Downtown Hicksville **Complete Streets Project**

FINAL REPORT

JULY 2020


NYCB PLAZA
100
Town of Oyster Bay
Hicksville Parking Facility

CONTENTS

ACKNOWLEDGMENTS

The Downtown Hicksville Complete Streets Project is being led by the Nassau County Department of Public Works (NCDPW). A consultant team led by NV5 (Melville, NY) and supported by LKMA and Vision Long Island, performed the work involved in the Planning Phase of this project under the direction of NCDPW, which this report summarizes.

Technical Advisory Committee

The Nassau County Department of Public Works would like to thank the members of the Technical Committee for their participation in this phase of the project. The following is a list of organizations and their respective representatives who participated in the Technical Advisory Committee.

County Legislator Laura Schaefer *(District 14)*
County Legislator Arnold Drucker *(District 16)*
County Legislator Rose Marie Walker *(District 17)*
Leslie Maccarone *Town of Oyster Bay Planning & Development*
Jim McCaffrey *Town of Oyster Bay Planning & Development*
Julie Schneider *Town of Oyster Bay Environmental Resources*
Lionel Chitty *Nassau County Office of Minority Affairs, Hicksville Chamber of Commerce*
Jack Khzouz *NICE Bus*
Paul Molinari *Duffy Park Civic Association*

Hector Garcia, Scott Howell, Donna Betty, Jennifer A. Uihlein
Long Island Rail Road

Alex Mirsakov, Vijay Yijayendran, Gene Smith, Ying Miao, Shaik Shaad, Ed Guerrero, Peter Heuschneider, Lanny Wexler, Steven Belkin
New York State DOT

Sean Sallie, Harold Lutz, David Viana, Aryeh Lemberger, Mary Studdert, Mike Hagan *Nassau County Department of Public Works*

Public Participation

The Nassau County Department of Public Works also would like to thank the residents and other members of the public who participated in the public meetings dedicated toward this project, in addition to those who submitted comments, questions, and suggestions through the project website.

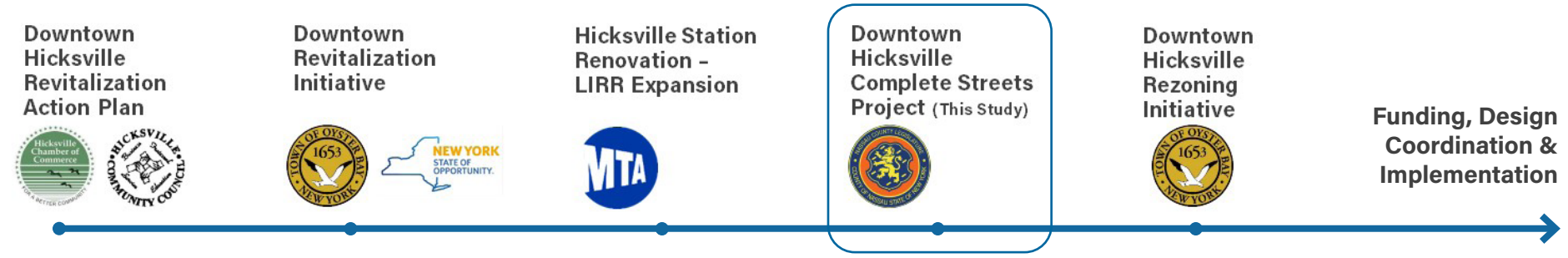
1.0 INTRODUCTION

The overall purpose of the Downtown Hicksville Complete Streets project is to improve the accessibility and safety for all modes of transportation in Downtown Hicksville. This work by the Nassau County Department of Public Works, in partnership with local stakeholders, comes as several transformative projects for the Hicksville community are already underway. They include a rezoning initiative by the Town of Oyster Bay, the Downtown Revitalization Initiative (DRI) by New York State, and the renovation of the Hicksville Station through the MTA's Long Island Rail Road Expansion Project. The County's Complete Streets Project serves as a critical link amongst all of these efforts, helping to make Downtown Hicksville a better connected and more economically resilient area for people to live, work and play.

Throughout the course of the study, the Downtown Hicksville Complete Streets Project team coordinated with the above-mentioned agencies. The coordination and sharing of project data have been helpful in advancing the Town's downtown rezoning initiative, which utilized the County's traffic analysis data.

Additionally, the Complete Streets Project provided additional levels of testing and vetting of certain recommendations previously made in the DRI Plan.

The Downtown Hicksville Complete Streets Project is a multi-phased project and will require ongoing coordination between the Town, County, State, MTA and all local stakeholders. This Final Report summarizes the outcome of the Project's Planning Phase, which involved identifying design improvements for streets, intersections, and pedestrian areas that will improve the safety, circulation, and overall experience for those traveling through and within Downtown Hicksville. During the project's next phases – Design and Engineering, followed by Construction – the conceptual recommendations in this report will be studied further and additional public input will be solicited before moving forward with implementation.



1.1 Project Area

The focus of the project is on the area around the Long Island Rail Road (LIRR) Hicksville Station, shown on the map below.

1.2 Project Goals

The following Project Goals were developed in consultation with the Technical Advisory Committee (TAC):

- **Improve Safety**. Improve safety for all users in Downtown Hicksville including motorists, pedestrians, and bicyclists.
- **Support Pedestrian Activity in the Downtown Area**. Improve sidewalks and pedestrian crossings to provide direct, safe access between parking areas, the LIRR station and Downtown Hicksville area.
- **Enhance Commuter Connections**. Improve vehicular, pedestrian, transit and bicycle access to the LIRR station and between commuter parking lots.
- **Improve Non-Motorized Transportation.** Improve pedestrian and bike connectivity along and across major corridors: Broadway, Jerusalem Avenue, and Newbridge Road.
- **Accommodate Future Residential Developments**. Support and complement the Town of Oyster Bay's Downtown Rezoning Initiative efforts and new mixed-use developments.

What are "Complete Streets"?

"Complete Streets" is a transportation policy and design approach that makes streets more safe, convenient, comfortable, and accessible for users of all ages and abilities, regardless of their mode of transportation. This is accomplished through design improvements along sidewalks, lane re-configurations, additional and improved pedestrian road crossings, transit treatments, traffic calming measures, and a range of other pedestrian, non-motorized, and vehicular improvements. For more information about "Complete Streets" in New York State, visit the NYS Department of Transportation's website at www.dot.ny.gov/programs/completestreets

1.3 Project Recommendations

Based on the Project Goals, detailed recommendations resulted from input received from the public as well as the TAC. A high-level summary of these recommendations is provided below and on the following pages.

- **5 - 10 Curb Extensions**. To shorten crossing distances.
- **3 Expanded Center Medians.** Where median refuge islands can be expanded to shorten crossing distances and provide greater refuge area for pedestrians that cannot cross the entire intersection in a single signal cycle.
- **3 Commuter-Specific Crossings.** The Underline provides an east-west corridor for non-motorized transportation, which means that each of the 3 street crossings included in the Underline will be designed to their unique contexts.
- **1.75 Miles of Bike Lanes, 1.0 Mile of Shared Lanes.** A bike network will provide connectivity from east to west and to the station from residential areas.
- **Upgrade the Downtown Streetscape.** In order to focus the retail corridor along Broadway with infill retail development and eventually new retail/commercial development, the streetscape requires upgrades to provide clear pedestrian space as well as supporting amenities.
- **All sidewalks and curb ramps ADA Compliant.** ADA Compliance also ensures that there is a comprehensive pedestrian network in an adequate state of repair.
- **Accommodate Future Residential Developments**. A walkable, safe and thriving downtown area is appealing to developers. This study shared its traffic analysis with the Town of Oyster Bay for use in their Rezoning Initiative.

1 Broadway Downtown Streetscaping

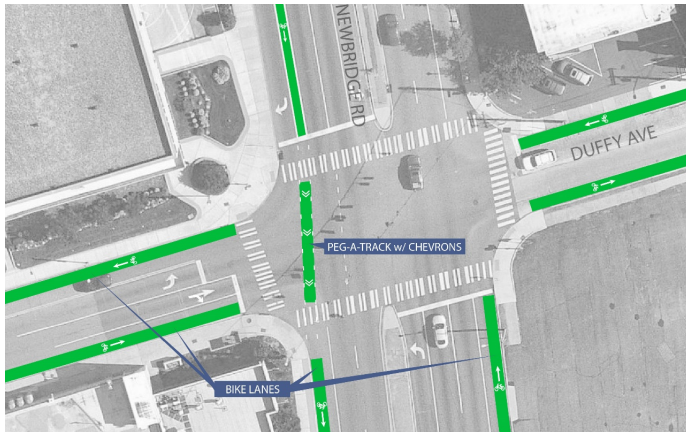
This project may have the highest level of impact for retail and local economic health. As the designated downtown retail area for Hicksville, the current condition does not invite businesses or patrons. Upgrading and making sidewalks and crosswalks accessible would promote pedestrian access from on-street parking as well as centralized parking areas that already exist. Funding for this may be allocated from DRI funds, or may be sought on behalf of NYSDOT which owns the roadway. With the right-of-way in place, this is a relatively simple construction project along a critical corridor.

2 Bike Routes and Facilities

These shared lanes and bike racks could be installed relatively quickly, particularly if there are other marking installations taking place in the Downtown Hicksville area.

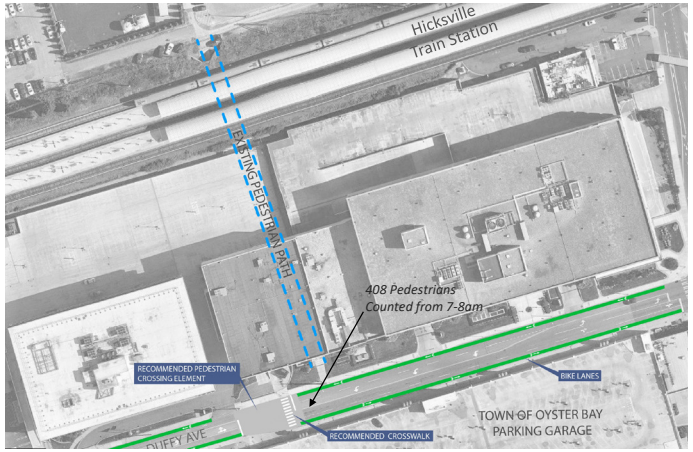
3 Duffy Ave & Newbridge Rd

With the space mostly available to install bike lanes on both Duffy Ave and Newbridge Ave, these could be installed immediately. Coordination with NYSDOT is required in order to implement these bike lanes.



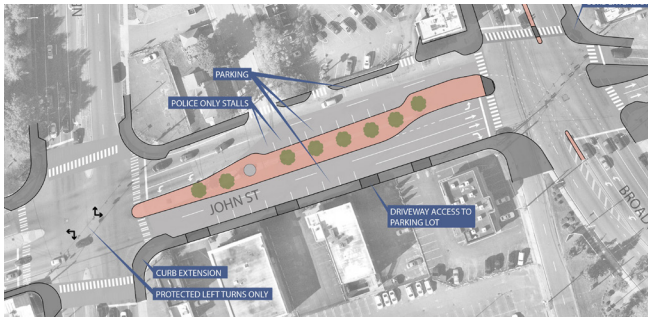
4 Duffy Ave Mid-Block Crossing

A signal warrant analysis is required to justify a pedestrian crossing element at this location. Preliminary counts taken as part of this study indicate that there are likely a sufficient number of pedestrians crossing at this location to warrant a traffic signal or flashing beacon.



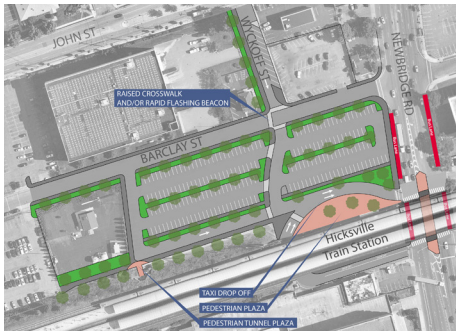
5 John St Improvements

As a larger capital project, this full block reconstruction will require coordination between various agencies. Funding for this process needs to be identified, and should be the next step in the process. A full design process, including traffic analysis, will be required to finalize the design and produce construction documents to secure the appropriate amount of funding.



6 Train Station Circulation & Ped Safety Improvements

The recommendations for this area respond to the commuter circulation needs present at the station. Private drop-off, pedestrian waiting areas, limited lanes surrounding the train station and enlarged pedestrian queue spaces will not only be beneficial to future developments, they are critical to the current functioning of this area. The next step is to coordinate with the LIRR and Town of Oyster Bay on these improvements.

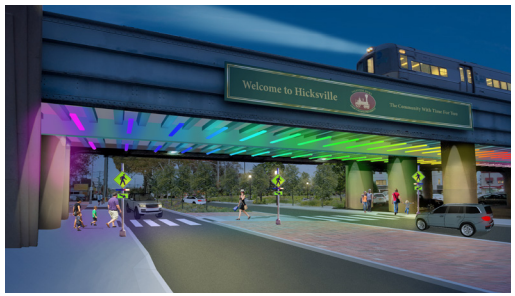


7 Barclay Triangle & Kennedy Park Expansion

This project should be undertaken in two phases. The critical change is to reduce Jerusalem Ave to one lane southbound from Broadway. The lane will also be shifted west to widen the center median at the pedestrian crossing location. Widening the median with paint will provide some short-term relief, but the critical upgrade is a built median with a proper ADA Compliant pedestrian crossing, including Rectangular Rapid Flashing Beacons and gateway signage.

8 "Underline" Connection Under the LIRR Overpass

The Underline is, in some locations, already in tact and wide enough to separate bike and pedestrian movements. Additional work would be required to get a continuous pathway. In the meantime, a low-cost, low-maintenance LED lighting arrangement could be installed to provide the high-impact visual attention grabber, which would come to define Downtown Hicksville as a place, not just a commuter center.

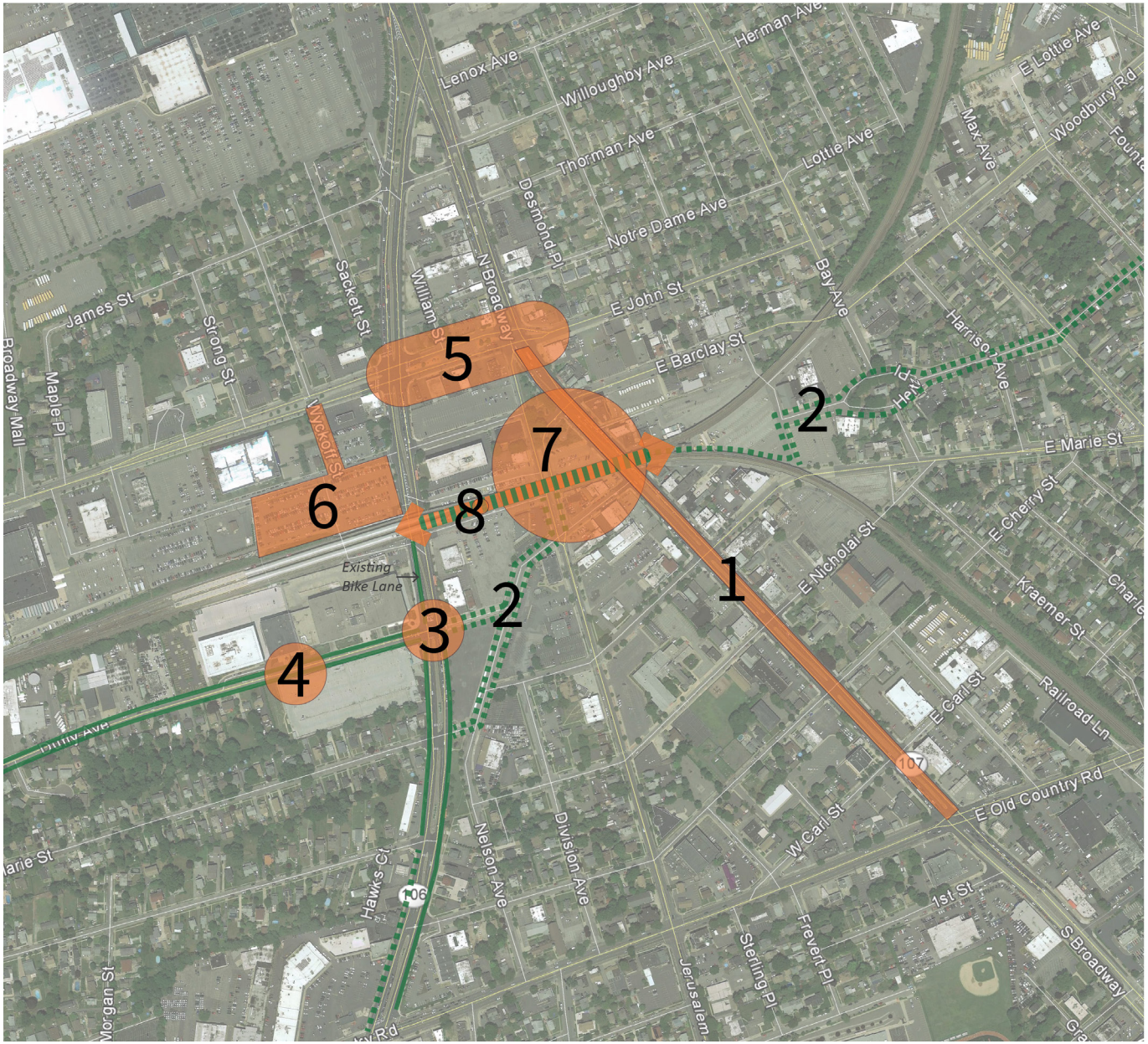


Overview of Recommendations

The summary below provides an overview of the recommendations resulting from this project. These recommendations correspond to the map on the next page, which shows the general location and area of each recommendation.

	Recommendation	Location	Overview	Cost Estimate	Timeframe	Involved Agencies
1	Broadway Downtown Streetscaping	Broadway from John St to Old Country Road	Improve sidewalk and ped ramp conditions; provide clear walking space; bike parking	$5,941,675	2-5 years	NYSDOT, Town of Oyster Bay
2	Bike Routes and Facilities	Heitz Pl, Nelson Ave, Duffy Ave, Newbridge Rd, Jerusalem Ave	Bike Lanes with buffers where space allows, shared lanes on narrow streets	$189,800	1 year	NYSDOT, Town of Oyster Bay, NCDPW, LIRR
3	Duffy Ave & Newbridge Rd	Duffy Ave & Newbridge Rd	Duffy Ave: Bike Lanes west of Newbridge Rd, Shared lanes east; Buffered bike lanes south of Duffy Ave	$96,100	1 year	NYSDOT, Town of Oyster Bay
4	Duffy Ave Mid-Block Crossing	Duffy Ave, 500' west of Newbridge Rd	Pedestrian crossing element at high crossing location	$408,100	1 year	Town of Oyster Bay
5	John Street Improvements	John St from Newbridge Rd to Broadway	Roadway reconstruction to median removing angled parking and adding landscaping; curb extensions	$2,219,600	2-5 years	Town of Oyster Bay, NYSDOT
6	Train Station Circulation & Ped Safety Improvements	Barclay St to Train Station from Newbridge Rd to 800 feet east; Wyckoff St	Create plaza for ped circulation; Private vehicle drop-off area; Align parking exit with Wyckoff St	$5,250,050	2-5 years	Town of Oyster Bay, LIRR
7	Barclay Triangle & Park Expansion	Broadway to Jerusalmen Ave from John St to Herzog Pl	Remove one southbound travel lane on Jerusalem Ave and improve alignment from Broadway southbound	$1,495,900 (Roadway) $4,000,000 (Park)	1-3 years (Roadway) 3-10 years (Park)	NCDPW, LIRR, Town of Oyster Bay
8	"Underline" Connection Under the LIRR Overpass	East side of Broadway to West side of Newbridge Rd, under the LIRR tracks/station	Continuous separate bike and ped paths with enhanced crossings at intersections	$2,445,900	2-5 years	Town of Oyster Bay, LIRR

Map of Recommendations



Recommendations

1. Broadway Downtown Streetscaping

2. Bike Routes and Facilities

   Dedicated Bike Lane or Buffered Bike Lane

   Shared Lane Markings

3. Duffy Ave & Newbridge Road

4. Duffy Ave Mid-Block Crossing

5. John St Improvements

6. Train Station Circulation and Pedestrian Safety Improvements

7. Barclay Triangle & Park Expansion

   Option A DRI-based

   Option B Preferred Alternative

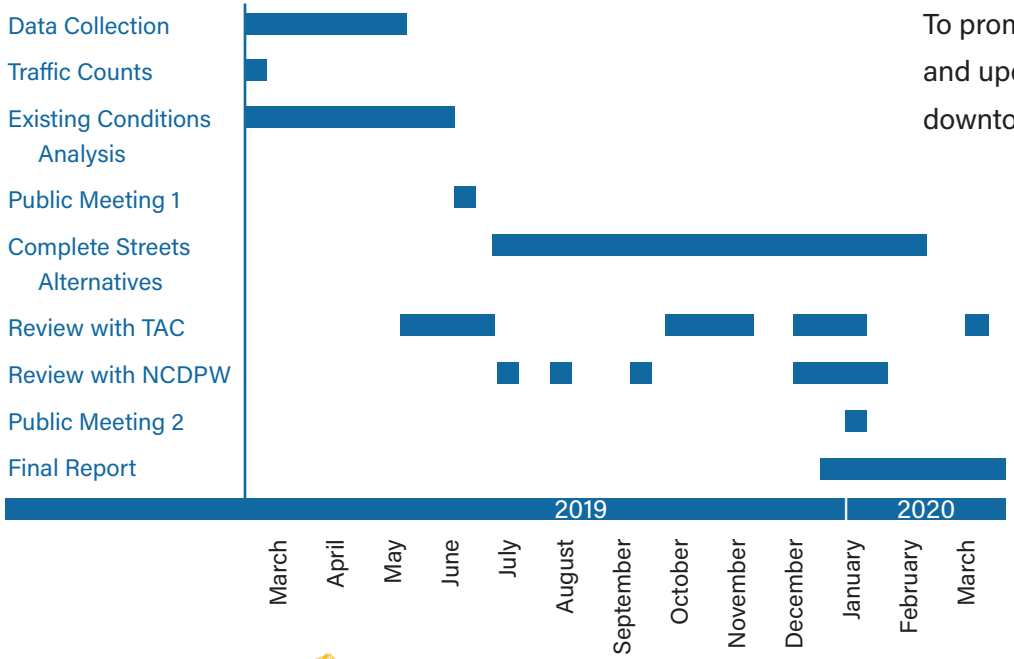
8. Underline Connection Under the LIRR Overpass (Broadway to Newbridge Rd)

   Underline Bike-Ped Path

2.0 PROJECT METHODOLOGY

The primary tasks involved in this Planning Phase included: (a) Conducting a comprehensive existing conditions analysis, which included a traffic study of the area, on-the-ground observations of the built environment, and analysis of current government regulations; (b) Identifying potential design, technological, operational, and/or physical techniques for improving the safety, convenience, comfort of travel, and access in the study area; and (c) Producing a final report that summarizes the recommendations and organizes them into an implementation strategy. This section provides more details on these tasks and the methods utilized to perform these tasks.

The timeline below shows the relative order of tasks undertaken in this study.



2.1 Stakeholder & Public Outreach

Local knowledge is invaluable to any project like this. A Technical Advisory Committee (TAC) was established at the start of the project to guide the consultant's work and to review interim and final work products. The TAC included representatives from all of the local, county, and state government agencies that will need to coordinate throughout this project. The TAC also included representatives of a local civic association and the Chamber of Commerce, both of which are also important stakeholders in this project (see the Acknowledgments for the full list of TAC members). The first meeting of the TAC included a walking tour (see photo below), where participants pointed out specific problem areas.

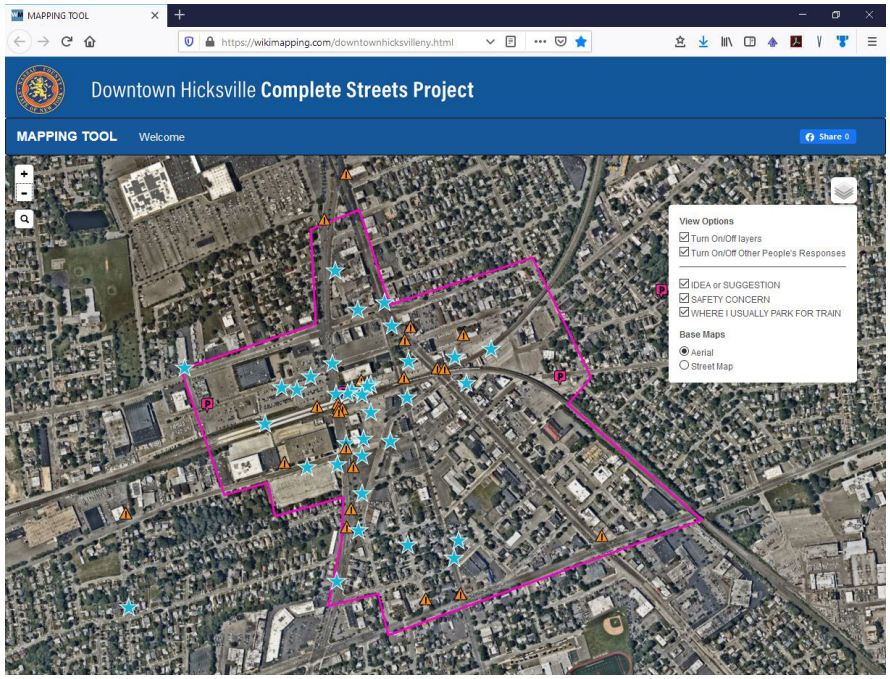
To promote the project to the public and provide project information and updates, a website was created; it can be accessed at www.downtownhicksvilleny.com.

Residents and other stakeholders could stay informed about and participate in the project virtually through the following methods by signing up to receive e-mail updates about the project, submitting questions, comments, suggestions, and ideas about the project through a contact form, and using the Mapping Tool, an interactive, online tool through which users can add points along with comments on a map of the Project Area.

Through the online mapping tool, 58 comments were input by various members of the public. The main themes were safety concerns, parking locations (existing and desired), and greatly enhanced pedestrian facilities.

The public engagement process also involved in-person engagement through two public information meetings. At the first meeting (June 19, 2019), the County and consultant team reviewed the goals and objectives of the project, showcased the data collected to date, and presented an analysis of existing conditions in the Project Area. Over 70 participants had the opportunity to ask the project team questions and provide comments and suggestions. The main themes were lack of centralized parking and the need for one or more parking garages, safety concerns, and the status of New York State's DRI process, which allocated funds to Downtown Hicksville.

At the second public information meeting (January 6, 2020) the project team presented preliminary recommendations for traffic and pedestrian safety improvements within the Project Area to 83 participants. The recommendations were generally well received, with the main feedback being the need for one or more parking garages and how the recommendations related to the DRI funding. There was also a substantial amount of feedback in favor of the Underline.



Online Mapping Tool


Photo from the first public meeting

2.2 Data Collection & Analysis

The consultant team conducted a comprehensive existing conditions analysis of the Project Area. This included recording on-the-ground observations of the built environment, collecting traffic counts and conducting a traffic analysis of the Project Area, and analyzing current zoning and other pertinent regulations.

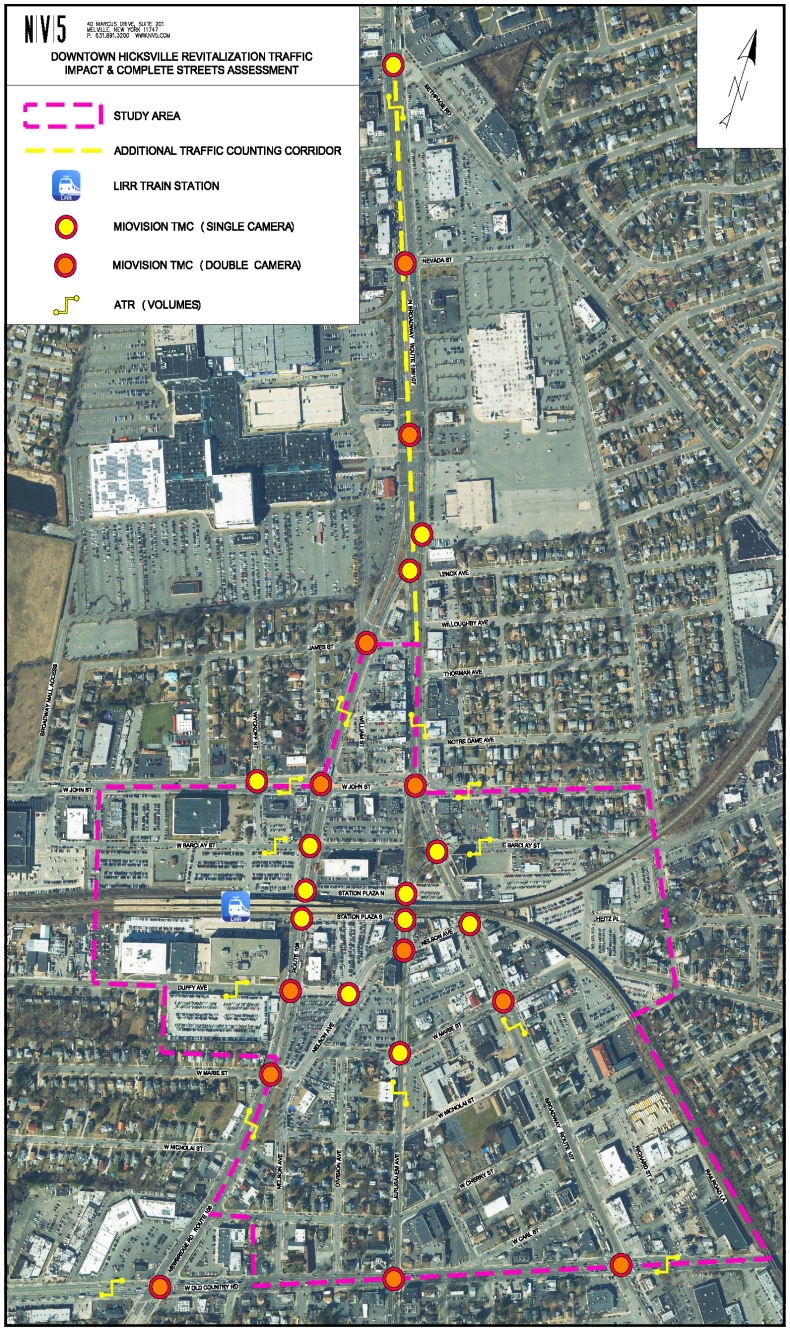
Traffic Data Collection

Counts were conducted in March 2019, including pedestrian and bike volumes. Turning movement counts and pedestrian counts were taken at 25 intersections. Automatic traffic recorder (ATR) counts were taken at 13 locations. The map to the right shows the data collection points and methods.

In addition to traffic counts, the following data was collected:

- Intersection Geometry
- Lane Configurations
- Signage / Curbside Restrictions
- Signal Timing Plans

On various occasions, the project team visited the field to verify data and to make additional observations, as input was received and concepts were developed.



Analysis of Existing Traffic Conditions

Existing conditions were modeled using traffic data collected in 2019. The following process was followed to analyze the data collected:

- Input data collected into synchro traffic analysis software
- Calibrate SYNCHRO model based on observations
- Provide measures of effectiveness (change in travel time)

Future Projected Scenario

The No Build and Build scenarios included the same base data, which used the following factors to project future (2029) traffic volumes:

- Background growth rate for the region
- Trips generated by known future developments
- Trips generated by anticipated future developments allowed by the Town of Oyster Bay's forthcoming rezoning
- Provide measures of effectiveness (change in travel time)
- For Build scenarios: Build conditions were modeled using these factors for recommended improvements of each scenario

In addition to the No Build analysis, which assumes no change to the street or traffic signal network, two unique Build scenarios were modeled and analyzed. These scenarios involved alternate configurations and operational changes to the area between Herzog Pl and John St, and between Newbridge Rd and Broadway, which are described in detail in the Site-Specific Recommendations section. Beyond the two scenarios that were modeled, 3-4 other scenarios were considered using the No Build analysis to inform the team's use of engineering judgment. The result was two scenarios that would both perform with no impact to travel times in the 2029 Build year.

Summary of Traffic Analysis

The existing condition at the time of this study were evaluated, and modifications to signal timing were made to analyze the No Build condition. The No Build assumes that no improvements would be made, but factors in the additional vehicles that would likely be added to the network if all other growth patterns continue as projected. The traffic analysis tool used to compare delay times is Level of Service (LOS), which assigns a letter grade from A to F to each intersection, as a function of how much delay the traffic flow experiences at different times of the day.

In the existing condition, the intersections below had a LOS of D, E or F at some time period that was analyzed, which represents the highest delays. It is important to note that none of the above intersections had a Level of Service of E or F at all times.

