 1995), *appeal denied*, 86 N.Y.2d 710, 634 N.Y.S.2d 443 (1995).

<sup>8</sup> See Fischlin v. Board of Appeals of the Town of Philipstown, 176 A.D.2d 50, 579 N.Y.S.2d 494 (3d Dept. 1992).



### ***The Proposed Project Satisfies the Special Permit Criteria***

Pursuant to N.Y. Gen. City Law § 27-b and City of Beacon Zoning Code § 223-18 (the “Special Permit Provisions”), special uses shall be deemed to be principally permitted use in their respective districts, subject to the standards set forth in Zoning Code § 223-18.

In considering the SUP Application, Zoning Code §223-18(B)(1) directs that the City Council shall consider the following standards and conditions:

- (a) The location and size of the use, the nature and intensity of the operations involved in or conducted in connection with it, the size of the site in relation to it and the location of the site with respect to streets giving access to it are such that it will be in harmony with the appropriate and orderly development of the district in which it is located.
- (b) The location, nature and height of buildings, walls and fences and the nature and extent of the landscaping on the site are such that the use will not hinder or discourage the appropriate development use of adjacent land and buildings.
- (c) Operations in connection with any special use will not be more objectionable to nearby properties by reason of noise, fumes, vibration or other characteristic than would be the operations of any permitted use, not requiring a special permit.
- (d) Parking areas will be of adequate size for the particular use and properly located and suitably screened from adjoining residential uses, and the entrance and exit drives shall be laid out so as to achieve maximum safety.

### ***The Operations on the Premises Will Not be Objectionable to Nearby Properties***

While it is respectfully submitted that our previous submissions and presentations have set forth the Applicant’s justifications for the project’s satisfaction of the Special Permit criteria,<sup>9</sup> at the Work Sessions the Applicant was asked to consider other uses that are permitted on the Premises, rather than the multi-family development proposed by the Applicant. Specifically, the Applicant was asked to compare a buildout of the Premises that includes townhouses, as well as single-family houses,<sup>10</sup> as further discussion about how the project satisfies Zoning Code §223-18(B)(1)(c).

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<sup>9</sup> Note: As we indicated in our prior submissions, to avoid unnecessary repetition, we respectfully incorporate by reference all of our prior submissions and presentations to the Planning Board and Zoning Board of Appeals, which address; community character; density; impacts to schools and parking. As to the more-detailed studies and analyses prepared, including detailed analyses pertaining to water, stormwater, sewer and related utilities, we respectfully refer this Council to our past submissions and the reviews by the Council’s consultants that confirm adequate water and sewer, and reduced inflow and infiltration. Copies of the prior correspondence are available at the Council’s request, and are on file with the Building Department.

<sup>10</sup> Note: Other permitted uses in the RD-1.7 District include: buildings, structures and uses owned or operated by the City of Beacon [for example a DPW yard], church or place of worship, convent, rectory or religious use, public school, farm, public playground or other municipal use, and accessory uses can include home offices.

Enclosed as **Exhibit A**, please find a copy of the letter prepared by Aryeh Seigel, Architect, which reviews the alternate residential concepts requested by the Council, including an updated rendering from the March 26<sup>th</sup> meeting. Mr. Siegel's letter also notes a single-family home scenario, involving fourteen (14) large single-family homes located on the Premises.

While the Applicant provided the above-referenced enclosure at the request of the Council, it is respectfully submitted that Zoning Code §223-18(B)(1)(c), read in its entirety, looks at the "**Operations**" in connection with any special use, in determining whether "... any special use will not be more objectionable to nearby properties by reason of noise, fumes, vibration or other characteristic than would be the operations of any permitted use, not requiring a special permit." It is respectfully submitted that this is a performance standard, as compared to any particular building type. Said another way, the above-section, which specifically denotes noise, fumes and vibrations, is not a housing-to-housing comparison, but rather a performance standard.

Provided this performance standard, as noted in **Exhibit A**, which involves an equal number of townhouses (307) to the number of proposed apartments, the development would involve additional building coverage and eliminate open space proposed in the more-dense apartment development. Similarly, **Exhibit A** identifies, that a single-family-home development would result in the loss of the proposed below-market rate units and the density the property was comprehensively planned and zoned for. Ultimately, the test is not to compare a ski slope to a house; or a church to an apartment – it's looking at the operations of the property.

Further, the Applicant's engineer, Hudson Land Design, reviewed the operations of the site, which would be no more objectionable to nearby properties by reason of noise, fumes, vibration for the following reasons:

1. The internal access drives would generally be in the same location for multifamily, townhomes or single-family houses because they follow the contours of the land and are sited such that they minimize cuts and fills while maintaining maximum grades in accordance with City of Beacon requirements. The proposed connection points to the City streets would be in the same place as well because the connection points locations provide the safest means of ingress-egress. The two connection points also provide two points of ingress/egress. Therefore, if one ingress/egress point were blocked, there would be another means of ingress/egress. The noise, fumes and vibrations emitted from use of the internal roadways would be similar for multifamily, townhomes or single-family lots.
2. The building locations for the multifamily are setback farther away from adjacent properties than townhomes or single-family homes. Therefore noise, fumes or vibrations would not be more objectionable than townhomes or single-family lots.
3. The multifamily development offers an internal green common area which the buildings themselves block views and noises coming from these areas.

Further, as indicated by the City Attorney during the March 26<sup>th</sup> meeting, and as noted in our January 30<sup>th</sup> submission to this Council, the SEQR process was completed for this project. Notably, we make reference to the SEQR process in our submission because the Special Permit



process in the Zoning Code also includes references to the SEQR Process, and for good reason. In particular, it accounts for actions where this Council for example, is the Lead Agency in a Special Permit review. Our January 30<sup>th</sup> submission referenced the fact that this special use standard, and the potential impacts are also generally considered within the SEQR review. Accordingly, as part of the Coordinated SEQRA Environmental Review conducted by the Planning Board as Lead Agency, the Planning Board has confirmed that the entire action will have no potential significant adverse environmental impacts. *See Exhibit B.* The Planning Board also granted a LWRP Consistency Determination, further resolving that the proposed Project is consistent with policies and guidance contained therein. *See Exhibit C.* Finally, the ZBA, in determining to grant the required area variances for the Project, also determined that no adverse effects would arise from the granting of the variances on the surrounding properties or neighborhood. *See Exhibit D.*

With respect to operations of the site, it is also respectfully submitted that the Applicant has fully considered the potential traffic impacts of this development, including a no-build scenario. As noted at the March 26<sup>th</sup> hearing, enclosed is a copy of the Applicant's Traffic Impact Study, prepared by the Applicant's Traffic Consultant, Maser Consulting P.A., which was considered during the SEQRA review process. The TIS evaluated potential traffic impacts associated with the proposed Project, which would be accessed from a reconstructed driveway connection to Tompkins Avenue, located between Tompkins Terrace and Bank Street. Additionally, the Project would include an extension at the southern end of the property to Branch Street, providing additional access directly to Bank Street, which connects to West Main Street to the south. Ultimately, the TIS concludes that similar levels of service and delays will be experienced at the area intersections under the future No-Build and Build Conditions. The TIS proves that the Edgewater development's traffic is not expected to cause any significant impact in traffic operating conditions in the vicinity of the site. Further, the proximity to the site to Metro-North makes it likely that actual traffic volumes generated by the Project will be less than what were evaluated in the conservative TIS. The City's Traffic Consultant, Creighton Manning, agreed with the Applicant's TIS and affirmed that overall, any traffic delays caused by the Project are being mitigated to, or better than, No-Build conditions. The Applicant's Traffic Consultant's Responses to comments from the City's Traffic Consultant are also enclosed for the Council's reference.

Accordingly, there will be no adverse effects of noise, vibrations, odor, traffic, or impact on public services caused by the proposed Project.

### ***Access to Metro-North from the Edgewater Premises***

During the Work Sessions, the Council also asked the Applicant to review how residents at the Edgewater Premises would access the Metro-North railroad station. Enclosed as **Exhibit E**, please find a letter prepared by the Applicant's Engineering Consultant, Hudson Land Design, which includes a copy of the plan reviewed at the March 26<sup>th</sup> meeting.

### ***Lot Area Per Dwelling Unit – Steep Slopes Law***

During the March 12<sup>th</sup> and March 26<sup>th</sup> Work Sessions, the Council also identified that proposed legislation involving density reductions would likely impact the Edgewater Premises. The Applicant appreciates the opportunity to discuss the potential impacts to Edgewater project, and

we respectfully incorporate by reference our submission to this Council dated February 26, 2016, a copy of which is enclosed as **Exhibit F**.

In particular, for discussion at the April 9<sup>th</sup> City Council Work Session, we highlight the following three (3) points:

- 1) The Applicant respectfully requests that the proposed Local Law grandfather the Edgewater project. The enactments relating to steep slopes in the FCD District neither justify or compel similar actions relating to RD District. Given the unique timing of this proposed law, and the status of the Edgewater in the City's approval processes, if the City moves ahead with this law, a project such as Edgewater, which has recently completed the SEQR process, should be grandfathered. Again, there is no precedent that is similar to this case regarding any different zoning district, and decisions must be made on the merits of each unique situation.
- 2) The City's Comprehensive Plans do not support this density reduction for steep slopes the in RD-1.7 District.
- 3) The City already has a steep slopes law, including a definition of "very steep slopes", and the densities established in the City's zoning districts fully take into account the nature of the topography of the land. The Comprehensive Plans of 2007 and 2017 were enacted based on the understanding that the City was already protecting steep slopes through its 2004 laws.

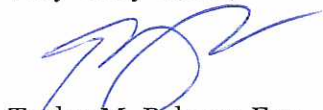
The Applicant would like to work with the City in crafting a Steep Slopes Law with better amendments that meet the City's desired goals.

### CONCLUSION

For all of the reasons set forth in the Applicant's submissions, and clarified herein, we respectfully submit that the Application demonstrates that the requested Special Permit meets all of the applicable criteria for approval for the proposed multi-family development.

Thank you for your consideration in this matter. We look forward to discussing the SUP Application with the City Council at the Council's Work Session Agenda, on Monday, April 9<sup>th</sup>.

Very Truly Yours,



Taylor M. Palmer, Esq.

cc: Nicholas M. Ward-Willis, Esq., City Attorney  
Jennifer L. Gray, Esq., Attorney to the Planning Board  
Arthur R. Tully, P.E., City Engineer  
Lt. Timothy P. Dexter, Building Inspector  
John Clarke, Beacon Planning Consultant  
Michael A. Bodendorf, P.E., Hudson Land Design  
Aryeh J. Siegel, Architect  
Scenic Beacon Developments, LLC



# EXHIBIT A

# ARYEH SIEGEL

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## ARCHITECT

April 5, 2018

Mayor Casale & Members of the City Council  
City of Beacon  
One Municipal Plaza  
Beacon, NY 12508

**Re: Edgewater**  
*Alternative Townhouse and Private House Layout*

Dear Mayor Casale & Members of the City Council,

As requested by the City Council at the last Council Workshop on March 26, 2018, we studied alternate residential concepts that would be allowed as-of-right as a comparison with the proposed 307-unit multi-family development, which requires a Special Use Permit.

First, we looked at townhouses, which are an allowable use as of right, without the requirement for a Special Use Permit. We prepared a massing study showing the following:

- 307 Two-story, stacked townhouses over podium parking.
- The 1st and 2<sup>nd</sup> floor above the parking level comprise one townhouse unit, and the 3<sup>rd</sup> and 4<sup>th</sup> floor above the garage is a separate unit.
- The lower unit is accessed by a single run of stairs from the ground level.
- The upper unit is accessed through a private residential elevator to each upper unit from the ground level.
- Each unit is a minimum of 1,700 square feet, per Zoning Code.
- The buildings are at least 30 feet apart, and no more than 150 feet long.
- The buildings are 4 stories high, since the podium parking does not count toward building height or number of stories.
- There are approximately 690 double row parking spaces in the podium parking areas below the buildings, this is more than enough to satisfy the parking requirement of 2 cars per townhouse unit. It also allows for adequate guest parking.
- The building coverage is approximately 26%, where 40% is allowed by Code.



# ARYEH SIEGEL

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## ARCHITECT

- Although we did not get into that level of detail, the Civil Engineer is confident that he can design proper grading and drainage to accommodate this scenario.
- Note that this townhouse scenario eliminates a large amount of the open land that is retained for landscaping and recreation in the proposed multi-family residential layout.

Second, we looked at the feasibility of building private homes, which are also an allowable use as of right, without the requirement for a Special Use Permit. To make this option financially viable, we looked at the following:

- 14 single family homes on subdivided parcels approximately 0.85 acres each.
- These would be very large (at least 5,000 – 6,000 square foot), luxury single family homes arranged around cul-de-sacs, with a private road system connecting private driveways for each property.
- There would be no Below Market Rate units in this scenario.

Additionally, the Council asked us to look at a direct connection from the west side of the property down to the train station. This is not feasible for a number of reasons:

- The sheer drop from the edge of the property to the train station parking lot is approximately 60 feet. This is equivalent to walking up a 6-story building.
- The proposed path along the sidewalk is a much easier and faster walk to the train station. There is no reason to create a secondary connection between Edgewater and the train station that is more difficult to use, and lands farther from the station entrance points.
- Metro North/MTA is considering building structured parking in the area below the Edgewater property. A stair would interfere with those plans and require them to lose parking spaces to accommodate the stair and landings.

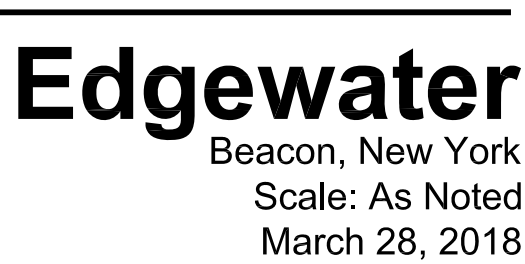
Sincerely,



Aryeh Siegel  
Aryeh Siegel Architect



40% PERMITTED - OTHER USES THAN  
MULTI-FAMILY





# EXHIBIT B

Project: Edgewater

Date: October 11, 2017

**Full Environmental Assessment Form**  
**Part 3 - Evaluation of the Magnitude and Importance of Project Impacts**  
**and**  
**Determination of Significance**

Part 3 provides the reasons in support of the determination of significance. The lead agency must complete Part 3 for every question in Part 2 where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.

Based on the analysis in Part 3, the lead agency must decide whether to require an environmental impact statement to further assess the proposed action or whether available information is sufficient for the lead agency to conclude that the proposed action will not have a significant adverse environmental impact. By completing the certification on the next page, the lead agency can complete its determination of significance.

**Reasons Supporting This Determination:**

To complete this section:

- Identify the impact based on the Part 2 responses and describe its magnitude. Magnitude considers factors such as severity, size or extent of an impact.
- Assess the importance of the impact. Importance relates to the geographic scope, duration, probability of the impact occurring, number of people affected by the impact and any additional environmental consequences if the impact were to occur.
- The assessment should take into consideration any design element or project changes.
- Repeat this process for each Part 2 question where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.
- Provide the reason(s) why the impact may, or will not, result in a significant adverse environmental impact.
- For Conditional Negative Declarations identify the specific condition(s) imposed that will modify the proposed action so that no significant adverse environmental impacts will result.
- Attach additional sheets, as needed.

Please see attached

**Determination of Significance - Type I and Unlisted Actions**

SEQR Status: ☒ Type I ☐ Unlisted

Identify portions of EAF completed for this Project: ☒ Part 1 ☒ Part 2 ☒ Part 3



Upon review of the information recorded on this EAF, as noted, plus this additional support information  
All application materials submitted by the Applicant, memoranda from City staff and consultants, agency and public comment, and testimony from  
meetings held on the application.

and considering both the magnitude and importance of each identified potential impact, it is the conclusion of the  
City of Beacon Planning Board as lead agency that:

☒ A. This project will result in no significant adverse impacts on the environment, and, therefore, an environmental impact statement need not be prepared. Accordingly, this negative declaration is issued.

☐ B. Although this project could have a significant adverse impact on the environment, that impact will be avoided or substantially mitigated because of the following conditions which will be required by the lead agency:

There will, therefore, be no significant adverse impacts from the project as conditioned, and, therefore, this conditioned negative declaration is issued. A conditioned negative declaration may be used only for UNLISTED actions (see 6 NYCRR 617.d).

☐ C. This Project may result in one or more significant adverse impacts on the environment, and an environmental impact statement must be prepared to further assess the impact(s) and possible mitigation and to explore alternatives to avoid or reduce those impacts. Accordingly, this positive declaration is issued.

Name of Action: Edgewater

Name of Lead Agency: City of Beacon Planning Board

Name of Responsible Officer in Lead Agency: Jay Sheers

Title of Responsible Officer: Chairman

Signature of Responsible Officer in Lead Agency:

Date: December 18, 2017

Signature of Preparer (if different from Responsible Officer): Jennifer L. Gray Esq.

Date:

**For Further Information:**

Contact Person: Etha Grogan, Planning Secretary

Address: 1 Municipal Plaza, Beacon, New York 12508

Telephone Number: 845-838-5002

E-mail: [egrogan@cityofbeacon.org](mailto:egrogan@cityofbeacon.org)

**For Type 1 Actions and Conditioned Negative Declarations, a copy of this Notice is sent to:**

Chief Executive Officer of the political subdivision in which the action will be principally located (e.g., Town / City / Village of)

Other involved agencies (if any)

Applicant (if any)

Environmental Notice Bulletin: <http://www.dec.ny.gov/enb/enb.html>

Received in the Office of the  
City Clerk  
December 20, 2017

PRINT FULL FORM



**ATTACHMENT TO  
NEGATIVE DECLARATION  
REASONS SUPPORTING DETERMINATION**

**APPLICATION FOR SITE PLAN, SPECIAL USE PERMIT  
AND SUBDIVISION APPROVAL FOR EDGEWATER**

**22 Edgewater Place:**

**Tax Grid Nos. 5954-25-581985, 5954-25-574979, 5954-25-566983, 5955-19-59002**

**CONCLUSIONS**

Based upon a review of Parts 1 and 2 of the Full Environmental Assessment Form (EAF) and all other application materials that were submitted in support of the Proposed Action, along with reports from City staff and consultants, information from involved and interested agencies, and information from the public, the Planning Board, acting as Lead Agency, makes the following conclusions.

The Proposed Action is a Type I action pursuant to 6 NYCRR 617.4(b)(5)(iii) because the project proposes the construction of more than 250 new residential units to be connected to public water and sewer in a city having a population of less than 150,000. The Planning Board, as Lead Agency, opened a public hearing to consider comments regarding any environmental impacts of the Proposed Action on May 9, 2017 and continued the hearing to July 11, 2017, August 8, 2017, September 12, 2017, October 12, 2017, November 14, 2017 and December 12, 2017, at which time the State Environmental Quality Review Act (SEQRA) public hearing was closed.

The Proposed Action will not result in any significant adverse impacts on the environment. In summary:

- **Impact on Land:** The Proposed Action will not have a significant adverse environmental impact as a result of any physical change to the project site.

The Project Site consists of four (4) parcels which are proposed to be merged into one development parcel of approximately 12 acres. Approximately 10 acres of the Site will be disturbed for development of the Project. The Site is currently developed with two buildings and is characterized by prior soil disturbance across much of the Site. Several stockpiles of aggregate and topsoil are currently located within the central portion of the Site on either side of the remnants of an asphalt road that extends across the central portion of the Site.



The Site is located within the RD-1.7 Zoning District. The Project proposes 307 dwelling units (413 bedrooms) in seven (7) apartment buildings with associated infrastructure including utility lines, stormwater facilities, and a below-grade parking garage and on-grade parking. Land banked parking will be utilized for a portion of the proposed parking spaces (33 parking spaces to the west of Building 1) to minimize land disturbance and impervious coverage. The Project will require the removal of approximately 3.2 acres of woods, which generally involves smaller trees located on the interior of the site. No wetlands or wetland buffer areas will be disturbed as a result of the Project. Disturbance of slopes will be stabilized using best management practices during construction and post-construction.

- **Impact on Geological Features:** The Proposed Action will not have a significant adverse environmental impact on any unique or unusual land forms on the site.

There are no unique geological features on the Property.

- **Impacts on Surface Water and Groundwater:** The Proposed Action will not have a significant adverse environmental impact on surface or groundwater quality or quantity.

Residential land uses are generally not associated with the discharge of contaminants into aquifers or other ground water sources. There will be no bulk storage of petroleum or chemicals on-site. The Project does not include or require wastewater discharged to groundwater, and is not located within 100 feet of potable drinking water or irrigation sources.

Site disturbance will exceed 1-acre and therefore a full Stormwater Pollution Prevention Plan (SWPPP) was prepared in order to obtain coverage under NYSDEC SPDES General Permit GP-0-15-002. The proposed stormwater practices shown on the plans and described in the SWPPP are designed in accordance with the NYSDEC Stormwater Management Design Manual, including design of an underground site stormwater conveyance system and three infiltration basins.

The Project will be connected to the existing public water distribution system. At full build-out, the Project is expected to require 45,430 gallons of water per day. A 6" ductile iron (DI) water main runs beneath Tompkins Terrace and an 8" DI main runs beneath Bank Street. An 8" DI spur runs into the Site beneath Branch Street from Bank Street to an existing hydrant. It is proposed that the Site will connect to the 8" DI pipe (DIP) on Bank Street through a 8" DIP. The 8" DIP will be brought through the Site to provide water supply to the new buildings and continue to Branch Street and connect to the 8" DIP forming a looped connection to the City water system.

The Applicant proposes to dedicate the new 8" water main to the City, along with a 20' wide utility easement for maintenance purposes. Flow and pressure tests have confirmed adequate flow and pressure are available for the Project. New fire hydrants and periodic isolation valves are proposed within the Site. In the event the City does not accept dedication of the 8" water main and easement, the infrastructure will remain privately owned and maintained but will need to be modified to include backflow prevention devices and meters. Notably, the Project does not propose to use public water for irrigation purposes. Rather, the Project includes an underground cistern for harvesting roof runoff for irrigation purposes.

The Project will be connected to the existing public sanitary sewer system. At full build out, the Project is expected to generate 45,430 gallons of wastewater per day (413 bedrooms x 110 gpd /bedroom). Under normal operating conditions the public sanitary sewer system is sufficient for the Project; however the West Main Street sewer pump station may require upgrades. If it is determined that upgrades are necessary as the City's hydraulic model of the sewer system is updated, the upgrades will be implemented as necessary. The Site currently contains an existing apartment building, and a single family residence. Both structures will be demolished thereby eliminating any current inflow and infiltration (I&I) entering the City sanitary sewer system (North interceptor) from the Site.

- **Impact on Flooding:** The Proposed Action will not have a significant adverse environmental impact on or alter drainage flows or patterns, or surface water runoff.

For the Proposed Action, the treatment of stormwater will be provided for the new impervious area. A Stormwater Pollution Prevention Plan (SWPPP) has been prepared in accordance with the requirements of NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity Permit No. GP-0-15-002. The final stormwater management system will consist of minimal conveyance systems which will include culverts and grass-lined swales/dikes where required. It is anticipated that most, if not all perimeter diversion swales/dikes will be unnecessary and removed after installation; however, there may be a need for some as site conditions warrant. The remainder of the drainage area will remain undisturbed with natural vegetation remaining.

Green infrastructure practices will be implemented to the greatest extent possible to reduce runoff, including avoidance of sensitive areas, minimizing grading and soil disturbance, minimizing impervious areas on internal access ways, driveways and parking areas, and use of meadow as permanent final groundcover to provide better water quality. Parking spaces and drive aisles were reduced in size from 9'x20' with a 25' drive aisle to 9'x18' with a 24' drive aisle, to comply with the

newly amended City Code requirements and consistency with the "Greenway Connections" and NYSDEC stormwater objectives to reduce impervious surfaces. Infiltration/bioretention practices, use of open channel vegetated conveyance systems, and an underground cistern for roof runoff will also be implemented.

Pretreatment practices proposed for the Project include overland flow, vegetated swales, stone check dams, hydrodynamic devices, treatment practices, bioretention areas, infiltration basins and grass filter strips.

Proposed Bioretention areas 1 and 2 do not meet 100% Runoff Reduction Volume (RRV) due to shallow bedrock constraints. The January 2015 NYSDEC Stormwater Design Manual describes acceptable site limitations to include shallow depth to bedrock. Therefore, Bioretention area 1 will be supplemented with cisterns for roof runoff, and Bioretention area 2 will be supplemented with a vegetated swale to maximize the RRV.

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**Impact on Air: The Proposed Action will not have a significant adverse environmental impact on air quality.**

Construction activities associated with grading and excavation could result in temporary air quality impacts. Air quality in the area, however, is not expected to be significantly impacted by project construction because the construction activities will be temporary and confined to the Site. Construction vehicles will emit certain air pollutants through engine exhaust. There is also the potential for fugitive dust to be created during the construction period from site preparation activities, including removal of existing impervious surfaces and vegetation, and site grading. Fugitive dust emissions will be mitigated by wetting and stabilizing soils to suppress dust generation. Other dust suppression methods will include the spraying of soil stockpiles during dry periods and covering trucks carrying solid and other dry materials. These unavoidable short term impacts to air quality will cease upon project completion. Construction will be conducted in accordance with the final filed site plan and in accordance with all applicable federal, state and local codes. It is anticipated that nearby properties will experience temporary fugitive dust and an elevation in vehicle emissions from construction vehicles throughout occasional periods during construction of the proposed project. This is a temporary, construction-related, unavoidable impact that is not significant.

**Impact on Plants and Animals: The Proposed Action will not have a significant adverse environmental impact on flora or fauna.**

Pursuant to a March 30, 2017 letter from NYSDEC, the only state-listed species recorded within or near the Project Site is the Indiana Bat (NYS Listing:

Endangered). The main impact of concern for bats is the removal of potential roost trees. The Applicant submitted a Threatened and Endangered Species Habitat Suitability Assessment Report, dated September 15, 2017, prepared by Ecological Solutions, LLC, Southbury, CT. The Report concluded "The proposed project will require the removal of approximately 3.2 acres of woods for the proposed project, which generally involves smaller trees located on the interior of the site that consist of opportunistic trees that are not prime for Indiana bat habitat." Pursuant to NYSDEC recommendations, removal of trees greater than four (4) inches in diameter at the Project Site will take place between October 1 and April 1 during the bat hibernation period to avoid the removal of trees which may be utilized by Indiana Bats as roosting trees. The Proposed Action also includes shielded, cut-off light fixtures that direct light down to minimize light pollution and not interfere with potential bat foraging activities. Lastly, the Proposed Action includes implementation of soil conservation and dust control best management practices, such as watering dry disturbed soil to keep dust down, and using staked, recessed silt fence and anti-tracking pads to prevent erosion and sedimentation in surface waters on the site. Also, native vegetation is proposed to enhance wildlife habitat.

- **Impact on Agricultural Resources:** The Proposed Action will not have a significant adverse environmental impact on agricultural resources.

There are no agricultural resources in the vicinity of the Site.

- **Impact on Aesthetic Resources:** The Proposed Action will not have a significant adverse environmental impact on aesthetic resources.

The Proposed Action will not result in the obstruction, elimination or significant screening of one or more officially designated scenic views, or visible from any publicly accessible vantage points either seasonally nor year around. The Local Waterfront Revitalization Program (LWRP) does not list viewsheds from the Site, or viewsheds that would be obscured by the Project. Seasonal views of the Project will be experienced from the Metro North train station and from the Hudson River. The Applicant submitted an LWRP Consistency Statement, prepared by Aryeh Siegel, Architect, which was reviewed by the City Planner. Photo renderings of the Project were also submitted by the Applicant demonstrating the possible seasonal views from these vantage points. The renderings demonstrate that the tops of the buildings will be visible to some degree and the level of visibility will change with the seasonal leaf coverage. Architectural review of the proposed building roofs includes attention to the roof materials and finishes to harmonize with the existing landscape. The buildings have been designed to be set back from the property lines to allow for the maintenance of the existing wooded hillsides around the proposed development areas. The seasonal views of the Project are



consistent with the existing viewshed and will not result in a significant adverse environmental impact.

It is noted that the height of the proposed buildings complies with the maximum building height permitted in the RD-1.7 District. However, due to the method in which the buildings are measured under the City of Beacon Zoning Code three (3) of the seven (7) proposed buildings require a variance from the maximum number of stories permitted. Buildings 3, 4 and 6 will be 55 feet in height, consistent with the limitations in the Zoning Code, but are measured as 5 stories where a maximum of 4.5 stories is permitted.

- **Impact on Historic and Archeological Resources: The Proposed Action will not have a significant adverse environmental impact on historic or archeological resources.**

Pursuant to a March 30, 2017 letter from NYSDEC, the records of the statewide inventory of archaeological resources maintained by the New York State Museum and the New York State Office of Parks, Recreation and Historic Preservation (NYS OPRHP) state that the Proposed Action is located within an area considered to be sensitive with regard to archaeological resources.

A Phase 1A Archeological Investigation for the Project Site dated September 2017 was submitted for the Board's review. The Phase 1A Report provides the following conclusion:

"The project area has experienced extensive soil disturbance, initially the result of historic development followed by excavation related to the removal of the historic buildings that once occupied the site. The recent use of the property for aggregate and topsoil stockpiling have also affected the landscape. A significant portion of the property, especially along the eastern, southern and western perimeters, have slopes exceeding 12%. With the high level of disturbance and the presence of slopes greater than 12%, no further archeological investigation is recommended."

Additionally, based on its review of the Project (OPRHP Project Review #17PR06370), in a letter dated October 10, 2017, the NYS OPRHP provided the following opinion: "...[the] project will have no impact on archaeological and/or historic resources listed in or eligible for the New York State Register of Historic Places."

- **Impact on Open Space and Recreation: The Proposed Action will not have a significant adverse environmental impact on open space and recreation.**

The area of the Proposed Action is not designated as open space by the City of Beacon. The Proposed Action will not result in the loss of a current or future recreational resource, eliminate significant open space, or result in loss of an area now used informally by the community as an open space resource, as the Site is primarily a vacant lot, with improvements limited to an existing apartment building and a single family residence. If a park of adequate size and practical location does not address the need for additional recreation/parkland within the City, a recreation fee will be required which will be used for the future need for park and recreational opportunities in the City of Beacon.

- **Impact on Critical Environmental Areas: The Proposed Action will not have a significant adverse environmental impact on Critical Environmental Areas.**

The Proposed Action is not located in a Critical Environmental Area.

- **Impact on Transportation: The Proposed Action will not have a significant adverse environmental impact on transportation.**

A Traffic Impact Study, dated January 18, 2017, revised February 27, 2017, (the "Study") was prepared by Maser Consulting, P.A., Hawthorne, N.Y. for review by the Planning Board. The Study was prepared to identify current and future traffic operating conditions on the surrounding roadway network and to assess the potential traffic impacts of the Project. The Study was subject to review and comment by the Planning Board's Traffic Consultant, Creighton Manning Engineers, LLP, Albany, N.Y.

The Project proposes access to the Site at a reconstructed driveway connection to Tompkins Avenue located between Tompkins Terrace and Bank Street. The Project also includes an extension at the southern end of the Site to Branch Street, providing access directly to Bank Street, which connects to West Main Street to the south.

The Study established Year 2017 Existing Traffic Volumes and then projected a 2022 Design Year which took into account background traffic growth and traffic from other potential or approved developments in the area. Estimated volume from the Project during peak hours was added to the Study and the Existing, No-Build and Build Traffic Volumes were compared to roadway capacities based on procedures from the Highway Capacity Manual to determine existing and future Levels of Service (LOS) and operating conditions.

The following intersections were studied:

Wolcott Avenue (NYS Route 9D)/Tompkins Avenue/Ralph Street  
Tompkins Avenue/Bank Street  
Beekman Street/W.Main Street  
W.Main Street/Bank Street  
Wolcott Avenue (NYS Route 9D)/Verplanck Avenue  
Wolcott Avenue (NYS Route 9D)/Beekman Street/West Church Street  
Wolcott Avenue (NYS Route 9D)/Main Street/Municipal Place  
Tompkins Avenue/Site Access  
Branch Street/Bank Street

The Study concludes and the Planning Board's Traffic Consultant concurred that similar levels of service and delays will be experienced at the area intersections under the future No-Build and Build Conditions. The majority of the intersections studied will experience a traffic volume increase of 7% or less as a result of Edgewater or the West End Lofts project recently approved by the Planning Board. The traffic projections do not take any credits for the anticipated use of Metro North and/or pedestrian trips to the train by residents of the new developments, which will likely reduce the actual peak vehicular traffic generated given the walking distance to the train station. The Applicant's traffic consultant prepared analyses for the Project as a transit-oriented development, based on the Site's proximity to the Metro-North train station. Where a mass transit credit is applied to the Project, which the Applicant's traffic consultant identified could be obtainable for the Site, the Applicant's traffic consultant concluded: "...the expected delays would be less at the study area intersections as a result of the lower vehicular traffic generation from the project."

Notwithstanding, due to anticipated delays at the Wolcott Avenue/Verplanck Avenue and Wolcott Avenue/Beekman Street intersections, traffic signal timing modifications are proposed during the AM Peak Hour for the Wolcott Avenue/Verplanck Avenue intersection and during the PM Peak Hours for the Wolcott Avenue/Beekman Street intersection, to address the project related delay increases. With these traffic signal timing modifications, the intersections will operate similar to No-Build conditions without the Project. Additionally, the intersections of Wolcott Avenue/Tompkins Avenue and Beekman Street/West Main Street are proposed to be monitored after occupancy of the Project to assess whether traffic signal warrants will be satisfied at these locations.

Related to transportation, the Project also proposes improved pedestrian access to and from the Project, upgraded pedestrian facilities along Branch Street, Bank Street and West Main Street, and pedestrian striping and signing improvements at



the intersection of Bank Street and West Main Street. The Project also proposes ample bicycle storage and a car share program for its residents.

- **Impact on Energy:** The Proposed Action will not have a significant adverse environmental impact on energy.

It is anticipated that existing energy infrastructure will continue to serve the Proposed Action and that enough surplus exists to meet potential demand. The Proposed Action does not require a new, or an upgrade to any existing substation.

Several green building techniques have been incorporated into the Project. The building design will allow for the ability to utilize solar energy in the future if and when it becomes feasible.

- **Impact on Noise, Odor and Light:** The Proposed Action will not have a significant adverse environmental impact as a result of objectionable odors, noise or light.

The Proposed Action is not anticipated to generate any noxious odors.

Noise impacts associated with the proposed Project will be limited to temporary impacts generated during construction. Temporary noise impacts associated with construction will be mitigated by limiting construction activities to the hours between 7:00 a.m. and 7:00 p.m. Soil testing was conducted onsite to investigate the depth of the soil and rock conditions. In the area of Bioretention area 1, shale bedrock was found less than 5 feet from the existing grade. In the area of Bioretention area 2, bedrock depths were found to be slightly deeper than 4 feet. If blasting becomes necessary, it will be performed in accordance with all applicable state and local requirements. In addition, there will be no significant noise impacts post-construction.

All proposed lighting will be fully shielded and dark sky compliant. Lighting levels along the access drive will generally be low (within 0.0 - 1.0 footcandles along the majority of the access drive, with discrete areas of increased intensity under lighting fixtures (up to about 3.0 footcandles). The proposed Lighting Plan shows minimal to no light spillage over property lines. Lighting at the perimeter of the site is negligible.

- **Impact on Human Health: The Proposed Action will not have a significant adverse environmental impact on human health from exposure to new or existing sources of contaminants.**

According to information available on the NYS DEC Site Remediation Database, the off-site contamination under the following Site Codes identified in the EAF has either completed a remediation program or does not pose a threat to development on the Edgewater Site: V00293, C314112, V00096, 314069, 546031.

- **Consistency with Community Plans and Community Character: The Proposed Action is not inconsistent with adopted community plans and community character.**

The Project is consistent with the recommendations and goals identified in the 2007 Comprehensive Plan and 2017 Comprehensive Plan Updates regarding density of developments. The Site is the only property in the City classified in the RD-1.7 Zoning District and the number of proposed dwelling units complies with the provisions of the RD-1.7 District. The transit oriented nature of the Project is consistent with the Comprehensive Plan which seeks to encourage development and allow for increased density of housing in the waterfront/train station area of the City. (2007 Comprehensive Plan, pp. 7 & 17; 2017 Comprehensive Plan Update, p. 10). The Project is also consistent with the surrounding neighborhood which includes the existing Tompkins Terrace and Colonial Springs residential developments.

The Project will create an increased demand for community services such as emergency services and the Beacon City School District. The application was referred to the City of Beacon Police and Fire Departments. The Project will be constructed in accordance with all applicable state and local emergency and fire safety requirements. The Applicant also submitted a School Impact Study, dated June 26, 2017, prepared by Cleary Consulting. The School Impact Study concluded that approximately 47 school age children would reside in the new development. This estimate was calculating using the Rutgers University, Center for Urban Policy Research multipliers which tends to be a conservative method for determining the amount of school age children generated by a development project.

The School Impact Study was reviewed by the Planning Board's Planning Consultant. Cleary Consulting's August 7, 2017 letter responds to questions from the Planning Consultant and comments from the public. It clarifies and concludes that the value associated with each unit type in the Rutgers study is based on 2006 market conditions, but it is the ratio of the value to other factors that is more important than the value itself. For example, the values could just as effectively been expressed as low, medium and high, rather than attaching a numeric value to each housing type. The value selected to be utilized in the calculation of the number of

school age children generated by the Project reflects the Applicant's anticipated price point for the market rate units at the proposed transit oriented development project.

The Planning Board's Planning Consultant concludes in his October 6, 2017 review memorandum that the projected 47 school-age children is conservative given (1) average household sizes have declined since the 2006 multipliers were published, (2) several large-scale studies have shown that apartments near train stations generally have lower school children counts, (3) 96 of the 307 proposed units are smaller studio apartments which should have a lower student ratio than the one-bedroom ratio used for studios in the School Impact Study, and (4) the survey of Beacon multifamily housing developments set forth in a chart on page 9 of Cleary Consulting's August 29, 2017 letter, particularly the most recent three projects on the chart (Leonard Street – 74 total units, 49 units rented to date, 0 school-aged children; 1 East Main Street – 19 units, 1 school-aged child; and 11 Creek Drive – 6 units, 0 school-aged children), provides local supporting background information for a lower average number of school age children. The chart of "Actual School-Age Children Residing in Selected Comparable Multi-Family Developments in the City of Beacon," demonstrates an average ratio of 0.71 school-aged children per unit. (August 29, 2017 Cleary Consulting Letter, p. 9) Using this ratio, the Project would produce only 22 school-aged children.

The Beacon City School District has called into question the accuracy of the data and rationale behind the School Impact Study's conclusions in letters dated August 7, 2017, October 12, 2017, November 3, 2017 and December 8, 2017 (received December 11, 2017), and verbal testimony before the Board. The Applicant's consultant responded to the School District's concerns in letters, dated August 29, 2017, September 26, 2017, October 25, 2017 and November 28, 2017. Also, upon request of the Planning Board, in a memorandum dated November 14, 2017 the Beacon City Assessor provided an estimated valuation of Project of \$34-40 million based upon her knowledge of the Project to-date.

Upon review of all correspondence, the Planning Board's Planning Consultant provided his professional opinion regarding the school impacts in his November 9, 2017 memorandum:

*As a summary of the school impact positions, the applicant's June 26, 2017 School Impact Study and supplemental comments conclude that the Beacon City School District (BCSD) has adequate capacity for the projected 47 school-age children and that the proposed project will have a net positive financial impact on the district. Three central assumptions have been disputed by the BCSD: the estimate of public school-age children, the assessed value of the completed project, and the cost per student to be used in the fiscal calculation. The schools have available capacity, since overall enrollment has dropped 20%, or 735 students, between 2004-5 and 2015-16.*

Both parties agree that the 2006 Rutgers Residential Demographic Multipliers for New York are the industry-accepted standard for estimating school children, but they disagree on what level ratios to apply in this case. The applicant's estimate of 47 appears, if anything, high since the total school-age children table was used from the Rutgers Study, rather than the more targeted public school-age children (PSAC) ratios. Also, 96 of the 307 proposed units are smaller studio apartments, which should have a lower student count than the one-bedroom ratio used in the School Impact Study. My best estimate is below, using the higher 67th-100th percentile PSAC ratio for the market rate units and the medium 34th-66th percentile PSAC ratio for the required workforce units:

Units	#	Market	Ratio	PSAC	Workforce	Ratio	PSAC	Total PSAC
Studio	96	86	.07	6.02	10	.27	2.7	8.72
1 BR	115	104	.07	7.28	11	.27	2.97	10.25
2 BR	86	77	.16	12.32	9	.45	4.05	16.37
3 BR	10	9	.63	5.67	1	1.3	1.3	6.97
Totals	307	276			31			42.31

The City of Beacon Assessor has estimated that the assessed value of the completed project will be between \$34 and 40 million. At the midpoint of this estimate, the development will generate \$810,300 of annual tax revenue for the BCSD.

For the cost of the additional PSAC, the applicant has proposed using the BCSD 2015-16 Instructional Budget cost of \$17,102 per student, which includes teaching salaries/benefits, special needs, library, attendance, guidance, health and social services, interscholastic and other activities, transportation, and similar more student-sensitive functions. The BCSD has maintained that the total budget cost of \$23,116 per student should be used, which also accounts for the Board of Education, central administration, finance, legal, personnel, records management, supervisors' salaries/benefits, and capital budget items, including central services and debt services. The net fiscal impacts depend on which one of these figures seems most reasonable. As another factor of comparison, the actual local tax levy, after state aid and other revenue, is \$12,653 per student.

	Cost/Student	# Students	Add'l. Costs	Revenue	Net Impacts
Instructional Budget	\$17,102	42	\$718,284	\$810,300	+\$92,016
Total Budget	\$23,116	42	\$970,872	\$810,300	-\$160,572

Marginally increasing enrollment by about 42 students in a district that is down 735 students since 2004-5 and down 128 students from the previous year should not significantly affect the capital and administrative budget sections. I think that the Instructional Budget calculation is justifiable.

Based on the information provided the Planning Board's professional planning consultant, the Applicant's professional planning consultant and the BCSD, it is the Planning Board's opinion that the addition of 42 school-age children represents the most accurate application of the Rutgers ratios. After considering all testimony and written submissions to the Planning Board on this subject, the Planning Board



determines that the addition of 42 school-age children as a result of this Project will not create a significant increased demand on the School District.<sup>1</sup>

Based upon all information before the Planning Board to-date, including the Full Environmental Assessment Form, the Planning Board finds that the Proposed Action will not have any significant adverse impacts upon the environment. This Negative Declaration indicates that no environmental impact statement need be prepared and that the SEQRA process is complete.

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<sup>1</sup> The Planning Board notes that even if the Total Budget is used to calculate the cost/student, the resulting estimated \$160,572 deficit is not significant as compared to the BSCD's annual budget of approximately \$66.75 million (2016-2017 final budget), and therefore does not rise to the level of a significant adverse environmental impact.

# EXHIBIT C

**RESOLUTION**

**PLANNING BOARD  
BEACON, NEW YORK**

**LOCAL WATERFRONT REVITALIZATION  
PROGRAM (LWRP) CONSISTENCY DETERMINATION  
EDGEWATER (22 EDGEWATER PLACE)**

WHEREAS, the Beacon Planning Board received applications for Preliminary and Final Subdivision Plat Approvals (lot merger) and Site Plan Approval from Scenic Beacon Developments LLC (the "Applicant") for the construction of seven (7) apartment buildings containing a total of 307 units (413 bedrooms) following the demolition of two existing structures and the merger of four lots into a single 12-acre parcel, along with associated infrastructure including but not limited to landscaping, stormwater management facilities, lighting, off-street parking areas, and retaining walls; and (the "Project" or "Proposed Action"); and

WHEREAS, the Site is located in the Coastal Management Zone as defined by the City's Local Waterfront Revitalization Program (LWRP) and the Proposed Action includes a request for an LWRP Consistency Determination; and

WHEREAS, the subject property is located at 22 Edgewater Place and designated on the City tax maps as Parcel Nos. 5954-25-581985, 5955-19-590022, 5954-25-566983 and 5954-25-574979; and

WHEREAS, the subdivision is shown on the drawing, entitled, "Lot Consolidation Map Prepared for Weber Projects LLC," dated March 6, 2017, prepared by TEC Land Surveying; and

WHEREAS, the Site Plan is shown on the drawings entitled, "Site Plan Edgewater," Sheets 1-15, dated January 31, 2017, last revised October 31, 2017, prepared by Aryeh Siegal, Architect; and

WHEREAS, the application also consists of application forms, the Environmental Assessment Form (EAF) and professional studies and reports submitted to the Planning Board; and

WHEREAS, the application was referred to the Dutchess County Planning Department pursuant to New York State General Municipal Law and responses dated March 16, 2017 and June 12, 2017 were received; and

**Local Waterfront Revitalization Program (LWRP) Consistency Determination**  
**Edgewater**

WHEREAS, on May 9, 2017, the Planning Board opened a public hearing for the purpose of soliciting comments regarding the relevant areas of environmental impact, and the SEQRA public hearing was closed on December 12, 2017; and

WHEREAS, on August 8, 2017, the Planning Board opened a public hearing on the application for Site Plan Approval, at which time all those interested were given an opportunity to be heard and the public hearing remains open; and

WHEREAS, in accordance with Section 220-6 of Chapter 220, Waterfront Consistency Review, of the City Code, all "actions to be undertaken within the City's Coastal Management Zone shall be evaluated for consistency in accordance with the.....LWRP policy standards....;" and

WHEREAS, in accordance with Section 220-5 of the Waterfront Consistency Review chapter of the City Code, it is the Lead Agency's responsibility to make the Determination of Consistency based upon the Applicant's LWRP Consistency Statement, the SEQRA documents, the application and Project documentation, and all other information that has been submitted by the Applicant, City staff, Planning Board consultants, involved and interested agencies, and the public; and

WHEREAS, the Site was rezoned to RD-1.7 after the adoption of the LWRP and therefore several references to an RD-6 zoning designation for the Site (known as the Prizzi property) are no longer applicable, however, it is noted that the LWRP identifies a potential for development of the property as townhouses.

NOW, THEREFORE, BE IT RESOLVED, that after taking a "hard look" at each of the relevant areas of environmental concern through review of the Environmental Assessment Form and all associated materials prepared in connection with the Proposed Action the Planning Board hereby adopts the annexed Negative Declaration pursuant to the State Environmental Quality Review Act (SEQRA).

BE IT FURTHER RESOLVED, that there are a number of LWRP policies which do not apply to the Project which policies are those that are contained in the LWRP but not listed below, and also hereby makes the following consistency findings with respect to the LWRP policies which apply to the Project:

**POLICY 5**

*Encourage the location of development in areas where public services and facilities essential to such development are adequate, except when such development has special functional requirements or other characteristics which necessitates its location in other coastal areas.*

## **Local Waterfront Revitalization Program (LWRP) Consistency Determination Edgewater**

As noted in the SEQRA Negative Declaration for the Project, the Project will be connected to the existing public water distribution system and public sanitary sewer system.

### **POLICY 13**

*The construction or reconstruction of erosion protection structures shall be undertaken only if they have a reasonable probability of controlling erosion for at least thirty years as demonstrated in design and construction standards and/or assured maintenance or replacement programs.*

There will be no measurable increase erosion or flooding generated by the Project. The proposed stormwater practices shown on the plans and described in the SWPPP have been designed in accordance with the NYSDEC Stormwater Management Design Manual. A Stormwater Pollution Prevention Plan (SWPPP) has been prepared in accordance with the requirements of NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity Permit No. GP-0-15-002. The final stormwater management system will consist of minimal conveyance systems which will include culverts and grass-lined swales/dikes where required. It is anticipated that most, if not all perimeter diversion swales/dikes will be unnecessary and removed after installation; however, there may be a need for some as site conditions warrant. The remainder of the drainage area will remain undisturbed with natural vegetation remaining.

Green infrastructure practices will be implemented to the greatest extent possible to reduce runoff, including avoidance of sensitive areas, minimizing grading and soil disturbance, minimizing impervious areas on internal access ways, driveways and parking areas, and use of meadow as permanent final groundcover to provide better water quality. Parking spaces and drive aisles were reduced in size from 9'x20' with a 25' drive aisle to 9'x18' with a 24' drive aisle, to comply with the newly amended City Code requirements and consistency with the "Greenway Connections" and NYSDEC stormwater objectives to reduce impervious surfaces.

Infiltration/bioretention practices, use of open channel vegetated conveyance systems, and an underground cistern for roof runoff will also be implemented.

Pretreatment practices proposed for the project include overland flow, vegetated swales, stone check dams, hydrodynamic devices, treatment practices, bioretention areas, infiltration basins and grass filter strips.

Proposed bioretention areas 1 and 2 do not meet 100% Runoff Reduction Volume due to shallow bedrock constraints. The January 2015 NYSDEC Stormwater Design Manual describes acceptable site limitations to include shall depth to bedrock. Therefore, Bioretention area 1 will be supplemented with cisterns for roof runoff, and Bioretention area 2 will be supplemented with a vegetated swale to maximize the Runoff Reduction



**Local Waterfront Revitalization Program (LWRP) Consistency Determination**  
**Edgewater**

Volume. Temporary vegetation sufficient to stabilize the soil will be provided on all disturbed areas as needed to prevent soil erosion, in accordance with the SWPPP.

**POLICY 14**

*Activities and development, including the construction or reconstruction of erosion protection structures, shall be undertaken so that there will be no measurable increase in erosion or flooding at the site of such activities or development or at other locations.*

The proposed buildings have been sited on the flattest area of the Site and slopes and disturbed soils will be appropriately stabilized as described in the SWPPP both during and post-construction.

**POLICY 25**

*Protect, restore and enhance natural and manmade resources which are not identified as being of state-wide significance, but which contribute to the scenic quality of the coastal area.*

The explanation of Policy 25 in the LWRP states that "the scenic qualities of Beacon results from the combination of clustered buildings (many historic) and wooded hillsides against the backdrop of the Hudson Highlands. The height, bulk, scale of future buildings will be important factors in maintaining the character of the City, as will the preservation of the wooded hillsides that intersperse the developed areas."

The Project is consistent with Policy 25 in its condensing and clustering of the footprint of the buildings and impervious surfaces to achieve the clustered effected recommended by the LWRP. The buildings are setback from the property lines, which allows for the maintenance of the existing wooded hillsides around the proposed developed areas.

**POLICY 33**

*Best management practices will be used to ensure the control of stormwater runoff and combined sewer overflows draining into coastal waters.*

See Policy 13.

**POLICY 33A**

*Regulate construction in steeply sloped and high erosion areas to control excessive stormwater runoff.*

See Policy 13.

**Local Waterfront Revitalization Program (LWRP) Consistency Determination**  
**Edgewater**

**POLICY 37**

*Best management practices will be utilized to minimize the nonpoint discharge of excess nutrients, nonpoint discharge of excess nutrients, organics and eroded soils into coastal waters.*

See Policy 13.

**POLICY 38**

*The quality and quantity of surface water and groundwater supplies will be conserved and protected particularly where such waters constitute the primary or sole source of water supply.*

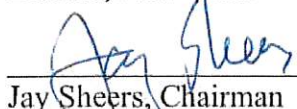
Residential land uses are generally not associated with the discharge of contaminants into aquifers or other ground water sources. There will be no bulk storage of petroleum or chemicals on-site. The Project does not include or require wastewater discharged to groundwater, and is not located within 100 feet of potable drinking water or irrigation sources.

The Project will be connected to the existing public water distribution system. At full build-out, the project is expected to require 45,430 gallons of water per day. Notably, the Project does not propose to use public water for irrigation purposes. Rather, the Project includes an underground cistern for harvesting roof runoff for irrigation purposes.

BE IT FURTHER RESOLVED, that the Planning Board hereby determines that the Project is entirely consistent with the LWRP policies which apply to the Project.

Resolution Adopted: December 12, 2017

Beacon, New York

  
\_\_\_\_\_  
Jay Sheers, Chairman  
City of Beacon Planning Board

December 18, 2017  
Dated

# EXHIBIT D

**City of Beacon  
Zoning Board of Appeals**

**RESOLUTION**

**WHEREAS**, an application has been made to the City of Beacon Zoning Board of Appeals by **Scenic Beacon Developments, LLC** (the "Applicant") to (1) allow three proposed buildings to have 5 stories where the maximum building height is 4.5 stories pursuant to City § 223-17.C/223 Attachment 1:6; (2) allow four proposed buildings to exceed 36 units where the maximum number of dwelling units per building is 36 units pursuant to the City Code § 223-17.C/223 Attachment 1:6; and (3) allow less than 30 feet between buildings where the minimum distance between buildings on the same lot is 30 feet pursuant to City Code § 223-17.C/223 Attachment 1:6, in connection with the construction of seven apartment buildings containing a total of 307 units (413 bedrooms) on property located and collectively known as 22 Edgewater Place, located in the RD-1.7 Zoning District. Said premise being known and designated on the City Tax Map as Pace IDs 5954-25-581985, 5955-19-590022, 5954-25-566983 and 5954-25-574979; and

**WHEREAS**, the Applicant is proposing to demolish two existing buildings, construct seven (7) apartment buildings containing 307 units on 12.009 acres in the RD-1.7 Zoning District (the "Proposed Project"); and

**WHEREAS**, the Proposed Project requires variance approvals from the Zoning Board of Appeals, Special Permit approval from the City Council and Site Plan approval from the Planning Board; and

**WHEREAS**, the Proposed Action is a Type I action pursuant to the New York State Environmental Quality Review Act ("SEQRA"); and

**WHEREAS**, the Planning Board, as Lead Agency, opened a public hearing to consider comments regarding any environmental impacts of the Proposed Action on May 9, 2017 and continued the hearing to July 11, 2017, August 8, 2017, September 12, 2017, October 12, 2017, November 14, 2017 and December 12, 2017, at which time the (SEQRA) public hearing was closed; and

**WHEREAS**, after taking a "hard look" at each of the relevant areas of environmental concern through review of the Environmental Assessment Form and all associated materials prepared in connection with the Proposed Action, the Planning Board adopted a Negative Declaration on December 12, 2017; and

**WHEREAS**, the Planning Board determined that the Proposed Project is entirely consistent with the Local Waterfront Revitalization Program ("LWRP") policies which apply to the Project; and

**WHEREAS**, the Zoning Board of Appeals held a duly advertised public hearing on

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the application on March 21, 2017 and continued the public hearing to December 19, 2017, at which time all those wishing to be heard on the application were given such opportunity; and

**WHEREAS**, the Board closed the public hearing on December 19, 2017; and

**WHEREAS**, pursuant to New York State General City Law § 81-b(4) and Zoning Code Section 223.55(C)(2)(b), when deciding the request for an area variance:

In making its determination, the Zoning Board of Appeals shall take into consideration the benefit to the applicant if the variance is granted, as weighed against the detriment to the health, safety and welfare of the neighborhood or community by such grant. In making such a determination, the board shall also consider:

- [1] Whether an undesirable change will be produced in the character of the neighborhood or a detriment to nearby properties will be created by the granting of the area variance;
- [2] Whether the benefit sought by the applicant can be achieved by some method, feasible for the applicant to pursue, other than an area variance;
- [3] Whether the requested area variance is substantial;
- [4] Whether the proposed variance will have an adverse effect or impact on the physical or environmental conditions in the neighborhood or district; and
- [5] Whether the alleged difficulty was self-created, which consideration shall be relevant to the decision of the Board of Appeals, but shall not necessarily preclude the granting of the area variance.

**WHEREAS**, pursuant to Zoning Code Section 223.55(C)(2)(c) "the Board of Appeals, in granting of area variances, shall grant the minimum variance that it shall deem necessary and adequate and at the same time preserve and protect the character of the neighborhood and the health, safety and welfare of the community."

**WHEREAS**, based upon the Record before it and after viewing the premises and neighborhood concerned and upon considering each of the factors set forth in Section 223.55(C)(2)(b)[1]-[5] of the City of Beacon Code, the Zoning Board finds with respect to each of the requested variances as follows:



1. The variances will not produce an undesirable change in the character of the neighborhood and there will not be a detriment to nearby properties created by the granting of the area variances.

*A. Maximum Building Height- Number of Stories*

The City's Zoning Code Section 223-17.C/223 Attachment 1:6 permits a building height to be no greater than fifty-five (55) feet or 4 ½ stories. Each of the seven proposed buildings will comply with the maximum height of 55 feet permitted by the Zoning Code Section 223-17.C. A height variance of half a story is required for three buildings designed with gabled roofs.

The Board find that no undesirable change will be produced in the character of the neighborhood and no detriment to nearby properties will be created by the granting of the area variance of half a story permitting a maximum height of 5 stories for three of the seven buildings where the maximum amount of stories permitted by the code is 4 ½ stories. Under the Zoning Code Section 223-63, the "height of building" is measured as the "vertical distance from the average established grade in front of the lot or from the average natural grade at the building line, whichever is higher, to the level of the highest point of the roof, if the roof is flat, or to the mean level between the eaves and the highest point of the roof, if the roof is of any other type." Under this definition, gabled roofs and angled roofs are measured differently. The gabled roofs are measured with an extra half story because of its design. The three buildings for which variances are required are not as tall at the peak of the angled roofs as the other four buildings that comply with the 4 ½ story height requirement. Furthermore, the roofs of the buildings are all accessible by the Beacon Fire Department apparatuses. As all seven buildings are within the permitted height of 55 feet, the granting of a half story variance for three of the seven buildings does not create a detriment to nearby properties.

*B. Maximum Number of Dwelling Units Per Building*

No undesirable change will be produced in the character of the neighborhood and no detriment to nearby properties will be created by the granting of an area variance permitting more than 36 dwelling units. The Zoning Code Section 223-17.C states that the maximum number of dwelling units per building shall not exceed 36. The Applicant proposes to construct a total of 307 dwelling units, to be distributed among seven buildings, as permitted on the 12-acre parcel by right. The buildings are proposed to contain the following number of units:

- Building 1- 48 units;
- Building 2- 52 units;

- Building 3- 59 units
- Building 4- 32 units (no variance required)
- Building 5- 32 units (no variance required)
- Buildings 6- 51 units; and
- Building 7- 32 units (no variance required)

Three (3) of the buildings are proposed to contain 32 residential dwelling units, this is four less units than permitted. All the buildings will look similar from the exterior, and the total number of units (307 units) proposed for the 12-acre property is permitted. Under the density regulation in 223 Attachment 1:6, the lot area required per dwelling unit is 1,700 square feet. Therefore, on a 12 acre lot, approximately 522,720 square feet, 307 dwelling units may be constructed. The proposed development will not result in any adverse impacts to the neighborhood character because by permitting the Applicant to have more dwelling units per building, the Applicant is able to preserve more open space and decrease overall lot coverage and impervious surface. Otherwise, the Applicant could construct the same number of units (307), but in more buildings which would have greater impacts.