- Broadway and W Marie St
- Broadway and John St
- Newbridge Ave and John St
- Newbridge Ave and Duffy Ave

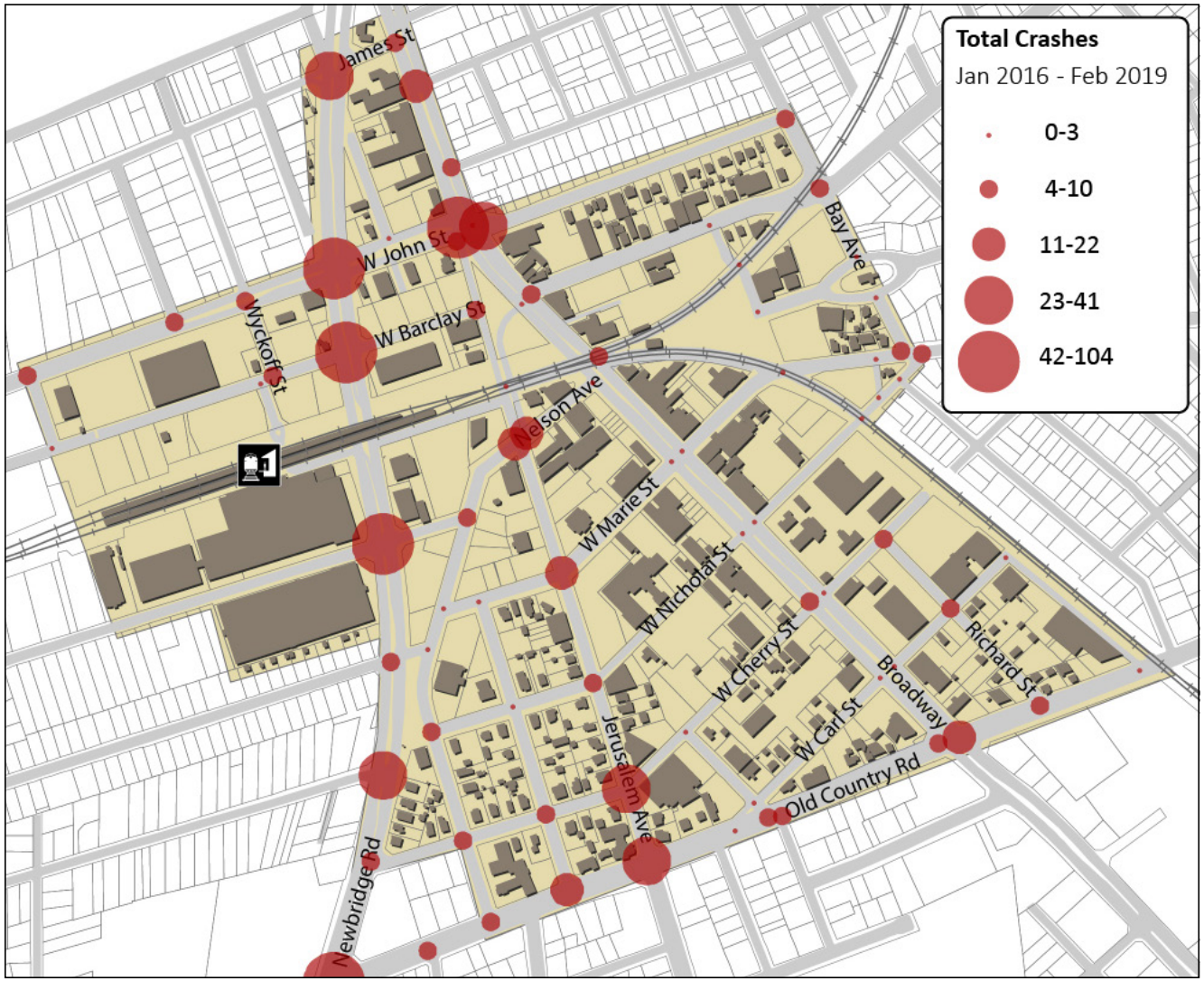
For the No Build and Build analyses, with the signal timing changes and street network reconfigurations from the recommended projects, those intersections would experience the same or less delay in the future (2029) traffic volumes.

What this means is that with all of the factors considered, and all of the improvements recommended, traffic flow will remain stable. **If implemented as recommended, the full set of recommendations should shorten or maintain travel times, while providing all of the safety, accessibility, multi-modal and aesthetic improvements.**

Crash Data Analysis

Crash summary data were obtained from New York State Department of Transportation (NYSDOT) for the Hicksville downtown area for the period from January 1, 2016 through December 31, 2018, the most recent three-year period for which data are available.

All of the study area intersections were analyzed as part of the safety evaluation. The data is summarized in the map below. High crash locations are shown with larger circles on the map below.



Field Observations

Beginning even before the walking tour with the TAC, our team was in the field taking photos and measurements, and observing traffic flow with a focus on problem areas.

In addition to identifying challenges, our team developed the map below to indicate areas with the highest pedestrian activity, using thicker lines to indicate higher pedestrian volumes.

ADA Assessment

As a part of the project scope, the Nassau County Department of Public Works (NCDPW) requested that all of the existing pedestrian crossings under their jurisdiction within the study limits be inventoried and evaluated for compliance with current American with Disabilities Act (ADA) standards. Corridors included in the assessment include the following:

- Jerusalem Ave – From West Old Country Rd to Nelson Ave
- Old Country Rd – From Newbridge Rd to Richard St
- W. John St – From Wyckoff St to E. John St
- E. Barclay St – From LIRR Parking Lot to Bay Ave

Curb ramps were given a condition rating of 1 through 5 based on the extent to which they complied with code requirements. Ramps that were fully compliant were given a rating of 5 while those that were non-compliant by one criteria were given a rating of 4. Ramps that were non-compliant in multiple criteria were given a rating of 2 or 3, while the complete absence of a ramp was given a rating of 1. In total, ninety-two (92) curb ramps were evaluated, and none were considered fully accessible to current standards (5 rating). Thirteen (13) ramps were rated as accessible, but requiring additional improvements needed for full compliance (4 rating). The remaining seventy-nine (79) locations were not accessible (2 rating) or partially accessible (3 rating). A NCDPW evaluation form was completed for each location and entered into NCDPW's GIS database system. Detailed summary tables for each roadway corridor is provided in the Appendix of this report.

A general assessment of NYSDOT and Town of Oyster Bay jurisdictional roadways within the study limits was also conducted. Curb ramps along NYSDOT roadways, NY 106 (Newbridge Road) and NY 107 (Broadway), were observed to be fully accessible as they appeared to be recently replaced. Curb ramps along the various Town roadways throughout the study area were observed to be dated and non-compliant.

2.3 Development of Alternatives

The process of developing alternatives started with the project goals, community vision, and safety improvements to develop possible alternatives, and then testing those scenarios with the traffic model. As an iterative process, scenarios were shared with the TAC and eventually at Public Meeting 2, with the input received being factored in to future alternatives developed. After considering the input received at each step of the way, the project team refined the details, resulting in the Site-Specific Recommendations found in this report.

2.4 Cost Estimates & Final Report

To set Downtown Hicksville up for implementation of individual recommended projects, the project team has developed order of magnitude cost estimates. This will provide the governing jurisdictions for each recommendation a guide when seeking funding. Also in pursuit of funding, each site-specific recommendation has a stand alone section that could be used to accompany a funding application. The cost estimates can be found in Section 3.2, Site-Specific Recommendations.

3.0 RECOMMENDATIONS

Heavily based on input received at Public Meetings and during Stakeholder Engagement and TAC meetings, the proposed recommendations were developed and shared with the public at the second Public Meeting.

General recommendations are best practices that are recommended for any work undertaken in the Downtown Hicksville study area. These general guidelines will improve pedestrian conditions and calm traffic, primarily. The site-specific recommendations that follow address specific conditions and were driven by the project goals. All recommendations are subject to refinement pending full engineering review as part of the design phase.

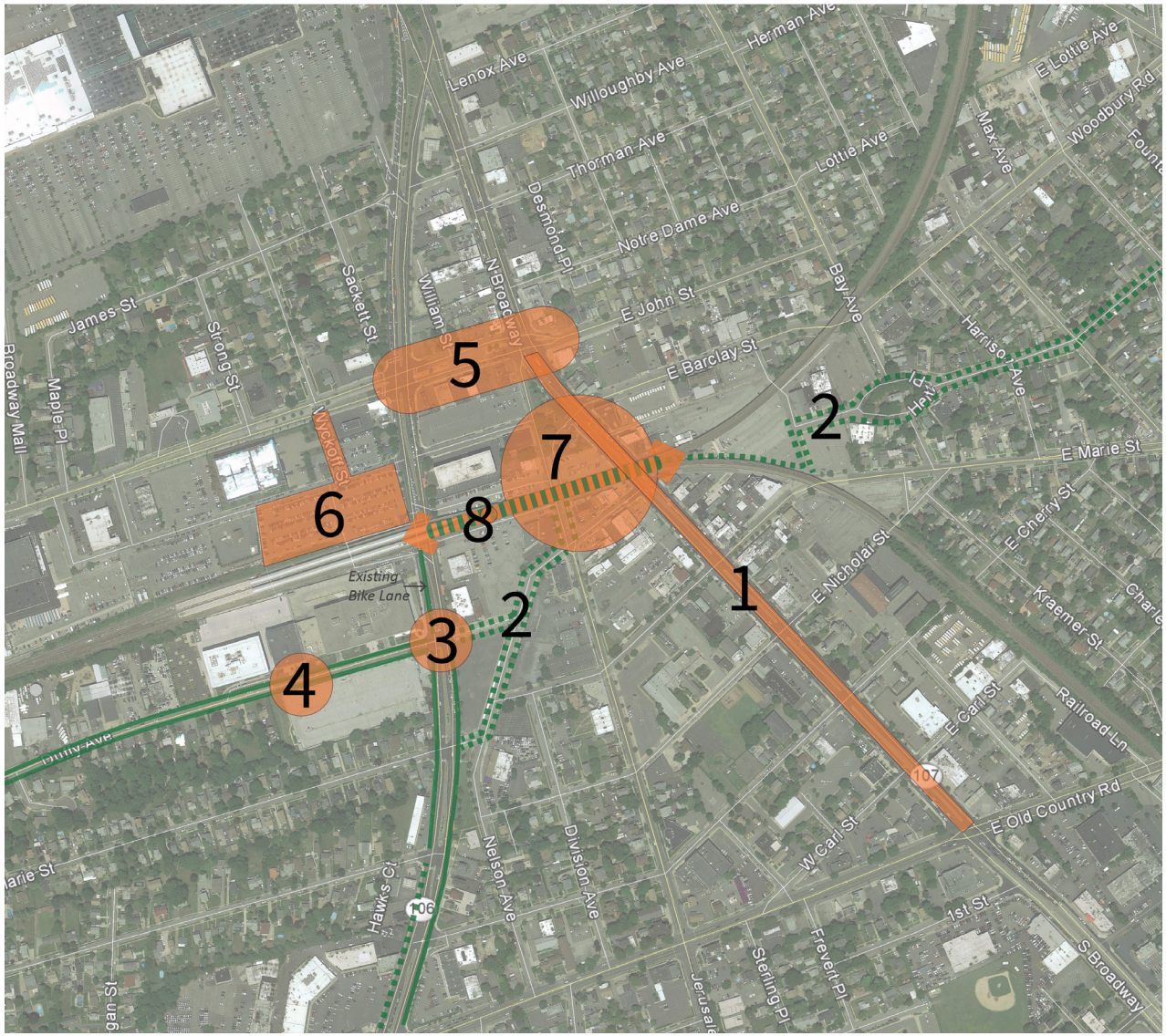
3.1 General Recommendations

In addition to site-specific recommendations, there are some best practices that are applicable to Downtown Hicksville. These should be incorporated into future planning and design efforts, to ensure that improvements have the highest impact and provide the safest, most effective measures.

- **Curb Extensions:** NYSDOT does not allow curb extensions on their right-of-way, but other roadways may benefit from shortened crossing distance.
- **Narrowed moving lanes:** 11 foot moving lanes can accommodate bus and truck traffic, and has a traffic calming effect of slowing travel speeds. 10 foot moving lanes may be appropriate on secondary roads, that are mainly residential and/or have low traffic volumes.
- **ADA Compliance:** Many intersections are already ADA compliant and in a state of good repair. However, the majority are not. All pedestrian ramps, sidewalks and crossings should be made ADA compliant, which also entails smoothing surfaces, pedestrian signal upgrades and improving conditions for all pedestrians.
- **Prioritize sidewalk continuity through driveway aprons:** While some driveway aprons require pedestrians to cross the driveway entrance at the grade of the roadway, it is preferred to keep the sidewalk a consistent grade, with vehicles having to slow down to drive up to the sidewalk grade to enter a parking lot. This detail is missing from many new development models, but has a great impact on pedestrians, particularly people with disabilities and the elderly, which may need to use walkers and wheelchairs.
- **Provide landscaping and/or green infrastructure where possible:** Median islands, curb extensions and other geometric features offer an opportunity to build in landscaping. Provided that sight lines are maintained, traditional landscaping may be most practical. However, in areas that experience flooding, green infrastructure can easily be worked into many design alternatives. With any landscaping, maintenance can be a hurdle. There are many working examples of maintenance partnerships between local businesses and jurisdictional owners, where a simple Memorandum of Understanding shifts the maintenance responsibility to local businesses that benefit from landscaped areas.

3.2 Site-Specific Recommendations

After collecting data, public input, analyzing crash hot spots and traffic flow, the project team developed eight site-specific recommendations. For each, a description of the existing conditions being addressed is followed by the recommended treatment for each location in the sections that follow. The map below locates and identifies each of the site-specific recommendations.



Recommendations

1. Broadway Downtown Streetscaping

2. Bike Routes and Facilities

   Dedicated Bike Lane or Buffered Bike Lane

   Shared Lane Markings

3. Duffy Ave & Newbridge Road

4. Duffy Ave Mid-Block Crossing

5. John St Improvements

6. Train Station Circulation and Pedestrian Safety Improvements

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   Option A DRI-based
   Option B Preferred Alternative

8. Underline Connection Under the LIRR Overpass (Broadway to Newbridge Rd)

   Underline Bike-Ped Path

Each of the recommendations was reviewed as part of the larger street network, so there are some efficiencies that would be gained from implementing these recommendations. However, as concepts, there is flexibility to implement each site-specific recommendation as a stand alone improvement, provided that a detailed traffic analysis of the specific improvements is conducted to ensure the result would be successful. In addition, most of the improvements do not require a change in roadway geometry or call for a reduction in moving lanes, so in most cases the recommendations would not have a direct negative traffic impact.

Recommendations such as providing a network of bike facilities, including secure parking, have the potential to reduce vehicle trips, and should be sought out first. In most cases the space is available for dedicated bike lanes where they are recommended, and shared lanes are adequate for the low volume roads on which they are recommended.

Other recommendations that would greatly enhance pedestrian conditions should be prioritized, even if using temporary design measures such as signs and markings, initially. Curb extensions can be painted to tighten turning radii, which can slow turning vehicles. Extending median tips to fully surround crosswalks can also be done in paint as an interim measure. Each incremental change has the ability to change driver and pedestrian behavior, contributing to a safer downtown area for all users. Larger capital projects can be tested and studied using temporary design measures, to build the case for a full build out, or for using a similar treatment elsewhere.

In the Next Steps section of this report, more information will be provided about phasing and potential funding sources.

Top Left: ADA compliant pedestrian ramp with push button and new sidewalks.

Right: Curb extensions and distinctive crosswalk with bike lanes.

Bottom Left: Large bike parking area, including some covered racks.

#1 Broadway Downtown Streetscape Improvements

EXISTING CONDITIONS

The Broadway corridor is a NYSDOT roadway with high vehicular volumes, but it is also the corridor identified by prior community-led planning initiatives as the desired focus of Hicksville's downtown district. In its current condition, there is a lack of organization and cohesive aesthetic, which can limit retail and consumer interest by creating an inconsistent character and state of repair.

Without bike racks, cyclists lock their bikes to other available street furniture. Pedestrian-scaled lighting, thriving street trees and other amenities are lacking, and the condition of pavement has degraded, which in addition to creating a run down appearance presents accessibility issues.

SUMMARY OF RECOMMENDATIONS

In order to address these conditions to help the Broadway corridor from E John St to Old Country Rd function as a walkable downtown retail district and to encourage development and retail interest, streetscape improvements are recommended.

In addition to improving the pedestrian and cyclist experience with new amenities, the cohesive change in streetscape from the surrounding parts of the corridor would create a sense of place, which would have a traffic calming effect. Features such as decorative lighting and/or plantings, street trees appropriate for the physical environment, and gateway features also have a traffic calming effect on through traffic, by announcing the contrast between the surrounding sections of the corridor and the Downtown Hicksville retail and community center.

Specific improvements should include a buffer strip between the curb and the utility strip, the critical utilities in the utility strip (light poles, parking meters, etc), as well as uniform bike racks and decorative pedestrian scaled lighting, and a minimum of 5-6 feet of clear pedestrian circulation space. Finally, where space is available, an entry zone at the building line outside of the clear pedestrian zone is preferred so access to storefronts does not to impede on pedestrian flow. Curb extensions, where possible, will shorten crossing distances, but cannot be installed on NYSDOT roadways, but would be feasible on Town and County side streets. Any curb extensions should be designed with turning radii for larger vehicles.

The corridor could also benefit from a comprehensive and coordinated facade improvement program, which would encourage the use of design guidelines to enhance and create uniform downtown appearance of storefronts, lighting and awnings.

Involved Agencies: NYSDOT, Town of Oyster Bay

Implementation Timeframe: 2-5 years

Total Project Cost Estimate: $5,941,675

- Construction Cost: $4,870,075
- Engineering and Design: $487,100
- Construction Administration and Inspection: $584,500

EXISTING

Broadway looking north from E Marie St.

Broadway looking north from E Marie St.

PROPOSED

Narrow paving strip with expanded pedestrian circulation area.

ADA Compliant brick curb extension with planters.

#2 Bicycle Network

Downtown Hicksville requires a network of bike lanes and bike parking areas, to improve access for cyclists to the station and throughout the downtown area. At the time of this study, only 250 feet of bike lane was in place, on Newbridge Rd southbound from the railroad overpass to Duffy Ave. This single block of bike lane does not connect to a larger network, but was included in a reconfiguration of this block, and is designed with a right turn lane weaving through it, lining cyclists up to continue southbound.

To develop a network of bike lanes that would connect the residential areas to the station and surrounding business, each roadway was evaluated for suitability to accommodate bike lanes, as well as the connections to the larger network of planned bike lanes.

The map on the next page shows the proposed bike network, based on the analysis performed. A total of 1.75 miles of bike lanes are proposed.

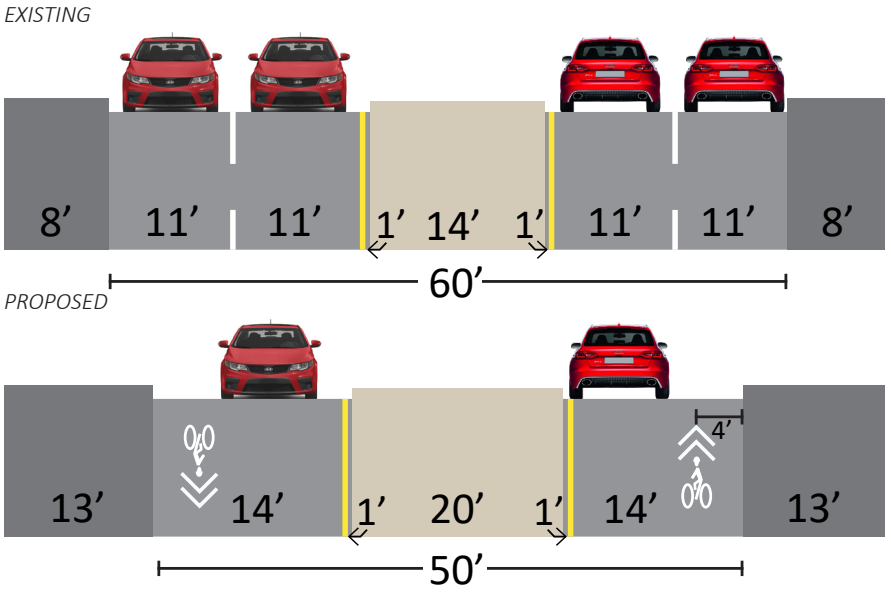
Bike parking under the overpass is heavily used, as shown in the photo above. Additional bike parking areas should be placed in high visibility areas. Along corridors with retail or community destinations, bike racks would support the use of the bike network.

Involved Agencies: NYSDOT, Town of Oyster Bay, NCDPW, LIRR

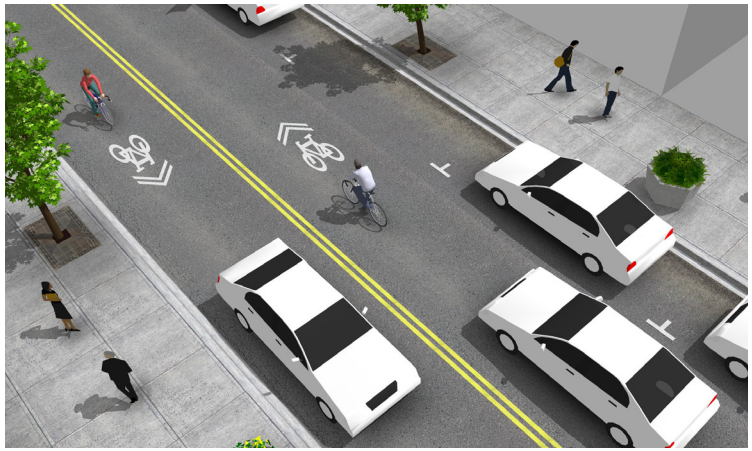
Implementation Timeframe: 1 year

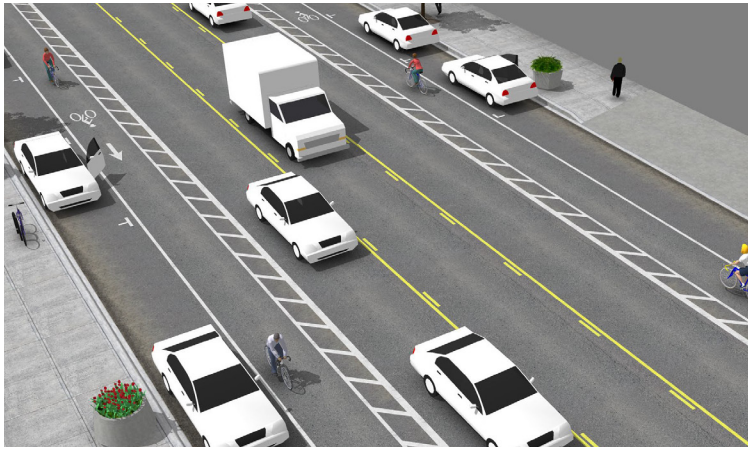
Total Project Cost Estimate: $189,800

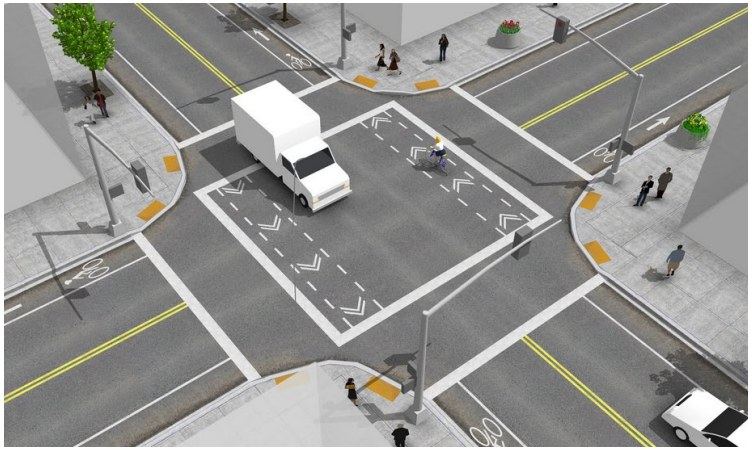
EXAMPLE OF SHARED LANES (JERUSALEM AVE AT LIRR OVERPASS)




Lenox Ave
Willoughby Ave
Herman
E Lottie Ave
Woodbury Rd
Max Ave
Thorman Ave
Lottie Ave
Desmond Pl
Notre Dame Ave
James St
Strong St
Sackett St
William St
N Broadway
E John St
Bay Ave
Broadway Mall
Maple Pl
E Barclay St
Harrison Ave
Wyckoff St
E Marie St
E Cherry St
Existing
Bike Lane
E Nicholai St
Kraemer St
E Carl St
Railroad Ln
107
Hawks Ct
106
Nelson Ave
Division Ave
Recommended Bike Routes and Facilities
Dedicated Bike Lane or
Buffered Bike Lane
Shared Lane Markings
Underline Bike-Ped Path







These images show each of the types of bike facilities that are recommended, with a brief description of the attributes of each.

Top Left: Shared Lane Markings (with and without on-street parking) provides a marking to align cyclists to take the lane, which is otherwise allowed on most roads, but alerts drivers to their presence.

Top Right: Bike Lane (with and without parking) provides dedicated space at least 5 feet wide for cyclists.

Bottom Left: Buffered Bike Lane provides at least 5 feet of dedicated space with an additional buffer when space permits.

Bottom Right: Intersection Markings guide cyclists through the intersection to reduce conflicts between vehicles and cyclists.

These graphics are accompanied by detailed design details in the NACTO Urban Bicycle Design Guide.

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#3 Duffy Avenue & Newbridge Road

EXISTING CONDITIONS

Immediately south of the main train station entrance, the intersection of Duffy Ave and Newbridge Road is heavily used by commuters, both while driving to the station, and to get from various parking areas to the station on foot. The block north of this intersection also accommodates bus stops for all of the bus routes that serve Downtown Hicksville, as well as trucks and other through traffic.

When the block of Newbridge Rd between the LIRR overpass and this intersection was reconfigured, a bike lane was included and is the only existing bike lane in the study area. However, as a critical connector for southbound cyclists as well as westbound cyclists, in addition to being a high crash location, this intersection was prioritized for bike accommodations.

Currently, both Duffy Ave and Newbridge Rd have wide shoulders marked on either side of this intersection. While the shoulders north of this intersection on Newbridge Rd are used for bus stops, the shoulders to the south, east and west are mostly unimpeded. It is proposed that this space be used for curbside bike lanes, which would transition to shared lanes where the shoulder is needed for on-street parking, bus stops, or other critical uses. Where on-street parking is available in addition to off-street parking for businesses along both Duffy Ave and Newbridge Rd, it is recommended that the parking be removed in order to provide a more consistent and comfortable bike facility.

Duffy Avenue west of this intersection narrows considerably, but allows space for shared lane markings to connect to the station area. West of Newbridge Rd, Duffy Ave is significantly more quiet with lower traffic volumes and speeds, so shared lanes are appropriate here. The shoulders along Newbridge Rd are wide enough to accommodate buffered bike lanes, which will improve the level of comfort alongside the relatively busy conditions on Newbridge Rd.

The westbound bike connection along Duffy Ave, if continued approximately 1.5 miles west, would connect to the Wantagh Parkway Greenway, which would create an important connection to that trail, as well as nearby recreational trails in Eisenhower Park.

It should also be noted that the Town of Oyster Bay's parking garage is heavily used by commuters, many of which cross at this intersection.

This intersection is a high crash location.

Pedestrian crossing Newbirdge Rd.

Bus stopping on Newbridge Rd at the train station.

Looking east over the intersection of Newbridge Rd and Duffy Ave.

Pedestrians walking south on the east side of Newbridge Rd to the Town parking garage.

This major intersection sits one block south of the main LIRR Station entrance, so it serves a high volume of commuters in vehicles as well as on foot, in addition to several bus lines and a high volume of through traffic. The proposed improvements would greatly enhance bicycle mobility through this area, forming an important connection from residential areas that would make biking to the LIRR Station a more viable alternative. The overall strategy is to use excess space to tighten up moving lanes and create dedicated space for cyclists. These measures will create a traffic calming effect, as well.

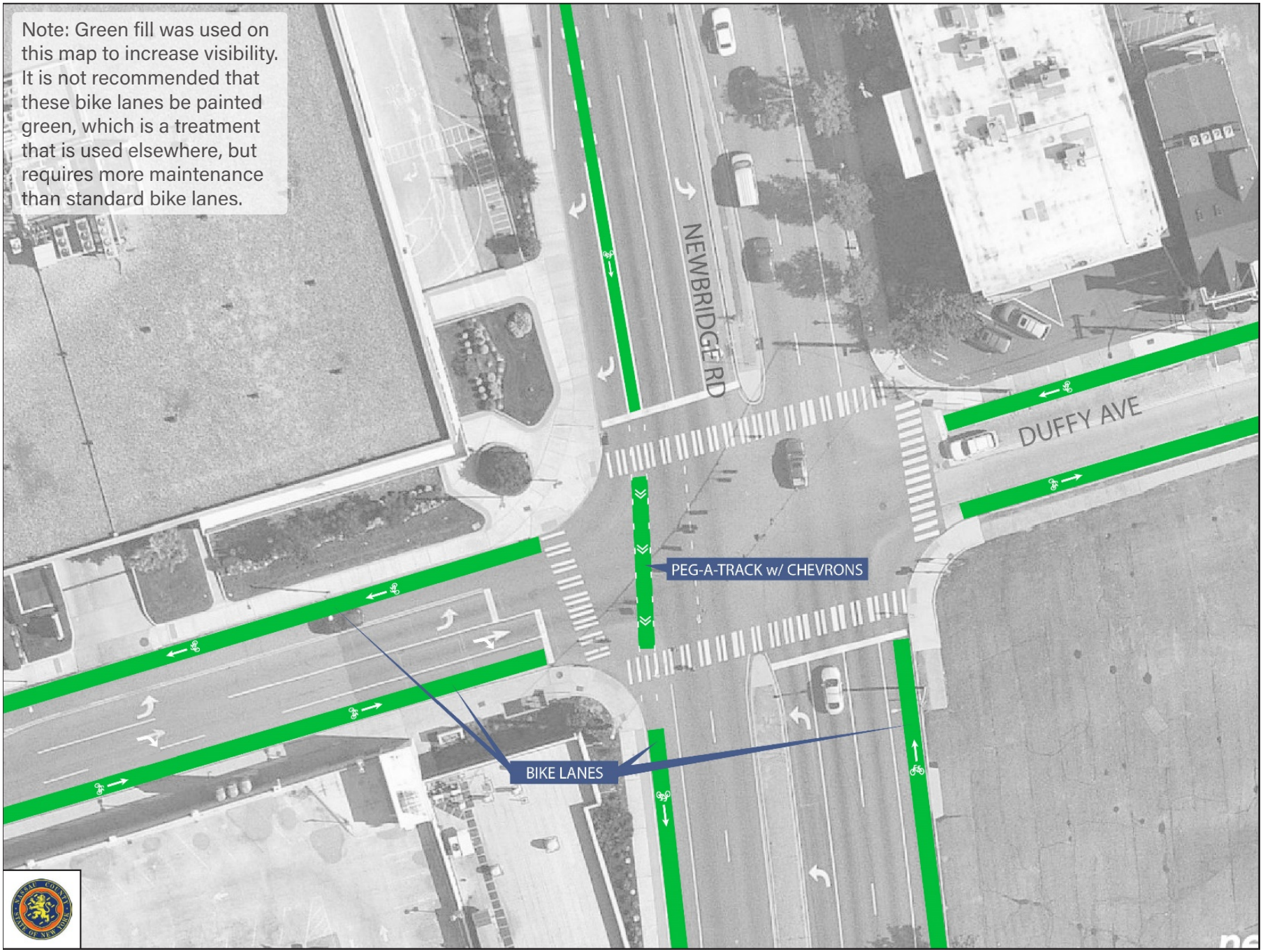
- Curbside bike lanes on Duffy Ave from Nelson Ave west to connect to the Wantagh State Parkway bike trail, which is a regional recreational trail.
- Curbside buffered bike lanes on Newbridge Rd south of Duffy Ave to Old Country Rd.
- As a high crash location, narrowing moving lanes to 11 feet on Newbridge Rd and Duffy Ave will calm traffic by reducing the width of the travel lanes, while still allowing trucks and buses to operate safely.
- Curb extensions were considered at this location, but because Newbridge Rd is a NYSDOT roadway, they are not feasible to recommend.

Involved Agencies: NYSDOT, Town of Oyster Bay

Implementation Timeframe: 1 year

Total Project Cost Estimate: $96,100

- Construction Cost: $73,900
- Engineering and Design: $11,100
- Construction Administration and Inspection: $11,100


Note: Green fill was used on this map to increase visibility. It is not recommended that these bike lanes be painted green, which is a treatment that is used elsewhere, but requires more maintenance than standard bike lanes.
NEWBRIDGE RD
DUFFY AVE
PEG-A-TRACK w/ CHEVRONS
BIKE LANES

#4 Duffy Avenue Mid-Block Crossing

EXISTING CONDITIONS

The Town of Oyster Bay parking garage has multiple entrances/exits for pedestrians. Many commuters park in the Town parking garage on the south side of Duffy Ave, and cross mid-block approximately 500 feet west of the intersection of Duffy Ave and Newbridge Rd. At approximately this location on the north side of Duffy Ave, there is a walkway that connects to New York Sports Club (see photo on bottom right of this page), and continues to stairs that connect the train station tunnel with direct access to the station platforms (see photo on top right of this page).

For commuters that do not require services in the station building, this provides a more direct connection to the platform than crossing at the intersection of Duffy Ave and Newbridge Rd. However, this creates an unsafe mid-block crossing, which is compounded by heavy volumes of commuter vehicles accessing the Town parking garage. Photos on the next page show this condition during a typical morning commute.

Looking south across Duffy Ave at the Town parking garage entrance.

Commuter drop-off in the curbside moving lane on Duffy Ave.

Pedestrians crossing in the afternoon to get back to their vehicles in the Town parking garage.

Pedestrian finding a gap between oncoming traffic during the morning commute.

SUMMARY OF RECOMMENDATIONS

The recommended solution to the existing crossing condition is to create a new signalized intersection on Duffy Ave, at the exit of the Town garage. Adding a signal and crosswalks would provide a safe crossing for the hundreds of commuters that cross here to use the walkway to the station.

Pedestrian counts taken during the AM peak hour (7-8 am) revealed over 400 pedestrian crossings at this uncontrolled, mid-block location. That level of pedestrian volumes would warrant a signalized crossing.

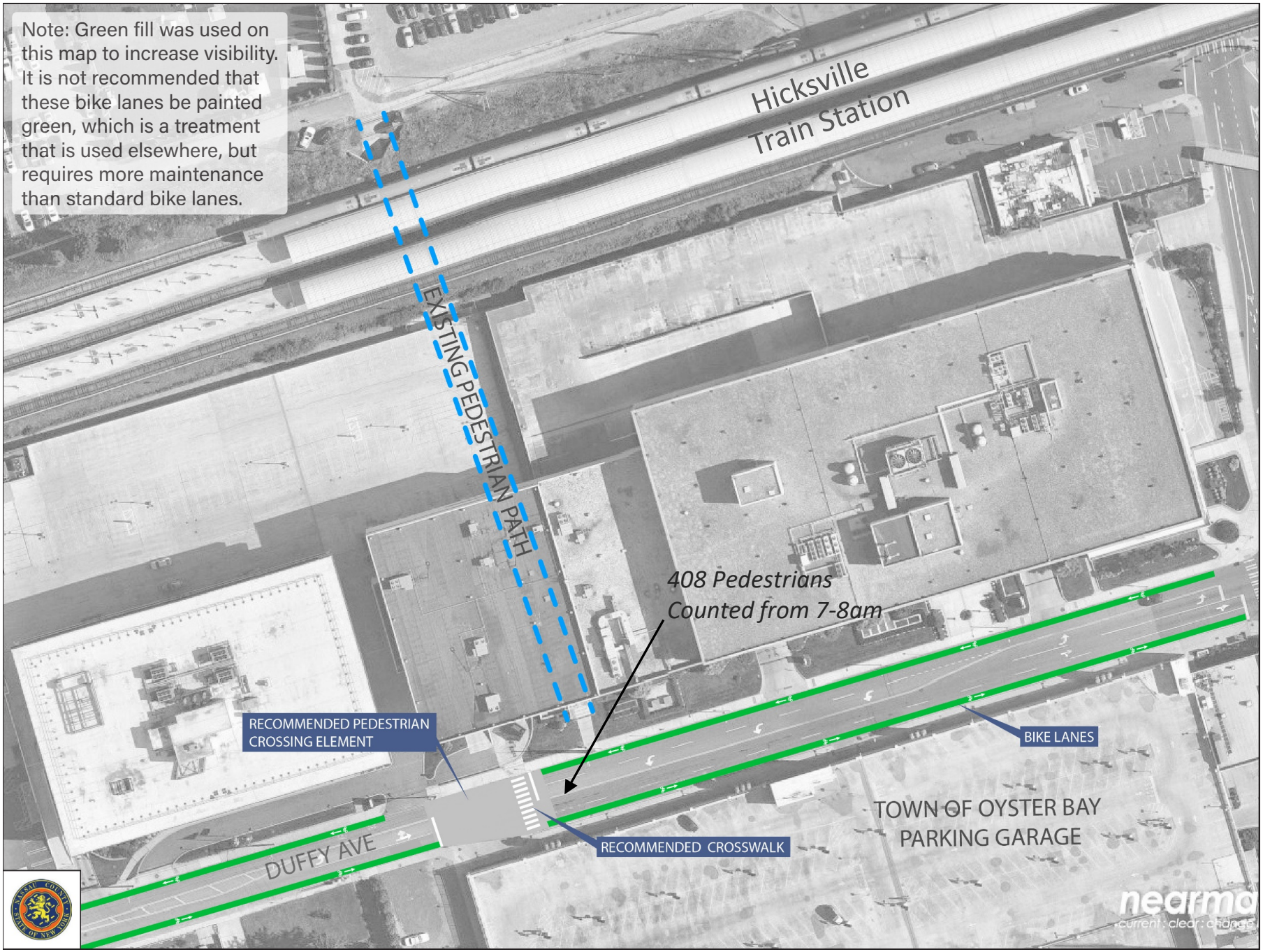
- Create a T-intersection with Duffy Ave and the entrance/exit of the Town Parking Garage.
- Add crosswalk on the west side of the entrance/exit of the Town Parking Garage.
- Add pedestrian crossing element, such as a traffic signal or Rectangular Rapid Flashing Beacon (example photo below). Preliminary counts taken at this location during the peak AM hour found that the number of pedestrian crossings at this location exceed the required number to warrant a traffic signal, but a full warrant analysis should be conducted.

Involved Agencies: Town of Oyster Bay

Implementation Timeframe: 1 year

Total Project Cost Estimate: $408,100

- Construction Cost: $313,900
- Engineering and Design: $47,100
- Construction Administration and Inspection: $47,100


Note: Green fill was used on this map to increase visibility. It is not recommended that these bike lanes be painted green, which is a treatment that is used elsewhere, but requires more maintenance than standard bike lanes.
Hicksville Train Station
EXISTING PEDESTRIAN PATH
408 Pedestrians Counted from 7-8am
RECOMMENDED PEDESTRIAN CROSSING ELEMENT
BIKE LANES
RECOMMENDED CROSSWALK
TOWN OF OYSTER BAY PARKING GARAGE
DUFFY AVE
nearmap

#5 John Street Improvements

EXISTING CONDITIONS

John Street between Newbridge Rd and Broadway is much wider than the rest of the corridor in this study area, which creates wide crossing distances for pedestrians at both intersections. While there are center medians on all approaches, many are narrow and are not accessible as pedestrian refuge islands.

Much of the width of this block of John St is taken up by a center median which has 20 front-in angled parking spaces, some of which at the west side of the median are designated for use by Nassau County Police. Pulling out of these parking spaces on such a short block with lanes of oncoming traffic in each direction presents possible conflict points for both through traffic and vehicles turning onto John St from Newbridge Rd and Broadway. This parking is lightly utilized, and serves uses that mostly have off-street parking lots.

The left turn lane from John St eastbound onto Broadway northbound is very short, causing turning vehicles to queue in the adjacent through lane. Both through lanes carry through the intersection, but on the east side they merge abruptly into a single lane on John St east of Broadway.

Both of these intersections are high crash locations.

John St median from above.

John St median from street level.

Looking east across Broadway from John Street median.

Red light camera on Broadway.

Looking north from northern tip of Kennedy Park with Jerusalem Ave to left, Broadway to right.

Looking east across northern tip of Kennedy Park from Jerusalem Ave.

SUMMARY OF RECOMMENDATIONS

This short block of John St anchored by two high-volume intersections would benefit from a reconstruction to simplify the parking movements and provide longer left turn lanes on the inner approaches. Where feasible, additional measures to shorten pedestrian crossing distances would make this intersection less of a barrier for pedestrians. Depending on future development north of John St, creating a safe and convenient crossing may reduce many vehicle trips.

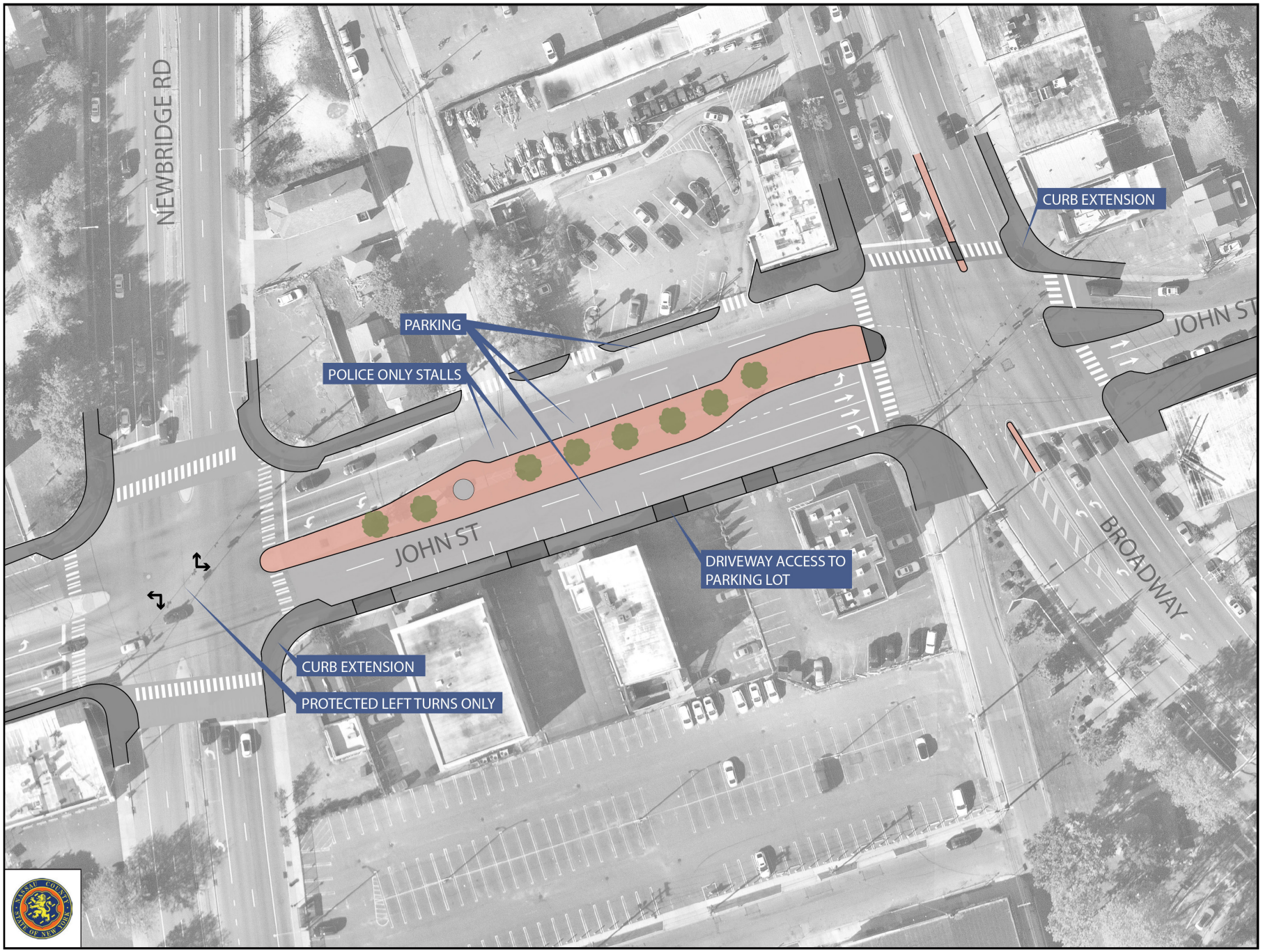
- Replace front in angled parking in center median with a limited number of parallel parking spaces, including preserving some for County Police.
- Add additional parallel parking spaces on the north and south sides of John Street to offset loss of spaces in the median
- Landscape center median and extend the east side of the median through the crosswalk.
- Elongate the left turn lane from John St eastbound onto Broadway northbound to allow for more vehicle storage.
- Make all left turns at Newbridge Rd and John St protected left turns.
- Include driveway access to each parcel.
- Enlarge triangular channelizing island on John St east of Broadway to improve alignment and provide larger pedestrian refuge.
- Add curb extensions on County road John St (not allowed on NYSDOT roads).

Involved Agencies: Town of Oyster Bay, NYSDOT

Implementation Timeframe: 2-5 years

Total Project Cost Estimate: $2,219,600

- Construction Cost: $1,849,600
- Engineering and Design: $185,000
- Construction Administration and Inspection: $185,000


NEWBRIDGE RD
CURB EXTENSION
PARKING
POLICE ONLY STALLS
JOHN ST
JOHN ST
BROADWAY
DRIVEWAY ACCESS TO PARKING LOT
CURB EXTENSION
PROTECTED LEFT TURNS ONLY

#6 Train Station Circulation & Ped Safety Improvements

EXISTING CONDITIONS

The area south of the station is a service road, which is also a heavily used private vehicle drop off area with limited pedestrian space allocated. The area north of the station serves as the main entrance to the station. The current configuration presents several conflict points, which range from a lack of pedestrian circulation and queuing space, to unpredictable vehicular movements.

On the south side (photo bottom right), the roadway is three lanes wide, which creates a condition during drop-off and pick-up where private vehicles are waiting and operating in an unpredictable way. Along the curbs, some vehicles stop and stand for long periods of time, while others stop briefly to let commuters out. The middle lane is the drive lane, which is often interrupted by vehicles merging from the curbside into the moving lane. The proximity to Dunkin Donuts exacerbates the congestion, as some drivers park in the designated 15 minute parking spaces on the south side of the road to get coffee and/or breakfast.

The roadway on the south side of the station turns under the railroad platform and comes out on the north side of the station, creating a U-turn loop. The roadway emerges where the red circle is shown on the photo on the top right of the next page. At this point, vehicles have many options. If drivers do not wish to park and want to get back onto Newbridge Road, they typically continue along the road north of the station.

That road north of the station has the same three lane condition as the south side, with the same conflict between curbside vehicles, some of which are taxis and others private vehicles, that are waiting in the outer lanes with the middle being a through lane (photo top right of next page). This creates friction between vehicles trying to exit the station parking lot from the south side as well as from the outer moving lanes on the north side (photo bottom of next page).

Pedestrians experience a lack of space to circulate or wait to be picked up, as a result of the columns that line the station. When stepping out from between columns, pedestrian visibility is reduced. This is compounded by vehicles parked against the curb, forcing pedestrians to emerge from in between parked cars in order to cross the road. The marked crosswalks are significantly faded, and only lead to a concrete knee wall that has two openings. Navigating the unpredictable vehicular movements on both sides of the station and in the main parking lot to the north creates unpredictable pedestrian patterns, since no pedestrian route is marked.


Oyster Rides
516-922-2222
OYSTER RIDES
COLLEGE SHUTTLE
516-922-2222


ONE WAY
DO NOT
ENTER

SUMMARY OF RECOMMENDATIONS

The recommended reconfiguration of this parking area would respond to the safety, circulation and access constraints that existed at the time of this study. Any future development on this site should consider these suggestions, which would be mutually beneficial to any uses in and around the station area.

- Reconfigure the main station entrance to include a plaza on the north side, with an expanded pedestrian area where the plaza meets Newbridge Rd to accommodate high pedestrian volumes.
- Provide additional pedestrian circulation space on the south side of the main station entrance using paint and delineators on the roadway (this could be built out as funds are made available).
- Remove one moving lane on both north and south sides of the station, leaving two moving lanes that connect under the overpass. Curbside lane is for taxi drop-off outer lane is for through traffic.
- Create small plaza at the entrance to the tunnel in the southwest corner of the parking lot, to improve pedestrian circulation and waiting after leaving the station building.
- Create a private vehicle drop-off area along the south side of the main parking area, parallel to the platform north of the station. A drop-off area would provide access to the main station entrance, as well as the tunnel to the platforms, which is a convenient access point for many commuters.
- Align internal drive aisle with Wyckoff St, creating a standard 4-way intersection with Barclay St.
- Provide a pedestrian route from the station to the street network
- Landscape areas between parking stalls with stormwater plantings.

Involved Agencies: Town of Oyster Bay, LIRR

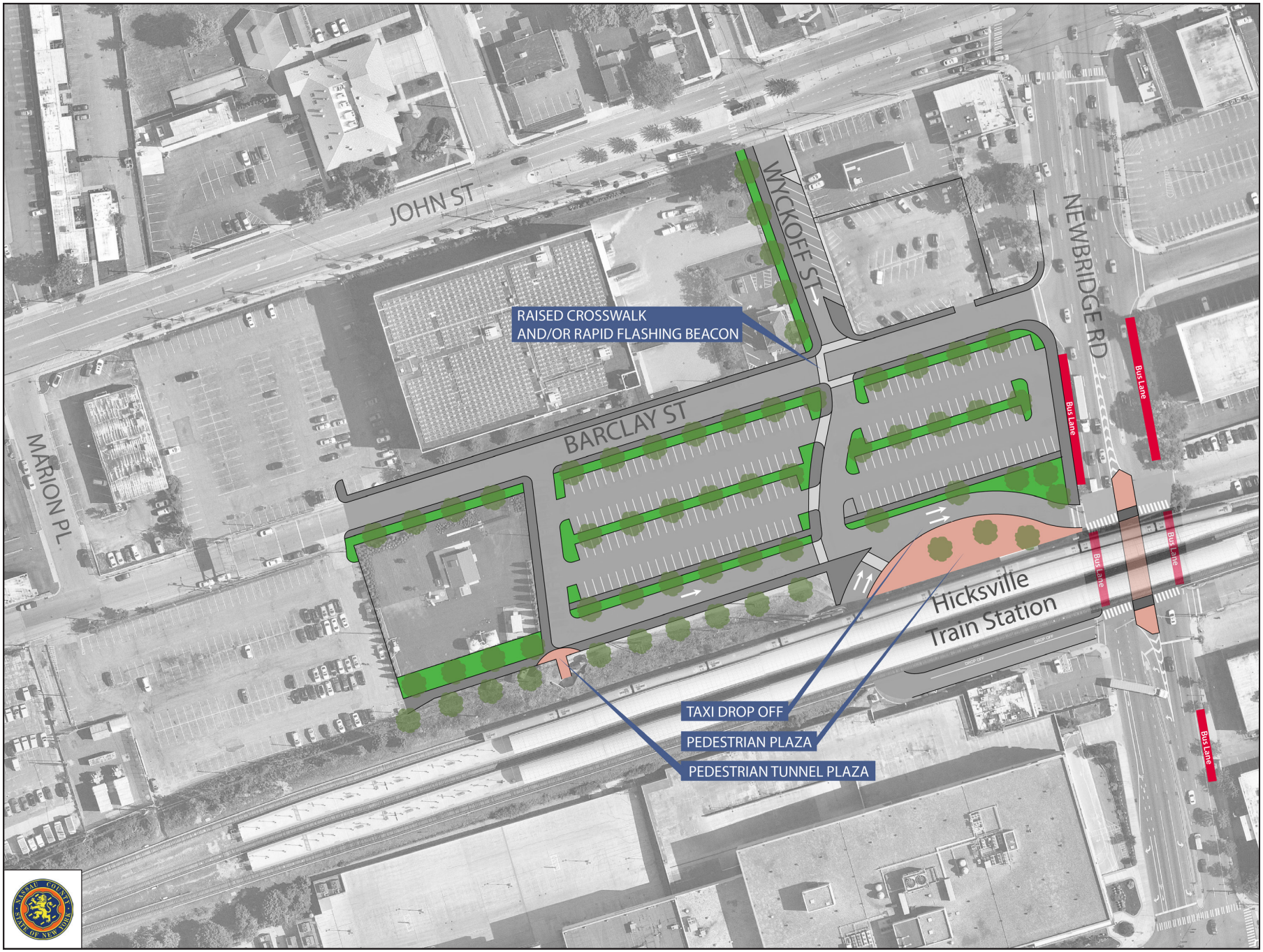
Implementation Timeframe: 2-5 years

Total Project Cost Estimate: $5,250,050

Construction Cost: $4,449,050

Engineering and Design: $356,000

Construction Administration and Inspection: $445,000


JOHN ST
WYCKOFF ST
NEWBRIDGE RD
BARCLAY ST
MARION PL
RAISED CROSSWALK
AND/OR RAPID FLASHING BEACON
Bus Lane
Bus Lane
Bus Lane
Bus Lane
Bus Lane
Hicksville
Train Station
TAXI DROP OFF
PEDESTRIAN PLAZA
PEDESTRIAN TUNNEL PLAZA

#7 Barclay Triangle & Park Expansion

EXISTING CONDITIONS

The triangular area from John St to the LIRR overpass, and from Jerusalem Ave to Broadway, is an area that was re-imagined by members of the community in the Downtown Revitalization Initiative (DRI). The atypical geometry and divided, underutilized park space right in the heart of Downtown Hicksville makes it an important prospect to the ongoing revitalization efforts, as well as providing an opportunity to improve safety.

The convergence of Jerusalem Avenue from Broadway which creates the acute angle of the triangle, also creates a five legged intersection at John St, with an expansive paved area with many complex movements. This intersection is a high crash location, the highest in the study area.

Currently, to access Jerusalem Ave southbound, vehicles in the leftmost southbound moving lane are required to split off from the through movement onto Broadway and veer into one of the two receiving lanes on Jerusalem Ave (labeled 1 on the next page). With more lanes than are needed and no physical measure to calm traffic, speeds tend to pick up by the time vehicles reach the LIRR overpass, which is a high volume, uncontrolled pedestrian crossing.

Northbound traffic queues present a different issue for pedestrians at the crossing under the LIRR overpass, backing up from the intersection of Broadway past the overpass during peak hours (labeled 2 on the next page). This causes pedestrians to cross between queuing vehicles, which are typically moving slowly as they come to a stop to wait for a green light.

Drivers coming from Barclay St east of Broadway, looking to access the surface parking lots immediately north of the station, must turn north onto Broadway, west onto John Street across a very wide intersection, and then south onto Newbridge Road. It should be noted that Newbridge Road at John St is a high crash location (labeled 3 on the next page). This route requires various lane changes in a short distance. Options to reduce that series of turns were pursued in the development of recommendations.

Kennedy Park, which sits between Jerusalem Ave and Broadway, has two distinct areas. The area south of the northbound leg of Jerusalem Ave is a landscaped plaza, while the area to the north has grass and landscaping, as well as the historic steam engine. With the community desire to enlarge the park space, the project team maintained a goal of enlarging the usable space as park space.

Another recommendation of the DRI was to convert the parking lot north of the railroad tracks, between Newbridge Rd and Jerusalem Ave, into a community space called "Festival Plaza". The project team supports the use of this space for community events, and also recognizes the importance of commuter parking this close to the station. As a result, this space is shown with distinctive pavers in a pattern that creates parking stalls, making the space flexible for various uses.

EXISTING CONDITIONS

Option A

When the DRI was undertaken, the recommendations, while preferred by the community, were not vetted by running a traffic model to see if they were feasible. This project started by testing the vision of the DRI, followed by other options.

Among the preferred recommendations that came out of the DRI process was a vision to re-establish the street grid by continuing Barclay St through the triangle, and to create a larger park with the space gained by removing Jerusalem Ave, particularly the northbound roadway which bends 90 degrees and terminates at Broadway and Barclay St. Option A represents the vision from the DRI, with any related issues addressed to make the scenario work operationally.

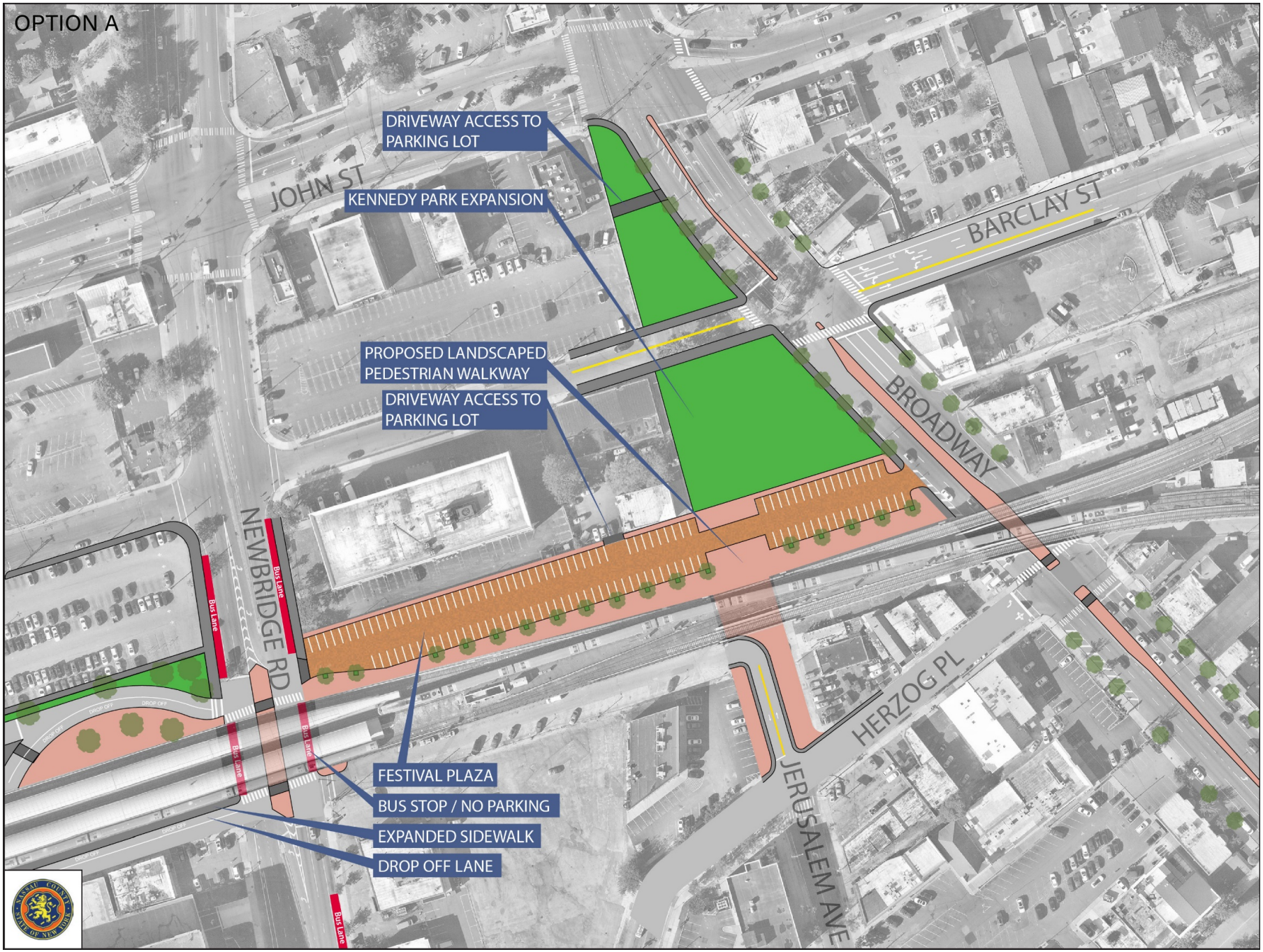
- Close Jerusalem Ave from John Street to the LIRR overpass.
- Open Barclay St through the park, creating a 4-way intersection at Barclay St and Broadway.
- Open Barclay St across Newbridge Rd, which is currently closed with a center median. This would reduce the number of vehicles using John St, a high crash location, going westbound toward the station.
- Open Herzog Pl and Broadway, to allow northbound traffic from Jerusalem Ave to travel north onto Broadway, which had previously been accommodated by Jerusalem Ave. In order to carry the volumes that would be displaced from Jerusalem Ave, Herzog Pl would need to be two lanes northbound instead of one lane in each direction. Install new crosswalk on the north side of Herzog Pl where most pedestrians currently cross.

Traffic modeling revealed at least three fatal flaws with this reconfiguration.

1. The opening of Newbridge Rd and Barclay creates backups that would cause the intersection to fail.
2. Even with two lanes toward Broadway, Herzog Pl would fail due to back ups beyond Jerusalem Ave.
3. High volumes of vehicles turning from Herzog Pl north onto Broadway would create a conflict with the heavy pedestrian crossing across Broadway. This new turning movement would create greater conflicts between vehicles and pedestrians, and is not recommended.

This option would also require the relocation of the historic steam engine in Kennedy Park

After evaluating the vision of the DRI process using existing traffic counts extended to a 10-year build horizon, it was determined that the conflicts constitute fatal flaws for this option. Based on the areas that failed, additional options were developed and run through the traffic model.


OPTION A
DRIVEWAY ACCESS TO PARKING LOT
KENNEDY PARK EXPANSION
JOHN ST
BARCLAY ST
PROPOSED LANDSCAPED PEDESTRIAN WALKWAY
DRIVEWAY ACCESS TO PARKING LOT
BROADWAY
NEWBRIDGE RD
Bus Lane
HERZOG PL
JERUSALEM AVE
FESTIVAL PLAZA
BUS STOP / NO PARKING
EXPANDED SIDEWALK
DROP OFF LANE

Option B

In response to the issues with Option A, the project team considered at least 4 other options. Option B, detailed on the following pages, was the resulting configuration that aimed to meet the needs of the project while avoiding conditions that would create conflicts or cause intersections to fail.

- Close the existing alignment of Jerusalem Ave from John St to Barclay St, leaving one lane from Barclay St to Herzog Pl. This removes the fifth leg of the intersection.
- Add a southbound lane for Jerusalem Ave from Barclay St, curving at an angle similar to the northbound lane, but with a widened median between the north and southbound lanes. This effectively creates a slip turn lane for vehicles that would have used a bend in the roadway.
- Expand Kennedy Park all the way to the LIRR tracks, removing the parking lot that is currently between Jerusalem Ave and Broadway.


OPTION B
DRIVEWAY ACCESS TO PARKING LOT
KENNEDY PARK EXPANSION
KENNEDY PARK EXPANSION
DRIVEWAY ACCESS TO PARKING LOT
JOHN ST
BARCLAY ST
BROADWAY
NEWBRIDGE RD
HERZOG PL
JERUSALEM AVE
BIKE LANES
FESTIVAL PLAZA
BUS STOP / NO PARKING
EXPANDED SIDEWALK
DROP OFF LANE
Bus Lane

Preferred Alternative

Our Preferred Alternative is a third option, which took into account feedback we received from members of the community at our second public meeting. This option retains most of the existing configuration, but removes one of the southbound lanes on Jerusalem Ave. Removing that lane optimizes the alignment from Broadway onto Jerusalem and calms traffic as it enters Jerusalem Ave. Volumes on Jerusalem Ave were low enough to operate with one lane without causing delays, and the narrowed roadway will result in additional park space while slowing southbound traffic on Jerusalem Ave.

- Jerusalem Ave would be accessed from a new moving lane in what is now a shoulder against the curb north of John St. This would improve the alignment by removing the need to weave from the through lane on Broadway to get onto Jerusalem Ave.
- Align the single moving lane on Jerusalem Ave to the western edge of the roadway, This will allow for the expansion of the center median to provide a larger pedestrian refuge across this unsignalized crossing, as well as landscaping.
- Curbside bike lanes could also be implemented between Herzog Pl and the LIRR overpass, allowing cyclists to access bike parking from the south.
- Expand Kennedy Park all the way to the LIRR tracks, removing the parking lot that is currently between Jerusalem Ave and Broadway.

This alternative should be implemented in two phases. First, with pavement markings, the realignment of a single southbound lane of Jerusalem Ave can be implemented. The additional width of the center median on Jerusalem Ave can also be created with pavement markings. The capital work required to improve this crossing and bring it to ADA compliance is critical to the next recommendation in this report, the Underline (Recommendation #8). As a result, funding for the Jerusalem Ave realignment should be prioritized. The remaining Kennedy Park expansion improvements can proceed at any time, but are less critical to other safety upgrades in the area.

Involved Agencies: NCDPW, LIRR, Town of Oyster Bay

Implementation Timeframe: 1-3 years (Roadway); 3-10 years (Park)

Roadway Project Cost Estimate: $1,495,900

- Construction Cost: $1,135,900
- Engineering and Design: $180,000
- Construction Administration and Inspection: $180,000

Park Project Cost Estimate: $4,000,000

- Kennedy Park Reconstruction: $2,500,000
- Festival Plaza: $1,500,000


PREFERRED ALTERNATIVE
DRIVEWAY ACCESS TO PARKING LOT
KENNEDY PARK EXPANSION
KENNEDY PARK EXPANSION
DRIVEWAY ACCESS TO PARKING LOT
JOHN ST
BARCLAY ST
BROADWAY
NEWBRIDGE RD
HERZOG PL
JERUSALEM AVE
BIKE LANES
FESTIVAL PLAZA
BUS STOP / NO PARKING
EXPANDED SIDEWALK
DROP OFF LANE
Bus Lane

#8 Underline Connection Under The LIRR Overpass

EXISTING CONDITIONS

Commuter parking is dispersed on all sides of the LIRR station, however, staircases leading to the station platform are only found west of Jerusalem Ave. This means that commuters parked east of Newbridge Rd, must walk parallel to the railroad tracks for some distance, crossing one or more of the three major roads that traverse the study area: Broadway, Jerusalem Ave, and Newbridge Rd. Each of these crossings has unique challenges, with the common thread being that they are heavily used by commuters accessing the station from various parking areas.

Broadway and Herzog Place (photos below left): This intersection sits south of the railroad overpass, but the marked crosswalk is on the south side of the intersection, over 100 feet from the overpass. As a result, commuters regularly use the most direct path, which involves crossing between a guiderail and delineators that have been installed to close the median along Broadway. At times, crossings at this location take place against the traffic light, with minimal visibility resulting from the railroad supports, which block the view of pedestrians for oncoming southbound vehicles.

Jerusalem Ave (photo below): With two lanes in each direction to cross, a median without pedestrian ramps, and low lighting, this crossing is the only one that is not signalized. Additionally, this crossing comes after two blocks of low capacity, high speed vehicular movements, as vehicles travel southbound from W John St along Jerusalem Ave to this crossing location.

Newbridge Road (photo top right): Immediately adjacent to the main station entrance is the busiest of the three crossings. Private vehicle drop-off/pick-up is occurring in areas meant to be curbside bus stops. This creates backups slowing down NICE bus service. Additionally, the back-up of private vehicles often encroaches into the crosswalks, leaving pedestrians with less space to safely cross.

Under the LIRR Overpass: The area that connects these three major intersections is a walkway that varies in width. A paved sidewalk is found throughout, but is only 5 feet wide in many places where parked vehicles encroach leaving no space for cyclists. The lighting under the overpass is relatively dim and not scaled for pedestrians.

The strategy behind the "Underline" recommendation is to create a well lit, covered, linear passageway with safe street crossings. With minor expansion in some areas, the linear connection is already in tact between Broadway and Newbridge Rd. Additional elements such as distinctive lighting and context-sensitive pedestrian crossings would tie the linear spaces together and create a striking distinction from the surrounding area.

This accented physical transformation would create a sense of place, acting as a gateway to Downtown Hicksville for thousands of through vehicles. As the busiest LIRR station in Nassau and Suffolk Counties, bisected by two major State corridors, this placemaking measure would tie the linear passageway together as it crosses each roadway.

Below are the recommendations for each area of the Underline:

Broadway and Herzog Pl

- Remove guiderail and construct a raised median south of the bridge supports, which would remove the need for the guiderail and other delineators that are currently in place.
- Create a crosswalk on the north side of the intersection, which is the most direct route across Broadway for the hundreds of commuters that are currently crossing here without a crosswalk to access the station.
- Install curb extension on the northwest corner of Broadway and Herzog Pl to provide more space for pedestrians to queue while waiting to cross Broadway.

Jerusalem Ave

- Remove one moving lane and expand center median to shorten crossing distance and provide larger pedestrian refuge for this uncontrolled crossing.
- Provide Rectangular Rapid Flashing Beacons for both northbound and southbound moving lanes.
- Images on page 56 show the existing condition and photo simulations of the proposed day and night conditions.

Newbridge Rd

- Designate curbside area as Bus Lanes with No Standing signs. Bus Lanes painted red will increase compliance.
- Expand pedestrian area on all four corners to increase pedestrian queuing space.
- Expand median and add pedestrian ramps to create a refuge area.

Under the LIRR Overpass

The name and concept proposed for the "Underline" area under the overpass originated with the DRI process. Due to the importance of this east-west axis, the project team built on the concept set forth in the DRI plan to envision a consistently wide path with separate alignments for pedestrians and cyclists. In order to achieve this, a small amount of parking spaces would need to be relocated to widen the existing sidewalk to at least 10-12 feet. By funneling all movements under the overpass, crossings will be at controlled locations that are appropriately signed and marked.

Since commuters access the station in the dark during parts of the year, low-maintenance LED lighting is recommended. In addition to providing adequate pedestrian-scaled lighting, this lighting will bring the attention of drivers to the crossings, slowing vehicle speeds.