*C. Minimum Separation Between Buildings*

No undesirable change will be produced in the character of the neighborhood and no detriment to nearby properties will be created by the granting of a variance to permit a minimum distance of less than 36 feet between buildings. There are a total of five openings between the proposed seven buildings on the premises. The closest minimum distance between the buildings is 12 feet. By reducing the distance between buildings the Applicant is able to cluster the buildings to preserve a maximum amount of open space. In addition, the buildings include additional fire suppression systems and will utilize fire suppression materials to ensure fire safety and further preserve the welfare of the neighborhood and ensure the safety of all residents. The Fire Department received the plans and had no objection to the reduced separation distance between buildings. Overall, the proposed project enhances the character of the neighborhood, and will not have a detrimental impact to either the neighborhood or adjacent properties.

2. **The benefit sought by the Applicant cannot be achieved by some method feasible for the Applicant to pursue, other than the requested area variances.**

*A. Maximum Building Height- Number of Stories*

The benefit sought by the Applicant cannot be achieved by some other method feasible for the Applicant to pursue. The Applicant may construct 307 dwelling units on the premises by right. The Applicant has presented two other alternatives. Such alternatives require the Applicant to construct eight buildings (providing 288 dwelling units) or nine buildings (providing 307 units). Both alternatives create higher development impacts. The Applicant wants to pursue a sustainable development to maximize open space. Under the

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proposed project there is 35% impervious coverage. Both alternatives require at least 40% impervious coverage.

The premises is located in the Coastal Management Zone as defined by the City's Local Water Front Revitalization Program (LWRP). The proposed project condenses and clusters the footprint of the buildings and decreases impervious surfaces to achieve the clustered effect recommended by the LWRP. Specifically the LWRP provides that "the scenic qualities of Beacon results from the combination of clustered buildings (many historic) and wooded hillsides against the backdrop of the Hudson Highlands." On December 12, 2017, the Planning Board issued a Local Waterfront Revitalization (LWRP) Consistency Determination, which provides in part that the proposed Project is consistent with the policies in the LWRP because it condenses and clusters the footprint of the buildings and impervious surfaces to achieve the clustered effected by the LWRP. The proposed alternatives do not achieve the same effect.

#### *B. Maximum Number of Dwelling Units Per Building*

The Applicant is proposing 31 dwelling units as below-market rate units, in accordance with the City's Affordable-Workforce Housing Laws. By granting the variance and permitting more than 36 dwelling units in a building, the Applicant can create a better mix of unit types and overall diversity in unit counts to better achieve the goals of the Affordable-Workforce Housing Law.

The Applicant is permitted to build 307 units on the premises pursuant to the density requirements of the RD-1.7 Zoning District on a 12 acre parcel, subject to special use permit approval by the City Council to approve multifamily complexes. Without the variances, the Applicant will need to construct one or two extra buildings, increasing lot coverage and impervious surface. The Applicant's goal to preserve 65% green space, create diversity in buildings and unit types and provide common gathering space for residents cannot be achieved without the requested variance.

If each building contained the same number of units it would necessitate more buildings, and would therefore create a much higher-impact development. Therefore, there is no other feasible means to achieve the required number of units but for the granting of the variance to permit more than 36 dwelling units per building.

#### *C. Minimum Separation Between Buildings*

As discussed above, the relative clustering of the buildings contributes to maximizing the amount of open space provided onsite. The proposed layout allows for the preservation of the maximum amount of green space (65%) and will overall enhance the community. Thus, the benefit the Applicant seeks, to develop 307 residential dwelling units and preserve 65% open space, cannot be achieved without the requested variance.

- 3. The requested variances are mathematically substantial; however, this does not outweigh the other factors meriting the granting of the variance.**

The requested variances are mathematically substantial. However, in considering whether a variance is substantial, the Board must examine the totality of the circumstances within the application and the overall effect of granting the requested relief. Here, the variances are not substantial in their effect. The project design provides a variety of units, both market-rate and below-market rate units, while preserving the most amount of open space. Moreover, even though the requested variances are mathematically substantial, this factor alone does not preclude the granting of the variances.

The Board reviewed the overall effect of the requested variances to permit the clustering of units on this 12 acre parcel requiring (1) a half story height variance for three buildings, (2) a variance to permit more than 36 residential dwelling units per building and (3) a variance to allow less than 30 feet between the proposed buildings. While the requested variance is mathematically substantial, the variance will result in minimal impacts to the surrounding neighborhood and environment. Therefore, the Board finds that the requested variance is not substantial.

- 4. The proposed variance will not have an adverse effect or impact on the physical or environmental conditions in the neighborhood or district.**

The proposed variances will not have an adverse effect or impact on the physical or environmental conditions in the neighborhood or district. There will be no adverse effects of noise, vibrations, odor, traffic, or impact on public services caused by the requested variances. As part of the Coordinated SEQRA review conducted by the Planning Board as Lead Agency, the Planning Board has determined that the entire action, including the required variances, will have no potential significant adverse environmental impacts. As mentioned above, the Planning Board also granted a LWRP Consistency Determination which provides that the proposed Project is consistent with policies and guidance of the LWRP. The proposed project will preserve 65% open space and utilize green infrastructure practices to reduce runoff, minimize grading and soil disturbance, and minimize impervious surface areas. The proposed project will also incorporate soil conservation and dust control best management practices and utilize native vegetation in all proposed landscaping to enhance wildlife habitat.

- 5. The alleged difficulty was self-created but this factor does not preclude the granting of the area variances.**

The need for the variances is self-created since it is presumed the Applicant selected the Property as the location for its proposed development knowing the zoning requirements pertaining to the maximum height of buildings permitted, the maximum number of residential dwelling units per building and the minimum distance required between buildings. However, this does not preclude the granting of the area variance.

**NOW THEREFORE, BE IT RESOLVED**, that, for the reasons set forth above, the application of Scenic Beacon Developments, LLC (the "Applicant") to allow Building 3, Building 4, and Building 6, as identified on the proposed Site Plan dated January 31, 2017, to have 5 stories where the maximum building height is 4.5 stories pursuant to City § 223-17.C/223 Attachment 1:6, is hereby GRANTED.

**BE IT FURTHER RESOLVED**, that for the reasons set forth above, the application of Scenic Beacon Developments, LLC, to allow four proposed buildings to exceed 36 units where the maximum number of dwelling units per building is 36 units pursuant to the City Code § 223-17.C/223 Attachment 1:6, is hereby GRANTED subject to the following conditions:

1. If the Applicant builds less than 252 units (7 buildings x 36 dwelling units= 252 units), this variance is void. The Applicant will be required to comply with the Zoning Code requirements restricting the number of units per building and may not exceed 36 residential dwelling units per building.
2. The Applicant is permitted to construct a maximum number of four buildings with more than 36 residential dwelling units. The maximum number of dwelling units for any one building may not exceed 59 residential dwelling units per building.

**BE IT FURTHER RESOLVED**, that for the reasons set forth above, the application of Scenic Beacon Developments, LLC, to allow less than 30 feet between buildings where the minimum distance between buildings on the same lot is 30 feet pursuant to City Code § 223-17.C/223 Attachment 1:6, is hereby GRANTED subject to the following conditions:


1. The Applicant shall maintain at least 65% of the 12-acre parcel as open space, but for Planning Board approval of impervious infrastructure including, but not limited to, sidewalks, development of land banked parking, roads, and decks. The total amount of open space land preserved after Planning Board approval of said impervious infrastructure shall not be less than 60% of the 12-acre parcel.
2. Impervious surface shall not exceed 35% of the 12-acre parcel, but for Planning Board approval of impervious infrastructure, including, but not limited to, sidewalks, development of land banked parking, roads, and decks. The total impervious surface area, including any additional approved impervious surfaces, shall not to exceed 40% of the 12-acre parcel.
3. The distance between any of the proposed buildings shall not be less than 12 feet.

**BE IT FURTHER RESOLVED**, that all the variances granted herein are subject to the following conditions:



1. No permit or Certificate of Occupancy shall be issued until the Applicants have paid in full all application and consultant fees incurred by the City of Beacon in connection with the review of this application.
2. The Applicant shall obtain a building permit within twelve months from the date of obtaining the last land use approval.
3. The variance shall terminate unless the Proposed Project, as defined herein, has been substantially completed within five years from the date of obtaining the last land use approval or the Applicant appears before the Board for an extension.

Dated: January 17, 2018

  
\_\_\_\_\_  
Mr. John Dunne, Chairman

**Height Variance**

Mr. Dunne called the roll							
Motion	Second	Zoning Board Member	Aye	Nay	Abstain	Excused	Absent
		John Dunne	X				
		Jordan Haug	X				
	X	Robert Lanier	X				
X		Judy Smith	X				
		David Jensen		X			
Motion Carried			4	1*			

*\*Mr. Jensen was in favor of granting the variance for Buildings 3 and 6 to have 5 stories but was not in favor of granting the variance for Building 4.*

**Maximum Number of Dwelling Units Variance**

Mr. Dunne called the roll:							
Motion	Second	Zoning Board Members	Aye	Nay	Abstain	Excused	Absent
		John Dunne	X				
X		Jordan Haug	X				
		Robert Lanier	X				
	X	Judy Smith	X				
		David Jensen		X			
Motion Carried:			4	1			

**Maximum Distance Between Buildings Variance**

<b>Mr. Dunne called the roll:</b>							
<b>Motion</b>	<b>Second</b>	<b>Zoning Board Members</b>	<b>Aye</b>	<b>Nay</b>	<b>Abstain</b>	<b>Excused</b>	<b>Absent</b>
		John Dunne	<b>X</b>				
<b>X</b>		Jordan Haug	<b>X</b>				
	<b>X</b>	Robert Lanier	<b>X</b>				
		Judy Smith	<b>X</b>				
		David Jensen		<b>X</b>			
<b>Motion Carried:</b>			<b>4</b>	<b>1</b>			

Received in the Office of the  
City Clerk  
January 24, 2018

# EXHIBIT E



*Civil & Environmental Engineering Consultants  
174 Main Street, Beacon, New York 12508  
Phone: 845-440-6926 Fax: 845-440-6637  
[www.HudsonLandDesign.com](http://www.HudsonLandDesign.com)*

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April 6, 2018

Mayor Randy Casale  
and Members of the City Council  
City of Beacon City Hall  
1 Municipal Plaza  
Beacon, New York 12508

Re: Edgewater Special Use Permit  
Tax IDs 5954-25-566983, 574979, 582985, & 5955-19-590022  
City of Beacon, New York

Dear Mayor Casale and Members of the City Council:

On behalf of the Applicant for the above referenced project, Hudson Land Design (HLD) has prepared two exhibits that compare our proposed walking path connection to the MTA Parcel with the alternate staircase connection requested by Councilman Kyriacou. We did explore the possibility of providing a direct connection to the MTA parcel with a staircase in the early stages of the project; however, several concerns were apparent that contributed to proposing the current walking path that uses the proposed internal sidewalks and street sidewalks. The concerns with the staircase alternate are as follows:

1. The grade differential between the sidewalk at the internal intersection on the site where the direct connection would occur is approximately 59 feet. The elevation at the intersection is approximately 69.0; the grade at the top of the slope is approximately 60.0, and the grade at the MTA parking lot is approximately 10.0. The staircase would link the parking lot to the top of the slope. This grade differential is approximately 50 feet; therefore, there would be 5 stories of stairs to climb to get to the top of the slope. From there, internal stairs would be required to get to elevation 69.0. The current proposed walking route has no stairs and is ADA compliant. Therefore, we believe that the current plan is desirable since it is an accessible route and would be less strenuous than nearly 6 stories of stairs.
2. Building a staircase along the steep slope bluff is challenging from a construction standpoint. The slope is extremely steep which makes it difficult to construct against it. The staircase would likely require several anchor points on the slope, so this would require disturbance to a very steep slope which could compromise the integrity of the slope. Further, several trees that currently exist on the slope would need to be removed in order to make way for construction of the staircase. Tree roots provide good reinforcement of slopes. Removing the trees would also compromise the slope. Once this steep slope is disturbed, it would be very difficult to stabilize again.
3. The distance from the staircase to the closest platform is approximately 711 feet. This is about half of the distance than that of the proposed walking path (without stairs) of 1,494 feet; however, we believe that the nearly 6 stories of stairs is far more strenuous than walking another 783 feet. Further, the

walking path from the staircase would meander through the parking lot. There are no designated pedestrian route markings within the MTA parking lot.

4. Lastly, a substantial portion of the staircase would be on MTA property. This would require permission from them to allow for construction of the staircase on their property.

Attached please find two Exhibits that compare the proposed route to the alternate route. Exhibit 1 looks at the grade differential from the Edgewater site to the MTA parcel. Exhibit 2 looks at the proposed overall routes from the site to the MTA parcel.

We look forward to continuing discussing the design details of the project with you and your Council members at the next meeting. Should you have any questions or require additional information, please feel free to call me at 845-440-6926.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael A. Bodendorf". The signature is fluid and cursive, with the first name "Michael" and last name "Bodendorf" clearly distinguishable.

Michael A. Bodendorf, P.E.  
Principal

cc: Weber Projects, LLC  
Tina Andress-Landolfi  
Aryeh Siegel, AIA  
Taylor Palmer, Esq.  
Jon D Bodendorf, P.E. (HLD File)





LEGEND:	
	EXISTING ROOF LEADER LOCATION
	SEWER MANHOLE
	UNKNOWN MANHOLE
	GAS METER
	ELECTRIC METER
	WATER VALVE
	SOUND DROP INLET
	ELECTRIC METER
	UTILITY POLE WITH LIGHT
	COMMUNICATION BOX
	OVERHEAD WIRES
	FENCE
	UNKNOWN VALVE
	EXISTING WATER EDGE
	PROPOSED EASEMENT LINE
	PROPOSED CATCH BASIN WITH INLET PROTECTION
	PROPOSED CLEANOUT
	PROPOSED HYDRANT
	PROPOSED WATER VALVE
	PROPOSED SANITARY MANHOLE
	PROPOSED RETAINING WALL
	PROPOSED CULVERT
	PROPOSED UNDERDRAIN
	PROPOSED ROOF LEADER PIPE
	PROPOSED MINOR CONTOUR
	PROPOSED MAJOR CONTOUR
	PROPOSED SPOT ELEVATION
	EXISTING CATCH BASIN
	EXISTING UTILITY POLE
	PROPOSED CLEANOUT
	PROPOSED SEWER SERVICE LINE
	PROPOSED WATER SUPPLY LINE
	PROPOSED FENCE
	IMPERVIOUS SURFACE
	PROPOSED RIP RAP
	UTILITY CROSSING LOCATION
	PROPOSED ROOF LEADER LOCATION
	PROPOSED WATER SERVICE LINE
	PROPOSED WATER SHUT-OFF VALVE
	OFFSITE 5' GIS CONTOUR

ON-SITE  
INTERSECTION  
ELEV =  $\pm 69.0$

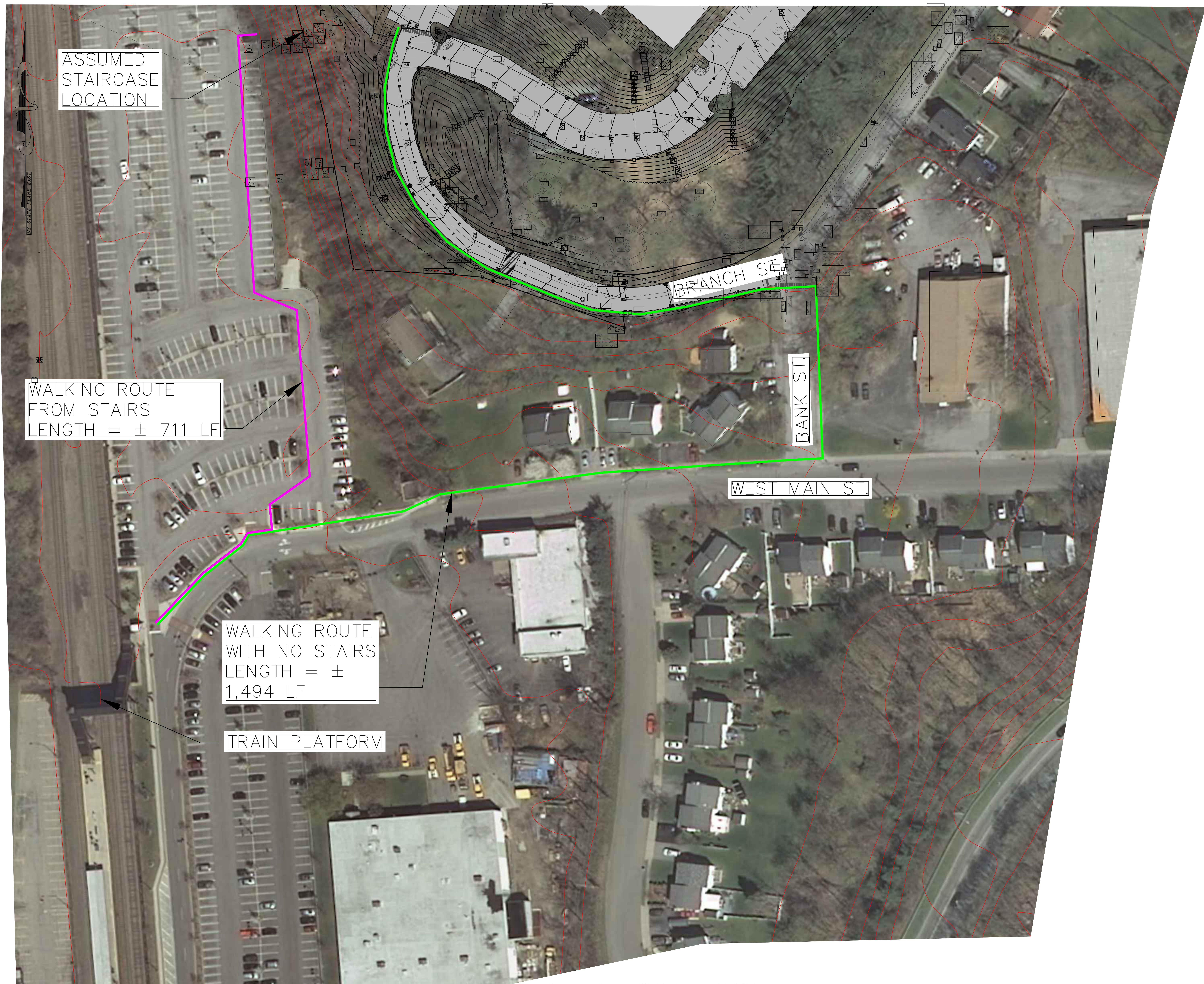
STAIRCASE  
LOCATION

TOP OF SLOPE  
BREAK  
ELEV =  $\pm 60.0$

MTA PARKING  
AREA  
ELEV. =  $\pm 10$

Connection to MTA Parcel Exhibit  
Scale: 1" = 30'





LEGEND:	
	EXISTING ROOF LEADER LOCATION
	SEWER MANHOLE
	UNKNOWN MANHOLE
	CITY WELL ANCHOR
	UTILITY POLE
	ELECTRIC BOX
	HYDRANT
	WATER VALVE
	ROUND ROOF INLET
	ELECTRIC METER
	UTILITY POLE WITH LIGHT
	COMMUNICATION BOX
	OVERHEAD WIRES
	FENCE
	IRON INLET
	GAS METER
	VALVE
	UNKNOWN VALVE
	EXISTING WATER EDGE
	PROPOSED EASEMENT LINE
	PROPOSED CATCH BASIN WITH INLET PROTECTION
	PROPOSED CLEANOUT
	PROPOSED HYDRANT
	PROPOSED WATER VALVE
	PROPOSED SANITARY MANHOLE
	PROPOSED RETAINING WALL
	PROPOSED CULVERT
	PROPOSED UNDERDRAIN
	PROPOSED ROOF LEADER PIPE
	PROPOSED MINOR CONTOUR
	PROPOSED MINOR CONTOUR
	PROPOSED SPOT ELEVATION
	EXISTING CATCH BASIN
	EXISTING UTILITY POLE
	PROPOSED CLEANOUT
	PROPOSED SEWER SERVICE LINE
	PROPOSED WATER SUPPLY LINE
	PROPOSED FENCE
	IMPERVIOUS SURFACE
	PROPOSED RIP RAP
	UTILITY CROSSING LOCATION
	PROPOSED ROOF LEADER LOCATION
	PROPOSED WATER SERVICE LINE
	PROPOSED WATER SHUT-OFF VALVE
	WALKING PATH FROM STAIRCASE
	WALKING PATH WITHOUT STAIRS
	OFFSET 5' GIS CONTOUR

Connection to MTA Parcel Exhibit II  
Scale: 1" = 30'



# EXHIBIT F



300 Westage Business Center, Suite 380  
Fishkill, New York 12524  
T 845 896 2229  
F 845 896 3672  
cuddyfeder.com

Taylor M. Palmer  
tpalmer@cuddyfeder.com

February 26, 2018

**VIA HAND DELIVERY**  
**AND E-MAIL**

Hon. Randy Casale, Mayor  
and Members of the City Council  
Beacon City Hall  
1 Municipal Plaza  
Beacon, New York 12508

Re: Proposed Zoning Amendment to Reduce Density in all RD Districts by Deducting “any lot area with slopes”

Dear Mayor and City Council Members:

This letter is written on behalf of our client Scenic Beacon Developments, LLC, the developer for the project commonly referred to as Edgewater.

For the reasons outlined below, we submit that any effort to enact the proposed law prior to the empaneling of a non-elected, neutral, Comprehensive Plan committee to re-evaluate the City’s zoning law, and the completion of a public comprehensive plan process, is unlawful and would constitute zoning which is not in accordance with a Comprehensive Plan.<sup>1</sup> It would also be unlawful as a zoning measure specifically targeted at a project which, although fully justified by sound planning principles, has now become politically unpopular. Edgewater has been recently found by the Planning Board to cause no significant adverse environmental effects, including any impacts on slopes.<sup>2</sup> Indeed, Edgewater actually *protects* the slopes on its property.

This density measure flies completely in the face of the City’s 2007 and 2017 Comprehensive Plan Updates that recognize that properties near the train station are just hundreds of feet from the

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<sup>1</sup> Indeed, it might be argued that any effort to amend the Comprehensive Plan in the immediate future would be found part of the targeting scheme against a particular project or projects. The Comprehensive Plan was updated in April 2017 with no recommendation that the zoning of the Edgewater property be changed.

<sup>2</sup> The Planning Board determined that the Edgewater Project *will not* have a “significant” adverse impact on the environment and at its December 12, 2017, meeting, at which time the Planning Board adopted a Negative Declaration. Planning Board issued a Local Waterfront Revitalization (LWRP) Consistency Determination, which provides in part that the Project is consistent with the policies in the LWRP because it condenses and clusters the footprint of the buildings and impervious surfaces to achieve the clustered effected recommended by the LWRP.



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Metro North platform and should have higher densities. See **Exhibit A** – Proposed Land Use Plan from 2007 Comprehensive Plan and 2017 Future Land Use Plan Map – both showing Edgewater to be zoned for “high density residential”.

This proposal is an abuse of the zoning authority, for the following reasons:

1. *This law is a rezoning in the guise of a steep slope law:*

The first important point about the proposal is that it does not protect steep slopes. Whether they are “slopes”, “steep slopes” or “very steep slopes”, proposed footnote ‘q.’ to the City’s Bulk Table does not prevent building on steep slopes. As a matter of fact, the proposal simply reduces density. It is a *de facto* rezoning, in disguise.

Density reductions using the “excuse” of steep slopes are disfavored:

Concern for avoiding development on steep slopes should not be used as a pretext for reducing development densities to such an extent that they would constitute *de facto* rezoning.

...

Steep slope regulations that have the potential for significantly reducing housing should be avoided.

...

The regulatory approach (as contrasted with the deductive approach) to steep slope regulations is recommended, where there are adequate standards adopted, as a reasonable way to accommodate development on land containing steep slopes. The deductive approach, which penalizes the property owner in terms of density potential for steeply sloping areas, is rarely appropriate; the basic zoning standards should already have been adopted in full consideration of the unique character of the affected lands.

Westchester Planning, County Planning Board issues Steep Slope Development Guidelines, Winter 1990-91, Vol. 18, Number 2, pages 1-2.

2. *The present proposal is not needed: Beacon already has a comprehensive steep slope protection law:*

C&F: 3122857.1





February 26, 2018

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The City already has a comprehensive law protecting steep slopes from development, enacted in 2004 (Local Law No. 2 of 2004).<sup>3</sup> This law prohibits development on “very steep slopes” greater than 25%.<sup>4</sup> Indeed the law even provides a review process, which includes a permissible Planning Board public hearing. The City also has other laws that further protect steep slopes.

- The City requires detailed mapping and cross sections where steep slopes existing (195-30.C);
- The presence of steep slopes on a property empowers the Planning Board to require a conservation subdivision, rather than a conventional subdivision (223-12);
- The City restricts grades of roads, driveways, and parking areas (223-26);
- The City’s laws already require that development on non-sloped areas meet applicable set-back, layout, lot size, and other requirements. If these requirements can’t be met, there is absolutely no grounds on which an applicant can claim entitlement to maximum possible permissible density; and
- Any site specific impacts of “overly dense” development can be addressed under SEQR.

The densities established in the City’s zoning districts fully take into account the nature of the topography of the land. The Comprehensive Plans of 2007 and 2017 were enacted based on the understanding that the City was already protecting steep slopes through its 2004 laws.

3. *The City’s Comprehensive Plan does not support this density reduction for steep slopes:*

The 2007-2008 Comprehensive Plan fully discusses the slopes in the City,<sup>5</sup> which constitute approximately nine percent (9%) percent of the City’s Land area. (Page 23). The mapping shows that the steepest slopes (those over 25% and over 35%) are those on the far eastern boundaries of the City, on the mountain slopes. It acknowledges the existing section 223-16 (the 2004 law prohibiting development on slopes greater than

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<sup>3</sup> See Zoning Code Section 223-16(B), concerning hilltops, ridgelines and very steep slopes.

<sup>4</sup> Zoning Code Section 223-63 defines “very steep slope” as “[a]n area of land with a gradient of 25% or more extending over a horizontal length of at least 100 feet and extending over a horizontal width of at least 100 feet.” This definition was added to the Zoning Code by the same Local Law No. 2, which law was designed for the protection of sensitive environmental resources, which included very steep slopes.

<sup>5</sup> CITY OF BEACON, 2007 COMPREHENSIVE PLAN, available at:

[http://www.cityofbeacon.org/pdf/Beacon\\_Comprehensive\\_Master\\_Plan.pdf](http://www.cityofbeacon.org/pdf/Beacon_Comprehensive_Master_Plan.pdf).



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25%) and recommends consideration of further regulations governing development on slopes to prevent erosion and damage to soils and vegetation.

But the most notable provision in the Comprehensive Plan about steep slopes is that:

**Steep slope regulations should be more restrictive in areas of lower density and less restrictive in areas of greater density as depicted on the Land Use Plan Map. (Page 28).**

In other words, steep slope regulations should not undermine the zoning in the radius from the train station area “where redevelopment is deemed positive and/or necessary or where such redevelopment may be expected to reduce adverse environmental impacts or result in no significant net increase in adverse environmental impacts.” (Page 27)

The 2007 Comprehensive Plan does not support the proposed measure of reducing overall density by deducting sloped areas from the lot size calculation. To the contrary, the Plan contains repeated recommendations for increased housing densities around the central commercial hub and waterfront/train station area, between City Hall and the Waterfront. (Page 52, 55). See Exhibit A.

In contrast, the Plan calls for more restrictive regulations to protect steep slopes on “all large undeveloped lots east of Wolcott Avenue, Howland, DePuyster and Washington Avenues.” (Page 109). These areas were targeted for the lowest residential densities “in order to protect the steep slopes and other environmental features of these areas.” (Page 109). The plan also recommended mandatory conservation subdivision as a way of protecting steep slopes.

Similarly, the legislative history of the RD-1.7 District reveals that the Edgewater site was at one time contemplated for much more intensive development than is currently proposed for the Edgewater project, as well as high-density in the waterfront area in proximity to the train station. The 2010 City Council Meeting Minutes, during which the adoption of the RD-1.7 District regulations were considered, recognize that more units and more density was considered for Edgewater in the Comprehensive Plan.

Indeed, the 2007 Comprehensive Plan states that one of its Goals is to “encourage housing development at **relatively greater densities** within and adjacent to the...Waterfront/Train Station area” (page 7) [emphasis added],<sup>6</sup> with a specific objective being to “[d]evelop an urban design plan for the Waterfront/Train Station area that

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<sup>6</sup> CITY OF BEACON, 2007 COMPREHENSIVE PLAN, available at: [http://www.cityofbeacon.org/pdf/Beacon\\_Comprehensive\\_Master\\_Plan.pdf](http://www.cityofbeacon.org/pdf/Beacon_Comprehensive_Master_Plan.pdf).





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encourages the **development of high density housing** along Beekman Street” (page 13) [emphasis added].<sup>7</sup> The 2007 Comprehensive Plan also provides that “...participants [in the 2006 visioning workshops] also wanted to see **denser residential development around the train station...**” (page 44) [emphasis added].<sup>8</sup>

The 2017 Comprehensive Plan Update restated the goal of “[e]ncourag[ing] housing development at **relatively greater densities** within and adjacent to the...Waterfront/Train Station area” (page 23) [emphasis added].<sup>9</sup> Further, the 2017 Comprehensive Plan Update noted that the vision for the waterfront and train station area is to:

[C]reate a destination that serves as a ‘gateway’ to Beacon, to reclaim the riverfront and to link that riverfront to downtown Beacon. Given the desire to create land use synergies with the resources present at the station area, this plan proposes zoning changes to allow for **sufficient density to support a transit oriented community** focused toward residents, workers, and visitors who seek the convenience of transportation facilities in a walkable community framework. [emphasis added]<sup>10</sup>

This proposal is absolutely contrary to the City’s Comprehensive Plan.

4. *There is no evidence that the RD Districts provide for “overly high” net-densities on unconstrained portions of a development site:*

The alleged justification for the present proposal is speculation that, assuming that development must avoid steep slopes, the development on the non-constrained land “might” be “too dense.” Examples discussed at Council meeting include situations where the site is 11 acres in size and 10 acres of the land is wetlands or steep slopes.

This appears to be a purely imaginary problem, at least with respect to RD Districts. No one has cited any example of such a case. Clearly, Edgewater does not present such a situation, and has an official SEQR determinations that it has no adverse environmental effects.

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<sup>7</sup> *Id.*

<sup>8</sup> *Id.*

<sup>9</sup> CITY OF BEACON, 2017 COMPREHENSIVE PLAN UPDATE, available at: [http://cityofbeacon.org/pdf/Beacon Comprehensive Plan Final-040417.pdf](http://cityofbeacon.org/pdf/Beacon%20Comprehensive%20Plan%20Final-040417.pdf).

<sup>10</sup> *Id.*





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When the City Council first discussed density reductions based on steep slopes (by excluding sloped land from “Lot Area”), the City Planner noted that these measures are most often used in rural areas. Density deduction laws are less appropriate in cities, because they lead to sprawl, and particularly inappropriate for the RD districts, which inherently allow higher net-density in the built areas of the site. *See* Point 3, immediately preceding.

5. *The present proposal is contrary to the Comprehensive Plan and would upset the entire Centers-and-Greenspaces basis of Planning:*

Reflection on the consequences of this *ad hoc* measure will show that it actually threatens the entire basis of the City’s comprehensive planning. That City Comprehensive Plan was based on an overall balance of “centers and green spaces” planning, where outlying areas of the city were made less dense (indeed far less dense than would normally be warranted in sewered areas). As balance to these rural densities, the City designated the areas closest to the Train Station for truly urban densities, and also allowed for higher residential densities along the main business corridors. (*See generally*, pages 120-121). *See also Exhibit A* – Centers and Greenspace Plan from 2007 Comprehensive Plan, labeling Edgewater as a “Prime Redevelopment Opporun[ity].”

The present measure, which would enact a rash density reduction affecting precisely the areas of the city previously targeted for higher densities, is a zoning measure that is contrary to the comprehensive plan in that it would upset the entire balancing scheme between higher density and lower density areas. This balance has already been undermined by decisions like that reducing the density of Parcel L by seventy-five percent (75%) in 2016. These reductions of density have adverse impacts on fair share housing, affordable housing, meeting needs of diverse populations, avoiding gentrification and exorbitant price increases in housing.

This is a major defect in the current proposal. It can’t be papered over by a simple resolution amending the comprehensive plan to match the zoning. That is the reverse of the required process.

6. *Any consideration of changes in density by “net area” calculations would require the re-empaneling of a Comprehensive Plan committee to consider the matter and its impact on the Comprehensive Plan:*

The City’s existing planning and zoning is based on zoning that takes into account slopes, and prohibits development on slopes. The plan acknowledges that RD districts will have high net-densities, whether due to existing slopes or not, because the RD district implicitly concentrates development.

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The present proposal, on the other hand, takes a completely different planning approach, one much more appropriate in rural areas because it lowers density and spreads it out across a greater land mass, and seeks to apply this on top of a zoning and planning scheme with a completely different approach. This is mixing apples and oranges.

Such a fundamental repudiation of the planning basis for the City's zoning simply is not possible without an overall comprehensive planning process –including appointment of a committee and reevaluation of all zoning in the city. Any decision to subtract steep slopes from density calculations in RD Districts would have to be offset by increasing the density allowed on the remainder of the land, as this is the only way to sustain the “centers and greenspace” balance of the plan.

It is noted that such a plan would be legally valid only if it could be found to be objective and not targeted against particular properties or particular property owners.

7. Such a Comprehensive Plan Committee update would also require a full SEQOR analysis that includes a consideration of alternative, less drastic, measures to address the problem, and the impact of the measure on reducing the supply of housing and particularly affordable housing.

Issues which must be explored under SEQOR before any version of the present proposal could be considered would include analysis of the need for such a restriction in light of the laws already on the books, whether the proposed measure would actually protect steep slopes, analysis of the harm that might be caused by the proposed measure, and consideration of alternate measures that might be available. The measures proposed in this amendment are the crudest possible—a 100% exclusion from density calculation. Such a law harms the subject property owner, without any necessary benefit to steep slopes or the city. It wastes land, encourages sprawl, and deprives the City of needed housing.

There are a vast range of alternate measures to be considered. It is impossible to rationally determine whether and when a deduction is appropriate; what an appropriate percent of deduction would be; and what degree of the slope, or extent of sloped land, warrants any deduction, without an objective Comprehensive Plan Committee analysis of the steep slope resources in the city and the ability to adequately protect the land under both residential and commercial development scenarios. A number can't just be picked off the shelf based on what another community did.

8. The Council's increasingly long series of ad hoc zoning amendments is inherently inconsistent with Comprehensive Planning.

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The Council appears to be rushing through a number of *ad hoc* zoning amendments that are the antithesis of a well-ordered plan. Rather, the various amendments appear to be initiated based on private opposition to projects, as evidenced on votes on social media, numbers of signatures in on-line petitions, or numbers of hearing attendees standing in a room. We could call this, “zoning by applause-meter.”

The present measure was not even included in the list of “targeted” measures to be considered during the moratorium. The situation in Beacon has become similar to the facts in Udell v. Haas, 21 NY2d. 463 (1968). There, a Village changed its zoning on a site after an applicant had applied for a development project which was lawful at the time of application. The Court considered what constituted zoning in conformance with a “well-considered plan” or “comprehensive plan” and found that the amendment was an *ad hoc* effort targeted against specific landowners, and was not in accordance with a comprehensive plan. The court’s opinion includes the following statements, which are apt to the Beacon situation:

“In exercising their zoning powers, the local authorities must act for the benefit of the community as a whole following a calm and deliberate consideration of the alternatives, and not because of the whims of either an articulate minority or even majority of the community”... [T]he comprehensive plan is the essence of zoning. Without it, there can be no rational allocation of land use. It is the insurance that the public welfare is being served and that zoning does not become nothing more than just a Gallup poll.”

“...[T]he comprehensive plan protects the landowner from arbitrary restrictions on the use of his property which can result from the pressures which outraged voters can bring to bear on public officials. With the heavy presumption of constitutional validity that attaches to legislation purportedly under the police power..., there is a danger that zoning, considered as a self-contained activity...may tyrannize individual property owners.”

“...To assure that this does not happen, our courts must require local zoning authorities to pay more than mock obeisance to the statutory mandate that zoning be “in accordance with a comprehensive plan.”

...

“....Where...local officials adopt a zoning amendment to deal with various problems that have arisen, but give no consideration to alternatives which might minimize the adverse effects of a change on particular landowners, and then call in the experts to justify the steps already taken in contemplation of anticipated litigation,

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closer judicial scrutiny is required to determine whether the amendment conforms to the comprehensive plan.”

21 NY2d. 469-470.

9. Enactments relating to steep slopes in the FCD District neither justify or compel similar actions relating to RD Districts:

The Council’s decision regarding the FCD District involved fundamentally different planning issues than RD Districts, and does not bind the Council to “consistency” in this situation.

As to the precedential value of the Council’s decision to exclude slopes over 20% in the FCD, we submit that there is none. The Council did no objective study of the need for the density deduction, and considered no alternatives, but pulled the 20% figure out of thin air based on conversation at a single workshop. It is axiomatic that if an initial zoning measure lacks a justifiable planning basis, the mere repetition of the same error in other locations will not supply one.

Edgewater presents unique circumstances:

- Edgewater received a SEQR Negative Declaration, which confirmed that the project will not have any significant adverse effect on the environment, including any grading or disturbance impacts on steep slopes;
- Edgewater protects the slopes on the property, and avoids development on steep slopes;
- Edgewater is consistent with the policies in the City’s LWRP; and
- Both the Planning Board and the Zoning Board have determined that the proposed layout for Edgewater, which avoids disturbance of steep slopes, is the best possible development alternative for the site.

10. In any event, even if this measure is adopted, projects with SEQR Determinations should be grandfathered.

Given the unique timing of this proposed law, and the status of the Edgewater in the City’s approval processes, if the City moves ahead with this law, any projects that have completed the SEQR process should be grandfathered, especially those which have fully considered the potential environmental impacts, and have very recently received Negative

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Declarations. Again, there is no precedent that is similar to this case regarding any different zoning district, and decisions must be made on the merits of each unique situation.

**Summary:**

The proposed measure should be seriously re-evaluated and should not be put forward for the setting of a public hearing. The limited time period between the proposal to consider this density reduction measure and the lack of clarity in the law's application, has not allowed our client time to complete its analysis, but we submit the above comments as the result of our investigation to date. Our client appreciates the City Council's time and consideration regarding the above-referenced comments concerning the density reduction law.

Thank you in advance for your courtesy and consideration.

Very truly yours,

A handwritten signature in blue ink, appearing to read 'Taylor M. Palmer', is written over a faint blue circular stamp.

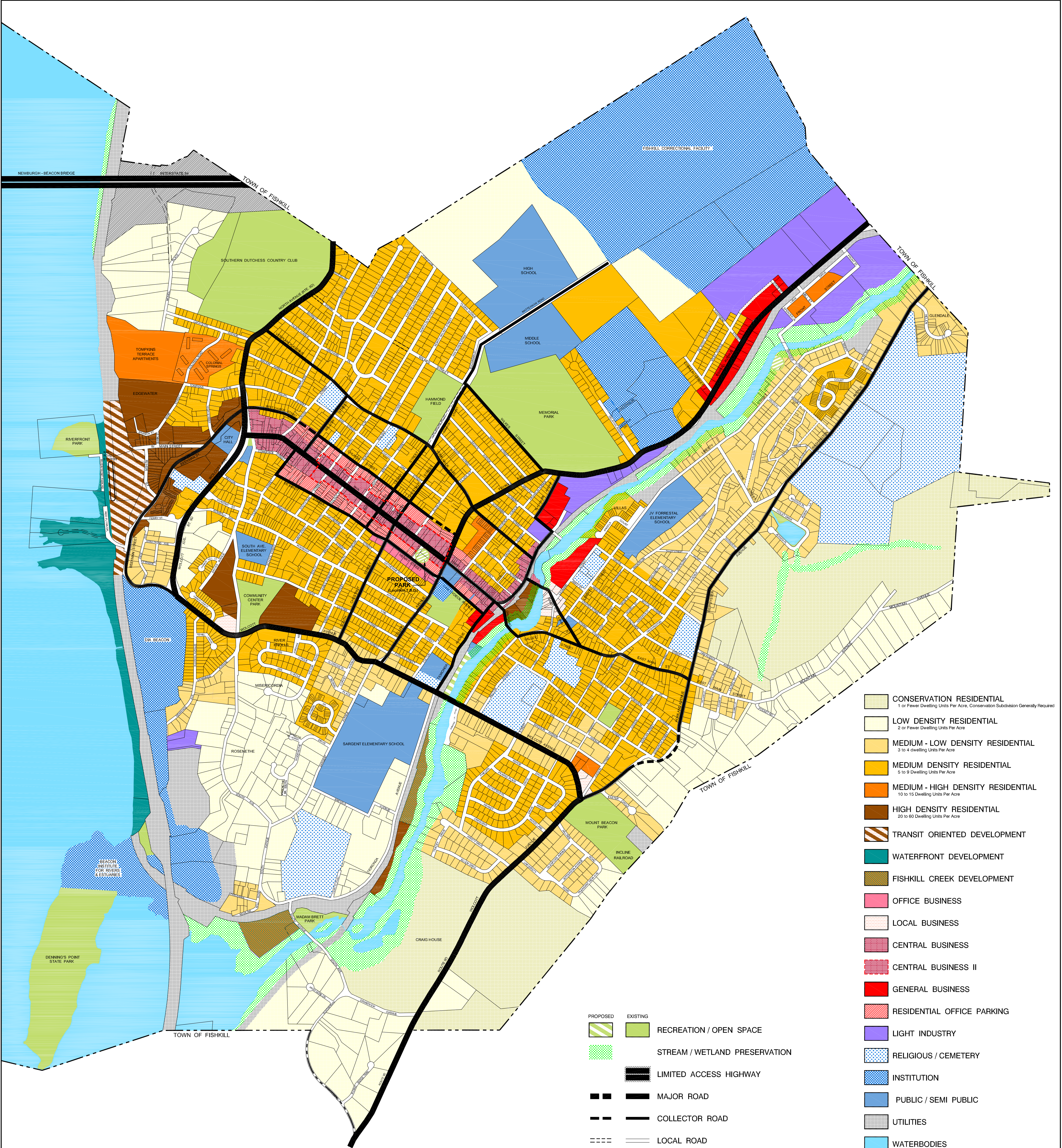
Taylor M. Palmer

cc: Scenic Beacon Developments, LLC;  
Nicholas M. Ward-Willis, Esq., City Attorney

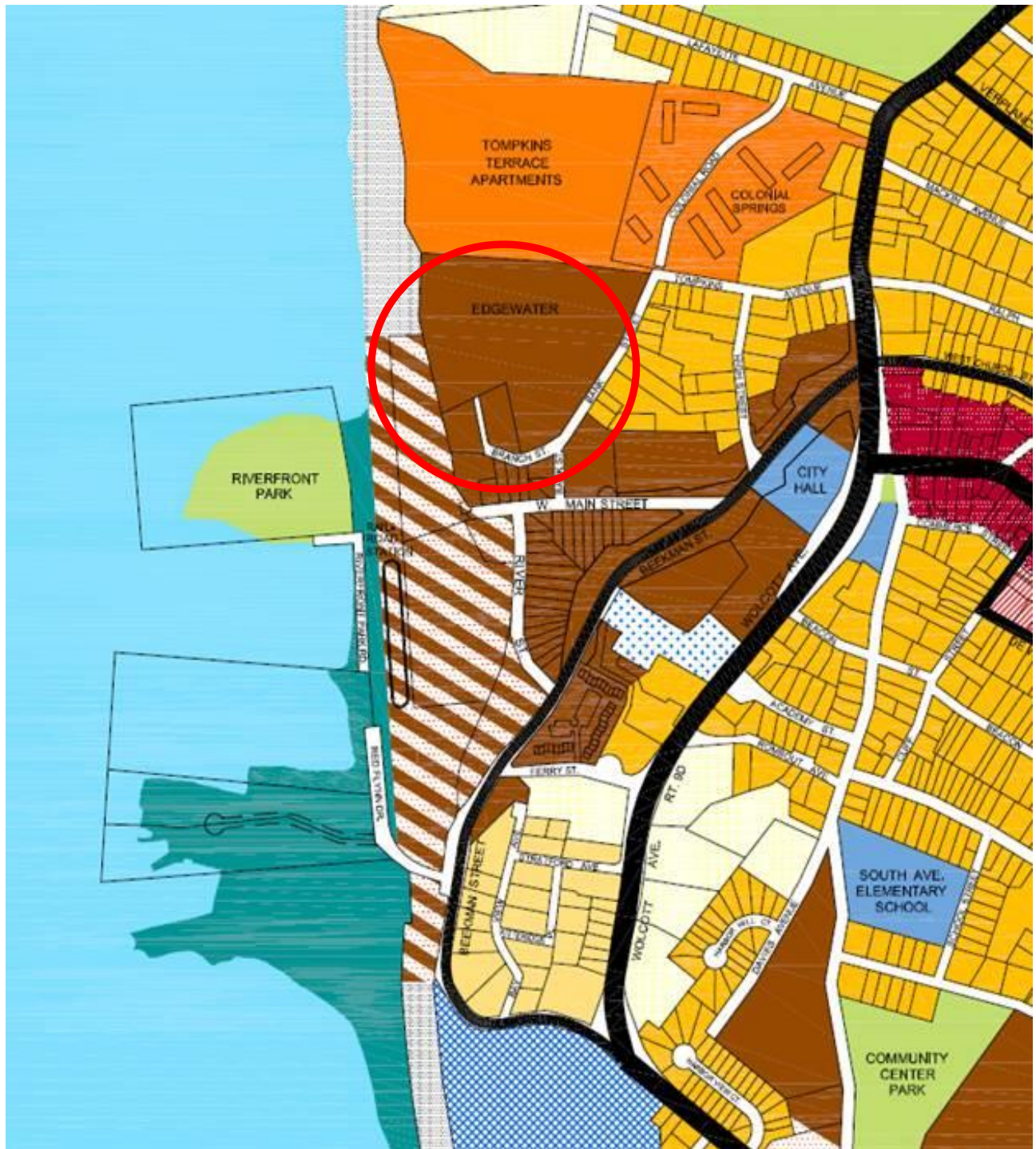
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# EXHIBIT A









**Excerpt of Proposed Land Use Plan – 2007 Comprehensive Plan –  
“High Density Residential”**

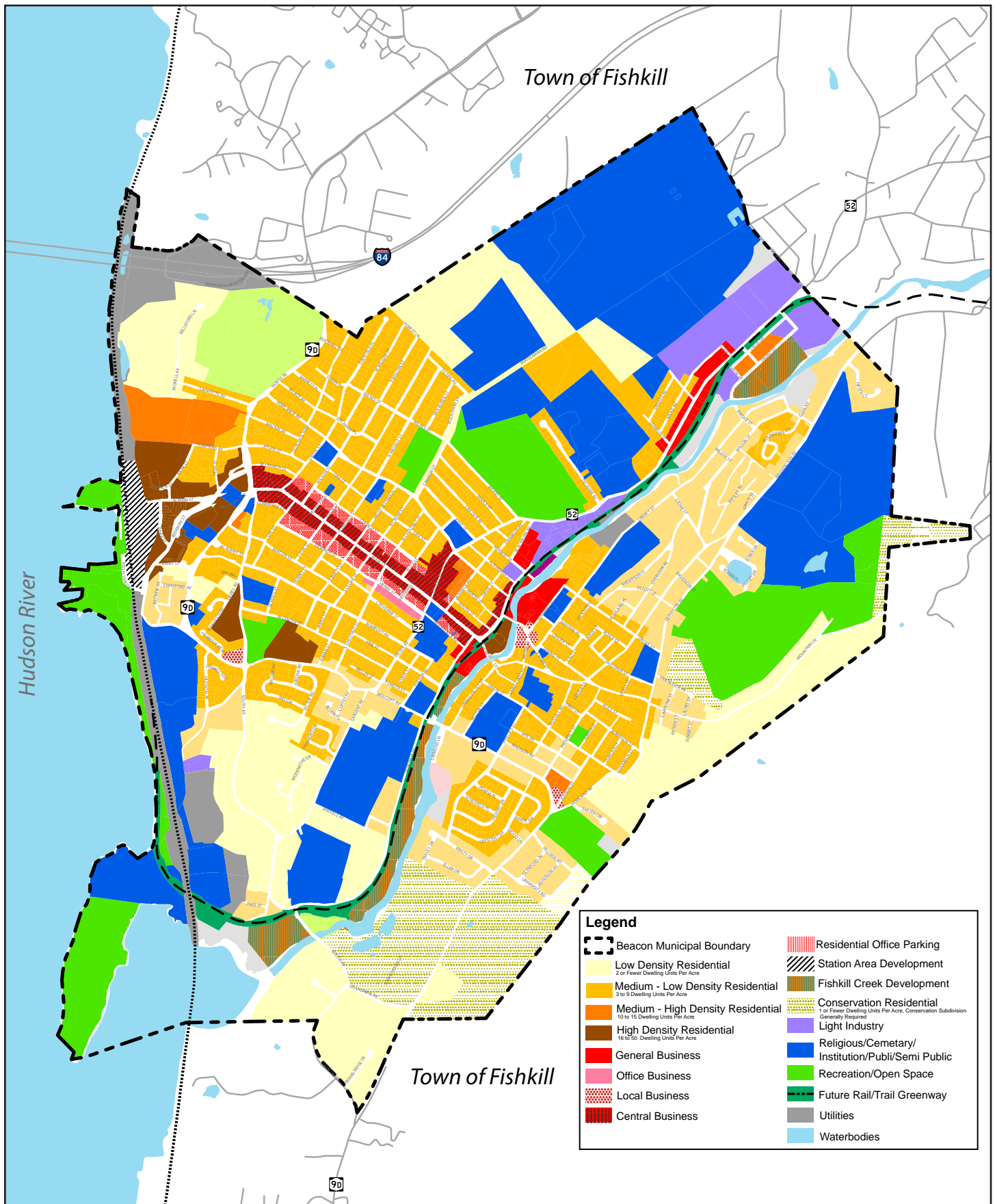


FIGURE 11-1: FUTURE LAND USE MAP

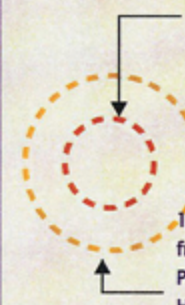




# Centers and Greenspaces Plan

## *City of Beacon*

### Legend

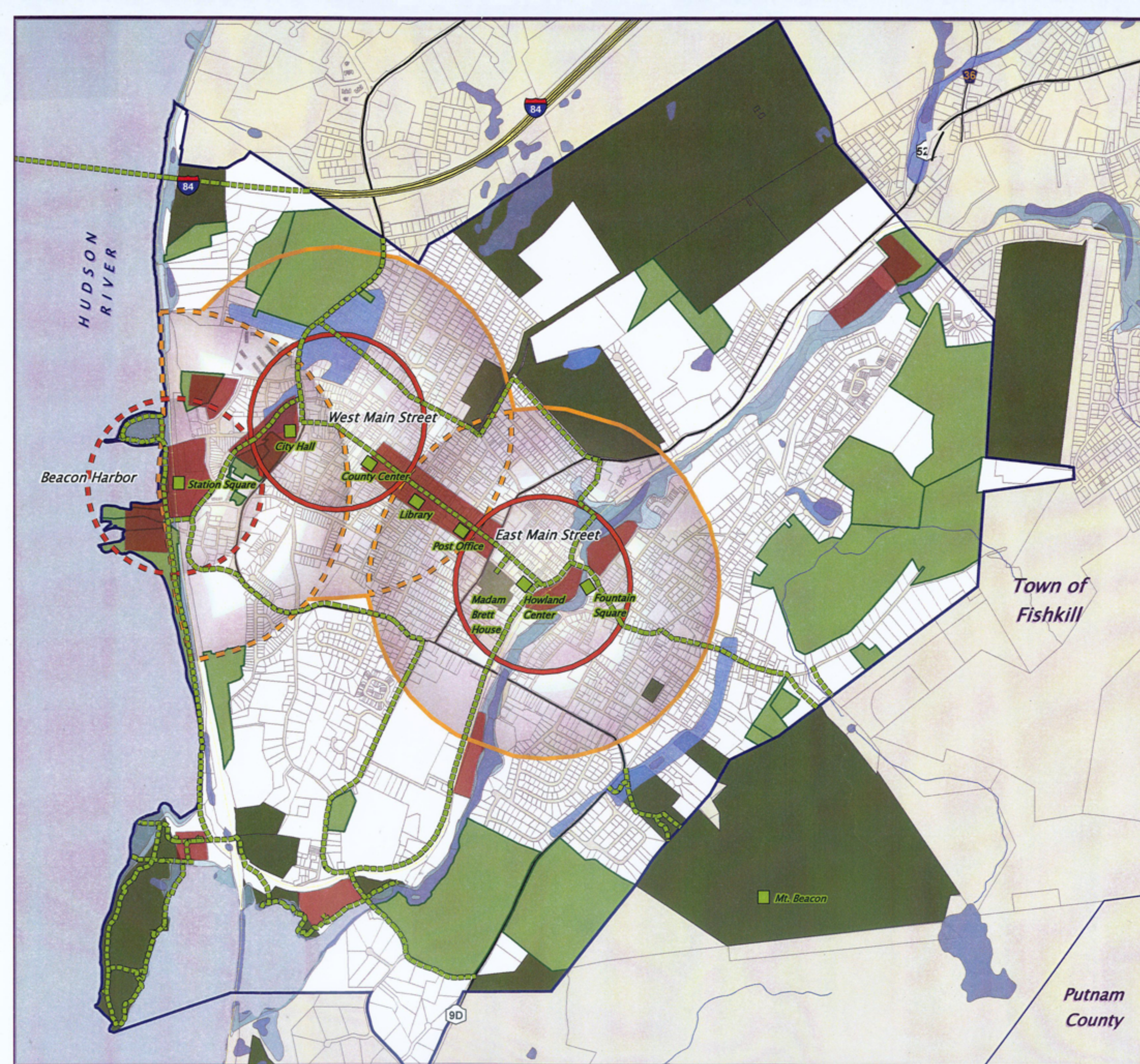


- Neighborhood Center  
1/4 - 1/2 Mile Radii
- Emerging Center
- Easement-Protected and Public Lands
- Major Greenspace Parcels
- Parcel Lines
- Municipalities
- Water/Wetlands/  
Floodplains
- Trails
- Main Public Places
- Prime Redevelopment Opportunities

Dutchess County Department of Planning & Development  
27 High Street  
Poughkeepsie, NY 12601  
845.486.3600



Scale: 1" = 1500 Feet







**Excerpt from 2007 Comprehensive Plan – Showing Edgewater and properties around City Hall as “prime redevelopment opportunities”**





## Traffic Impact Study

### Edgewater Development

Tompkins Avenue and Branch Street  
City of Beacon, Dutchess County, New York

January 18, 2017

Revised February 27, 2017

*Prepared For*

Scenic Beacon Developments, LLC

25 East Main Street

Beacon, NY 12508

*Prepared By*

Maser Consulting P.A.

11 Bradhurst Avenue

Hawthorne, NY 10532

914.347.7500

A handwritten signature in black ink, appearing to read 'Philip J Grealy', written over a horizontal line.

Philip J Grealy, Ph.D., P.E., Principal/Dept. Manager  
License No. 59858

A handwritten signature in black ink, appearing to read 'Richard G D'Andrea', written over a horizontal line.

Richard G D'Andrea, P.E., PTOE, Associate/ Project Manager  
License No. 092041



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## **I. INTRODUCTION**

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

This report has been prepared to evaluate the potential traffic impacts associated with the proposed Edgewater residential development, which is planned to be developed on property located on the west side of Bank Street between Tompkins Avenue and Branch Street in the City of Beacon, Dutchess County, New York. The development is proposed to consist of 309 residential apartment units. As shown on Figure No. 1, access to the development is proposed to be provided via a reconstructed driveway connection to Tompkins Avenue located between Tompkins Terrace and Bank Street. In addition, at the southern end of the property Branch Street will be extended into the site providing access directly to Bank Street which connects to West Main Street to the south.

A Design Year of 2022 has been utilized in completing the traffic analysis in order to evaluate future traffic conditions associated with this proposed development.

### **B. SCOPE OF STUDY**

This study has been prepared to identify current and future traffic operating conditions on the surrounding roadway network and to assess the potential traffic impacts of the proposed Edgewater Development.

All available traffic count data for the study area intersections were obtained from previous reports prepared by our office and other studies completed for the City of Beacon for this area. These data were supplemented with new traffic counts collected by representatives of Maser Consulting, P.A. These data were also compared to count data obtained from the New York State Department of Transportation (NYSDOT). Together these data were utilized to establish the Year 2017 Existing Traffic Volumes representing existing traffic conditions in the vicinity of the site.

The Year 2017 Existing Traffic Volumes were then projected to the 2022 Design Year to take into account background traffic growth as well as traffic from any other potential or approved developments in the area.

Estimates were then made of the potential traffic that the proposed development would generate during each of the peak hours (see Section III-B for further discussion). These volumes were then added to the roadway system based on anticipated arrival and departure distributions and combined with the Year 2022 No-Build Traffic Volumes resulting in the Year 2022 Build Traffic Volumes.

The Existing, No-Build and Build Traffic Volumes were then compared to roadway capacities based on the procedures from the Highway Capacity Manual to determine existing and future Levels of Service and operating conditions. Recommendations for improvements were made where necessary to serve the existing and/or future traffic volumes.



## **II. EXISTING ROADWAY AND TRAFFIC DESCRIPTIONS**

### **A. DESCRIPTION OF EXISTING ROADWAYS**

As shown on Figure No. 1, the proposed Edgewater Development will be accessed from Tompkins Avenue via a reconstructed driveway connection to Tompkins Avenue between Tompkins Terrace and Bank Street. This proposed roadway will almost entirely serve left turn entry movements and right turn exit movements. In addition, at the southern end of the property, the existing Branch Street will be extended into the site providing access directly to Bank Street, which connects to West Main Street to the south. The following is a brief description of the roadways located within the study area. In addition, Section III-F provides a further description of the existing geometrics, traffic control and a summary of the existing and future Levels of Service and any recommended improvements for each of the study area intersections. Appendix “D” contains copies of the capacity analyses, which indicate the existing geometrics (including lane widths) and other characteristics for each of the individual intersections studied.

#### **1. NYS Route 9D**

NYS Route 9D is classified as a Principal Arterial Other roadway under New York State Department of Transportation (NYSDOT) jurisdiction. The roadway generally traverses in a north/south direction throughout Putnam and Southern Dutchess Counties. In the vicinity of the site the roadway provides regional access to I-84, the Main Street area and the Beacon Train Station. The roadway generally consists of a three lane cross-section in the immediate area of the project site with additional lanes provided in the vicinity of the I-84 interchange. The posted speed limit is 30 mph and sidewalks are provided along both sides of the roadway.

#### **2. Beekman Street**

Beekman Street is a City roadway that originates at a signalized full movement intersection with NYS Route 9D opposite West Church Street. The roadway traverses in a southwesterly direction, providing access to the Beacon/Metro-North train station. In addition to parking at the station, on-street metered parking is provided along Beekman Street. This roadway also provides access to Dia Beacon and terminates at an unsignalized intersection with Wolcott Avenue (Route 9D). The speed limit for the roadway is 20 mph from Ferry Street to Hammond Plaza

and 25 mph between the railroad bridge and Wolcott Avenue. Sidewalks are located on the entire roadway and switch from side to side.

3. W. Main Street

W. Main Street is a City roadway that originates at an unsignalized intersection with Beekman Street approximately 330 feet southwest of High Street. The roadway mainly serves as a connection to the Beacon/Metro-North train station. The roadway is a loop that starts at Beekman Street, runs parallel to the train station and its parking and then connects back into Beekman Street. In close vicinity to the Beacon/Metro-North train station, W. Main Street function as a one-way road in the southbound direction. The speed limit for the roadway is 30 mph and sidewalks are located on the entire roadway and switch from side to side.

4. Tompkins Avenue

Tompkins Avenue is a City roadway that originates at an unsignalized full movement intersection with NYS Route 9D opposite Ralph Street. The roadway traverses in a westerly direction, providing access to various residential uses including the Tompkins Terrace Apartments at its westerly end. The roadway consists of a single lane in each direction with a speed limit of 30 mph and sidewalk located on its south side.

5. Verplanck Avenue

Verplanck Avenue is a City roadway that originates at a signalized “T” shaped intersection with NYS Route 9D. The roadway traverses in a southeasterly direction, providing access to a variety of land uses. Verplanck Avenue generally consists of one lane in each direction, however at its intersection with NYS Route 9D, the northwest bound Verplanck Avenue approach consists of a left turn lane and a right turn lane. The speed limit in each direction is 25 mph and there are sidewalks on both sides of the roadway.

6. West Church Street

West Church Street is a City roadway that originates at a signalized full movement intersection with NYS Route 9D opposite Beekman Street. The roadway traverses in an easterly direction, providing access to various residential uses and terminating at an unsignalized intersection with Cross Street. It consists of a single lane in each direction with a speed of 30 mph and sidewalks on both sides of the roadway.

7. Main Street

Main Street is a City roadway that originates at a signalized full movement intersection with NYS Route 9D opposite Municipal Place. The roadway traverses in an easterly direction, providing access to various commercial and residential uses. It consists of a single lane in each direction, however at its intersection with NYS Route 9D, the westbound Main Street approach consists of a shared left and through lane and a right turn lane. The roadway has a speed limit of 25 mph and sidewalks on both sides of the roadway. It should be noted that there is 2-hour street parking on both sides of the roadway.

8. Bank Street

Bank Street is a City roadway that originates at an unsignalized intersection with W. Main Street continuing north to an intersection with Tompkins Avenue. The road traverses in a north/south direction and provides access to several residential single family homes along with one auto repair shop. The roadway is approximately 25 feet wide providing a single lane in each direction with a speed limit of 30 mph. Sidewalk is located on its east side.

9. Branch Street

Branch Street originates at an unsignalized intersection at the bend of Bank Street approximately 210 feet north of W. Main Street. The road traverses in a westerly direction and provides access to two existing single family homes. The roadway is approximately 20 feet wide providing a single lane in each direction with a speed limit of 30 mph.

**B. YEAR 2017 EXISTING TRAFFIC VOLUMES (Figures No. 2. and 3)**

Manual traffic counts and pedestrian counts were collected by representatives of Maser Consulting, P.A. on Wednesday December 14, 2016 during the weekday AM and PM peak periods. These traffic volume data, which are provided in Appendix “E” for reference, were used to determine the existing traffic volume conditions at the study area intersections. The traffic counts were then compared to traffic volume data from previous traffic studies conducted by our office and for the City of Beacon as well as traffic volume data available from the New York State Department of Transportation (NYSDOT) for the NYS Route 9D Corridor. Based on this information, the Year 2017 Existing Traffic Volumes were established for the Weekday Peak AM and Weekday Peak PM Hours at the following study area intersections.

- NYS Route 9D and Tompkins Avenue/Ralph Street
- Tompkins Avenue and Bank Street
- Beekman Street and W. Main Street
- W. Main Street and Bank Street
- NYS Route 9D and Verplanck Avenue
- NYS Route 9D and Beekman Street/West Church Street
- NYS Route 9D and Main Street/Municipal Place

Based upon a review of the traffic counts, the peak hours were generally identified as follows:

- |                        |                   |
|------------------------|-------------------|
| ▪ Weekday Peak AM Hour | 6:45 AM – 7:45 AM |
| ▪ Weekday Peak PM Hour | 5:30 PM – 6:30 PM |

The resulting Year 2016 Existing Traffic Volumes are shown on Figures No. 2 and 3 for the Weekday Peak AM Hour and Weekday Peak PM Hour, respectively.

### **C. ACCIDENT DATA (Table A and Appendix F)**

Accident data was collected from the NYSDOT for NYS Route 9D, Tompkins Avenue, Bank Street, West Main Street and Beekman Street between the dates of January 23, 2014 and April 4, 2016. The accident data is summarized in Table A which identifies the location, time of day, weather and lighting conditions, type of accident and contributing factors. Based on this summary there are no studied locations that currently exhibit a significant accident history. However, at the W. Main Street and Bank Street intersection, where eastbound left turn movements are prohibited from W. Main Street onto Bank Street, two (2) accidents were found to have occurred during the study period where vehicles made the left turn movement and struck a pedestrian. Field investigations at this intersection indicated that the view of the existing “No Left Turn” sign obscured by vegetation. It is recommended that pruning of this vegetation within the right of way be completed to give drivers adequate sight distance to see the “No Left Turn” sign. In addition a second “No Left Turn” sign should be installed on the northeast corner of the Bank Street/W. Main Street intersection to reinforce the left turn prohibition. Finally, the crosswalk should be restriped with new high visibility markings to increase the visibility of the crosswalk area. These improvements should be completed regardless of the proposed project, but would be undertaken by the Applicant if approved by the City.



### **III. EVALUATION OF FUTURE TRAFFIC CONDITIONS**

#### **A. YEAR 2022 NO-BUILD TRAFFIC VOLUMES (Figure No. 4 through 9)**

The Year 2017 Existing Traffic Volumes were increased by a growth factor of 2.0% per year to account for general background growth in the area. This growth factor is considered conservatively high based on historical data from NYSDOT, which indicates a much lower growth level. However, this growth rate also accounts for any other potential or proposed developments in the area not specifically identified in this study. The resulting Year 2022 Projected Traffic Volumes are shown on Figures No. 4 and 5 for the Weekday Peak AM and Weekday Peak PM Hours, respectively. In addition, traffic for the proposed 555 South Avenue project, which is located near the intersection of Tioronda Avenue and South Avenue, as well as The Views development which is currently under construction and is located opposite West Main Street along Beekman Street and the proposed West End Lofts Development which is located along NYS Route 9D opposite Beacon Street, were also accounted for. The traffic volumes associated with this Other Development are summarized on Figures No. 6 and 7. These Other Development Traffic Volumes were then added to the 2022 Projected Traffic Volumes resulting in the 2022 No-Build Traffic Volumes, which are summarized on Figure No. 8 and 9 for each of the peak hours.

#### **B. SITE GENERATED TRAFFIC VOLUMES (Tables No. 1)**

Estimates of the amount of traffic to be generated by the proposed development during each of the peak hours were developed based on information published by the Institute of Transportation Engineers (ITE) as contained in the report entitled “Trip Generation”, 9th Edition, 2012, based on Land Use Category – 220 – Apartment. Table No. 1 summarizes the trip generation rates and corresponding site generated traffic volumes for the Weekday Peak AM and Peak PM Hours.

It should be noted that due to the proximity of the proposed Edgewater development to the Beacon Metro North Train Station, it is expected that a significant number of the morning and evening peak hour trips generated by the site would actually occur as pedestrian trips to and from the train station. These trips would utilize the existing sidewalk system in order to access the train station. Based on the U.S. Census Bureau data, approximately 8.7% of the population in the City of Beacon currently use public

transportation as a means of transportation to work, however the percentage of residents using public transportation from this development is expected to be somewhat higher. Regardless, in order to provide a conservative analysis, no credit for public transportation/walking trips has been taken in the analysis contained herein.

**C. ARRIVAL AND DEPARTURE DISTRIBUTIONS (Figures No. 10 and 11)**

Arrival and departure distributions were established to assign the site generated traffic volumes to the surrounding roadway network. Based on a review of the Existing Traffic Volumes and the expected travel patterns on the surrounding roadway network and proposed internal roadway layout and access connections, the distributions were identified. The anticipated arrival and departure distributions are shown on Figures No. 10 and 11, respectively.

**D. 2022 BUILD CONDITIONS TRAFFIC VOLUMES (Figures No. 12 through 15)**

The site generated traffic volumes were assigned to the roadway network based on the arrival and departure distributions referenced above. The resulting site generated traffic volumes for each of the study area intersections are shown on Figures No. 12 and 13 for each of the peak hours, respectively. The site generated traffic volumes were then added to the Year 2022 No-Build Traffic Volumes to obtain the Year 2022 Build Traffic Volumes. The resulting Year 2022 Build Traffic Volumes are shown on Figures No. 14 and 15 for the Weekday Peak AM and Weekday Peak PM Hours, respectively.

**E. DESCRIPTION OF ANALYSIS PROCEDURES**

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

- **Signalized Intersection Capacity Analysis**

The capacity analysis for a signalized intersection was performed in accordance with the procedures described in the *2010 Highway Capacity Manual*, published by the Transportation Research Board. The terminology used in identifying traffic flow conditions is Levels of Service. A Level of Service “A” represents the best condition and a Level

of Service “F” represents the worst condition. A Level of Service “C” is generally used as a design standard while a Level of Service “D” is acceptable during peak periods. A Level of Service “E” represents an operation near capacity. In order to identify an intersection’s Level of Service, the average amount of vehicle delay is computed for each approach to the intersection as well as for the overall intersection.

▪ Unsignalized Intersection Capacity Analysis

The unsignalized intersection capacity analysis method utilized in this report was also performed in accordance with the procedures described in the *2010 Highway Capacity Manual*. The procedure is based on total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line. The average total delay for any particular critical movement is a function of the service rate or capacity of the approach and the degree of saturation. In order to identify the Level of Service, the average amount of vehicle delay is computed for each critical movement to the intersection.

Additional information concerning signalized and unsignalized Levels of Service can be found in Appendix “C” of this report.

**F. RESULTS OF ANALYSIS (Table No. 2)**

Capacity analyses, which take into consideration appropriate truck percentages, pedestrian activity, roadway grades and other factors, were performed at the study area intersections utilizing the procedures described above and the Synchro Version 8 analysis software to determine the Levels of Service and average vehicle delays. Summarized below are a description of the existing geometrics, traffic control and a summary of the existing and future Levels of Service as well as any recommended improvements.

Table No. 2 summarizes the results of the capacity analysis for the 2017 Existing, 2022 No-Build and 2022 Build Conditions. Appendix “D” contains copies of the capacity analyses which also indicate the existing geometrics (including lane widths) and other characteristics for each of the individual intersections studied.

1. NYS Route 9D and Tompkins Avenue/Ralph Street

NYS Route 9D intersects with Tompkins Avenue/Ralph Street at an unsignalized full movement intersection. The Tompkins Avenue and Ralph Street approaches consist



of one travel lane, while the NYS Route 9D approaches both consist of a left turn and a shared thru/right lane. The NYS Route 9D approaches have sidewalks on each side of the roadway. The Ralph Street approach has sidewalks on each side of the roadway while the Tompkins Avenue approach only has a sidewalk on its south side. Crosswalks are provided in the north/south direction crossing Tompkins Avenue and Ralph Street.

Capacity analysis was conducted for this intersection utilizing the 2017 Existing Traffic Volumes. The analysis results indicate that the intersection is currently operating at Levels of Service “C” or better during the AM Peak Hour and Levels of Service “C” or better during the PM Peak Hour.

The capacity analysis was recomputed using the 2022 No-Build and Build Traffic volumes. These results indicate that the intersection is expected to continue to operate at Level of Service “C” or better during the AM Peak Hour and Levels of Service “C” or better during the PM Peak Hour under No-Build conditions. During the AM and PM Peak Hours for the Build scenario, the intersection is expected to operate at a Level of Service “D” or better.

This intersection was reanalyzed with a traffic signal for the Build Conditions to address the anticipated drop in Level of Service. The analysis indicates that the intersection could operate at an overall Level of Service “A” during each of the peak hours under signal control. This intersection does not appear to warrant a traffic signal based on MUTCD criteria, but should be monitored for future signalization.

## 2. Tompkins Avenue and Bank Street

Bank Street intersects with Tompkins Avenue at an unsignalized “T” shaped intersection. All approaches to the intersection consist of one lane and sight distances are good for all approaches. There are sidewalks along the south side of the Tompkins Avenue westbound approach and the east side of the Bank Street northbound approach. Colonial Road creates a forth leg to this intersection on the north side of Tompkins Avenue but is gated and therefore there is no traffic to or from this approach.

Capacity analysis was conducted for this intersection utilizing the 2017 Existing Traffic Volumes. The analysis results indicate that the intersection is currently operating at a Level of Service “A” during both the AM and PM Peak Hours.

The capacity analysis was recomputed using the 2022 No-Build and Build Traffic volumes. These results indicate that the intersection is expected to continue to operate at a Level of Service “A” during both the AM and PM Peak Hours.

3. Beekman Street and W. Main Street

W. Main Street intersects with Beekman Street at an unsignalized “T” shaped intersection controlled by a “Stop” sign on the W. Main Street approach. All approaches to the intersection consist of one lane and sight distances are good for all approaches. There are sidewalks on both sides of the Beekman Street southwestbound approach, on the east side of the Beekman Street northeastbound approach and on the north side of the W. Main Street southeastbound approach. A striped pedestrian crosswalk is provided on the southwestbound Beekman Street approach.

Capacity analysis was conducted for this intersection utilizing the 2017 Existing Traffic Volumes. The analysis results indicate that the intersection is currently operating at a Level of Service “B” or better during the AM Peak Hour and a Level of Service “C” or better during the PM Peak Hour.

The capacity analysis was recomputed using the 2022 No-Build and Build Traffic volumes. These results indicate that the intersection is expected to continue to operate at a Level of Service “C” or better during the AM Peak Hour and a Level of Service “D” or better during the PM Peak Hour of the 2022 No Build scenario. During the 2022 Build scenario, the intersection is expected to continue to operate at a Level of Service “C” or better during the AM Peak Hour. During the PM Peak Hour of the Build scenario, the eastbound approach will experience a Level of Service “F”. However, during that same time period all the other approaches will operate at a Level of Service “C” or better. Due to the drop in Level of Service during the No-Build and Build scenarios, however this intersection should be monitored in the future for installation of a traffic signal.

4. W. Main Street and Bank Street

Bank Street intersects W. Main Street at an unsignalized “T” shaped intersection controlled by a “Stop” sign on the Bank Street approach. All approaches to the intersection consist of one lane and sight distances are good for all approaches. There are sidewalks on the north side of W. Main Street and the east side of the Bank Street at the intersection.

Capacity analysis was conducted for this intersection utilizing the 2017 Existing Traffic Volumes. The analysis results indicate that the intersection is currently



operate at a Level of Service “B” or better during the AM Peak Hour and a Level of Service “A” during the PM Peak Hour.

The capacity analysis was recomputed using the 2022 No-Build and Build Traffic volumes. These results indicate that the intersection is expected to continue to operate at a Level of Service “B” or better during the AM Peak Hour and a Level of Service “A” during the PM Peak Hour.

5. NYS Route 9D and Verplanck Avenue

Verplanck Avenue intersects NYS Route 9D at a signalized “T” shaped intersection. The northwest bound Verplanck Avenue approach consists of a left turn lane and a right turn lane. The northeast bound NYS Route 9D approach consists of a shared through and right turn lane. The southwest bound NYS Route 9D approach consists of a left turn lane and a through lane. There are sidewalks on both sides of all approaches and signalized pedestrian crossings at the northeast bound and northwest bound approaches. Site distances are good for all approaches.

Capacity analysis was conducted for this intersection utilizing the 2017 Existing Traffic volumes. The analysis results indicate that the intersection is currently operating at an overall Level of Service “C” during the AM Peak Hour and the PM Peak Hour.

The capacity analysis was recomputed using the 2022 No-Build and Build Traffic volumes. These results indicate that the intersection is expected to continue to operate at an overall Level of Service “C” during each of the peak hours under future conditions both with and without the proposed project.

6. NYS Route 9D and Beekman Street/West Church Street

Beekman Street intersects NYS Route 9D at a signalized full movement intersection opposite West Church Street. The eastbound Beekman Street approach consists of a shared left and through lane and also a right turn lane. The westbound West Church Street approach consists of a shared left, through and right turn lane. The northbound NYS Route 9D approach consists of a left turn lane and a shared through and right turn lane. The southbound NYS Route 9D approach also consists of a left turn lane and a shared through and right turn lane. There are sidewalks on both sides of all approaches with a signalized pedestrian crossing of the southbound approach and unsignalized pedestrian crossings at the eastbound and westbound approaches. Site distances are good for all approaches.

Capacity analysis was conducted for this intersection utilizing the 2017 Existing Traffic Volumes. The analysis results indicate that the intersection is currently operating at an overall Level of Service “B” during the AM Peak Hour and at an overall Level of Service “C” during the PM Peak Hour.

The capacity analysis was recomputed using the 2022 No-Build and Build Traffic volumes. These results indicate that the intersection is expected to continue to operate at an overall Level of Service “B” during the AM Peak Hour of both the No-Build and Build scenarios and at an overall Level of Service “C” during the PM Peak Hour of both the No-Build and Build scenarios.

7. NYS Route 9D and Main Street/Municipal Place

Main Street intersects NYS Route 9D at a signalized full movement intersection opposite Municipal Place. The eastbound Municipal Place approach consists of a shared left, through and right turn lane. The westbound Main Street approach consists of a shared left and through lane and a right turn lane. The northbound NYS Route 9D approach consists of a left turn lane and shared through and right turn lane. The southbound NYS Route 9D approach also consists of a left turn lane and shared through and right turn lane. There are sidewalks on the west side of Municipal Place, as well as on both sides of each of the other intersection approaches. Signalized pedestrian crossings are provided on the northbound and westbound approaches while an unsignalized pedestrian crossing is provided on the eastbound approach.

Capacity analysis was conducted for this intersection utilizing the 2017 Existing Traffic Volumes. The analysis results indicate that the intersection is currently operating at an overall Level of Service “A” during the AM Peak Hour and at an overall Level of Service “B” during the PM Peak Hour.

The capacity analysis was recomputed using the 2022 No-Build and Build Traffic volumes. These results indicate that the intersection is expected to operate at an overall Level of Service “B” during the AM and PM Peak Hours for the No-Build and Build scenarios.

8. Branch Street and Bank Street

Branch Street intersects Bank Street at an unsignalized “T” shaped intersection. All approaches to the intersection consist of one lane and sight distances are good for all approaches. The sight distances from the Branch Street approach are in excess of 500 feet, however some pruning of vegetation may be required on the northwest corner of this intersection to maximize this sight distance. Branch Street currently has little to



no traffic traveling along its length. A stop sign on Branch Street at its intersection with Bank Street should be installed.

Under future Build conditions Branch Street will serve as the southern access driveway for the site via an extension of Branch Street. The capacity analysis was computed using the 2022 Build Traffic volumes. These results indicate that the intersection is expected to continue to operate at a Level of Service “A” during the AM and PM Peak Hours.

In order to appropriately accommodate the proposed development, Branch Street, which is currently approximately 20 feet wide, should be widened to a minimum of 24 feet in width. A “Stop” sign should also be installed on the Branch Street approach in order to appropriately control traffic recommended at the intersection. In addition, sidewalks should be installed along Branch Street extending into the site and connecting to the existing sidewalk along the east side of Bank Street to provide safe pedestrian access to the train station from the proposed development.

9. Tompkins Avenue and Site Access

The northern Site Access driveway is proposed to intersect with Tompkins Avenue at an unsignalized “T” shaped intersection between Tompkins Terrace and Bank Street. All approaches to the intersection will consist of one lane however, sight distances are obscured by vegetation in both directions. It is recommended that the vegetation either be pruned or removed in order to improve sight distances. With the pruning or removal of vegetation, the sight distances for each approach will be in excess of 500 feet.

Capacity analysis was conducted for this intersection utilizing the 2021 Build Traffic Volumes. The analysis results indicate that the intersection is expected to operate at a Level of Service “A” during the AM and PM Peak Hours.

**G. POTENTIAL FUTURE AREA TRAFFIC IMPROVEMENTS**

According to the City of Beacon Comprehensive Plan adopted by the City on December 17, 2007 and the Beacon Transportation Linkages Program Final Report dated July 2008, there are several potential future area traffic and transportation improvements and recommendations in the study area of this proposed site. These include:

- Developing long-term plans for improvement of Route 9D between Beekman Street and the intersection with Interstate 84 to handle increased traffic capacity.
- Considering the installation of traffic calming features, such as raised crosswalks, on major roads and collector roads, including but not limited to Beekman Street and West Main Street.
- Improving access and capacity to the Waterfront/Train Station area. This may be achieved through additional turning lanes, potential new roads, and improved public transportation.
- Working closely with the County to identify new bus routes and opportunities to increase the frequency of bus service. Bus service should be improved by expanding the transit network throughout the City, more effectively linking the City to the rest of southern Dutchess County. Bus links should target the Waterfront/Train Station area along with other areas.
- Working with Dutchess County to establish funding mechanisms that would enable a free or low-cost trolley to be available at frequent intervals between points along Main Street and the train/bus/ferry station.
- Exploring the potential feasibility of establishing passenger service from the Beacon Train Station at the waterfront to the east end of Main Street via the Fishkill Creek railroad, using vehicles that can travel on both rail and road.
- Actively seeking an advisory role in planning long distance transportation improvements with federal and state organizations. The potential local traffic impact of such improvements should be considered. Such planning may involve transit links to Stewart airport, future Metro-North service, and Amtrak service. In addition, the City should encourage Metro-North to consider the feasibility of an additional station in the vicinity to reduce traffic impacts in Beacon.
- Advocating for the development and improvement of satellite commuter parking with bus service to the Beacon station. Improvements include facility location(s), physical site improvements, and improved incentives, such as tickets inclusive of bus and parking service at discounted rates.
- Considering developing bike lanes on the Route 9D from Interstate 84 to South Avenue and also Beekman Street.
- The issuance of a Request for Expression of Interest (RFEI) for private developers to signal their interest for Transit Oriented Development (TOD) near the Beacon station.



#### **IV. SUMMARY AND CONCLUSION**

Similar Levels of Service and delays will be experienced at the area intersections under the future No-Build and Build Conditions as indicated in the above analysis. The Edgewater development's traffic is not expected to cause any significant impact in traffic operating conditions in the vicinity of the site, however some intersection should be monitored for future signalization as discussed previously. The site access driveway connections should be constructed to maximize sight distances entering and exiting each location. The proximity of the site to Metro-North makes it likely that actual traffic volumes generated by the project will be less than evaluated in this report. The Applicant should coordinate with the City to improve pedestrian access to and from the project. This should include upgrading pedestrian facilities along Branch Street, Bank Street and West Main Street and pedestrian striping and signing improvements at the intersect of Bank Street and West Main Street. The intersection of Bank Street and West Main Street could also be a potential location for the installation of a raised crosswalk as identified in the BeaconTransportation Linkages Study

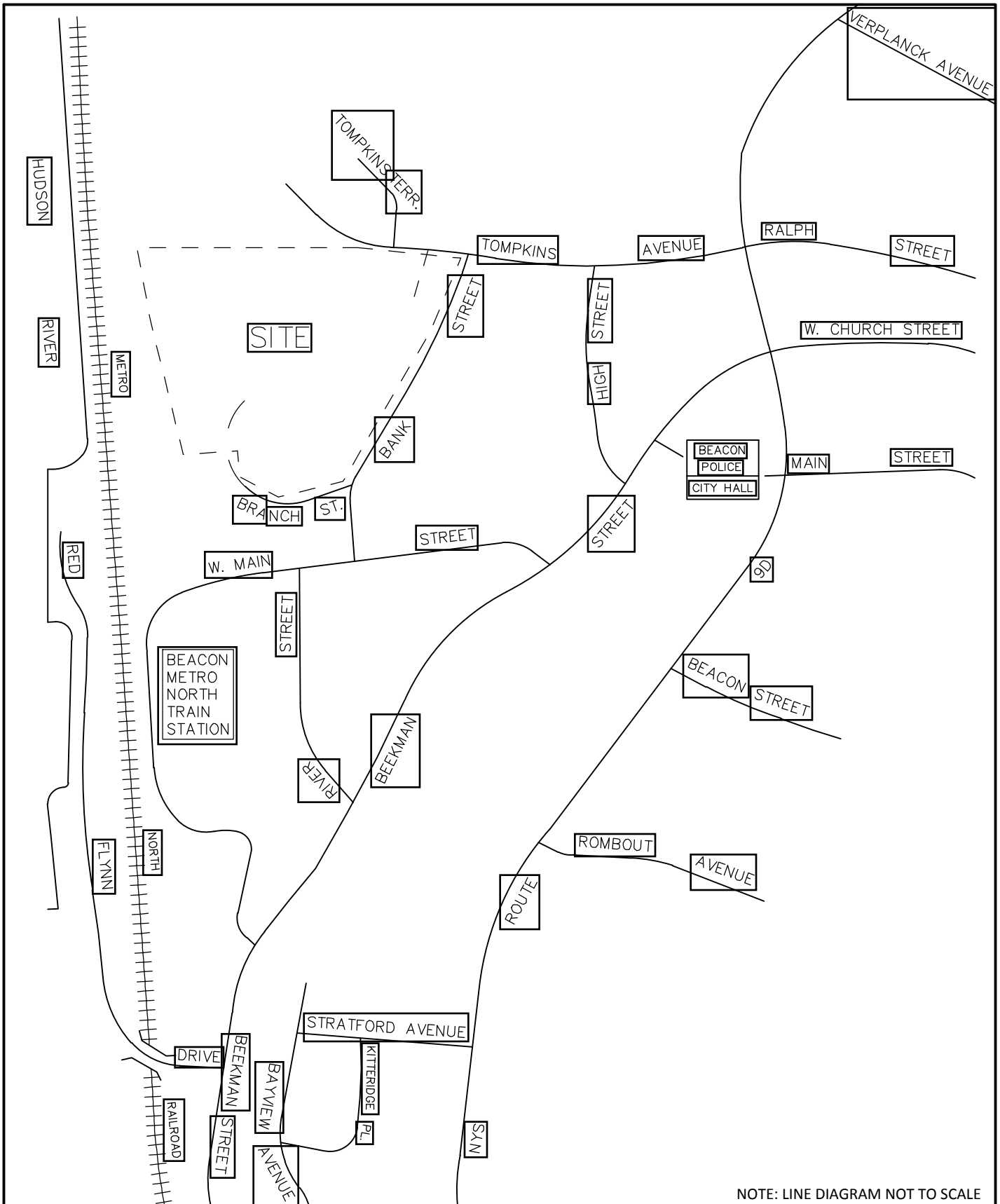
# ***EDGEWATER DEVELOPMENT***

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## **APPENDIX A**

### **FIGURES**





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EDGEWATER  
CITY OF BEACON, DUTCHESS COUNTY, NY

#### SITE LOCATION MAP

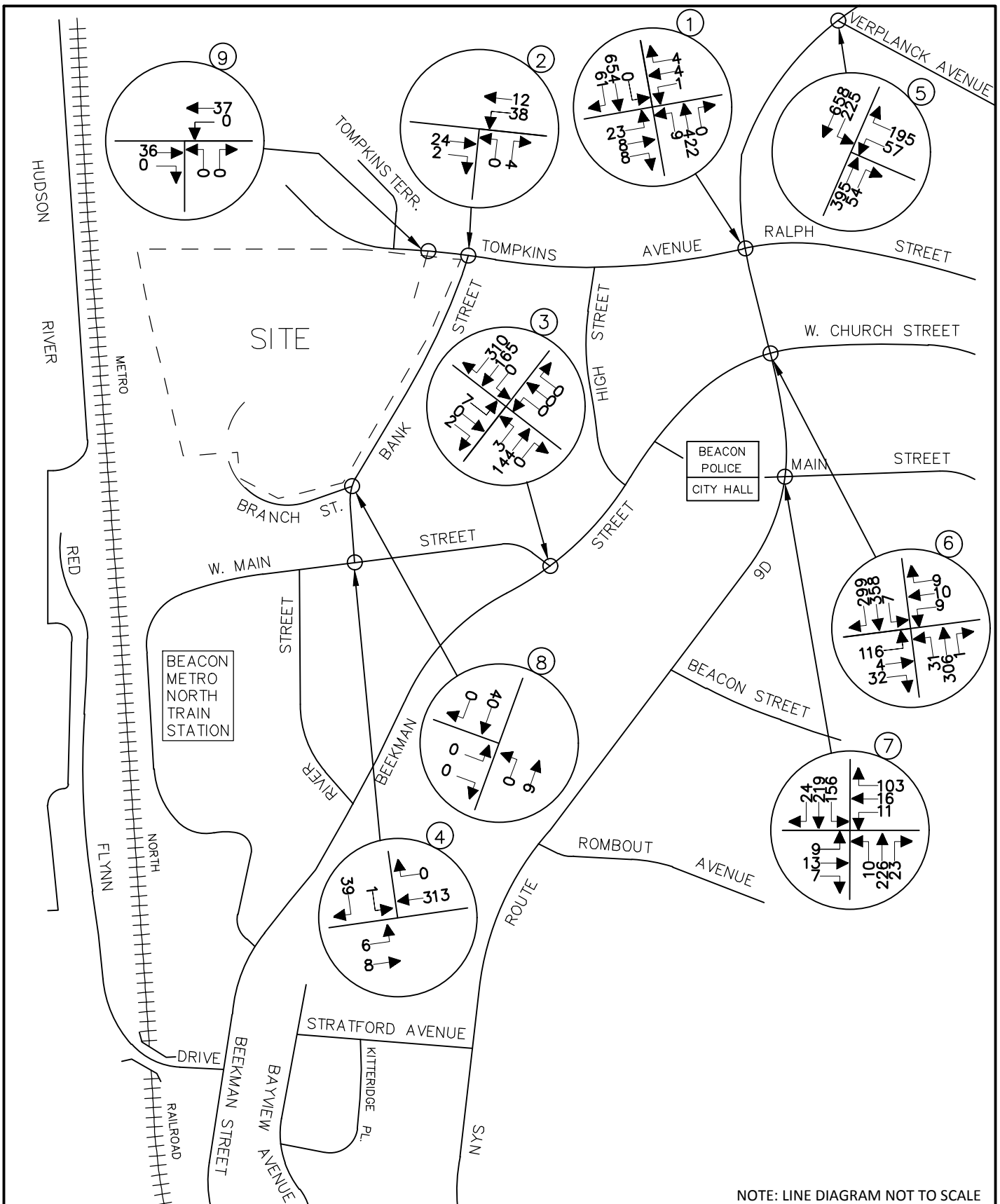


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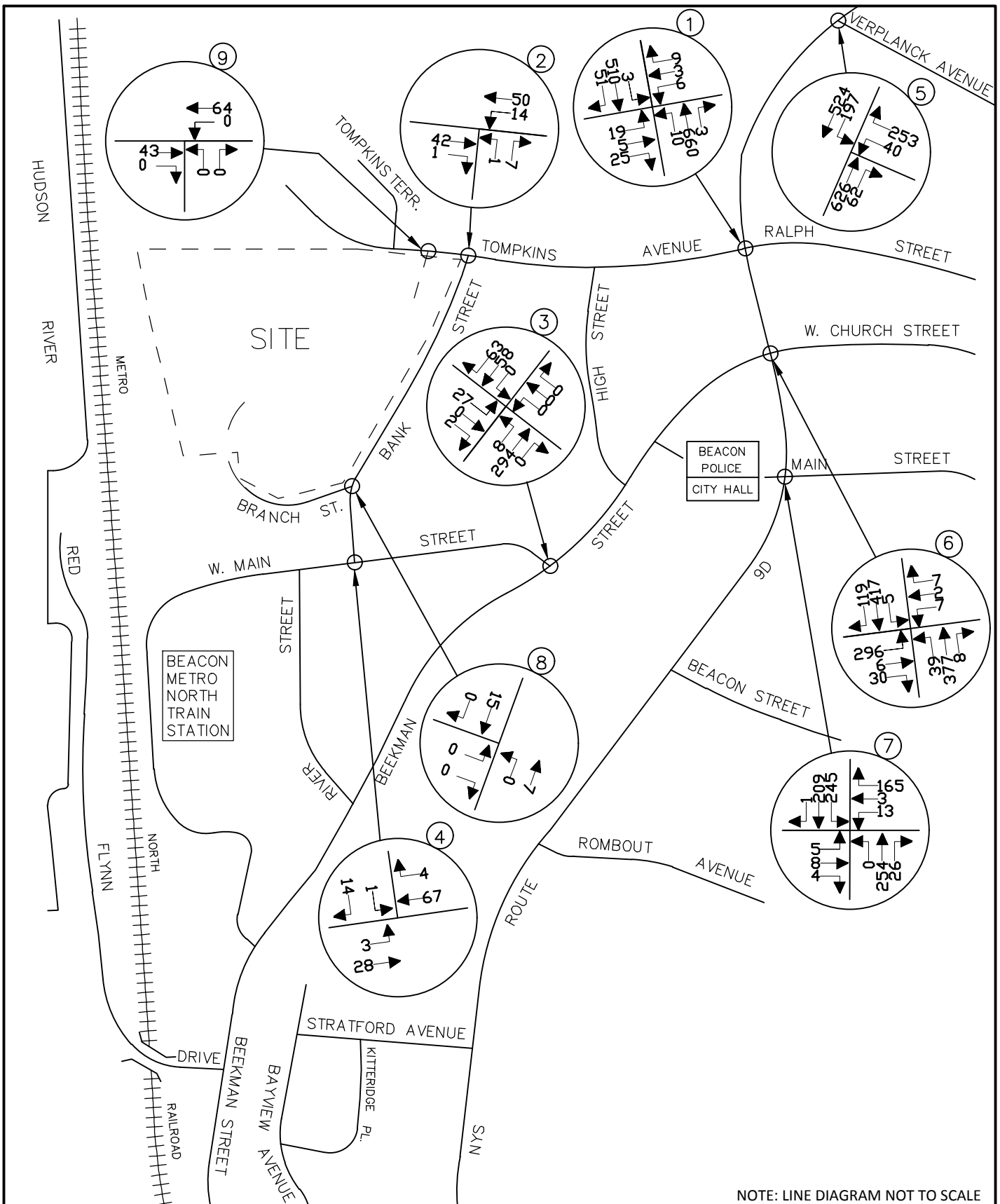
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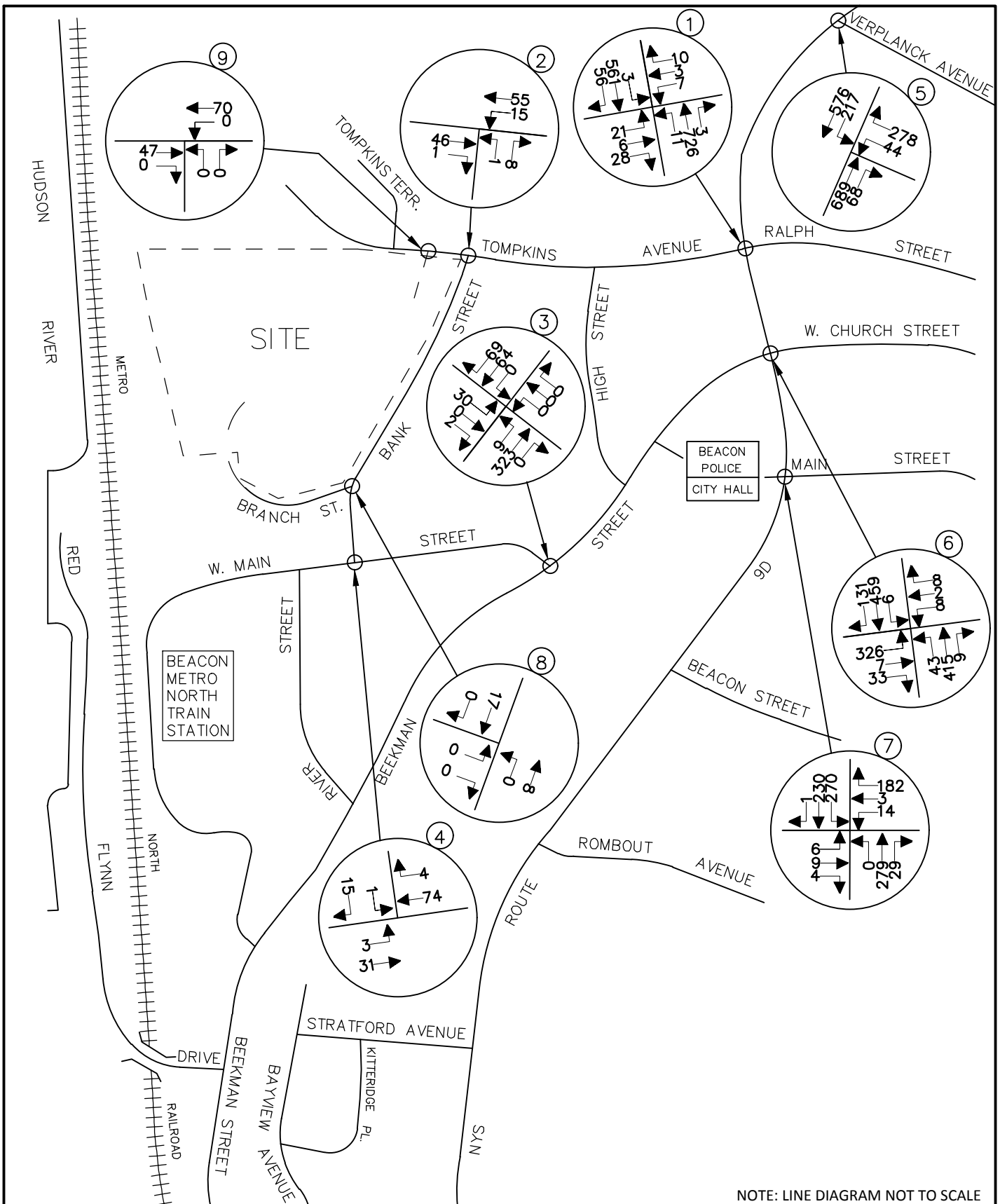
2017 EXISTING TRAFFIC VOLUMES  
WEEKDAY PEAK PM HOUR



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2022 PROJECTED TRAFFIC VOLUMES  
WEEKDAY PEAK PM HOUR



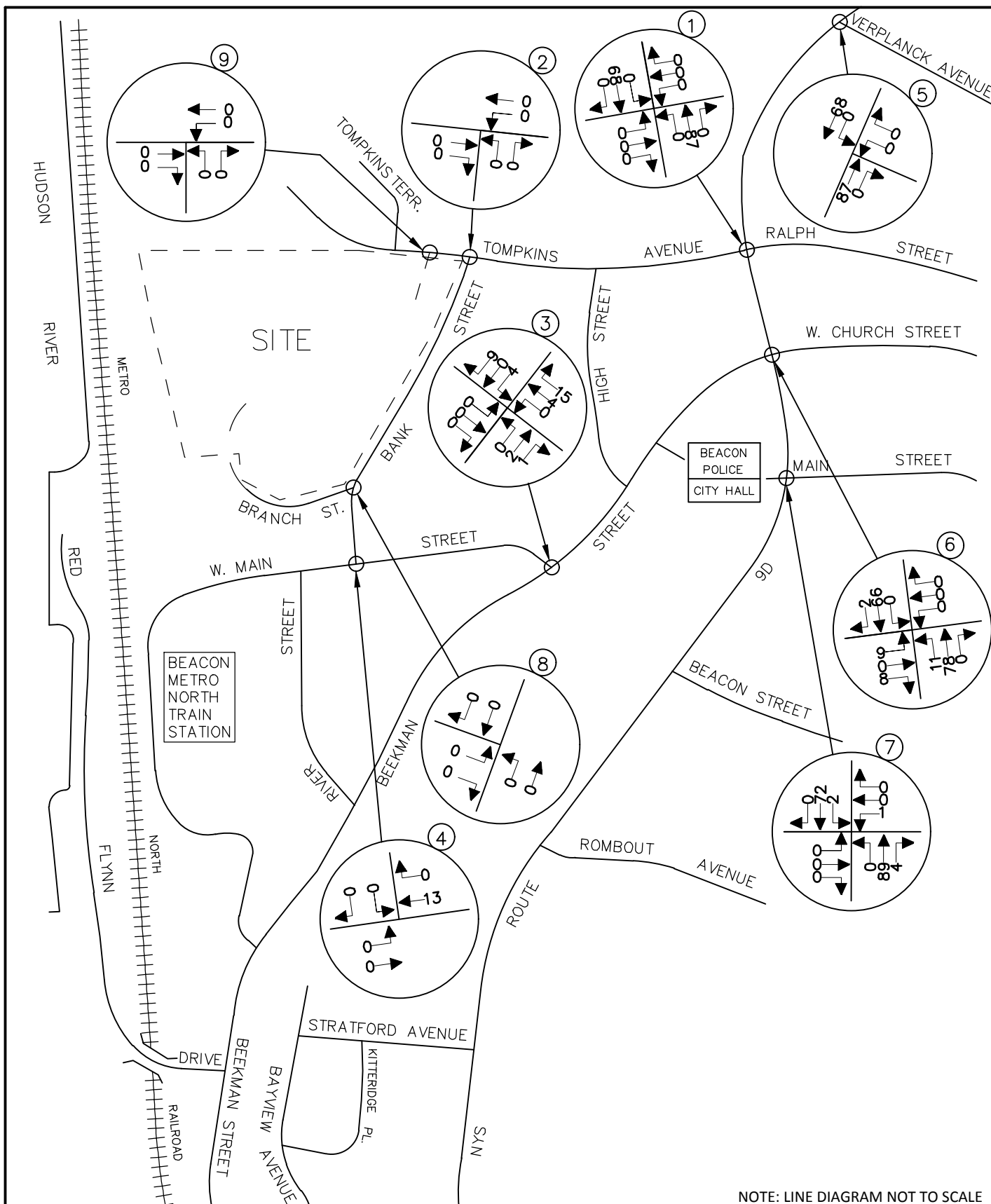
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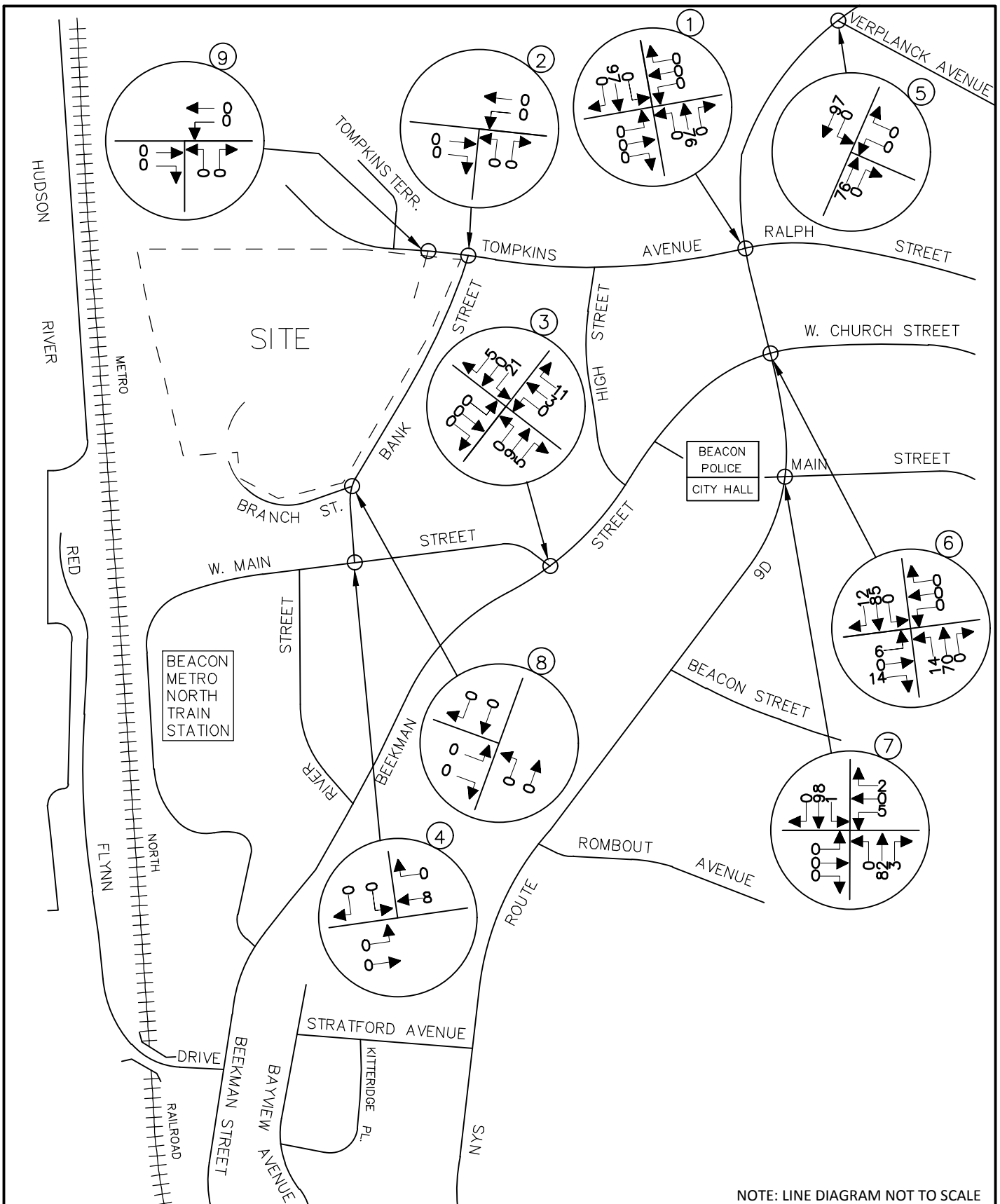


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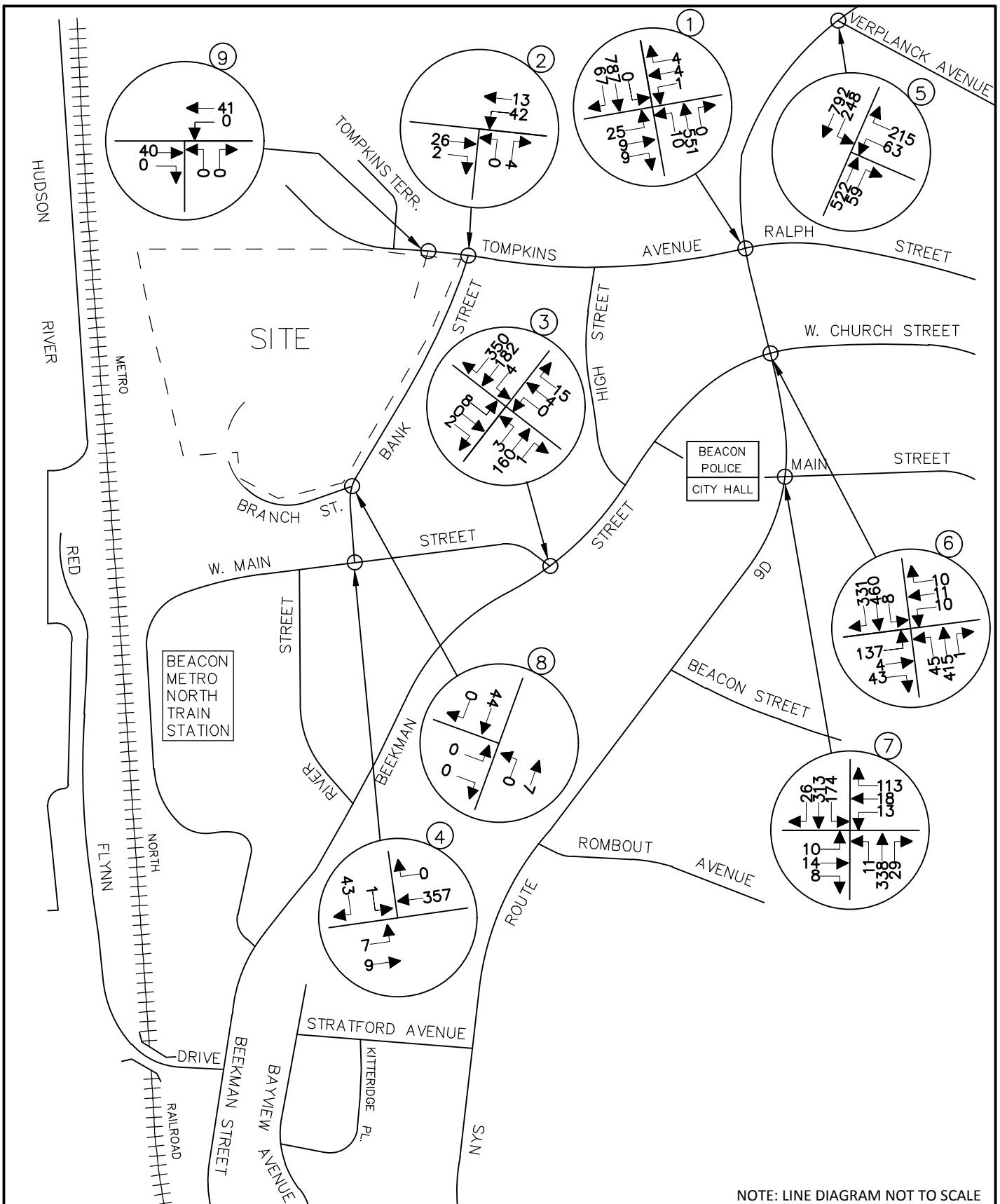
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OTHER DEVELOPMENT TRAFFIC VOLUMES  
WEEKDAY PEAK PM HOUR



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2022 NO-BUILD TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR

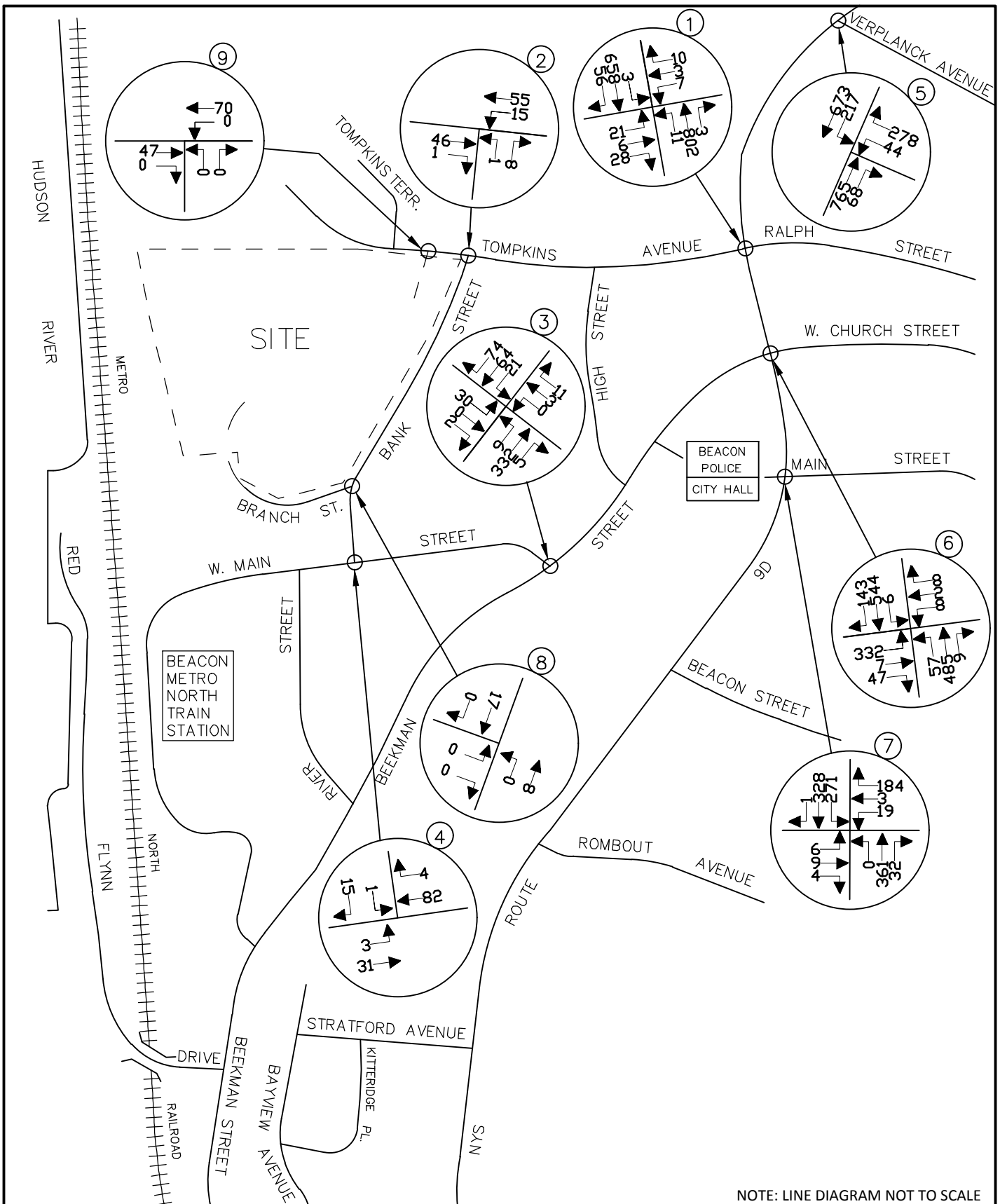


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2022 NO-BUILD TRAFFIC VOLUMES  
WEEKDAY PEAK PM HOUR



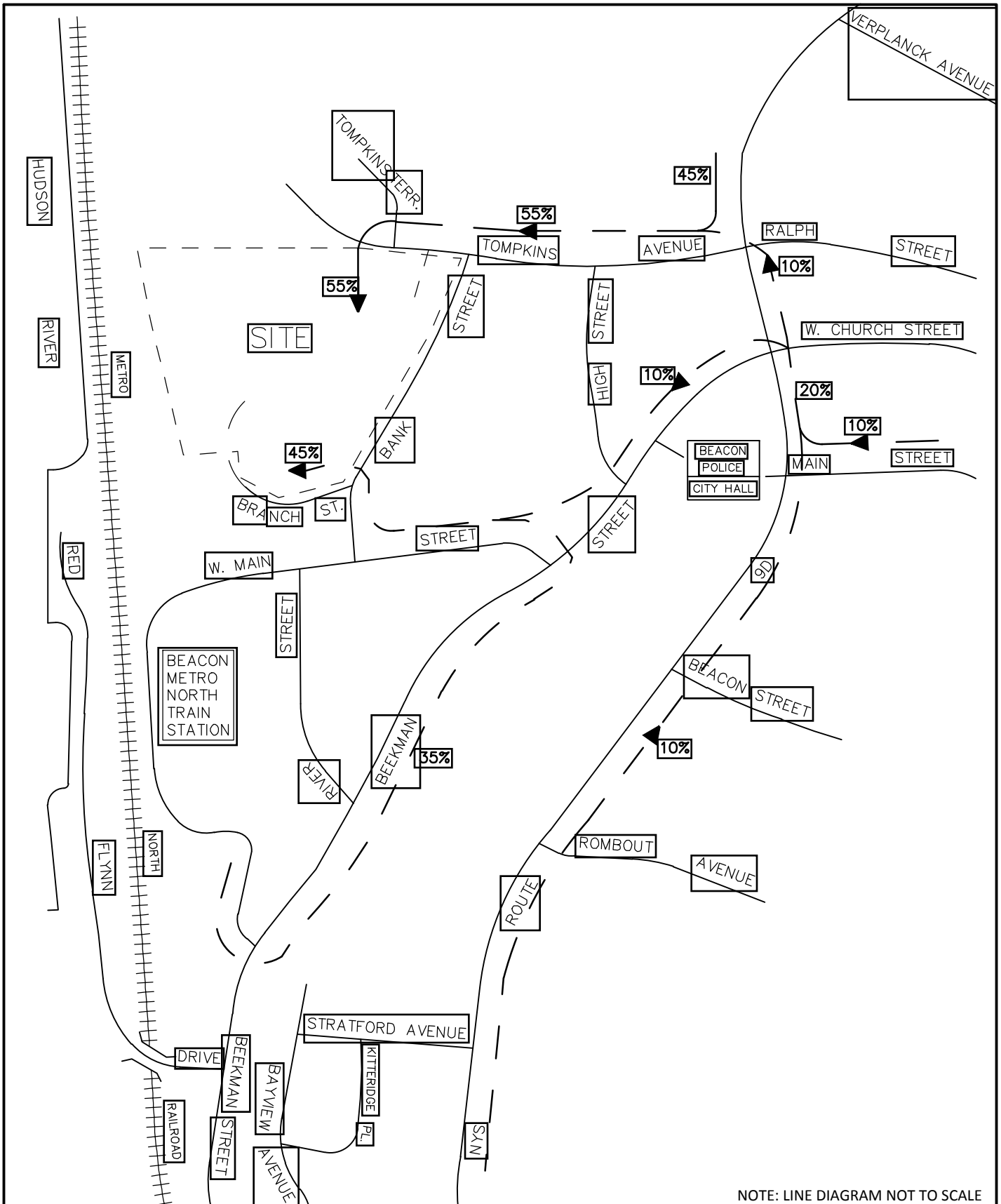
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ARRIVAL DISTRIBUTION