Involved Agencies: Town of Oyster Bay, LIRR

Implementation Timeframe: 2-5 years

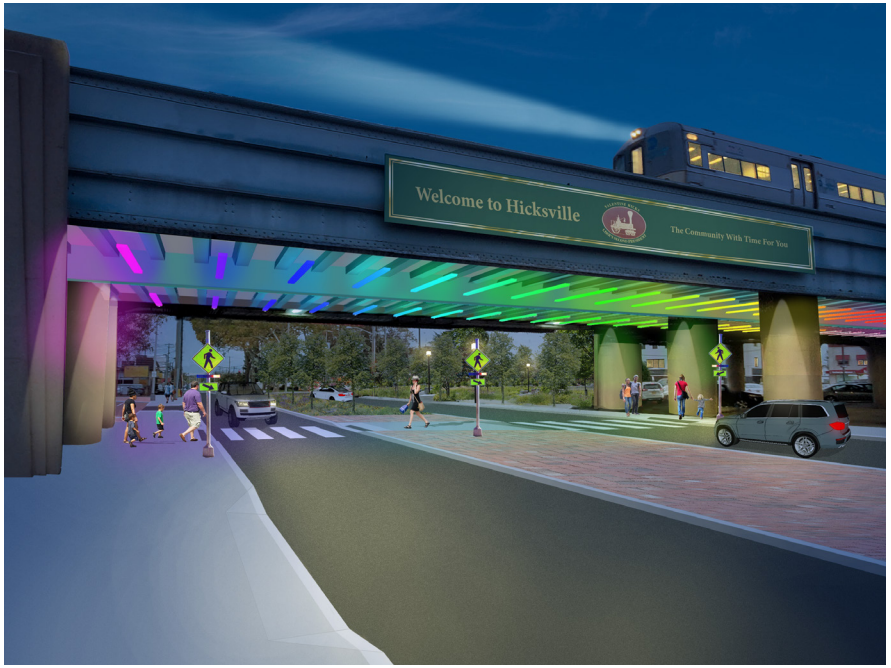
Total Project Cost Estimate: $2,445,900

- Construction Cost: $1,972,500
- Engineering and Design: $236,700
- Construction Administration and Inspection: $236,700

Existing Condition (Top Left): Commuters crossing at a gap in traffic on Jerusalem Ave.

Recommended - Daylight (Bottom Left): Photo simulation showing accessible pedestrian crossing with enlarged median refuge island, Rectangular Rapid Flashing Beacons, continuous sidewalks and gateway signage.

Recommended - Night (Bottom Right): Photo simulation showing a possible lighting effect to accent this crossing during hours of darkness.



4.0 NEXT STEPS

This project concluded with the presentation of preliminary recommendations to the public in January 2020, followed by the production of this report, which documents the finalized recommendations. The recommendations are conceptual in nature, so additional study and design will be required for many of these projects. However, the recommendations were taken together as a set of safety and mobility improvements, and would be most effective if all eight recommendations are implemented within a timeframe of 5-10 years.

Half of the recommendations are early action items that can be implemented relatively quickly. The other half of the recommendations could be implemented within 2-5 years, beginning with applications for funding using this report.

The Implementation Timeline that follows outlines a Plan of Action moving forward for lead agencies and supporting organizations to take on as resources are available to initiate new projects.

4.1 Plan of Action

With various jurisdictions owning roadways and parcels throughout the study area, a continuation of the interagency coordination will be critical to the success of Downtown Hicksville. Through earlier efforts, the TAC members had already been working together, and the common goal of improving Downtown Hicksville will need to continue these collaborations. Below is a plan of action for each of the recommendations.

1 Broadway Downtown Streetscaping

This project may have the highest level of impact for retail and local economic health. As the designated downtown retail area for Hicksville, the current condition does not invite businesses or patrons. Upgrading and making sidewalks and crosswalks accessible would promote pedestrian access from on-street parking as well as centralized parking areas that already exist. Funding for this may be allocated from DRI funds, or may be sought on behalf of NYSDOT which owns the roadway. With the right-of-way in place, this is a relatively simple construction project along a critical corridor.

2 Bike Routes and Facilities

These shared lanes and bike racks could be installed relatively quickly, particularly if there are other marking installations taking place in the Downtown Hicksville area.

3 Duffy Ave & Newbridge Rd

With the space mostly available to install bike lanes on both Duffy Ave and Newbridge Ave, these could be installed immediately. Coordination with NYSDOT is required in order to implement these bike lanes.

4 Duffy Ave Mid-Block Crossing

A signal warrant analysis is required to justify a pedestrian crossing element at this location. Preliminary counts taken as part of this study indicate that there are likely a sufficient number of pedestrians crossing at this location to warrant a traffic signal or flashing beacon.

5 John St Improvements

As a larger capital project, this full block reconstruction will require coordination between various agencies. Funding for this process needs to be identified, and should be the next step in the process. A full design process, including traffic analysis, will be required to finalize the design and produce construction documents to secure the appropriate amount of funding.

6 Train Station Circulation & Ped Safety Improvements

This parcel is the subject of future development, so the exact fate is not certain. The recommendations for this area are still valid, as they respond to the commuter circulation needs present at the station. Private drop-off, pedestrian waiting areas, limited lanes surrounding the train station and enlarged pedestrian queue spaces will not only be beneficial to future developments, they are critical to the current functioning of this area. The next step is to coordinate with the LIRR and Town of Oyster Bay on these improvements.

7 Barclay Triangle & Kennedy Park Expansion

This project should be undertaken in two phases. The critical change is to reduce Jerusalem Ave to one lane southbound from Broadway. The lane will also be shifted west to widen the center median at the pedestrian crossing location.

Widening the median with paint will provide some short-term relief, but the critical upgrade is a built median with a proper ADA Compliant pedestrian crossing, including Rectangular Rapid Flashing Beacons and gateway signage. This capital build out could be done as an intermediary phase, or as part of the expansion of Kennedy Park.

8 “Underline” Connection Under the LIRR Overpass

The Underline is, in some locations, already in tact and wide enough to separate bike and pedestrian movements. Additional work would be required to get a continuous pathway. In the meantime, a low-cost, low-maintenance LED lighting arrangement could be installed to provide the high-impact visual attention grabber, which would come to define Downtown Hicksville as a place, not just a commuter center.

4.2 Potential Funding Sources

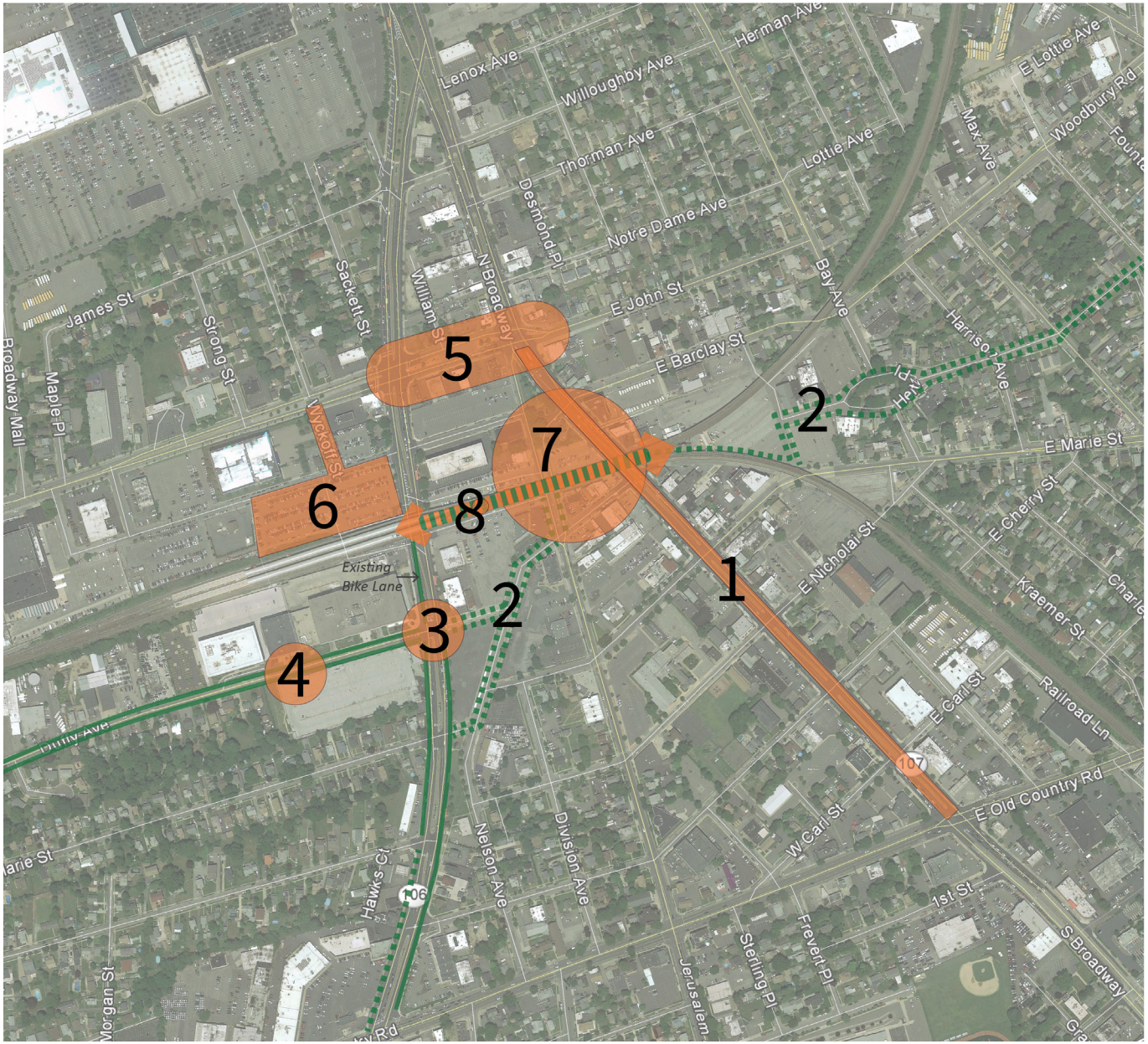
In addition to operational funding, which may be available for short-term improvements such as signs and markings, the funding programs below are available annually or semi-annually. Many of the recommendations in this report would qualify for some or all of the programs below. More detail about each of these funding sources, as well as the US DOT's matrix of Transportation, Transit, Safety and Highway Funds can be found in the Appendices.

- Transportation Alternatives Program (TAP)
- Congestion Mitigation & Air Quality Program (CMAQ)
- Safe Routes to School (SRTS) Program
- Consolidated Local Street and Highway Improvement Program (CHIPS)
- Recreational Trails Program
- Pedestrian Safety Action Plan (PSAP)

Other programs that could provide funding for some of these recommendations include:

- Multi-modal Program: Requires projects to be nominated by a Legislative Member or the Governor
- Community Development Block Grants (CDBG): Administered by Nassau County
- State and Municipal Facilities Program (SAM): Administered by DASNY

	Recommendation	Location	Overview	Cost Estimate	Timeframe	Involved Agencies
1	Broadway Downtown Streetscaping	Broadway from John St to Old Country Road	Improve sidewalk and ped ramp conditions; provide clear walking space; bike parking	$5,941,675	2-5 years	NYSDOT, Town of Oyster Bay
2	Bike Routes and Facilities	Heitz Pl, Nelson Ave, Duffy Ave, Newbridge Rd, Jerusalem Ave	Bike Lanes with buffers where space allows, shared lanes on narrow streets	$189,800	1 year	NYSDOT, Town of Oyster Bay, NCDPW, LIRR
3	Duffy Ave & Newbridge Rd	Duffy Ave & Newbridge Rd	Duffy Ave: Bike Lanes west of Newbridge Rd, Shared lanes east; Buffered bike lanes south of Duffy Ave	$96,100	1 year	NYSDOT, Town of Oyster Bay
4	Duffy Ave Mid-Block Crossing	Duffy Ave, 500' west of Newbridge Rd	Pedestrian crossing element at high crossing location	$408,100	1 year	Town of Oyster Bay
5	John Street Improvements	John St from Newbridge Rd to Broadway	Roadway reconstruction to median removing angled parking and adding landscaping; curb extensions	$2,219,600	2-5 years	Town of Oyster Bay, NYSDOT
6	Train Station Circulation & Ped Safety Improvements	Barclay St to Train Station from Newbridge Rd to 800 feet east; Wyckoff St	Create plaza for ped circulation; Private vehicle drop-off area; Align parking exit with Wyckoff St	$5,250,050	2-5 years	Town of Oyster Bay, LIRR
7	Barclay Triangle & Park Expansion	Broadway to Jerusalmen Ave from John St to Herzog Pl	Remove one southbound travel lane on Jerusalem Ave and improve alignment from Broadway southbound	$1,495,900 (Roadway) $4,000,000 (Park)	1-3 years (Roadway) 3-10 years (Park)	NCDPW, LIRR, Town of Oyster Bay
8	"Underline" Connection Under the LIRR Overpass	East side of Broadway to West side of Newbridge Rd, under the LIRR tracks/station	Continuous separate bike and ped paths with enhanced crossings at intersections	$2,445,900	2-5 years	Town of Oyster Bay, LIRR



Recommendations

1. Broadway Downtown Streetscaping

2. Bike Routes and Facilities

   Dedicated Bike Lane or Buffered Bike Lane

   Shared Lane Markings

3. Duffy Ave & Newbridge Road

4. Duffy Ave Mid-Block Crossing

5. John St Improvements

6. Train Station Circulation and Pedestrian Safety Improvements

7. Barclay Triangle & Park Expansion
   - Option A — DRI-based
   - Option B — Preferred Alternative

8. Underline Connection Under the LIRR Overpass (Broadway to Newbridge Rd)

   Underline Bike-Ped Path

4.3 Economic Benefits

In Downtown Hicksville, the recommended Complete Streets projects will improve safety and connectivity for pedestrians, bicyclists and motorists; improve visibility and accessibility to area businesses; and improve the overall desirability and appearance of the downtown area. These improvements are likely to have economic benefits through the potential for increased visibility and patronage of area businesses, which would be reflected in sales tax collections. This could lead to less retail vacancies, which in turn creates higher tax revenue, as well as more local employment opportunities. Furthermore, these improvements could lead to a higher regard for local commercial and residential real estate, which would lead to higher property values.

Specifically, the streetscape upgrades along Broadway would present the greatest direct economic opportunity. With a unified aesthetic and enhanced safety and comfort defining the downtown retail area, Broadway could become more of a retail destination, with multiple trips taking place on foot between various retail establishments.

Creating spaces for multi-modal uses provides options for residents and commuters. If encouraged by a safer environment with more facilities for pedestrians and bicyclists, individual commuters could benefit economically through cost savings by shifting from driving to walking or biking to the Hicksville LIRR Station.

Several studies have attempted to quantify the economic benefits of Complete Streets investments. A November 2017 study in the Journal of Transport & Health examined the impact of Complete Streets investments on adjacent residential real estate in 2000 and 2007 in Orlando, FL. The researchers found that, on average, single-family homes exposed to Complete Streets had approximately 8% and 4% home value appreciation and home value resilience than their counterparts in adjacent non-exposed control area during housing market boom and recession, respectively.

Clearly, many attributes about a neighborhood contribute to the desirability of its housing stock. Living near or along a safe, well-designed street that accommodates walkers, bicyclists, and motorists is generally more desirable to a prospective home buyer than living along a road that only caters to motorists. This principle also can be extrapolated to downtowns and commercial areas, where safe circulation for a variety of modes is critical.

According to a presentation "The Economic Benefits of Complete Streets Projects," for the Nassau County Infill Redevelopment Feasibility Study for Baldwin (October 29, 2013), an examination of several case studies led to the conclusion that investment in Complete Streets resulted in positive and quantifiable economic benefits for the communities. The presentation states: "a $7 to $10 million investment in Complete Streets can generate returns ranging from $20 to $100 million" through creation of new jobs, attraction of new businesses, and reduction in retail vacancies.

A joint NYSERDA/NYSDOT report entitled Measuring the Impact of Complete Street Projects: Preliminary Field Testing (Report 16-19, December 2016) captures the results of a qualitative, survey-based study that sought to assess the impact of Complete Streets projects in eight street corridors in Buffalo, NY where Complete Streets projects were implemented. With respect to economic benefits, which

the report only touches on lightly, approximately 26% of merchants reported that their sales were "somewhat more" or "much more" since the street improvements were completed.

At various points during the implementation of the Downtown Hicksville Complete Streets Project, Nassau County should work with the Town of Oyster Bay to track quantitative and qualitative data that will provide a sense of the economic benefits of investing in this project. A baseline should be established after the planned private real estate development projects and other public improvements being undertaken by the Town come to fruition, otherwise it might be difficult to differentiate the economic benefits of the Complete Streets Project alone.

Tracking economic benefits will require data such as increases in property values or tax revenue after improvements are implemented, crash reductions, and reductions in delay times. Each benefit should be studied and compared to the conditions prior to the implementation of any complete streets recommendations.

The existing street design and infrastructure would be considered conventional design, which has come to prioritize throughput of vehicular traffic, with the minimum required infrastructure for other modes of transportation. Therefore, comparing the existing conditions immediately before implementation would provide a comparison of any of the benefits after the implementation of complete streets treatments. This will illustrate the benefits resulting from complete streets, as opposed to rebuilding the existing geometry to primarily move traffic through the corridors as they have been to date.

Downtown Hicksville **Complete Streets Project**

APPENDICES

JULY 2020


NYCB PLAZA
Town of Oyster Bay
Hicksville Parking Facility

CONTENTS

APPENDIX A: FUNDING SOURCES

Should the County decide to move forward with implementing any pedestrian safety improvements and bicycle facility upgrades under consideration, the programs below should be considered as potential funding sources:

Transportation Alternatives Program (TAP)

TAP is one of the largest federal sources for bicycle and pedestrian funding under MAP-21, the most recent federal transportation funding law. Transportation Alternatives is a combination of two core active transportation programs from SAFETEA-LU-Transportation Enhancements and Safe Routes to Schools (SRTS). While Transportation Alternatives projects are federally funded, the funds are administered by the New York Department of Transportation (NYSDOT) and the state's Metropolitan Planning Organizations (MPOs). Funding categories include:

- **Bicycle & Pedestrian Facilities**: Sidewalks, bike lane striping, wide paved shoulders, traffic calming, off road trails; bike and pedestrian bridges and underpasses; ADA compliance
- **Safe Routes for Non-Drivers**: Access and accommodation for children, older adults, and individuals with disabilities.
- Conversion of Railway Corridors for Trails: Planning, designing, constructing and reconstructing bike parking and bus racks, developing multi-use trails along a railroad R.O.W.
- Community improvement activities including vegetation management, historic preservation, archaeological activities related to transportation projects, and boulevard construction.

The federal TAP funds are administered through reimbursement of up to 80 percent of a project's cost with the project sponsor typically responsible for the remaining 20 percent. The project sponsor's matching share may include sponsor cash, donations of right-of-way integral to the project, in-kind contributions of labor or materials integral to the project, or other non-DOT state or federal funds. Funding in the greater New York City metropolitan area is administered through the New York Metropolitan Transportation Council (NYMTC), the region's MPO. The selection procedure is accomplished through an application rating process overseen by the NYMTC members.

Congestion Mitigation & Air Quality Program (CMAQ)

CMAQ is jointly administered by the Federal Highway Administration (FHWA) and the Federal Transit and the Administration (FTA). The CMAQ program was initiated to support surface transportation projects and other related efforts that contribute air quality improvements and provide congestion relief. All eligible projects must conform to established CMAQ guidance, which includes meeting three basic criteria: it must be a transportation project, it must generate an emissions reduction, and it must be located in or benefit a Federally-designated nonattainment or maintenance area.

Since 2013, the federal share for most CMAQ-eligible projects is 80 percent. All CMAQ projects will require a 20% local match, with the exception of carpool & vanpool projects, which are 100%

Federally-funded. Just like for TAP, funding in the greater New York City metropolitan area is administered through NYMTC. The selection procedure is accomplished through an application rating process overseen by the NYMTC members.

Safe Routes to School (SRTS) Program

The New York State SRTS program offers technical assistance to communities that are developing and implementing projects and programs. NYSDOT announced $26.5 for 64 projects on January 4, 2013 to implement infrastructure improvements and public education campaigns to encourage and enable safe walking and bicycling to school. All SRTS projects are required to comply with a variety of Federal and State requirements. A Technical Advisory Committee has continued to assist NYSDOT with the implementation of the statewide Safe Routes To School (SRTS) program in New York since 2003. It is comprised of representatives of the NYS Departments of Transportation, Health, Education, State Police and Governor's Traffic Safety Committee, as well as with the participation of the Metropolitan Planning Organizations (MPOs) across New York.

Consolidated Local Street and Highway Improvement Program (CHIPS)

CHIPS is a New York State-funded program administered through the NYSDOT to assist localities in financing the construction, reconstruction or improvement of local highways, bridges, highway-railroad crossings and other local facilities. CHIPS eligible projects include bike Lanes, bike paths, sidewalks, shared use paths, traffic calming, curb reconstruction and wide curb lanes within a highway right-of-way.

Recreational Trails Program

This program is a State administered Federal assistance program to provide funds for the construction of recreational trails and trail related facilities for both motorized and non-motorized recreational trail users. This is a Federal-aid (80/20) reimbursement program. This program is administered by the New York State Department of Parks, Recreation & Historic Preservation (OPRHP). Source of funds: Federal Highway Administration.

Pedestrian Safety Action Plan (PSAP)

The New York State Department of Transportation (NYSDOT) released its first-ever New York State Pedestrian Safety Action Plan (PSAP) in June of 2016. The five-year, multi-agency plan takes a three-pronged approach to improve pedestrian safety. It will be implemented cooperatively by NYSDOT focusing on engineering improvements, the State Department of Health producing public education and awareness campaigns, and the Governor's Traffic Safety Committee coordinating increased law enforcement. Funding for the plan's implementation is supported through the federal Highway Safety Improvement Program (HSIP) funding and State sources.

The PSAP calls for a systemic approach to address widespread pedestrian safety issues and minimize crash potential by implementing low-cost countermeasures throughout the roadway network, both local and state jurisdictions. NYSDOT has begun pedestrian safety improvements on state-owned roadways at approximately 2,000 uncontrolled crosswalks (no signals or stop signs) and 2,400 signalized intersections. The PSAP also includes

$40 million of federal HSIP funds to implement systemic pedestrian safety projects on local urban roads and streets. Projects funded pursuant to this call for pedestrian projects are eligible to receive up to 100% federal HSIP funding.

Pedestrian and Bicycle Funding Opportunities
U.S. Department of Transportation Transit, Highway, and Safety Funds

Revised August 9, 2018

This table indicates potential eligibility for pedestrian and bicycle projects under U.S. Department of Transportation surface transportation funding programs. Additional restrictions may apply. See notes and basic program requirements below, and see program guidance for detailed requirements. Project sponsors should fully integrate nonmotorized accommodation into surface transportation projects. Section 1404 of the Fixing America's Surface Transportation (FAST) Act modified 23 U.S.C. 109 to require federally-funded projects on the National Highway System to consider access for other modes of transportation, and provides greater design flexibility to do so.

Key: $ = Funds may be used for this activity (restrictions may apply). ~$ = Eligible, but not competitive unless part of a larger project. $* = See program-specific notes for restrictions.

	Pedestrian and Bicycle Funding Opportunities U.S. Department of Transportation Transit, Highway, and Safety Funds															
Activity or Project Type	BUILD	INFRA	TIFIA	FTA	ATI	CMAQ	HSIP	NHPP	STBG	TA	RTP	SRTS	PLAN	NHTSA 402	NHTSA 405	FLTTP
Access enhancements to public transportation (includes benches, bus pads)	$	~$	$	$	$	$		$	$	$						$
ADA/504 Self Evaluation / Transition Plan									$	$	$		$			$
Bicycle plans				$					$	$		$	$			$
Bicycle helmets (project or training related)									$	$SRTS		$		$*		
Bicycle helmets (safety promotion)									$	$SRTS		$				
Bicycle lanes on road	$	~$	$	$	$	$	$	$	$	$		$				$
Bicycle parking	~$	~$	~$	$	$	$		$	$	$	$	$				$
Bike racks on transit	$	~$	$	$	$	$			$	$						$
Bicycle repair station (air pump, simple tools)	~$	~$	~$	$	$	$			$	$						$
Bicycle share (capital and equipment; not operations)	$	~$	$	$	$	$		$	$	$						$
Bicycle storage or service centers (example: at transit hubs)	~$	~$	~$	$	$	$			$	$						$
Bridges / overcrossings for pedestrians and/or bicyclists	$	~$	$	$	$	$*	$	$	$	$	$	$				$
Bus shelters and benches	$	~$	$	$	$	$		$	$	$						$
Coordinator positions (State or local)						$ 1 per State			$	$SRTS		$				
Crosswalks (new or retrofit)	$	~$	$	$	$	$*	$	$	$	$	$	$				$
Curb cuts and ramps	$	~$	$	$	$	$*	$	$	$	$	$	$				$
Counting equipment				$	$		$	$	$	$	$	$	$*			$
Data collection and monitoring for pedestrians and/or bicyclists				$	$		$	$	$	$	$	$	$*			$
Historic preservation (pedestrian and bicycle and transit facilities)	$	~$	$	$	$				$	$						$
Landscaping, streetscaping (pedestrian and/or bicycle route; transit access); related amenities (benches, water fountains); generally as part of a larger project	~$	~$	~$	$	$			$	$	$						$
Lighting (pedestrian and bicyclist scale associated with pedestrian/bicyclist project)	$	~$	$	$	$		$	$	$	$	$	$				$
Maps (for pedestrians and/or bicyclists)				$	$	$			$	$		$	$*			
Paved shoulders for pedestrian and/or bicyclist use	$	~$	$			$*	$	$	$	$		$				$

Key: $ = Funds may be used for this activity (restrictions may apply). ~$ = Eligible, but not competitive unless part of a larger project. $* = See program-specific notes for restrictions.

	Pedestrian and Bicycle Funding Opportunities U.S. Department of Transportation Transit, Highway, and Safety Funds															
Activity or Project Type	BUILD	INFRA	TIFIA	FTA	ATI	CMAQ	HSIP	NHPP	STBG	TA	RTP	SRTS	PLAN	NHTSA 402	NHTSA 405	FLTTP
Pedestrian plans				$					$	$		$	$			$
Recreational trails	~$	~$	~$						$	$	$					$
Road Diets (pedestrian and bicycle portions)	$	~$	$				$	$	$	$						$
Road Safety Assessment for pedestrians and bicyclists							$		$	$			$			$
Safety education and awareness activities and programs to inform pedestrians, bicyclists, and motorists on ped/bike safety									$SRTS	$SRTS		$	$*	$*	$*	
Safety education positions									$SRTS	$SRTS		$		$*		
Safety enforcement (including police patrols)									$SRTS	$SRTS		$		$*	$*	
Safety program technical assessment (for peds/bicyclists)									$SRTS	$SRTS		$	$*	$		
Separated bicycle lanes	$	~$	$	$	$	$	$	$	$	$		$				$
Shared use paths / transportation trails	$	~$	$	$	$	$*	$	$	$	$	$	$				$
Sidewalks (new or retrofit)	$	~$	$	$	$	$	$	$	$	$	$	$				$
Signs / signals / signal improvements	$	~$	$	$	$	$	$	$	$	$		$				$
Signed pedestrian or bicycle routes	$	~$	$	$	$	$		$	$	$		$				$
Spot improvement programs	$	~$	$	$			$	$	$	$	$	$				$
Stormwater impacts related to pedestrian and bicycle projects	$	~$	$	$	$		$	$	$	$	$	$				$
Traffic calming	$	~$	$	$			$	$	$	$		$				$
Trail bridges	$	~$	$			$*	$	$	$	$	$	$				$
Trail construction and maintenance equipment									$RTP	$RTP	$					
Trail/highway intersections	$	~$	$			$*	$	$	$	$	$	$				$
Trailside and trailhead facilities (includes restrooms and water, but not general park amenities; see program guidance)	~$*	~$*	~$*						$*	$*	$*					$
Training						$	$		$	$	$	$	$*	$*		
Training for law enforcement on ped/bicyclist safety laws									$SRTS	$SRTS		$			$*	
Tunnels / undercrossings for pedestrians and/or bicyclists	$	~$	$	$	$	$*	$	$	$	$	$	$				$

Abbreviations

ADA/504: Americans with Disabilities Act of 1990 / Section 504 of the Rehabilitation Act of 1973
BUILD: Better Utilizing Investments to Leverage Development Transportation Discretionary Grants
INFRA: Infrastructure for Rebuilding America Discretionary Grant Program
TIFIA: Transportation Infrastructure Finance and Innovation Act (loans)
FTA: Federal Transit Administration Capital Funds
ATI: Associated Transit Improvement (1% set-aside of FTA)
CMAQ: Congestion Mitigation and Air Quality Improvement Program
HSIP: Highway Safety Improvement Program
NHPP: National Highway Performance Program
STBG: Surface Transportation Block Grant Program
TA: Transportation Alternatives Set-Aside (formerly Transportation Alternatives Program)
RTP: Recreational Trails Program
SRTS: Safe Routes to School Program / Activities
PLAN: Statewide Planning and Research (SPR) or Metropolitan Planning funds
NHTSA 402: State and Community Highway Safety Grant Program
NHTSA 405: National Priority Safety Programs (Nonmotorized safety)
FLTTP: Federal Lands and Tribal Transportation Programs (Federal Lands Access Program, Federal Lands Transportation Program, Tribal Transportation Program, Nationally Significant Federal Lands and Tribal Projects)

Program-specific notes: Federal-aid funding programs have specific requirements that projects must meet, and eligibility must be determined on a case-by-case basis.

- BUILD: Subject to annual appropriations. See https://www.transportation.gov/BUILDgrants for details.
- INFRA: See https://www.transportation.gov/buildamerica/infragrants for details. Focus on projects that generate national or regional economic, mobility, and safety benefits.
- TIFIA: Program offers assistance only in the form of secured loans, loan guarantees, or standby lines of credit, but can be combined with other grant sources, subject to total Federal assistance limitations.
- FTA/ATI: Project funded with FTA transit funds must provide access to transit. See Bicycles and Transit and the FTA Final Policy Statement on the Eligibility of Pedestrian and Bicycle Improvements under Federal Transit Law.
  - Bicycle infrastructure plans and projects funded with FTA funds must be within a 3 mile radius of a transit stop or station, or if further than 3 miles, must be within the distance that people could be expected to safely and conveniently bike to use the particular stop or station.
  - Pedestrian infrastructure plans and projects funded with FTA funds must be within a ½ mile radius of a transit stop or station, or if further than ½ mile, must be within the distance that people could be expected to safely and conveniently walk to use the particular stop or station.
  - FTA funds cannot be used to purchase bicycles for bike share systems.
  - FTA encourages grantees to use FHWA funds as a primary source for public right-of-way projects.
- CMAQ projects must demonstrate emissions reduction and benefit air quality. See the CMAQ guidance at www.fhwa.dot.gov/environment/air_quality/cmaq/ for a list of projects that may be eligible for CMAQ funds. Several activities may be eligible for CMAQ funds as part of a bicycle and pedestrian-related project, but not as a highway project. CMAQ funds may be used for shared use paths, but may not be used for trails that are primarily for recreational use.
- HSIP projects must be consistent with a State's Strategic Highway Safety Plan and (1) correct or improve a hazardous road location or feature, or (2) address a highway safety problem.
- NHPP projects must benefit National Highway System (NHS) corridors.
- STBG and TA Set-Aside: Activities marked "$SRTS" means eligible only as an SRTS project benefiting schools for kindergarten through 8th grade. Bicycle transportation nonconstruction projects related to safe bicycle use are eligible under STBG, but not under TA (23 U.S.C. 217(a)).
- RTP must benefit recreational trails, but for any recreational trail use. RTP projects are eligible under TA and STBG, but States may require a transportation purpose.
- SRTS: FY 2012 was the last year for SRTS funds, but SRTS funds are available until expended.
- Planning funds must be used for planning purposes, for example:
  - Maps: System maps and GIS;
  - Safety education and awareness: for transportation safety planning;
  - Safety program technical assessment: for transportation safety planning;
  - Training: bicycle and pedestrian system planning training.
- Federal Lands and Tribal Transportation Programs (FLTTP) projects must provide access to or within Federal or tribal lands:
  - Federal Lands Access Program (FLAP): Open to State and local entities for projects that provide access to or within Federal or tribal lands.
  - Federal Lands Transportation Program: For Federal agencies for projects that provide access within Federal lands.
  - Tribal Transportation Program: available for federally-recognized tribal governments for projects within tribal boundaries and public roads that access tribal lands.
- NHTSA 402 project activity must be included in the State's Highway Safety Plan. Contact the State Highway Safety Office for details: http://www.ghsa.org/html/about/shsos.html
- NHTSA 405 funds are subject to State eligibility, application, and award. Project activity must be included in the State's Highway Safety Plan. Contact the State Highway Safety Office for details: http://www.ghsa.org/html/about/shsos.html

Cross-cutting notes

- FHWA Bicycle and Pedestrian Guidance: http://www.fhwa.dot.gov/environment/bicycle_pedestrian/
- **Applicability of 23 U.S.C. 217(i) for Bicycle Projects:** 23 U.S.C. 217(i) requires that bicycle facilities "be principally for transportation, rather than recreation, purposes". However, sections 133(b)(6) and 133(h) list "recreational trails projects" as eligible activities under STBG. Therefore, the requirement in 23 U.S.C. 217(i) does not apply to recreational trails projects (including for bicycle use) using STBG funds. Section 217(i) continues to apply to bicycle facilities other than trail-related projects, and section 217(i) continues to apply to bicycle facilities using other Federal-aid Highway Program funds (NHPP, HSIP, CMAQ). The transportation requirement under section 217(i) is applicable only to bicycle projects; it does not apply to any other trail use or transportation mode.
- There may be occasional DOT or agency incentive grants for specific research or technical assistance purposes.
- Aspects of DOT initiatives may be eligible as individual projects. Activities above may benefit safe, comfortable, multimodal networks; environmental justice; and equity.

APPENDIX B: DETAILED TRAFFIC ANALYSIS

INTRODUCTION

The consultant team performed a detailed traffic engineering analysis of the project area. The analysis was conducted using Synchro**,** a macroscopic analysis and optimization software application that supports the *Highway Capacity Manual* (HCM) 6th Edition, 2010 and 2000 for signalized intersections, unsignalized intersections and roundabouts. The data set created using Synchro was also utilized for microsimulation of vehicular and pedestrian related traffic using Sim-Traffic. These tools helped the team analyze, visualize, and understand the performance of the highway system under various traffic scenarios. They also helped the team evaluate potential impacts due to changes in demand, geometry, and traffic control.

The following traffic scenarios were analyzed:

- **2019 Existing Condition**. This refers to analysis on the counts that were taken in March 2019.
- **2029 No-Build Condition**. This refers to analysis of the future condition without any of the recommendations from this project.
- **2029 Build Option 1** ("DRI" Alternative). This refers to analysis of the future condition with the street network and geometry changes from Option 1. This option was derived from the results of the DRI plan that preceded this study.
- **20219 Build Option 2.** This refers to analysis of the future condition with the street network and geometry changes from Option 2. This option was a response to the failures of Option 1, keeping as many priorities from the DRI plan as possible.
- **2029 Build Preferred Alternative**. This refers to the analysis of the preferred alternative. For all intents and purposes, the only change is the removal of one of the two southbound lanes on Jerusalem Ave, from John Street to Herzog Place. This section of Jerusalem Ave has traffic volumes that are low enough to be supported by a single lane of traffic. With the improvements to the alignment and traffic calming of narrowing the moving lane, the preferred alternative did not require a full traffic analysis, as it sufficiently meets the same conditions as the No-Build Analysis.

For each of these conditions, the roadway network was evaluated for the weekday AM, Midday and PM peak hours, in addition to the midday Saturday peak hour. The Synchro model formed the basis of future traffic operating conditions to determine potential traffic impacts of proposed Complete Streets strategies on the overall network and also to assess impacts on movements of travelers within the study area after the implementation of the Complete Streets improvements.

The following sections provide a description of the various analysis scenarios, including the basis for assumptions about future traffic demand on the key arterial roadways, and the results of the analyses conducted for this study. Level of Service (LOS) for signalized intersections is defined in terms of delay. Delay is a measure of driver discomfort, frustration, fuel consumption, and loss of travel time. Specifically, LOS criteria are stated in terms of the average stopped delay per vehicle for a 60 minute analysis period. The criteria and travel condition of the respective LOS are as follows:

2019 EXISTING CONDITION SCENARIO

The **2019 Existing Condition** is the base condition on which the Synchro model was constructed. The team conducted an extensive physical inventory of the roadway network through reviewing aerial photographs, reading prior studies, undertaking field visits, and holding discussions with agencies. The inventory collected information on roadway and intersection geometry, traffic control, signal phasing and timing, time-of-day restrictions, turn

restrictions, speed limits and other pertinent information. All of the information was field-checked for accuracy prior to being included in the analysis.

To determine existing traffic demand, the team collected the following data:

- Vehicle turning movement counts and 24-hour Automatic Traffic Recorder (ATR) counts on roadways within and adjacent to the study area. ATR data was collected for a seven-day, non-holiday period, including a weekend, in compliance with NYSDOT's *Traffic Monitoring Standards for Contractual Agreements*.
- Bus, truck, and pedestrian flows.
- Turning movement counts for the peak Weekday AM, midday, and PM periods, and the peak Saturday midday period. Traffic data collection locations are shown on Figure 1.

With this traffic data, the team prepared traffic flow maps that depict the weekday and weekend peak traffic flows for the 2019 Existing Condition. This information was entered into the model to retrieve existing condition results.

The team also captured spot speed data in both directions at screenline locations. Travel time runs were also conducted during a typical weekday and midday peak weekend period. Utilizing the speed data, the team calibrated the models and modified the inputs modified based on field observations. The final results were validated through field visits and observations of existing conditions. The calibrated, validated model quantified the performance of the roadway network in terms of LOS. The team determined the LOS at selected major intersections along with performance criteria for the network as a whole.

Table 1 presents the 2019 Existing Condition LOS and delays per vehicle for each of the major signalized intersections selected for analysis.

- While the corridor generally does not display significant capacity deficiencies, several signalized intersections are currently operating at less than desirable conditions.
- During the weekday AM peak hour, five intersections operate at LOS E or F, and during the weekday PM peak hour, seven intersections operate at LOS E or F. LOS D is generally considered "tolerable" by NYSDOT for heavily- developed areas in Long Island.
- During the weekday midday, one intersection operated at LOS E. During the Saturday midday peak, three intersections operated at LOS E or F. Most of these intersections are located along Old Country Road.
- The intersections of NY106, NY107, and Jerusalem Avenue at Old Country Road all operate at LOS E or F during most time periods examined. These longer than desirable delays occur at intersections because of their large size, long cycle length, complexity of signal phasing, and high demand at all intersection approaches. However, LOS at individual intersections does not necessarily provide a comprehensive evaluation of the ability of the system as a whole to process traffic.

Utilizing the input data and the network developed for the Synchro analyses, Table 2 provides modeling results for the 2019 Existing Condition for the overall network performance on all arterial roadways during the Weekday AM, midday, PM and Saturday midday peak periods. The table includes average travel speeds within the corridor and the average delay per vehicle for all vehicles travelling on the roadway network in the study area. The delay in seconds per vehicle ranges from 19 seconds during the Weekday midday peak hour to 32 seconds during the Weekday PM peak hour, and average travel speeds range from 9 mph to 13 mph.

Summary of Intersection Capacity Analyses Results, 2019 Existing Condition

INTERSECTION	WEEKDAY AM PEAK HOUR		WEEKDAY MIDDAY PEAK HOUR		WEEKDAY PM PEAK HOUR		SATURDAY MIDDAY PEAK HOUR	
	LOS	DELAY (SEC)	LOS	DELAY (SEC)	LOS	DELAY (SEC)	LOS	DELAY (SEC)
NYS 107 & BETHPAGE RD	A	8.7	A	9.9	A	9.6	B	13.2
NYS 107 & NEVADA ST	C	23.7	C	29.9	C	32.1	F	101.1
NYS 107 & BROADWAY MALL EXIT	A	4.7	C	22.9	B	15.1	C	21.9
NYS 107 & BROADWAY MALL ENTR	A	5.6	A	9.4	A	6.4	B	10.6
NYS 106/107 & LENOX AVE	F	97.2	C	22.4	C	29.9	C	20.2
WYCKOFF ST & WEST JOHN ST	A	0.1	A	0.1	A	0.1	A	0.1
NYS 106 & WEST JOHN ST	D	38.6	D	35.2	F	96.4	C	32.8
NYS 107 & WEST JOHN ST	D	38.8	C	31.3	E	63.1	D	38.5
NYS 106 & WEST BARCLAY ST	A	0.4	A	0.5	A	0.7	A	0.4
NYS 107 & EAST BARCLAY ST	F	86.8	C	34.7	E	65.5	D	38.1
NYS 106 & NORTH STATION PLAZA	A	9.5	A	4.6	A	8.3	A	9.4
NYS 106 & SOUTH STATION PLAZA	A	6.8	A	3.2	B	14.5	A	4.3
NYS 107 & HERZOG PLACE	A	1.5	A	1.6	A	1.9	A	2.0
JERUSALEM AVE & HERZOG PL	B	18.2	B	15.4	B	19.4	B	13.8
DUFFY AVE & NELSON AVE	B	12.2	A	8.8	B	14.6	A	8.8
NYS 106 & DUFFY AVE	D	39.4	C	26.5	E	64.4	C	20.8
NYS 106 & WEST MARIE ST	B	11.0	A	7.1	C	23.4	A	6.4
JERUSALEM AVE & MARIE ST	C	26.6	A	9.8	B	20.0	A	9.6
NYS 107 & WEST MARIE ST	C	23.4	B	16.8	C	22.9	B	17.3
NYS 106 & OLD COUNTRY RD	E	66.5	D	54.9	F	97.5	E	60.6
JERUSALEM AVE & OLD COUNTRY RD	F	86.4	D	44.7	E	69.9	D	49.7
NYS 107 & WEST OLD COUNTRY RD	E	65.9	E	57.4	E	78.1	F	80.2

Summary of System Network Performance Criteria, 2019 Existing Condition

SCENARIO	WEEKDAY AM PEAK HOUR		WEEKDAY MIDDAY PEAK HOUR		WEEKDAY PM PEAK HOUR		SATURDAY MIDDAY PEAK HOUR	
	TOTAL DELAY (SEC/VEH)	AVERAGE SPEED	TOTAL DELAY (SEC/VEH)	AVERAGE SPEED	TOTAL DELAY (SEC/VEH)	AVERAGE SPEED	TOTAL DELAY (SEC/VEH)	AVERAGE SPEED
EXISTING (2019)	**27 sec**	**10 mph**	**19 sec**	**13 mph**	**32 sec**	**9 mph**	**26 sec**	**10 mph**

2029 No Build Condition

For the purpose of comparison, the year 2029 was chosen as the planning horizon year for the traffic analyses conducted. Projected traffic volumes that can be expected on the roadway network in the year 2029 were developed to determine the network's performance and ability to accommodate expected traffic demand for the year 2029. The 2019 base condition volumes were modified based on the following:

- An annual linear growth rate of 0.49% per year was applied to background traffic. This growth rate was developed based on information from the New York Metropolitan Transportation Council (NYMTC). NYMTC is the Metropolitan Planning Organization (MPO) for New York City, Long Island, and the lower Hudson Valley. NYMTC undertakes federally required transportation planning activities for the planning area's eligibility for federal funds.

- Information regarding planned and proposed developments within the study area was obtained from the Town of Oyster Bay's Planning Department. Traffic generation estimates for these developments were calculated utilizing the 10th Edition of the Institute of Transportation Engineers report *Trip Generation*, which provides trip making information for numerous land uses, and is the industry standard for analyses of this kind. The estimated traffic volumes were distributed on the roadway network based on prevailing roadway and traffic characteristics. Only developments that had pending applications or were approved for construction were considered.

- Completion of the LIRR Third Track project, which is expected to increase use of the Hicksville Station. The Third Track study further incorporated assumptions and impacts of the East Side Access project, an ongoing effort to bring LIRR service into Grand Central Station. Since both East Side Access and the Third Track project have completion dates within the planning horizon for this study, the conclusions should be reflected in the analyses of future conditions. To accommodate increased demand, the addition of a new parking garage on one of the at-grade parking lots currently serving the north side train station. This would result in a net increase of 884 spaces (374 existing to be replaced with a 1258-space garage, as per the Environmental Impact Statement for the Third Track project prepared by LIRR.

- Increased residential density in the study area resulting from the recommendations of the Hicksville Downtown Redevelopment Initiative, which recommends rezoning that encourages transit-oriented development (TOD). This would include density incentives for the development of residential units within the area. Based on information provided by the Town of Oyster Bay Planning Department, an estimated 494 additional residential units could be developed over the next 10 years as a result of this initiative. The traffic estimated to be generated by this initiative was distributed on the roadway network based on prevailing travel patterns in the study area.

Utilizing the projected 2029 No Build traffic volumes, the SYNCHRO and Sim Traffic analyses were repeated. The increases in traffic volumes associated with these various demand elements will have an impact on operations on the study area roadways. Table 3 presents the 2029 No Build Condition LOS and delays per vehicle for each of the major signalized intersections chosen for analysis in this study. the results demonstrate some deterioration in the performance measures for the study network. There are two (2) additional instances of intersections operating at

LOS E or F, one each during the weekday AM and PM peak hours. The three intersections of NY106, NY107 and Jerusalem Avenue at Old Country Road all provide LOS E or F during most time periods examined.

Table 4 presents the overall system operating conditions. Table 4 indicates that overall system delay increased slightly and that travel speed in the corridor is reduced. During the weekday AM peak hour, average speed decreases from 10 mph to 9 mph, and average delay per vehicle increases from 27 seconds per vehicle to 31 seconds per vehicle. Similarly, during the weekday PM peak hour, average speed decreases from 9 mph to 7 mph, and average delay per vehicle increased from 32 seconds per vehicle to 39 seconds per vehicle. Weekday midday peak hour speeds and delay were essentially unchanged. On Saturday, midday peak hour average speed was also unchanged, with an increase in delay from 26 seconds per vehicle to 29 seconds per vehicle.

Table 3
Summary of Intersection Capacity Analyses Results
Downtown Hicksville Complete Streets Project
2029 No Build Condition

INTERSECTION	WEEKDAY AM PEAK HOUR		WEEKDAY MIDDAY PEAK HOUR		WEEKDAY PM PEAK HOUR		SATURDAY MIDDAY PEAK HOUR	
	LOS	DELAY (SEC)	LOS	DELAY (SEC)	LOS	DELAY (SEC)	LOS	DELAY (SEC)
NYS 107 & BETHPAGE RD	A	4.9	A	5.6	A	8.6	B	17.8
NYS 107 & NEVADA ST	C	27.3	D	38.8	D	53.9	F	140.0
NYS 107 & BROADWAY MALL EXIT	B	11.6	C	23.1	C	33.0	C	27.5
NYS 107 & BROADWAY MALL ENTR	B	18.7	B	12.6	B	19.9	C	21.9
NYS 106/107 & LENOX AVE	F	109.2	C	22.1	D	47.7	C	27.6
WYCKOFF ST & WEST JOHN ST	A	0.1	A	0.1	A	0.1	A	0.1
NYS 106 & WEST JOHN ST	E	71.1	C	34.0	F	167.6	D	45.7
NYS 107 & WEST JOHN ST	D	52.1	C	30.9	E	64.1	E	55.9
NYS 106 & WEST BARCLAY ST	A	0.4	A	0.5	A	0.9	A	0.4
NYS 107 & EAST BARCLAY ST	F	105.4	C	34.2	F	80.7	D	44.6
NYS 106 & NORTH STATION PLAZA	A	9.0	A	3.2	B	11.5	A	7.7
NYS 106 & SOUTH STATION PLAZA	B	11.6	A	2.0	C	21.2	A	4.7
NYS 107 & HERZOG PLACE	A	0.7	A	1.0	A	1.6	A	0.8
JERUSALEM AVE & HERZOG PL	B	16.9	B	15.2	B	20.0	B	12.9
DUFFY AVE & NELSON AVE	B	13.0	A	8.9	B	17.0	A	9.0
NYS 106 & DUFFY AVE	D	54.0	C	23.1	E	70.9	B	17.1
NYS 106 & WEST MARIE ST	A	10.0	A	5.3	B	12.4	A	4.1
JERUSALEM AVE & MARIE ST	C	24.7	B	10.1	B	19.9	B	11.0
NYS 107 & WEST MARIE ST	B	19.9	B	16.3	C	22.2	B	14.7
NYS 106 & OLD COUNTRY RD	E	70.6	E	61.3	F	115.0	E	62.3
JERUSALEM AVE & OLD COUNTRY RD	E	61.1	C	35.0	E	57.4	D	45.8
NYS 107 & WEST OLD COUNTRY RD	E	76.9	D	46.5	E	74.8	E	56.4

Table 4
Summary of System Network Performance Criteria
Downtown Hicksville Complete Streets Project
2029 No Build Condition

SCENARIO	WEEKDAY AM PEAK HOUR		WEEKDAY MIDDAY PEAK HOUR		WEEKDAY PM PEAK HOUR		SATURDAY MIDDAY PEAK HOUR	
	TOTAL DELAY (SEC/VEH)	AVERAGE SPEED	TOTAL DELAY (SEC/VEH)	AVERAGE SPEED	TOTAL DELAY (SEC/VEH)	AVERAGE SPEED	TOTAL DELAY (SEC/VEH)	AVERAGE SPEED
NO BUILD (2029)	**31 sec**	**9 mph**	**19 sec**	**13 mph**	**39 sec**	**7 mph**	**29 sec**	**10 mph**

2029 Build Option 1 Condition

The 2029 Build Option 1 traffic analysis scenario was performed to determine the impact on network traffic performance that might occur after implementing of a set of Complete Streets and traffic-calming strategies. These strategies are depicted in Figure 1. These strategies would lead to additional parkland and community space, the reorientation and modification of roads, and new intersections with appropriate intersection control. East Barclay Street is extended through the new park, creating a continuous east/west connection to NY106/Newbridge Road. Signalization of new intersections would be required. Jerusalem Avenue is terminated south of South Station Plaza, with access maintained to commercial property located there.

The SYNCHRO model for this 2029 Build alternative included all of the demand parameters in the 2029 No Build Condition, with the roadway network modified to reflect the changes that resulted from public input obtained through the Downtown Redevelopment Initiative described. Thus, this analysis scenario includes the following:

- 2019 Existing Traffic Volumes
- Background traffic growth rate of 0.49% per year to account for normal growth (see Existing Condition, above)
- Estimated traffic generated by planned and proposed developments within the study area, as per Town of Oyster Bay (see Existing Condition, above)
- Estimated increase in traffic within the study area due to additional residential development as a result of the rezoning initiative (see Existing Condition, above)
- Roadway modifications based on public input obtained through the public information process of the Downtown Rezoning.

Tables 5 and 6 present the intersection capacity analyses and overall system operations results for the Build Option 1 Condition. Table 5 shows the results of the traffic analyses conducted to evaluate the impact of these community enhancements and traffic safety and complete streets measures indicate that the modifications would have significant detrimental impact on operating conditions in the study area.

A total of 35 instances of LOS E or F are shown to occur, notably 11 during the weekday AM and 13 during the weekday PM peak hour. Several major intersections would be unable to provide acceptable operating conditions, and queues resulting from long delays at the intersections would result in near-gridlock conditions. The new intersection of NY106 / Newbridge Road and Barclay Street cannot provide sufficient capacity to accommodate through traffic from the Broadway at Barclay Street intersection. In addition, closing Jerusalem Ave at Herzog Place results in northbound vehicles that formerly utilized Jerusalem Avenue to access NY107 / Broadway to use alternate routes, including via Herzog Place.

Making Herzog Place one-way with two eastbound lanes and redistributing some of the detoured traffic to several other parallel streets was tested, but the intersection of Jerusalem Avenue and Herzog Place still could not provide reasonable service. Furthermore, allowing left turns from Herzog Place onto Broadway northbound creates a conflict with the heavy pedestrian movement across NY107 / Broadway at Herzog Place, which contravenes the intent of Complete Street strategies.

In addition, overall system delays increase substantially, and average travel speeds deteriorate significantly. Table 6 indicates that during the weekday AM peak hour, average speed decreases from

9mph to 6mph, and average delay per vehicle increases from 31 seconds per vehicle to 51 seconds per vehicle, nearly a 70% increase in systemwide delay. Similarly, during the weekday PM peak hour, average speed decreased from 7mph to 5mph, and average delay per vehicle increased from 39 seconds per vehicle to 67 seconds per vehicle. Weekday midday peak hour speeds decreased from 13mph to 10mph, and delay increased from 19 seconds per vehicle to 29 seconds per vehicle. On Saturday, midday peak hour average speed decreased from 10mph to 7mph, with an increase in delay from 29 seconds per vehicle to 40 seconds per vehicle.

These results indicate a substantial deterioration in operation, which would likely result in gridlock.

Figure 1
Downtown Rezoning Initiative Option 1
Downtown Hicksville Complete Streets Project

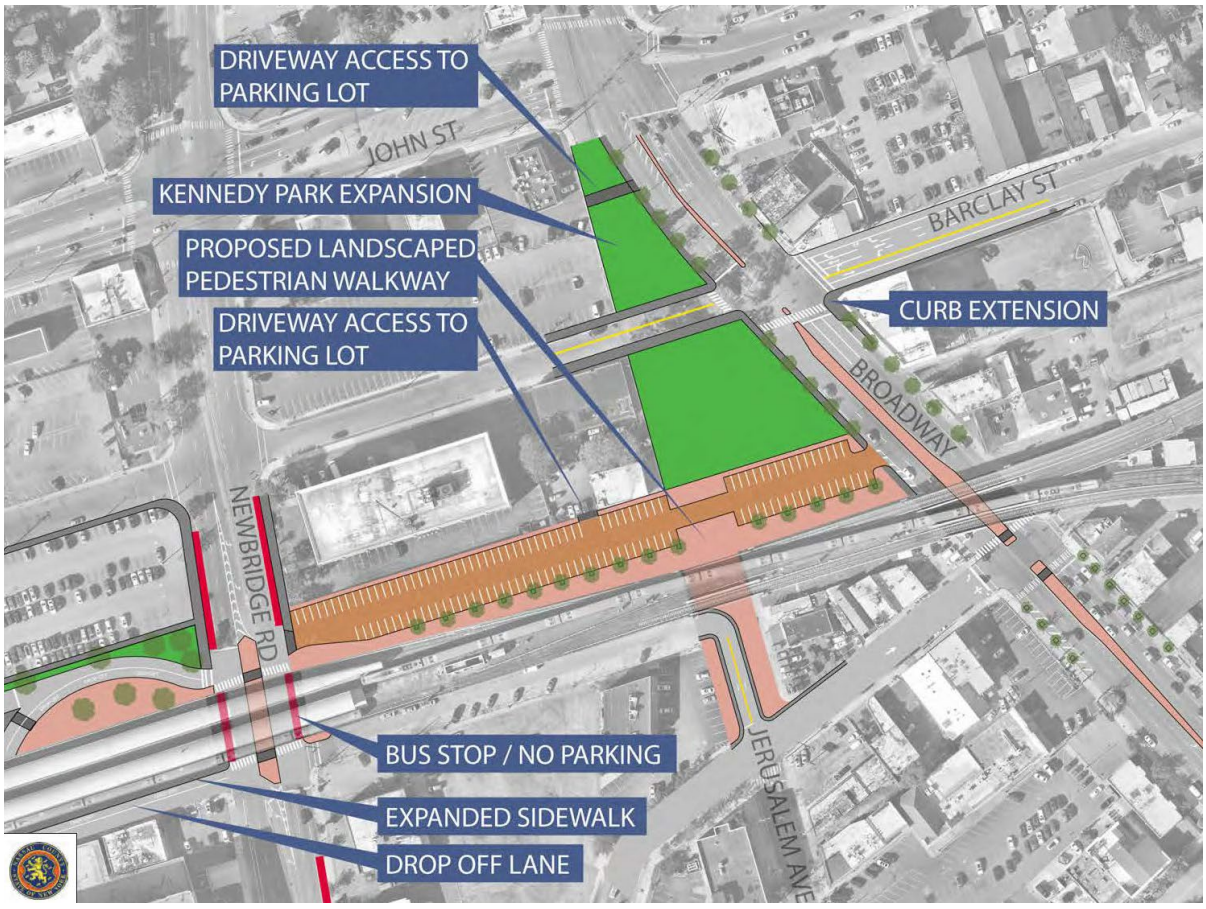


Table 5

Summary of Intersection Capacity Analyses Results

INTERSECTION NAME	WEEKDAY AM PEAK HOUR		WEEKDAY MIDDAY PEAK HOUR		WEEKDAY PM PEAK HOUR		SATURDAY MIDDAY PEAK HOUR	
	LOS	DELAY (SEC)	LOS	DELAY (SEC)	LOS	DELAY (SEC)	LOS	DELAY (SEC)
NYS 107 & BETHPAGE RD	A	4.9	B	11.7	B	12.8	C	28.7
NYS 107 & NEVADA ST	C	27.4	D	39.8	E	61.6	F	140.8
NYS 107 & BROADWAY MALL EXIT	B	11.4	C	25.8	D	37.3	D	37.8
NYS 107 & BROADWAY MALL ENTR	B	16.7	B	13.1	C	22.2	C	22.0
NYS 106/107 & LENOX AVE	F	98.8	C	23.1	E	56.9	C	22.8
WYCKOFF ST & WEST JOHN ST	A	0.1	A	0.1	A	0.1	A	0.1
NYS 106 & WEST JOHN ST	E	64.0	D	39.8	F	180.6	D	52.8
NYS 107 & WEST JOHN ST	E	57.0	C	26.6	E	63.4	D	36.0
NYS 106 & WEST BARCLAY ST	F	290.8	F	80.7	F	332.3	F	130.4
NYS 107 & EAST BARCLAY ST	E	64.8	C	25.8	E	77.5	D	41.1
NYS 106 & NORTH STATION PLAZA	D	35.6	A	5.1	D	37.4	C	34.4
NYS 106 & SOUTH STATION PLAZA	B	17.4	A	4.1	E	55.1	A	4.9
NYS 107 & HERZOG PLACE	F	158.4	F	87.6	F	196.3	F	92.7
JERUSALEM AVE & HERZOG PL	B	12.1	A	5.7	B	16.6	B	12.7
DUFFY AVE & NELSON AVE	B	12.4	A	8.1	B	13.5	A	8.5
NYS 106 & DUFFY AVE	D	52.0	C	25.1	F	81.4	B	19.3
NYS 106 & WEST MARIE ST	B	13.4	A	9.2	D	52.0	A	8.6
JERUSALEM AVE & MARIE ST	E	59.7	C	21.9	D	45.5	C	21.3
NYS 107 & WEST MARIE ST	F	341.2	F	137.6	F	218.9	F	302.8
NYS 106 & OLD COUNTRY RD	F	83.7	E	59.3	F	162.7	E	65.6
JERUSALEM AVE & OLD COUNTRY RD	F	95.0	D	44.9	E	64.8	D	52.2
NYS 107 & WEST OLD COUNTRY RD	F	100.0	E	70.0	F	136.5	F	106.9

Downtown Hicksville Complete Streets Project

2029 Build Option 1

Table 6
Summary of System Network Performance Criteria
Downtown Hicksville Complete Streets Project
2029 Build Option 1

SCENARIO	WEEKDAY AM PEAK HOUR		WEEKDAY MIDDAY PEAK HOUR		WEEKDAY PM PEAK HOUR		SATURDAY MIDDAY PEAK HOUR	
	TOTAL DELAY (SEC/VEH)	AVERAGE SPEED	TOTAL DELAY (SEC/VEH)	AVERAGE SPEED	TOTAL DELAY (SEC/VEH)	AVERAGE SPEED	TOTAL DELAY (SEC/VEH)	AVERAGE SPEED
OPTION 1 - DOWNTOWN REZONING INITIATIVE (2029)	**51 sec**	**6 mph**	**29 sec**	**10 mph**	**67 sec**	**5 mph**	**40 sec**	**7 mph**

2029 Build Option 2 Condition

Due to the unacceptable impact on traffic operating conditions that would result from the implementation of the DRI recommendations, a modified series of Complete Streets and public space enhancements was proposed. Instead of terminating Jerusalem Avenue at South Station Plaza by eliminating the southbound approach at John Street and removing the northbound roadway to provide additional park space, the alignment of both northbound and southbound Jerusalem Avenue was modified to form a more conventional intersection opposite East Barclay Street. Although it slightly decreases the amount of new parkland, this configuration would allow vehicles travelling northbound on Jerusalem Avenue to access NY107 / Broadway via the existing signalized intersection. Therefore, one-way operations on Herzog Place are no longer required, and the median on NY107 / Broadway remains closed to facilitate pedestrian flow. In addition, the need to signalize at the intersection of West Barclay Street at NY106/Newbridge Road is eliminated. Thus, this analysis reflects the following:

- 2019 Existing Traffic Volumes
- Background traffic growth rate of 0.49% per year to account for normal growth (see Existing Condition, above)
- Estimated traffic generated by planned and proposed developments within the study area, as per Town of Oyster Bay (see Existing Condition, above)
- Estimated increase in traffic within the study area due to additional residential development as a result of the rezoning initiative (see Existing Condition, above)
- Roadway modifications as shown in Figure 1.

Tables 7 and 8 present the intersection capacity analyses and overall system operations results for the 2029 Build Recommended Alternative Condition. Table 7 shows the results of the traffic analyses conducted to evaluate the impact of these modified community enhancements and traffic safety and Complete Streets measures. The results indicate that the modifications would have only a slight impact on operating conditions. Performance parameters comparable to, and in some cases slightly better than, 2029 No Build Conditions would prevail. The number of instances of LOS E or F would be 15, reduced from 18 under the 2029 No Build Condition. During the weekday AM peak hour, 6 such instances are projected, the same as under No Build conditions. Similarly, during the weekday midday peak hour, the number of instances of LOS E or F remains as one. During the weekday PM peak hour, two fewer instances of LOS E or F are projected (5 vs 7). Finally, during the Saturday midday peak hour, 3 instances of LOS E or F are projected, compared to 4 under No Build conditions.

The effect on overall system delays and average travel speeds is also reduced under this scenario, with only slight impact anticipated when compared to the 2029 No Build Condition. Table 8 shows that, during the weekday AM and midday peak hours, delays and average travel speeds remain unchanged from the No Build Condition. During the weekday PM peak hour, delays increase by one (1) second per vehicle, and average travel speed remains unchanged, while during the Saturday midday peak hour, delay is unchanged, while average travel speed decreases by one (1) mph.

Therefore, when considering traffic engineering impacts, the community enhancements envisioned under the recommended alternative, as described above, will have a minor impact on operating conditions compared to 2029 No Build conditions.

Figure 2
2029 Build Option 2
Downtown Hicksville Complete Streets Project

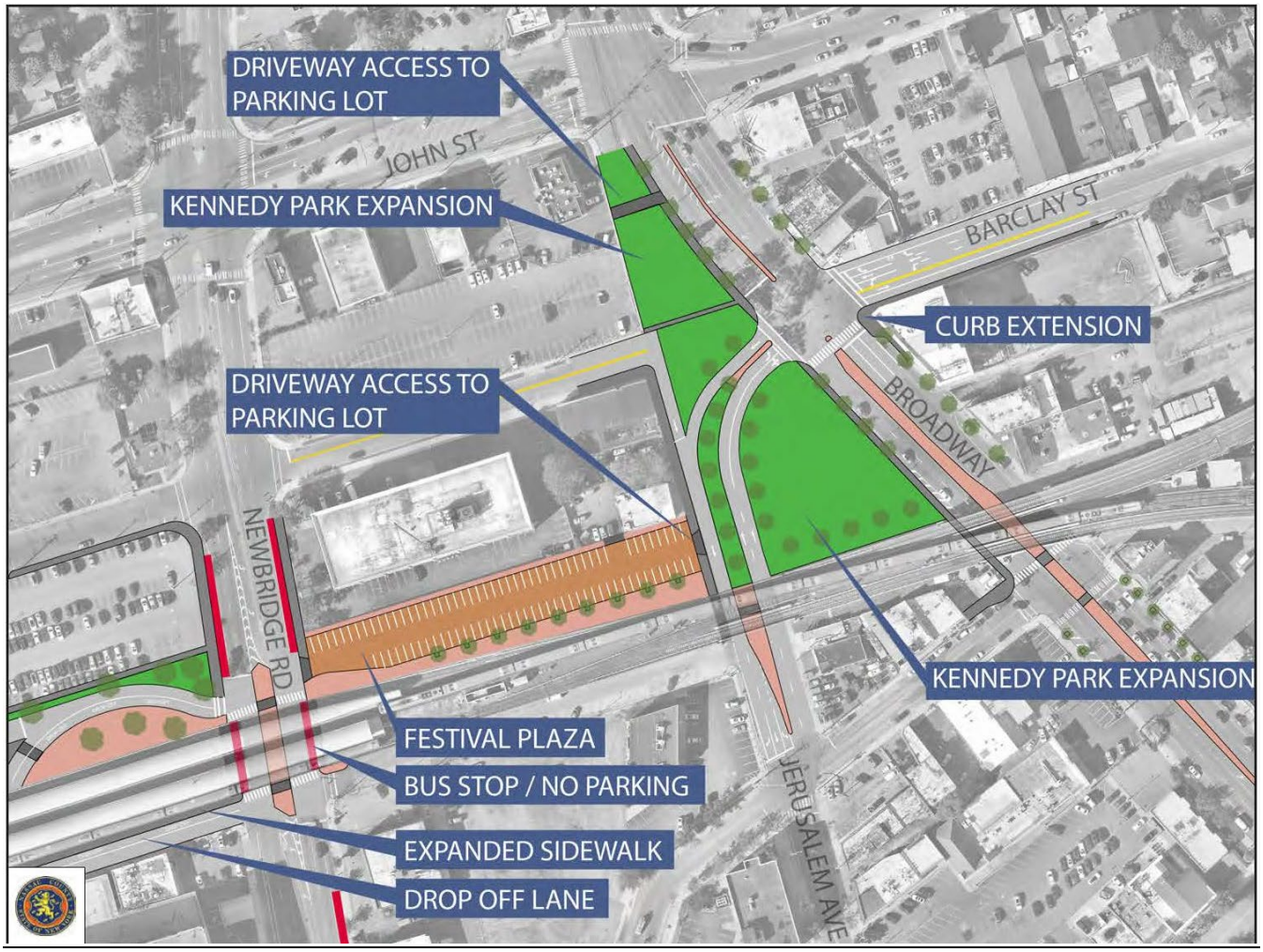


Table 7
Summary of Intersection Capacity Analyses Results
Downtown Hicksville Complete Streets Project
2029 Build Option 2

INTERSECTION NAME	WEEKDAY AM PEAK HOURWEEWEEKDAY AM PEAK HOUR		WEEKDAY MIDDAY PEAK HOUR		WEEKDAY PM PEAK HOURDA		SATURDAY MIDDAY PEAK HOURSATURSATURDAY MIDDAY PEAK HOUR	
	LOSS	DELAY (SEC)D	LOSL	DELAY (SEC)DELAY (SEC)	LOSLOS	DELAY (SEC)DELAY (SEC)	LOSLOS	DELAY (SEC)DELAY (SEC)
NYS 107 & BETHPAGE RD	A	4.9	A	5.6	A	8.6	B	17.8
NYS 107 & NEVADA ST	C	27.3	D	38.9	D	53.9	F	139.8
NYS 107 & BROADWAY MALL EXIT	B	11.6	C	22.8	C	33.0	C	26.9
NYS 107 & BROADWAY MALL ENTR	B	18.7	B	12.6	B	19.9	C	22.0
NYS 106/107 & LENOX AVE	F	109.2	C	21.9	D	47.7	C	22.8
WYCKOFF ST & WEST JOHN ST	A	0.1	A	0.1	A	0.1	A	0.1
NYS 106 & WEST JOHN ST	E	71.6	C	34.6	F	168.6	D	45.9
NYS 107 & WEST JOHN ST	D	50.2	C	25.2	D	48.0	D	40.8
NYS 106 & WEST BARCLAY ST	A	0.4	A	0.5	A	0.8	A	0.4
NYS 107 & EAST BARCLAY ST	F	95.0	C	30.0	F	104.2	D	51.7
NYS 106 & NORTH STATION PLAZA	A	9.0	A	3.3	B	11.5	A	7.7
NYS 106 & SOUTH STATION PLAZA	A	6.0	A	2.1	B	17.3	A	3.5
NYS 107 & HERZOG PLACE	A	1.0	A	1.2	A	8.0	A	1.5
JERUSALEM AVE & HERZOG PL	C	21.3	B	18.5	C	25.5	B	17.7
DUFFY AVE & NELSON AVE	B	13.9	A	9.2	C	20.3	A	9.4
NYS 106 & DUFFY AVE	E	59.5	C	24.2	E	67.5	B	18.6
NYS 106 & WEST MARIE ST	B	10.4	A	5.3	B	12.8	A	4.1
JERUSALEM AVE & MARIE ST	C	27.3	B	12.2	C	22.0	B	12.8
NYS 107 & WEST MARIE ST	B	19.4	B	15.6	C	22.3	B	14.3
NYS 106 &OLD COUNTRY RD	E	70.9	E	61.2	F	116.7	E	62.5
JERUSALEM AVE & OLD COUNTRY RD	E	58.3	C	33.6	D	51.7	D	43.8
NYS 107 & WEST OLD COUNTRY RD	E	76.9	D	46.8	E	74.7	E	56.7

Table 8
Summary of System Network Performance Criteria
Downtown Hicksville Complete Streets Project
2029 Build Option 2

SCENARIO	WEEKDAY AM PEAK HOUR		WEEKDAY MIDDAY PEAK HOUR		WEEKDAY PM PEAK HOUR		SATURDAY MIDDAY PEAK HOUR	
	TOTAL DELAY (SEC/VEH)	AVERAGE SPEED	TOTAL DELAY (SEC/VEH)	AVERAGE SPEED	TOTAL DELAY (SEC/VEH)	AVERAGE SPEED	TOTAL DELAY (SEC/VEH)	AVERAGE SPEED
RECOMMENDED ALTERNATIVE (2029)	**32 sec**	**9 mph**	**19 sec**	**13 mph**	**40 sec**	**7 mph**	**29 sec**	**9 mph**

2029 Preferred Alternative Condition

The Preferred Alternative is a third option, which took into account feedback we received from members of the community at our second public meeting. This option retains most of the existing configuration, but removes one of the southbound lanes on Jerusalem Ave. Removing that lane optimizes the alignment from Broadway onto Jerusalem and calms traffic as it enters Jerusalem Ave. The narrowed roadway will result in additional park space while slowing southbound traffic on Jerusalem Ave. All other lane configurations are maintained throughout the study area.