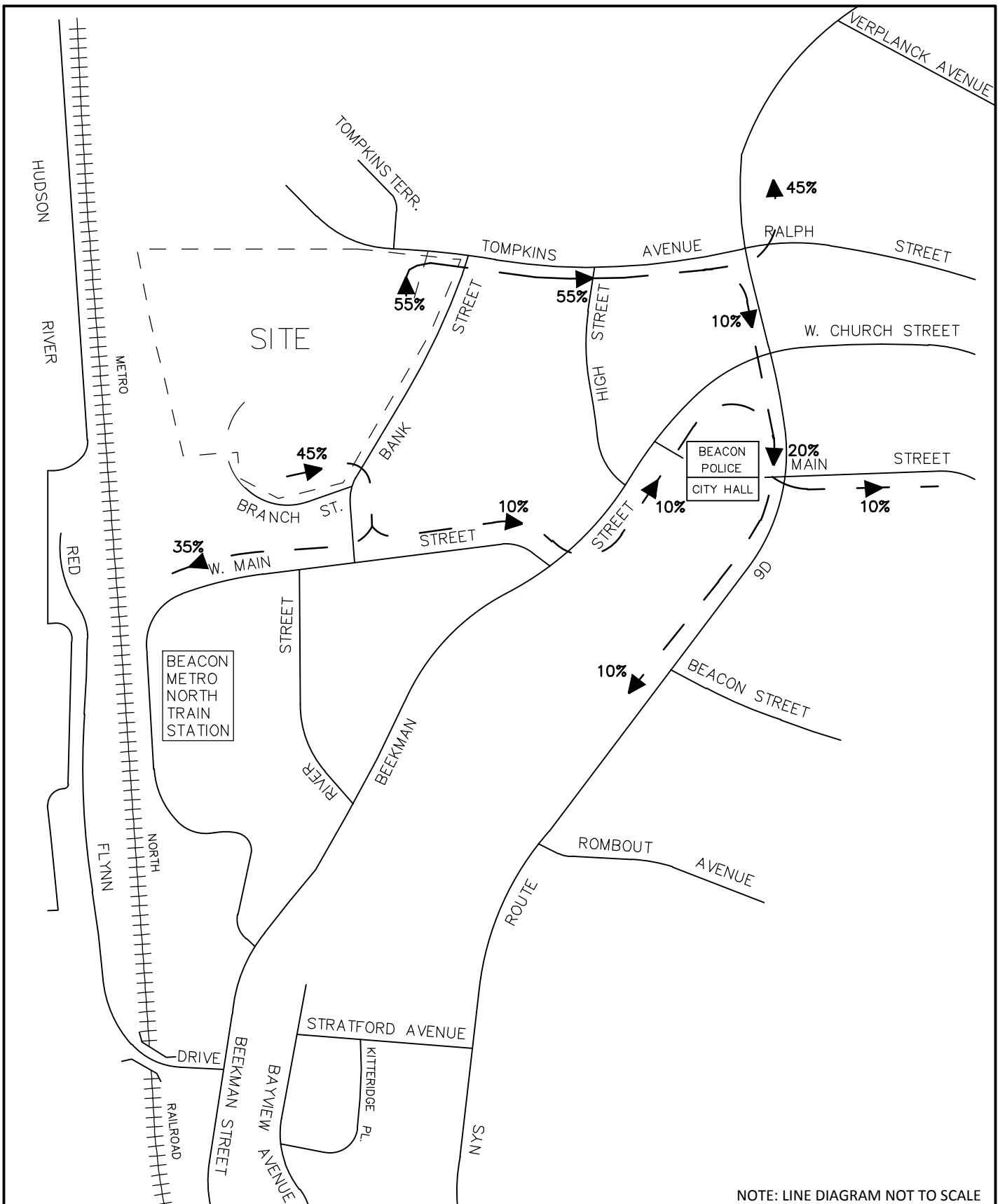


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DEPARTURE DISTRIBUTION

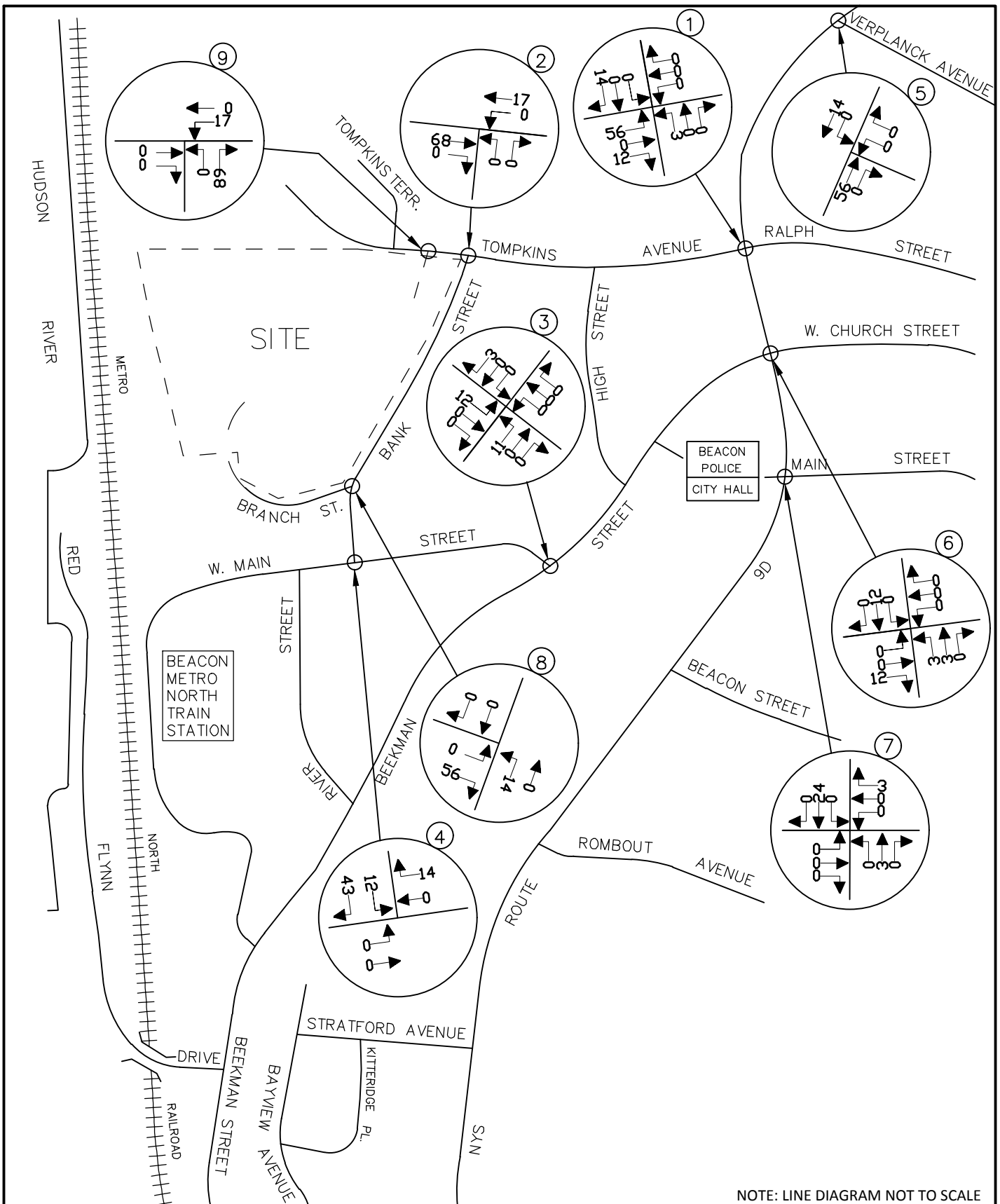


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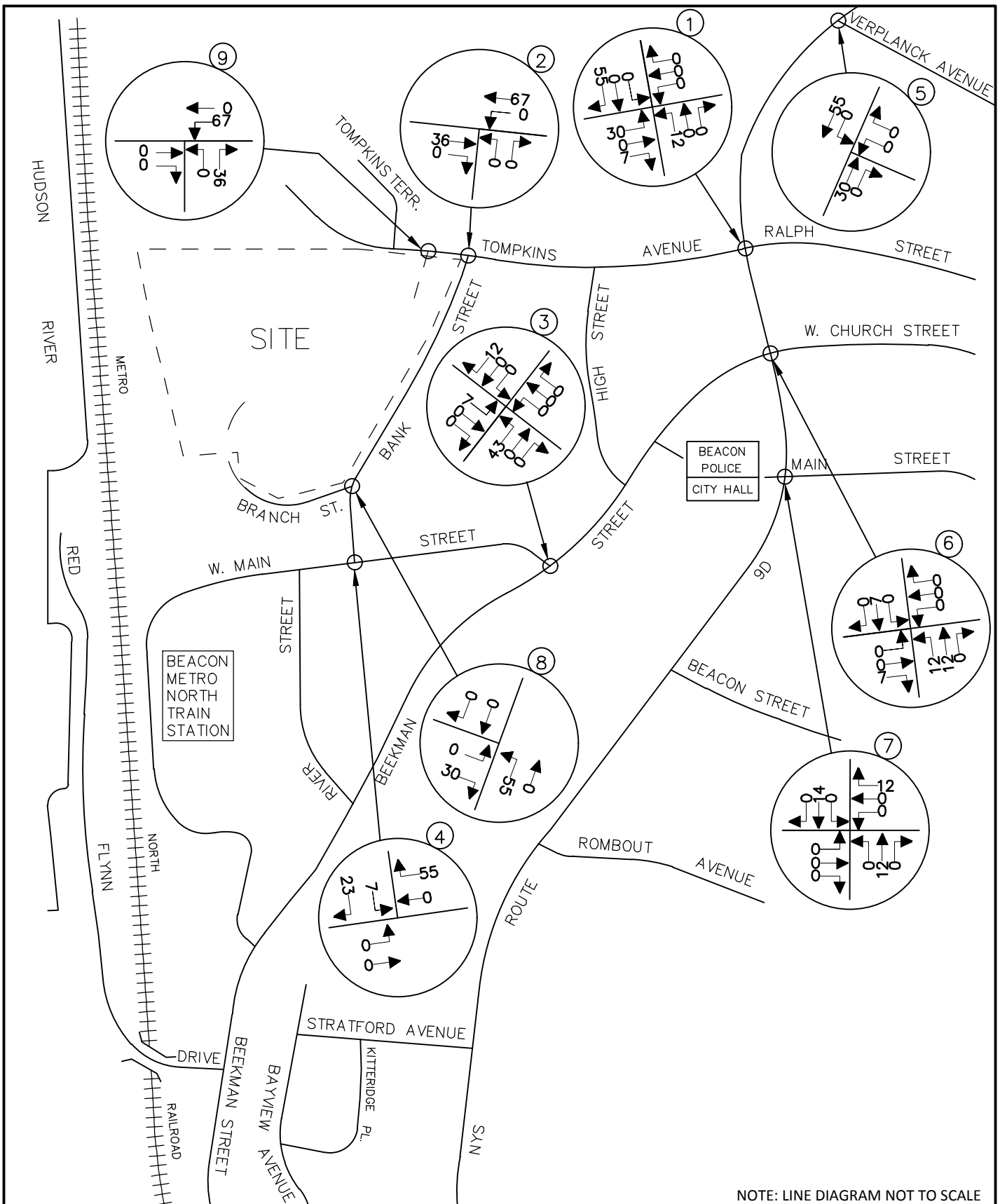
SITE GENERATED TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR



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SITE GENERATED TRAFFIC VOLUMES  
WEEKDAY PEAK PM HOUR

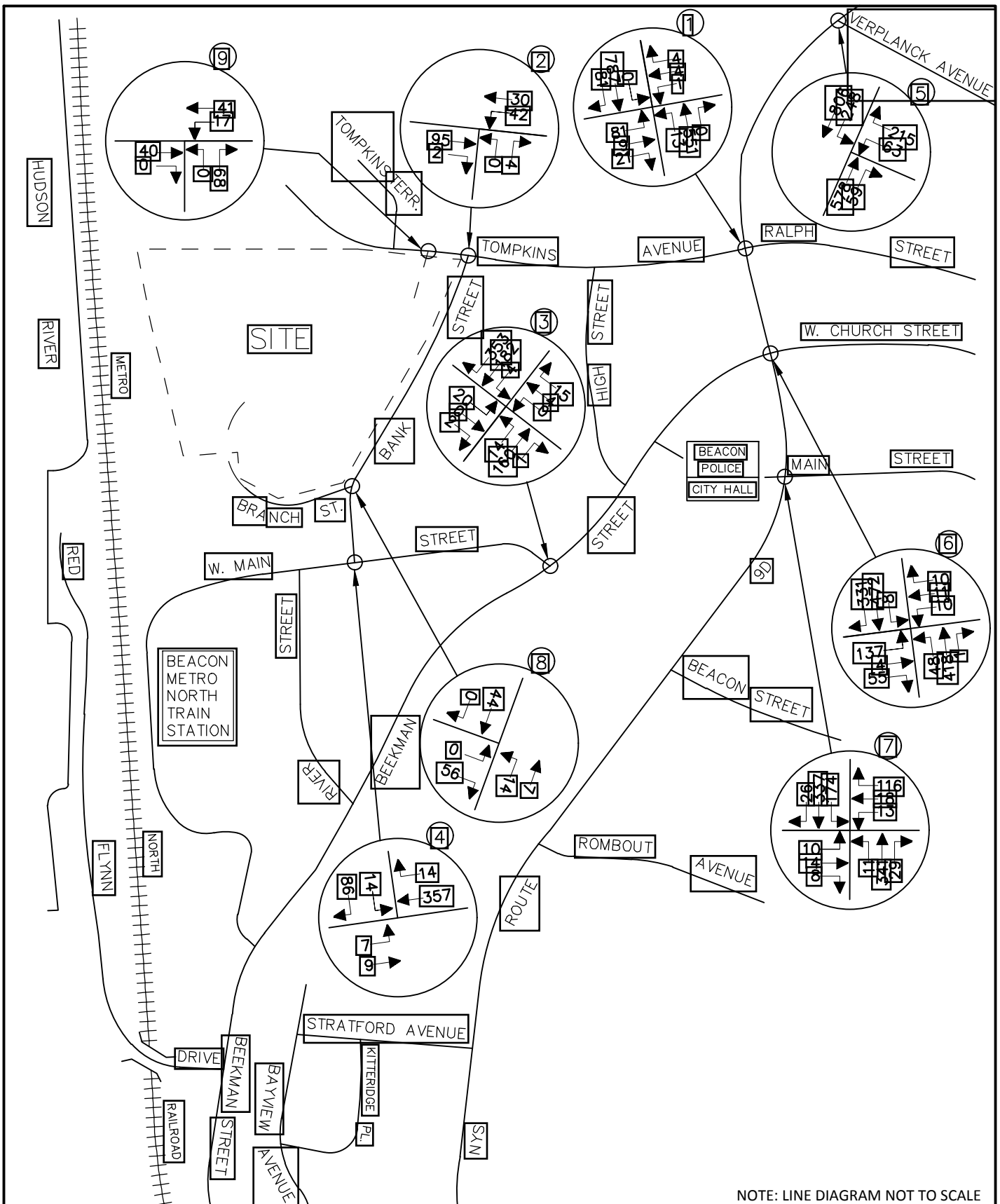


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13



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EDGEWATER  
 CITY OF BEACON, DUTCHESS COUNTY, NY

2022 BUILD TRAFFIC VOLUMES  
 WEEKDAY PEAK AM HOUR

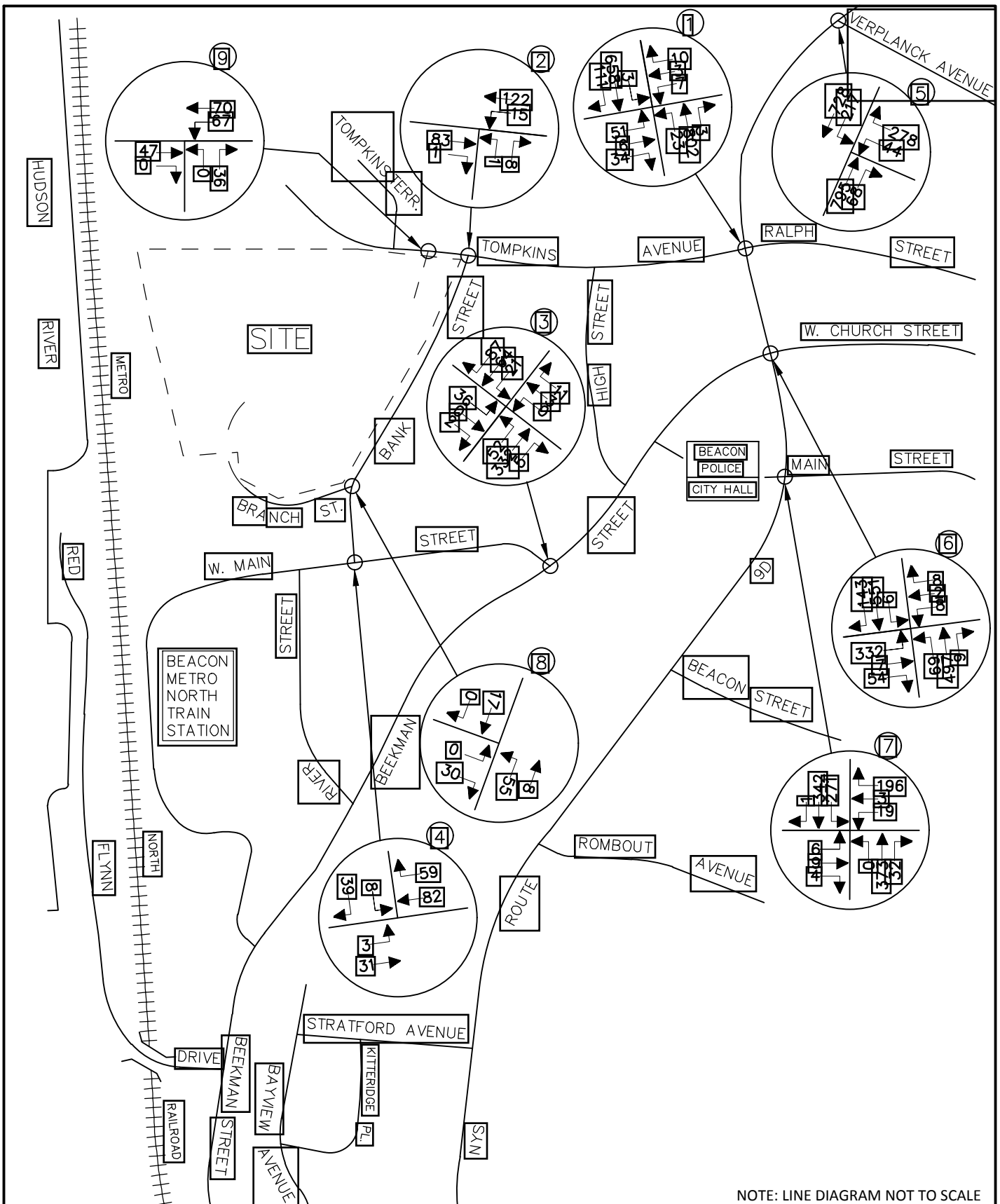


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2022 BUILD TRAFFIC VOLUMES  
WEEKDAY PEAK PM HOUR



JOB NUMBER: DATE:

16003078A FEB. 2017

FIGURE NUMBER:

15



# ***EDGEWATER DEVELOPMENT***

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## **APPENDIX B**

### **TABLES**

TABLE 1

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

<b>EDGEWATER BEACON, NY</b>	<b>ENTRY</b>		<b>EXIT</b>	
	<b>HTGR*</b>	<b>VOLUME</b>	<b>HTGR*</b>	<b>VOLUME</b>
<b>APARTMENT (309 DWELLING UNITS)</b>				
<b>PEAK AM HOUR</b>	0.10	31	0.40	124
<b>PEAK PM HOUR</b>	0.39	122	0.21	66

## NOTES:

- 1) \* HTGR-HOURLY TRIP GENERATION RATES EXPRESSED IN TERMS OF TRIPS PER 1000 S.F. FOR LAND USES - 220 APARTMENT;  
BASED ON THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) PUBLICATION ENTITLED "TRIP GENERATION", 9TH EDITION, 2012.

**TABLE NO. 2**  
**LEVEL OF SERVICE SUMMARY TABLE**

			2017 EXISTING		2022 NO BUILD		2022 BUILD	
			AM	PM	AM	PM	AM	PM
1	NYS ROUTE 9D & TOMPKINS AVENUE/RALPH STREET	UN SIGNALIZED						
	TOMPKINS AVENUE	EB	C [17.9]	C [15.6]	C [22.1]	C [19.0]	D [33.5]	D [25.0]
	RALPH STREET	WB	C [15.2]	C [16.4]	C [17.8]	C [19.8]	C [18.1]	C [20.6]
	NYS ROUTE 9D	NB	A [9.9]	A [8.9]	B [10.7]	A [9.5]	B [10.8]	A [9.8]
	NYS ROUTE 9D	SB	A [0.0]	A [9.0]	A [0.0]	A [9.6]	A [0.0]	A [9.6]
	W/SIGNALIZATION							
	TOMPKINS AVENUE	EB	-	-	-	-	C [32.4]	B [11.9]
	RALPH STREET	WB	-	-	-	-	C [28.6]	B [11.0]
	NYS ROUTE 9D	NB	-	-	-	-	A [4.0]	A [9.2]
	NYS ROUTE 9D	SB	-	-	-	-	A [7.0]	A [7.8]
	OVERALL		-	-	-	-	A [7.8]	A [8.7]
2	TOMPKINS AVENUE & BANK STREET/COLONIAL ROAD	UN SIGNALIZED						
	TOMPKINS AVENUE	WB	A [7.3]	A [7.4]	A [7.3]	A [7.4]	A [7.5]	A [7.5]
	BANK STREET	NB	A [8.5]	A [8.7]	A [8.5]	A [8.7]	A [9.0]	A [9.0]
3	BEEKMAN STREET & W. MAIN STREET	UN SIGNALIZED						
	W. MAIN STREET	EB	B [13.2]	C [18.8]	-	-	-	-
	BEEKMAN STREET	NE	A [9.9]	A [8.0]	-	-	-	-
	W/THE VIEWS DEVELOPMENT							
	W. MAIN STREET	EB	-	-	C [15.9]	D [31.2]	C [18.0]	F [63.2]
	THE VIEWS DEVELOPMENT	WB	-	-	B [11.1]	B [14.4]	B [11.3]	C [16.0]
	BEEKMAN STREET	NEB	-	-	B [10.2]	A [8.1]	B [10.3]	A [8.4]
	BEEKMAN STREET	SWB	-	-	A [7.6]	A [8.9]	A [7.6]	A [8.9]
	W/SIGNALIZATION							
	W. MAIN STREET	EB	-	-	-	-	C [30.8]	C [34.0]
	THE VIEWS DEVELOPMENT	WB	-	-	-	-	C [30.5]	C [30.5]
	BEEKMAN STREET	NEB	-	-	-	-	A [4.9]	A [9.7]
	BEEKMAN STREET	SWB	-	-	-	-	A [8.4]	A [5.8]
	OVERALL		-	-	-	-	A [8.7]	B [10.5]
4	W. MAIN STREET & BANK STREET	UN SIGNALIZED						
	W. MAIN STREET	EB	A [8.1]	A [7.4]	A [8.3]	A [7.4]	A [8.3]	A [7.6]
	BANK STREET	SB	B [10.7]	A [8.8]	B [11.2]	A [8.9]	B [12.0]	A [9.2]
5	NYS ROUTE 9D & VERPLANCK AVENUE	SIGNALIZED						
	VERPLANCK AVENUE	WB	C [34.0]	D [49.5]	C [34.8]	D [53.6]	C [34.8]	D [53.6]
	NYS ROUTE 9D	NE	C [25.5]	C [26.0]	C [31.1]	D [38.1]	C [34.8]	D [42.8]
	NYS ROUTE 9D	SW	B [18.9]	B [14.8]	C [25.5]	C [26.9]	C [28.8]	C [33.1]
	OVERALL		C [23.1]	C [25.3]	C [28.6]	D [35.7]	C [31.6]	D [40.1]
6	NYS ROUTE 9D & BEEKMAN STREET/W. CHURCH STREET	SIGNALIZED						
	BEEKMAN STREET	EB	C [28.7]	C [30.1]	C [28.3]	D [38.3]	C [28.0]	D [37.8]
	W. CHURCH STREET	WB	C [25.5]	C [21.4]	C [24.1]	C [23.0]	C [24.1]	C [23.0]
	NYS ROUTE 9D	NB	A [5.1]	B [18.6]	A [9.1]	C [24.0]	A [9.4]	C [25.7]
	NYS ROUTE 9D	SB	A [8.1]	C [23.1]	B [16.1]	D [37.1]	B [16.7]	D [38.3]
	OVERALL		B [10.3]	C [23.4]	B [15.6]	C [32.9]	B [16.1]	C [33.7]
7	NYS ROUTE 9D & MAIN STREET/MUNICIPAL PLACE	SIGNALIZED						
	BEACON CITY HALL	EB	C [26.8]	C [26.4]	C [26.8]	C [26.4]	C [26.8]	C [26.4]
	MAIN STREET	WB	C [22.4]	C [23.0]	C [22.6]	C [23.5]	C [22.7]	C [23.8]
	NYS ROUTE 9D	NB	A [8.9]	A [9.3]	B [10.2]	B [10.6]	B [10.2]	B [10.8]
	NYS ROUTE 9D	SB	A [5.0]	A [6.7]	A [5.8]	A [7.8]	A [5.8]	A [7.9]
	OVERALL		A [9.8]	B [11.0]	B [10.3]	B [11.7]	B [10.2]	B [11.9]
8	BRANCH STREET (SITE ACCESS) & BANK STREET	UN SIGNALIZED						
	BRANCH STREET	EB	-	-	-	-	A [8.8]	A [8.5]
	BANK STREET	NB	-	-	-	-	A [7.3]	A [7.3]
9	TOMPKINS AVENUE & SITE ACCESS	UN SIGNALIZED						
	TOMPKINS AVENUE	WB	-	-	-	-	A [7.4]	A [7.4]
	SITE ACCESS	NB	-	-	-	-	A [8.9]	A [8.7]

**NOTES:**

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



# ***EDGEWATER DEVELOPMENT***

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## **APPENDIX C**

### **LEVEL OF SERVICE STANDARDS**

## **LEVEL OF SERVICE STANDARDS**

### **LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS**

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

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

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

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

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

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

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

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

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

**Exhibit 18-4**

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

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



## **LEVEL OF SERVICE CRITERIA**

### **FOR TWO-WAY STOP-CONTROLLED (TWSC) UNSIGNALIZED INTERSECTIONS**

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

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

**Exhibit 19-1**

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

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

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

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

## **LEVEL OF SERVICE CRITERIA**

### **FOR ALL-WAY STOP-CONTROLLED (AWSC) UNSIGNALIZED INTERSECTIONS**

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

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

**Exhibit 20-2**

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

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

# ***EDGEWATER DEVELOPMENT***

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## **APPENDIX D**



















### **CAPACITY ANALYSIS**



2017 Existing Traffic Volumes  
1: NYS Route 9D & Tompkins Avenue/Ralph Street

Weekday Peak AM Hour

2/27/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	8	8	1	4	4	9	422	0	0	654	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			-1%			0%			-5%	
Storage Length (ft)	0		0	0		0	120		0	120		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00							
Frt		0.972			0.939						0.987	
Flt Protected		0.971			0.995		0.950					
Satd. Flow (prot)	0	1820	0	0	1784	0	1543	1810	0	1947	1828	0
Flt Permitted		0.812			0.969		0.321					
Satd. Flow (perm)	0	1515	0	0	1736	0	521	1810	0	1947	1828	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			5						14	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		833			226			335			948	
Travel Time (s)		18.9			5.1			7.6			21.5	
Confl. Peds. (#/hr)	3			3			2			2		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	17%	5%	0%	0%	5%	7%
Adj. Flow (vph)	26	9	9	1	5	5	10	485	0	0	752	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	44	0	0	11	0	10	485	0	0	822	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	0.98	0.98	0.98	0.99	0.99	0.99	1.00	1.00	1.00	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

2017 Existing Traffic Volumes  
1: NYS Route 9D & Tompkins Avenue/Ralph Street

Weekday Peak AM Hour

2/27/2017

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		60.0	60.0		60.0	60.0	
Total Split (%)	25.0%	25.0%		25.0%	25.0%		75.0%	75.0%		75.0%	75.0%	
Maximum Green (s)	16.0	16.0		16.0	16.0		56.0	56.0		56.0	56.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.30			0.07		0.02	0.30			0.51	
Control Delay		34.5			27.2		2.0	2.3			3.5	
Queue Delay		0.0			0.0		0.0	0.6			0.0	
Total Delay		34.5			27.2		2.0	2.9			3.5	
Queue Length 50th (ft)		18			3		1	43			94	
Queue Length 95th (ft)		44			17		3	81			175	
Internal Link Dist (ft)		753			146			255			868	
Turn Bay Length (ft)							120					
Base Capacity (vph)		308			349		459	1597			1614	
Starvation Cap Reductn		0			0		0	722			0	
Spillback Cap Reductn		0			0		0	0			0	
Storage Cap Reductn		0			0		0	0			0	
Reduced v/c Ratio		0.14			0.03		0.02	0.55			0.51	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80.8

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Splits and Phases: 1: NYS Route 9D & Tompkins Avenue/Ralph Street

60 s	20 s
60 s	20 s

2017 Existing Traffic Volumes  
1: NYS Route 9D & Tompkins Avenue/Ralph Street

Weekday Peak AM Hour  
2/27/2017





















Lane Group	EBT	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	44	11	10	485	822
v/c Ratio	0.30	0.07	0.02	0.30	0.51
Control Delay	34.5	27.2	2.0	2.3	3.5
Queue Delay	0.0	0.0	0.0	0.6	0.0
Total Delay	34.5	27.2	2.0	2.9	3.5
Queue Length 50th (ft)	18	3	1	43	94
Queue Length 95th (ft)	44	17	3	81	175
Internal Link Dist (ft)	753	146		255	868
Turn Bay Length (ft)			120		
Base Capacity (vph)	308	349	459	1597	1614
Starvation Cap Reductn	0	0	0	722	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.14	0.03	0.02	0.55	0.51
Intersection Summary					



2017 Existing Traffic Volumes  
1: NYS Route 9D & Tompkins Avenue/Ralph Street

Weekday Peak AM Hour

2/27/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	23	8	8	1	4	4	9	422	0	0	654	61
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.97	0.98		0.97	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1928	1928	1928	1910	1910	1910	1624	1810	0	1948	1852	1948
Adj Flow Rate, veh/h	26	9	9	1	5	5	10	485	0	0	752	70
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	0	17	5	0	0	5	5
Cap, veh/h	131	16	16	64	42	39	508	1505	0	107	1388	129
Arrive On Green	0.05	0.05	0.05	0.05	0.05	0.05	0.83	0.83	0.00	0.00	0.83	0.83
Sat Flow, veh/h	926	321	321	107	850	798	578	1810	0	948	1669	155
Grp Volume(v), veh/h	44	0	0	11	0	0	10	485	0	0	0	822
Grp Sat Flow(s),veh/h/ln	1568	0	0	1755	0	0	578	1810	0	948	0	1824
Q Serve(g_s), s	1.4	0.0	0.0	0.0	0.0	0.0	0.4	4.1	0.0	0.0	0.0	9.3
Cycle Q Clear(g_c), s	1.8	0.0	0.0	0.4	0.0	0.0	9.6	4.1	0.0	0.0	0.0	9.3
Prop In Lane	0.59		0.20	0.09		0.45	1.00		0.00	1.00		0.09
Lane Grp Cap(c), veh/h	162	0	0	145	0	0	508	1505	0	107	0	1517
V/C Ratio(X)	0.27	0.00	0.00	0.08	0.00	0.00	0.02	0.32	0.00	0.00	0.00	0.54
Avail Cap(c_a), veh/h	450	0	0	464	0	0	508	1505	0	107	0	1517
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	31.3	0.0	0.0	30.6	0.0	0.0	3.2	1.3	0.0	0.0	0.0	1.7
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.2	0.0	0.0	0.1	0.6	0.0	0.0	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	0.2	0.0	0.0	0.1	2.3	0.0	0.0	0.0	4.9
LnGrp Delay(d),s/veh	32.1	0.0	0.0	30.8	0.0	0.0	3.3	1.9	0.0	0.0	0.0	3.1
LnGrp LOS	C			C			A	A				A
Approach Vol, veh/h		44			11			495			822	
Approach Delay, s/veh		32.1			30.8			1.9			3.1	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		60.0		7.3		60.0		7.3				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		56.0		16.0		56.0		16.0				
Max Q Clear Time (g_c+l1), s		11.6		3.8		11.3		2.4				
Green Ext Time (p_c), s		13.3		0.1		13.4		0.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			3.8									
HCM 2010 LOS			A									










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Two Way Analysis cannot be performed on Signalized Intersection.

2017 Existing Traffic Volumes  
2: Bank Street & Tompkins Avenue

Weekday Peak AM Hour

2/27/2017

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	24	2	38	12	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			1%	7%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.991				0.865	
Flt Protected				0.964		
Satd. Flow (prot)	1801	0	0	1774	1586	0
Flt Permitted				0.964		
Satd. Flow (perm)	1801	0	0	1774	1586	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	236			833	796	
Travel Time (s)	5.4			18.9	18.1	
Confl. Peds. (#/hr)			2			1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	6%	0%	0%	11%	0%	0%
Adj. Flow (vph)	29	2	46	15	0	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	31	0	0	61	5	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	1.01	1.01	1.05	1.05
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					



2017 Existing Traffic Volumes  
2: Bank Street & Tompkins Avenue

Weekday Peak AM Hour  
2/27/2017

Intersection	
Int Delay, s/veh	3.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	24	2	38	12	0	4
Conflicting Peds, #/hr	0	0	2	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-2	-	-	1	7	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	6	0	0	11	0	0
Mvmt Flow	29	2	46	15	0	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	33	0	138	33
Stage 1	-	-	-	-	31	-
Stage 2	-	-	-	-	107	-
Critical Hdwy	-	-	4.1	-	7.8	6.9
Critical Hdwy Stg 1	-	-	-	-	6.8	-
Critical Hdwy Stg 2	-	-	-	-	6.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1592	-	815	1040
Stage 1	-	-	-	-	985	-
Stage 2	-	-	-	-	885	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1589	-	791	1037
Mov Cap-2 Maneuver	-	-	-	-	791	-
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	859	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.6	8.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1037	-	-	1589	-
HCM Lane V/C Ratio	0.005	-	-	0.029	-
HCM Control Delay (s)	8.5	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	-

2017 Existing Traffic Volumes  
3: Beekman Street/Beekman Street & W. Main Street

Weekday Peak AM Hour  
2/27/2017



Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	7	2	3	144	165	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	5%			-1%	-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor				1.00		
Frt	0.973				0.912	
Flt Protected	0.962			0.999		
Satd. Flow (prot)	1734	0	0	1793	1733	0
Flt Permitted	0.962			0.992		
Satd. Flow (perm)	1734	0	0	1780	1733	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	2				260	
Link Speed (mph)	30			30	30	
Link Distance (ft)	640			321	353	
Travel Time (s)	14.5			7.3	8.0	
Confl. Peds. (#/hr)			1			
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	0%	67%	5%	1%	1%
Adj. Flow (vph)	8	2	4	173	199	373
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	0	0	177	572	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.03	1.03	0.99	0.99	0.99	0.99
Turning Speed (mph)	15	9	15			9
Number of Detectors	1		1	2	2	
Detector Template	Left		Left	Thru	Thru	
Leading Detector (ft)	20		20	100	100	
Trailing Detector (ft)	0		0	0	0	
Detector 1 Position(ft)	0		0	0	0	
Detector 1 Size(ft)	20		20	6	6	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot		Perm	NA	NA	
Protected Phases	6			4	8	
Permitted Phases			4			

2017 Existing Traffic Volumes  
3: Beekman Street/Beekman Street & W. Main Street

Weekday Peak AM Hour  
2/27/2017



Lane Group	SEL	SER	NEL	NET	SWT	SWR
Detector Phase	6		4	4	8	
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	21.0		21.0	21.0	21.0	
Total Split (s)	21.0		48.0	48.0	48.0	
Total Split (%)	30.4%		69.6%	69.6%	69.6%	
Maximum Green (s)	16.0		43.0	43.0	43.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
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?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	Min		Max	Max	Max	
Walk Time (s)	5.0		5.0	5.0	5.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0		0	0	0	
v/c Ratio	0.06			0.14	0.43	
Control Delay	22.8			2.7	2.7	
Queue Delay	0.0			0.0	0.0	
Total Delay	22.8			2.7	2.7	
Queue Length 50th (ft)	3			13	26	
Queue Length 95th (ft)	13			26	48	
Internal Link Dist (ft)	560			241	273	
Turn Bay Length (ft)						
Base Capacity (vph)	472			1299	1335	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.02			0.14	0.43	

Intersection Summary

Area Type: Other

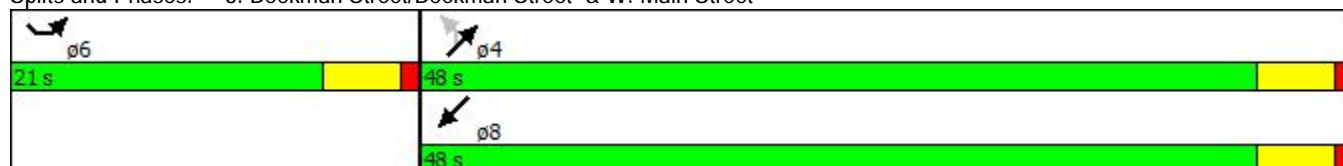
Cycle Length: 69

Actuated Cycle Length: 58.9

Natural Cycle: 45

Control Type: Semi Act-Uncoord

Splits and Phases: 3: Beekman Street/Beekman Street & W. Main Street





2017 Existing Traffic Volumes  
 3: Beekman Street/Beekman Street & W. Main Street

Weekday Peak AM Hour  
 2/27/2017



Lane Group	SEL	NET	SWT
Lane Group Flow (vph)	10	177	572
v/c Ratio	0.06	0.14	0.43
Control Delay	22.8	2.7	2.7
Queue Delay	0.0	0.0	0.0
Total Delay	22.8	2.7	2.7
Queue Length 50th (ft)	3	13	26
Queue Length 95th (ft)	13	26	48
Internal Link Dist (ft)	560	241	273
Turn Bay Length (ft)			
Base Capacity (vph)	472	1299	1335
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.02	0.14	0.43
Intersection Summary			

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HCM 2010 Computation does not support turning movement with Shared and Exclusive lanes.

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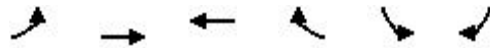
Two Way Analysis cannot be performed on Signalized Intersection.



2017 Existing Traffic Volumes  
4: W. Main Street & Bank Street

Weekday Peak AM Hour

2/27/2017



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↱		↰	↱
Volume (vph)	6	8	313	0	1	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		3%	-5%		-8%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.868	
Flt Protected		0.980			0.999	
Satd. Flow (prot)	0	1834	1928	0	1665	0
Flt Permitted		0.980			0.999	
Satd. Flow (perm)	0	1834	1928	0	1665	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		264	640		200	
Travel Time (s)		6.0	14.5		4.5	
Confl. Peds. (#/hr)	34			1		
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	1%	0%	0%	3%
Adj. Flow (vph)	7	10	382	0	1	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	17	382	0	49	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	0.97	0.97	0.95	0.95
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized












2017 Existing Traffic Volumes  
4: W. Main Street & Bank Street

Weekday Peak AM Hour  
2/27/2017

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	6	8	313	0	1	39
Conflicting Peds, #/hr	34	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	3	-5	-	-8	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	1	0	0	3
Mvmt Flow	7	10	382	0	1	48
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	382	0	-	0	406	416
Stage 1	-	-	-	-	382	-
Stage 2	-	-	-	-	24	-
Critical Hdwy	4.1	-	-	-	4.8	5.43
Critical Hdwy Stg 1	-	-	-	-	3.8	-
Critical Hdwy Stg 2	-	-	-	-	3.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.327
Pot Cap-1 Maneuver	1188	-	-	-	724	696
Stage 1	-	-	-	-	823	-
Stage 2	-	-	-	-	1015	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1154	-	-	-	720	676
Mov Cap-2 Maneuver	-	-	-	-	720	-
Stage 1	-	-	-	-	823	-
Stage 2	-	-	-	-	1009	-
Approach	EB		WB		SB	
HCM Control Delay, s	3.5		0		10.7	
HCM LOS					B	
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1154	-	-	-	677	
HCM Lane V/C Ratio	0.006	-	-	-	0.072	
HCM Control Delay (s)	8.1	0	-	-	10.7	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.2	

2017 Existing Traffic Volumes  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak AM Hour  
2/27/2017

						
Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	57	195	395	54	225	658
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	5%		3%			-1%
Storage Length (ft)	90	0		0	215	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.984			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1725	1544	1805	0	1778	1872
Flt Permitted	0.950				0.302	
Satd. Flow (perm)	1725	1544	1805	0	565	1872
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		30			30
Link Distance (ft)	207		948			167
Travel Time (s)	4.7		21.5			3.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	212	429	59	245	715
Shared Lane Traffic (%)						
Lane Group Flow (vph)	62	212	488	0	245	715
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			
Headway Factor	1.03	1.03	1.02	1.02	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Minimum Split (s)	21.0	21.0	62.0		9.0	45.0
Total Split (s)	43.0	43.0	62.0		15.0	77.0
Total Split (%)	35.8%	35.8%	51.7%		12.5%	64.2%
Maximum Green (s)	38.0	38.0	57.0		10.0	72.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Walk Time (s)	5.0	5.0	5.0			
Flash Dont Walk (s)	11.0	11.0	11.0			
Pedestrian Calls (#/hr)	0	0	0			
v/c Ratio	0.11	0.43	0.57		0.56	0.64
Control Delay	29.9	35.9	25.9		16.4	18.8
Queue Delay	0.0	0.0	0.0		0.0	0.0



2017 Existing Traffic Volumes  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak AM Hour  
2/27/2017



Lane Group	NWL	NWR	NET	NER	SWL	SWT
Total Delay	29.9	35.9	25.9		16.4	18.8
Queue Length 50th (ft)	34	130	265		83	337
Queue Length 95th (ft)	68	204	372		126	464
Internal Link Dist (ft)	127		868			87
Turn Bay Length (ft)	90				215	
Base Capacity (vph)	546	488	857		440	1123
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.11	0.43	0.57		0.56	0.64

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 95

Control Type: Pretimed

Splits and Phases: 5: NYS Route 9D & Verplanck Avenue



2017 Existing Traffic Volumes  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak AM Hour  
2/27/2017














Lane Group	NWL	NWR	NET	SWL	SWT
Lane Group Flow (vph)	62	212	488	245	715
v/c Ratio	0.11	0.43	0.57	0.56	0.64
Control Delay	29.9	35.9	25.9	16.4	18.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	29.9	35.9	25.9	16.4	18.8
Queue Length 50th (ft)	34	130	265	83	337
Queue Length 95th (ft)	68	204	372	126	464
Internal Link Dist (ft)	127		868		87
Turn Bay Length (ft)	90			215	
Base Capacity (vph)	546	488	857	440	1123
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.11	0.43	0.57	0.56	0.64
Intersection Summary					

2017 Existing Traffic Volumes  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak AM Hour

2/27/2017

								
Movement	NWL	NWR	NET	NER	SWL	SWT		
Lane Configurations								
Volume (veh/h)	57	195	395	54	225	658		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1816	1816	1835	1872	1872	1872		
Adj Flow Rate, veh/h	62	212	429	59	245	715		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	548	489	750	103	462	1123		
Arrive On Green	0.32	0.32	0.47	0.47	0.08	0.60		
Sat Flow, veh/h	1730	1544	1579	217	1783	1872		
Grp Volume(v), veh/h	62	212	0	488	245	715		
Grp Sat Flow(s),veh/h/ln	1730	1544	0	1796	1783	1872		
Q Serve(g_s), s	3.0	13.1	0.0	23.5	8.1	29.7		
Cycle Q Clear(g_c), s	3.0	13.1	0.0	23.5	8.1	29.7		
Prop In Lane	1.00	1.00		0.12	1.00			
Lane Grp Cap(c), veh/h	548	489	0	853	462	1123		
V/C Ratio(X)	0.11	0.43	0.00	0.57	0.53	0.64		
Avail Cap(c_a), veh/h	548	489	0	853	462	1123		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	29.1	32.5	0.0	22.7	16.3	15.5		
Incr Delay (d2), s/veh	0.4	2.8	0.0	2.8	4.3	2.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.5	5.9	0.0	12.3	4.4	16.2		
LnGrp Delay(d),s/veh	29.5	35.3	0.0	25.5	20.6	18.3		
LnGrp LOS	C	D		C	C	B		
Approach Vol, veh/h	274		488			960		
Approach Delay, s/veh	34.0		25.5			18.9		
Approach LOS	C		C			B		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	15.0	62.0				77.0		43.0
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0
Max Green Setting (Gmax), s	10.0	57.0				72.0		38.0
Max Q Clear Time (g_c+l1), s	0.0	0.0				0.0		0.0
Green Ext Time (p_c), s	0.0	0.0				0.0		0.0
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			23.1					
HCM 2010 LOS			C					






















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Two Way Analysis cannot be performed on Signalized Intersection.

2017 Existing Traffic Volumes  
6: NYS Route 9D & Beekman Street/W. Church Street

Weekday Peak AM Hour

2/27/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	116	4	32	9	10	9	31	306	1	7	358	299
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-10%			-6%			3%	
Storage Length (ft)	0		95	0		0	80		0	85		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.956						0.932	
Flt Protected		0.954			0.984		0.950			0.950		
Satd. Flow (prot)	0	1759	1567	0	1840	0	1823	1919	0	1743	1710	0
Flt Permitted		0.710			0.885		0.328			0.559		
Satd. Flow (perm)	0	1309	1567	0	1655	0	629	1919	0	1026	1710	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			35		10						73	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		273			158			388			335	
Travel Time (s)		6.2			3.6			8.8			7.6	
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
Adj. Flow (vph)	126	4	35	10	11	10	34	333	1	8	389	325
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	130	35	0	31	0	34	334	0	8	714	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.01	1.01	1.01	0.94	0.94	0.94	0.96	0.96	0.96	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	2	1	2		2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83	83	20	83		83	6		83	6	
Trailing Detector (ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Position(ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Size(ft)	20	43	43	20	43		43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40	40		40		40			40		
Detector 2 Size(ft)		43	43		43		43			43		
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0		0.0			0.0		
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		

2017 Existing Traffic Volumes  
6: NYS Route 9D & Beekman Street/W. Church Street

Weekday Peak AM Hour

2/27/2017

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		31.0	31.0		49.0	49.0	
Minimum Split (s)	20.0	20.0	20.0	21.0	21.0		54.0	54.0		54.0	54.0	
Total Split (s)	36.0	36.0	36.0	36.0	36.0		54.0	54.0		54.0	54.0	
Total Split (%)	40.0%	40.0%	40.0%	40.0%	40.0%		60.0%	60.0%		60.0%	60.0%	
Maximum Green (s)	31.0	31.0	31.0	31.0	31.0		49.0	49.0		49.0	49.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Walk Time (s)				5.0	5.0							
Flash Dont Walk (s)				11.0	11.0							
Pedestrian Calls (#/hr)				0	0							
v/c Ratio		0.58	0.12		0.11		0.07	0.24		0.01	0.56	
Control Delay		37.7	9.9		19.2		5.2	5.1		4.7	7.7	
Queue Delay		0.0	0.0		0.0		0.0	0.3		0.0	1.3	
Total Delay		37.7	9.9		19.2		5.2	5.4		4.7	9.0	
Queue Length 50th (ft)		53	0		8		4	46		1	120	
Queue Length 95th (ft)		104	22		29		16	99		6	270	
Internal Link Dist (ft)		193			78			308			255	
Turn Bay Length (ft)			95				80			85		
Base Capacity (vph)		565	696		720		465	1419		758	1283	
Starvation Cap Reductn		0	0		0		0	556		0	351	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.23	0.05		0.04		0.07	0.39		0.01	0.77	

Intersection Summary

Area Type: Other

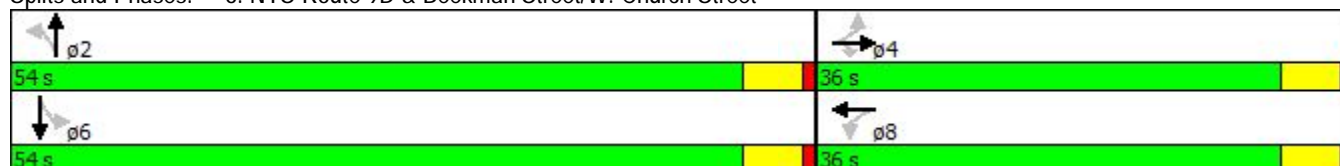
Cycle Length: 90

Actuated Cycle Length: 71.9

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Splits and Phases: 6: NYS Route 9D & Beekman Street/W. Church Street












2017 Existing Traffic Volumes  
6: NYS Route 9D & Beekman Street/W. Church Street

Weekday Peak AM Hour




















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Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	130	35	31	34	334	8	714
v/c Ratio	0.58	0.12	0.11	0.07	0.24	0.01	0.56
Control Delay	37.7	9.9	19.2	5.2	5.1	4.7	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.3	0.0	1.3
Total Delay	37.7	9.9	19.2	5.2	5.4	4.7	9.0
Queue Length 50th (ft)	53	0	8	4	46	1	120
Queue Length 95th (ft)	104	22	29	16	99	6	270
Internal Link Dist (ft)	193		78		308		255
Turn Bay Length (ft)		95		80		85	
Base Capacity (vph)	565	696	720	465	1419	758	1283
Starvation Cap Reductn	0	0	0	0	556	0	351
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.05	0.04	0.07	0.39	0.01	0.77
Intersection Summary							

2017 Existing Traffic Volumes  
6: NYS Route 9D & Beekman Street/W. Church Street

Weekday Peak AM Hour

2/27/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	116	4	32	9	10	9	31	306	1	7	358	299
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1844	1844	1995	1956	1995	1919	1919	1957	1835	1835	1872
Adj Flow Rate, veh/h	126	4	35	10	11	10	34	333	1	8	389	325
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	270	7	263	87	89	52	456	1322	4	745	640	534
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.69	0.69	0.69	0.69	0.69	0.69
Sat Flow, veh/h	1012	42	1568	121	532	311	755	1912	6	1026	925	773
Grp Volume(v), veh/h	130	0	35	31	0	0	34	0	334	8	0	714
Grp Sat Flow(s),veh/h/ln	1054	0	1568	964	0	0	755	0	1918	1026	0	1698
Q Serve(g_s), s	0.0	0.0	1.3	0.1	0.0	0.0	1.8	0.0	4.6	0.2	0.0	15.9
Cycle Q Clear(g_c), s	9.2	0.0	1.3	9.3	0.0	0.0	17.6	0.0	4.6	4.8	0.0	15.9
Prop In Lane	0.97		1.00	0.32		0.32	1.00		0.00	1.00		0.46
Lane Grp Cap(c), veh/h	277	0	263	229	0	0	456	0	1326	745	0	1174
V/C Ratio(X)	0.47	0.00	0.13	0.14	0.00	0.00	0.07	0.00	0.25	0.01	0.00	0.61
Avail Cap(c_a), veh/h	650	0	686	678	0	0	456	0	1326	745	0	1174
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.4	0.0	25.1	25.2	0.0	0.0	10.5	0.0	4.1	5.0	0.0	5.8
Incr Delay (d2), s/veh	1.2	0.0	0.2	0.3	0.0	0.0	0.3	0.0	0.5	0.0	0.0	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	0.6	0.5	0.0	0.0	0.4	0.0	2.6	0.1	0.0	8.1
LnGrp Delay(d),s/veh	29.6	0.0	25.3	25.5	0.0	0.0	10.8	0.0	4.5	5.0	0.0	8.2
LnGrp LOS	C		C	C			B		A	A		A
Approach Vol, veh/h		165			31			368			722	
Approach Delay, s/veh		28.7			25.5			5.1			8.1	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		54.0		16.9		54.0		16.9				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		49.0		31.0		49.0		31.0				
Max Q Clear Time (g_c+l1), s		19.6		11.2		17.9		11.3				
Green Ext Time (p_c), s		3.7		0.9		3.7		0.9				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			10.3									
HCM 2010 LOS			B									

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





Two Way Analysis cannot be performed on Signalized Intersection.



2017 Existing Traffic Volumes  
7: NYS Route 9D & Beacon City Hall/Main Street

Weekday Peak AM Hour

2/27/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	13	7	11	16	103	10	226	23	156	219	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-8%			-3%			3%	
Storage Length (ft)	0		0	0		70	0		0	120		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.966				0.850		0.986			0.985	
Flt Protected		0.985			0.980		0.950			0.950		
Satd. Flow (prot)	0	1764	0	0	1899	1647	1796	1864	0	1743	1807	0
Flt Permitted		0.884			0.943		0.596			0.593		
Satd. Flow (perm)	0	1583	0	0	1827	1647	1127	1864	0	1088	1807	0
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)		8									10	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		76			138			182			388	
Travel Time (s)		1.7			3.1			4.1			8.8	
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
Adj. Flow (vph)	10	14	8	12	17	112	11	246	25	170	238	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	32	0	0	29	112	11	271	0	170	264	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.95	0.95	0.95	0.98	0.98	0.98	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83		20	83	83	83	6		83	6	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Size(ft)	20	43		20	43	43	43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40			40	40	40			40		
Detector 2 Size(ft)		43			43	43	43			43		
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0			0.0		
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2			6		

2017 Existing Traffic Volumes  
7: NYS Route 9D & Beacon City Hall/Main Street

Weekday Peak AM Hour

2/27/2017

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8	1	2	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		8.0	8.0	4.0	31.0	31.0		4.0	36.0	
Minimum Split (s)	21.0	21.0		21.0	21.0	9.0	36.0	36.0		9.0	41.0	
Total Split (s)	36.0	36.0		36.0	36.0	13.0	41.0	41.0		13.0	54.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%	14.4%	45.6%	45.6%		14.4%	60.0%	
Maximum Green (s)	31.0	31.0		31.0	31.0	8.0	36.0	36.0		8.0	49.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag						Lag	Lead	Lead		Lag		
Lead-Lag Optimize?						Yes	Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		None	Max	
Walk Time (s)	5.0	5.0					5.0	5.0				
Flash Dont Walk (s)	11.0	11.0					11.0	11.0				
Pedestrian Calls (#/hr)	0	0					0	0				
v/c Ratio		0.18			0.12	0.33	0.02	0.23		0.17	0.16	
Control Delay		23.7			26.6	21.8	6.8	6.9		2.4	1.9	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		23.7			26.6	21.8	6.8	6.9		2.4	1.9	
Queue Length 50th (ft)		7			8	33	1	26		0	0	
Queue Length 95th (ft)		32			33	69	8	96		30	44	
Internal Link Dist (ft)		1			58			102			308	
Turn Bay Length (ft)						70				120		
Base Capacity (vph)		790			907	339	714	1180		999	1613	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.04			0.03	0.33	0.02	0.23		0.17	0.16	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 63

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Splits and Phases: 7: NYS Route 9D & Beacon City Hall/Main Street

41 s	13 s	36 s
54 s	36 s	

2017 Existing Traffic Volumes  
7: NYS Route 9D & Beacon City Hall/Main Street

Weekday Peak AM Hour  
2/27/2017






















Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	32	29	112	11	271	170	264
v/c Ratio	0.18	0.12	0.33	0.02	0.23	0.17	0.16
Control Delay	23.7	26.6	21.8	6.8	6.9	2.4	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.7	26.6	21.8	6.8	6.9	2.4	1.9
Queue Length 50th (ft)	7	8	33	1	26	0	0
Queue Length 95th (ft)	32	33	69	8	96	30	44
Internal Link Dist (ft)	1	58			102		308
Turn Bay Length (ft)			70			120	
Base Capacity (vph)	790	907	339	714	1180	999	1613
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.03	0.33	0.02	0.23	0.17	0.16
Intersection Summary							

2017 Existing Traffic Volumes  
7: NYS Route 9D & Beacon City Hall/Main Street

Weekday Peak AM Hour

2/27/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	9	13	7	11	16	103	10	226	23	156	219	24
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1890	1853	1890	1976	1937	1937	1891	1891	1928	1835	1835	1872
Adj Flow Rate, veh/h	10	14	8	12	17	112	11	246	25	170	238	26
Adj No. of Lanes	0	1	0	0	1	1	1	1	0	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	111	47	131	149	387	665	912	93	787	1195	131
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.54	0.54	0.54	0.12	0.73	0.73
Sat Flow, veh/h	273	964	412	476	1297	1647	1127	1689	172	1747	1626	178
Grp Volume(v), veh/h	32	0	0	29	0	112	11	0	271	170	0	264
Grp Sat Flow(s),veh/h/ln	1649	0	0	1773	0	1647	1127	0	1860	1747	0	1803
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	5.2	0.0	0.0	3.0
Cycle Q Clear(g_c), s	1.1	0.0	0.0	0.9	0.0	0.0	3.4	0.0	5.2	0.0	0.0	3.0
Prop In Lane	0.31		0.25	0.41		1.00	1.00		0.09	1.00		0.10
Lane Grp Cap(c), veh/h	261	0	0	280	0	387	665	0	1004	787	0	1325
V/C Ratio(X)	0.12	0.00	0.00	0.10	0.00	0.29	0.02	0.00	0.27	0.22	0.00	0.20
Avail Cap(c_a), veh/h	803	0	0	873	0	963	665	0	1004	787	0	1325
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.6	0.0	0.0	26.5	0.0	20.9	8.6	0.0	8.3	7.9	0.0	2.7
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.2	0.0	0.4	0.0	0.0	0.7	0.1	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	0.5	0.0	1.7	0.1	0.0	2.8	1.7	0.0	1.6
LnGrp Delay(d),s/veh	26.8	0.0	0.0	26.7	0.0	21.3	8.6	0.0	8.9	8.1	0.0	3.1
LnGrp LOS	C			C		C	A		A	A		A
Approach Vol, veh/h		32			141			282			434	
Approach Delay, s/veh		26.8			22.4			8.9			5.0	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	13.0	41.0		12.7		54.0		12.7				
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s	8.0	36.0		31.0		49.0		31.0				
Max Q Clear Time (g_c+l1), s	2.0	7.2		3.1		5.0		2.9				
Green Ext Time (p_c), s	0.8	0.7		0.9		1.6		0.9				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			9.8									
HCM 2010 LOS			A									












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Two Way Analysis cannot be performed on Signalized Intersection.