Volumes on Jerusalem Ave were low enough to operate with one lane without causing delays. For this reason, the No Build Traffic Analysis was used to assess potential impacts. Since only one minor change to lane configuration was proposed compared to the existing condition, the impacts are expected to be similar to those found in the No Build Traffic Analysis, so that analysis is provided below in the context of the Preferred Alternative.

The specific recommendations are as follows:

- Jerusalem Ave would be accessed from a new moving lane in what is now a shoulder against the curb north of John St. This would improve the alignment by removing the need to weave from the through lane on Broadway to get onto Jerusalem Ave.
- Align the single moving lane on Jerusalem Ave to the western edge of the roadway, This will allow for the expansion of the center median to provide a larger pedestrian refuge across this unsignalized crossing, as well as landscaping.
- Curbside bike lanes could also be implemented between Herzog Pl and the LIRR overpass, allowing cyclists to access bike parking from the south.
- Expand Kennedy Park all the way to the LIRR tracks, removing the parking lot that is currently between Jerusalem Ave and Broadway.

Figure 3
2029 Preferred Alternative
Downtown Hicksville Complete Streets Project

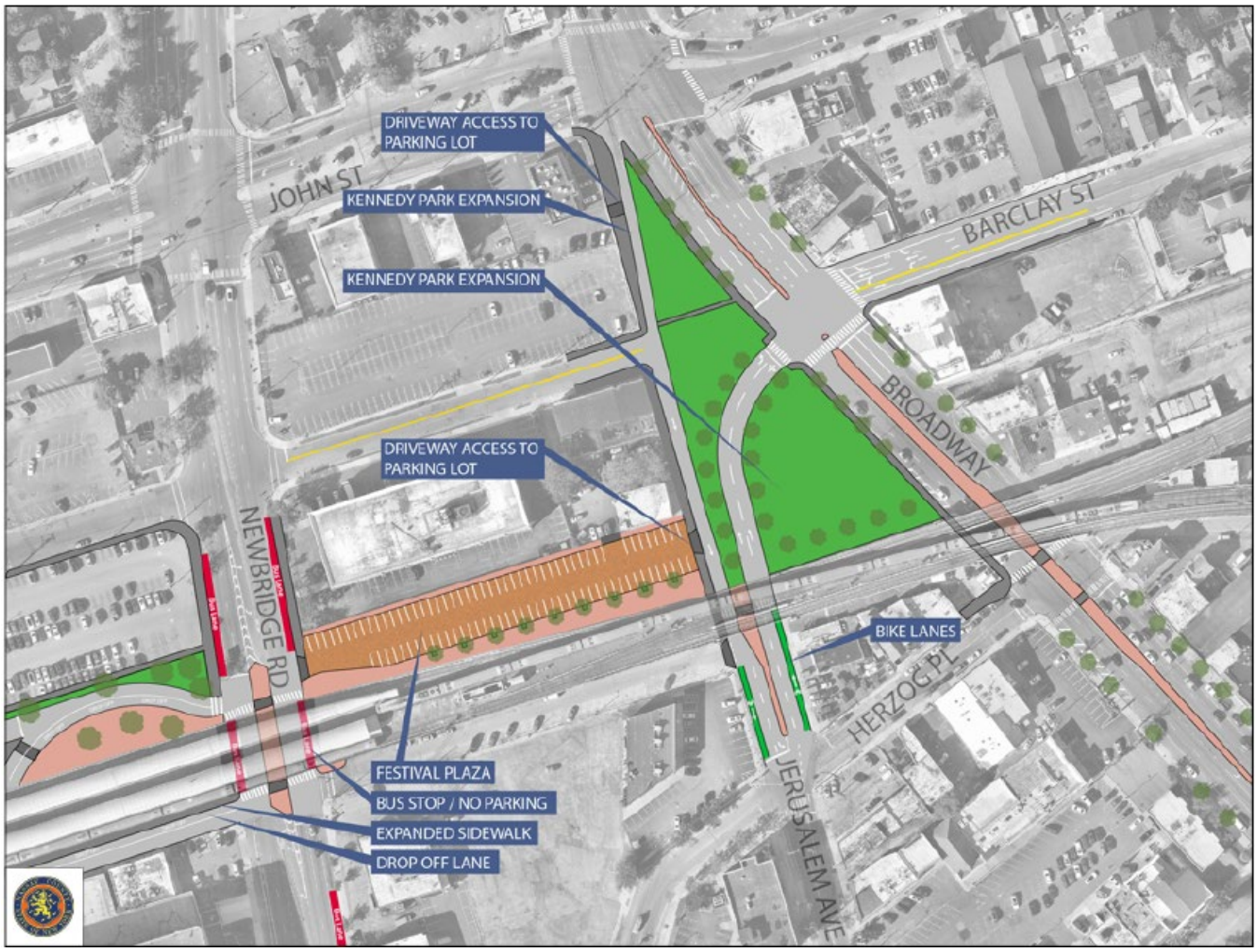


Figure 4
2029 Preferred Alternative Photosimulations (Day and Night Views)
Downtown Hicksville Complete Streets Project

Table 9
Summary of Intersection Capacity Analyses Results
Downtown Hicksville Complete Streets Project
2029 Preferred Alternative Condition

INTERSECTION	WEEKDAY AM PEAK HOUR		WEEKDAY MIDDAY PEAK HOUR		WEEKDAY PM PEAK HOUR		SATURDAY MIDDAY PEAK HOUR	
	LOS	DELAY (SEC)	LOS	DELAY (SEC)	LOS	DELAY (SEC)	LOS	DELAY (SEC)
NYS 107 & BETHPAGE RD	A	4.9	A	5.6	A	8.6	B	17.8
NYS 107 & NEVADA ST	C	27.3	D	38.8	D	53.9	F	140.0
NYS 107 & BROADWAY MALL EXIT	B	11.6	C	23.1	C	33.0	C	27.5
NYS 107 & BROADWAY MALL ENTR	B	18.7	B	12.6	B	19.9	C	21.9
NYS 106/107 & LENOX AVE	F	109.2	C	22.1	D	47.7	C	27.6
WYCKOFF ST & WEST JOHN ST	A	0.1	A	0.1	A	0.1	A	0.1
NYS 106 & WEST JOHN ST	E	71.1	C	34.0	F	167.6	D	45.7
NYS 107 & WEST JOHN ST	D	52.1	C	30.9	E	64.1	E	55.9
NYS 106 & WEST BARCLAY ST	A	0.4	A	0.5	A	0.9	A	0.4
NYS 107 & EAST BARCLAY ST	F	105.4	C	34.2	F	80.7	D	44.6
NYS 106 & NORTH STATION PLAZA	A	9.0	A	3.2	B	11.5	A	7.7
NYS 106 & SOUTH STATION PLAZA	B	11.6	A	2.0	C	21.2	A	4.7
NYS 107 & HERZOG PLACE	A	0.7	A	1.0	A	1.6	A	0.8
JERUSALEM AVE & HERZOG PL	B	16.9	B	15.2	B	20.0	B	12.9
DUFFY AVE & NELSON AVE	B	13.0	A	8.9	B	17.0	A	9.0
NYS 106 & DUFFY AVE	D	54.0	C	23.1	E	70.9	B	17.1
NYS 106 & WEST MARIE ST	A	10.0	A	5.3	B	12.4	A	4.1
JERUSALEM AVE & MARIE ST	C	24.7	B	10.1	B	19.9	B	11.0
NYS 107 & WEST MARIE ST	B	19.9	B	16.3	C	22.2	B	14.7
NYS 106 & OLD COUNTRY RD	E	70.6	E	61.3	F	115.0	E	62.3
JERUSALEM AVE & OLD COUNTRY RD	E	61.1	C	35.0	E	57.4	D	45.8
NYS 107 & WEST OLD COUNTRY RD	E	76.9	D	46.5	E	74.8	E	56.4

Table 10
Summary of System Network Performance Criteria
Downtown Hicksville Complete Streets Project
2029 Preferred Alternative Condition

SCENARIO	WEEKDAY AM PEAK HOUR		WEEKDAY MIDDAY PEAK HOUR		WEEKDAY PM PEAK HOUR		SATURDAY MIDDAY PEAK HOUR	
	TOTAL DELAY (SEC/VEH)	AVERAGE SPEED	TOTAL DELAY (SEC/VEH)	AVERAGE SPEED	TOTAL DELAY (SEC/VEH)	AVERAGE SPEED	TOTAL DELAY (SEC/VEH)	AVERAGE SPEED
NO BUILD (2029)	**31 sec**	**9 mph**	**19 sec**	**13 mph**	**39 sec**	**7 mph**	**29 sec**	**10 mph**

APPENDIX C: ADA CURB RAMP ASSESSMENT

NV5

NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS - ADA CURB RAMP ASSESSMENTS
EXISTING CURB RAMPS - 2019
EAST BARCLAY STREET, HICKSVILLE

Ramp No.	Village/ Hamlet	Legis. District	Main Street	Cross Street	Corner*/ Median*/ Midblock**	Ramp Direction*	Condition Rating***	Need New Ramp (Y/N)
1	Hicksville	17	East Barclay Street	LIRR Parking	SW Corner	E	3	Y
2	Hicksville	17	East Barclay Street	LIRR Parking	SE Corner	W	3	Y
3	Hicksville	17	East Barclay Street	Bay Ave	SW Corner	NE	3	Y
4	Hicksville	17	East Barclay Street	Bay Ave	SE Corner	NW	3	Y
5	Hicksville	17	East Barclay Street	Bay Ave	NE Corner	W	3	Y
6	Hicksville	17	East Barclay Street	Bay Ave	NW Corner	E	3	Y
7	Hicksville	17	East Barclay Street	Bay Ave	NW Corner	S	3	Y

***Condition Rating Legend (See NYSDOT ADA Materials):	
1	Not Applicable - No feature required
2	Not Accessible - Disabled person can not access
3	Partially Accessible - Not to standards, but accessible
4	Accessible - Additional improvements needed
5	Fully Accessible to Current standards

NV5

NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS - ADA CURB RAMP ASSESSMENTS
EXISTING CURB RAMPS - 2019
JERUSALEM AVENUE, HICKSVILLE

Ramp No.	Village/ Hamlet	Legis. District	Main Street	Cross Street	Corner*/ Median*/ Midblock**	Ramp Direction*	Condition Rating***	Need New Ramp (Y/N)
1	Hicksville	17	Jerusalem Ave	W. Old Country Rd	NE Corner	SW	3	Y
2	Hicksville	17	Jerusalem Ave	W. Old Country Rd	NW Corner	SE	3	Y
3	Hicksville	17	Jerusalem Ave	W Barclay Street	NW Corner	S	3	Y
4	Hicksville	17	Jerusalem Ave	W Barclay Street	SW Corner	N	3	Y
5	Hicksville	17	Jerusalem Ave	LIRR Station P. Lot Exit	NW Corner	S	4	Y
6	Hicksville	17	Jerusalem Ave	LIRR Station P. Lot Exit	SW Corner	NE	3	Y
7	Hicksville	17	Jerusalem Ave	LIRR Station P. Lot Entrance	NW Corner	S	4	Y
8	Hicksville	17	Jerusalem Ave	LIRR Station P. Lot Entrance	SW Corner	N	4	Y
9	Hicksville	17	Jerusalem Ave	LIRR Station P. Lot Entrance	NE Corner	SW	3	Y
10	Hicksville	17	Jerusalem Ave	20 Jerusalem Ave	NW Corner	S	4	Y
11	Hicksville	17	Jerusalem Ave	20 Jerusalem Ave	SW Corner	N	4	Y
12	Hicksville	17	Jerusalem Ave	Across from 20 Jerusalem Ave	SE Corner	N	3	Y
13	Hicksville	17	Jerusalem Ave	Across from 20 Jerusalem Ave	NE Corner	S	3	Y
14	Hicksville	17	Jerusalem Ave	W Marie Street	NW Corner	S	4	Y
15	Hicksville	17	Jerusalem Ave	W Marie Street	SW Corner	N	3	Y
16	Hicksville	17	Jerusalem Ave	W Marie Street	SE Corner	N	3	Y
17	Hicksville	17	Jerusalem Ave	W Marie Street	NE Corner	S	3	Y
18	Hicksville	17	Jerusalem Ave	W Nicholai Street	NW Corner	S	4	Y
19	Hicksville	17	Jerusalem Ave	W Nicholai Street	NW Corner	E	4	Y
20	Hicksville	17	Jerusalem Ave	W Nicholai Street	SW Corner	E	4	Y
21	Hicksville	17	Jerusalem Ave	W Nicholai Street	SW Corner	N	4	Y
22	Hicksville	17	Jerusalem Ave	W Nicholai Street	SE Corner	N	3	Y
23	Hicksville	17	Jerusalem Ave	W Nicholai Street	NE Corner	S	3	Y
24	Hicksville	17	Jerusalem Ave	W John Street	SW Corner	NE	4	Y
25	Hicksville	17	Jerusalem Ave	W Cherry Street	NW Corner	S	3	Y
26	Hicksville	17	Jerusalem Ave	W Cherry Street	SW Corner	N	4	Y
27	Hicksville	17	Jerusalem Ave	W Cherry Street	SE Corner	N	3	Y
28	Hicksville	17	Jerusalem Ave	W Cherry Street	NE Corner	S	2	Y
29	Hiksville	17	Jerusalem Ave	RT 107	NE Corner	S	3	Y
30	Hiksville	17	Jerusalem Ave	RT 107	NW Corner	E	3	Y
31	Hicksville	17	Jerusalem Ave	Trinity Lutheran Church	SE Corner	N	3	Y
32	Hicksville	17	Jerusalem Ave	Trinity Lutheran Church	NE Corner	S	3	Y
33	Hicksville	17	Jerusalem Ave	Herzog Pl	SE Corner	W	3	Y
34	Hicksville	17	Jerusalem Ave	Herzog Pl	SE Corner	N	2	Y
35	Hicksville	17	Jerusalem Ave	Herzog Pl	NE Corner	SW	3	Y
36	Hicksville	17	Jerusalem Ave	Herzig Pl	NE Corner	SE	2	Y
37	Hicksville	17	Jerusalem Ave	Nelson Ave	NW Corner	S	3	Y
38	Hicksville	17	Jerusalem Ave	Nelson Ave	SW Corner	NE	3	Y

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NV5

NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS - ADA CURB RAMP ASSESSMENTS
EXISTING CURB RAMPS - 2019
WEST JOHN STREET, HICKSVILLE

Ramp No.	Village/ Hamlet	Legis. District	Main Street	Cross Street	Corner*/ Median*/ Midblock**	Ramp Direction*	Condition Rating***	Need New Ramp (Y/N)
1	Hicksville	17	West John Street	Wyckoff Street	NE Corner	S	3	Y
2	Hicksville	17	West John Street	Wyckoff Street	NE Corner	W	3	Y
3	Hicksville	17	West John Street	Wyckoff Street	NW Corner	E	2	Y
4	Hicksville	17	West John Street	Wyckoff Street	NW Corner	S	3	Y
5	Hicksville	17	West John Street	Strong Street	NE Corner	W	2	Y
6	Hicksville	17	West John Street	Strong Street	NW Corner	E	3	Y
7	Hicksville	17	West John Street	Marion Place	SW Corner	E	3	Y
8	Hicksville	17	West John Street	Marion Place	SW Corner	NE	3	Y
9	Hicksville	17	West John Street	Marion Place	SE Corner	W	2	Y
10	Hicksville	17	West John Street	Marion Place	SE Corner	NW	3	Y
11	Hicksville	17	West John Street	Wyckoff Street	SW Corner	NE	3	Y
12	Hicksville	17	West John Street	Wyckoff Street	SW Corner	E	2	Y
13	Hicksville	17	West John Street	Wyckoff Street	SE Corner	NW	3	Y
14	Hicksville	17	West John Street	Wyckoff Street	SE Corner	W	2	Y
15	Hicksville	17	West John Street	E/B West John Street	Center Median (Eastern Ramp)	S	3	Y
16	Hicksville	17	West John Street	W/B West John Street	Center Median (Eastern Ramp)	N	3	Y
17	Hicksville	17	West John Street	E/B West John Street	Center Median (Western Ramp)	S	3	Y
18	Hicksville	17	West John Street	W/B West John Street	Center Median (Western Ramp)	N	3	Y

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NV5

NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS - ADA CURB RAMP ASSESSMENTS
EXISTING CURB RAMPS - 2019
WEST OLD COUNTRY ROAD / EAST OLD COUNTRY ROAD, HICKSVILLE

Ramp No.	Village/ Hamlet	Legis. District	Main Street	Cross Street	Corner*/ Median*/ Midblock**	Ramp Direction*	Condition Rating***	Need New Ramp (Y/N)
1	Hicksville	17	West Old Country Road	Shopping Center	NW Corner	SE	3	Y
2	Hicksville	17	West Old Country Road	Shopping Center	NE Corner	SW	3	Y
3	Hicksville	17	West Old Country Road	Nelson Ave	NW Corner	SE	3	Y
4	Hicksville	17	West Old Country Road	Nelson Ave	SE Corner	W	4	Y
5	Hicksville	17	West Old Country Road	Nelson Ave	SE Corner	S	3	Y
6	Hicksville	17	West Old Country Road	Across from Division Ave	Midblock	S	3	Y
7	Hicksville	17	West Old Country Road	Division Ave	NW Corner	SE	3	Y
8	Hicksville	17	West Old Country Road	Division Ave	NE Corner	SW	3	Y
9	Hicksville	17	West Old Country Road	Jerusalem Ave	NW Corner	SE	3	Y
10	Hicksville	17	West Old Country Road	Jerusalem Ave	NE Corner	SW	3	Y
11	Hicksville	17	West Old Country Road	Halsey Ave	SW Corner	NE	3	Y
12	Hicksville	17	West Old Country Road	Halsey Ave	SE Corner	NW	3	Y
13	Hicksville	17	West Old Country Road	Division Ave	SW Corner	NE	2	Y
14	Hicksville	17	West Old Country Road	Division Ave	NE Corner	W	3	Y
15	Hicksville	17	West Old Country Road	Jerusalem Ave	SW Corner	NE	3	Y
16	Hicksville	17	West Old Country Road	Jerusalem Ave	SE Corner	W	3	Y
17	Hicksville	17	West Old Country Road	Sterling Place	SW Corner	E	3	Y
18	Hicksville	17	West Old Country Road	Sterling Place	SE Corner	W	3	Y
19	Hicksville	17	West Old Country Road	Frevert Place	SW Corner	NE	3	Y
20	Hicksville	17	West Old Country Road	Frevert Place	SE Corner	NW	3	Y
21	Hicksville	17	East Old Country Road	Pep Boys	SW Corner	E	3	Y
22	Hicksville	17	East Old Country Road	Pep Boys	SE Corner	W	3	Y
23	Hicksville	17	East Old Country Road	Delco Plaza Entrance	SW Corner	NE	2	Y
24	Hicksville	17	East Old Country Road	Delco Plaza Entrance	SE Corner	W	3	Y
25	Hicksville	17	East Old Country Road	Delco Plaza Exit	SE Corner	W	2	Y
26	Hicksville	17	East Old Country Road	Railroad Ave	NE Corner	SW	3	Y
27	Hicksville	17	East Old Country Road	Railroad Ave	NW Corner	E	3	Y
28	Hicksville	17	East Old Country Road	Richard Street	NE Corner	SW	3	Y
29	Hicksville	17	East Old Country Road	Richard Street	NW Corner	E	3	Y

***Condition Rating Legend (See NYSDOT ADA Materials):	
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APPENDIX D: DETAILED COST ESTIMATES

DOWNTOWN HICKSVILLE COMPLETE STREETS PROJECT
HICKSVILLE, NASSAU COUNTY, NY

ENGINEER'S CONCEPTUAL ESTIMATE OF PROBABLE CONSTRUCTION COSTS

DATE: MAY 12, 2020

LOCATION 1: BROADWAY (NY107) STREETSCAPE IMPROVEMENTS

ITEM #	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	AMOUNT
1	CLEARING & GRUBBING	LS	$20,000.00	1	$20,000.00
2	UNCLASSIFIED EXCAVATION	CY	$120.00	1,870	$224,400.00
13A	CATCH BASINS	EA	$12,000.00	12	$144,000.00
26	CONCRETE CURB	LF	$32.00	6,300	$201,600.00
27 / 28	CEMENT CONCRETE SIDEWALK AND DRIVEWAY APRONS	SF	$15.00	45,475	$682,125.00
28IM	CEMENT CONCRETE PAVEMENT - COLORED & IMPRINTED MEDIANS	SF	$20.00	27,000	$540,000.00
111	REMOVAL AND REPLACEMENT OF PAVEMENTS	SY	$175.00	2,800	$490,000.00
121	DRYBOUND BASE COURSE	CY	$120.00	25	$3,000.00
361S	TREES	EA	$1,200.00	36	$43,200.00
442	EPOXY REFLECTORIZED PAVEMENT MARKINGS	LF	$3.50	5,500	$19,250.00
500SS	CONCRETE PAVERS	SF	$30.00	5,000	$150,000.00
5002SS	INSTALL DECORATIVE BENCH	EA	$4,000.00	14	$56,000.00
506SS	FURNISH & INSTALL BIKE RACK / HOOP	EA	$1,000.00	14	$14,000.00
507SS	FURNISH & INSTALL LITTER RECEPTACLE	EA	$1,200.00	28	$33,600.00
510SS	PARKING PAY STATIONS	EA	$9,000.00	25	$225,000.00
512SS	PEDESTRIAN LIGHT POLE & WIRING	EA	$12,000.00	75	$900,000.00
	SUBTOTAL				**$3,746,175.00**
1M	MOBILIZATION (4%)	LS		1	$149,900.00
102	WORK ZONE TRAFFIC CONTROL (8%)	LS		1	$299,700.00
	CONTINGENCY (30%)				**$1,123,900.00**
	TOTAL CONSTRUCTION COST				**$4,870,075.00**

ENGINEERING & DESIGN COSTS (10%)		**$487,100.00**
CONSTRUCTION ADMINISTRATION / INSPECTION (12%)		**$584,500.00**

ESTIMATED TOTAL PROJECT COST		**$5,941,675.00**

DOWNTOWN HICKSVILLE COMPLETE STREETS PROJECT
HICKSVILLE, NASSAU COUNTY, NY

ENGINEER'S CONCEPTUAL ESTIMATE OF PROBABLE CONSTRUCTION COSTS

DATE: MAY 12, 2020

LOCATION 2: BIKE ROUTES AND FACILITIES

ITEM #	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	AMOUNT
442	EPOXY REFLECTORIZED PAVEMENT MARKINGS (INCLUDES REMOVAL)	LF	$3.50	14,000	$49,000.00
442C	EPOXY REFLECTORIZED PAVEMENT MARKINGS - BIKE SYMBOL	EA	$400.00	40	$16,000.00
450	FURNISH AND INSTALL POST MOUNTED SIGN	EA	$500.00	30	$15,000.00
506SS	FURNISH & INSTALL BIKE RACK	EA	$5,000.00	4	$20,000.00
	SUBTOTAL				**$100,000.00**
1M	MOBILIZATION (4%)	LS		1	$4,000.00
102	WORK ZONE TRAFFIC CONTROL (12%)	LS		1	$12,000.00
	CONTINGENCY (30%)				**$30,000.00**
	TOTAL				**$146,000.00**

ENGINEERING & DESIGN COSTS (15%)		**$21,900.00**
CONSTRUCTION ADMINISTRATION / INSPECTION (15%)		**$21,900.00**

ESTIMATED TOTAL PROJECT COST		**$189,800.00**

DOWNTOWN HICKSVILLE COMPLETE STREETS PROJECT
HICKSVILLE, NASSAU COUNTY, NY

ENGINEER'S CONCEPTUAL ESTIMATE OF PROBABLE CONSTRUCTION COSTS

DATE: MAY 12, 2020

LOCATION 3: DUFFY AVE & NEWBRIDGE RD

ITEM #	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	AMOUNT
442	EPOXY REFLECTORIZED PAVEMENT MARKINGS (INCLUDES REMOVAL)	LF	$3.50	2,000	$7,000.00
442C	EPOXY REFLECTORIZED PAVEMENT MARKINGS - BIKE SYMBOL	EA	$400.00	20	$8,000.00
509SS	RECTANGULAR RAPID FLASHING BEACON (RRFB) (per crosswalk)	EA	$25,000.00	1	$25,000.00
512SS	PEDESTRIAN LIGHT POLE & WIRING	EA	$12,000.00	1	$12,000.00
	SUBTOTAL				**$52,000.00**
1M	MOBILIZATION (4%)	LS		1	$2,100.00
102	WORK ZONE TRAFFIC CONTROL (8%)	LS		1	$4,200.00
	CONTINGENCY (30%)				**$15,600.00**
	TOTAL				**$73,900.00**

ENGINEERING & DESIGN COSTS (15%)		**$11,100.00**
CONSTRUCTION ADMINISTRATION / INSPECTION (15%)		**$11,100.00**

ESTIMATED TOTAL PROJECT COST		**$96,100.00**

DOWNTOWN HICKSVILLE COMPLETE STREETS PROJECT
HICKSVILLE, NASSAU COUNTY, NY

ENGINEER'S CONCEPTUAL ESTIMATE OF PROBABLE CONSTRUCTION COSTS

DATE: MAY 12, 2020

LOCATION 4: DUFFY AVE MID-BLOCK CROSSING

ITEM #	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	AMOUNT
411	TRAFFIC SIGNAL	EA	$200,000.00	1	$200,000.00
442	EPOXY REFLECTORIZED PAVEMENT MARKINGS (CROSSWALKS)	LF	$3.50	6,000	$21,000.00
	SUBTOTAL				**$221,000.00**
1M	MOBILIZATION (4%)	LS		1	$8,900.00
102	WORK ZONE TRAFFIC CONTROL (8%)	LS		1	$17,700.00
	CONTINGENCY (30%)				**$66,300.00**
	TOTAL				**$313,900.00**

ENGINEERING & DESIGN COSTS (15%)		**$47,100.00**
CONSTRUCTION ADMINISTRATION / INSPECTION (15%)		**$47,100.00**

ESTIMATED TOTAL PROJECT COST		**$408,100.00**

DOWNTOWN HICKSVILLE COMPLETE STREETS PROJECT
HICKSVILLE, NASSAU COUNTY, NY

ENGINEER'S CONCEPTUAL ESTIMATE OF PROBABLE CONSTRUCTION COSTS

DATE: MAY 12, 2020

LOCATION 5: JOHN STREET IMPROVEMENTS

ITEM #	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	AMOUNT
1	CLEARING & GRUBBING	LS	$10,000.00	1	$10,000.00
2	UNCLASSIFIED EXCAVATION	CY	$120.00	400	$48,000.00
13A	CATCH BASINS	EA	$12,000.00	4	$48,000.00
26	CONCRETE CURB	LF	$32.00	3,200	$102,400.00
27 / 28	CEMENT CONCRETE SIDEWALK AND DRIVEWAY APRONS	SF	$15.00	38,400	$576,000.00
28IM	CEMENT CONCRETE PAVEMENT - COLORED & IMPRINTED MEDIANS	SF	$20.00	8,600	$172,000.00
111	REMOVAL AND REPLACEMENT OF PAVEMENTS	SY	$175.00	800	$140,000.00
121	DRYBOUND BASE COURSE	CY	$120.00	500	$60,000.00
361S	TREES	EA	$1,200.00	8	$9,600.00
442	EPOXY REFLECTORIZED PAVEMENT MARKINGS	LF	$3.50	4,200	$14,700.00
5002SS	INSTALL DECORATIVE BENCH	EA	$4,000.00	4	$16,000.00
506SS	FURNISH & INSTALL BIKE RACK	EA	$5,000.00	1	$5,000.00
507SS	FURNISH & INSTALL LITTER RECEPTACLE	EA	$1,200.00	4	$4,800.00
512SS	PEDESTRIAN LIGHT POLE & WIRING	EA	$12,000.00	8	$96,000.00
	SUBTOTAL				**$1,302,500.00**
1M	MOBILIZATION (4%)	LS		1	$52,100.00
102	WORK ZONE TRAFFIC CONTROL (8%)	LS		1	$104,200.00
	CONTINGENCY (30%)				**$390,800.00**
	TOTAL				**$1,849,600.00**

	ENGINEERING & DESIGN COSTS (10%)		**$185,000.00**
	CONSTRUCTION ADMINISTRATION / INSPECTION (10%)		**$185,000.00**

	ESTIMATED TOTAL PROJECT COST		**$2,219,600.00**

DOWNTOWN HICKSVILLE COMPLETE STREETS PROJECT
HICKSVILLE, NASSAU COUNTY, NY

ENGINEER'S CONCEPTUAL ESTIMATE OF PROBABLE CONSTRUCTION COSTS

DATE: MAY 12, 2020

LOCATION 6: TRAIN STATION CIRCULATION AND PEDESTRIAN SAFETY IMPROVEMENTS

ITEM #	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	AMOUNT
1	CLEARING & GRUBBING	LS	$15,000.00	1	$15,000.00
2	UNCLASSIFIED EXCAVATION	CY	$120.00	5,200	$624,000.00
13A	CATCH BASINS	EA	$12,000.00	25	$300,000.00
26	CONCRETE CURB	LF	$32.00	5,800	$185,600.00
27 / 28	CEMENT CONCRETE SIDEWALK AND DRIVEWAY APRONS	SF	$15.00	12,000	$180,000.00
36D	ASPHALT CONCRETE TYPE 1A TOP & BINDER	TON	$150.00	4,300	$645,000.00
111	REMOVAL AND REPLACEMENT OF PAVEMENTS	SY	$175.00	600	$105,000.00
121	DRYBOUND BASE COURSE	CY	$120.00	2,600	$312,000.00
361S	TREES	EA	$1,200.00	56	$67,200.00
442	EPOXY REFLECTORIZED PAVEMENT MARKINGS	LF	$3.50	5,700	$19,950.00
500SS	CONCRETE PAVERS	SF	$30.00	5,000	$150,000.00
5002SS	INSTALL DECORATIVE BENCH	EA	$4,000.00	4	$16,000.00
507SS	FURNISH & INSTALL LITTER RECEPTACLE	EA	$1,200.00	6	$7,200.00
512SS	PEDESTRIAN LIGHT POLE & WIRING	EA	$15,000.00	20	$300,000.00
	SUBTOTAL				**$2,926,950.00**
1L	LIRR PROJECT COORDINATION COSTS (10%)	LS		1	$292,700.00
1M	MOBILIZATION (4%)	LS		1	$117,100.00
102	WORK ZONE TRAFFIC CONTROL (8%)	LS		1	$234,200.00
	CONTINGENCY (30%)				**$878,100.00**
	TOTAL				**$4,449,050.00**

ENGINEERING & DESIGN COSTS (8%)		**$356,000.00**
CONSTRUCTION ADMINISTRATION / INSPECTION (10%)		**$445,000.00**

ESTIMATED TOTAL PROJECT COST		**$5,250,050.00**

DOWNTOWN HICKSVILLE COMPLETE STREETS PROJECT
HICKSVILLE, NASSAU COUNTY, NY

ENGINEER'S CONCEPTUAL ESTIMATE OF PROBABLE CONSTRUCTION COSTS

DATE: MAY 12, 2020

LOCATION 7: BARCLAY TRIANGLE & PARK EXPANSION

ITEM #	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	AMOUNT
1	CLEARING & GRUBBING	LS	$20,000.00	1	$20,000.00
2	UNCLASSIFIED EXCAVATION	CY	$120.00	300	$36,000.00
13A	CATCH BASINS	EA	$12,000.00	5	$60,000.00
26	CONCRETE CURB	LF	$32.00	2,800	$89,600.00
27 / 28	CEMENT CONCRETE SIDEWALK AND DRIVEWAY APRONS	SF	$15.00	6,800	$102,000.00
28IM	CEMENT CONCRETE PAVEMENT - COLORED & IMPRINTED MEDIANS	SF	$20.00	3,500	$70,000.00
36D	ASPHALT CONCRETE TYPE 1A TOP & BINDER	TON	$150.00	500	$75,000.00
111	REMOVAL AND REPLACEMENT OF PAVEMENTS	SY	$175.00	700	$122,500.00
361S	TREES	EA	$1,200.00	24	$28,800.00
442	EPOXY REFLECTORIZED PAVEMENT MARKINGS	LF	$3.50	4,800	$16,800.00
512SS	PEDESTRIAN LIGHT POLE & WIRING	EA	$12,000.00	14	$168,000.00
	SUBTOTAL				**$788,700.00**
1M	MOBILIZATION (4%)	LS		1	$31,600.00
102	WORK ZONE TRAFFIC CONTROL (10%)	LS		1	$78,900.00
	CONTINGENCY (30%)				**$236,700.00**
	TOTAL				**$1,135,900.00**