2017 Existing Traffic Volumes  
8: Bank Street & Branch Street

Weekday Peak AM Hour  
2/27/2017

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	0	0	6	40	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	10%			10%	-10%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr't						
Flt Protected						
Satd. Flow (prot)	1805	0	0	1805	1937	0
Flt Permitted						
Satd. Flow (perm)	1805	0	0	1805	1937	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	206			200	796	
Travel Time (s)	4.7			4.5	18.1	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	0%	0%	3%	0%
Adj. Flow (vph)	0	0	0	7	49	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	7	49	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	0.94	0.94
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					

2017 Existing Traffic Volumes  
8: Bank Street & Branch Street

Weekday Peak AM Hour










2/27/2017

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	0	6	40	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	10	-	-	10	-10	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	3	0
Mvmt Flow	0	0	0	7	49	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	56	49	49	0	-	0
Stage 1	49	-	-	-	-	-
Stage 2	7	-	-	-	-	-
Critical Hdwy	8.4	7.2	4.1	-	-	-
Critical Hdwy Stg 1	7.4	-	-	-	-	-
Critical Hdwy Stg 2	7.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	927	1011	1571	-	-	-
Stage 1	952	-	-	-	-	-
Stage 2	1017	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	927	1011	1571	-	-	-
Mov Cap-2 Maneuver	927	-	-	-	-	-
Stage 1	952	-	-	-	-	-
Stage 2	1017	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1571	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

2017 Existing Traffic Volumes  
 9: Site Access & Tompkins Avenue /Tompkins Avenue

Weekday Peak AM Hour

2/27/2017

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	36	0	0	37	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	3%			-5%	0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frnt						
Flt Protected						
Satd. Flow (prot)	1817	0	0	1837	1900	0
Flt Permitted						
Satd. Flow (perm)	1817	0	0	1837	1900	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	160			236	134	
Travel Time (s)	3.6			5.4	3.0	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	3%	0%	5%	6%	0%	3%
Adj. Flow (vph)	44	0	0	45	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	44	0	0	45	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	0.97	0.97	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					



2017 Existing Traffic Volumes  
 9: Site Access & Tompkins Avenue /Tompkins Avenue

Weekday Peak AM Hour



















2/27/2017

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	36	0	0	37	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-5	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	3	0	5	6	0	3
Mvmt Flow	44	0	0	45	0	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	44	0	89	44
Stage 1	-	-	-	-	44	-
Stage 2	-	-	-	-	45	-
Critical Hdwy	-	-	4.15	-	6.4	6.23
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.245	-	3.5	3.327
Pot Cap-1 Maneuver	-	-	1545	-	917	1023
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	983	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1545	-	917	1023
Mov Cap-2 Maneuver	-	-	-	-	917	-
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	983	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		0	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	-	-	-	1545	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	-	0	-	
HCM Lane LOS	A	-	-	A	-	
HCM 95th %tile Q(veh)	-	-	-	0	-	

2017 Existing Traffic Volumes  
1: NYS Route 9D & Tompkins Avenue/Ralph Street

Weekday Peak PM Hour

2/20/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	19	5	25	6	3	9	10	660	3	3	510	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			-1%			0%				-5%
Storage Length (ft)	0		0	0		0	120		0	120		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.931			0.932			0.999			0.986	
Flt Protected		0.981			0.984		0.950			0.950		
Satd. Flow (prot)	0	1726	0	0	1660	0	1641	1825	0	1850	1883	0
Flt Permitted		0.981			0.984		0.950			0.950		
Satd. Flow (perm)	0	1726	0	0	1660	0	1641	1825	0	1850	1883	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		833			226			335			948	
Travel Time (s)		18.9			5.1			7.6			21.5	
Confl. Peds. (#/hr)	2		3	2		3	5			5		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	4%	0%	0%	11%	10%	4%	0%	0%	2%	2%
Adj. Flow (vph)	20	5	26	6	3	9	11	695	3	3	537	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	51	0	0	18	0	11	698	0	3	591	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	0.98	0.98	0.98	0.99	0.99	0.99	1.00	1.00	1.00	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

2017 Existing Traffic Volumes  
1: NYS Route 9D & Tompkins Avenue/Ralph Street

Weekday Peak PM Hour  
2/20/2017

Intersection												
Int Delay, s/veh	0.9											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	19	5	25	6	3	9	10	660	3	3	510	51
Conflicting Peds, #/hr	2	0	3	2	0	3	5	0	0	5	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	120	-	-	120	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	-3	-	-	-1	-	-	0	-	-	-5	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	4	0	0	11	10	4	0	0	2	2
Mvmt Flow	20	5	26	6	3	9	11	695	3	3	537	54

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1300	1295	572	1309	1320	704	594	0	0	701	0	0
Stage 1	573	573	-	720	720	-	-	-	-	-	-	-
Stage 2	727	722	-	589	600	-	-	-	-	-	-	-
Critical Hdwy	6.5	5.9	5.94	6.9	6.3	6.21	4.2	-	-	4.1	-	-
Critical Hdwy Stg 1	5.5	4.9	-	5.9	5.3	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.5	4.9	-	5.9	5.3	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.336	3.5	4	3.399	2.29	-	-	2.2	-	-
Pot Cap-1 Maneuver	173	203	541	148	170	430	944	-	-	905	-	-
Stage 1	559	558	-	439	453	-	-	-	-	-	-	-
Stage 2	472	490	-	515	510	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	165	199	537	137	167	427	940	-	-	901	-	-
Mov Cap-2 Maneuver	300	325	-	268	291	-	-	-	-	-	-	-
Stage 1	551	555	-	433	447	-	-	-	-	-	-	-
Stage 2	451	483	-	481	507	-	-	-	-	-	-	-










Approach	EB	WB	NB	SB
HCM Control Delay, s	15.6	16.4	0.1	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	940	-	-	391	335	901	-
HCM Lane V/C Ratio	0.011	-	-	0.132	0.057	0.004	-
HCM Control Delay (s)	8.9	-	-	15.6	16.4	9	-
HCM Lane LOS	A	-	-	C	C	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.2	0	-

2017 Existing Traffic Volumes  
2: Bank Street & Tompkins Avenue

Weekday Peak PM Hour

2/20/2017

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	42	1	14	50	1	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			1%	7%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.997				0.880	
Flt Protected				0.989	0.994	
Satd. Flow (prot)	1913	0	0	1788	1604	0
Flt Permitted				0.989	0.994	
Satd. Flow (perm)	1913	0	0	1788	1604	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	236			833	796	
Travel Time (s)	5.4			18.9	18.1	
Confl. Peds. (#/hr)						3
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	10%	3%	0%	0%
Adj. Flow (vph)	47	1	16	56	1	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	48	0	0	72	9	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	1.01	1.01	1.05	1.05
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					



2017 Existing Traffic Volumes  
2: Bank Street & Tompkins Avenue

Weekday Peak PM Hour

2/20/2017

Intersection						
Int Delay, s/veh	1.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	42	1	14	50	1	7
Conflicting Peds, #/hr	0	0	0	0	0	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-2	-	-	1	7	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	10	3	0	0
Mvmt Flow	47	1	16	56	1	8
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	51	0	137	50
Stage 1	-	-	-	-	50	-
Stage 2	-	-	-	-	87	-
Critical Hdwy	-	-	4.2	-	7.8	6.9
Critical Hdwy Stg 1	-	-	-	-	6.8	-
Critical Hdwy Stg 2	-	-	-	-	6.8	-
Follow-up Hdwy	-	-	2.29	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1505	-	816	1014
Stage 1	-	-	-	-	959	-
Stage 2	-	-	-	-	910	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1505	-	805	1011
Mov Cap-2 Maneuver	-	-	-	-	805	-
Stage 1	-	-	-	-	957	-
Stage 2	-	-	-	-	900	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.6		8.7	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	980	-	-	1505	-	
HCM Lane V/C Ratio	0.009	-	-	0.01	-	
HCM Control Delay (s)	8.7	-	-	7.4	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0	-	-	0	-	



Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	27	2	8	294	58	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	5%			-1%	-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.990				0.930	
Flt Protected	0.956			0.999		
Satd. Flow (prot)	1753	0	0	1877	1715	0
Flt Permitted	0.956			0.999		
Satd. Flow (perm)	1753	0	0	1877	1715	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	640			321	353	
Travel Time (s)	14.5			7.3	8.0	
Peak Hour Factor	0.53	0.53	0.53	0.53	0.53	0.53
Heavy Vehicles (%)	0%	0%	25%	1%	2%	6%
Adj. Flow (vph)	51	4	15	555	109	119
Shared Lane Traffic (%)						
Lane Group Flow (vph)	55	0	0	570	228	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.03	1.03	0.99	0.99	0.99	0.99
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

**Intersection Summary**

Area Type: Other

Control Type: Unsignalized

2017 Existing Traffic Volumes  
3: Beekman Street/Beekman Street & W. Main Street

Weekday Peak PM Hour  
2/20/2017

Intersection	
Int Delay, s/veh	1.3

Movement	SEL	SER	NEL	NET	SWT	SWR
Vol, veh/h	27	2	8	294	58	63
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	5	-	-	-1	-2	-
Peak Hour Factor	53	53	53	53	53	53
Heavy Vehicles, %	0	0	25	1	2	6
Mvmt Flow	51	4	15	555	109	119

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	754	169	228 0
Stage 1	169	-	- -
Stage 2	585	-	- -
Critical Hdwy	7.4	6.7	4.35 -
Critical Hdwy Stg 1	6.4	-	- -
Critical Hdwy Stg 2	6.4	-	- -
Follow-up Hdwy	3.5	3.3	2.425 -
Pot Cap-1 Maneuver	308	860	1216 -
Stage 1	826	-	- -
Stage 2	477	-	- -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	302	860	1216 -
Mov Cap-2 Maneuver	302	-	- -
Stage 1	826	-	- -
Stage 2	468	-	- -

Approach	SE	NE	SW
HCM Control Delay, s	18.8	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	1216	-	316	-	-
HCM Lane V/C Ratio	0.012	-	0.173	-	-
HCM Control Delay (s)	8	0	18.8	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

2017 Existing Traffic Volumes  
4: W. Main Street & Bank Street

Weekday Peak PM Hour

2/20/2017



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	3	28	67	4	1	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		3%	-5%		-8%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.992		0.872	
Flt Protected		0.995			0.997	
Satd. Flow (prot)	0	1862	1765	0	1718	0
Flt Permitted		0.995			0.997	
Satd. Flow (perm)	0	1862	1765	0	1718	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		264	640		200	
Travel Time (s)		6.0	14.5		4.5	
Confl. Peds. (#/hr)	15					
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	10%	0%	0%	0%
Adj. Flow (vph)	4	35	84	5	1	18
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	39	89	0	19	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	0.97	0.97	0.95	0.95
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized



2017 Existing Traffic Volumes  
4: W. Main Street & Bank Street

Weekday Peak PM Hour












2/20/2017

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	3	28	67	4	1	14
Conflicting Peds, #/hr	15	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	3	-5	-	-8	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	10	0	0	0
Mvmt Flow	4	35	84	5	1	18
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	89	0	-	0	129	101
Stage 1	-	-	-	-	86	-
Stage 2	-	-	-	-	43	-
Critical Hdwy	4.1	-	-	-	4.8	5.4
Critical Hdwy Stg 1	-	-	-	-	3.8	-
Critical Hdwy Stg 2	-	-	-	-	3.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1519	-	-	-	921	982
Stage 1	-	-	-	-	979	-
Stage 2	-	-	-	-	1004	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1500	-	-	-	918	970
Mov Cap-2 Maneuver	-	-	-	-	918	-
Stage 1	-	-	-	-	979	-
Stage 2	-	-	-	-	1001	-
Approach	EB		WB		SB	
HCM Control Delay, s	0.7		0		8.8	
HCM LOS					A	
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1500	-	-	-	966	
HCM Lane V/C Ratio	0.003	-	-	-	0.019	
HCM Control Delay (s)	7.4	0	-	-	8.8	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

2017 Existing Traffic Volumes  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak PM Hour

2/20/2017

						
Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	40	253	626	62	197	524
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	5%		3%			-1%
Storage Length (ft)	90	0		0	215	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.988			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1725	1544	1813	0	1778	1872
Flt Permitted	0.950				0.176	
Satd. Flow (perm)	1725	1544	1813	0	329	1872
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		30			30
Link Distance (ft)	207		948			167
Travel Time (s)	4.7		21.5			3.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	275	680	67	214	570
Shared Lane Traffic (%)						
Lane Group Flow (vph)	43	275	747	0	214	570
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			
Headway Factor	1.03	1.03	1.02	1.02	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Minimum Split (s)	21.0	21.0	62.0		9.0	45.0
Total Split (s)	35.0	35.0	71.0		14.0	75.0
Total Split (%)	29.2%	29.2%	59.2%		11.7%	62.5%
Maximum Green (s)	30.0	30.0	66.0		9.0	70.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Walk Time (s)	5.0	5.0	5.0			
Flash Dont Walk (s)	11.0	11.0	11.0			
Pedestrian Calls (#/hr)	0	0	0			
v/c Ratio	0.10	0.71	0.75		0.65	0.46
Control Delay	35.5	52.6	26.6		17.4	11.0
Queue Delay	0.0	0.0	0.0		0.0	0.0

2017 Existing Traffic Volumes  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak PM Hour  
2/20/2017



Lane Group	NWL	NWR	NET	NER	SWL	SWT
Total Delay	35.5	52.6	26.6		17.4	11.0
Queue Length 50th (ft)	26	195	424		57	194
Queue Length 95th (ft)	57	296	588		89	268
Internal Link Dist (ft)	127		868			87
Turn Bay Length (ft)	90				215	
Base Capacity (vph)	431	386	997		328	1248
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.10	0.71	0.75		0.65	0.46

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 95

Control Type: Pretimed

Splits and Phases: 5: NYS Route 9D & Verplanck Avenue



2017 Existing Traffic Volumes  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak PM Hour  
2/20/2017














Lane Group	NWL	NWR	NET	SWL	SWT
Lane Group Flow (vph)	43	275	747	214	570
v/c Ratio	0.10	0.71	0.75	0.65	0.46
Control Delay	35.5	52.6	26.6	17.4	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	35.5	52.6	26.6	17.4	11.0
Queue Length 50th (ft)	26	195	424	57	194
Queue Length 95th (ft)	57	296	588	89	268
Internal Link Dist (ft)	127		868		87
Turn Bay Length (ft)	90			215	
Base Capacity (vph)	431	386	997	328	1248
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.10	0.71	0.75	0.65	0.46
Intersection Summary					



2017 Existing Traffic Volumes  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak PM Hour  
2/20/2017

								
Movement	NWL	NWR	NET	NER	SWL	SWT		
Lane Configurations								
Volume (veh/h)	40	253	626	62	197	524		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1816	1816	1835	1872	1872	1872		
Adj Flow Rate, veh/h	43	275	680	67	214	570		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	432	386	904	89	360	1248		
Arrive On Green	0.25	0.25	0.55	0.55	0.08	0.67		
Sat Flow, veh/h	1730	1544	1644	162	1783	1872		
Grp Volume(v), veh/h	43	275	0	747	214	570		
Grp Sat Flow(s),veh/h/ln	1730	1544	0	1806	1783	1872		
Q Serve(g_s), s	2.3	19.5	0.0	38.1	5.9	17.5		
Cycle Q Clear(g_c), s	2.3	19.5	0.0	38.1	5.9	17.5		
Prop In Lane	1.00	1.00		0.09	1.00			
Lane Grp Cap(c), veh/h	432	386	0	993	360	1248		
V/C Ratio(X)	0.10	0.71	0.00	0.75	0.59	0.46		
Avail Cap(c_a), veh/h	432	386	0	993	360	1248		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	34.6	41.1	0.0	20.7	18.3	9.6		
Incr Delay (d2), s/veh	0.5	10.7	0.0	5.2	7.1	1.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.2	9.5	0.0	20.3	4.0	9.4		
LnGrp Delay(d),s/veh	35.1	51.7	0.0	26.0	25.4	10.8		
LnGrp LOS	D	D		C	C	B		
Approach Vol, veh/h	318		747			784		
Approach Delay, s/veh	49.5		26.0			14.8		
Approach LOS	D		C			B		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	14.0	71.0				85.0		35.0
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0
Max Green Setting (Gmax), s	9.0	66.0				70.0		30.0
Max Q Clear Time (g_c+l1), s	0.0	0.0				0.0		0.0
Green Ext Time (p_c), s	0.0	0.0				0.0		0.0
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			25.3					
HCM 2010 LOS			C					


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Two Way Analysis cannot be performed on Signalized Intersection.

2017 Existing Traffic Volumes  
6: NYS Route 9D & Beekman Street/W. Church Street

Weekday Peak PM Hour













2/20/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	296	6	30	7	2	7	39	377	8	5	417	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)	2%			-10%			-6%			3%		
Storage Length (ft)	0		95	0		0	80		0	85		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.940			0.997			0.967	
Flt Protected		0.953			0.978		0.950			0.950		
Satd. Flow (prot)	0	1757	1567	0	1798	0	1823	1913	0	1743	1774	0
Flt Permitted		0.718			0.866		0.327			0.453		
Satd. Flow (perm)	0	1324	1567	0	1592	0	627	1913	0	831	1774	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			33		8			2			21	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		273			158			388			335	
Travel Time (s)		6.2			3.6			8.8			7.6	
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
Adj. Flow (vph)	322	7	33	8	2	8	42	410	9	5	453	129
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	329	33	0	18	0	42	419	0	5	582	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.01	1.01	1.01	0.94	0.94	0.94	0.96	0.96	0.96	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	2	1	2		2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83	83	20	83		83	6		83	6	
Trailing Detector (ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Position(ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Size(ft)	20	43	43	20	43		43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40	40		40		40			40		
Detector 2 Size(ft)		43	43		43		43			43		
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0		0.0			0.0		
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		

2017 Existing Traffic Volumes  
6: NYS Route 9D & Beekman Street/W. Church Street

Weekday Peak PM Hour

2/20/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		42.0	42.0		42.0	42.0	
Minimum Split (s)	20.0	20.0	20.0	21.0	21.0		47.0	47.0		47.0	47.0	
Total Split (s)	43.0	43.0	43.0	43.0	43.0		47.0	47.0		47.0	47.0	
Total Split (%)	47.8%	47.8%	47.8%	47.8%	47.8%		52.2%	52.2%		52.2%	52.2%	
Maximum Green (s)	38.0	38.0	38.0	38.0	38.0		42.0	42.0		42.0	42.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Walk Time (s)				5.0	5.0							
Flash Dont Walk (s)				11.0	11.0							
Pedestrian Calls (#/hr)				0	0							
v/c Ratio		0.79	0.06		0.04		0.12	0.39		0.01	0.59	
Control Delay		38.2	6.3		12.5		12.1	12.7		11.0	15.7	
Queue Delay		0.0	0.0		0.0		0.0	0.8		0.0	0.0	
Total Delay		38.2	6.3		12.5		12.1	13.5		11.0	15.7	
Queue Length 50th (ft)		140	0		3		9	102		1	159	
Queue Length 95th (ft)		231	17		16		34	231		7	361	
Internal Link Dist (ft)		193			78			308			255	
Turn Bay Length (ft)			95				80			85		
Base Capacity (vph)		664	802		803		347	1061		460	993	
Starvation Cap Reductn		0	0		0		0	351		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.50	0.04		0.02		0.12	0.59		0.01	0.59	

Intersection Summary

Area Type: Other

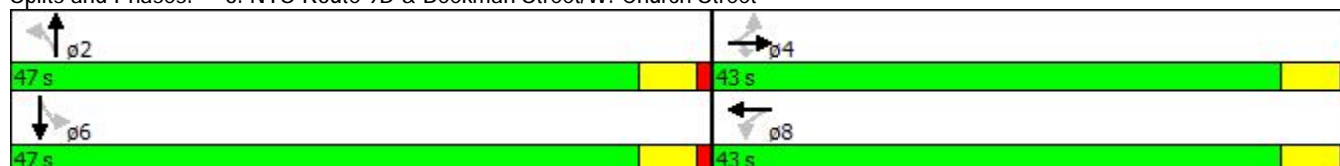
Cycle Length: 90

Actuated Cycle Length: 76.5

Natural Cycle: 70

Control Type: Semi Act-Uncoord








Splits and Phases: 6: NYS Route 9D & Beekman Street/W. Church Street





2017 Existing Traffic Volumes  
6: NYS Route 9D & Beekman Street/W. Church Street




















Weekday Peak PM Hour  
2/20/2017

							
Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	329	33	18	42	419	5	582
v/c Ratio	0.79	0.06	0.04	0.12	0.39	0.01	0.59
Control Delay	38.2	6.3	12.5	12.1	12.7	11.0	15.7
Queue Delay	0.0	0.0	0.0	0.0	0.8	0.0	0.0
Total Delay	38.2	6.3	12.5	12.1	13.5	11.0	15.7
Queue Length 50th (ft)	140	0	3	9	102	1	159
Queue Length 95th (ft)	231	17	16	34	231	7	361
Internal Link Dist (ft)	193		78		308		255
Turn Bay Length (ft)		95		80		85	
Base Capacity (vph)	664	802	803	347	1061	460	993
Starvation Cap Reductn	0	0	0	0	351	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.04	0.02	0.12	0.59	0.01	0.59
Intersection Summary							

2017 Existing Traffic Volumes  
6: NYS Route 9D & Beekman Street/W. Church Street

Weekday Peak PM Hour

2/20/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	296	6	30	7	2	7	39	377	8	5	417	119
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1844	1844	1995	1956	1995	1919	1919	1957	1835	1835	1872
Adj Flow Rate, veh/h	322	7	33	8	2	8	42	410	9	5	453	129
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	432	8	648	80	34	44	265	886	19	390	651	185
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.47	0.47	0.47	0.47	0.47	0.47
Sat Flow, veh/h	850	18	1568	52	82	107	854	1870	41	949	1374	391
Grp Volume(v), veh/h	329	0	33	18	0	0	42	0	419	5	0	582
Grp Sat Flow(s),veh/h/ln	868	0	1568	240	0	0	854	0	1911	949	0	1766
Q Serve(g_s), s	0.0	0.0	1.1	0.4	0.0	0.0	3.6	0.0	13.1	0.3	0.0	23.0
Cycle Q Clear(g_c), s	34.0	0.0	1.1	34.3	0.0	0.0	26.6	0.0	13.1	13.4	0.0	23.0
Prop In Lane	0.98		1.00	0.44		0.44	1.00		0.02	1.00		0.22
Lane Grp Cap(c), veh/h	439	0	648	158	0	0	265	0	905	390	0	836
V/C Ratio(X)	0.75	0.00	0.05	0.11	0.00	0.00	0.16	0.00	0.46	0.01	0.00	0.70
Avail Cap(c_a), veh/h	460	0	672	181	0	0	265	0	905	390	0	836
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.2	0.0	15.6	21.0	0.0	0.0	28.8	0.0	15.7	20.3	0.0	18.3
Incr Delay (d2), s/veh	6.4	0.0	0.0	0.3	0.0	0.0	1.3	0.0	1.7	0.1	0.0	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	0.0	0.5	0.3	0.0	0.0	0.9	0.0	7.3	0.1	0.0	12.3
LnGrp Delay(d),s/veh	31.6	0.0	15.6	21.4	0.0	0.0	30.0	0.0	17.4	20.3	0.0	23.1
LnGrp LOS	C		B	C			C		B	C		C
Approach Vol, veh/h		362			18			461			587	
Approach Delay, s/veh		30.1			21.4			18.6			23.1	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		47.0		41.7		47.0		41.7				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		42.0		38.0		42.0		38.0				
Max Q Clear Time (g_c+l1), s		28.6		36.0		25.0		36.3				
Green Ext Time (p_c), s		2.8		0.4		3.0		0.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			23.4									
HCM 2010 LOS			C									




















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Two Way Analysis cannot be performed on Signalized Intersection.

2017 Existing Traffic Volumes  
7: NYS Route 9D & Beacon City Hall/Main Street

Weekday Peak PM Hour

2/20/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	8	4	13	3	165	0	254	26	245	209	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-8%			-3%			3%	
Storage Length (ft)	0		0	0		70	0		0	120		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.970				0.850		0.986			0.999	
Flt Protected		0.986			0.960					0.950		
Satd. Flow (prot)	0	1773	0	0	1860	1647	1891	1864	0	1743	1833	0
Flt Permitted										0.575		
Satd. Flow (perm)	0	1798	0	0	1937	1647	1891	1864	0	1055	1833	0
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)		4										
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		76			138			182			388	
Travel Time (s)		1.7			3.1			4.1			8.8	
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
Adj. Flow (vph)	5	9	4	14	3	179	0	276	28	266	227	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	18	0	0	17	179	0	304	0	266	228	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.95	0.95	0.95	0.98	0.98	0.98	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83		20	83	83	83	6		83	6	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Size(ft)	20	43		20	43	43	43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40			40	40	40			40		
Detector 2 Size(ft)		43			43	43	43			43		
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0			0.0		
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2			6		



2017 Existing Traffic Volumes  
7: NYS Route 9D & Beacon City Hall/Main Street

Weekday Peak PM Hour

2/20/2017

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8	1	2	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		8.0	8.0	4.0	31.0	31.0		4.0	36.0	
Minimum Split (s)	21.0	21.0		21.0	21.0	9.0	36.0	36.0		9.0	41.0	
Total Split (s)	36.0	36.0		36.0	36.0	13.0	41.0	41.0		13.0	54.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%	14.4%	45.6%	45.6%		14.4%	60.0%	
Maximum Green (s)	31.0	31.0		31.0	31.0	8.0	36.0	36.0		8.0	49.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag						Lag	Lead	Lead		Lag		
Lead-Lag Optimize?						Yes	Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		None	Max	
Walk Time (s)	5.0	5.0					5.0	5.0				
Flash Dont Walk (s)	11.0	11.0					11.0	11.0				
Pedestrian Calls (#/hr)	0	0					0	0				
v/c Ratio		0.09			0.06	0.62		0.25		0.26	0.13	
Control Delay		22.6			23.9	31.5		5.8		2.1	1.1	
Queue Delay		0.0			0.0	0.0		0.0		0.0	0.0	
Total Delay		22.6			23.9	31.5		5.8		2.1	1.1	
Queue Length 50th (ft)		4			5	56		30		0	0	
Queue Length 95th (ft)		22			23	104		107		46	39	
Internal Link Dist (ft)		1			58			102			308	
Turn Bay Length (ft)						70				120		
Base Capacity (vph)		946			1017	287		1222		1017	1734	
Starvation Cap Reductn		0			0	0		0		0	0	
Spillback Cap Reductn		0			0	0		0		0	0	
Storage Cap Reductn		0			0	0		0		0	0	
Reduced v/c Ratio		0.02			0.02	0.62		0.25		0.26	0.13	

Intersection Summary

Area Type: Other

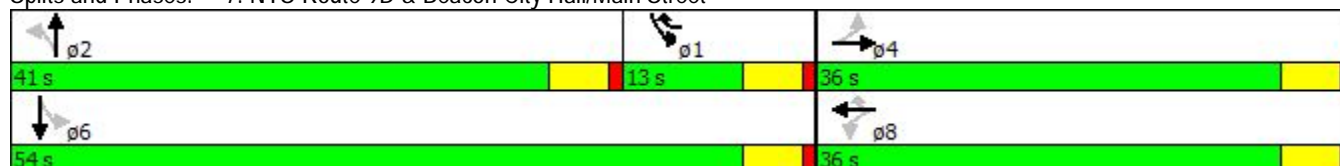
Cycle Length: 90

Actuated Cycle Length: 59.5

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Splits and Phases: 7: NYS Route 9D & Beacon City Hall/Main Street



2017 Existing Traffic Volumes  
7: NYS Route 9D & Beacon City Hall/Main Street

Weekday Peak PM Hour  
2/20/2017






















Lane Group	EBT	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	18	17	179	304	266	228
v/c Ratio	0.09	0.06	0.62	0.25	0.26	0.13
Control Delay	22.6	23.9	31.5	5.8	2.1	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.6	23.9	31.5	5.8	2.1	1.1
Queue Length 50th (ft)	4	5	56	30	0	0
Queue Length 95th (ft)	22	23	104	107	46	39
Internal Link Dist (ft)	1	58		102		308
Turn Bay Length (ft)			70		120	
Base Capacity (vph)	946	1017	287	1222	1017	1734
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.02	0.62	0.25	0.26	0.13
Intersection Summary						

2017 Existing Traffic Volumes  
7: NYS Route 9D & Beacon City Hall/Main Street

Weekday Peak PM Hour

2/20/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	8	4	13	3	165	0	254	26	245	209	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1890	1853	1890	1976	1937	1937	1891	1891	1928	1835	1835	1872
Adj Flow Rate, veh/h	5	9	4	14	3	179	0	276	28	266	227	1
Adj No. of Lanes	0	1	0	0	1	1	1	1	0	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	125	43	238	42	390	108	910	92	758	1338	6
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.00	0.54	0.54	0.12	0.73	0.73
Sat Flow, veh/h	225	1068	370	1188	360	1647	1165	1689	171	1747	1825	8
Grp Volume(v), veh/h	18	0	0	17	0	179	0	0	304	266	0	228
Grp Sat Flow(s),veh/h/ln	1663	0	0	1549	0	1647	1165	0	1860	1747	0	1833
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	2.5
Cycle Q Clear(g_c), s	0.6	0.0	0.0	0.5	0.0	0.0	0.0	0.0	6.0	0.0	0.0	2.5
Prop In Lane	0.28		0.22	0.82		1.00	1.00		0.09	1.00		0.00
Lane Grp Cap(c), veh/h	264	0	0	280	0	390	108	0	1002	758	0	1344
V/C Ratio(X)	0.07	0.00	0.00	0.06	0.00	0.46	0.00	0.00	0.30	0.35	0.00	0.17
Avail Cap(c_a), veh/h	802	0	0	806	0	961	108	0	1002	758	0	1344
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.3	0.0	0.0	26.3	0.0	21.8	0.0	0.0	8.5	9.5	0.0	2.7
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	0.8	0.0	0.0	0.8	0.3	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.3	0.0	2.9	0.0	0.0	3.3	3.0	0.0	1.4
LnGrp Delay(d),s/veh	26.4	0.0	0.0	26.4	0.0	22.7	0.0	0.0	9.3	9.8	0.0	3.0
LnGrp LOS	C			C		C			A	A		A
Approach Vol, veh/h		18			196			304			494	
Approach Delay, s/veh		26.4			23.0			9.3			6.7	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	13.0	41.0		12.8		54.0		12.8				
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s	8.0	36.0		31.0		49.0		31.0				
Max Q Clear Time (g_c+l1), s	2.0	8.0		2.6		4.5		2.5				
Green Ext Time (p_c), s	1.1	0.7		1.2		2.0		1.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			11.0									
HCM 2010 LOS			B									










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Two Way Analysis cannot be performed on Signalized Intersection.



2017 Existing Traffic Volumes  
8: Bank Street & Branch Street

Weekday Peak PM Hour  
2/20/2017

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	0	0	7	15	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	10%			10%	-10%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr't						
Flt Protected						
Satd. Flow (prot)	1805	0	0	1805	1995	0
Flt Permitted						
Satd. Flow (perm)	1805	0	0	1805	1995	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	206			200	796	
Travel Time (s)	4.7			4.5	18.1	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	0	0	9	19	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	9	19	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	0.94	0.94
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					










2017 Existing Traffic Volumes  
8: Bank Street & Branch Street

Weekday Peak PM Hour  
2/20/2017

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	0	7	15	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	10	-	-	10	-10	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	0	9	19	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	28	19	19	0	-	0
Stage 1	19	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	8.4	7.2	4.1	-	-	-
Critical Hdwy Stg 1	7.4	-	-	-	-	-
Critical Hdwy Stg 2	7.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	977	1059	1611	-	-	-
Stage 1	998	-	-	-	-	-
Stage 2	1014	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	977	1059	1611	-	-	-
Mov Cap-2 Maneuver	977	-	-	-	-	-
Stage 1	998	-	-	-	-	-
Stage 2	1014	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1611	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

2017 Existing Traffic Volumes  
9: Site Access & Tompkins Avenue /Tompkins Avenue

Weekday Peak PM Hour  
2/20/2017

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	43	0	0	64	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	3%			-5%	0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frnt						
Flt Protected						
Satd. Flow (prot)	1872	0	0	1909	1900	0
Flt Permitted						
Satd. Flow (perm)	1872	0	0	1909	1900	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	160			236	134	
Travel Time (s)	3.6			5.4	3.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	1%	2%	0%	0%
Adj. Flow (vph)	48	0	0	71	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	48	0	0	71	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	0.97	0.97	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					

2017 Existing Traffic Volumes  
 9: Site Access & Tompkins Avenue /Tompkins Avenue

Weekday Peak PM Hour

2/20/2017



















Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	43	0	0	64	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-5	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	1	2	0	0
Mvmt Flow	48	0	0	71	0	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	48	0	119	48
Stage 1	-	-	-	-	48	-
Stage 2	-	-	-	-	71	-
Critical Hdwy	-	-	4.11	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.209	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1566	-	882	1027
Stage 1	-	-	-	-	980	-
Stage 2	-	-	-	-	957	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1566	-	882	1027
Mov Cap-2 Maneuver	-	-	-	-	882	-
Stage 1	-	-	-	-	980	-
Stage 2	-	-	-	-	957	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		0	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	-	-	-	1566	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	-	0	-	
HCM Lane LOS	A	-	-	A	-	
HCM 95th %tile Q(veh)	-	-	-	0	-	



2022 No-Build Traffic Volumes  
1: NYS Route 9D & Tompkins Avenue/Ralph Street

Weekday Peak AM Hour

2/27/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	25	9	9	1	4	4	10	551	0	0	787	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			-1%			0%			-5%	
Storage Length (ft)	0		0	0		0	120		0	120		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00							
Frt		0.972			0.939						0.988	
Flt Protected		0.971			0.995		0.950					
Satd. Flow (prot)	0	1820	0	0	1784	0	1543	1810	0	1947	1830	0
Flt Permitted		0.812			0.974		0.254					
Satd. Flow (perm)	0	1515	0	0	1745	0	412	1810	0	1947	1830	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			5						13	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		833			226			335			948	
Travel Time (s)		18.9			5.1			7.6			21.5	
Confl. Peds. (#/hr)	3			3			2			2		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	17%	5%	0%	0%	5%	7%
Adj. Flow (vph)	29	10	10	1	5	5	11	633	0	0	905	77
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	49	0	0	11	0	11	633	0	0	982	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	0.98	0.98	0.98	0.99	0.99	0.99	1.00	1.00	1.00	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

2022 No-Build Traffic Volumes  
1: NYS Route 9D & Tompkins Avenue/Ralph Street

Weekday Peak AM Hour

2/27/2017

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		60.0	60.0		60.0	60.0	
Total Split (%)	25.0%	25.0%		25.0%	25.0%		75.0%	75.0%		75.0%	75.0%	
Maximum Green (s)	16.0	16.0		16.0	16.0		56.0	56.0		56.0	56.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.32			0.07		0.03	0.40			0.61	
Control Delay		34.6			26.8		2.2	2.8			4.8	
Queue Delay		0.0			0.0		0.0	0.8			0.0	
Total Delay		34.6			26.8		2.2	3.7			4.8	
Queue Length 50th (ft)		20			3		1	64			137	
Queue Length 95th (ft)		47			17		4	120			262	
Internal Link Dist (ft)		753			146			255			868	
Turn Bay Length (ft)							120					
Base Capacity (vph)		310			351		362	1592			1611	
Starvation Cap Reductn		0			0		0	630			0	
Spillback Cap Reductn		0			0		0	0			0	
Storage Cap Reductn		0			0		0	0			0	
Reduced v/c Ratio		0.16			0.03		0.03	0.66			0.61	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80.6

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Splits and Phases: 1: NYS Route 9D & Tompkins Avenue/Ralph Street

<p>60 s</p>	<p>20 s</p>
<p>60 s</p>	<p>20 s</p>

2022 No-Build Traffic Volumes  
1: NYS Route 9D & Tompkins Avenue/Ralph Street

Weekday Peak AM Hour

2/27/2017





















Lane Group	EBT	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	49	11	11	633	982
v/c Ratio	0.32	0.07	0.03	0.40	0.61
Control Delay	34.6	26.8	2.2	2.8	4.8
Queue Delay	0.0	0.0	0.0	0.8	0.0
Total Delay	34.6	26.8	2.2	3.7	4.8
Queue Length 50th (ft)	20	3	1	64	137
Queue Length 95th (ft)	47	17	4	120	262
Internal Link Dist (ft)	753	146		255	868
Turn Bay Length (ft)			120		
Base Capacity (vph)	310	351	362	1592	1611
Starvation Cap Reductn	0	0	0	630	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.16	0.03	0.03	0.66	0.61
Intersection Summary					

2022 No-Build Traffic Volumes  
1: NYS Route 9D & Tompkins Avenue/Ralph Street

Weekday Peak AM Hour

2/27/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	25	9	9	1	4	4	10	551	0	0	787	67
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.97	0.98		0.97	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1928	1928	1928	1910	1910	1910	1624	1810	0	1948	1852	1948
Adj Flow Rate, veh/h	29	10	10	1	5	5	11	633	0	0	905	77
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	0	17	5	0	0	5	5
Cap, veh/h	134	17	17	63	45	42	420	1500	0	107	1395	119
Arrive On Green	0.05	0.05	0.05	0.05	0.05	0.05	0.83	0.83	0.00	0.00	0.83	0.83
Sat Flow, veh/h	927	320	320	101	856	797	497	1810	0	827	1683	143
Grp Volume(v), veh/h	49	0	0	11	0	0	11	633	0	0	0	982
Grp Sat Flow(s),veh/h/ln	1566	0	0	1753	0	0	497	1810	0	827	0	1827
Q Serve(g_s), s	1.6	0.0	0.0	0.0	0.0	0.0	0.6	6.2	0.0	0.0	0.0	13.4
Cycle Q Clear(g_c), s	2.0	0.0	0.0	0.4	0.0	0.0	14.0	6.2	0.0	0.0	0.0	13.4
Prop In Lane	0.59		0.20	0.09		0.45	1.00		0.00	1.00		0.08
Lane Grp Cap(c), veh/h	167	0	0	151	0	0	420	1500	0	107	0	1514
V/C Ratio(X)	0.29	0.00	0.00	0.07	0.00	0.00	0.03	0.42	0.00	0.00	0.00	0.65
Avail Cap(c_a), veh/h	449	0	0	462	0	0	420	1500	0	107	0	1514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	31.2	0.0	0.0	30.5	0.0	0.0	4.7	1.5	0.0	0.0	0.0	2.1
Incr Delay (d2), s/veh	1.0	0.0	0.0	0.2	0.0	0.0	0.1	0.9	0.0	0.0	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	0.2	0.0	0.0	0.1	3.4	0.0	0.0	0.0	7.2
LnGrp Delay(d),s/veh	32.2	0.0	0.0	30.7	0.0	0.0	4.8	2.4	0.0	0.0	0.0	4.3
LnGrp LOS	C			C			A	A				A
Approach Vol, veh/h		49			11			644			982	
Approach Delay, s/veh		32.2			30.7			2.4			4.3	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		60.0		7.6		60.0		7.6				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		56.0		16.0		56.0		16.0				
Max Q Clear Time (g_c+l1), s		16.0		4.0		15.4		2.4				
Green Ext Time (p_c), s		18.6		0.2		18.8		0.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			4.6									
HCM 2010 LOS			A									



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Two Way Analysis cannot be performed on Signalized Intersection.

2022 No-Build Traffic Volumes  
2: Bank Street & Tompkins Avenue

Weekday Peak AM Hour

2/27/2017

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Volume (vph)	26	2	42	43	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			1%	7%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.992				0.865	
Flt Protected				0.976		
Satd. Flow (prot)	1802	0	0	1748	1586	0
Flt Permitted				0.976		
Satd. Flow (perm)	1802	0	0	1748	1586	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	236			833	796	
Travel Time (s)	5.4			18.9	18.1	
Confl. Peds. (#/hr)			2			1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	6%	0%	0%	11%	0%	0%
Adj. Flow (vph)	32	2	51	52	0	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	34	0	0	103	5	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	1.01	1.01	1.05	1.05
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					

2022 No-Build Traffic Volumes  
2: Bank Street & Tompkins Avenue

Weekday Peak AM Hour

2/27/2017

















Intersection						
Int Delay, s/veh	2.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	26	2	42	43	0	4
Conflicting Peds, #/hr	0	0	2	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-2	-	-	1	7	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	6	0	0	11	0	0
Mvmt Flow	32	2	51	52	0	5
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	35	0	189	36
Stage 1	-	-	-	-	34	-
Stage 2	-	-	-	-	155	-
Critical Hdwy	-	-	4.1	-	7.8	6.9
Critical Hdwy Stg 1	-	-	-	-	6.8	-
Critical Hdwy Stg 2	-	-	-	-	6.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1589	-	748	1035
Stage 1	-	-	-	-	981	-
Stage 2	-	-	-	-	827	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1586	-	723	1032
Mov Cap-2 Maneuver	-	-	-	-	723	-
Stage 1	-	-	-	-	980	-
Stage 2	-	-	-	-	800	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		3.6		8.5	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	1032	-	-	1586	-	
HCM Lane V/C Ratio	0.005	-	-	0.032	-	
HCM Control Delay (s)	8.5	-	-	7.3	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0	-	-	0.1	-	

## 2022 No-Build Traffic Volumes

Weekday Peak AM Hour

## 3: Beekman Street/Beekman Street &amp; The Views Development/W. Main Street

2/27/2017

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	8	0	2	0	4	15	3	160	1	4	182	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		5%			0%			-1%			-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.977			0.892			0.999			0.912	
Flt Protected		0.960						0.999				
Satd. Flow (prot)	0	1737	0	0	1662	0	0	1794	0	0	1733	0
Flt Permitted		0.960						0.991			0.999	
Satd. Flow (perm)	0	1737	0	0	1662	0	0	1779	0	0	1731	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		84			16						142	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		640			137			321			353	
Travel Time (s)		14.5			3.1			7.3			8.0	
Confl. Peds. (#/hr)							1					
Peak Hour Factor	0.83	0.92	0.83	0.92	0.92	0.92	0.83	0.83	0.92	0.92	0.83	0.83
Heavy Vehicles (%)	0%	2%	0%	2%	2%	2%	67%	5%	2%	2%	1%	1%
Adj. Flow (vph)	10	0	2	0	4	16	4	193	1	4	219	422
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	12	0	0	20	0	0	198	0	0	645	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.03	1.03	1.03	1.00	1.00	1.00	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA			NA		Perm	NA		Perm	NA	
Protected Phases	6	6			2			4			8	
Permitted Phases				2			4			8		















# 2022 No-Build Traffic Volumes

Weekday Peak AM Hour

## 3: Beekman Street/Beekman Street & The Views Development/W. Main Street

2/27/2017

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	6	6		2	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	21.0	21.0		22.0	22.0		48.0	48.0		48.0	48.0	
Total Split (%)	23.1%	23.1%		24.2%	24.2%		52.7%	52.7%		52.7%	52.7%	
Maximum Green (s)	16.0	16.0		17.0	17.0		43.0	43.0		43.0	43.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
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?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.06			0.13			0.18			0.57	
Control Delay		0.5			18.6			6.3			8.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		0.5			18.6			6.3			8.4	
Queue Length 50th (ft)		0			2			31			103	
Queue Length 95th (ft)		0			21			54			165	
Internal Link Dist (ft)		560			57			241			273	
Turn Bay Length (ft)												
Base Capacity (vph)		464			418			1101			1125	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.03			0.05			0.18			0.57	

### Intersection Summary

Area Type: Other





Cycle Length: 91

Actuated Cycle Length: 69.5

Natural Cycle: 75

















Control Type: Semi Act-Uncoord

Splits and Phases: 3: Beekman Street/Beekman Street & The Views Development/W. Main Street

		
ø2	ø6	ø4
22 s	21 s	48 s
		
		ø8
		48 s



Lane Group	SET	NWT	NET	SWT
Lane Group Flow (vph)	12	20	198	645
v/c Ratio	0.06	0.13	0.18	0.57
Control Delay	0.5	18.6	6.3	8.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	0.5	18.6	6.3	8.4
Queue Length 50th (ft)	0	2	31	103
Queue Length 95th (ft)	0	21	54	165
Internal Link Dist (ft)	560	57	241	273
Turn Bay Length (ft)				
Base Capacity (vph)	464	418	1101	1125
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.03	0.05	0.18	0.57
Intersection Summary				

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (veh/h)	8	0	2	0	4	15	3	160	1	4	182	350
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1852	1852	1852	1900	1863	1900	1910	1797	1910	1919	1900	1919
Adj Flow Rate, veh/h	10	0	2	0	4	16	4	193	1	4	219	422
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.83	0.92	0.83	0.92	0.92	0.92	0.83	0.83	0.92	0.92	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	1	1	1
Cap, veh/h	87	0	17	0	20	79	60	1153	6	56	382	726
Arrive On Green	0.06	0.00	0.06	0.00	0.06	0.06	0.65	0.65	0.65	0.65	0.65	0.65
Sat Flow, veh/h	1441	0	288	0	326	1306	7	1770	9	2	586	1114
Grp Volume(v), veh/h	12	0	0	0	0	20	198	0	0	645	0	0
Grp Sat Flow(s),veh/h/ln	1730	0	0	0	0	1632	1786	0	0	1702	0	0
Q Serve(g_s), s	0.4	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.4	0.0	0.0	0.0	0.0	0.8	2.9	0.0	0.0	14.0	0.0	0.0
Prop In Lane	0.83		0.17	0.00		0.80	0.02		0.01	0.01		0.65
Lane Grp Cap(c), veh/h	105	0	0	0	0	99	1219	0	0	1164	0	0
V/C Ratio(X)	0.11	0.00	0.00	0.00	0.00	0.20	0.16	0.00	0.00	0.55	0.00	0.00
Avail Cap(c_a), veh/h	419	0	0	0	0	420	1219	0	0	1164	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.3	0.0	0.0	0.0	0.0	29.5	4.5	0.0	0.0	6.5	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.0	0.0	1.0	0.3	0.0	0.0	1.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.0	0.0	0.4	1.5	0.0	0.0	7.1	0.0	0.0
LnGrp Delay(d),s/veh	29.8	0.0	0.0	0.0	0.0	30.5	4.8	0.0	0.0	8.4	0.0	0.0
LnGrp LOS	C					C	A			A		
Approach Vol, veh/h		12			20			198			645	
Approach Delay, s/veh		29.8			30.5			4.8			8.4	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.0		48.0		9.0		48.0				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		17.0		43.0		16.0		43.0				
Max Q Clear Time (g_c+I1), s		2.8		4.9		2.4		16.0				
Green Ext Time (p_c), s		0.0		7.2		0.0		6.7				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			8.3									
HCM 2010 LOS			A									

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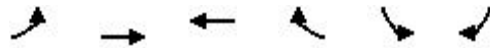
Two Way Analysis cannot be performed on Signalized Intersection.



2022 No-Build Traffic Volumes  
4: W. Main Street & Bank Street

Weekday Peak AM Hour

2/27/2017



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	7	9	357	0	1	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		3%	-5%		-8%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.868	
Flt Protected		0.978			0.999	
Satd. Flow (prot)	0	1830	1928	0	1664	0
Flt Permitted		0.978			0.999	
Satd. Flow (perm)	0	1830	1928	0	1664	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		264	640		200	
Travel Time (s)		6.0	14.5		4.5	
Confl. Peds. (#/hr)	34			1		
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	1%	0%	0%	3%
Adj. Flow (vph)	9	11	435	0	1	52
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	20	435	0	53	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	0.97	0.97	0.95	0.95
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

2022 No-Build Traffic Volumes  
4: W. Main Street & Bank Street

Weekday Peak AM Hour












2/27/2017

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	7	9	357	0	1	43
Conflicting Peds, #/hr	34	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	3	-5	-	-8	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	1	0	0	3
Mvmt Flow	9	11	435	0	1	52
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	435	0	-	0	463	469
Stage 1	-	-	-	-	435	-
Stage 2	-	-	-	-	28	-
Critical Hdwy	4.1	-	-	-	4.8	5.43
Critical Hdwy Stg 1	-	-	-	-	3.8	-
Critical Hdwy Stg 2	-	-	-	-	3.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.327
Pot Cap-1 Maneuver	1135	-	-	-	689	657
Stage 1	-	-	-	-	797	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1103	-	-	-	683	638
Mov Cap-2 Maneuver	-	-	-	-	683	-
Stage 1	-	-	-	-	797	-
Stage 2	-	-	-	-	1004	-
Approach	EB		WB		SB	
HCM Control Delay, s	3.6		0		11.2	
HCM LOS					B	
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1103	-	-	-	639	
HCM Lane V/C Ratio	0.008	-	-	-	0.084	
HCM Control Delay (s)	8.3	0	-	-	11.2	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.3	

2022 No-Build Traffic Volumes  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak AM Hour

2/27/2017

						
Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	63	215	522	59	248	792
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	5%		3%			-1%
Storage Length (ft)	90	0		0	215	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.986			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1725	1544	1809	0	1778	1872
Flt Permitted	0.950				0.192	
Satd. Flow (perm)	1725	1544	1809	0	359	1872
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		30			30
Link Distance (ft)	207		948			167
Travel Time (s)	4.7		21.5			3.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	68	234	567	64	270	861
Shared Lane Traffic (%)						
Lane Group Flow (vph)	68	234	631	0	270	861
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			
Headway Factor	1.03	1.03	1.02	1.02	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Minimum Split (s)	21.0	21.0	62.0		9.0	45.0
Total Split (s)	43.0	43.0	62.0		15.0	77.0
Total Split (%)	35.8%	35.8%	51.7%		12.5%	64.2%
Maximum Green (s)	38.0	38.0	57.0		10.0	72.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Walk Time (s)	5.0	5.0	5.0			
Flash Dont Walk (s)	11.0	11.0	11.0			
Pedestrian Calls (#/hr)	0	0	0			
v/c Ratio	0.12	0.48	0.73		0.81	0.77
Control Delay	30.0	37.0	31.7		32.5	23.6
Queue Delay	0.0	0.0	0.0		0.0	0.0

2022 No-Build Traffic Volumes  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak AM Hour

2/27/2017



Lane Group	NWL	NWR	NET	NER	SWL	SWT
Total Delay	30.0	37.0	31.7		32.5	23.6
Queue Length 50th (ft)	37	146	384		93	466
Queue Length 95th (ft)	73	226	532		#178	644
Internal Link Dist (ft)	127		868			87
Turn Bay Length (ft)	90				215	
Base Capacity (vph)	546	488	859		333	1123
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.12	0.48	0.73		0.81	0.77

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 95

Control Type: Pretimed

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: NYS Route 9D & Verplanck Avenue





2022 No-Build Traffic Volumes  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak AM Hour  
2/27/2017



Lane Group	NWL	NWR	NET	SWL	SWT
Lane Group Flow (vph)	68	234	631	270	861
v/c Ratio	0.12	0.48	0.73	0.81	0.77
Control Delay	30.0	37.0	31.7	32.5	23.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	30.0	37.0	31.7	32.5	23.6
Queue Length 50th (ft)	37	146	384	93	466
Queue Length 95th (ft)	73	226	532	#178	644
Internal Link Dist (ft)	127		868		87
Turn Bay Length (ft)	90			215	
Base Capacity (vph)	546	488	859	333	1123
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.12	0.48	0.73	0.81	0.77












Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

2022 No-Build Traffic Volumes  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak AM Hour

2/27/2017

								
Movement	NWL	NWR	NET	NER	SWL	SWT		
Lane Configurations								
Volume (veh/h)	63	215	522	59	248	792		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1816	1816	1835	1872	1872	1872		
Adj Flow Rate, veh/h	68	234	567	64	270	861		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	548	489	769	87	362	1123		
Arrive On Green	0.32	0.32	0.47	0.47	0.08	0.60		
Sat Flow, veh/h	1730	1544	1620	183	1783	1872		
Grp Volume(v), veh/h	68	234	0	631	270	861		
Grp Sat Flow(s),veh/h/ln	1730	1544	0	1803	1783	1872		
Q Serve(g_s), s	3.4	14.7	0.0	33.9	9.1	40.9		
Cycle Q Clear(g_c), s	3.4	14.7	0.0	33.9	9.1	40.9		
Prop In Lane	1.00	1.00		0.10	1.00			
Lane Grp Cap(c), veh/h	548	489	0	856	362	1123		
V/C Ratio(X)	0.12	0.48	0.00	0.74	0.75	0.77		
Avail Cap(c_a), veh/h	548	489	0	856	362	1123		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	29.2	33.0	0.0	25.4	20.9	17.8		
Incr Delay (d2), s/veh	0.5	3.3	0.0	5.6	13.1	5.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.7	6.7	0.0	18.2	5.7	22.6		
LnGrp Delay(d),s/veh	29.6	36.4	0.0	31.1	34.1	22.8		
LnGrp LOS	C	D		C	C	C		
Approach Vol, veh/h	302		631			1131		
Approach Delay, s/veh	34.8		31.1			25.5		
Approach LOS	C		C			C		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	15.0	62.0				77.0		43.0
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0
Max Green Setting (Gmax), s	10.0	57.0				72.0		38.0
Max Q Clear Time (g_c+l1), s	0.0	0.0				0.0		0.0
Green Ext Time (p_c), s	0.0	0.0				0.0		0.0
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			28.6					
HCM 2010 LOS			C					




















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Two Way Analysis cannot be performed on Signalized Intersection.

2022 No-Build Traffic Volumes  
6: NYS Route 9D & Beekman Street/W. Church Street

Weekday Peak AM Hour

2/27/2017













												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	137	4	43	10	11	10	45	415	1	8	460	331
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-10%			-6%			3%	
Storage Length (ft)	0		95	0		0	80		0	85		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.956						0.937	
Flt Protected		0.954			0.984		0.950			0.950		
Satd. Flow (prot)	0	1759	1567	0	1840	0	1823	1919	0	1743	1719	0
Flt Permitted		0.707			0.892		0.226			0.471		
Satd. Flow (perm)	0	1304	1567	0	1668	0	434	1919	0	864	1719	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			47		11						63	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		273			158			388			335	
Travel Time (s)		6.2			3.6			8.8			7.6	
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
Adj. Flow (vph)	149	4	47	11	12	11	49	451	1	9	500	360
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	153	47	0	34	0	49	452	0	9	860	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.01	1.01	1.01	0.94	0.94	0.94	0.96	0.96	0.96	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	2	1	2		2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83	83	20	83		83	6		83	6	
Trailing Detector (ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Position(ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Size(ft)	20	43	43	20	43		43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40	40		40		40			40		
Detector 2 Size(ft)		43	43		43		43			43		
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0		0.0			0.0		
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		



2022 No-Build Traffic Volumes  
6: NYS Route 9D & Beekman Street/W. Church Street

Weekday Peak AM Hour

2/27/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		31.0	31.0		49.0	49.0	
Minimum Split (s)	20.0	20.0	20.0	21.0	21.0		54.0	54.0		54.0	54.0	
Total Split (s)	36.0	36.0	36.0	36.0	36.0		54.0	54.0		54.0	54.0	
Total Split (%)	40.0%	40.0%	40.0%	40.0%	40.0%		60.0%	60.0%		60.0%	60.0%	
Maximum Green (s)	31.0	31.0	31.0	31.0	31.0		49.0	49.0		49.0	49.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Walk Time (s)				5.0	5.0							
Flash Dont Walk (s)				11.0	11.0							
Pedestrian Calls (#/hr)				0	0							
v/c Ratio		0.62	0.14		0.10		0.17	0.35		0.02	0.73	
Control Delay		38.5	8.7		18.5		7.3	6.7		5.4	12.9	
Queue Delay		0.0	0.0		0.0		0.0	0.7		0.0	9.8	
Total Delay		38.5	8.7		18.5		7.3	7.4		5.4	22.6	
Queue Length 50th (ft)		64	0		9		7	73		1	191	
Queue Length 95th (ft)		120	25		30		26	155		7	442	
Internal Link Dist (ft)		193			78			308			255	
Turn Bay Length (ft)			95				80			85		
Base Capacity (vph)		555	694		717		292	1292		582	1178	
Starvation Cap Reductn		0	0		0		0	499		0	292	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.28	0.07		0.05		0.17	0.57		0.02	0.97	

Intersection Summary

Area Type: Other





Cycle Length: 90

Actuated Cycle Length: 73

Natural Cycle: 75








Control Type: Semi Act-Uncoord

Splits and Phases: 6: NYS Route 9D & Beekman Street/W. Church Street

 ø2	 ø4
54 s	36 s
 ø6	 ø8
54 s	36 s

2022 No-Build Traffic Volumes  
6: NYS Route 9D & Beekman Street/W. Church Street



















Weekday Peak AM Hour  
2/27/2017

							
Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	153	47	34	49	452	9	860
v/c Ratio	0.62	0.14	0.10	0.17	0.35	0.02	0.73
Control Delay	38.5	8.7	18.5	7.3	6.7	5.4	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.7	0.0	9.8
Total Delay	38.5	8.7	18.5	7.3	7.4	5.4	22.6
Queue Length 50th (ft)	64	0	9	7	73	1	191
Queue Length 95th (ft)	120	25	30	26	155	7	442
Internal Link Dist (ft)	193		78		308		255
Turn Bay Length (ft)		95		80		85	
Base Capacity (vph)	555	694	717	292	1292	582	1178
Starvation Cap Reductn	0	0	0	0	499	0	292
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.07	0.05	0.17	0.57	0.02	0.97
Intersection Summary							

2022 No-Build Traffic Volumes  
6: NYS Route 9D & Beekman Street/W. Church Street

Weekday Peak AM Hour

2/27/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	137	4	43	10	11	10	45	415	1	8	460	331
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1844	1844	1995	1956	1995	1919	1919	1957	1835	1835	1872
Adj Flow Rate, veh/h	149	4	47	11	12	11	49	451	1	9	500	360
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	285	6	367	83	89	52	270	1217	3	576	632	455
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	821	28	1568	89	378	223	659	1914	4	921	993	715
Grp Volume(v), veh/h	153	0	47	34	0	0	49	0	452	9	0	860
Grp Sat Flow(s),veh/h/ln	848	0	1568	691	0	0	659	0	1918	921	0	1709
Q Serve(g_s), s	0.0	0.0	1.8	0.2	0.0	0.0	4.5	0.0	8.7	0.4	0.0	28.4
Cycle Q Clear(g_c), s	15.0	0.0	1.8	15.3	0.0	0.0	32.8	0.0	8.7	9.0	0.0	28.4
Prop In Lane	0.97		1.00	0.32		0.32	1.00		0.00	1.00		0.42
Lane Grp Cap(c), veh/h	291	0	367	224	0	0	270	0	1220	576	0	1086
V/C Ratio(X)	0.53	0.00	0.13	0.15	0.00	0.00	0.18	0.00	0.37	0.02	0.00	0.79
Avail Cap(c_a), veh/h	523	0	631	502	0	0	270	0	1220	576	0	1086
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.3	0.0	23.3	23.8	0.0	0.0	22.3	0.0	6.7	8.8	0.0	10.3
Incr Delay (d2), s/veh	1.5	0.0	0.2	0.3	0.0	0.0	1.5	0.0	0.9	0.0	0.0	5.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	0.8	0.6	0.0	0.0	0.9	0.0	4.8	0.1	0.0	14.9
LnGrp Delay(d),s/veh	29.8	0.0	23.4	24.1	0.0	0.0	23.7	0.0	7.5	8.9	0.0	16.2
LnGrp LOS	C		C	C			C		A	A		B
Approach Vol, veh/h	200			34			501			869		
Approach Delay, s/veh	28.3			24.1			9.1			16.1		
Approach LOS	C			C			A			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	54.0			23.1			54.0			23.1		
Change Period (Y+Rc), s	5.0			5.0			5.0			5.0		
Max Green Setting (Gmax), s	49.0			31.0			49.0			31.0		
Max Q Clear Time (g_c+l1), s	34.8			17.0			30.4			17.3		
Green Ext Time (p_c), s	4.4			0.9			4.8			0.9		
Intersection Summary												
HCM 2010 Ctrl Delay	15.6											
HCM 2010 LOS	B											

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
Two Way Analysis cannot be performed on Signalized Intersection.



2022 No-Build Traffic Volumes  
7: NYS Route 9D & Beacon City Hall/Main Street

Weekday Peak AM Hour

2/27/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	14	8	13	18	113	11	338	29	174	313	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-8%			-3%			3%	
Storage Length (ft)	0		0	0		70	0		0	120		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.965				0.850		0.988			0.989	
Flt Protected		0.985			0.980		0.950			0.950		
Satd. Flow (prot)	0	1762	0	0	1899	1647	1796	1868	0	1743	1815	0
Flt Permitted		0.882			0.911		0.542			0.498		
Satd. Flow (perm)	0	1578	0	0	1765	1647	1025	1868	0	914	1815	0
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)		9										7
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		76			138			182			388	
Travel Time (s)		1.7			3.1			4.1			8.8	
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
Adj. Flow (vph)	11	15	9	14	20	123	12	367	32	189	340	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	35	0	0	34	123	12	399	0	189	368	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.95	0.95	0.95	0.98	0.98	0.98	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83		20	83	83	83	6		83	6	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Size(ft)	20	43		20	43	43	43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40			40	40	40			40		
Detector 2 Size(ft)		43			43	43	43			43		
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0			0.0		
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2			6		

2022 No-Build Traffic Volumes  
7: NYS Route 9D & Beacon City Hall/Main Street

Weekday Peak AM Hour

2/27/2017

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8	1	2	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		8.0	8.0	4.0	31.0	31.0		4.0	36.0	
Minimum Split (s)	21.0	21.0		21.0	21.0	9.0	36.0	36.0		9.0	41.0	
Total Split (s)	36.0	36.0		36.0	36.0	13.0	41.0	41.0		13.0	54.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%	14.4%	45.6%	45.6%		14.4%	60.0%	
Maximum Green (s)	31.0	31.0		31.0	31.0	8.0	36.0	36.0		8.0	49.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag						Lag	Lead	Lead		Lag		
Lead-Lag Optimize?						Yes	Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		None	Max	
Walk Time (s)	5.0	5.0					5.0	5.0				
Flash Dont Walk (s)	11.0	11.0					11.0	11.0				
Pedestrian Calls (#/hr)	0	0					0	0				
v/c Ratio		0.19			0.15	0.36	0.02	0.34		0.22	0.23	
Control Delay		23.6			26.8	22.2	6.9	7.8		2.8	2.1	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		23.6			26.8	22.2	6.9	7.8		2.8	2.2	
Queue Length 50th (ft)		8			10	37	1	42		0	0	
Queue Length 95th (ft)		34			37	74	9	148		34	65	
Internal Link Dist (ft)		1			58			102			308	
Turn Bay Length (ft)						70				120		
Base Capacity (vph)		792			882	342	646	1178		875	1619	
Starvation Cap Reductn		0			0	0	0	0		0	157	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.04			0.04	0.36	0.02	0.34		0.22	0.25	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 62.7

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Splits and Phases: 7: NYS Route 9D & Beacon City Hall/Main Street

ø2	ø1	ø4	ø8
41 s	13 s	36 s	36 s
ø6			
54 s			

2022 No-Build Traffic Volumes  
7: NYS Route 9D & Beacon City Hall/Main Street

Weekday Peak AM Hour  
2/27/2017






















Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	35	34	123	12	399	189	368
v/c Ratio	0.19	0.15	0.36	0.02	0.34	0.22	0.23
Control Delay	23.6	26.8	22.2	6.9	7.8	2.8	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.6	26.8	22.2	6.9	7.8	2.8	2.2
Queue Length 50th (ft)	8	10	37	1	42	0	0
Queue Length 95th (ft)	34	37	74	9	148	34	65
Internal Link Dist (ft)	1	58			102		308
Turn Bay Length (ft)			70			120	
Base Capacity (vph)	792	882	342	646	1178	875	1619
Starvation Cap Reductn	0	0	0	0	0	0	157
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.04	0.36	0.02	0.34	0.22	0.25
Intersection Summary							

2022 No-Build Traffic Volumes  
7: NYS Route 9D & Beacon City Hall/Main Street

Weekday Peak AM Hour

2/27/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	10	14	8	13	18	113	11	338	29	174	313	26
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1890	1853	1890	1976	1937	1937	1891	1891	1928	1835	1835	1872
Adj Flow Rate, veh/h	11	15	9	14	20	123	12	367	32	189	340	28
Adj No. of Lanes	0	1	0	0	1	1	1	1	0	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	110	49	131	151	389	591	925	81	688	1228	101
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.54	0.54	0.54	0.12	0.73	0.73
Sat Flow, veh/h	275	944	422	474	1298	1647	1025	1715	150	1747	1673	138
Grp Volume(v), veh/h	35	0	0	34	0	123	12	0	399	189	0	368
Grp Sat Flow(s),veh/h/ln	1641	0	0	1772	0	1647	1025	0	1864	1747	0	1810
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	8.4	0.0	0.0	4.5
Cycle Q Clear(g_c), s	1.2	0.0	0.0	1.1	0.0	0.0	5.0	0.0	8.4	0.0	0.0	4.5
Prop In Lane	0.31		0.26	0.41		1.00	1.00		0.08	1.00		0.08
Lane Grp Cap(c), veh/h	262	0	0	282	0	389	591	0	1005	688	0	1329
V/C Ratio(X)	0.13	0.00	0.00	0.12	0.00	0.32	0.02	0.00	0.40	0.27	0.00	0.28
Avail Cap(c_a), veh/h	798	0	0	872	0	962	591	0	1005	688	0	1329
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.6	0.0	0.0	26.5	0.0	21.0	9.4	0.0	9.0	10.2	0.0	3.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.2	0.0	0.5	0.1	0.0	1.2	0.2	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	0.6	0.0	1.9	0.1	0.0	4.5	2.2	0.0	2.4
LnGrp Delay(d),s/veh	26.8	0.0	0.0	26.7	0.0	21.5	9.5	0.0	10.2	10.4	0.0	3.5
LnGrp LOS	C			C		C	A		B	B		A
Approach Vol, veh/h		35			157			411			557	
Approach Delay, s/veh		26.8			22.6			10.2			5.8	
Approach LOS		C			C			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	13.0	41.0		12.8		54.0		12.8				
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s	8.0	36.0		31.0		49.0		31.0				
Max Q Clear Time (g_c+l1), s	2.0	10.4		3.2		6.5		3.1				
Green Ext Time (p_c), s	1.1	1.1		1.0		2.0		1.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			10.3									
HCM 2010 LOS			B									

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

Two Way Analysis cannot be performed on Signalized Intersection.



2022 No-Build Traffic Volumes  
8: Bank Street & Branch Street

Weekday Peak AM Hour

2/27/2017

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	0	0	7	44	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	10%			10%	-10%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frnt						
Flt Protected						
Satd. Flow (prot)	1805	0	0	1805	1937	0
Flt Permitted						
Satd. Flow (perm)	1805	0	0	1805	1937	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	206			200	796	
Travel Time (s)	4.7			4.5	18.1	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	0%	0%	3%	0%
Adj. Flow (vph)	0	0	0	9	54	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	9	54	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	0.94	0.94
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					

2022 No-Build Traffic Volumes  
8: Bank Street & Branch Street

Weekday Peak AM Hour










2/27/2017

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	0	7	44	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	10	-	-	10	-10	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	3	0
Mvmt Flow	0	0	0	9	54	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	63	54	54	0	-	0
Stage 1	54	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	8.4	7.2	4.1	-	-	-
Critical Hdwy Stg 1	7.4	-	-	-	-	-
Critical Hdwy Stg 2	7.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	915	1004	1564	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	1014	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	915	1004	1564	-	-	-
Mov Cap-2 Maneuver	915	-	-	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	1014	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1564	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

2022 No-Build Traffic Volumes  
 9: Site Access & Tompkins Avenue /Tompkins Avenue

Weekday Peak AM Hour

2/27/2017

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	40	0	0	41	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	3%			-5%	0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frnt						
Flt Protected						
Satd. Flow (prot)	1817	0	0	1837	1900	0
Flt Permitted						
Satd. Flow (perm)	1817	0	0	1837	1900	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	160			236	134	
Travel Time (s)	3.6			5.4	3.0	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	3%	0%	5%	6%	0%	3%
Adj. Flow (vph)	49	0	0	50	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	49	0	0	50	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	0.97	0.97	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					

2022 No-Build Traffic Volumes  
 9: Site Access & Tompkins Avenue /Tompkins Avenue

Weekday Peak AM Hour  
 2/27/2017

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	40	0	0	41	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-5	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	3	0	5	6	0	3
Mvmt Flow	49	0	0	50	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	49	0	99	49
Stage 1	-	-	-	-	49	-
Stage 2	-	-	-	-	50	-
Critical Hdwy	-	-	4.15	-	6.4	6.23
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.245	-	3.5	3.327
Pot Cap-1 Maneuver	-	-	1539	-	905	1017
Stage 1	-	-	-	-	979	-
Stage 2	-	-	-	-	978	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1539	-	905	1017
Mov Cap-2 Maneuver	-	-	-	-	905	-
Stage 1	-	-	-	-	979	-
Stage 2	-	-	-	-	978	-



















Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1539	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

2022 No-Build Traffic Volumes  
1: NYS Route 9D & Tompkins Avenue/Ralph Street

Weekday Peak PM Hour

2/20/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	6	28	7	3	10	11	802	3	3	658	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			-1%			0%				-5%
Storage Length (ft)	0		0	0		0	120		0	120		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.931			0.929			0.999			0.988	
Flt Protected		0.981			0.984		0.950			0.950		
Satd. Flow (prot)	0	1726	0	0	1650	0	1641	1825	0	1850	1886	0
Flt Permitted		0.981			0.984		0.950			0.950		
Satd. Flow (perm)	0	1726	0	0	1650	0	1641	1825	0	1850	1886	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		833			226			335			948	
Travel Time (s)		18.9			5.1			7.6			21.5	
Confl. Peds. (#/hr)	2		3	2		3	5			5		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	4%	0%	0%	11%	10%	4%	0%	0%	2%	2%
Adj. Flow (vph)	22	6	29	7	3	11	12	844	3	3	693	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	57	0	0	21	0	12	847	0	3	752	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	0.98	0.98	0.98	0.99	0.99	0.99	1.00	1.00	1.00	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											



2022 No-Build Traffic Volumes  
1: NYS Route 9D & Tompkins Avenue/Ralph Street










Weekday Peak PM Hour  
2/20/2017

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	21	6	28	7	3	10	11	802	3	3	658	56
Conflicting Peds, #/hr	2	0	3	2	0	3	5	0	0	5	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	120	-	-	120	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	-3	-	-	-1	-	-	0	-	-	-5	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	4	0	0	11	10	4	0	0	2	2
Mvmt Flow	22	6	29	7	3	11	12	844	3	3	693	59
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1610	1605	730	1621	1633	854	755	0	0	850	0	0
Stage 1	731	731	-	872	872	-	-	-	-	-	-	-
Stage 2	879	874	-	749	761	-	-	-	-	-	-	-
Critical Hdwy	6.5	5.9	5.94	6.9	6.3	6.21	4.2	-	-	4.1	-	-
Critical Hdwy Stg 1	5.5	4.9	-	5.9	5.3	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.5	4.9	-	5.9	5.3	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.336	3.5	4	3.399	2.29	-	-	2.2	-	-
Pot Cap-1 Maneuver	111	139	445	91	112	354	820	-	-	797	-	-
Stage 1	470	486	-	365	389	-	-	-	-	-	-	-
Stage 2	399	428	-	424	435	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	104	136	442	82	109	352	817	-	-	794	-	-
Mov Cap-2 Maneuver	235	266	-	205	232	-	-	-	-	-	-	-
Stage 1	462	483	-	359	382	-	-	-	-	-	-	-
Stage 2	377	421	-	387	432	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	19			19.8			0.1			0		
HCM LOS	C			C								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	817	-	-	314	265	794	-	-				
HCM Lane V/C Ratio	0.014	-	-	0.184	0.079	0.004	-	-				
HCM Control Delay (s)	9.5	-	-	19	19.8	9.6	-	-				
HCM Lane LOS	A	-	-	C	C	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.7	0.3	0	-	-				

2022 No-Build Traffic Volumes  
2: Bank Street & Tompkins Avenue

Weekday Peak PM Hour

2/20/2017

















						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	46	1	15	55	1	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			1%	7%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.997				0.878	
Flt Protected				0.989	0.995	
Satd. Flow (prot)	1913	0	0	1789	1602	0
Flt Permitted				0.989	0.995	
Satd. Flow (perm)	1913	0	0	1789	1602	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	236			833	796	
Travel Time (s)	5.4			18.9	18.1	
Confl. Peds. (#/hr)						3
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	10%	3%	0%	0%
Adj. Flow (vph)	51	1	17	61	1	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	52	0	0	78	10	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	1.01	1.01	1.05	1.05
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					

2022 No-Build Traffic Volumes  
2: Bank Street & Tompkins Avenue

Weekday Peak PM Hour

2/20/2017

Intersection						
Int Delay, s/veh	1.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	46	1	15	55	1	8
Conflicting Peds, #/hr	0	0	0	0	0	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-2	-	-	1	7	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	10	3	0	0
Mvmt Flow	51	1	17	61	1	9
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	55	0	149	55
Stage 1	-	-	-	-	55	-
Stage 2	-	-	-	-	94	-
Critical Hdwy	-	-	4.2	-	7.8	6.9
Critical Hdwy Stg 1	-	-	-	-	6.8	-
Critical Hdwy Stg 2	-	-	-	-	6.8	-
Follow-up Hdwy	-	-	2.29	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1500	-	800	1007
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	901	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1500	-	788	1004
Mov Cap-2 Maneuver	-	-	-	-	788	-
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	890	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.6		8.7	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	974	-	-	1500	-	
HCM Lane V/C Ratio	0.01	-	-	0.011	-	
HCM Control Delay (s)	8.7	-	-	7.4	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0	-	-	0	-	

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	30	0	2	0	3	11	9	332	5	21	64	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		5%			0%			-1%			-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.892			0.999			0.933	
Flt Protected		0.955						0.999			0.996	
Satd. Flow (prot)	0	1753	0	0	1662	0	0	1875	0	0	1715	0
Flt Permitted		0.955						0.999			0.996	
Satd. Flow (perm)	0	1753	0	0	1662	0	0	1875	0	0	1715	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		640			162			321			353	
Travel Time (s)		14.5			3.7			7.3			8.0	
Peak Hour Factor	0.53	0.92	0.53	0.92	0.92	0.92	0.53	0.53	0.92	0.92	0.53	0.53
Heavy Vehicles (%)	0%	2%	0%	2%	2%	2%	25%	1%	2%	2%	2%	6%
Adj. Flow (vph)	57	0	4	0	3	12	17	626	5	23	121	140
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	61	0	0	15	0	0	648	0	0	284	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.03	1.03	1.03	1.00	1.00	1.00	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

**Intersection Summary**

Area Type: Other

Control Type: Unsignalized

**Intersection**

Int Delay, s/veh 2.4

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Vol, veh/h	30	0	2	0	3	11	9	332	5	21	64	74
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	5	-	-	0	-	-	-1	-	-	-2	-
Peak Hour Factor	53	92	53	92	92	92	53	53	92	92	53	53
Heavy Vehicles, %	0	2	0	2	2	2	25	1	2	2	2	6
Mvmt Flow	57	0	4	0	3	12	17	626	5	23	121	140

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	907	902	191	901	969	629	260	0	0	632	0	0
Stage 1	236	236	-	663	663	-	-	-	-	-	-	-
Stage 2	671	666	-	238	306	-	-	-	-	-	-	-
Critical Hdwy	8.1	7.52	6.7	7.12	6.52	6.22	4.35	-	-	4.12	-	-
Critical Hdwy Stg 1	7.1	6.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.1	6.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.018	3.3	3.518	4.018	3.318	2.425	-	-	2.218	-	-
Pot Cap-1 Maneuver	201	216	833	259	254	482	1182	-	-	951	-	-
Stage 1	723	665	-	450	459	-	-	-	-	-	-	-
Stage 2	373	380	-	765	662	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	187	205	833	248	241	482	1182	-	-	951	-	-
Mov Cap-2 Maneuver	187	205	-	248	241	-	-	-	-	-	-	-
Stage 1	707	646	-	440	449	-	-	-	-	-	-	-
Stage 2	353	372	-	739	643	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	31.2	14.4	0.2	0.7
HCM LOS	D	B		

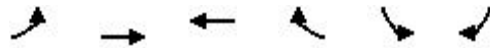
Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1182	-	-	397	197	951	-
HCM Lane V/C Ratio	0.014	-	-	0.038	0.306	0.024	-
HCM Control Delay (s)	8.1	0	-	14.4	31.2	8.9	0
HCM Lane LOS	A	A	-	B	D	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	1.2	0.1	-



2022 No-Build Traffic Volumes  
4: W. Main Street & Bank Street

Weekday Peak PM Hour

2/20/2017



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	3	31	82	4	1	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		3%	-5%		-8%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.994		0.872	
Flt Protected		0.995			0.998	
Satd. Flow (prot)	0	1862	1767	0	1720	0
Flt Permitted		0.995			0.998	
Satd. Flow (perm)	0	1862	1767	0	1720	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		264	640		200	
Travel Time (s)		6.0	14.5		4.5	
Confl. Peds. (#/hr)	15					
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	10%	0%	0%	0%
Adj. Flow (vph)	4	39	103	5	1	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	43	107	0	20	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	0.97	0.97	0.95	0.95
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

2022 No-Build Traffic Volumes  
4: W. Main Street & Bank Street

Weekday Peak PM Hour  
2/20/2017

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	3	31	82	4	1	15
Conflicting Peds, #/hr	15	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	3	-5	-	-8	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	10	0	0	0
Mvmt Flow	4	39	102	5	1	19

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	108	0	151
Stage 1	-	-	105
Stage 2	-	-	46
Critical Hdwy	4.1	-	4.8
Critical Hdwy Stg 1	-	-	3.8
Critical Hdwy Stg 2	-	-	3.8
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1495	-	904
Stage 1	-	-	968
Stage 2	-	-	1002
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1476	-	901
Mov Cap-2 Maneuver	-	-	901
Stage 1	-	-	968
Stage 2	-	-	999







Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1476	-	-	-	947
HCM Lane V/C Ratio	0.003	-	-	-	0.021
HCM Control Delay (s)	7.4	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

2022 No-Build Traffic Volumes  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak PM Hour

2/20/2017

						
Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	44	278	765	68	217	673
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	5%		3%			-1%
Storage Length (ft)	90	0		0	215	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.989			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1725	1544	1815	0	1778	1872
Flt Permitted	0.950				0.075	
Satd. Flow (perm)	1725	1544	1815	0	140	1872
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		30			30
Link Distance (ft)	207		948			167
Travel Time (s)	4.7		21.5			3.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	302	832	74	236	732
Shared Lane Traffic (%)						
Lane Group Flow (vph)	48	302	906	0	236	732
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			
Headway Factor	1.03	1.03	1.02	1.02	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Minimum Split (s)	21.0	21.0	62.0		9.0	45.0
Total Split (s)	35.0	35.0	71.0		14.0	75.0
Total Split (%)	29.2%	29.2%	59.2%		11.7%	62.5%
Maximum Green (s)	30.0	30.0	66.0		9.0	70.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Walk Time (s)	5.0	5.0	5.0			
Flash Dont Walk (s)	11.0	11.0	11.0			
Pedestrian Calls (#/hr)	0	0	0			
v/c Ratio	0.11	0.78	0.91		1.09	0.59
Control Delay	35.7	57.5	38.7		114.2	13.3
Queue Delay	0.0	0.0	0.0		0.0	0.0

2022 No-Build Traffic Volumes  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak PM Hour

2/20/2017



Lane Group	NWL	NWR	NET	NER	SWL	SWT
Total Delay	35.7	57.5	38.7		114.2	13.3
Queue Length 50th (ft)	29	219	604		~138	284
Queue Length 95th (ft)	61	#355	#902		#303	391
Internal Link Dist (ft)	127		868			87
Turn Bay Length (ft)	90				215	
Base Capacity (vph)	431	386	998		216	1248
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.11	0.78	0.91		1.09	0.59

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 95

Control Type: Pretimed

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: NYS Route 9D & Verplanck Avenue



2022 No-Build Traffic Volumes  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak PM Hour  
2/20/2017



Lane Group	NWL	NWR	NET	SWL	SWT
Lane Group Flow (vph)	48	302	906	236	732
v/c Ratio	0.11	0.78	0.91	1.09	0.59
Control Delay	35.7	57.5	38.7	114.2	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	35.7	57.5	38.7	114.2	13.3
Queue Length 50th (ft)	29	219	604	~138	284
Queue Length 95th (ft)	61	#355	#902	#303	391
Internal Link Dist (ft)	127		868		87
Turn Bay Length (ft)	90			215	
Base Capacity (vph)	431	386	998	216	1248
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.11	0.78	0.91	1.09	0.59












Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.



2022 No-Build Traffic Volumes  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak PM Hour  
2/20/2017

								
Movement	NWL	NWR	NET	NER	SWL	SWT		
Lane Configurations								
Volume (veh/h)	44	278	765	68	217	673		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1816	1816	1835	1872	1872	1872		
Adj Flow Rate, veh/h	48	302	832	74	236	732		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	432	386	914	81	254	1248		
Arrive On Green	0.25	0.25	0.55	0.55	0.08	0.67		
Sat Flow, veh/h	1730	1544	1661	148	1783	1872		
Grp Volume(v), veh/h	48	302	0	906	236	732		
Grp Sat Flow(s),veh/h/ln	1730	1544	0	1809	1783	1872		
Q Serve(g_s), s	2.6	21.9	0.0	54.2	7.6	25.7		
Cycle Q Clear(g_c), s	2.6	21.9	0.0	54.2	7.6	25.7		
Prop In Lane	1.00	1.00		0.08	1.00			
Lane Grp Cap(c), veh/h	432	386	0	995	254	1248		
V/C Ratio(X)	0.11	0.78	0.00	0.91	0.93	0.59		
Avail Cap(c_a), veh/h	432	386	0	995	254	1248		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	34.7	42.0	0.0	24.3	29.4	10.9		
Incr Delay (d2), s/veh	0.5	14.6	0.0	13.8	40.5	2.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.3	10.9	0.0	30.7	10.6	13.9		
LnGrp Delay(d),s/veh	35.2	56.6	0.0	38.1	69.9	13.0		
LnGrp LOS	D	E		D	E	B		
Approach Vol, veh/h	350		906			968		
Approach Delay, s/veh	53.6		38.1			26.9		
Approach LOS	D		D			C		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	14.0	71.0				85.0		35.0
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0
Max Green Setting (Gmax), s	9.0	66.0				70.0		30.0
Max Q Clear Time (g_c+l1), s	0.0	0.0				0.0		0.0
Green Ext Time (p_c), s	0.0	0.0				0.0		0.0
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			35.7					
HCM 2010 LOS			D					




















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Two Way Analysis cannot be performed on Signalized Intersection.

2022 No-Build Traffic Volumes  
6: NYS Route 9D & Beekman Street/W. Church Street

Weekday Peak PM Hour













2/20/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	332	7	47	8	2	8	57	485	9	6	544	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-10%			-6%			3%	
Storage Length (ft)	0		95	0		0	80		0	85		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.939			0.997			0.969	
Flt Protected		0.953			0.978		0.950			0.950		
Satd. Flow (prot)	0	1757	1567	0	1796	0	1823	1913	0	1743	1778	0
Flt Permitted		0.716			0.857		0.194			0.348		
Satd. Flow (perm)	0	1320	1567	0	1574	0	372	1913	0	639	1778	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			46		9			1			20	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		273			158			388			335	
Travel Time (s)		6.2			3.6			8.8			7.6	
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
Adj. Flow (vph)	361	8	51	9	2	9	62	527	10	7	591	155
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	369	51	0	20	0	62	537	0	7	746	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.01	1.01	1.01	0.94	0.94	0.94	0.96	0.96	0.96	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	2	1	2		2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83	83	20	83		83	6		83	6	
Trailing Detector (ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Position(ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Size(ft)	20	43	43	20	43		43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40	40		40		40			40		
Detector 2 Size(ft)		43	43		43		43			43		
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0		0.0			0.0		
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		

2022 No-Build Traffic Volumes  
6: NYS Route 9D & Beekman Street/W. Church Street

Weekday Peak PM Hour

2/20/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		42.0	42.0		42.0	42.0	
Minimum Split (s)	20.0	20.0	20.0	21.0	21.0		47.0	47.0		47.0	47.0	
Total Split (s)	43.0	43.0	43.0	43.0	43.0		47.0	47.0		47.0	47.0	
Total Split (%)	47.8%	47.8%	47.8%	47.8%	47.8%		52.2%	52.2%		52.2%	52.2%	
Maximum Green (s)	38.0	38.0	38.0	38.0	38.0		42.0	42.0		42.0	42.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Walk Time (s)				5.0	5.0							
Flash Dont Walk (s)				11.0	11.0							
Pedestrian Calls (#/hr)				0	0							
v/c Ratio		0.83	0.09		0.04		0.31	0.52		0.02	0.78	
Control Delay		40.5	6.3		11.8		18.9	15.9		12.2	23.6	
Queue Delay		0.0	0.0		0.0		0.0	1.7		0.0	0.0	
Total Delay		40.5	6.3		11.8		18.9	17.6		12.2	23.6	
Queue Length 50th (ft)		164	2		4		16	159		2	266	
Queue Length 95th (ft)		268	22		17		58	322		10	#601	
Internal Link Dist (ft)		193			78			308			255	
Turn Bay Length (ft)			95				80			85		
Base Capacity (vph)		639	783		767		199	1025		342	962	
Starvation Cap Reductn		0	0		0		0	312		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.58	0.07		0.03		0.31	0.75		0.02	0.78	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 79.2

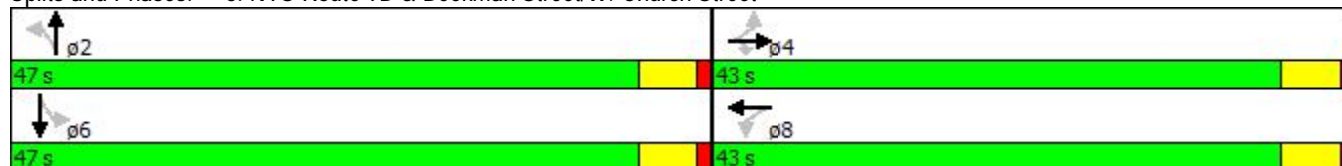
Natural Cycle: 75

Control Type: Semi Act-Uncoord

# 95th percentile volume exceeds capacity, queue may be longer.








Queue shown is maximum after two cycles.

Splits and Phases: 6: NYS Route 9D & Beekman Street/W. Church Street



2022 No-Build Traffic Volumes  
6: NYS Route 9D & Beekman Street/W. Church Street

Weekday Peak PM Hour  
2/20/2017

							
Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	369	51	20	62	537	7	746
v/c Ratio	0.83	0.09	0.04	0.31	0.52	0.02	0.78
Control Delay	40.5	6.3	11.8	18.9	15.9	12.2	23.6
Queue Delay	0.0	0.0	0.0	0.0	1.7	0.0	0.0
Total Delay	40.5	6.3	11.8	18.9	17.6	12.2	23.6
Queue Length 50th (ft)	164	2	4	16	159	2	266
Queue Length 95th (ft)	268	22	17	58	322	10	#601
Internal Link Dist (ft)	193		78		308		255
Turn Bay Length (ft)		95		80		85	
Base Capacity (vph)	639	783	767	199	1025	342	962
Starvation Cap Reductn	0	0	0	0	312	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.07	0.03	0.31	0.75	0.02	0.78

Intersection Summary




















# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.



2022 No-Build Traffic Volumes  
6: NYS Route 9D & Beekman Street/W. Church Street

Weekday Peak PM Hour

2/20/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	332	7	47	8	2	8	57	485	9	6	544	143
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1844	1844	1995	1956	1995	1919	1919	1957	1835	1835	1872
Adj Flow Rate, veh/h	361	8	51	9	2	9	62	527	10	7	591	155
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	427	8	662	58	27	22	137	876	17	300	654	172
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.47	0.47	0.47	0.47	0.47	0.47
Sat Flow, veh/h	823	18	1568	0	64	52	733	1877	36	851	1402	368
Grp Volume(v), veh/h	369	0	51	20	0	0	62	0	537	7	0	746
Grp Sat Flow(s),veh/h/ln	841	0	1568	117	0	0	733	0	1912	851	0	1770
Q Serve(g_s), s	0.0	0.0	1.7	0.0	0.0	0.0	7.0	0.0	18.7	0.6	0.0	35.0
Cycle Q Clear(g_c), s	38.0	0.0	1.7	38.0	0.0	0.0	42.0	0.0	18.7	19.3	0.0	35.0
Prop In Lane	0.98		1.00	0.45		0.45	1.00		0.02	1.00		0.21
Lane Grp Cap(c), veh/h	434	0	662	107	0	0	137	0	892	300	0	826
V/C Ratio(X)	0.85	0.00	0.08	0.19	0.00	0.00	0.45	0.00	0.60	0.02	0.00	0.90
Avail Cap(c_a), veh/h	434	0	662	107	0	0	137	0	892	300	0	826
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.7	0.0	15.5	22.2	0.0	0.0	41.8	0.0	17.8	25.0	0.0	22.1
Incr Delay (d2), s/veh	14.7	0.0	0.0	0.8	0.0	0.0	10.4	0.0	3.0	0.1	0.0	15.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.9	0.0	0.8	0.3	0.0	0.0	1.9	0.0	10.6	0.1	0.0	20.5
LnGrp Delay(d),s/veh	41.4	0.0	15.6	23.0	0.0	0.0	52.1	0.0	20.8	25.1	0.0	37.2
LnGrp LOS	D		B	C			D		C	C		D
Approach Vol, veh/h		420			20			599			753	
Approach Delay, s/veh		38.3			23.0			24.0			37.1	
Approach LOS		D			C			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		47.0		43.0		47.0		43.0				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		42.0		38.0		42.0		38.0				
Max Q Clear Time (g_c+l1), s		44.0		40.0		37.0		40.0				
Green Ext Time (p_c), s		0.0		0.0		2.3		0.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			32.9									
HCM 2010 LOS			C									




















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Two Way Analysis cannot be performed on Signalized Intersection.

2022 No-Build Traffic Volumes  
7: NYS Route 9D & Beacon City Hall/Main Street

Weekday Peak PM Hour

2/20/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	9	4	19	3	184	0	361	32	271	328	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-8%			-3%			3%	
Storage Length (ft)	0		0	0		70	0		0	120		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.974				0.850		0.988				
Flt Protected		0.984			0.958					0.950		
Satd. Flow (prot)	0	1776	0	0	1856	1647	1891	1868	0	1743	1835	0
Flt Permitted										0.483		
Satd. Flow (perm)	0	1805	0	0	1937	1647	1891	1868	0	886	1835	0
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)		4										
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		76			138			182			388	
Travel Time (s)		1.7			3.1			4.1			8.8	
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
Adj. Flow (vph)	7	10	4	21	3	200	0	392	35	295	357	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	0	0	24	200	0	427	0	295	358	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.95	0.95	0.95	0.98	0.98	0.98	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83		20	83	83	83	6		83	6	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Size(ft)	20	43		20	43	43	43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40			40	40	40			40		
Detector 2 Size(ft)		43			43	43	43			43		
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0			0.0		
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2			6		

2022 No-Build Traffic Volumes  
7: NYS Route 9D & Beacon City Hall/Main Street

Weekday Peak PM Hour

2/20/2017

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8	1	2	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		8.0	8.0	4.0	31.0	31.0		4.0	36.0	
Minimum Split (s)	21.0	21.0		21.0	21.0	9.0	36.0	36.0		9.0	41.0	
Total Split (s)	36.0	36.0		36.0	36.0	13.0	41.0	41.0		13.0	54.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%	14.4%	45.6%	45.6%		14.4%	60.0%	
Maximum Green (s)	31.0	31.0		31.0	31.0	8.0	36.0	36.0		8.0	49.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag						Lag	Lead	Lead		Lag		
Lead-Lag Optimize?						Yes	Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		None	Max	
Walk Time (s)	5.0	5.0					5.0	5.0				
Flash Dont Walk (s)	11.0	11.0					11.0	11.0				
Pedestrian Calls (#/hr)	0	0					0	0				
v/c Ratio		0.11			0.09	0.69		0.35		0.33	0.21	
Control Delay		22.6			24.0	35.1		6.6		2.8	1.3	
Queue Delay		0.0			0.0	0.0		0.0		0.0	0.0	
Total Delay		22.6			24.0	35.1		6.6		2.8	1.3	
Queue Length 50th (ft)		5			7	63		46		0	0	
Queue Length 95th (ft)		24			29	116		157		51	62	
Internal Link Dist (ft)		1			58			102			308	
Turn Bay Length (ft)						70				120		
Base Capacity (vph)		960			1028	290		1219		892	1736	
Starvation Cap Reductn		0			0	0		0		0	164	
Spillback Cap Reductn		0			0	0		0		0	0	
Storage Cap Reductn		0			0	0		0		0	0	
Reduced v/c Ratio		0.02			0.02	0.69		0.35		0.33	0.23	

Intersection Summary

Area Type: Other

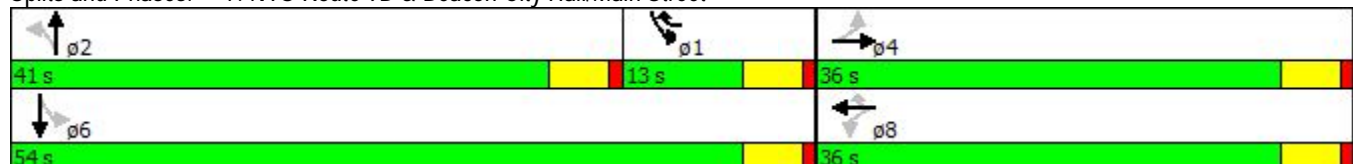
Cycle Length: 90

Actuated Cycle Length: 58.8

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Splits and Phases: 7: NYS Route 9D & Beacon City Hall/Main Street



2022 No-Build Traffic Volumes  
7: NYS Route 9D & Beacon City Hall/Main Street

Weekday Peak PM Hour  
2/20/2017






















Lane Group	EBT	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	21	24	200	427	295	358
v/c Ratio	0.11	0.09	0.69	0.35	0.33	0.21
Control Delay	22.6	24.0	35.1	6.6	2.8	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.6	24.0	35.1	6.6	2.8	1.3
Queue Length 50th (ft)	5	7	63	46	0	0
Queue Length 95th (ft)	24	29	116	157	51	62
Internal Link Dist (ft)	1	58		102		308
Turn Bay Length (ft)			70		120	
Base Capacity (vph)	960	1028	290	1219	892	1736
Starvation Cap Reductn	0	0	0	0	0	164
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.02	0.69	0.35	0.33	0.23
Intersection Summary						



2022 No-Build Traffic Volumes  
7: NYS Route 9D & Beacon City Hall/Main Street

Weekday Peak PM Hour

2/20/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	9	4	19	3	184	0	361	32	271	328	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1890	1853	1890	1976	1937	1937	1891	1891	1928	1835	1835	1872
Adj Flow Rate, veh/h	7	10	4	21	3	200	0	392	35	295	357	1
Adj No. of Lanes	0	1	0	0	1	1	1	1	0	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	107	120	37	252	30	392	108	920	82	666	1339	4
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.00	0.54	0.54	0.12	0.73	0.73
Sat Flow, veh/h	300	1014	309	1279	253	1647	1035	1711	153	1747	1829	5
Grp Volume(v), veh/h	21	0	0	24	0	200	0	0	427	295	0	358
Grp Sat Flow(s),veh/h/ln	1623	0	0	1532	0	1647	1035	0	1864	1747	0	1834
Q Serve(g_s), s	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	9.2	0.0	0.0	4.3
Cycle Q Clear(g_c), s	0.7	0.0	0.0	0.8	0.0	0.0	0.0	0.0	9.2	0.0	0.0	4.3
Prop In Lane	0.33		0.19	0.87		1.00	1.00		0.08	1.00		0.00
Lane Grp Cap(c), veh/h	264	0	0	282	0	392	108	0	1003	666	0	1343
V/C Ratio(X)	0.08	0.00	0.00	0.09	0.00	0.51	0.00	0.00	0.43	0.44	0.00	0.27
Avail Cap(c_a), veh/h	784	0	0	798	0	960	108	0	1003	666	0	1343
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.3	0.0	0.0	26.3	0.0	22.1	0.0	0.0	9.3	12.7	0.0	3.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	1.0	0.0	0.0	1.3	0.5	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.4	0.0	3.3	0.0	0.0	5.0	4.1	0.0	2.4
LnGrp Delay(d),s/veh	26.4	0.0	0.0	26.5	0.0	23.2	0.0	0.0	10.6	13.1	0.0	3.5
LnGrp LOS	C			C		C			B	B		A
Approach Vol, veh/h		21			224			427			653	
Approach Delay, s/veh		26.4			23.5			10.6			7.8	
Approach LOS		C			C			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	13.0	41.0		12.9		54.0		12.9				
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s	8.0	36.0		31.0		49.0		31.0				
Max Q Clear Time (g_c+l1), s	2.0	11.2		2.7		6.3		2.8				
Green Ext Time (p_c), s	1.4	1.1		1.4		2.6		1.4				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			11.7									
HCM 2010 LOS			B									










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Two Way Analysis cannot be performed on Signalized Intersection.

2022 No-Build Traffic Volumes  
8: Bank Street & Branch Street

Weekday Peak PM Hour

2/20/2017

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	0	0	8	17	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	10%			10%	-10%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frnt						
Flt Protected						
Satd. Flow (prot)	1805	0	0	1805	1995	0
Flt Permitted						
Satd. Flow (perm)	1805	0	0	1805	1995	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	206			200	796	
Travel Time (s)	4.7			4.5	18.1	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	0	0	10	21	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	10	21	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	0.94	0.94
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					

2022 No-Build Traffic Volumes  
8: Bank Street & Branch Street

Weekday Peak PM Hour










2/20/2017

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	0	8	17	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	10	-	-	10	-10	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	0	10	21	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	31	21	21	0	-	0
Stage 1	21	-	-	-	-	-
Stage 2	10	-	-	-	-	-
Critical Hdwy	8.4	7.2	4.1	-	-	-
Critical Hdwy Stg 1	7.4	-	-	-	-	-
Critical Hdwy Stg 2	7.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	971	1056	1608	-	-	-
Stage 1	995	-	-	-	-	-
Stage 2	1013	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	971	1056	1608	-	-	-
Mov Cap-2 Maneuver	971	-	-	-	-	-
Stage 1	995	-	-	-	-	-
Stage 2	1013	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1608	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

2022 No-Build Traffic Volumes  
 9: Site Access & Tompkins Avenue /Tompkins Avenue

Weekday Peak PM Hour

2/20/2017

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	47	0	0	70	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	3%			-5%	0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frnt						
Flt Protected						
Satd. Flow (prot)	1872	0	0	1909	1900	0
Flt Permitted						
Satd. Flow (perm)	1872	0	0	1909	1900	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	160			236	134	
Travel Time (s)	3.6			5.4	3.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	1%	2%	0%	0%
Adj. Flow (vph)	52	0	0	78	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	52	0	0	78	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	0.97	0.97	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					



2022 No-Build Traffic Volumes  
 9: Site Access & Tompkins Avenue /Tompkins Avenue

Weekday Peak PM Hour  
 2/20/2017

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	47	0	0	70	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-5	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	1	2	0	0
Mvmt Flow	52	0	0	78	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	52	0	130	52
Stage 1	-	-	-	-	52	-
Stage 2	-	-	-	-	78	-
Critical Hdwy	-	-	4.11	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.209	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1560	-	869	1021
Stage 1	-	-	-	-	976	-
Stage 2	-	-	-	-	950	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1560	-	869	1021
Mov Cap-2 Maneuver	-	-	-	-	869	-
Stage 1	-	-	-	-	976	-
Stage 2	-	-	-	-	950	-




















Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1560	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

2022 Build Traffic Volumes  
1: NYS Route 9D & Tompkins Avenue/Ralph Street

Weekday Peak AM Hour

2/20/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	81	9	21	1	4	4	13	551	0	0	787	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			-1%			0%				-5%
Storage Length (ft)	0		0	0		0	120		0	120		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.974			0.939						0.986	
Flt Protected		0.965			0.995		0.950					
Satd. Flow (prot)	0	1813	0	0	1784	0	1543	1810	0	1947	1826	0
Flt Permitted		0.965			0.995		0.950					
Satd. Flow (perm)	0	1813	0	0	1784	0	1543	1810	0	1947	1826	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		833			226			335			948	
Travel Time (s)		18.9			5.1			7.6			21.5	
Confl. Peds. (#/hr)	3			3			2			2		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	17%	5%	0%	0%	5%	7%
Adj. Flow (vph)	93	10	24	1	5	5	15	633	0	0	905	93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	127	0	0	11	0	15	633	0	0	998	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	0.98	0.98	0.98	0.99	0.99	0.99	1.00	1.00	1.00	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

2022 Build Traffic Volumes  
1: NYS Route 9D & Tompkins Avenue/Ralph Street

Weekday Peak AM Hour  
2/20/2017

Intersection												
Int Delay, s/veh	2.6											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	81	9	21	1	4	4	13	551	0	0	787	81
Conflicting Peds, #/hr	3	0	0	3	0	0	2	0	0	2	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	120	-	-	120	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	-3	-	-	-1	-	-	0	-	-	-5	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	17	5	0	0	5	7
Mvmt Flow	93	10	24	1	5	5	15	633	0	0	905	93

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1625	1620	956	1637	1667	638	1001	0	0	636	0	0
Stage 1	954	954	-	666	666	-	-	-	-	-	-	-
Stage 2	671	666	-	971	1001	-	-	-	-	-	-	-
Critical Hdwy	6.5	5.9	5.9	6.9	6.3	6.1	4.27	-	-	4.1	-	-
Critical Hdwy Stg 1	5.5	4.9	-	5.9	5.3	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.5	4.9	-	5.9	5.3	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.353	-	-	2.2	-	-
Pot Cap-1 Maneuver	109	136	342	89	107	489	636	-	-	957	-	-
Stage 1	367	398	-	469	478	-	-	-	-	-	-	-
Stage 2	502	514	-	324	342	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	104	132	341	78	104	487	635	-	-	955	-	-
Mov Cap-2 Maneuver	233	261	-	191	221	-	-	-	-	-	-	-
Stage 1	357	397	-	457	466	-	-	-	-	-	-	-
Stage 2	480	501	-	293	341	-	-	-	-	-	-	-










Approach	EB	WB	NB	SB
HCM Control Delay, s	33.5	18.1	0.2	0
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	635	-	-	250	285	955	-
HCM Lane V/C Ratio	0.024	-	-	0.51	0.036	-	-
HCM Control Delay (s)	10.8	-	-	33.5	18.1	0	-
HCM Lane LOS	B	-	-	D	C	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.7	0.1	0	-

2022 Build Traffic Volumes  
2: Bank Street & Tompkins Avenue

Weekday Peak AM Hour

2/20/2017

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	95	2	42	30	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			1%	7%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.998				0.865	
Flt Protected				0.972		
Satd. Flow (prot)	1808	0	0	1756	1586	0
Flt Permitted				0.972		
Satd. Flow (perm)	1808	0	0	1756	1586	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	236			833	796	
Travel Time (s)	5.4			18.9	18.1	
Confl. Peds. (#/hr)			2			1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	6%	0%	0%	11%	0%	0%
Adj. Flow (vph)	116	2	51	37	0	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	118	0	0	88	5	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	1.01	1.01	1.05	1.05
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					

2022 Build Traffic Volumes  
2: Bank Street & Tompkins Avenue

Weekday Peak AM Hour  
2/20/2017

Intersection

Int Delay, s/veh 2

















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	95	2	42	30	0	4
Conflicting Peds, #/hr	0	0	2	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-2	-	-	1	7	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	6	0	0	11	0	0
Mvmt Flow	116	2	51	37	0	5

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	119
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1482
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1480
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.4	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	913	-	-	1480	-
HCM Lane V/C Ratio	0.005	-	-	0.035	-
HCM Control Delay (s)	9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	-



												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	20	0	2	0	4	15	14	160	1	4	182	353
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		5%			0%			-1%			-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.990			0.892			0.999			0.911	
Flt Protected		0.956						0.996				
Satd. Flow (prot)	0	1753	0	0	1662	0	0	1728	0	0	1731	0
Flt Permitted		0.956						0.996				
Satd. Flow (perm)	0	1753	0	0	1662	0	0	1728	0	0	1731	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		640			137			321			353	
Travel Time (s)		14.5			3.1			7.3			8.0	
Confl. Peds. (#/hr)							1					
Peak Hour Factor	0.83	0.92	0.83	0.92	0.92	0.92	0.83	0.83	0.92	0.92	0.83	0.83
Heavy Vehicles (%)	0%	2%	0%	2%	2%	2%	67%	5%	2%	2%	1%	1%
Adj. Flow (vph)	24	0	2	0	4	16	17	193	1	4	219	425
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	26	0	0	20	0	0	211	0	0	648	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.03	1.03	1.03	1.00	1.00	1.00	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											

**Intersection**

Int Delay, s/veh 1

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Vol, veh/h	20	0	2	0	4	15	14	160	1	4	182	353
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	5	-	-	0	-	-	-1	-	-	-2	-
Peak Hour Factor	83	92	83	92	92	92	83	83	92	92	83	83
Heavy Vehicles, %	0	2	0	2	2	2	67	5	2	2	1	1
Mvmt Flow	24	0	2	0	4	16	17	193	1	4	219	425

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	678	669	433	669	880	193	645	0	0	194	0	0
Stage 1	441	441	-	227	227	-	-	-	-	-	-	-
Stage 2	237	228	-	442	653	-	-	-	-	-	-	-
Critical Hdwy	8.1	7.52	6.7	7.12	6.52	6.22	4.77	-	-	4.12	-	-
Critical Hdwy Stg 1	7.1	6.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.1	6.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.018	3.3	3.518	4.018	3.318	2.803	-	-	2.218	-	-
Pot Cap-1 Maneuver	306	314	590	371	286	849	695	-	-	1379	-	-
Stage 1	530	510	-	776	716	-	-	-	-	-	-	-
Stage 2	722	671	-	594	464	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	289	304	590	360	277	849	694	-	-	1379	-	-
Mov Cap-2 Maneuver	289	304	-	360	277	-	-	-	-	-	-	-
Stage 1	516	507	-	755	697	-	-	-	-	-	-	-
Stage 2	685	653	-	588	462	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	18	11.3	0.8	0.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	694	-	-	592	303	1379	-
HCM Lane V/C Ratio	0.024	-	-	0.035	0.087	0.003	-
HCM Control Delay (s)	10.3	0	-	11.3	18	7.6	0
HCM Lane LOS	B	A	-	B	C	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.3	0	-

2022 Build Traffic Volumes  
4: W. Main Street & Bank Street

Weekday Peak AM Hour  
2/20/2017



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↱		↰	↱
Volume (vph)	7	9	357	14	14	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		3%	-5%		-8%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.995		0.884	
Flt Protected		0.978			0.993	
Satd. Flow (prot)	0	1830	1919	0	1691	0
Flt Permitted		0.978			0.993	
Satd. Flow (perm)	0	1830	1919	0	1691	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		264	640		200	
Travel Time (s)		6.0	14.5		4.5	
Confl. Peds. (#/hr)	34			1		
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	1%	0%	0%	3%
Adj. Flow (vph)	9	11	435	17	17	105
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	20	452	0	122	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	0.97	0.97	0.95	0.95
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	7	9	357	14	14	86
Conflicting Peds, #/hr	34	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	3	-5	-	-8	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	1	0	0	3
Mvmt Flow	9	11	435	17	17	105

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	452	0	472
Stage 1	-	-	444
Stage 2	-	-	28
Critical Hdwy	4.1	-	4.8
Critical Hdwy Stg 1	-	-	3.8
Critical Hdwy Stg 2	-	-	3.8
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1119	-	684
Stage 1	-	-	793
Stage 2	-	-	1012
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1087	-	679
Mov Cap-2 Maneuver	-	-	679
Stage 1	-	-	793
Stage 2	-	-	1004












Approach	EB	WB	SB
HCM Control Delay, s	3.6	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1087	-	-	-	639
HCM Lane V/C Ratio	0.008	-	-	-	0.191
HCM Control Delay (s)	8.3	0	-	-	12
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.7

2022 Build Traffic Volumes  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak AM Hour

2/20/2017

						
Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	63	215	578	59	248	806
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	5%		3%			-1%
Storage Length (ft)	90	0		0	215	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.988			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1725	1544	1813	0	1778	1872
Flt Permitted	0.950				0.147	
Satd. Flow (perm)	1725	1544	1813	0	275	1872
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		30			30
Link Distance (ft)	207		948			167
Travel Time (s)	4.7		21.5			3.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	68	234	628	64	270	876
Shared Lane Traffic (%)						
Lane Group Flow (vph)	68	234	692	0	270	876
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			
Headway Factor	1.03	1.03	1.02	1.02	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Minimum Split (s)	21.0	21.0	62.0		9.0	45.0
Total Split (s)	45.0	45.0	62.0		13.0	75.0
Total Split (%)	37.5%	37.5%	51.7%		10.8%	62.5%
Maximum Green (s)	40.0	40.0	57.0		8.0	70.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Walk Time (s)	5.0	5.0	5.0			
Flash Dont Walk (s)	11.0	11.0	11.0			
Pedestrian Calls (#/hr)	0	0	0			
v/c Ratio	0.12	0.46	0.80		1.04	0.80
Control Delay	28.6	34.9	35.5		84.8	26.7
Queue Delay	0.0	0.0	0.0		0.0	0.0



2022 Build Traffic Volumes  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak AM Hour  
2/20/2017



Lane Group	NWL	NWR	NET	NER	SWL	SWT
Total Delay	28.6	34.9	35.5		84.8	26.7
Queue Length 50th (ft)	36	142	443		~105	503
Queue Length 95th (ft)	71	220	615		#253	699
Internal Link Dist (ft)	127		868			87
Turn Bay Length (ft)	90				215	
Base Capacity (vph)	575	514	861		260	1092
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.12	0.46	0.80		1.04	0.80

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 95

Control Type: Pretimed

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: NYS Route 9D & Verplanck Avenue
















Lane Group	NWL	NWR	NET	SWL	SWT
Lane Group Flow (vph)	68	234	692	270	876
v/c Ratio	0.12	0.46	0.80	1.04	0.80
Control Delay	28.6	34.9	35.5	84.8	26.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	28.6	34.9	35.5	84.8	26.7
Queue Length 50th (ft)	36	142	443	~105	503
Queue Length 95th (ft)	71	220	615	#253	699
Internal Link Dist (ft)	127		868		87
Turn Bay Length (ft)	90			215	
Base Capacity (vph)	575	514	861	260	1092
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.12	0.46	0.80	1.04	0.80

#### Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

2022 Build Traffic Volumes  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak AM Hour  
2/20/2017

								
Movement	NWL	NWR	NET	NER	SWL	SWT		
Lane Configurations								
Volume (veh/h)	63	215	578	59	248	806		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1816	1816	1835	1872	1872	1872		
Adj Flow Rate, veh/h	68	234	628	64	270	876		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	577	515	778	79	291	1092		
Arrive On Green	0.33	0.33	0.47	0.47	0.07	0.58		
Sat Flow, veh/h	1730	1544	1638	167	1783	1872		
Grp Volume(v), veh/h	68	234	0	692	270	876		
Grp Sat Flow(s),veh/h/ln	1730	1544	0	1805	1783	1872		
Q Serve(g_s), s	3.3	14.3	0.0	39.2	8.0	44.0		
Cycle Q Clear(g_c), s	3.3	14.3	0.0	39.2	8.0	44.0		
Prop In Lane	1.00	1.00		0.09	1.00			
Lane Grp Cap(c), veh/h	577	515	0	858	291	1092		
V/C Ratio(X)	0.12	0.45	0.00	0.81	0.93	0.80		
Avail Cap(c_a), veh/h	577	515	0	858	291	1092		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	27.8	31.4	0.0	26.8	28.6	19.6		
Incr Delay (d2), s/veh	0.4	2.9	0.0	8.0	37.3	6.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.6	6.5	0.0	21.3	8.0	24.5		
LnGrp Delay(d),s/veh	28.2	34.3	0.0	34.8	65.9	25.8		
LnGrp LOS	C	C		C	E	C		
Approach Vol, veh/h	302		692			1146		
Approach Delay, s/veh	32.9		34.8			35.3		
Approach LOS	C		C			D		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	13.0	62.0				75.0		45.0
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0
Max Green Setting (Gmax), s	8.0	57.0				70.0		40.0
Max Q Clear Time (g_c+l1), s	0.0	0.0				0.0		0.0
Green Ext Time (p_c), s	0.0	0.0				0.0		0.0
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			34.8					
HCM 2010 LOS			C					

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Two Way Analysis cannot be performed on Signalized Intersection.

## 2022 Build Traffic Volumes

Weekday Peak AM Hour

## 6: NYS Route 9D &amp; Beekman Street/W. Church Street

2/20/2017













												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	137	4	55	10	11	10	48	418	1	8	472	331
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-10%			-6%			3%	
Storage Length (ft)	0		95	0		0	80		0	85		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.956						0.938	
Flt Protected		0.954			0.984		0.950			0.950		
Satd. Flow (prot)	0	1759	1567	0	1840	0	1823	1919	0	1743	1721	0
Flt Permitted		0.707			0.892		0.219			0.469		
Satd. Flow (perm)	0	1304	1567	0	1668	0	420	1919	0	861	1721	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			60		11						62	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		273			158			388			335	
Travel Time (s)		6.2			3.6			8.8			7.6	
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
Adj. Flow (vph)	149	4	60	11	12	11	52	454	1	9	513	360
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	153	60	0	34	0	52	455	0	9	873	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.01	1.01	1.01	0.94	0.94	0.94	0.96	0.96	0.96	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	2	1	2		2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83	83	20	83		83	6		83	6	
Trailing Detector (ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Position(ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Size(ft)	20	43	43	20	43		43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40	40		40		40			40		
Detector 2 Size(ft)		43	43		43		43			43		
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0		0.0			0.0		
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		



2022 Build Traffic Volumes  
6: NYS Route 9D & Beekman Street/W. Church Street

Weekday Peak AM Hour

2/20/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		31.0	31.0		49.0	49.0	
Minimum Split (s)	20.0	20.0	20.0	21.0	21.0		54.0	54.0		54.0	54.0	
Total Split (s)	36.0	36.0	36.0	36.0	36.0		54.0	54.0		54.0	54.0	
Total Split (%)	40.0%	40.0%	40.0%	40.0%	40.0%		60.0%	60.0%		60.0%	60.0%	
Maximum Green (s)	31.0	31.0	31.0	31.0	31.0		49.0	49.0		49.0	49.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Walk Time (s)				5.0	5.0							
Flash Dont Walk (s)				11.0	11.0							
Pedestrian Calls (#/hr)				0	0							
v/c Ratio		0.62	0.17		0.10		0.18	0.35		0.02	0.74	
Control Delay		38.5	8.3		18.5		7.6	6.7		5.4	13.3	
Queue Delay		0.0	0.0		0.0		0.0	0.7		0.0	0.0	
Total Delay		38.5	8.3		18.5		7.6	7.4		5.4	13.3	
Queue Length 50th (ft)		64	0		9		7	74		1	197	
Queue Length 95th (ft)		120	27		30		28	156		7	457	
Internal Link Dist (ft)		193			78			308			255	
Turn Bay Length (ft)			95				80			85		
Base Capacity (vph)		555	702		717		283	1292		580	1179	
Starvation Cap Reductn		0	0		0		0	498		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.28	0.09		0.05		0.18	0.57		0.02	0.74	

Intersection Summary

Area Type: Other

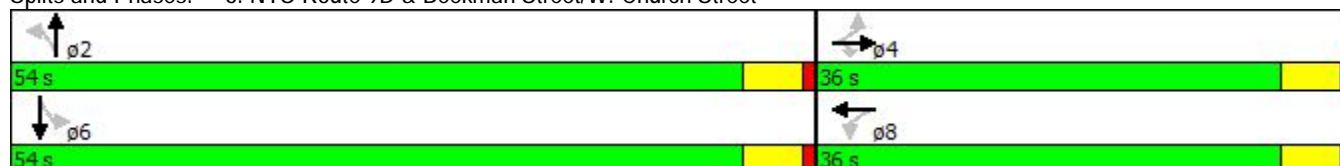
Cycle Length: 90

Actuated Cycle Length: 73

Natural Cycle: 75








Control Type: Semi Act-Uncoord

Splits and Phases: 6: NYS Route 9D & Beekman Street/W. Church Street



2022 Build Traffic Volumes  
6: NYS Route 9D & Beekman Street/W. Church Street




















Weekday Peak AM Hour  
2/20/2017

							
Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	153	60	34	52	455	9	873
v/c Ratio	0.62	0.17	0.10	0.18	0.35	0.02	0.74
Control Delay	38.5	8.3	18.5	7.6	6.7	5.4	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.7	0.0	0.0
Total Delay	38.5	8.3	18.5	7.6	7.4	5.4	13.3
Queue Length 50th (ft)	64	0	9	7	74	1	197
Queue Length 95th (ft)	120	27	30	28	156	7	457
Internal Link Dist (ft)	193		78		308		255
Turn Bay Length (ft)		95		80		85	
Base Capacity (vph)	555	702	717	283	1292	580	1179
Starvation Cap Reductn	0	0	0	0	498	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.09	0.05	0.18	0.57	0.02	0.74
Intersection Summary							

2022 Build Traffic Volumes  
6: NYS Route 9D & Beekman Street/W. Church Street

Weekday Peak AM Hour

2/20/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	137	4	55	10	11	10	48	418	1	8	472	331
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1844	1844	1995	1956	1995	1919	1919	1957	1835	1835	1872
Adj Flow Rate, veh/h	149	4	60	11	12	11	52	454	1	9	513	360
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	286	6	369	83	89	53	260	1215	3	573	638	448
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	824	28	1568	91	379	225	651	1914	4	918	1005	705
Grp Volume(v), veh/h	153	0	60	34	0	0	52	0	455	9	0	873
Grp Sat Flow(s),veh/h/ln	851	0	1568	695	0	0	651	0	1918	918	0	1710
Q Serve(g_s), s	0.0	0.0	2.3	0.2	0.0	0.0	5.0	0.0	8.8	0.4	0.0	29.4
Cycle Q Clear(g_c), s	15.0	0.0	2.3	15.3	0.0	0.0	34.2	0.0	8.8	9.1	0.0	29.4
Prop In Lane	0.97		1.00	0.32		0.32	1.00		0.00	1.00		0.41
Lane Grp Cap(c), veh/h	292	0	369	225	0	0	260	0	1218	573	0	1086
V/C Ratio(X)	0.52	0.00	0.16	0.15	0.00	0.00	0.20	0.00	0.37	0.02	0.00	0.80
Avail Cap(c_a), veh/h	522	0	630	500	0	0	260	0	1218	573	0	1086
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.3	0.0	23.5	23.8	0.0	0.0	23.2	0.0	6.7	8.9	0.0	10.5
Incr Delay (d2), s/veh	1.4	0.0	0.2	0.3	0.0	0.0	1.7	0.0	0.9	0.1	0.0	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	1.0	0.6	0.0	0.0	1.0	0.0	4.8	0.1	0.0	15.5
LnGrp Delay(d),s/veh	29.7	0.0	23.7	24.1	0.0	0.0	24.9	0.0	7.6	8.9	0.0	16.8
LnGrp LOS	C		C	C			C		A	A		B
Approach Vol, veh/h		213			34			507			882	
Approach Delay, s/veh		28.0			24.1			9.4			16.7	
Approach LOS		C			C			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		54.0		23.2		54.0		23.2				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		49.0		31.0		49.0		31.0				
Max Q Clear Time (g_c+I1), s		36.2		17.0		31.4		17.3				
Green Ext Time (p_c), s		4.3		1.0		4.9		1.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			16.1									
HCM 2010 LOS			B									




















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Two Way Analysis cannot be performed on Signalized Intersection.