ENGINEERING & DESIGN COSTS (15%)		**$180,000.00**
CONSTRUCTION ADMINISTRATION / INSPECTION (15%)		**$180,000.00**
ESTIMATED TOTAL PROJECT COST (ROADWAY)		**$1,495,900.00**

600	**KENNEDY PARK RECONSTRUCTION**	**EA**	**$2,500,000**	**1**	**$2,500,000.00**
700	**FESTIVAL PLAZA**	**EA**	**$1,500,000**	**1**	**$1,500,000.00**
	ESTIMATED TOTAL PROJECT COST (PARK)				**$4,000,000.00**
	ESTIMATED TOTAL PROJECT COST (ROADWAY + PARK)				**$5,495,900.00**

DOWNTOWN HICKSVILLE COMPLETE STREETS PROJECT
HICKSVILLE, NASSAU COUNTY, NY

ENGINEER'S CONCEPTUAL ESTIMATE OF PROBABLE CONSTRUCTION COSTS

DATE: MAY 12, 2020

LOCATION 8: UNDERLINE CONNECTION UNDER THE LIRR OVERPASS

ITEM #	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	AMOUNT
1	CLEARING & GRUBBING	LS	$5,000.00	1	$5,000.00
2	UNCLASSIFIED EXCAVATION	CY	$120.00	300	$36,000.00
13A	CATCH BASINS	EA	$12,000.00	10	$120,000.00
26	CONCRETE CURB	LF	$32.00	2,500	$80,000.00
27 / 28	CEMENT CONCRETE SIDEWALK AND DRIVEWAY APRONS	SF	$15.00	14,400	$216,000.00
28IM	CEMENT CONCRETE PAVEMENT - COLORED & IMPRINTED MEDIANS	SF	$20.00	8,000	$160,000.00
111	REMOVAL AND REPLACEMENT OF PAVEMENTS	SY	$175.00	600	$105,000.00
121	DRYBOUND BASE COURSE	CY	$120.00	450	$54,000.00
442	EPOXY REFLECTORIZED PAVEMENT MARKINGS	LF	$3.50	2,600	$9,100.00
500SS	CONCRETE PAVERS	SF	$30.00	1,000	$30,000.00
506SS	FURNISH & INSTALL BIKE RACK	EA	$5,000.00	4	$20,000.00
507SS	FURNISH & INSTALL LITTER RECEPTACLE	EA	$1,200.00	6	$7,200.00
509SS	RECTANGULAR RAPID FLASHING BEACON (RRFB) (per crosswalk)	EA	$25,000.00	3	$75,000.00
512SS	DISTINCTIVE PEDESTRIAN LIGHTING MOUNTED & WIRING	EA	$600,000.00	1	$600,000.00
	SUBTOTAL				**$1,517,300.00**
1L	LIRR PROJECT COORDINATION COSTS (10%)	LS		1	$151,800.00
1M	MOBILIZATION (4%)	LS		1	$60,700.00
102	WORK ZONE TRAFFIC CONTROL (8%)	LS		1	$121,400.00
	CONTINGENCY (30%)				**$455,200.00**
	TOTAL				**$1,972,500.00**

ENGINEERING & DESIGN COSTS (12%)		**$236,700.00**
CONSTRUCTION ADMINISTRATION / INSPECTION (12%)		**$236,700.00**

ESTIMATED TOTAL PROJECT COST		**$2,445,900.00**

APPENDIX E: CRASH ANALYSIS

Summary of Intersection Crash Rates

Intersection	AADT[1]	Accidents (3-year total)[2]	Accidents Involving Pedestrians	Accidents Involving Cyclists	Intersection Accident Rate (crash/MEV)[3]	NYSDOT Average Accident Rate (crash/MEV)[4]	Higher than NYSDOT Average?
Wycoff St & W John St	17,160	10	2	1	0.53	0.12	Yes
Newbridge Rd (SR 106) & W John St	46,518	104	3	0	2.04	0.25	Yes
N Broadway (SR 107) & W John St	45,588	89	0	0	1.78	0.25	Yes
Newbridge Rd (SR 106) & W Barclay St	30,504	56	1	0	1.68	0.12	Yes
N Broadway (SR 107) & E Barclay St	40,598	8	0	0	0.18	0.25	No
Jerusalem Ave & Herzog Pl	16,024	33	2	0	1.88	0.25	Yes
Duffy Ave & Nelson Ave	8,199	6	2	0	0.67	0.18	Yes
Newbridge Rd (SR 106) & Duffy Ave	37,247	90	1	0	2.21	0.25	Yes
Newbridge Road (SR 106) & W Marie Street	28,056	10	0	0	0.33	0.25	Yes
Jerusalem Avenue & W Marie Street	15,545	15	0	0	0.88	0.52	Yes
N Broadway (SR 107) & W Marie Street	34,267	2	0	0	0.05	0.25	No
Newbridge Road (SR 106) & W Old Country Road	57,294	69	1	0	1.10	0.25	Yes
Jerusalem Avenue & W Old Country Road	47,098	28	0	0	0.54	0.25	Yes
N Broadway (SR 107) & W Old Country Road	63,392	40	0	0	0.58	0.25	Yes
Newbridge Road (SR 106) & James Street	29,124	36	2	0	1.13	0.16	Yes

Notes:

1. AADT – Average Annual Daily Traffic volume for intersecting streets, estimated based on ATR and TMC Data collected in March 2019.
2. Source: Nassau County Police Department crash summary data for the 3-year period from January 1, 2016 to January 31, 2019.
3. Crash Rate = (1,000,000 x No. of crashes) / (3 years x 365 days x AADT), expressed in terms of Crash per Million Entering Vehicles (crsh/MEV)
4. Based on 2016 NYSDOT Average Accident Rates for State Highways By Facility Type for Urban Functional Classes.

APPENDIX F: LOS SUMMARY TABLE

SYNCHRO LEVEL OF SERVICE SUMMARY FOR THE SIGNALIZED INTERSECTION AT
NYS 107 & BETHPAGE ROAD

Condition	Mvmnt.	AM Peak Hour					Midday Peak Hour					PM Peak Hour					Midday Saturday Peak Hour				
		Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS
2019 Existing Condition	NB-TR SB-L SB-T WB-R	9.2 67.5 0.2 0.3	0.60 0.76 0.40 0.25	A E A A	8.7	A	12.6 63.7 0.3 0.3	0.61 0.76 0.45 0.26	B E A A	9.9	A	9.8 63.0 0.4 0.3	0.67 0.83 0.54 0.24	A E A A	9.6	A	18.7 64.7 0.4 0.3	0.89 0.81 0.53 0.24	B E A A	13.2	B
2029 No Build **WITH DRI TRAFFIC**	NB-TR SB-L SB-T WB-R	1.4 68.1 0.3 0.4	0.68 0.77 0.48 0.27	A E A A	4.9	A	2.7 64.4 0.4 0.4	0.69 0.78 0.50 0.28	A E A A	5.6	A	7.6 65.6 0.6 0.3	0.82 0.86 0.62 0.26	A E A A	8.6	A	26.7 78.1 0.5 0.3	1.01 0.91 0.60 0.26	C E A A	17.8	B
2029 Build **WITH DRI RECOMMENDATIONS (OPTION 1)**	NB-TR SB-L SB-T WB-R	13.2 67.3 0.3 0.4	0.68 0.76 0.48 0.27	B E A A	10.0	A	17.1 63.5 0.4 0.4	0.70 0.77 0.50 0.28	B E A A	11.7	B	18.3 62.6 0.6 0.3	0.83 0.84 0.62 0.26	B E A A	12.8	B	51.2 64.0 0.5 0.3	1.05 0.81 0.60 0.26	D E A A	28.7	C
2029 Build **WITH COMPLETE STREETS RECOMMENDATIONS (OPTION 4)**	NB-TR SB-L SB-T WB-L	1.4 68.1 0.3 0.4	0.68 0.77 0.48 0.27	A E A A	4.9	A	2.8 64.4 0.4 0.4	0.69 0.78 0.50 0.28	A E A A	5.6	A	7.6 65.6 0.6 0.3	0.82 0.86 0.62 0.26	A E A A	8.6	A	26.7 78.1 0.5 0.3	1.01 0.91 0.60 0.26	C E A A	17.8	B

SYNCHRO LEVEL OF SERVICE SUMMARY FOR THE SIGNALIZED INTERSECTION AT
NYS 107 & NEVADA STREET

Condition	Mvmnt.	AM Peak Hour					Midday Peak Hour					PM Peak Hour					Midday Saturday Peak Hour				
		Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS
2019 Existing Condition	NB-L	81.2	0.48	F	23.7	C	79.0	0.63	E	29.9	C	70.0	0.59	E	32.1	C	68.8	0.72	E	101.1	F
	NB-T	18.8	0.76	B			16.7	0.70	B			15.2	0.76	B			18.7	0.74	B		
	NB-R	0.7	0.05	A			3.6	0.19	A			4.4	0.21	A			3.9	0.16	A		
	SB-L	65.3	0.42	E			63.0	0.62	E			64.9	0.56	E			65.4	0.87	E		
	SB-TR	18.0	0.63	B			31.5	0.93	C			36.1	0.95	D			151.0	1.26	F		
	EB-LTR	70.2	0.77	E			64.3	0.70	E			57.0	0.64	E			93.2	0.95	F		
	WB-L	71.9	0.67	E			83.2	0.79	F			105.5	0.96	F			231.9	1.36	F		
	WB-TR	33.4	0.33	C			41.7	0.46	D			46.8	0.44	D			44.7	0.47	D		
2029 No Build **WITH DRI TRAFFIC**	NB-L	77.8	0.49	E	27.3	C	68.6	0.69	E	38.8	D	77.6	0.62	E	53.9	D	63.1	0.80	E	140.0	F
	NB-T	22.0	0.92	C			19.4	0.80	B			27.4	0.95	C			30.8	0.87	C		
	NB-R	0.8	0.06	A			6.8	0.21	A			2.5	0.23	A			10.0	0.17	A		
	SB-L	64.1	0.53	E			65.0	0.70	E			70.8	0.76	E			79.7	0.86	E		
	SB-TR	22.5	0.76	C			47.5	1.02	D			69.6	1.08	E			205.8	1.39	F		
	EB-LTR	70.1	0.78	E			70.2	0.77	E			102.4	0.96	F			266.0	1.45	F		
	WB-L	70.5	0.68	E			83.1	0.80	F			128.2	1.05	F			296.0	1.52	F		
	WB-TR	44.6	0.40	D			43.1	0.51	D			51.0	0.63	D			53.8	0.67	D		
2029 Build **WITH DRI RECOMMENDATIONS (OPTION 1)**	NB-L	75.8	0.49	E	27.0	C	74.3	0.65	E	39.8	D	55.7	0.61	E	61.6	E	66.7	0.75	E	140.8	F
	NB-T	21.8	0.90	C			19.4	0.82	B			47.3	0.98	D			23.8	0.91	C		
	NB-R	0.8	0.06	A			4.1	0.21	A			9.9	0.23	A			4.7	0.18	A		
	SB-L	65.8	0.57	E			64.2	0.69	E			65.4	0.69	E			68.9	0.76	E		
	SB-TR	22.5	0.76	C			49.7	1.02	D			70.7	1.08	E			213.7	1.41	F		
	EB-LTR	70.2	0.78	E			72.1	0.78	E			102.4	0.96	F			266.0	1.45	F		
	WB-L	70.6	0.68	E			85.8	0.81	F			128.2	1.05	F			296.0	1.52	F		
	WB-TR	32.4	0.37	C			42.6	0.51	D			51.0	0.63	D			50.4	0.66	D		
2029 Build **WITH COMPLETE STREETS RECOMMENDATIONS (OPTION 4)**	NB-L	77.8	0.49	E	27.3	C	68.4	0.69	E	38.9	D	77.6	0.62	E	53.9	D	63.2	0.80	E	139.8	F
	NB-T	22.0	0.92	C			19.7	0.80	B			27.4	0.95	C			30.0	0.87	C		
	NB-R	0.8	0.06	A			6.8	0.21	A			2.5	0.23	A			9.9	0.17	A		
	SB-L	64.1	0.53	E			65.0	0.70	E			70.8	0.76	E			79.7	0.86	E		
	SB-TR	22.5	0.76	C			47.5	1.02	D			69.6	1.08	E			205.8	1.39	F		
	EB-LTR	70.1	0.78	E			70.2	0.77	E			102.4	0.96	F			266.0	1.45	F		
	WB-L	70.5	0.68	E			83.1	0.80	F			128.2	1.05	F			296.0	1.52	F		
	WB-TR	44.6	0.40	D			43.1	0.51	D			51.0	0.63	D			53.8	0.67	D		

SYNCHRO LEVEL OF SERVICE SUMMARY FOR THE SIGNALIZED INTERSECTION AT
NYS 107 & BROADWAY MALL EXIT

Condition	Mvmnt.	AM Peak Hour					Midday Peak Hour					PM Peak Hour					Midday Saturday Peak Hour				
		Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS
2019 Existing Condition	NB-T	2.4	0.50	A	4.7	A	23.4	0.59	C	22.9	C	15.7	0.70	B	15.1	B	24.2	0.54	C	21.9	C
	NB-R	2.0	0.00	A			15.5	0.07	B			6.3	0.05	A			15.3	0.06	B		
	SB-L	72.2	0.16	E			70.7	0.63	E			81.4	0.46	F			82.9	0.70	F		
	SB-T	1.1	0.41	A			8.6	0.42	A			3.1	0.71	A			2.6	0.53	A		
	EB-L	65.5	0.46	E			55.3	0.72	E			59.5	0.74	E			59.5	0.81	E		
	EB-T	70.9	0.45	E			59.6	0.69	E			65.7	0.72	E			64.9	0.78	E		
	EB-R	15.6	0.39	B			14.5	0.30	B			8.8	0.22	A			24.0	0.39	C		
2029 No Build **WITH DRI TRAFFIC**	NB-T	12.4	0.70	B	11.6	B	27.9	0.71	C	23.1	C	48.6	0.99	D	33.0	C	34.0	0.81	C	27.5	C
	NB-R	6.3	0.08	A			9.0	0.14	A			9.6	0.23	A			21.1	0.27	C		
	SB-L	83.6	0.72	F			85.4	0.75	F			62.0	0.85	E			74.8	0.91	E		
	SB-T	1.2	0.46	A			2.0	0.45	A			12.8	0.68	B			3.5	0.57	A		
	EB-L	65.3	0.47	E			56.1	0.74	E			59.9	0.76	E			61.6	0.84	E		
	EB-T	71.8	0.47	E			61.0	0.71	E			66.7	0.75	E			65.6	0.80	E		
	EB-R	16.9	0.41	B			15.8	0.31	B			9.7	0.22	A			25.2	0.40	C		
2029 Build **WITH DRI RECOMMENDATIONS (OPTION 1)**	NB-T	8.3	0.70	A	9.6	A	29.2	0.74	C	25.8	C	69.0	1.02	E	37.3	D	20.9	0.69	C	37.8	D
	NB-R	4.5	0.08	A			17.1	0.14	B			7.1	0.23	A			11.9	0.22	B		
	SB-L	81.5	0.68	F			71.5	0.76	E			79.5	0.80	E			339.9	1.65	F		
	SB-T	1.0	0.46	A			9.6	0.46	A			3.1	0.68	A			2.7	0.57	A		
	EB-L	65.3	0.47	E			53.9	0.72	D			59.9	0.76	E			61.6	0.84	E		
	EB-T	71.8	0.48	E			58.2	0.69	E			66.7	0.75	E			65.6	0.80	E		
	EB-R	16.9	0.41	B			15.1	0.30	B			9.6	0.22	A			25.1	0.40	C		
2029 Build **WITH COMPLETE STREETS RECOMMENDATIONS (OPTION 4)**	NB-T	12.4	0.70	B	11.6	B	27.3	0.71	C	22.8	C	48.5	0.99	D	33.0	C	32.1	0.81	C	26.9	C
	NB-R	6.3	0.08	A			15.3	0.14	B			9.5	0.23	A			19.8	0.27	B		
	SB-L	83.6	0.72	F			85.4	0.75	F			62.0	0.85	E			74.8	0.91	E		
	SB-T	1.2	0.46	A			2.0	0.45	A			12.8	0.68	B			3.5	0.57	A		
	EB-L	65.3	0.47	E			56.1	0.74	E			59.9	0.76	E			61.6	0.84	E		
	EB-T	71.8	0.48	E			61.0	0.71	E			66.7	0.75	E			65.6	0.80	E		
	EB-R	16.9	0.41	B			15.8	0.31	B			9.7	0.22	A			25.2	0.40	C		

SYNCHRO LEVEL OF SERVICE SUMMARY FOR THE SIGNALIZED INTERSECTION AT
NYS 107 & BROADWAY MALL ENTRANCE

Condition	Mvmnt.	AM Peak Hour					Midday Peak Hour					PM Peak Hour					Midday Saturday Peak Hour				
		Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS
2019 Existing Condition	NB-L	63.7	0.50	E	5.6	A	54.4	0.63	D	9.4	A	61.4	0.63	E	6.4	A	53.2	0.72	D	10.6	B
	NB-T	3.8	0.48	A			4.8	0.41	A			4.8	0.44	A			4.4	0.34	A		
	SB-TR	2.1	0.44	A			4.8	0.46	A			1.8	0.63	A			5.7	0.61	A		
	WB-L	65.1	0.30	E			65.5	0.45	E			65.6	0.34	E			68.9	0.49	E		
	WB-T	58.7	0.07	E			56.2	0.16	E			59.2	0.11	E			58.6	0.18	E		
	WB-R	-	-	-			15.1	0.32	B			1.9	0.17	A			0.9	0.09	A		
2029 No Build **WITH DRI TRAFFIC**	NB-L	59.1	0.52	E	18.7	B	54.0	0.65	D	12.6	B	56.8	0.65	E	19.9	B	60.0	0.83	E	21.9	C
	NB-T	23.8	0.62	C			7.7	0.48	A			15.6	0.64	B			15.2	0.50	B		
	SB-TR	4.1	0.59	A			5.4	0.53	A			14.1	0.86	B			14.1	0.86	B		
	WB-L	59.8	0.57	E			68.1	0.66	E			71.7	0.83	E			68.1	0.85	E		
	WB-T	44.1	0.04	D			49.3	0.13	D			42.1	0.06	D			38.6	0.09	D		
	WB-R	56.6	0.79	E			35.8	0.57	D			33.6	0.50	C			26.2	0.40	C		
2029 Build **WITH DRI RECOMMENDATIONS (OPTION 1)**	NB-L	69.9	0.52	E	23.7	C	54.8	0.65	D	13.1	B	58.1	0.66	E	22.2	C	66.9	0.88	E	22.0	C
	NB-T	33.7	0.61	C			7.3	0.49	A			24.6	0.66	C			13.8	0.51	B		
	SB-TR	5.3	0.59	A			6.8	0.53	A			11.9	0.86	B			12.9	0.83	B		
	WB-L	59.8	0.57	E			68.3	0.66	E			70.4	0.82	E			77.0	0.90	E		
	WB-T	44.2	0.04	D			49.3	0.13	D			41.7	0.06	D			41.3	0.10	D		
	WB-R	56.6	0.79	E			36.0	0.57	D			33.2	0.49	C			28.2	0.42	C		
2029 Build **WITH COMPLETE STREETS RECOMMENDATIONS (OPTION 4)**	NB-L	59.1	0.52	E	18.7	B	54.3	0.65	D	12.6	B	56.8	0.65	E	19.9	B	60.8	0.83	E	22.0	C
	NB-T	23.8	0.62	C			7.5	0.48	A			15.6	0.64	B			15.3	0.50	B		
	SB-TR	4.1	0.59	A			5.4	0.53	A			14.1	0.86	B			14.1	0.86	B		
	WB-L	59.8	0.57	E			68.1	0.66	E			71.7	0.83	E			68.1	0.85	E		
	WB-T	44.1	0.04	D			49.3	0.13	D			42.1	0.06	D			38.6	0.09	D		
	WB-R	56.6	0.79	E			36.0	0.57	D			33.6	0.50	C			26.2	0.40	C		

SYNCHRO LEVEL OF SERVICE SUMMARY FOR THE SIGNALIZED INTERSECTION AT
NYS 106, NYS 107 & LENOX AVENUE

Condition	Mvmnt.	AM Peak Hour					Midday Peak Hour					PM Peak Hour					Midday Saturday Peak Hour				
		Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS
2019 Existing Condition	NB-T SB-T EB-L WB-R	149.7 10.7 39.2 9.3	1.27 0.40 0.83 0.02	F B D A	97.2	F	21.8 3.1 47.5 -	0.52 0.46 0.83 -	C A D -	22.4	C	41.7 12.1 36.0 9.6	0.67 0.65 0.88 0.05	D B D A	29.9	C	16.2 6.5 45.8 9.3	0.48 0.59 0.83 0.05	B A D A	20.2	C
2029 No Build **WITH DRI TRAFFIC**	NB-T SB-T EB-L WB-R	132.2 4.4 144.6 9.5	1.24 0.40 1.23 0.02	F A F A	109.2	F	20.1 6.4 43.5 -	0.60 0.54 0.85 -	C A D -	22.1	C	59.6 33.9 49.1 9.7	0.89 0.88 0.96 0.05	E C D A	47.7	D	18.3 9.4 46.9 9.5	0.61 0.75 0.89 0.05	B A D A	22.8	C
2029 Build **WITH DRI RECOMMENDATIONS (OPTION 1)**	NB-T SB-T EB-L WB-R	236.4 15.5 33.9 9.4	1.46 0.49 0.87 0.02	F B C A	141.4	F	23.5 5.6 43.3 -	0.62 0.56 0.86 -	C A D -	23.4	C	53.2 20.1 94.2 9.6	0.78 0.80 1.15 0.05	D C F A	56.9	E	23.2 13.0 40.8 9.5	0.63 0.78 0.89 0.05	C B D A	24.3	C
2029 Build **WITH COMPLETE STREETS RECOMMENDATIONS (OPTION 4)**	NB-T SB-T EB-L WB-R	132.3 4.4 144.6 9.5	1.24 0.40 1.23 0.02	F A F A	109.2	F	20.1 6.4 43.0 -	0.60 0.54 0.85 -	C A D -	21.9	C	59.6 33.9 49.1 9.7	0.89 0.88 0.96 0.05	E C D A	47.7	D	18.4 9.4 46.9 9.4	0.61 0.76 0.88 0.05	B A D A	22.8	C

SYNCHRO LEVEL OF SERVICE SUMMARY FOR THE UNSIGNALIZED INTERSECTION AT
WYCKOFF STREET & WEST JOHN STREET

Condition	Mvmnt.	AM Peak Hour					Midday Peak Hour					PM Peak Hour					Midday Saturday Peak Hour				
		Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS
2019 Existing Condition	SB-R	10.4	0.03	B			9.6	0.02	A			9.2	0.02	A			9.0	0.02	A		
	EB-T	0.0	0.28	A			0.0	0.24	A			0.0	0.42	A			0.0	0.24	A		
	EB-R	0.0	0.17	A	0.1	A	0.0	0.15	A	0.1	A	0.0	0.24	A	0.1	A	0.0	0.14	A	0.1	A
	WB-T	0.0	0.35	A			0.0	0.25	A			0.0	0.32	A			0.0	0.25	A		
	WB-R	0.0	0.19	A			0.0	0.13	A			0.0	0.19	A			0.0	0.16	A		
2029 No Build **WITH DRI TRAFFIC**	SB-R	9.6	0.02	A			9.7	0.02	A			9.3	0.02	A			9.1	0.02	A		
	EB-T	0.0	0.34	A			0.0	0.27	A			0.0	0.54	A			0.0	0.28	A		
	EB-R	0.0	0.20	A	0.1	A	0.0	0.16	A	0.1	A	0.0	0.30	A	0.1	A	0.0	0.16	A	0.1	A
	WB-T	0.0	0.39	A			0.0	0.27	A			0.0	0.34	A			0.0	0.27	A		
	WB-R	0.0	0.21	A			0.0	0.14	A			0.0	0.20	A			0.0	0.17	A		
2029 Build **WITH DRI RECOMMENDATIONS (OPTION 1)**	SB-R	9.6	0.02	A			9.7	0.02	A			9.3	0.02	A			9.1	0.02	A		
	EB-T	0.0	0.34	A			0.0	0.27	A			0.0	0.54	A			0.0	0.28	A		
	EB-R	0.0	0.20	A	0.1	A	0.0	0.16	A	0.1	A	0.0	0.30	A	0.1	A	0.0	0.16	A	0.1	A
	WB-T	0.0	0.33	A			0.0	0.26	A			0.0	0.34	A			0.0	0.26	A		
	WB-R	0.0	0.19	A			0.0	0.14	A			0.0	0.19	A			0.0	0.17	A		
2029 Build **WITH COMPLETE STREETS RECOMMENDATIONS (OPTION 4)**	SB-R	9.6	0.02	A			9.7	0.02	A			9.3	0.02	A			9.1	0.02	A		
	EB-T	0.0	0.34	A			0.0	0.27	A			0.0	0.54	A			0.0	0.28	A		
	EB-R	0.0	0.20	A	0.1	A	0.0	0.16	A	0.1	A	0.0	0.30	A	0.1	A	0.0	0.16	A	0.1	A
	WB-T	0.0	0.39	A			0.0	0.27	A			0.0	0.34	A			0.0	0.27	A		
	WB-R	0.0	0.21	A			0.0	0.14	A			0.0	0.20	A			0.0	0.17	A		

SYNCHRO LEVEL OF SERVICE SUMMARY FOR THE SIGNALIZED INTERSECTION AT
NYS 106 & WEST JOHN STREET

Condition	Mvmnt.	AM Peak Hour					Midday Peak Hour					PM Peak Hour					Midday Saturday Peak Hour				
		Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS
2019 Existing Condition	NB-L	66.6	0.78	E	38.6	D	41.2	0.65	D	35.2	D	79.6	0.92	E	96.4	F	67.4	0.78	E	32.8	C
	NB-TR	23.1	0.61	C			23.1	0.55	C			47.5	0.83	D			21.4	0.62	C		
	SB-L	13.5	0.20	B			20.4	0.55	C			52.8	0.79	D			29.3	0.70	C		
	SB-TR	37.8	0.89	D			34.2	0.78	C			171.3	1.30	F			35.9	0.87	D		
	EB-L	109.5	1.05	F			48.2	0.71	D			168.8	1.24	F			42.1	0.59	D		
	EB-T	49.6	0.49	D			54.5	0.61	D			56.7	0.81	E			51.6	0.49	D		
	EB-R	9.1	0.40	A			10.3	0.40	B			21.2	0.49	C			9.4	0.43	A		
	WB-L	18.2	0.53	B			40.3	0.57	D			49.7	0.78	D			16.3	0.42	B		
	WB-TR	40.0	0.86	D			51.4	0.74	D			47.1	0.86	D			34.3	0.75	C		
2029 No Build **WITH DRI TRAFFIC**	NB-L	156.4	1.15	F	71.1	E	55.4	0.74	E	34.0	C	239.7	1.39	F	167.6	F	67.4	0.77	E	45.7	D
	NB-TR	39.9	0.72	D			20.6	0.60	C			88.0	1.02	F			30.8	0.80	C		
	SB-L	16.2	0.29	B			24.4	0.63	C			92.4	0.95	F			53.7	0.78	D		
	SB-TR	94.3	1.12	F			30.2	0.84	C			235.7	1.45	F			57.6	1.01	E		
	EB-L	170.2	1.24	F			85.6	0.95	F			482.6	1.99	F			60.2	0.81	E		
	EB-T	47.8	0.49	D			53.4	0.62	D			58.4	0.84	E			51.7	0.51	D		
	EB-R	23.7	0.52	C			9.7	0.41	A			27.0	0.56	C			10.8	0.47	B		
	WB-L	17.5	0.60	B			27.3	0.74	C			55.6	0.85	E			24.6	0.51	C		
	WB-TR	49.4	0.94	D			36.3	0.75	D			54.4	0.91	D			39.7	0.76	D		
2029 Build **WITH DRI RECOMMENDATIONS (OPTION 1)**	NB-L	73.3	0.75	E	64.0	E	72.6	0.72	E	39.8	D	118.1	0.94	F	180.6	F	67.9	0.79	E	52.8	D
	NB-TR	11.9	0.69	B			12.4	0.69	B			72.8	1.06	E			24.6	0.90	C		
	SB-L	14.7	0.25	B			31.7	0.66	C			91.0	0.89	F			67.9	0.82	E		
	SB-TR	86.4	1.04	F			49.6	0.93	D			264.4	1.51	F			88.4	1.05	F		
	EB-L	272.0	1.49	F			58.1	0.82	E			578.2	2.21	F			43.9	0.69	D		
	EB-T	51.8	0.56	D			53.7	0.62	D			61.7	0.87	E			49.1	0.48	D		
	EB-R	10.0	0.48	A			9.8	0.41	A			69.1	0.57	E			8.7	0.44	A		
	WB-L	23.7	0.70	C			41.8	0.64	D			107.2	0.93	F			11.7	0.45	B		
	WB-TR	37.3	0.85	D			51.3	0.75	D			45.2	0.89	D			28.0	0.76	C		
2029 Build **WITH COMPLETE STREETS RECOMMENDATIONS (OPTION 4)**	NB-L	156.0	1.15	F	71.6	E	54.6	0.74	D	34.6	C	239.2	1.39	F	168.6	F	66.9	0.77	E	45.9	D
	NB-TR	41.1	0.72	D			21.3	0.60	C			91.1	1.02	F			31.2	0.80	C		
	SB-L	16.2	0.29	B			24.4	0.63	C			103.0	0.95	F			53.7	0.78	D		
	SB-TR	94.3	1.12	F			30.2	0.84	C			235.7	1.45	F			57.6	1.01	E		
	EB-L	170.2	1.24	F			85.6	0.95	F			482.6	1.99	F			60.2	0.81	E		
	EB-T	47.8	0.49	D			53.4	0.62	D			58.6	0.84	E			51.7	0.51	D		
	EB-R	23.7	0.52	C			9.7	0.41	A			27.0	0.56	C			10.8	0.47	B		
	WB-L	18.4	0.60	B			30.2	0.74	C			55.6	0.85	E			25.2	0.51	C		
	WB-TR	50.8	0.94	D			39.0	0.75	D			54.6	0.91	D			40.5	0.76	D		

SYNCHRO LEVEL OF SERVICE SUMMARY FOR THE SIGNALIZED INTERSECTION AT
NYS 107 & WEST JOHN STREET

Condition	Mvmnt.	AM Peak Hour					Midday Peak Hour					PM Peak Hour					Midday Saturday Peak Hour				
		Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS
2019 Existing Condition	NB-L	43.1	0.61	D	38.8	D	79.6	0.94	E	31.3	C	128.2	1.17	F	63.1	E	119.0	1.10	F	38.5	D
	NB-TR	11.6	0.58	B			11.7	0.58	B			5.8	0.57	A			9.8	0.51	A		
	SB-L	91.9	0.17	F			93.5	0.61	F			78.5	0.44	E			92.8	0.61	F		
	SB-TR	49.6	0.87	D			21.4	0.64	C			79.5	0.94	E			24.4	0.76	C		
	EB-L	30.0	0.25	C			26.9	0.45	C			27.7	0.54	C			32.6	0.30	C		
	EB-T	41.1	0.24	D			23.9	0.21	C			22.8	0.39	C			31.6	0.30	C		
	EB-R	54.4	0.59	D			53.0	0.87	D			126.8	1.18	F			55.9	0.86	E		
	WB-LTR	67.8	0.87	E			49.6	0.56	D			60.8	0.80	E			50.0	0.51	D		
2029 No Build **WITH DRI TRAFFIC**	NB-L	39.3	0.64	D	52.1	D	79.3	0.95	E	30.9	C	136.0	1.20	F	64.1	E	99.6	1.07	F	55.9	E
	NB-TR	12.1	0.67	B			13.8	0.65	B			7.6	0.67	A			9.9	0.62	A		
	SB-L	104.9	0.40	F			104.6	0.64	F			93.6	0.46	F			104.3	0.67	F		
	SB-TR	107.3	1.03	F			20.3	0.74	C			69.2	1.10	E			82.6	0.94	F		
	EB-L	32.5	0.39	C			27.9	0.48	C			29.0	0.62	C			36.2	0.32	D		
	EB-T	24.9	0.28	C			22.9	0.23	C			22.9	0.44	C			34.3	0.31	C		
	EB-R	36.6	0.63	D			47.3	0.87	D			151.5	1.25	F			61.0	0.87	E		
	WB-LTR	67.9	0.90	E			47.8	0.55	D			68.3	0.88	E			50.0	0.53	D		
2029 Build **WITH DRI RECOMMENDATIONS (OPTION 1)**	NB-L	37.6	0.51	D	57.0	E	68.7	0.93	E	26.6	C	129.8	1.20	F	63.4	E	126.4	1.15	F	36.0	D
	NB-TR	60.7	0.61	E			12.0	0.63	B			45.7	0.64	D			17.1	0.60	B		
	SB-L	93.7	0.17	F			95.6	0.52	F			80.3	0.46	F			95.0	0.48	F		
	SB-TR	61.8	0.97	E			18.6	0.69	B			77.3	1.01	E			17.5	0.80	B		
	EB-L	37.5	0.30	D			38.3	0.57	D			29.8	0.65	C			40.7	0.43	D		
	EB-T	42.8	0.27	D			27.3	0.25	C			21.4	0.44	C			39.1	0.40	D		
	EB-R	14.3	0.42	B			10.9	0.64	B			33.2	0.91	C			19.3	0.69	B		
	WB-LTR	77.0	0.94	E			60.7	0.75	E			75.0	0.92	E			63.7	0.73	E		
2029 Build **WITH COMPLETE STREETS RECOMMENDATIONS (OPTION 4)**	NB-L	33.9	0.58	C	50.2	D	64.5	0.87	E	25.2	C	106.5	1.13	F	48.0	D	87.7	1.03	F	40.8	D
	NB-TR	12.7	0.67	B			11.3	0.64	B			6.9	0.66	A			7.5	0.58	A		
	SB-L	104.4	0.40	F			92.8	0.47	F			93.6	0.46	F			89.5	0.51	F		
	SB-TR	108.3	1.00	F			17.0	0.69	B			68.5	1.02	E			52.8	0.82	D		
	EB-L	32.6	0.39	C			37.5	0.61	D			30.9	0.65	C			40.5	0.43	D		
	EB-T	24.9	0.28	C			26.0	0.26	C			23.6	0.44	C			37.1	0.40	D		
	EB-R	6.3	0.43	A			8.9	0.64	A			28.8	0.89	C			15.4	0.65	B		
	WB-LTR	67.3	0.89	E			60.7	0.75	E			76.5	0.92	E			63.7	0.73	E		