2022 Build Traffic Volumes  
7: NYS Route 9D & Beacon City Hall/Main Street

Weekday Peak AM Hour

2/20/2017













												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	14	8	13	18	116	11	341	29	174	337	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-8%			-3%			3%	
Storage Length (ft)	0		0	0		70	0		0	120		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.965				0.850		0.988			0.989	
Flt Protected		0.985			0.980		0.950			0.950		
Satd. Flow (prot)	0	1762	0	0	1899	1647	1796	1868	0	1743	1815	0
Flt Permitted		0.882			0.911		0.529			0.495		
Satd. Flow (perm)	0	1578	0	0	1765	1647	1000	1868	0	908	1815	0
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)		9										7
Link Speed (mph)		30			30			30				30
Link Distance (ft)		76			138			182				388
Travel Time (s)		1.7			3.1			4.1				8.8
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
Adj. Flow (vph)	11	15	9	14	20	126	12	371	32	189	366	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	35	0	0	34	126	12	403	0	189	394	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.95	0.95	0.95	0.98	0.98	0.98	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83		20	83	83	83	6		83	6	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Size(ft)	20	43		20	43	43	43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40			40	40	40			40		
Detector 2 Size(ft)		43			43	43	43			43		
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0			0.0		
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2			6		



2022 Build Traffic Volumes  
7: NYS Route 9D & Beacon City Hall/Main Street

Weekday Peak AM Hour

2/20/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8	1	2	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		8.0	8.0	4.0	31.0	31.0		4.0	36.0	
Minimum Split (s)	21.0	21.0		21.0	21.0	9.0	36.0	36.0		9.0	41.0	
Total Split (s)	36.0	36.0		36.0	36.0	13.0	41.0	41.0		13.0	54.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%	14.4%	45.6%	45.6%		14.4%	60.0%	
Maximum Green (s)	31.0	31.0		31.0	31.0	8.0	36.0	36.0		8.0	49.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag						Lag	Lead	Lead		Lag		
Lead-Lag Optimize?						Yes	Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		None	Max	
Walk Time (s)	5.0	5.0					5.0	5.0				
Flash Dont Walk (s)	11.0	11.0					11.0	11.0				
Pedestrian Calls (#/hr)	0	0					0	0				
v/c Ratio		0.19			0.15	0.37	0.02	0.34		0.22	0.24	
Control Delay		23.6			26.8	22.4	6.9	7.9		2.8	2.2	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		23.6			26.8	22.4	6.9	7.9		2.8	2.2	
Queue Length 50th (ft)		8			10	38	1	43		0	0	
Queue Length 95th (ft)		34			37	76	9	149		34	71	
Internal Link Dist (ft)		1			58			102			308	
Turn Bay Length (ft)						70				120		
Base Capacity (vph)		793			882	342	630	1178		871	1619	
Starvation Cap Reductn		0			0	0	0	0		0	153	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.04			0.04	0.37	0.02	0.34		0.22	0.27	

Intersection Summary

Area Type: Other






Cycle Length: 90

Actuated Cycle Length: 62.7

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Splits and Phases: 7: NYS Route 9D & Beacon City Hall/Main Street

 ø2	 ø1	 ø4
41 s	13 s	36 s
 ø6		 ø8
54 s		36 s

2022 Build Traffic Volumes  
7: NYS Route 9D & Beacon City Hall/Main Street

Weekday Peak AM Hour  
2/20/2017






















Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	35	34	126	12	403	189	394
v/c Ratio	0.19	0.15	0.37	0.02	0.34	0.22	0.24
Control Delay	23.6	26.8	22.4	6.9	7.9	2.8	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.6	26.8	22.4	6.9	7.9	2.8	2.2
Queue Length 50th (ft)	8	10	38	1	43	0	0
Queue Length 95th (ft)	34	37	76	9	149	34	71
Internal Link Dist (ft)	1	58			102		308
Turn Bay Length (ft)			70			120	
Base Capacity (vph)	793	882	342	630	1178	871	1619
Starvation Cap Reductn	0	0	0	0	0	0	153
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.04	0.37	0.02	0.34	0.22	0.27
Intersection Summary							

2022 Build Traffic Volumes  
7: NYS Route 9D & Beacon City Hall/Main Street

Weekday Peak AM Hour

2/20/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	10	14	8	13	18	116	11	341	29	174	337	26
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1890	1853	1890	1976	1937	1937	1891	1891	1928	1835	1835	1872
Adj Flow Rate, veh/h	11	15	9	14	20	126	12	371	32	189	366	28
Adj No. of Lanes	0	1	0	0	1	1	1	1	0	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	110	49	131	151	389	573	925	80	685	1235	94
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.54	0.54	0.54	0.12	0.73	0.73
Sat Flow, veh/h	275	943	422	474	1298	1647	1001	1717	148	1747	1683	129
Grp Volume(v), veh/h	35	0	0	34	0	126	12	0	403	189	0	394
Grp Sat Flow(s),veh/h/ln	1640	0	0	1772	0	1647	1001	0	1865	1747	0	1812
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	8.5	0.0	0.0	4.9
Cycle Q Clear(g_c), s	1.2	0.0	0.0	1.1	0.0	0.0	5.4	0.0	8.5	0.0	0.0	4.9
Prop In Lane	0.31		0.26	0.41		1.00	1.00		0.08	1.00		0.07
Lane Grp Cap(c), veh/h	262	0	0	283	0	389	573	0	1005	685	0	1330
V/C Ratio(X)	0.13	0.00	0.00	0.12	0.00	0.32	0.02	0.00	0.40	0.28	0.00	0.30
Avail Cap(c_a), veh/h	797	0	0	872	0	962	573	0	1005	685	0	1330
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.6	0.0	0.0	26.5	0.0	21.1	9.7	0.0	9.1	10.3	0.0	3.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.2	0.0	0.5	0.1	0.0	1.2	0.2	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	0.6	0.0	1.9	0.1	0.0	4.7	2.2	0.0	2.6
LnGrp Delay(d),s/veh	26.8	0.0	0.0	26.7	0.0	21.6	9.7	0.0	10.2	10.5	0.0	3.6
LnGrp LOS	C			C		C	A		B	B		A
Approach Vol, veh/h		35			160			415			583	
Approach Delay, s/veh		26.8			22.7			10.2			5.8	
Approach LOS		C			C			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	13.0	41.0		12.8		54.0		12.8				
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s	8.0	36.0		31.0		49.0		31.0				
Max Q Clear Time (g_c+l1), s	2.0	10.5		3.2		6.9		3.1				
Green Ext Time (p_c), s	1.1	1.1		1.0		2.1		1.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			10.2									
HCM 2010 LOS			B									










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Two Way Analysis cannot be performed on Signalized Intersection.

2022 Build Traffic Volumes  
8: Bank Street & Branch Street

Weekday Peak AM Hour

2/20/2017

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	56	14	7	44	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	10%			10%	-10%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected				0.968		
Satd. Flow (prot)	1561	0	0	1747	1937	0
Flt Permitted				0.968		
Satd. Flow (perm)	1561	0	0	1747	1937	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	206			200	796	
Travel Time (s)	4.7			4.5	18.1	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	0%	0%	3%	0%
Adj. Flow (vph)	0	68	17	9	54	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	68	0	0	26	54	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	0.94	0.94
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					



2022 Build Traffic Volumes  
8: Bank Street & Branch Street

Weekday Peak AM Hour  
2/20/2017

Intersection

Int Delay, s/veh 4.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	56	14	7	44	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	10	-	-	10	-10	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	3	0
Mvmt Flow	0	68	17	9	54	0

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	97	54	54 0
Stage 1	54	-	- -
Stage 2	43	-	- -
Critical Hdwy	8.4	7.2	4.1 -
Critical Hdwy Stg 1	7.4	-	- -
Critical Hdwy Stg 2	7.4	-	- -
Follow-up Hdwy	3.5	3.3	2.2 -
Pot Cap-1 Maneuver	860	1004	1564 -
Stage 1	945	-	- -
Stage 2	961	-	- -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	851	1004	1564 -
Mov Cap-2 Maneuver	851	-	- -
Stage 1	945	-	- -
Stage 2	950	-	- -










Approach	EB	NB	SB
HCM Control Delay, s	8.8	4.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1564	-	1004	-	-
HCM Lane V/C Ratio	0.011	-	0.068	-	-
HCM Control Delay (s)	7.3	0	8.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

2022 Build Traffic Volumes  
 9: Site Access & Tompkins Avenue /Tompkins Avenue

Weekday Peak AM Hour

2/20/2017

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	40	0	17	41	0	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	3%			-5%	0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.985		
Satd. Flow (prot)	1817	0	0	1815	1596	0
Flt Permitted				0.985		
Satd. Flow (perm)	1817	0	0	1815	1596	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	160			236	134	
Travel Time (s)	3.6			5.4	3.0	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	3%	0%	5%	6%	0%	3%
Adj. Flow (vph)	49	0	21	50	0	83
Shared Lane Traffic (%)						
Lane Group Flow (vph)	49	0	0	71	83	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	0.97	0.97	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					

2022 Build Traffic Volumes  
 9: Site Access & Tompkins Avenue /Tompkins Avenue

Weekday Peak AM Hour  
 2/20/2017

Intersection	
Int Delay, s/veh	4.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	40	0	17	41	0	68
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-5	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	3	0	5	6	0	3
Mvmt Flow	49	0	21	50	0	83

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	49	0	140	49
Stage 1	-	-	-	-	49	-
Stage 2	-	-	-	-	91	-
Critical Hdwy	-	-	4.15	-	6.4	6.23
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.245	-	3.5	3.327
Pot Cap-1 Maneuver	-	-	1539	-	858	1017
Stage 1	-	-	-	-	979	-
Stage 2	-	-	-	-	938	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1539	-	846	1017
Mov Cap-2 Maneuver	-	-	-	-	846	-
Stage 1	-	-	-	-	979	-
Stage 2	-	-	-	-	925	-



















Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	8.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1017	-	-	1539	-
HCM Lane V/C Ratio	0.082	-	-	0.013	-
HCM Control Delay (s)	8.9	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

2022 Build Traffic Volumes  
1: NYS Route 9D & Tompkins Avenue/Ralph Street

Weekday Peak PM Hour

2/20/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	51	6	34	7	3	10	23	802	3	3	658	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			-1%			0%				-5%
Storage Length (ft)	0		0	0		0	120		0	120		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.949			0.929			0.999			0.978	
Flt Protected		0.973			0.984		0.950			0.950		
Satd. Flow (prot)	0	1754	0	0	1650	0	1641	1825	0	1850	1867	0
Flt Permitted		0.973			0.984		0.950			0.950		
Satd. Flow (perm)	0	1754	0	0	1650	0	1641	1825	0	1850	1867	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		833			226			335			948	
Travel Time (s)		18.9			5.1			7.6			21.5	
Confl. Peds. (#/hr)	2		3	2		3	5			5		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	4%	0%	0%	11%	10%	4%	0%	0%	2%	2%
Adj. Flow (vph)	54	6	36	7	3	11	24	844	3	3	693	117
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	96	0	0	21	0	24	847	0	3	810	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	0.98	0.98	0.98	0.99	0.99	0.99	1.00	1.00	1.00	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

2022 Build Traffic Volumes  
1: NYS Route 9D & Tompkins Avenue/Ralph Street

Weekday Peak PM Hour  
2/20/2017

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	51	6	34	7	3	10	23	802	3	3	658	111
Conflicting Peds, #/hr	2	0	3	2	0	3	5	0	0	5	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	120	-	-	120	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	-3	-	-	-1	-	-	0	-	-	-5	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	4	0	0	11	10	4	0	0	2	2
Mvmt Flow	54	6	36	7	3	11	24	844	3	3	693	117
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1664	1659	759	1678	1716	854	812	0	0	850	0	0
Stage 1	760	760	-	897	897	-	-	-	-	-	-	-
Stage 2	904	899	-	781	819	-	-	-	-	-	-	-
Critical Hdwy	6.5	5.9	5.94	6.9	6.3	6.21	4.2	-	-	4.1	-	-
Critical Hdwy Stg 1	5.5	4.9	-	5.9	5.3	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.5	4.9	-	5.9	5.3	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.336	3.5	4	3.399	2.29	-	-	2.2	-	-
Pot Cap-1 Maneuver	103	130	430	84	100	354	781	-	-	797	-	-
Stage 1	456	474	-	354	380	-	-	-	-	-	-	-
Stage 2	388	419	-	408	410	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	96	125	427	73	96	352	778	-	-	794	-	-
Mov Cap-2 Maneuver	223	255	-	189	215	-	-	-	-	-	-	-
Stage 1	441	471	-	342	367	-	-	-	-	-	-	-
Stage 2	360	405	-	366	407	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	25			20.6			0.3			0		
HCM LOS	D			C								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	778	-	-	274	252	794	-	-				
HCM Lane V/C Ratio	0.031	-	-	0.35	0.084	0.004	-	-				
HCM Control Delay (s)	9.8	-	-	25	20.6	9.6	-	-				
HCM Lane LOS	A	-	-	D	C	A	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	1.5	0.3	0	-	-				



2022 Build Traffic Volumes  
2: Bank Street & Tompkins Avenue

Weekday Peak PM Hour  
2/20/2017

















	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Volume (vph)	83	1	15	122	1	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			1%	7%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.999				0.878	
Flt Protected				0.994	0.995	
Satd. Flow (prot)	1917	0	0	1811	1602	0
Flt Permitted				0.994	0.995	
Satd. Flow (perm)	1917	0	0	1811	1602	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	236			833	796	
Travel Time (s)	5.4			18.9	18.1	
Confl. Peds. (#/hr)						3
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	10%	3%	0%	0%
Adj. Flow (vph)	92	1	17	136	1	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	93	0	0	153	10	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	1.01	1.01	1.05	1.05
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					

2022 Build Traffic Volumes  
2: Bank Street & Tompkins Avenue

Weekday Peak PM Hour

2/20/2017

Intersection						
Int Delay, s/veh	0.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	83	1	15	122	1	8
Conflicting Peds, #/hr	0	0	0	0	0	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-2	-	-	1	7	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	10	3	0	0
Mvmt Flow	92	1	17	136	1	9
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	96	0	265	96
Stage 1	-	-	-	-	96	-
Stage 2	-	-	-	-	169	-
Critical Hdwy	-	-	4.2	-	7.8	6.9
Critical Hdwy Stg 1	-	-	-	-	6.8	-
Critical Hdwy Stg 2	-	-	-	-	6.8	-
Follow-up Hdwy	-	-	2.29	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1449	-	657	948
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	811	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1449	-	647	946
Mov Cap-2 Maneuver	-	-	-	-	647	-
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	800	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.8		9	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	900	-	-	1449	-	
HCM Lane V/C Ratio	0.011	-	-	0.012	-	
HCM Control Delay (s)	9	-	-	7.5	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0	-	-	0	-	

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	36	0	2	0	3	11	52	332	5	21	64	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		5%			0%			-1%			-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.892			0.999			0.928	
Flt Protected		0.955						0.993			0.996	
Satd. Flow (prot)	0	1755	0	0	1662	0	0	1817	0	0	1703	0
Flt Permitted		0.955						0.993			0.996	
Satd. Flow (perm)	0	1755	0	0	1662	0	0	1817	0	0	1703	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		640			162			321			353	
Travel Time (s)		14.5			3.7			7.3			8.0	
Peak Hour Factor	0.53	0.92	0.53	0.92	0.92	0.92	0.53	0.53	0.92	0.92	0.53	0.53
Heavy Vehicles (%)	0%	2%	0%	2%	2%	2%	25%	1%	2%	2%	2%	6%
Adj. Flow (vph)	68	0	4	0	3	12	98	626	5	23	121	164
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	72	0	0	15	0	0	729	0	0	308	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.03	1.03	1.03	1.00	1.00	1.00	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

**Intersection Summary**

Area Type: Other

Control Type: Unsignalized

**Intersection**

Int Delay, s/veh 5.2

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Vol, veh/h	36	0	2	0	3	11	52	332	5	21	64	87
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	5	-	-	0	-	-	-1	-	-	-2	-
Peak Hour Factor	53	92	53	92	92	92	53	53	92	92	53	53
Heavy Vehicles, %	0	2	0	2	2	2	25	1	2	2	2	6
Mvmt Flow	68	0	4	0	3	12	98	626	5	23	121	164

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1081	1076	203	1075	1156	629	285	0	0	632	0	0
Stage 1	248	248	-	825	825	-	-	-	-	-	-	-
Stage 2	833	828	-	250	331	-	-	-	-	-	-	-
Critical Hdwy	8.1	7.52	6.7	7.12	6.52	6.22	4.35	-	-	4.12	-	-
Critical Hdwy Stg 1	7.1	6.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.1	6.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.018	3.3	3.518	4.018	3.318	2.425	-	-	2.218	-	-
Pot Cap-1 Maneuver	146	163	819	197	197	482	1156	-	-	951	-	-
Stage 1	710	655	-	367	387	-	-	-	-	-	-	-
Stage 2	290	306	-	754	645	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	123	138	819	173	166	482	1156	-	-	951	-	-
Mov Cap-2 Maneuver	123	138	-	173	166	-	-	-	-	-	-	-
Stage 1	617	636	-	319	336	-	-	-	-	-	-	-
Stage 2	243	266	-	729	626	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	63.2	16	1.1	0.7
HCM LOS	F	C		

Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1156	-	-	342	129	951	-
HCM Lane V/C Ratio	0.085	-	-	0.044	0.556	0.024	-
HCM Control Delay (s)	8.4	0	-	16	63.2	8.9	0
HCM Lane LOS	A	A	-	C	F	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1	2.7	0.1	-

2022 Build Traffic Volumes  
4: W. Main Street & Bank Street

Weekday Peak PM Hour

2/20/2017



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↰		↰	
Volume (vph)	3	31	82	59	8	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		3%	-5%		-8%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.943		0.888	
Flt Protected		0.995			0.992	
Satd. Flow (prot)	0	1862	1736	0	1741	0
Flt Permitted		0.995			0.992	
Satd. Flow (perm)	0	1862	1736	0	1741	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		264	640		200	
Travel Time (s)		6.0	14.5		4.5	
Confl. Peds. (#/hr)	15					
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	10%	0%	0%	0%
Adj. Flow (vph)	4	39	103	74	10	49
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	43	176	0	59	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	0.97	0.97	0.95	0.95
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized



2022 Build Traffic Volumes  
4: W. Main Street & Bank Street

Weekday Peak PM Hour












2/20/2017

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	3	31	82	59	8	39
Conflicting Peds, #/hr	15	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	3	-5	-	-8	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	10	0	0	0
Mvmt Flow	4	39	102	74	10	49
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	176	0	-	0	185	154
Stage 1	-	-	-	-	139	-
Stage 2	-	-	-	-	46	-
Critical Hdwy	4.1	-	-	-	4.8	5.4
Critical Hdwy Stg 1	-	-	-	-	3.8	-
Critical Hdwy Stg 2	-	-	-	-	3.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1412	-	-	-	878	928
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	1002	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1394	-	-	-	875	916
Mov Cap-2 Maneuver	-	-	-	-	875	-
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	999	-
Approach	EB		WB		SB	
HCM Control Delay, s	0.7		0		9.2	
HCM LOS					A	
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1394	-	-	-	909	
HCM Lane V/C Ratio	0.003	-	-	-	0.065	
HCM Control Delay (s)	7.6	0	-	-	9.2	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.2	

2022 Build Traffic Volumes  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak PM Hour

2/20/2017

						
Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	44	278	795	68	217	728
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	5%		3%			-1%
Storage Length (ft)	90	0		0	215	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.989			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1725	1544	1815	0	1778	1872
Flt Permitted	0.950				0.056	
Satd. Flow (perm)	1725	1544	1815	0	105	1872
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		30			30
Link Distance (ft)	207		948			167
Travel Time (s)	4.7		21.5			3.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	302	864	74	236	791
Shared Lane Traffic (%)						
Lane Group Flow (vph)	48	302	938	0	236	791
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			
Headway Factor	1.03	1.03	1.02	1.02	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Minimum Split (s)	21.0	21.0	62.0		9.0	45.0
Total Split (s)	35.0	35.0	71.0		14.0	75.0
Total Split (%)	29.2%	29.2%	59.2%		11.7%	62.5%
Maximum Green (s)	30.0	30.0	66.0		9.0	70.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Walk Time (s)	5.0	5.0	5.0			
Flash Dont Walk (s)	11.0	11.0	11.0			
Pedestrian Calls (#/hr)	0	0	0			
v/c Ratio	0.11	0.78	0.94		1.21	0.63
Control Delay	35.7	57.5	43.3		161.7	14.4
Queue Delay	0.0	0.0	0.0		0.0	0.0

2022 Build Traffic Volumes  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak PM Hour

2/20/2017



Lane Group	NWL	NWR	NET	NER	SWL	SWT
Total Delay	35.7	57.5	43.3		161.7	14.4
Queue Length 50th (ft)	29	219	648		~172	324
Queue Length 95th (ft)	61	#355	#957		#338	446
Internal Link Dist (ft)	127		868			87
Turn Bay Length (ft)	90				215	
Base Capacity (vph)	431	386	998		195	1248
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.11	0.78	0.94		1.21	0.63

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 95

Control Type: Pretimed

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: NYS Route 9D & Verplanck Avenue



2022 Build Traffic Volumes  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak PM Hour  
2/20/2017



Lane Group	NWL	NWR	NET	SWL	SWT
Lane Group Flow (vph)	48	302	938	236	791
v/c Ratio	0.11	0.78	0.94	1.21	0.63
Control Delay	35.7	57.5	43.3	161.7	14.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	35.7	57.5	43.3	161.7	14.4
Queue Length 50th (ft)	29	219	648	~172	324
Queue Length 95th (ft)	61	#355	#957	#338	446
Internal Link Dist (ft)	127		868		87
Turn Bay Length (ft)	90			215	
Base Capacity (vph)	431	386	998	195	1248
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.11	0.78	0.94	1.21	0.63












Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

2022 Build Traffic Volumes  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak PM Hour

2/20/2017

								
Movement	NWL	NWR	NET	NER	SWL	SWT		
Lane Configurations								
Volume (veh/h)	44	278	795	68	217	728		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1816	1816	1835	1872	1872	1872		
Adj Flow Rate, veh/h	48	302	864	74	236	791		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	432	386	917	79	233	1248		
Arrive On Green	0.25	0.25	0.55	0.55	0.08	0.67		
Sat Flow, veh/h	1730	1544	1667	143	1783	1872		
Grp Volume(v), veh/h	48	302	0	938	236	791		
Grp Sat Flow(s),veh/h/ln	1730	1544	0	1810	1783	1872		
Q Serve(g_s), s	2.6	21.9	0.0	58.1	9.0	29.3		
Cycle Q Clear(g_c), s	2.6	21.9	0.0	58.1	9.0	29.3		
Prop In Lane	1.00	1.00		0.08	1.00			
Lane Grp Cap(c), veh/h	432	386	0	995	233	1248		
V/C Ratio(X)	0.11	0.78	0.00	0.94	1.01	0.63		
Avail Cap(c_a), veh/h	432	386	0	995	233	1248		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	34.7	42.0	0.0	25.2	34.6	11.5		
Incr Delay (d2), s/veh	0.5	14.6	0.0	17.6	62.3	2.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.1	0.0		
%ile BackOfQ(50%),veh/ln	1.3	10.9	0.0	33.8	11.7	15.8		
LnGrp Delay(d),s/veh	35.2	56.6	0.0	42.8	97.0	14.0		
LnGrp LOS	D	E		D	F	B		
Approach Vol, veh/h	350		938			1027		
Approach Delay, s/veh	53.6		42.8			33.1		
Approach LOS	D		D			C		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	14.0	71.0				85.0		35.0
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0
Max Green Setting (Gmax), s	9.0	66.0				70.0		30.0
Max Q Clear Time (g_c+l1), s	0.0	0.0				0.0		0.0
Green Ext Time (p_c), s	0.0	0.0				0.0		0.0
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			40.1					
HCM 2010 LOS			D					



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Two Way Analysis cannot be performed on Signalized Intersection.

## 2022 Build Traffic Volumes

Weekday Peak PM Hour

## 6: NYS Route 9D &amp; Beekman Street/W. Church Street













2/20/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	332	7	54	8	2	8	69	497	9	6	551	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-10%			-6%			3%	
Storage Length (ft)	0		95	0		0	80		0	85		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.939			0.997			0.969	
Flt Protected		0.953			0.978		0.950			0.950		
Satd. Flow (prot)	0	1757	1567	0	1796	0	1823	1913	0	1743	1778	0
Flt Permitted		0.716			0.857		0.188			0.338		
Satd. Flow (perm)	0	1320	1567	0	1574	0	361	1913	0	620	1778	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			53		9			1			19	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		273			158			388			335	
Travel Time (s)		6.2			3.6			8.8			7.6	
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
Adj. Flow (vph)	361	8	59	9	2	9	75	540	10	7	599	155
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	369	59	0	20	0	75	550	0	7	754	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.01	1.01	1.01	0.94	0.94	0.94	0.96	0.96	0.96	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	2	1	2		2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83	83	20	83		83	6		83	6	
Trailing Detector (ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Position(ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Size(ft)	20	43	43	20	43		43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40	40		40		40			40		
Detector 2 Size(ft)		43	43		43		43			43		
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0		0.0			0.0		
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		

2022 Build Traffic Volumes  
6: NYS Route 9D & Beekman Street/W. Church Street

Weekday Peak PM Hour

2/20/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		42.0	42.0		42.0	42.0	
Minimum Split (s)	20.0	20.0	20.0	21.0	21.0		47.0	47.0		47.0	47.0	
Total Split (s)	43.0	43.0	43.0	43.0	43.0		47.0	47.0		47.0	47.0	
Total Split (%)	47.8%	47.8%	47.8%	47.8%	47.8%		52.2%	52.2%		52.2%	52.2%	
Maximum Green (s)	38.0	38.0	38.0	38.0	38.0		42.0	42.0		42.0	42.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Walk Time (s)				5.0	5.0							
Flash Dont Walk (s)				11.0	11.0							
Pedestrian Calls (#/hr)				0	0							
v/c Ratio		0.83	0.10		0.04		0.39	0.54		0.02	0.78	
Control Delay		40.5	6.1		11.8		21.8	16.2		12.2	24.1	
Queue Delay		0.0	0.0		0.0		0.0	1.8		0.0	0.0	
Total Delay		40.5	6.1		11.8		21.8	18.0		12.2	24.1	
Queue Length 50th (ft)		164	2		4		20	164		2	271	
Queue Length 95th (ft)		268	24		17		74	333		10	#613	
Internal Link Dist (ft)		193			78			308			255	
Turn Bay Length (ft)			95				80			85		
Base Capacity (vph)		639	787		767		193	1025		332	961	
Starvation Cap Reductn		0	0		0		0	308		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.58	0.07		0.03		0.39	0.77		0.02	0.78	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 79.2

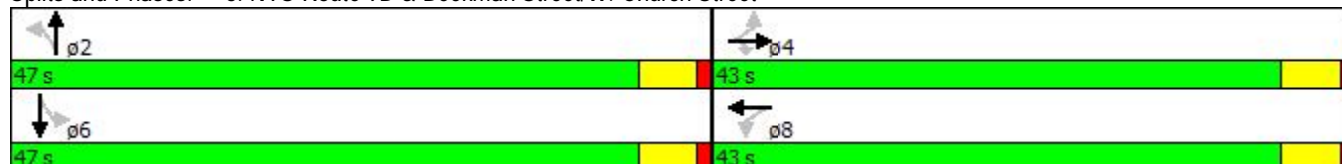
Natural Cycle: 75

Control Type: Semi Act-Uncoord

# 95th percentile volume exceeds capacity, queue may be longer.








Queue shown is maximum after two cycles.

Splits and Phases: 6: NYS Route 9D & Beekman Street/W. Church Street



2022 Build Traffic Volumes  
6: NYS Route 9D & Beekman Street/W. Church Street

Weekday Peak PM Hour  
2/20/2017




















							
Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	369	59	20	75	550	7	754
v/c Ratio	0.83	0.10	0.04	0.39	0.54	0.02	0.78
Control Delay	40.5	6.1	11.8	21.8	16.2	12.2	24.1
Queue Delay	0.0	0.0	0.0	0.0	1.8	0.0	0.0
Total Delay	40.5	6.1	11.8	21.8	18.0	12.2	24.1
Queue Length 50th (ft)	164	2	4	20	164	2	271
Queue Length 95th (ft)	268	24	17	74	333	10	#613
Internal Link Dist (ft)	193		78		308		255
Turn Bay Length (ft)		95		80		85	
Base Capacity (vph)	639	787	767	193	1025	332	961
Starvation Cap Reductn	0	0	0	0	308	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.07	0.03	0.39	0.77	0.02	0.78

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

2022 Build Traffic Volumes  
6: NYS Route 9D & Beekman Street/W. Church Street

Weekday Peak PM Hour  
2/20/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	332	7	54	8	2	8	69	497	9	6	551	143
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1844	1844	1995	1956	1995	1919	1919	1957	1835	1835	1872
Adj Flow Rate, veh/h	361	8	59	9	2	9	75	540	10	7	599	155
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	427	8	662	58	27	22	132	876	16	291	656	170
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.47	0.47	0.47	0.47	0.47	0.47
Sat Flow, veh/h	823	18	1568	0	64	52	728	1878	35	841	1407	364
Grp Volume(v), veh/h	369	0	59	20	0	0	75	0	550	7	0	754
Grp Sat Flow(s),veh/h/ln	841	0	1568	117	0	0	728	0	1912	841	0	1771
Q Serve(g_s), s	0.0	0.0	2.0	0.0	0.0	0.0	6.4	0.0	19.4	0.6	0.0	35.6
Cycle Q Clear(g_c), s	38.0	0.0	2.0	38.0	0.0	0.0	42.0	0.0	19.4	19.9	0.0	35.6
Prop In Lane	0.98		1.00	0.45		0.45	1.00		0.02	1.00		0.21
Lane Grp Cap(c), veh/h	434	0	662	107	0	0	132	0	892	291	0	826
V/C Ratio(X)	0.85	0.00	0.09	0.19	0.00	0.00	0.57	0.00	0.62	0.02	0.00	0.91
Avail Cap(c_a), veh/h	434	0	662	107	0	0	132	0	892	291	0	826
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.7	0.0	15.6	22.2	0.0	0.0	42.8	0.0	18.0	25.4	0.0	22.3
Incr Delay (d2), s/veh	14.7	0.0	0.1	0.8	0.0	0.0	16.6	0.0	3.2	0.2	0.0	16.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.9	0.0	0.9	0.3	0.0	0.0	2.5	0.0	10.9	0.1	0.0	20.9
LnGrp Delay(d),s/veh	41.4	0.0	15.7	23.0	0.0	0.0	59.4	0.0	21.1	25.6	0.0	38.4
LnGrp LOS	D		B	C			E		C	C		D
Approach Vol, veh/h		428			20			625			761	
Approach Delay, s/veh		37.8			23.0			25.7			38.3	
Approach LOS		D			C			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		47.0		43.0		47.0		43.0				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		42.0		38.0		42.0		38.0				
Max Q Clear Time (g_c+l1), s		44.0		40.0		37.6		40.0				
Green Ext Time (p_c), s		0.0		0.0		2.1		0.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			33.7									
HCM 2010 LOS			C									



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Two Way Analysis cannot be performed on Signalized Intersection.

## 2022 Build Traffic Volumes

Weekday Peak PM Hour

## 7: NYS Route 9D &amp; Beacon City Hall/Main Street













2/20/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	9	4	19	3	196	0	373	32	271	342	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-8%			-3%			3%	
Storage Length (ft)	0		0	0		70	0		0	120		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.974				0.850		0.988				
Flt Protected		0.984			0.958					0.950		
Satd. Flow (prot)	0	1776	0	0	1856	1647	1891	1868	0	1743	1835	0
Flt Permitted										0.473		
Satd. Flow (perm)	0	1805	0	0	1937	1647	1891	1868	0	868	1835	0
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)		4										
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		76			138			182			388	
Travel Time (s)		1.7			3.1			4.1			8.8	
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
Adj. Flow (vph)	7	10	4	21	3	213	0	405	35	295	372	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	0	0	24	213	0	440	0	295	373	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.95	0.95	0.95	0.98	0.98	0.98	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83		20	83	83	83	6		83	6	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Size(ft)	20	43		20	43	43	43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40			40	40	40			40		
Detector 2 Size(ft)		43			43	43	43			43		
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0			0.0		
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2			6		

2022 Build Traffic Volumes  
7: NYS Route 9D & Beacon City Hall/Main Street

Weekday Peak PM Hour

2/20/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8	1	2	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		8.0	8.0	4.0	31.0	31.0		4.0	36.0	
Minimum Split (s)	21.0	21.0		21.0	21.0	9.0	36.0	36.0		9.0	41.0	
Total Split (s)	36.0	36.0		36.0	36.0	13.0	41.0	41.0		13.0	54.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%	14.4%	45.6%	45.6%		14.4%	60.0%	
Maximum Green (s)	31.0	31.0		31.0	31.0	8.0	36.0	36.0		8.0	49.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag						Lag	Lead	Lead		Lag		
Lead-Lag Optimize?						Yes	Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		None	Max	
Walk Time (s)	5.0	5.0					5.0	5.0				
Flash Dont Walk (s)	11.0	11.0					11.0	11.0				
Pedestrian Calls (#/hr)	0	0					0	0				
v/c Ratio		0.11			0.09	0.73		0.36		0.34	0.21	
Control Delay		22.6			24.0	38.3		6.7		2.9	1.3	
Queue Delay		0.0			0.0	0.0		0.0		0.0	0.0	
Total Delay		22.6			24.0	38.3		6.7		2.9	1.3	
Queue Length 50th (ft)		5			7	68		48		0	0	
Queue Length 95th (ft)		24			29	124		163		51	65	
Internal Link Dist (ft)		1			58			102			308	
Turn Bay Length (ft)						70				120		
Base Capacity (vph)		962			1030	290		1217		879	1736	
Starvation Cap Reductn		0			0	0		0		0	162	
Spillback Cap Reductn		0			0	0		0		0	0	
Storage Cap Reductn		0			0	0		0		0	0	
Reduced v/c Ratio		0.02			0.02	0.73		0.36		0.34	0.24	

Intersection Summary

Area Type: Other






Cycle Length: 90

Actuated Cycle Length: 58.7

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Splits and Phases: 7: NYS Route 9D & Beacon City Hall/Main Street

 ø2	 ø1	 ø4
41 s	13 s	36 s
 ø6		 ø8
54 s		36 s

2022 Build Traffic Volumes  
7: NYS Route 9D & Beacon City Hall/Main Street




















Weekday Peak PM Hour  
2/20/2017



Lane Group	EBT	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	21	24	213	440	295	373
v/c Ratio	0.11	0.09	0.73	0.36	0.34	0.21
Control Delay	22.6	24.0	38.3	6.7	2.9	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.6	24.0	38.3	6.7	2.9	1.3
Queue Length 50th (ft)	5	7	68	48	0	0
Queue Length 95th (ft)	24	29	124	163	51	65
Internal Link Dist (ft)	1	58		102		308
Turn Bay Length (ft)			70		120	
Base Capacity (vph)	962	1030	290	1217	879	1736
Starvation Cap Reductn	0	0	0	0	0	162
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.02	0.73	0.36	0.34	0.24
Intersection Summary						

2022 Build Traffic Volumes  
7: NYS Route 9D & Beacon City Hall/Main Street

Weekday Peak PM Hour  
2/20/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	9	4	19	3	196	0	373	32	271	342	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1890	1853	1890	1976	1937	1937	1891	1891	1928	1835	1835	1872
Adj Flow Rate, veh/h	7	10	4	21	3	213	0	405	35	295	372	1
Adj No. of Lanes	0	1	0	0	1	1	1	1	0	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	107	120	37	252	30	392	108	923	80	656	1339	4
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.00	0.54	0.54	0.12	0.73	0.73
Sat Flow, veh/h	298	1012	308	1279	252	1647	1020	1716	148	1747	1829	5
Grp Volume(v), veh/h	21	0	0	24	0	213	0	0	440	295	0	373
Grp Sat Flow(s),veh/h/ln	1618	0	0	1531	0	1647	1020	0	1865	1747	0	1834
Q Serve(g_s), s	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	9.6	0.0	0.0	4.6
Cycle Q Clear(g_c), s	0.7	0.0	0.0	0.8	0.0	0.0	0.0	0.0	9.6	0.0	0.0	4.6
Prop In Lane	0.33		0.19	0.87		1.00	1.00		0.08	1.00		0.00
Lane Grp Cap(c), veh/h	264	0	0	282	0	392	108	0	1003	656	0	1343
V/C Ratio(X)	0.08	0.00	0.00	0.08	0.00	0.54	0.00	0.00	0.44	0.45	0.00	0.28
Avail Cap(c_a), veh/h	781	0	0	798	0	959	108	0	1003	656	0	1343
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.3	0.0	0.0	26.3	0.0	22.3	0.0	0.0	9.4	13.0	0.0	3.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	1.2	0.0	0.0	1.4	0.5	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.4	0.0	3.6	0.0	0.0	5.3	4.2	0.0	2.5
LnGrp Delay(d),s/veh	26.4	0.0	0.0	26.5	0.0	23.5	0.0	0.0	10.8	13.5	0.0	3.5
LnGrp LOS	C			C		C			B	B		A
Approach Vol, veh/h		21			237			440			668	
Approach Delay, s/veh		26.4			23.8			10.8			7.9	
Approach LOS		C			C			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	13.0	41.0		12.9		54.0		12.9				
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s	8.0	36.0		31.0		49.0		31.0				
Max Q Clear Time (g_c+l1), s	2.0	11.6		2.7		6.6		2.8				
Green Ext Time (p_c), s	1.4	1.1		1.5		2.7		1.5				
Intersection Summary												
HCM 2010 Ctrl Delay				11.9								
HCM 2010 LOS				B								












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Two Way Analysis cannot be performed on Signalized Intersection.

2022 Build Traffic Volumes  
8: Bank Street & Branch Street

Weekday Peak PM Hour

2/20/2017

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	30	55	8	17	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	10%			10%	-10%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected				0.958		
Satd. Flow (prot)	1561	0	0	1729	1995	0
Flt Permitted				0.958		
Satd. Flow (perm)	1561	0	0	1729	1995	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	206			200	796	
Travel Time (s)	4.7			4.5	18.1	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	38	69	10	21	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	38	0	0	79	21	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	0.94	0.94
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					

2022 Build Traffic Volumes  
8: Bank Street & Branch Street










Weekday Peak PM Hour  
2/20/2017

Intersection						
Int Delay, s/veh	6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	30	55	8	17	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	10	-	-	10	-10	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	38	69	10	21	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	169	21	21	0	-	0
Stage 1	21	-	-	-	-	-
Stage 2	148	-	-	-	-	-
Critical Hdwy	8.4	7.2	4.1	-	-	-
Critical Hdwy Stg 1	7.4	-	-	-	-	-
Critical Hdwy Stg 2	7.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	752	1056	1608	-	-	-
Stage 1	995	-	-	-	-	-
Stage 2	815	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	720	1056	1608	-	-	-
Mov Cap-2 Maneuver	720	-	-	-	-	-
Stage 1	995	-	-	-	-	-
Stage 2	780	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.5	6.4		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1608	-	1056	-	-	
HCM Lane V/C Ratio	0.043	-	0.036	-	-	
HCM Control Delay (s)	7.3	0	8.5	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-	

2022 Build Traffic Volumes  
 9: Site Access & Tompkins Avenue /Tompkins Avenue

Weekday Peak PM Hour

2/20/2017

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	47	0	67	70	0	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	3%			-5%	0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.976		
Satd. Flow (prot)	1872	0	0	1872	1644	0
Flt Permitted				0.976		
Satd. Flow (perm)	1872	0	0	1872	1644	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	160			236	134	
Travel Time (s)	3.6			5.4	3.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	1%	2%	0%	0%
Adj. Flow (vph)	52	0	74	78	0	40
Shared Lane Traffic (%)						
Lane Group Flow (vph)	52	0	0	152	40	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	0.97	0.97	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					

2022 Build Traffic Volumes  
 9: Site Access & Tompkins Avenue /Tompkins Avenue

Weekday Peak PM Hour  
 2/20/2017

Intersection	
Int Delay, s/veh	3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	47	0	67	70	0	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-5	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	1	2	0	0
Mvmt Flow	52	0	74	78	0	40

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	52	0	279	52
Stage 1	-	-	-	-	52	-
Stage 2	-	-	-	-	227	-
Critical Hdwy	-	-	4.11	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.209	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1560	-	715	1021
Stage 1	-	-	-	-	976	-
Stage 2	-	-	-	-	815	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1560	-	679	1021
Mov Cap-2 Maneuver	-	-	-	-	679	-
Stage 1	-	-	-	-	976	-
Stage 2	-	-	-	-	774	-



















Approach	EB	WB	NB
HCM Control Delay, s	0	3.6	8.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1021	-	-	1560	-
HCM Lane V/C Ratio	0.039	-	-	0.048	-
HCM Control Delay (s)	8.7	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

2022 Build Traffic Volumes w/IMP  
1: NYS Route 9D & Tompkins Avenue/Ralph Street

Weekday Peak AM Hour

2/27/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	81	9	21	1	4	4	13	551	0	0	787	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			-1%			0%			-5%	
Storage Length (ft)	0		0	0		0	120		0	120		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00							
Frt		0.974			0.939						0.986	
Flt Protected		0.965			0.995		0.950					
Satd. Flow (prot)	0	1813	0	0	1784	0	1543	1810	0	1947	1826	0
Flt Permitted		0.777			0.980		0.214					
Satd. Flow (perm)	0	1452	0	0	1756	0	348	1810	0	1947	1826	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			5						15	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		833			226			335			948	
Travel Time (s)		18.9			5.1			7.6			21.5	
Confl. Peds. (#/hr)	3			3			2			2		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	17%	5%	0%	0%	5%	7%
Adj. Flow (vph)	93	10	24	1	5	5	15	633	0	0	905	93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	127	0	0	11	0	15	633	0	0	998	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	0.98	0.98	0.98	0.99	0.99	0.99	1.00	1.00	1.00	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	1		1	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83		20	83		6	6		6	6	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	40		20	40		6	6		6	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43							
Detector 2 Size(ft)		40			40							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							



2022 Build Traffic Volumes w/IMP  
1: NYS Route 9D & Tompkins Avenue/Ralph Street

Weekday Peak AM Hour  
2/27/2017

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		60.0	60.0		60.0	60.0	
Total Split (%)	25.0%	25.0%		25.0%	25.0%		75.0%	75.0%		75.0%	75.0%	
Maximum Green (s)	16.0	16.0		16.0	16.0		56.0	56.0		56.0	56.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.59			0.04		0.05	0.44			0.68	
Control Delay		39.6			21.9		3.9	5.1			8.8	
Queue Delay		0.0			0.0		0.0	1.2			0.0	
Total Delay		39.6			21.9		3.9	6.3			8.8	
Queue Length 50th (ft)		56			3		2	93			208	
Queue Length 95th (ft)		97			15		7	177			403	
Internal Link Dist (ft)		753			146			255			868	
Turn Bay Length (ft)							120					
Base Capacity (vph)		296			350		277	1443			1459	
Starvation Cap Reductn		0			0		0	553			0	
Spillback Cap Reductn		0			0		0	0			0	
Storage Cap Reductn		0			0		0	0			0	
Reduced v/c Ratio		0.43			0.03		0.05	0.71			0.68	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 81.3

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Splits and Phases: 1: NYS Route 9D & Tompkins Avenue/Ralph Street

60 s	20 s
60 s	20 s

2022 Build Traffic Volumes w/IMP  
1: NYS Route 9D & Tompkins Avenue/Ralph Street



















Weekday Peak AM Hour  
2/27/2017



Lane Group	EBT	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	127	11	15	633	998
v/c Ratio	0.59	0.04	0.05	0.44	0.68
Control Delay	39.6	21.9	3.9	5.1	8.8
Queue Delay	0.0	0.0	0.0	1.2	0.0
Total Delay	39.6	21.9	3.9	6.3	8.8
Queue Length 50th (ft)	56	3	2	93	208
Queue Length 95th (ft)	97	15	7	177	403
Internal Link Dist (ft)	753	146		255	868
Turn Bay Length (ft)			120		
Base Capacity (vph)	296	350	277	1443	1459
Starvation Cap Reductn	0	0	0	553	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.43	0.03	0.05	0.71	0.68
Intersection Summary					

2022 Build Traffic Volumes w/IMP  
1: NYS Route 9D & Tompkins Avenue/Ralph Street

Weekday Peak AM Hour  
2/27/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	81	9	21	1	4	4	13	551	0	0	787	81
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1928	1928	1928	1910	1910	1910	1624	1810	0	1948	1851	1948
Adj Flow Rate, veh/h	93	10	24	1	5	5	15	633	0	0	905	93
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	0	17	5	0	0	5	5
Cap, veh/h	206	19	32	60	102	90	347	1404	0	100	1282	132
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.78	0.78	0.00	0.00	0.78	0.78
Sat Flow, veh/h	1059	167	286	49	903	793	490	1810	0	827	1652	170
Grp Volume(v), veh/h	127	0	0	11	0	0	15	633	0	0	0	998
Grp Sat Flow(s),veh/h/ln	1511	0	0	1745	0	0	490	1810	0	827	0	1821
Q Serve(g_s), s	5.4	0.0	0.0	0.0	0.0	0.0	1.1	8.7	0.0	0.0	0.0	19.6
Cycle Q Clear(g_c), s	5.8	0.0	0.0	0.4	0.0	0.0	20.7	8.7	0.0	0.0	0.0	19.6
Prop In Lane	0.73		0.19	0.09		0.45	1.00		0.00	1.00		0.09
Lane Grp Cap(c), veh/h	257	0	0	252	0	0	347	1404	0	100	0	1413
V/C Ratio(X)	0.49	0.00	0.00	0.04	0.00	0.00	0.04	0.45	0.00	0.00	0.00	0.71
Avail Cap(c_a), veh/h	419	0	0	437	0	0	347	1404	0	100	0	1413
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	30.9	0.0	0.0	28.6	0.0	0.0	9.1	2.8	0.0	0.0	0.0	4.0
Incr Delay (d2), s/veh	1.5	0.0	0.0	0.1	0.0	0.0	0.2	1.0	0.0	0.0	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.0	0.2	0.0	0.0	0.2	4.6	0.0	0.0	0.0	10.6
LnGrp Delay(d),s/veh	32.4	0.0	0.0	28.6	0.0	0.0	9.4	3.8	0.0	0.0	0.0	7.0
LnGrp LOS	C			C			A	A				A
Approach Vol, veh/h		127			11			648			998	
Approach Delay, s/veh		32.4			28.6			4.0			7.0	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		60.0		12.2		60.0		12.2				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		56.0		16.0		56.0		16.0				
Max Q Clear Time (g_c+l1), s		22.7		7.8		21.6		2.4				
Green Ext Time (p_c), s		6.4		0.3		6.5		0.5				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			7.8									
HCM 2010 LOS			A									

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Two Way Analysis cannot be performed on Signalized Intersection.

2022 Build Traffic Volumes w/IMP  
2: Bank Street & Tompkins Avenue

Weekday Peak AM Hour

2/27/2017

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Volume (vph)	95	2	42	30	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			1%	7%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.998				0.865	
Flt Protected				0.972		
Satd. Flow (prot)	1808	0	0	1756	1586	0
Flt Permitted				0.972		
Satd. Flow (perm)	1808	0	0	1756	1586	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	236			833	796	
Travel Time (s)	5.4			18.9	18.1	
Confl. Peds. (#/hr)			2			1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	6%	0%	0%	11%	0%	0%
Adj. Flow (vph)	116	2	51	37	0	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	118	0	0	88	5	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	1.01	1.01	1.05	1.05
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					

















2022 Build Traffic Volumes w/IMP  
2: Bank Street & Tompkins Avenue













Weekday Peak AM Hour

2/27/2017

Intersection						
Int Delay, s/veh	2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	95	2	42	30	0	4
Conflicting Peds, #/hr	0	0	2	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-2	-	-	1	7	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	6	0	0	11	0	0
Mvmt Flow	116	2	51	37	0	5
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	119	0	257	120
Stage 1	-	-	-	-	118	-
Stage 2	-	-	-	-	139	-
Critical Hdwy	-	-	4.1	-	7.8	6.9
Critical Hdwy Stg 1	-	-	-	-	6.8	-
Critical Hdwy Stg 2	-	-	-	-	6.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1482	-	666	915
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	846	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1480	-	642	913
Mov Cap-2 Maneuver	-	-	-	-	642	-
Stage 1	-	-	-	-	870	-
Stage 2	-	-	-	-	816	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		4.4		9	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	913	-	-	1480	-	
HCM Lane V/C Ratio	0.005	-	-	0.035	-	
HCM Control Delay (s)	9	-	-	7.5	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0	-	-	0.1	-	



												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	20	0	2	0	4	15	14	160	1	4	182	353
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		5%			0%			-1%			-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.990			0.892			0.999			0.911	
Flt Protected		0.956						0.996				
Satd. Flow (prot)	0	1753	0	0	1662	0	0	1728	0	0	1731	0
Flt Permitted		0.956						0.945			0.999	
Satd. Flow (perm)	0	1753	0	0	1662	0	0	1639	0	0	1729	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		84			16						143	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		640			137			321			353	
Travel Time (s)		14.5			3.1			7.3			8.0	
Confl. Peds. (#/hr)							1					
Peak Hour Factor	0.83	0.92	0.83	0.92	0.92	0.92	0.83	0.83	0.92	0.92	0.83	0.83
Heavy Vehicles (%)	0%	2%	0%	2%	2%	2%	67%	5%	2%	2%	1%	1%
Adj. Flow (vph)	24	0	2	0	4	16	17	193	1	4	219	425
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	26	0	0	20	0	0	211	0	0	648	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.03	1.03	1.03	1.00	1.00	1.00	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	83		20	83		20	83		20	83	
Trailing Detector (ft)	0	-5		0	-5		0	-5		0	-5	
Detector 1 Position(ft)	0	-5		0	-5		0	-5		0	-5	
Detector 1 Size(ft)	20	40		20	40		20	40		20	40	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43			43			43	
Detector 2 Size(ft)		40			40			40			40	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA			NA		Perm	NA		Perm	NA	
Protected Phases	6	6			2			4			8	
Permitted Phases				2			4			8		

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	6	6		2	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	21.0	21.0		22.0	22.0		48.0	48.0		48.0	48.0	
Total Split (%)	23.1%	23.1%		24.2%	24.2%		52.7%	52.7%		52.7%	52.7%	
Maximum Green (s)	16.0	16.0		17.0	17.0		43.0	43.0		43.0	43.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
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?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.12			0.13			0.21			0.58	
Control Delay		1.1			18.6			6.6			8.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		1.1			18.6			6.6			8.5	
Queue Length 50th (ft)		0			2			34			105	
Queue Length 95th (ft)		0			20			59			168	
Internal Link Dist (ft)		560			57			241			273	
Turn Bay Length (ft)												
Base Capacity (vph)		467			417			1011			1121	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.06			0.05			0.21			0.58	

**Intersection Summary**

Area Type: Other





Cycle Length: 91

Actuated Cycle Length: 69.7

Natural Cycle: 75

















Control Type: Semi Act-Uncoord

Splits and Phases: 3: Beekman Street/Beekman Street &amp; The Views Development/W. Main Street

		
ø2	ø6	ø4
22 s	21 s	48 s
		
		ø8
		48 s



Lane Group	SET	NWT	NET	SWT
Lane Group Flow (vph)	26	20	211	648
v/c Ratio	0.12	0.13	0.21	0.58
Control Delay	1.1	18.6	6.6	8.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	1.1	18.6	6.6	8.5
Queue Length 50th (ft)	0	2	34	105
Queue Length 95th (ft)	0	20	59	168
Internal Link Dist (ft)	560	57	241	273
Turn Bay Length (ft)				
Base Capacity (vph)	467	417	1011	1121
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.06	0.05	0.21	0.58
Intersection Summary				

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (veh/h)	20	0	2	0	4	15	14	160	1	4	182	353
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1852	1852	1852	1900	1863	1900	1910	1736	1910	1919	1900	1919
Adj Flow Rate, veh/h	24	0	2	0	4	16	17	193	1	4	219	425
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.83	0.92	0.83	0.92	0.92	0.92	0.83	0.83	0.92	0.92	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	1	1	1
Cap, veh/h	98	0	8	0	20	79	105	1017	5	56	380	727
Arrive On Green	0.06	0.00	0.06	0.00	0.06	0.06	0.65	0.65	0.65	0.65	0.65	0.65
Sat Flow, veh/h	1614	0	134	0	326	1306	70	1561	8	2	584	1116
Grp Volume(v), veh/h	26	0	0	0	0	20	211	0	0	648	0	0
Grp Sat Flow(s),veh/h/ln	1748	0	0	0	0	1632	1638	0	0	1702	0	0
Q Serve(g_s), s	0.9	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.9	0.0	0.0	0.0	0.0	0.8	3.2	0.0	0.0	14.1	0.0	0.0
Prop In Lane	0.92		0.08	0.00		0.80	0.08		0.00	0.01		0.66
Lane Grp Cap(c), veh/h	106	0	0	0	0	99	1126	0	0	1164	0	0
V/C Ratio(X)	0.25	0.00	0.00	0.00	0.00	0.20	0.19	0.00	0.00	0.56	0.00	0.00
Avail Cap(c_a), veh/h	424	0	0	0	0	420	1126	0	0	1164	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.6	0.0	0.0	0.0	0.0	29.5	4.6	0.0	0.0	6.5	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	0.0	0.0	0.0	1.0	0.4	0.0	0.0	1.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	0.0	0.0	0.4	1.6	0.0	0.0	7.1	0.0	0.0
LnGrp Delay(d),s/veh	30.8	0.0	0.0	0.0	0.0	30.5	4.9	0.0	0.0	8.4	0.0	0.0
LnGrp LOS	C					C	A			A		
Approach Vol, veh/h		26			20			211			648	
Approach Delay, s/veh		30.8			30.5			4.9			8.4	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.0		48.0		9.0		48.0				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		17.0		43.0		16.0		43.0				
Max Q Clear Time (g_c+l1), s		2.8		5.2		2.9		16.1				
Green Ext Time (p_c), s		0.0		6.5		0.0		6.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			8.7									
HCM 2010 LOS			A									

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Two Way Analysis cannot be performed on Signalized Intersection.

2022 Build Traffic Volumes w/IMP  
4: W. Main Street & Bank Street

Weekday Peak AM Hour  
2/27/2017



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↱		↰	↱
Volume (vph)	7	9	357	14	14	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		3%	-5%		-8%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.995		0.884	
Flt Protected		0.978			0.993	
Satd. Flow (prot)	0	1830	1919	0	1691	0
Flt Permitted		0.978			0.993	
Satd. Flow (perm)	0	1830	1919	0	1691	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		264	640		200	
Travel Time (s)		6.0	14.5		4.5	
Confl. Peds. (#/hr)	34			1		
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	1%	0%	0%	3%
Adj. Flow (vph)	9	11	435	17	17	105
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	20	452	0	122	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	0.97	0.97	0.95	0.95
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized














Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	7	9	357	14	14	86
Conflicting Peds, #/hr	34	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	3	-5	-	-8	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	1	0	0	3
Mvmt Flow	9	11	435	17	17	105
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	452	0	-	0	472	478
Stage 1	-	-	-	-	444	-
Stage 2	-	-	-	-	28	-
Critical Hdwy	4.1	-	-	-	4.8	5.43
Critical Hdwy Stg 1	-	-	-	-	3.8	-
Critical Hdwy Stg 2	-	-	-	-	3.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.327
Pot Cap-1 Maneuver	1119	-	-	-	684	651
Stage 1	-	-	-	-	793	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1087	-	-	-	679	633
Mov Cap-2 Maneuver	-	-	-	-	679	-
Stage 1	-	-	-	-	793	-
Stage 2	-	-	-	-	1004	-
Approach	EB		WB		SB	
HCM Control Delay, s	3.6		0		12	
HCM LOS					B	
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1087	-	-	-	639	
HCM Lane V/C Ratio	0.008	-	-	-	0.191	
HCM Control Delay (s)	8.3	0	-	-	12	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.7	

2022 Build Traffic Volumes w/IMP  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak AM Hour

2/27/2017

						
Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	63	215	578	59	248	806
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	5%		3%			-1%
Storage Length (ft)	90	0		0	215	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.988			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1725	1544	1813	0	1778	1872
Flt Permitted	0.950				0.147	
Satd. Flow (perm)	1725	1544	1813	0	275	1872
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		30			30
Link Distance (ft)	207		948			167
Travel Time (s)	4.7		21.5			3.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	68	234	628	64	270	876
Shared Lane Traffic (%)						
Lane Group Flow (vph)	68	234	692	0	270	876
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			
Headway Factor	1.03	1.03	1.02	1.02	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Minimum Split (s)	21.0	21.0	62.0		9.0	45.0
Total Split (s)	43.0	43.0	62.0		15.0	77.0
Total Split (%)	35.8%	35.8%	51.7%		12.5%	64.2%
Maximum Green (s)	38.0	38.0	57.0		10.0	72.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Walk Time (s)	5.0	5.0	5.0			
Flash Dont Walk (s)	11.0	11.0	11.0			
Pedestrian Calls (#/hr)	0	0	0			
v/c Ratio	0.12	0.48	0.80		0.93	0.78
Control Delay	30.0	37.0	35.5		54.4	24.2
Queue Delay	0.0	0.0	0.0		0.0	0.0

2022 Build Traffic Volumes w/IMP  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak AM Hour

2/27/2017



Lane Group	NWL	NWR	NET	NER	SWL	SWT
Total Delay	30.0	37.0	35.5		54.4	24.2
Queue Length 50th (ft)	37	146	443		93	481
Queue Length 95th (ft)	73	226	615		#219	666
Internal Link Dist (ft)	127		868			87
Turn Bay Length (ft)	90				215	
Base Capacity (vph)	546	488	861		290	1123
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.12	0.48	0.80		0.93	0.78

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 95

Control Type: Pretimed

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: NYS Route 9D & Verplanck Avenue





Lane Group	NWL	NWR	NET	SWL	SWT
Lane Group Flow (vph)	68	234	692	270	876
v/c Ratio	0.12	0.48	0.80	0.93	0.78
Control Delay	30.0	37.0	35.5	54.4	24.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	30.0	37.0	35.5	54.4	24.2
Queue Length 50th (ft)	37	146	443	93	481
Queue Length 95th (ft)	73	226	615	#219	666
Internal Link Dist (ft)	127		868		87
Turn Bay Length (ft)	90			215	
Base Capacity (vph)	546	488	861	290	1123
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.12	0.48	0.80	0.93	0.78












#### Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

2022 Build Traffic Volumes w/IMP  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak AM Hour




















2/27/2017













								
Movement	NWL	NWR	NET	NER	SWL	SWT		
Lane Configurations								
Volume (veh/h)	63	215	578	59	248	806		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1816	1816	1835	1872	1872	1872		
Adj Flow Rate, veh/h	68	234	628	64	270	876		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	548	489	778	79	320	1123		
Arrive On Green	0.32	0.32	0.47	0.47	0.08	0.60		
Sat Flow, veh/h	1730	1544	1638	167	1783	1872		
Grp Volume(v), veh/h	68	234	0	692	270	876		
Grp Sat Flow(s),veh/h/ln	1730	1544	0	1805	1783	1872		
Q Serve(g_s), s	3.4	14.7	0.0	39.2	9.1	42.2		
Cycle Q Clear(g_c), s	3.4	14.7	0.0	39.2	9.1	42.2		
Prop In Lane	1.00	1.00		0.09	1.00			
Lane Grp Cap(c), veh/h	548	489	0	858	320	1123		
V/C Ratio(X)	0.12	0.48	0.00	0.81	0.84	0.78		
Avail Cap(c_a), veh/h	548	489	0	858	320	1123		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	29.2	33.0	0.0	26.8	23.6	18.0		
Incr Delay (d2), s/veh	0.5	3.3	0.0	8.0	22.8	5.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.7	6.7	0.0	21.3	6.5	23.3		
LnGrp Delay(d),s/veh	29.6	36.4	0.0	34.8	46.3	23.4		
LnGrp LOS	C	D		C	D	C		
Approach Vol, veh/h	302		692			1146		
Approach Delay, s/veh	34.8		34.8			28.8		
Approach LOS	C		C			C		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	15.0	62.0				77.0		43.0
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0
Max Green Setting (Gmax), s	10.0	57.0				72.0		38.0
Max Q Clear Time (g_c+l1), s	0.0	0.0				0.0		0.0
Green Ext Time (p_c), s	0.0	0.0				0.0		0.0
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			31.6					
HCM 2010 LOS			C					

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Two Way Analysis cannot be performed on Signalized Intersection.



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	137	4	55	10	11	10	48	418	1	8	472	331
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-10%			-6%			3%	
Storage Length (ft)	0		95	0		0	80		0	85		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.956						0.938	
Flt Protected		0.954			0.984		0.950			0.950		
Satd. Flow (prot)	0	1759	1567	0	1840	0	1823	1919	0	1743	1721	0
Flt Permitted		0.707			0.892		0.219			0.469		
Satd. Flow (perm)	0	1304	1567	0	1668	0	420	1919	0	861	1721	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			60		11						62	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		273			158			388			335	
Travel Time (s)		6.2			3.6			8.8			7.6	
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
Adj. Flow (vph)	149	4	60	11	12	11	52	454	1	9	513	360
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	153	60	0	34	0	52	455	0	9	873	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.01	1.01	1.01	0.94	0.94	0.94	0.96	0.96	0.96	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	2	1	2		2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83	83	20	83		83	6		83	6	
Trailing Detector (ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Position(ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Size(ft)	20	43	43	20	43		43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40	40		40		40			40		
Detector 2 Size(ft)		43	43		43		43			43		
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0		0.0			0.0		
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		31.0	31.0		49.0	49.0	
Minimum Split (s)	20.0	20.0	20.0	21.0	21.0		54.0	54.0		54.0	54.0	
Total Split (s)	36.0	36.0	36.0	36.0	36.0		54.0	54.0		54.0	54.0	
Total Split (%)	40.0%	40.0%	40.0%	40.0%	40.0%		60.0%	60.0%		60.0%	60.0%	
Maximum Green (s)	31.0	31.0	31.0	31.0	31.0		49.0	49.0		49.0	49.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Walk Time (s)				5.0	5.0							
Flash Dont Walk (s)				11.0	11.0							
Pedestrian Calls (#/hr)				0	0							
v/c Ratio		0.62	0.17		0.10		0.18	0.35		0.02	0.74	
Control Delay		38.5	8.3		18.5		7.6	6.7		5.4	13.3	
Queue Delay		0.0	0.0		0.0		0.0	0.7		0.0	11.1	
Total Delay		38.5	8.3		18.5		7.6	7.4		5.4	24.4	
Queue Length 50th (ft)		64	0		9		7	74		1	197	
Queue Length 95th (ft)		120	27		30		28	156		7	457	
Internal Link Dist (ft)		193			78			308			255	
Turn Bay Length (ft)			95				80			85		
Base Capacity (vph)		555	702		717		283	1292		580	1179	
Starvation Cap Reductn		0	0		0		0	498		0	288	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.28	0.09		0.05		0.18	0.57		0.02	0.98	

## Intersection Summary

Area Type: Other

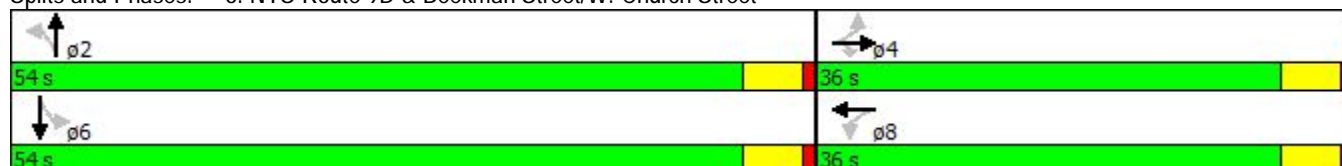
Cycle Length: 90

Actuated Cycle Length: 73

Natural Cycle: 75








Control Type: Semi Act-Uncoord

Splits and Phases: 6: NYS Route 9D &amp; Beekman Street/W. Church Street



2022 Build Traffic Volumes w/IMP  
6: NYS Route 9D & Beekman Street/W. Church Street




















Weekday Peak AM Hour  
2/27/2017

							
Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	153	60	34	52	455	9	873
v/c Ratio	0.62	0.17	0.10	0.18	0.35	0.02	0.74
Control Delay	38.5	8.3	18.5	7.6	6.7	5.4	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.7	0.0	11.1
Total Delay	38.5	8.3	18.5	7.6	7.4	5.4	24.4
Queue Length 50th (ft)	64	0	9	7	74	1	197
Queue Length 95th (ft)	120	27	30	28	156	7	457
Internal Link Dist (ft)	193		78		308		255
Turn Bay Length (ft)		95		80		85	
Base Capacity (vph)	555	702	717	283	1292	580	1179
Starvation Cap Reductn	0	0	0	0	498	0	288
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.09	0.05	0.18	0.57	0.02	0.98
Intersection Summary							

2022 Build Traffic Volumes w/IMP  
6: NYS Route 9D & Beekman Street/W. Church Street

Weekday Peak AM Hour

2/27/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	137	4	55	10	11	10	48	418	1	8	472	331
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1844	1844	1995	1956	1995	1919	1919	1957	1835	1835	1872
Adj Flow Rate, veh/h	149	4	60	11	12	11	52	454	1	9	513	360
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	286	6	369	83	89	53	260	1215	3	573	638	448
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	824	28	1568	91	379	225	651	1914	4	918	1005	705
Grp Volume(v), veh/h	153	0	60	34	0	0	52	0	455	9	0	873
Grp Sat Flow(s),veh/h/ln	851	0	1568	695	0	0	651	0	1918	918	0	1710
Q Serve(g_s), s	0.0	0.0	2.3	0.2	0.0	0.0	5.0	0.0	8.8	0.4	0.0	29.4
Cycle Q Clear(g_c), s	15.0	0.0	2.3	15.3	0.0	0.0	34.2	0.0	8.8	9.1	0.0	29.4
Prop In Lane	0.97		1.00	0.32		0.32	1.00		0.00	1.00		0.41
Lane Grp Cap(c), veh/h	292	0	369	225	0	0	260	0	1218	573	0	1086
V/C Ratio(X)	0.52	0.00	0.16	0.15	0.00	0.00	0.20	0.00	0.37	0.02	0.00	0.80
Avail Cap(c_a), veh/h	522	0	630	500	0	0	260	0	1218	573	0	1086
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.3	0.0	23.5	23.8	0.0	0.0	23.2	0.0	6.7	8.9	0.0	10.5
Incr Delay (d2), s/veh	1.4	0.0	0.2	0.3	0.0	0.0	1.7	0.0	0.9	0.1	0.0	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	1.0	0.6	0.0	0.0	1.0	0.0	4.8	0.1	0.0	15.5
LnGrp Delay(d),s/veh	29.7	0.0	23.7	24.1	0.0	0.0	24.9	0.0	7.6	8.9	0.0	16.8
LnGrp LOS	C		C	C			C		A	A		B
Approach Vol, veh/h		213			34			507			882	
Approach Delay, s/veh		28.0			24.1			9.4			16.7	
Approach LOS		C			C			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		54.0		23.2		54.0		23.2				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		49.0		31.0		49.0		31.0				
Max Q Clear Time (g_c+l1), s		36.2		17.0		31.4		17.3				
Green Ext Time (p_c), s		4.3		1.0		4.9		1.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			16.1									
HCM 2010 LOS			B									


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Two Way Analysis cannot be performed on Signalized Intersection.

2022 Build Traffic Volumes w/IMP  
7: NYS Route 9D & Beacon City Hall/Main Street

Weekday Peak AM Hour

2/27/2017


												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔	↔	↔		↔	↔	
Volume (vph)	10	14	8	13	18	116	11	341	29	174	337	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-8%			-3%			3%	
Storage Length (ft)	0		0	0		70	0		0	120		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.965				0.850		0.988			0.989	
Flt Protected		0.985			0.980		0.950			0.950		
Satd. Flow (prot)	0	1762	0	0	1899	1647	1796	1868	0	1743	1815	0
Flt Permitted		0.882			0.911		0.529			0.495		
Satd. Flow (perm)	0	1578	0	0	1765	1647	1000	1868	0	908	1815	0
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)		9									7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		76			138			182			388	
Travel Time (s)		1.7			3.1			4.1			8.8	
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
Adj. Flow (vph)	11	15	9	14	20	126	12	371	32	189	366	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	35	0	0	34	126	12	403	0	189	394	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.95	0.95	0.95	0.98	0.98	0.98	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83		20	83	83	83	6		83	6	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Size(ft)	20	43		20	43	43	43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40			40	40	40			40		
Detector 2 Size(ft)		43			43	43	43			43		
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0			0.0		
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2			6		



2022 Build Traffic Volumes w/IMP  
7: NYS Route 9D & Beacon City Hall/Main Street

Weekday Peak AM Hour

2/27/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8	1	2	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		8.0	8.0	4.0	31.0	31.0		4.0	36.0	
Minimum Split (s)	21.0	21.0		21.0	21.0	9.0	36.0	36.0		9.0	41.0	
Total Split (s)	36.0	36.0		36.0	36.0	13.0	41.0	41.0		13.0	54.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%	14.4%	45.6%	45.6%		14.4%	60.0%	
Maximum Green (s)	31.0	31.0		31.0	31.0	8.0	36.0	36.0		8.0	49.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag						Lag	Lead	Lead		Lag		
Lead-Lag Optimize?						Yes	Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		None	Max	
Walk Time (s)	5.0	5.0					5.0	5.0				
Flash Dont Walk (s)	11.0	11.0					11.0	11.0				
Pedestrian Calls (#/hr)	0	0					0	0				
v/c Ratio		0.19			0.15	0.37	0.02	0.34		0.22	0.24	
Control Delay		23.6			26.8	22.4	6.9	7.9		2.8	2.2	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		23.6			26.8	22.4	6.9	7.9		2.8	2.2	
Queue Length 50th (ft)		8			10	38	1	43		0	0	
Queue Length 95th (ft)		34			37	76	9	149		34	71	
Internal Link Dist (ft)		1			58			102			308	
Turn Bay Length (ft)						70				120		
Base Capacity (vph)		793			882	342	630	1178		871	1619	
Starvation Cap Reductn		0			0	0	0	0		0	153	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.04			0.04	0.37	0.02	0.34		0.22	0.27	

Intersection Summary

Area Type: Other


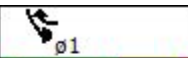



Cycle Length: 90

Actuated Cycle Length: 62.7

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Splits and Phases: 7: NYS Route 9D & Beacon City Hall/Main Street

		
41 s	13 s	36 s
		
54 s	36 s	

2022 Build Traffic Volumes w/IMP  
7: NYS Route 9D & Beacon City Hall/Main Street

Weekday Peak AM Hour  
2/27/2017






















Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	35	34	126	12	403	189	394
v/c Ratio	0.19	0.15	0.37	0.02	0.34	0.22	0.24
Control Delay	23.6	26.8	22.4	6.9	7.9	2.8	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.6	26.8	22.4	6.9	7.9	2.8	2.2
Queue Length 50th (ft)	8	10	38	1	43	0	0
Queue Length 95th (ft)	34	37	76	9	149	34	71
Internal Link Dist (ft)	1	58			102		308
Turn Bay Length (ft)			70			120	
Base Capacity (vph)	793	882	342	630	1178	871	1619
Starvation Cap Reductn	0	0	0	0	0	0	153
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.04	0.37	0.02	0.34	0.22	0.27
Intersection Summary							

2022 Build Traffic Volumes w/IMP  
7: NYS Route 9D & Beacon City Hall/Main Street










Weekday Peak AM Hour

2/27/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	10	14	8	13	18	116	11	341	29	174	337	26
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1890	1853	1890	1976	1937	1937	1891	1891	1928	1835	1835	1872
Adj Flow Rate, veh/h	11	15	9	14	20	126	12	371	32	189	366	28
Adj No. of Lanes	0	1	0	0	1	1	1	1	0	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	110	49	131	151	389	573	925	80	685	1235	94
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.54	0.54	0.54	0.12	0.73	0.73
Sat Flow, veh/h	275	943	422	474	1298	1647	1001	1717	148	1747	1683	129
Grp Volume(v), veh/h	35	0	0	34	0	126	12	0	403	189	0	394
Grp Sat Flow(s),veh/h/ln	1640	0	0	1772	0	1647	1001	0	1865	1747	0	1812
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	8.5	0.0	0.0	4.9
Cycle Q Clear(g_c), s	1.2	0.0	0.0	1.1	0.0	0.0	5.4	0.0	8.5	0.0	0.0	4.9
Prop In Lane	0.31		0.26	0.41		1.00	1.00		0.08	1.00		0.07
Lane Grp Cap(c), veh/h	262	0	0	283	0	389	573	0	1005	685	0	1330
V/C Ratio(X)	0.13	0.00	0.00	0.12	0.00	0.32	0.02	0.00	0.40	0.28	0.00	0.30
Avail Cap(c_a), veh/h	797	0	0	872	0	962	573	0	1005	685	0	1330
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.6	0.0	0.0	26.5	0.0	21.1	9.7	0.0	9.1	10.3	0.0	3.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.2	0.0	0.5	0.1	0.0	1.2	0.2	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	0.6	0.0	1.9	0.1	0.0	4.7	2.2	0.0	2.6
LnGrp Delay(d),s/veh	26.8	0.0	0.0	26.7	0.0	21.6	9.7	0.0	10.2	10.5	0.0	3.6
LnGrp LOS	C			C		C	A		B	B		A
Approach Vol, veh/h		35			160			415			583	
Approach Delay, s/veh		26.8			22.7			10.2			5.8	
Approach LOS		C			C			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	13.0	41.0		12.8		54.0		12.8				
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s	8.0	36.0		31.0		49.0		31.0				
Max Q Clear Time (g_c+l1), s	2.0	10.5		3.2		6.9		3.1				
Green Ext Time (p_c), s	1.1	1.1		1.0		2.1		1.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			10.2									
HCM 2010 LOS			B									

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Two Way Analysis cannot be performed on Signalized Intersection.

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	56	14	7	44	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	10%			10%	-10%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected				0.968		
Satd. Flow (prot)	1561	0	0	1747	1937	0
Flt Permitted				0.968		
Satd. Flow (perm)	1561	0	0	1747	1937	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	206			200	796	
Travel Time (s)	4.7			4.5	18.1	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	0%	0%	3%	0%
Adj. Flow (vph)	0	68	17	9	54	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	68	0	0	26	54	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	0.94	0.94
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	56	14	7	44	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	10	-	-	10	-10	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	3	0
Mvmt Flow	0	68	17	9	54	0

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	97	54	54 0
Stage 1	54	-	- -
Stage 2	43	-	- -
Critical Hdwy	8.4	7.2	4.1 -
Critical Hdwy Stg 1	7.4	-	- -
Critical Hdwy Stg 2	7.4	-	- -
Follow-up Hdwy	3.5	3.3	2.2 -
Pot Cap-1 Maneuver	860	1004	1564 -
Stage 1	945	-	- -
Stage 2	961	-	- -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	851	1004	1564 -
Mov Cap-2 Maneuver	851	-	- -
Stage 1	945	-	- -
Stage 2	950	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	8.8	4.9	0
HCM LOS	A		










Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1564	-	1004	-	-
HCM Lane V/C Ratio	0.011	-	0.068	-	-
HCM Control Delay (s)	7.3	0	8.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-



2022 Build Traffic Volumes w/IMP  
 9: Site Access & Tompkins Avenue /Tompkins Avenue

Weekday Peak AM Hour

2/27/2017

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	40	0	17	41	0	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	3%			-5%	0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.985		
Satd. Flow (prot)	1817	0	0	1815	1596	0
Flt Permitted				0.985		
Satd. Flow (perm)	1817	0	0	1815	1596	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	160			236	134	
Travel Time (s)	3.6			5.4	3.0	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	3%	0%	5%	6%	0%	3%
Adj. Flow (vph)	49	0	21	50	0	83
Shared Lane Traffic (%)						
Lane Group Flow (vph)	49	0	0	71	83	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	0.97	0.97	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					

2022 Build Traffic Volumes w/IMP  
 9: Site Access & Tompkins Avenue /Tompkins Avenue

Weekday Peak AM Hour



















2/27/2017

Intersection						
Int Delay, s/veh	4.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	40	0	17	41	0	68
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-5	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	3	0	5	6	0	3
Mvmt Flow	49	0	21	50	0	83
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	49	0	140	49
Stage 1	-	-	-	-	49	-
Stage 2	-	-	-	-	91	-
Critical Hdwy	-	-	4.15	-	6.4	6.23
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.245	-	3.5	3.327
Pot Cap-1 Maneuver	-	-	1539	-	858	1017
Stage 1	-	-	-	-	979	-
Stage 2	-	-	-	-	938	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1539	-	846	1017
Mov Cap-2 Maneuver	-	-	-	-	846	-
Stage 1	-	-	-	-	979	-
Stage 2	-	-	-	-	925	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		2.2		8.9	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	1017	-	-	1539	-	
HCM Lane V/C Ratio	0.082	-	-	0.013	-	
HCM Control Delay (s)	8.9	-	-	7.4	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.3	-	-	0	-	

2022 Build Traffic Volumes w/IMP  
1: NYS Route 9D & Tompkins Avenue/Ralph Street

Weekday Peak PM Hour

2/27/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	51	6	34	7	3	10	23	802	3	3	658	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			-1%			0%			-5%	
Storage Length (ft)	0		0	0		0	120		0	120		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99		1.00			1.00		
Frt		0.949			0.929			0.999			0.978	
Flt Protected		0.973			0.984		0.950			0.950		
Satd. Flow (prot)	0	1739	0	0	1630	0	1641	1825	0	1850	1867	0
Flt Permitted		0.814			0.874		0.265			0.243		
Satd. Flow (perm)	0	1453	0	0	1447	0	457	1825	0	473	1867	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			11			1			25	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		833			226			335			948	
Travel Time (s)		18.9			5.1			7.6			21.5	
Confl. Peds. (#/hr)	2		3	2		3	5			5		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	4%	0%	0%	11%	10%	4%	0%	0%	2%	2%
Adj. Flow (vph)	54	6	36	7	3	11	24	844	3	3	693	117
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	96	0	0	21	0	24	847	0	3	810	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	0.98	0.98	0.98	0.99	0.99	0.99	1.00	1.00	1.00	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	1		1	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83		20	83		6	6		6	6	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	40		20	40		6	6		6	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43							
Detector 2 Size(ft)		40			40							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							

2022 Build Traffic Volumes w/IMP  
1: NYS Route 9D & Tompkins Avenue/Ralph Street

Weekday Peak PM Hour

2/27/2017

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.30			0.07		0.07	0.63		0.01	0.59	
Control Delay		10.4			8.2		5.0	11.5		4.3	9.9	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		10.4			8.2		5.0	11.5		4.3	9.9	
Queue Length 50th (ft)		12			2		2	99		0	85	
Queue Length 95th (ft)		27			10		9	#302		2	#273	
Internal Link Dist (ft)		753			146			255			868	
Turn Bay Length (ft)							120			120		
Base Capacity (vph)		675			659		334	1335		346	1372	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.14			0.03		0.07	0.63		0.01	0.59	

Intersection Summary

Area Type: Other

Cycle Length: 40

Actuated Cycle Length: 35.6

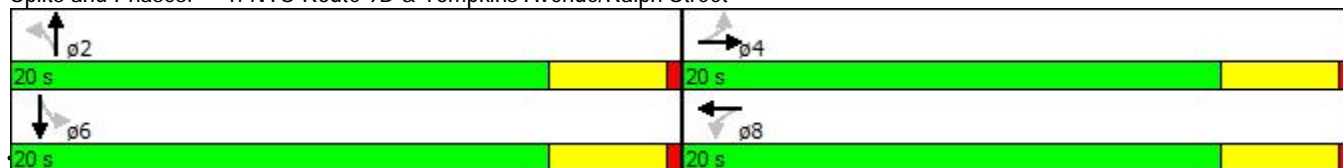
Natural Cycle: 60

Control Type: Semi Act-Uncoord

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: NYS Route 9D & Tompkins Avenue/Ralph Street



2022 Build Traffic Volumes w/IMP  
1: NYS Route 9D & Tompkins Avenue/Ralph Street

Weekday Peak PM Hour

2/27/2017





















Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	96	21	24	847	3	810
v/c Ratio	0.30	0.07	0.07	0.63	0.01	0.59
Control Delay	10.4	8.2	5.0	11.5	4.3	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.4	8.2	5.0	11.5	4.3	9.9
Queue Length 50th (ft)	12	2	2	99	0	85
Queue Length 95th (ft)	27	10	9	#302	2	#273
Internal Link Dist (ft)	753	146		255		868
Turn Bay Length (ft)			120		120	
Base Capacity (vph)	675	659	334	1335	346	1372
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.03	0.07	0.63	0.01	0.59

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

2022 Build Traffic Volumes w/IMP  
1: NYS Route 9D & Tompkins Avenue/Ralph Street

Weekday Peak PM Hour  
2/27/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	51	6	34	7	3	10	23	802	3	3	658	111
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1928	1900	1928	1910	1805	1910	1727	1827	1900	1948	1909	1948
Adj Flow Rate, veh/h	54	6	36	7	3	11	24	844	3	3	693	117
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	10	4	4	0	2	2
Cap, veh/h	296	9	57	228	29	84	453	1094	4	444	957	162
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.60	0.60	0.60	0.60	0.60	0.60
Sat Flow, veh/h	864	96	576	484	295	857	621	1820	6	677	1592	269
Grp Volume(v), veh/h	96	0	0	21	0	0	24	0	847	3	0	810
Grp Sat Flow(s),veh/h/ln	1535	0	0	1636	0	0	621	0	1826	677	0	1861
Q Serve(g_s), s	1.3	0.0	0.0	0.0	0.0	0.0	0.8	0.0	9.2	0.1	0.0	8.2
Cycle Q Clear(g_c), s	1.6	0.0	0.0	0.3	0.0	0.0	8.9	0.0	9.2	9.3	0.0	8.2
Prop In Lane	0.56		0.37	0.33		0.52	1.00		0.00	1.00		0.14
Lane Grp Cap(c), veh/h	363	0	0	341	0	0	453	0	1097	444	0	1118
V/C Ratio(X)	0.26	0.00	0.00	0.06	0.00	0.00	0.05	0.00	0.77	0.01	0.00	0.72
Avail Cap(c_a), veh/h	1114	0	0	1081	0	0	453	0	1097	444	0	1118
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.5	0.0	0.0	11.0	0.0	0.0	6.9	0.0	4.0	7.4	0.0	3.8
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.1	0.0	0.0	0.2	0.0	5.3	0.0	0.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	0.1	0.0	0.0	0.2	0.0	6.1	0.0	0.0	5.3
LnGrp Delay(d),s/veh	11.9	0.0	0.0	11.0	0.0	0.0	7.1	0.0	9.2	7.4	0.0	7.8
LnGrp LOS	B			B			A		A	A		A
Approach Vol, veh/h		96			21			871			813	
Approach Delay, s/veh		11.9			11.0			9.2			7.8	
Approach LOS		B			B			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		20.0		6.6		20.0		6.6				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+l1), s		11.2		3.6		11.3		2.3				
Green Ext Time (p_c), s		2.7		0.4		2.6		0.4				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			8.7									
HCM 2010 LOS			A									












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Two Way Analysis cannot be performed on Signalized Intersection.

2022 Build Traffic Volumes w/IMP  
2: Bank Street & Tompkins Avenue

Weekday Peak PM Hour

2/27/2017

















						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	83	1	15	122	1	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			1%	7%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.999				0.878	
Flt Protected				0.994	0.995	
Satd. Flow (prot)	1917	0	0	1811	1602	0
Flt Permitted				0.994	0.995	
Satd. Flow (perm)	1917	0	0	1811	1602	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	236			833	796	
Travel Time (s)	5.4			18.9	18.1	
Confl. Peds. (#/hr)						3
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	10%	3%	0%	0%
Adj. Flow (vph)	92	1	17	136	1	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	93	0	0	153	10	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	1.01	1.01	1.05	1.05
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					













2022 Build Traffic Volumes w/IMP  
2: Bank Street & Tompkins Avenue

Weekday Peak PM Hour

2/27/2017

Intersection						
Int Delay, s/veh	0.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	83	1	15	122	1	8
Conflicting Peds, #/hr	0	0	0	0	0	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-2	-	-	1	7	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	10	3	0	0
Mvmt Flow	92	1	17	136	1	9
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	96	0	265	96
Stage 1	-	-	-	-	96	-
Stage 2	-	-	-	-	169	-
Critical Hdwy	-	-	4.2	-	7.8	6.9
Critical Hdwy Stg 1	-	-	-	-	6.8	-
Critical Hdwy Stg 2	-	-	-	-	6.8	-
Follow-up Hdwy	-	-	2.29	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1449	-	657	948
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	811	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1449	-	647	946
Mov Cap-2 Maneuver	-	-	-	-	647	-
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	800	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.8		9	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	900	-	-	1449	-	
HCM Lane V/C Ratio	0.011	-	-	0.012	-	
HCM Control Delay (s)	9	-	-	7.5	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0	-	-	0	-	

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	36	0	2	0	3	11	52	332	5	21	64	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		5%			0%			-1%			-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.892			0.999			0.928	
Flt Protected		0.955						0.993			0.996	
Satd. Flow (prot)	0	1755	0	0	1662	0	0	1817	0	0	1703	0
Flt Permitted		0.955						0.909			0.936	
Satd. Flow (perm)	0	1755	0	0	1662	0	0	1664	0	0	1601	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		85			12			1			87	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		640			162			321			353	
Travel Time (s)		14.5			3.7			7.3			8.0	
Peak Hour Factor	0.53	0.92	0.53	0.92	0.92	0.92	0.53	0.53	0.92	0.92	0.53	0.53
Heavy Vehicles (%)	0%	2%	0%	2%	2%	2%	25%	1%	2%	2%	2%	6%
Adj. Flow (vph)	68	0	4	0	3	12	98	626	5	23	121	164
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	72	0	0	15	0	0	729	0	0	308	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.03	1.03	1.03	1.00	1.00	1.00	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	83		20	83		20	83		20	83	
Trailing Detector (ft)	0	-5		0	-5		0	-5		0	-5	
Detector 1 Position(ft)	0	-5		0	-5		0	-5		0	-5	
Detector 1 Size(ft)	20	40		20	40		20	40		20	40	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43			43			43	
Detector 2 Size(ft)		40			40			40			40	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA			NA		Perm	NA		Perm	NA	
Protected Phases	6	6			2			4			8	
Permitted Phases				2			4			8		
Detector Phase	6	6		2	2		4	4		8	8	
Switch Phase												

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	21.0	21.0		21.0	21.0		48.0	48.0		48.0	48.0	
Total Split (%)	23.3%	23.3%		23.3%	23.3%		53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	16.0	16.0		16.0	16.0		43.0	43.0		43.0	43.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
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?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.31			0.10			0.72			0.30	
Control Delay		10.2			20.0			14.7			5.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		10.2			20.0			14.7			5.6	
Queue Length 50th (ft)		0			1			183			36	
Queue Length 95th (ft)		29			18			137			35	
Internal Link Dist (ft)		560			82			241			273	
Turn Bay Length (ft)												
Base Capacity (vph)		465			388			1019			1014	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.15			0.04			0.72			0.30	

## Intersection Summary

Area Type: Other





Cycle Length: 90

Actuated Cycle Length: 70.2

Natural Cycle: 90

Control Type: Semi Act-Uncoord

















Splits and Phases: 3: Beekman Street/Beekman Street &amp; The Views Development/W. Main Street

 ø2	 ø6	 ø4
21 s	21 s	48 s
		 ø8
		48 s



Lane Group	SET	NWT	NET	SWT
Lane Group Flow (vph)	72	15	729	308
v/c Ratio	0.31	0.10	0.72	0.30
Control Delay	10.2	20.0	14.7	5.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	10.2	20.0	14.7	5.6
Queue Length 50th (ft)	0	1	183	36
Queue Length 95th (ft)	29	18	137	35
Internal Link Dist (ft)	560	82	241	273
Turn Bay Length (ft)				
Base Capacity (vph)	465	388	1019	1014
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.15	0.04	0.72	0.30
Intersection Summary				



												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (veh/h)	36	0	2	0	3	11	52	332	5	21	64	87
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1852	1852	1852	1900	1863	1900	1910	1832	1910	1919	1843	1919
Adj Flow Rate, veh/h	68	0	4	0	3	12	98	626	5	23	121	164
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.53	0.92	0.53	0.92	0.92	0.92	0.53	0.53	0.92	0.92	0.53	0.53
Percent Heavy Veh, %	2	2	2	2	2	2	1	1	1	2	2	2
Cap, veh/h	120	0	7	0	20	78	171	982	8	97	445	551
Arrive On Green	0.07	0.00	0.07	0.00	0.06	0.06	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	1655	0	97	0	326	1306	171	1526	12	61	691	857
Grp Volume(v), veh/h	72	0	0	0	0	15	729	0	0	308	0	0
Grp Sat Flow(s),veh/h/ln	1753	0	0	0	0	1632	1709	0	0	1609	0	0
Q Serve(g_s), s	2.7	0.0	0.0	0.0	0.0	0.6	6.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.7	0.0	0.0	0.0	0.0	0.6	16.7	0.0	0.0	5.3	0.0	0.0
Prop In Lane	0.94		0.06	0.00		0.80	0.13		0.01	0.07		0.53
Lane Grp Cap(c), veh/h	127	0	0	0	0	98	1161	0	0	1093	0	0
V/C Ratio(X)	0.57	0.00	0.00	0.00	0.00	0.15	0.63	0.00	0.00	0.28	0.00	0.00
Avail Cap(c_a), veh/h	420	0	0	0	0	391	1161	0	0	1093	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	30.0	0.0	0.0	0.0	0.0	29.8	7.1	0.0	0.0	5.2	0.0	0.0
Incr Delay (d2), s/veh	4.0	0.0	0.0	0.0	0.0	0.7	2.6	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	0.0	0.0	0.3	8.7	0.0	0.0	2.7	0.0	0.0
LnGrp Delay(d),s/veh	34.0	0.0	0.0	0.0	0.0	30.5	9.7	0.0	0.0	5.8	0.0	0.0
LnGrp LOS	C					C	A			A		
Approach Vol, veh/h		72			15			729			308	
Approach Delay, s/veh		34.0			30.5			9.7			5.8	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.0		48.0		9.8		48.0				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		16.0		43.0		16.0		43.0				
Max Q Clear Time (g_c+l1), s		2.6		18.7		4.7		7.3				
Green Ext Time (p_c), s		0.0		7.3		0.2		8.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			10.5									
HCM 2010 LOS			B									
<b>Notes</b>												
User approved pedestrian interval to be less than phase max green.												

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Two Way Analysis cannot be performed on Signalized Intersection.

2022 Build Traffic Volumes w/IMP  
4: W. Main Street & Bank Street

Weekday Peak PM Hour

2/27/2017



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	3	31	82	59	8	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		3%	-5%		-8%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.943		0.888	
Flt Protected		0.995			0.992	
Satd. Flow (prot)	0	1862	1736	0	1741	0
Flt Permitted		0.995			0.992	
Satd. Flow (perm)	0	1862	1736	0	1741	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		264	640		200	
Travel Time (s)		6.0	14.5		4.5	
Confl. Peds. (#/hr)	15					
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	10%	0%	0%	0%
Adj. Flow (vph)	4	39	103	74	10	49
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	43	176	0	59	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	0.97	0.97	0.95	0.95
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other












Control Type: Unsignalized

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	3	31	82	59	8	39
Conflicting Peds, #/hr	15	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	3	-5	-	-8	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	10	0	0	0
Mvmt Flow	4	39	102	74	10	49
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	176	0	-	0	185	154
Stage 1	-	-	-	-	139	-
Stage 2	-	-	-	-	46	-
Critical Hdwy	4.1	-	-	-	4.8	5.4
Critical Hdwy Stg 1	-	-	-	-	3.8	-
Critical Hdwy Stg 2	-	-	-	-	3.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1412	-	-	-	878	928
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	1002	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1394	-	-	-	875	916
Mov Cap-2 Maneuver	-	-	-	-	875	-
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	999	-
Approach	EB		WB		SB	
HCM Control Delay, s	0.7		0		9.2	
HCM LOS					A	
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1394	-	-	-	909	
HCM Lane V/C Ratio	0.003	-	-	-	0.065	
HCM Control Delay (s)	7.6	0	-	-	9.2	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.2	

2022 Build Traffic Volumes w/IMP  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak PM Hour

2/27/2017

						
Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	44	278	795	68	217	728
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	5%		3%			-1%
Storage Length (ft)	90	0		0	215	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.989			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1725	1544	1815	0	1778	1872
Flt Permitted	0.950				0.056	
Satd. Flow (perm)	1725	1544	1815	0	105	1872
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		30			30
Link Distance (ft)	207		948			167
Travel Time (s)	4.7		21.5			3.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	302	864	74	236	791
Shared Lane Traffic (%)						
Lane Group Flow (vph)	48	302	938	0	236	791
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			
Headway Factor	1.03	1.03	1.02	1.02	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Minimum Split (s)	21.0	21.0	62.0		9.0	45.0
Total Split (s)	35.0	35.0	71.0		14.0	75.0
Total Split (%)	29.2%	29.2%	59.2%		11.7%	62.5%
Maximum Green (s)	30.0	30.0	66.0		9.0	70.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Walk Time (s)	5.0	5.0	5.0			
Flash Dont Walk (s)	11.0	11.0	11.0			
Pedestrian Calls (#/hr)	0	0	0			
v/c Ratio	0.11	0.78	0.94		1.21	0.63
Control Delay	35.7	57.5	43.3		161.7	14.4
Queue Delay	0.0	0.0	0.0		0.0	0.0

2022 Build Traffic Volumes w/IMP  
5: NYS Route 9D & Verplanck Avenue

Weekday Peak PM Hour  
2/27/2017



Lane Group	NWL	NWR	NET	NER	SWL	SWT
Total Delay	35.7	57.5	43.3		161.7	14.4
Queue Length 50th (ft)	29	219	648		~172	324
Queue Length 95th (ft)	61	#355	#957		#338	446
Internal Link Dist (ft)	127		868			87
Turn Bay Length (ft)	90				215	
Base Capacity (vph)	431	386	998		195	1248
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.11	0.78	0.94		1.21	0.63

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 95

Control Type: Pretimed

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: NYS Route 9D & Verplanck Avenue







Lane Group	NWL	NWR	NET	SWL	SWT
Lane Group Flow (vph)	48	302	938	236	791
v/c Ratio	0.11	0.78	0.94	1.21	0.63
Control Delay	35.7	57.5	43.3	161.7	14.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	35.7	57.5	43.3	161.7	14.4
Queue Length 50th (ft)	29	219	648	~172	324
Queue Length 95th (ft)	61	#355	#957	#338	446
Internal Link Dist (ft)	127		868		87
Turn Bay Length (ft)	90			215	
Base Capacity (vph)	431	386	998	195	1248
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.11	0.78	0.94	1.21	0.63












#### Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

2022 Build Traffic Volumes w/IMP  
5: NYS Route 9D & Verplanck Avenue




















Weekday Peak PM Hour













2/27/2017

								
Movement	NWL	NWR	NET	NER	SWL	SWT		
Lane Configurations								
Volume (veh/h)	44	278	795	68	217	728		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1816	1816	1835	1872	1872	1872		
Adj Flow Rate, veh/h	48	302	864	74	236	791		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	432	386	917	79	233	1248		
Arrive On Green	0.25	0.25	0.55	0.55	0.08	0.67		
Sat Flow, veh/h	1730	1544	1667	143	1783	1872		
Grp Volume(v), veh/h	48	302	0	938	236	791		
Grp Sat Flow(s),veh/h/ln	1730	1544	0	1810	1783	1872		
Q Serve(g_s), s	2.6	21.9	0.0	58.1	9.0	29.3		
Cycle Q Clear(g_c), s	2.6	21.9	0.0	58.1	9.0	29.3		
Prop In Lane	1.00	1.00		0.08	1.00			
Lane Grp Cap(c), veh/h	432	386	0	995	233	1248		
V/C Ratio(X)	0.11	0.78	0.00	0.94	1.01	0.63		
Avail Cap(c_a), veh/h	432	386	0	995	233	1248		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	34.7	42.0	0.0	25.2	34.6	11.5		
Incr Delay (d2), s/veh	0.5	14.6	0.0	17.6	62.3	2.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.1	0.0		
%ile BackOfQ(50%),veh/ln	1.3	10.9	0.0	33.8	11.7	15.8		
LnGrp Delay(d),s/veh	35.2	56.6	0.0	42.8	97.0	14.0		
LnGrp LOS	D	E		D	F	B		
Approach Vol, veh/h	350		938			1027		
Approach Delay, s/veh	53.6		42.8			33.1		
Approach LOS	D		D			C		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	14.0	71.0				85.0		35.0
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0
Max Green Setting (Gmax), s	9.0	66.0				70.0		30.0
Max Q Clear Time (g_c+l1), s	0.0	0.0				0.0		0.0
Green Ext Time (p_c), s	0.0	0.0				0.0		0.0
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			40.1					
HCM 2010 LOS			D					

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Two Way Analysis cannot be performed on Signalized Intersection.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	332	7	54	8	2	8	69	497	9	6	551	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-10%			-6%			3%	
Storage Length (ft)	0		95	0		0	80		0	85		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.939			0.997			0.969	
Flt Protected		0.953			0.978		0.950			0.950		
Satd. Flow (prot)	0	1757	1567	0	1796	0	1823	1913	0	1743	1778	0
Flt Permitted		0.716			0.857		0.188			0.338		
Satd. Flow (perm)	0	1320	1567	0	1574	0	361	1913	0	620	1778	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			53		9			1			19	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		273			158			388			335	
Travel Time (s)		6.2			3.6			8.8			7.6	
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
Adj. Flow (vph)	361	8	59	9	2	9	75	540	10	7	599	155
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	369	59	0	20	0	75	550	0	7	754	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.01	1.01	1.01	0.94	0.94	0.94	0.96	0.96	0.96	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	2	1	2		2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83	83	20	83		83	6		83	6	
Trailing Detector (ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Position(ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Size(ft)	20	43	43	20	43		43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40	40		40		40			40		
Detector 2 Size(ft)		43	43		43		43			43		
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0		0.0			0.0		
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		42.0	42.0		42.0	42.0	
Minimum Split (s)	20.0	20.0	20.0	21.0	21.0		47.0	47.0		47.0	47.0	
Total Split (s)	43.0	43.0	43.0	43.0	43.0		47.0	47.0		47.0	47.0	
Total Split (%)	47.8%	47.8%	47.8%	47.8%	47.8%		52.2%	52.2%		52.2%	52.2%	
Maximum Green (s)	38.0	38.0	38.0	38.0	38.0		42.0	42.0		42.0	42.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	
Walk Time (s)				5.0	5.0							
Flash Dont Walk (s)				11.0	11.0							
Pedestrian Calls (#/hr)				0	0							
v/c Ratio		0.83	0.10		0.04		0.39	0.54		0.02	0.78	
Control Delay		40.5	6.1		11.8		21.8	16.2		12.2	24.1	
Queue Delay		0.0	0.0		0.0		0.0	1.8		0.0	37.2	
Total Delay		40.5	6.1		11.8		21.8	18.0		12.2	61.3	
Queue Length 50th (ft)		164	2		4		20	164		2	271	
Queue Length 95th (ft)		268	24		17		74	333		10	#613	
Internal Link Dist (ft)		193			78			308			255	
Turn Bay Length (ft)			95				80			85		
Base Capacity (vph)		639	787		767		193	1025		332	961	
Starvation Cap Reductn		0	0		0		0	308		0	254	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.58	0.07		0.03		0.39	0.77		0.02	1.07	

**Intersection Summary**

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 79.2

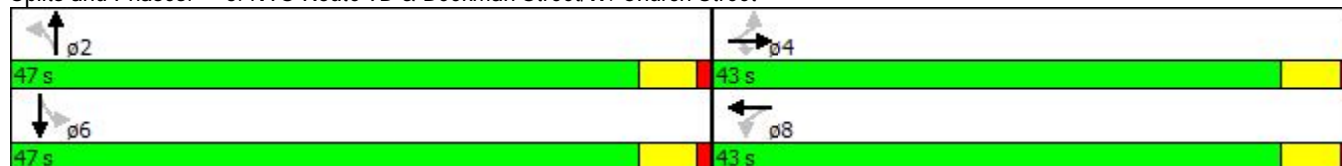
Natural Cycle: 75

Control Type: Semi Act-Uncoord

# 95th percentile volume exceeds capacity, queue may be longer.








Queue shown is maximum after two cycles.

Splits and Phases: 6: NYS Route 9D &amp; Beekman Street/W. Church Street



2022 Build Traffic Volumes w/IMP  
6: NYS Route 9D & Beekman Street/W. Church Street

Weekday Peak PM Hour  
2/27/2017

							
Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	369	59	20	75	550	7	754
v/c Ratio	0.83	0.10	0.04	0.39	0.54	0.02	0.78
Control Delay	40.5	6.1	11.8	21.8	16.2	12.2	24.1
Queue Delay	0.0	0.0	0.0	0.0	1.8	0.0	37.2
Total Delay	40.5	6.1	11.8	21.8	18.0	12.2	61.3
Queue Length 50th (ft)	164	2	4	20	164	2	271
Queue Length 95th (ft)	268	24	17	74	333	10	#613
Internal Link Dist (ft)	193		78		308		255
Turn Bay Length (ft)		95		80		85	
Base Capacity (vph)	639	787	767	193	1025	332	961
Starvation Cap Reductn	0	0	0	0	308	0	254
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.07	0.03	0.39	0.77	0.02	1.07

Intersection Summary




















# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.



2022 Build Traffic Volumes w/IMP  
6: NYS Route 9D & Beekman Street/W. Church Street

Weekday Peak PM Hour

2/27/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	332	7	54	8	2	8	69	497	9	6	551	143
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1844	1844	1995	1956	1995	1919	1919	1957	1835	1835	1872
Adj Flow Rate, veh/h	361	8	59	9	2	9	75	540	10	7	599	155
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	427	8	662	58	27	22	132	876	16	291	656	170
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.47	0.47	0.47	0.47	0.47	0.47
Sat Flow, veh/h	823	18	1568	0	64	52	728	1878	35	841	1407	364
Grp Volume(v), veh/h	369	0	59	20	0	0	75	0	550	7	0	754
Grp Sat Flow(s),veh/h/ln	841	0	1568	117	0	0	728	0	1912	841	0	1771
Q Serve(g_s), s	0.0	0.0	2.0	0.0	0.0	0.0	6.4	0.0	19.4	0.6	0.0	35.6
Cycle Q Clear(g_c), s	38.0	0.0	2.0	38.0	0.0	0.0	42.0	0.0	19.4	19.9	0.0	35.6
Prop In Lane	0.98		1.00	0.45		0.45	1.00		0.02	1.00		0.21
Lane Grp Cap(c), veh/h	434	0	662	107	0	0	132	0	892	291	0	826
V/C Ratio(X)	0.85	0.00	0.09	0.19	0.00	0.00	0.57	0.00	0.62	0.02	0.00	0.91
Avail Cap(c_a), veh/h	434	0	662	107	0	0	132	0	892	291	0	826
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.7	0.0	15.6	22.2	0.0	0.0	42.8	0.0	18.0	25.4	0.0	22.3
Incr Delay (d2), s/veh	14.7	0.0	0.1	0.8	0.0	0.0	16.6	0.0	3.2	0.2	0.0	16.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.9	0.0	0.9	0.3	0.0	0.0	2.5	0.0	10.9	0.1	0.0	20.9
LnGrp Delay(d),s/veh	41.4	0.0	15.7	23.0	0.0	0.0	59.4	0.0	21.1	25.6	0.0	38.4
LnGrp LOS	D		B	C			E		C	C		D
Approach Vol, veh/h		428			20			625			761	
Approach Delay, s/veh		37.8			23.0			25.7			38.3	
Approach LOS		D			C			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		47.0		43.0		47.0		43.0				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		42.0		38.0		42.0		38.0				
Max Q Clear Time (g_c+l1), s		44.0		40.0		37.6		40.0				
Green Ext Time (p_c), s		0.0		0.0		2.1		0.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			33.7									
HCM 2010 LOS			C									




















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Two Way Analysis cannot be performed on Signalized Intersection.

2022 Build Traffic Volumes w/IMP  
7: NYS Route 9D & Beacon City Hall/Main Street

Weekday Peak PM Hour

2/27/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	9	4	19	3	196	0	373	32	271	342	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-8%			-3%			3%	
Storage Length (ft)	0		0	0		70	0		0	120		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.974				0.850		0.988				
Flt Protected		0.984			0.958					0.950		
Satd. Flow (prot)	0	1776	0	0	1856	1647	1891	1868	0	1743	1835	0
Flt Permitted										0.473		
Satd. Flow (perm)	0	1805	0	0	1937	1647	1891	1868	0	868	1835	0
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)		4										
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		76			138			182			388	
Travel Time (s)		1.7			3.1			4.1			8.8	
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
Adj. Flow (vph)	7	10	4	21	3	213	0	405	35	295	372	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	0	0	24	213	0	440	0	295	373	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.95	0.95	0.95	0.98	0.98	0.98	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83		20	83	83	83	6		83	6	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Size(ft)	20	43		20	43	43	43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40			40	40	40			40		
Detector 2 Size(ft)		43			43	43	43			43		
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0			0.0		
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2			6		

2022 Build Traffic Volumes w/IMP  
7: NYS Route 9D & Beacon City Hall/Main Street

Weekday Peak PM Hour

2/27/2017

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8	1	2	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		8.0	8.0	4.0	31.0	31.0		4.0	36.0	
Minimum Split (s)	21.0	21.0		21.0	21.0	9.0	36.0	36.0		9.0	41.0	
Total Split (s)	36.0	36.0		36.0	36.0	13.0	41.0	41.0		13.0	54.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%	14.4%	45.6%	45.6%		14.4%	60.0%	
Maximum Green (s)	31.0	31.0		31.0	31.0	8.0	36.0	36.0		8.0	49.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag						Lag	Lead	Lead		Lag		
Lead-Lag Optimize?						Yes	Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		None	Max	
Walk Time (s)	5.0	5.0					5.0	5.0				
Flash Dont Walk (s)	11.0	11.0					11.0	11.0				
Pedestrian Calls (#/hr)	0	0					0	0				
v/c Ratio		0.11			0.09	0.73		0.36		0.34	0.21	
Control Delay		22.6			24.0	38.3		6.7		2.9	1.3	
Queue Delay		0.0			0.0	0.0		0.0		0.0	0.0	
Total Delay		22.6			24.0	38.3		6.7		2.9	1.3	
Queue Length 50th (ft)		5			7	68		48		0	0	
Queue Length 95th (ft)		24			29	124		163		51	65	
Internal Link Dist (ft)		1			58			102			308	
Turn Bay Length (ft)						70				120		
Base Capacity (vph)		962			1030	290		1217		879	1736	
Starvation Cap Reductn		0			0	0		0		0	162	
Spillback Cap Reductn		0			0	0		0		0	0	
Storage Cap Reductn		0			0	0		0		0	0	
Reduced v/c Ratio		0.02			0.02	0.73		0.36		0.34	0.24	

Intersection Summary

Area Type: Other

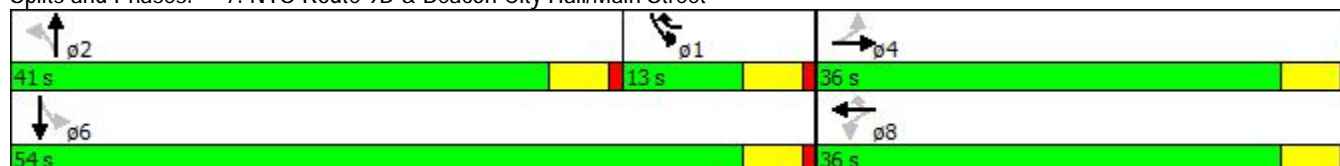
Cycle Length: 90

Actuated Cycle Length: 58.7

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Splits and Phases: 7: NYS Route 9D & Beacon City Hall/Main Street



2022 Build Traffic Volumes w/IMP  
7: NYS Route 9D & Beacon City Hall/Main Street




















Weekday Peak PM Hour  
2/27/2017



Lane Group	EBT	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	21	24	213	440	295	373
v/c Ratio	0.11	0.09	0.73	0.36	0.34	0.21
Control Delay	22.6	24.0	38.3	6.7	2.9	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.6	24.0	38.3	6.7	2.9	1.3
Queue Length 50th (ft)	5	7	68	48	0	0
Queue Length 95th (ft)	24	29	124	163	51	65
Internal Link Dist (ft)	1	58		102		308
Turn Bay Length (ft)			70		120	
Base Capacity (vph)	962	1030	290	1217	879	1736
Starvation Cap Reductn	0	0	0	0	0	162
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.02	0.73	0.36	0.34	0.24
Intersection Summary						

2022 Build Traffic Volumes w/IMP  
7: NYS Route 9D & Beacon City Hall/Main Street










Weekday Peak PM Hour  
2/27/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	9	4	19	3	196	0	373	32	271	342	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1890	1853	1890	1976	1937	1937	1891	1891	1928	1835	1835	1872
Adj Flow Rate, veh/h	7	10	4	21	3	213	0	405	35	295	372	1
Adj No. of Lanes	0	1	0	0	1	1	1	1	0	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	107	120	37	252	30	392	108	923	80	656	1339	4
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.00	0.54	0.54	0.12	0.73	0.73
Sat Flow, veh/h	298	1012	308	1279	252	1647	1020	1716	148	1747	1829	5
Grp Volume(v), veh/h	21	0	0	24	0	213	0	0	440	295	0	373
Grp Sat Flow(s),veh/h/ln	1618	0	0	1531	0	1647	1020	0	1865	1747	0	1834
Q Serve(g_s), s	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	9.6	0.0	0.0	4.6
Cycle Q Clear(g_c), s	0.7	0.0	0.0	0.8	0.0	0.0	0.0	0.0	9.6	0.0	0.0	4.6
Prop In Lane	0.33		0.19	0.87		1.00	1.00		0.08	1.00		0.00
Lane Grp Cap(c), veh/h	264	0	0	282	0	392	108	0	1003	656	0	1343
V/C Ratio(X)	0.08	0.00	0.00	0.08	0.00	0.54	0.00	0.00	0.44	0.45	0.00	0.28
Avail Cap(c_a), veh/h	781	0	0	798	0	959	108	0	1003	656	0	1343
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.3	0.0	0.0	26.3	0.0	22.3	0.0	0.0	9.4	13.0	0.0	3.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	1.2	0.0	0.0	1.4	0.5	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.4	0.0	3.6	0.0	0.0	5.3	4.2	0.0	2.5
LnGrp Delay(d),s/veh	26.4	0.0	0.0	26.5	0.0	23.5	0.0	0.0	10.8	13.5	0.0	3.5
LnGrp LOS	C			C		C			B	B		A
Approach Vol, veh/h		21			237			440			668	
Approach Delay, s/veh		26.4			23.8			10.8			7.9	
Approach LOS		C			C			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	13.0	41.0		12.9		54.0		12.9				
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s	8.0	36.0		31.0		49.0		31.0				
Max Q Clear Time (g_c+l1), s	2.0	11.6		2.7		6.6		2.8				
Green Ext Time (p_c), s	1.4	1.1		1.5		2.7		1.5				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			11.9									
HCM 2010 LOS			B									



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Two Way Analysis cannot be performed on Signalized Intersection.

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	30	55	8	17	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	10%			10%	-10%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected				0.958		
Satd. Flow (prot)	1561	0	0	1729	1995	0
Flt Permitted				0.958		
Satd. Flow (perm)	1561	0	0	1729	1995	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	206			200	796	
Travel Time (s)	4.7			4.5	18.1	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	38	69	10	21	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	38	0	0	79	21	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	0.94	0.94
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					

2022 Build Traffic Volumes w/IMP  
8: Bank Street & Branch Street

Weekday Peak PM Hour










2/27/2017

Intersection						
Int Delay, s/veh	6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	30	55	8	17	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	10	-	-	10	-10	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	38	69	10	21	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	169	21	21	0	-	0
Stage 1	21	-	-	-	-	-
Stage 2	148	-	-	-	-	-
Critical Hdwy	8.4	7.2	4.1	-	-	-
Critical Hdwy Stg 1	7.4	-	-	-	-	-
Critical Hdwy Stg 2	7.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	752	1056	1608	-	-	-
Stage 1	995	-	-	-	-	-
Stage 2	815	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	720	1056	1608	-	-	-
Mov Cap-2 Maneuver	720	-	-	-	-	-
Stage 1	995	-	-	-	-	-
Stage 2	780	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.5	6.4		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1608	-	1056	-	-	
HCM Lane V/C Ratio	0.043	-	0.036	-	-	
HCM Control Delay (s)	7.3	0	8.5	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-	

2022 Build Traffic Volumes w/IMP  
 9: Site Access & Tompkins Avenue /Tompkins Avenue

Weekday Peak PM Hour

2/27/2017

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	47	0	67	70	0	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	3%			-5%	0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.976		
Satd. Flow (prot)	1872	0	0	1872	1644	0
Flt Permitted				0.976		
Satd. Flow (perm)	1872	0	0	1872	1644	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	160			236	134	
Travel Time (s)	3.6			5.4	3.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	1%	2%	0%	0%
Adj. Flow (vph)	52	0	74	78	0	40
Shared Lane Traffic (%)						
Lane Group Flow (vph)	52	0	0	152	40	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	0.97	0.97	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection	
Int Delay, s/veh	3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	47	0	67	70	0	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-5	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	1	2	0	0
Mvmt Flow	52	0	74	78	0	40

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	52	0	279	52
Stage 1	-	-	-	-	52	-
Stage 2	-	-	-	-	227	-
Critical Hdwy	-	-	4.11	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.209	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1560	-	715	1021
Stage 1	-	-	-	-	976	-
Stage 2	-	-	-	-	815	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1560	-	679	1021
Mov Cap-2 Maneuver	-	-	-	-	679	-
Stage 1	-	-	-	-	976	-
Stage 2	-	-	-	-	774	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.6	8.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1021	-	-	1560	-
HCM Lane V/C Ratio	0.039	-	-	0.048	-
HCM Control Delay (s)	8.7	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-