SYNCHRO LEVEL OF SERVICE SUMMARY FOR THE UNSIGNALIZED INTERSECTION AT
NYS 106 & WEST BARCLAY STREET

Condition	Mvmnt.	AM Peak Hour					Midday Peak Hour					PM Peak Hour					Midday Saturday Peak Hour				
		Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS
2019 Existing Condition	NB-T	0.0	0.41	A	0.4	A	0.0	0.35	A	0.5	A	0.0	0.44	A	0.7	A	0.0	0.41	A	0.4	A
	NB-R	0.0	0.23	A			0.0	0.20	A			0.0	0.24	A			0.0	0.22	A		
	SB-T	0.0	0.42	A			0.0	0.43	A			0.0	0.66	A			0.0	0.50	A		
	SB-R	0.0	0.32	A			0.0	0.25	A			0.0	0.40	A			0.0	0.34	A		
	EB-R	10.5	0.10	B			10.1	0.09	B			11.9	0.23	B			10.8	0.12	B		
	WB-R	10.3	0.02	B			11.0	0.06	B			11.2	0.07	B			10.7	0.01	B		
2029 No Build **WITH DRI TRAFFIC**	NB-T	0.0	0.45	A	0.4	A	0.0	0.39	A	0.5	A	0.0	0.51	A	0.9	A	0.0	0.48	A	0.4	A
	NB-R	0.0	0.25	A			0.0	0.22	A			0.0	0.28	A			0.0	0.25	A		
	SB-T	0.0	0.54	A			0.0	0.47	A			0.0	0.74	A			0.0	0.57	A		
	SB-R	0.0	0.54	A			0.0	0.28	A			0.0	0.50	A			0.0	0.39	A		
	EB-R	11.3	0.13	B			10.5	0.11	B			12.9	0.31	B			12.0	0.15	B		
	WB-R	10.4	0.02	B			11.3	0.07	B			11.5	0.08	B			11.0	0.01	B		
2029 Build **WITH DRI RECOMMENDATIONS (OPTION 1)**	NB-L	33.8	0.49	C	290.8	F	12.5	0.25	B	80.7	F	80.0	0.84	E	332.3	F	25.5	0.38	C	130.4	F
	NB-TR	43.0	0.86	D			27.1	0.76	C			97.2	1.02	F			50.0	0.93	D		
	SB-L	59.1	0.80	E			59.3	0.86	E			56.0	0.84	E			71.5	0.84	E		
	SB-TR	88.0	1.13	F			23.3	0.79	C			289.5	1.59	F			72.6	1.02	E		
	EB-LTR	38.0	0.44	D			27.7	0.34	C			159.5	1.23	F			29.5	0.39	C		
	WB-LTR	884.7	2.90	F			287.6	1.55	F			878.0	2.88	F			414.3	1.84	F		
2029 Build **WITH COMPLETE STREETS RECOMMENDATIONS (OPTION 4)**	NB-T	0.0	0.45	A	0.4	A	0.0	0.39	A	0.5	A	0.0	0.51	A	0.8	A	0.0	0.48	A	0.4	A
	NB-R	0.0	0.25	A			0.0	0.22	A			0.0	0.27	A			0.0	0.25	A		
	SB-T	0.0	0.54	A			0.0	0.47	A			0.0	0.74	A			0.0	0.57	A		
	SB-R	0.0	0.54	A			0.0	0.28	A			0.0	0.50	A			0.0	0.39	A		
	EB-R	11.3	0.13	B			10.5	0.11	B			12.9	0.31	B			12.0	0.15	B		
	WB-R	10.2	0.02	B			11.0	0.06	B			11.1	0.06	B			10.9	0.00	B		

SYNCHRO LEVEL OF SERVICE SUMMARY FOR THE SIGNALIZED INTERSECTION AT
NYS 107 & EAST BARCLAY STREET

Condition	Mvmnt.	AM Peak Hour					Midday Peak Hour					PM Peak Hour					Midday Saturday Peak Hour				
		Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS
2019 Existing Condition	NB-TR	36.2	0.75	D	86.8	F	23.7	0.53	C	34.7	C	41.7	0.82	D	65.5	E	28.7	0.57	C	38.1	D
	SB-L	9.3	0.23	A			12.7	0.28	B			17.9	0.58	B			13.5	0.32	B		
	SB-T	20.2	0.65	C			16.5	0.49	B			71.1	0.85	E			18.0	0.66	B		
	EB-L	134.5	1.14	F			64.3	0.73	E			85.1	0.93	F			73.6	0.84	E		
	EB-LTR	193.3	1.30	F			72.0	0.83	E			105.7	1.02	F			74.3	0.86	E		
	WB-L	165.9	1.23	F			71.2	0.83	E			82.7	0.98	F			66.8	0.84	E		
	WB-R	43.8	0.27	D			49.7	0.43	D			37.2	0.21	D			43.9	0.34	D		
2029 No Build **WITH DRI TRAFFIC**	NB-TR	101.8	1.05	F	105.4	F	26.6	0.61	C	34.2	C	75.5	0.94	E	80.7	F	32.7	0.69	C	44.6	D
	SB-L	13.5	0.34	B			11.6	0.37	B			18.4	0.61	B			17.5	0.45	B		
	SB-T	73.7	0.86	E			12.7	0.57	B			68.0	0.97	E			30.8	0.79	C		
	EB-L	94.8	1.02	F			62.0	0.72	E			78.6	0.91	E			77.6	0.89	E		
	EB-LTR	145.5	1.19	F			72.2	0.85	E			108.2	1.05	F			78.1	0.90	E		
	WB-L	151.5	1.20	F			71.0	0.84	E			119.7	1.11	F			75.5	0.90	E		
	WB-R	41.3	0.27	D			48.9	0.43	D			39.6	0.24	D			45.7	0.36	D		
2029 Build **WITH DRI RECOMMENDATIONS (OPTION 1)**	NB-L	7.8	0.18	A	64.8	E	5.2	0.11	A	25.8	C	10.4	0.16	B	77.5	E	7.2	0.08	A	41.1	D
	NB-TR	107.7	1.18	F			33.8	0.85	C			105.8	1.17	F			67.7	0.90	E		
	SB-L	21.8	0.27	C			25.0	0.42	C			30.1	0.47	C			31.4	0.42	C		
	SB-TR	3.9	0.63	A			8.6	0.64	A			62.1	1.00	E			9.8	0.74	A		
	EB-LTR	43.2	0.61	D			47.8	0.58	D			58.4	0.74	E			55.7	0.59	E		
	WB-L	47.6	0.52	D			44.8	0.44	D			46.4	0.65	D			45.0	0.44	D		
	WB-TR	46.5	0.54	D			42.6	0.40	D			38.1	0.40	D			43.2	0.39	D		
2029 Build **WITH COMPLETE STREETS RECOMMENDATIONS (OPTION 4)**	NB-TR	101.7	1.05	F	95.0	F	26.6	0.61	C	30.0	C	75.9	0.94	E	104.2	F	32.8	0.69	C	51.7	D
	SB-L	18.5	0.34	B			14.5	0.37	B			34.6	0.61	C			21.4	0.45	C		
	SB-T	85.7	1.01	F			19.5	0.70	B			138.7	1.24	F			75.6	0.93	E		
	SB-R	18.1	0.71	B			4.6	0.65	A			104.8	1.19	F			9.8	0.77	A		
	EB-L	94.8	1.02	F			62.0	0.72	E			78.6	0.91	E			77.5	0.89	E		
	EB-LTR	145.5	1.19	F			72.2	0.85	E			108.2	1.05	F			78.1	0.90	E		
	WB-L	151.5	1.20	F			71.0	0.84	E			120.6	1.11	F			75.5	0.90	E		
	WB-T	42.4	0.35	D			43.8	0.25	D			37.8	0.15	D			40.3	0.12	D		
	WB-R	39.1	0.15	D			46.0	0.32	D			38.7	0.19	D			44.7	0.32	D		

SYNCHRO LEVEL OF SERVICE SUMMARY FOR THE SIGNALIZED INTERSECTION AT
NYS 106 & NORTH STATION PLAZA

Condition	Mvmnt.	AM Peak Hour					Midday Peak Hour					PM Peak Hour					Midday Saturday Peak Hour				
		Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS
2019 Existing Condition	NB-TR SB-L SB-T EB-R	2.0 3.8 2.9 153.7	0.49 0.21 0.41 0.63	A A A F	9.5	A	1.4 4.0 3.8 71.3	0.34 0.13 0.38 0.50	A A A E	4.6	A	1.6 2.8 4.2 151.8	0.45 0.38 0.61 0.63	A A A F	8.3	A	1.3 2.9 2.8 160.9	0.39 0.16 0.46 0.63	A A A F	9.4	A
2029 No Build **WITH DRI TRAFFIC**	NB-TR SB-L SB-T EB-R	2.1 3.0 2.6 150.0	0.53 0.26 0.46 0.66	A A A F	9.0	A	1.0 1.7 1.6 69.8	0.37 0.16 0.42 0.51	A A A E	3.2	A	2.3 4.2 10.3 148.2	0.51 0.49 0.69 0.66	A A B F	11.5	B	1.1 1.8 2.1 147.4	0.46 0.22 0.53 0.66	A A A F	7.7	A
2029 Build **WITH DRI RECOMMENDATIONS (OPTION 1)**	NB-TR SB-L SB-T EB-R	2.7 9.1 57.6 160.4	0.55 0.28 0.55 0.62	A A E F	35.6	D	1.8 3.5 4.7 71.7	0.40 0.17 0.45 0.51	A A A E	5.1	A	3.2 11.2 55.7 150.6	0.52 0.51 0.76 0.63	A B E F	37.4	D	1.9 4.9 53.0 145.5	0.47 0.22 0.57 0.63	A A D F	34.4	C
2029 Build **WITH COMPLETE STREETS RECOMMENDATIONS (OPTION 4)**	NB-TR SB-L SB-T EB-R	2.2 0.4 2.6 150.0	0.53 0.14 0.46 0.66	A A A F	9.0	A	1.1 0.4 1.8 69.8	0.39 0.12 0.43 0.51	A A A E	3.3	A	2.4 1.4 10.3 148.2	0.51 0.26 0.69 0.66	A A B F	11.5	B	1.2 0.3 2.1 147.4	0.46 0.13 0.53 0.66	A A A F	7.7	A

SYNCHRO LEVEL OF SERVICE SUMMARY FOR THE SIGNALIZED INTERSECTION AT
NYS 106 & SOUTH STATION PLAZA

Condition	Mvmnt.	AM Peak Hour					Midday Peak Hour					PM Peak Hour					Midday Saturday Peak Hour				
		Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS
2019 Existing Condition	NB-L NB-T SB-TR WB-R	33.7 2.3 3.7 57.8	0.74 0.44 0.48 0.39	C A A E	6.8	A	4.5 2.9 2.1 49.8	0.25 0.34 0.41 0.24	A A A D	3.2	A	115.1 4.3 12.3 32.7	0.96 0.43 0.66 0.16	F A B C	14.5	B	20.3 2.7 3.4 45.2	0.56 0.39 0.52 0.16	C A A D	4.3	A
2029 No Build **WITH DRI TRAFFIC**	NB-L NB-T SB-TR WB-R	93.3 2.6 3.6 71.1	0.91 0.48 0.53 0.40	F A A E	11.6	B	2.8 1.1 1.3 61.4	0.31 0.37 0.46 0.24	A A A E	2.0	A	251.2 5.2 12.8 49.1	1.46 0.49 0.74 0.17	F A B D	21.2	C	38.4 1.8 3.1 59.6	0.77 0.46 0.59 0.16	D A A E	4.7	A
2029 Build **WITH DRI RECOMMENDATIONS (OPTION 1)**	NB-L NB-T SB-TR WB-R	176.6 2.7 5.4 57.6	1.28 0.50 0.62 0.38	F A A E	17.4	B	6.9 2.9 2.1 66.8	0.35 0.39 0.48 0.44	A A A E	4.1	A	505.0 5.3 52.0 57.1	1.99 0.49 0.81 0.29	F A D E	55.1	E	37.6 2.9 3.8 52.8	0.68 0.47 0.64 0.16	D A A D	4.9	A
2029 Build **WITH COMPLETE STREETS RECOMMENDATIONS (OPTION 4)**	NB-L NB-T SB-TR WB-R	20.6 2.7 3.6 62.5	0.92 0.48 0.53 0.40	C A A E	6.0	A	1.0 1.2 1.4 61.5	0.22 0.38 0.47 0.24	A A A E	2.1	A	15.7 5.0 25.1 45.5	0.49 0.49 0.74 0.17	B A C D	17.3	B	14.3 1.6 3.1 59.9	0.77 0.46 0.59 0.16	B A A E	3.5	A

SYNCHRO LEVEL OF SERVICE SUMMARY FOR THE SIGNALIZED INTERSECTION AT
NYS 107 & HERZOG PLACE

Condition	Mvmnt.	AM Peak Hour					Midday Peak Hour					PM Peak Hour					Midday Saturday Peak Hour				
		Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS
2019 Existing Condition	NB-TR SB-TR EB-R WB-R	1.8 1.3 0.5 -	0.40 0.43 0.09 -	A A A -	1.5	A	2.0 1.3 0.8 1.2	0.36 0.40 0.14 0.08	A A A A	1.6	A	1.1 2.6 1.6 1.0	0.40 0.51 0.22 0.04	A A A A	1.9	A	2.1 1.9 0.9 0.5	0.35 0.42 0.15 0.03	A A A A	2.0	A
2029 No Build **WITH DRI TRAFFIC**	NB-TR SB-TR EB-R WB-R	0.9 0.4 1.2 -	0.45 0.47 0.14 -	A A A -	0.7	A	1.2 0.8 2.4 1.0	0.40 0.44 0.25 0.07	A A A A	1.0	A	0.7 1.5 19.8 1.0	0.46 0.58 0.47 0.04	A A B A	1.6	A	0.7 0.7 5.8 0.5	0.42 0.48 0.28 0.03	A A A A	0.8	A
2029 Build **WITH DRI RECOMMENDATIONS (OPTION 1)**	NB-TR SB-TL EB-L EB-LTR WB-LTR	75.7 23.3 275.6 262.6 -	1.03 0.93 1.52 1.49 -	E C F F -	135.4	F	48.8 55.0 102.5 101.3 1.5	0.91 1.03 0.87 0.85 0.09	D D F F A	64.4	E	78.9 223.8 273.8 298.1 1.0	0.95 1.44 1.51 1.51 0.03	E F F F A	200.8	F	65.7 63.9 110.6 110.7 0.5	0.94 1.04 0.97 0.98 0.04	E E F F A	76.4	E
2029 Build **WITH COMPLETE STREETS RECOMMENDATIONS (OPTION 4)**	NB-TR SB-TR EB-R WB-R	0.9 1.1 1.4 -	0.45 0.52 0.15 -	A A A -	1.0	A	1.2 1.2 2.8 1.0	0.40 0.51 0.27 0.07	A A A A	1.2	A	0.7 12.6 24.3 1.0	0.46 0.69 0.48 0.04	A B C A	8.0	A	0.8 1.7 8.0 0.5	0.42 0.56 0.29 0.03	A A A A	1.5	A

SYNCHRO LEVEL OF SERVICE SUMMARY FOR THE SIGNALIZED INTERSECTION AT JERUSALEM AVENUE & HERZOG PLACE

Condition	Mvmnt.	AM Peak Hour					Midday Peak Hour					PM Peak Hour					Midday Saturday Peak Hour				
		Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS
2019 Existing Condition	NB-L	8.2	0.15	A	18.2	B	5.4	0.03	A	15.4	B	11.0	0.22	B	19.4	B	6.3	0.10	A	13.8	B
	NB-TR	13.2	0.75	B			5.1	0.32	A			11.1	0.42	B			6.5	0.34	A		
	SB-L	11.6	0.15	B			6.1	0.06	A			11.1	0.12	B			6.7	0.07	A		
	SB-TR	7.5	0.27	A			5.5	0.19	A			11.8	0.43	B			6.1	0.19	A		
	EB-LTR	45.9	0.80	D			40.5	0.68	D			47.0	0.85	D			39.5	0.67	D		
	WB-LTR	36.1	0.69	D			39.8	0.65	D			28.7	0.60	C			31.3	0.44	C		
2029 No Build **WITH DRI TRAFFIC**	NB-L	2.2	0.17	A	16.9	B	3.5	0.03	A	15.2	B	14.0	0.28	B	20.0	B	3.5	0.12	A	12.9	B
	NB-TR	7.5	0.81	A			4.0	0.35	A			13.2	0.49	B			4.4	0.39	A		
	SB-L	12.6	0.20	B			6.5	0.07	A			13.2	0.15	B			7.1	0.08	A		
	SB-TR	7.3	0.29	A			5.8	0.21	A			13.9	0.49	B			6.6	0.22	A		
	EB-LTR	55.4	0.87	E			41.7	0.70	D			43.4	0.84	D			40.1	0.69	D		
	WB-LTR	38.5	0.73	D			39.5	0.66	D			26.6	0.59	C			30.9	0.45	C		
2029 Build **WITH DRI RECOMMENDATIONS (OPTION 1)**	NB-L	6.8	0.09	A	12.7	B	2.9	0.01	A	5.7	A	7.9	0.07	A	16.6	B	4.5	0.02	A	12.7	B
	NB-TR	4.2	0.58	A			1.9	0.44	A			4.1	0.44	A			1.8	0.29	A		
	N/A	-	-	-			-	-	-			-	-	-			-	-	-		
	N/A	-	-	-			-	-	-			-	-	-			-	-	-		
	EB-LTR	35.9	0.68	D			24.0	0.46	C			35.9	0.73	D			34.6	0.57	C		
	N/A	-	-	-			-	-	-			-	-	-			-	-	-		
2029 Build **WITH COMPLETE STREETS RECOMMENDATIONS (OPTION 4)**	NB-L	2.1	0.14	A	21.3	C	6.4	0.03	A	18.5	B	13.2	0.20	B	25.5	C	4.8	0.10	A	17.7	B
	NB-TR	9.8	0.86	A			7.8	0.40	A			15.1	0.55	B			6.6	0.43	A		
	SB-L	15.3	0.26	B			10.2	0.08	B			15.3	0.18	B			9.5	0.09	A		
	SB-TR	5.5	0.21	A			7.4	0.15	A			13.8	0.34	B			7.6	0.13	A		
	EB-LTR	47.0	0.81	D			27.6	0.55	C			39.8	0.82	D			34.5	0.65	C		
	SW-LTR	54.1	0.90	D			39.5	0.78	D			44.1	0.88	D			38.2	0.74	D		

SYNCHRO LEVEL OF SERVICE SUMMARY FOR THE UNSIGNALIZED INTERSECTION AT DUFFY AVENUE & NELSON AVENUE

Condition	Mvmnt.	AM Peak Hour					Midday Peak Hour					PM Peak Hour					Midday Saturday Peak Hour				
		Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS
2019 Existing Condition	NB-TL SB-TR EB-LR WB-LR	12.2 12.7 11.4 -	0.43 0.53 0.34 -	B B B -	12.2	B	8.5 8.3 9.3 -	0.11 0.21 0.29 -	A A A -	8.8	A	10.9 11.8 17.6 -	0.26 0.42 0.67 -	B B C -	14.6	B	8.7 8.4 9.3 -	0.16 0.19 0.28 -	A A A -	8.8	A
2029 No Build **WITH DRI TRAFFIC**	NB-TL SB-TR EB-LR WB-LR	12.9 13.7 11.9 -	0.46 0.56 0.37 -	B B B -	13.0	B	8.5 8.4 9.4 -	0.11 0.22 0.30 -	A A A -	8.9	A	11.4 12.7 21.4 -	0.28 0.46 0.74 -	B B C -	17.0	C	8.8 8.5 9.5 -	0.17 0.30 0.21 -	A A A -	9.0	A
2029 Build **WITH DRI RECOMMENDATIONS (OPTION 1)**	NB-TL SB-TR EB-LR WB-LR	12.8 9.2 13.3 -	0.47 0.18 0.51 -	B A B -	12.4	B	8.2 7.4 8.3 -	0.10 0.06 0.23 -	A A A -	8.1	A	10.2 8.6 15.1 -	0.25 0.10 0.64 -	B A B -	13.5	B	8.6 7.6 8.7 -	0.17 0.07 0.25 -	A A A -	8.5	A
2029 Build **WITH COMPLETE STREETS RECOMMENDATIONS (OPTION 4)**	NB-TL SB-TR EB-LR WB-LR	13.2 15.2 12.2 -	0.47 0.62 0.38 -	B B B -	13.9	B	8.6 9.0 9.6 -	0.11 0.29 0.30 -	A A A -	9.2	A	11.9 17.1 25.5 -	0.29 0.62 0.79 -	B B C -	20.3	C	9.0 9.2 9.8 -	0.17 0.29 0.31 -	A A A -	9.4	A

SYNCHRO LEVEL OF SERVICE SUMMARY FOR THE SIGNALIZED INTERSECTION AT
NYS 106 & DUFFY AVENUE

Condition	Mvmnt.	AM Peak Hour					Midday Peak Hour					PM Peak Hour					Midday Saturday Peak Hour				
		Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS
2019 Existing Condition	NB-L	26.0	0.70	C			16.3	0.32	B			26.2	0.41	C			11.4	0.15	B		
	NB-TR	42.7	0.83	D			29.4	0.58	C			46.8	0.80	D			23.4	0.55	C		
	SB-L	26.8	0.48	C			14.4	0.29	B			32.5	0.66	C			7.4	0.30	A		
	SB-T	37.1	0.63	D			22.2	0.53	C			88.9	1.12	F			12.3	0.57	B		
	SB-R	36.0	0.90	D	39.4	D	6.5	0.22	A	26.5	C	9.3	0.35	A	64.4	E	5.1	0.14	A	20.8	C
	EB-L	31.3	0.41	C			33.2	0.47	C			50.2	0.90	D			37.9	0.35	D		
	EB-T	27.3	0.12	C			29.7	0.17	C			27.4	0.36	C			35.6	0.13	D		
	EB-R	1.6	0.13	A			7.3	0.23	A			53.1	0.27	D			7.2	0.14	A		
	WB-LTR	60.4	0.85	E			66.6	0.78	E			143.2	0.90	F			69.5	0.76	E		
2029 No Build **WITH DRI TRAFFIC**	NB-L	43.2	0.84	D			10.3	0.33	B			27.8	0.49	C			6.8	0.18	A		
	NB-TR	61.2	0.95	E			22.2	0.57	C			34.3	0.78	C			17.9	0.59	B		
	SB-L	56.2	0.58	E			11.3	0.29	B			23.0	0.59	C			6.8	0.34	A		
	SB-T	45.6	0.81	D			16.5	0.52	B			77.4	1.03	E			7.3	0.60	A		
	SB-R	65.1	0.99	E	54.0	D	1.9	0.23	A	23.1	C	7.7	0.40	A	70.9	E	0.6	0.15	A	17.1	B
	EB-L	28.0	0.40	C			49.0	0.68	D			246.4	1.44	F			52.2	0.56	D		
	EB-T	25.0	0.12	C			36.4	0.22	D			36.8	0.48	D			42.1	0.16	D		
	EB-R	1.8	0.13	A			8.3	0.27	A			22.2	0.36	C			10.7	0.18	B		
	WB-LTR	60.7	0.87	E			66.1	0.79	E			71.8	0.88	E			69.6	0.77	E		
2029 Build **WITH DRI RECOMMENDATIONS (OPTION 1)**	NB-L	20.1	0.72	C			14.7	0.43	B			22.9	0.43	C			9.6	0.21	A		
	NB-TR	89.0	0.97	F			27.7	0.63	C			53.3	0.89	D			22.4	0.62	C		
	SB-L	46.8	0.58	D			12.1	0.35	B			38.1	0.63	D			6.0	0.38	A		
	SB-T	29.3	0.65	C			23.7	0.60	C			122.2	1.21	F			13.5	0.67	B		
	SB-R	27.5	0.86	C	52.0	D	8.3	0.22	A	25.1	C	9.7	0.35	A	81.4	F	4.5	0.14	A	19.3	B
	EB-L	43.8	0.48	D			39.1	0.49	D			64.0	0.94	E			41.2	0.36	D		
	EB-T	38.0	0.18	D			34.1	0.16	C			34.3	0.45	C			38.0	0.11	D		
	EB-R	3.0	0.18	A			12.9	0.28	B			94.3	0.34	F			9.6	0.17	A		
	WB-LTR	67.6	0.80	E			56.0	0.61	E			148.2	0.76	F			67.4	0.63	E		
2029 Build **WITH COMPLETE STREETS RECOMMENDATIONS (OPTION 4)**	NB-L	49.4	0.87	D			11.6	0.34	B			31.2	0.53	C			7.5	0.19	A		
	NB-TR	72.8	0.98	E			24.3	0.60	C			38.7	0.83	D			19.9	0.61	B		
	SB-L	55.6	0.59	E			12.3	0.30	B			32.5	0.67	C			8.5	0.36	A		
	SB-T	52.9	0.85	D			17.7	0.54	B			77.6	1.08	E			8.0	0.62	A		
	SB-R	62.6	1.01	E	59.5	E	2.0	0.24	A	24.2	C	8.4	0.41	A	67.5	E	0.6	0.15	A	18.6	B
	EB-L	26.5	0.38	C			44.5	0.64	D			194.8	1.32	F			50.3	0.56	D		
	EB-T	24.0	0.12	C			34.5	0.21	C			33.7	0.44	C			40.0	0.15	D		
	EB-R	1.7	0.13	A			7.7	0.26	A			20.6	0.33	C			10.1	0.17	B		
	WB-LTR	61.0	0.89	E			66.6	0.81	E			76.7	0.92	E			70.0	0.79	E		

SYNCHRO LEVEL OF SERVICE SUMMARY FOR THE SIGNALIZED INTERSECTION AT
NYS 106 & WEST MARIE STREET

Condition	Mvmnt.	AM Peak Hour					Midday Peak Hour					PM Peak Hour					Midday Saturday Peak Hour				
		Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS
2019 Existing Condition	NB-L	3.2	0.14	A	11.0	B	2.8	0.09	A	7.1	A	5.1	0.14	A	23.4	C	2.8	0.08	A	6.4	A
	NB-T	5.6	0.48	A			3.3	0.31	A			5.2	0.32	A			3.3	0.36	A		
	SB-LTR	15.5	0.35	B			7.4	0.39	A			30.1	0.68	C			6.7	0.50	A		
	EB-LTR	6.4	0.19	A			11.2	0.27	B			8.7	0.20	A			7.0	0.21	A		
	WB-L	66.2	0.40	E			64.2	0.34	E			77.3	0.69	E			63.9	0.28	E		
	WB-T	55.7	0.06	E			56.0	0.11	E			52.3	0.10	D			57.9	0.06	E		
	WB-R	23.5	0.41	C			1.6	0.15	A			12.1	0.26	B			13.9	0.31	B		
2029 No Build **WITH DRI TRAFFIC**	NB-L	3.5	0.17	A	10.0	A	3.0	0.10	A	5.3	A	7.0	0.20	A	12.4	B	3.2	0.11	A	4.1	A
	NB-T	6.9	0.53	A			3.5	0.35	A			6.2	0.38	A			3.8	0.42	A		
	SB-LTR	10.1	0.40	B			3.4	0.43	A			11.5	0.78	B			2.0	0.57	A		
	EB-LTR	7.1	0.21	A			12.8	0.29	B			8.9	0.20	A			8.2	0.23	A		
	WB-L	67.0	0.42	E			64.9	0.37	E			74.3	0.68	E			64.7	0.31	E		
	WB-T	55.4	0.07	E			56.0	0.12	E			50.3	0.10	D			57.6	0.06	E		
	WB-R	25.0	0.43	C			2.1	0.17	A			12.3	0.26	B			15.4	0.33	B		
2029 Build **WITH DRI RECOMMENDATIONS (OPTION 1)**	NB-L	4.8	0.19	A	13.4	B	3.6	0.12	A	9.2	A	8.2	0.24	A	52.0	D	3.9	0.13	A	8.6	A
	NB-T	8.8	0.54	A			4.7	0.38	A			6.8	0.39	A			4.9	0.44	A		
	SB-LTR	12.8	0.47	B			7.7	0.48	A			74.8	0.87	E			9.1	0.64	A		
	EB-LTR	6.0	0.18	A			25.3	0.43	C			9.1	0.18	A			7.3	0.20	A		
	WB-L	68.8	0.57	E			68.1	0.48	E			96.0	0.89	F			67.1	0.42	E		
	WB-T	50.9	0.05	D			53.4	0.10	D			50.7	0.09	D			55.3	0.05	E		
	WB-R	34.3	0.53	C			15.5	0.34	B			12.4	0.36	B			15.5	0.32	B		
2029 Build **WITH COMPLETE STREETS RECOMMENDATIONS (OPTION 4)**	NB-L	3.5	0.17	A	10.4	B	3.0	0.10	A	5.3	A	7.2	0.20	A	12.8	B	3.2	0.11	A	4.1	A
	NB-T	7.1	0.53	A			3.5	0.35	A			6.2	0.38	A			3.8	0.42	A		
	SB-TR	10.7	0.41	B			3.4	0.43	A			12.2	0.79	B			2.0	0.57	A		
	EB-LTR	7.1	0.21	A			12.8	0.29	B			8.9	0.20	A			8.2	0.23	A		
	WB-L	67.0	0.42	E			64.9	0.37	E			74.3	0.68	E			64.7	0.31	E		
	WB-T	55.4	0.07	E			56.0	0.12	E			50.3	0.10	D			57.6	0.06	E		
	WB-R	25.0	0.43	C			2.1	0.17	A			12.3	0.26	B			15.4	0.33	B		

SYNCHRO LEVEL OF SERVICE SUMMARY FOR THE SIGNALIZED INTERSECTION AT JERUSALEM AVENUE & WEST MARIE STREET

Condition	Mvmnt.	AM Peak Hour					Midday Peak Hour					PM Peak Hour					Midday Saturday Peak Hour				
		Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS
2019 Existing Condition	NB-LTR	36.8	0.83	D	26.6	C	6.1	0.32	A	9.8	A	16.9	0.50	B	20.0	C	6.2	0.40	A	9.6	A
	SB-LTR	9.3	0.51	A			8.1	0.43	A			17.8	0.82	B			7.5	0.43	A		
	EB-LTR	19.4	0.32	B			16.7	0.21	B			28.7	0.65	C			17.0	0.21	B		
	WB-LTR	27.1	0.58	C			19.5	0.30	B			22.3	0.44	C			20.4	0.33	C		
2029 No Build **WITH DRI TRAFFIC**	NB-LTR	32.0	0.88	C	24.7	C	5.9	0.35	A	10.1	B	8.4	0.53	A	19.9	B	7.5	0.45	A	11.0	B
	SB-LTR	9.3	0.55	A			8.7	0.46	A			19.9	0.87	B			9.8	0.49	A		
	EB-LTR	21.0	0.35	C			17.1	0.22	B			34.9	0.74	C			17.6	0.23	B		
	WB-LTR	29.8	0.63	C			20.1	0.32	C			25.1	0.49	C			21.1	0.35	C		
2029 Build **WITH DRI RECOMMENDATIONS (OPTION 1)**	NB-LTR	77.4	1.08	E	59.7	E	10.0	0.49	A	21.9	C	24.6	0.70	C	45.5	D	12.5	0.57	B	21.3	C
	SB-LTR	17.9	0.09	B			15.5	0.11	B			13.8	0.10	B			17.3	0.06	B		
	EB-LTR	14.8	0.26	B			16.4	0.29	B			20.5	0.52	C			13.4	0.19	B		
	WB-LTR	47.7	0.94	D			35.9	0.84	D			78.1	1.06	E			34.2	0.82	C		
2029 Build **WITH COMPLETE STREETS RECOMMENDATIONS (OPTION 4)**	NB-LTR	30.9	0.87	C	27.3	C	6.1	0.35	A	12.2	B	7.6	0.52	A	22.0	C	7.7	0.46	A	12.8	B
	SB-LTR	7.1	0.42	A			5.8	0.36	A			10.5	0.65	B			6.0	0.35	A		
	EB-LTR	21.0	0.35	C			16.5	0.21	B			34.9	0.74	C			16.9	0.23	B		
	WB-LTR	41.6	0.82	D			27.1	0.57	C			48.2	0.89	D			27.7	0.60	C		

SYNCHRO LEVEL OF SERVICE SUMMARY FOR THE SIGNALIZED INTERSECTION AT
NYS 107 & WEST MARIE STREET

Condition	Mvmnt.	AM Peak Hour					Midday Peak Hour					PM Peak Hour					Midday Saturday Peak Hour				
		Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS
2019 Existing Condition	NB-L	11.2	0.23	B	23.4	C	9.5	0.08	A	16.8	B	12.1	0.16	B	22.9	C	8.1	0.10	A	17.3	B
	NB-TR	11.7	0.48	B			11.0	0.47	B			12.6	0.52	B			8.5	0.43	A		
	SB-L	14.6	0.25	B			9.2	0.28	A			19.4	0.49	B			9.4	0.29	A		
	SB-TR	14.2	0.44	B			7.8	0.44	A			11.8	0.57	B			8.1	0.48	A		
	EB-LTR	51.8	0.57	D			38.5	0.38	D			67.6	0.83	E			69.2	0.77	E		
	WB-LTR	76.3	0.90	E			62.0	0.80	E			94.0	0.92	F			83.4	0.85	F		
2029 No Build **WITH DRI TRAFFIC**	NB-L	16.0	0.29	B	19.9	B	10.5	0.09	B	16.3	B	16.1	0.22	B	22.2	C	9.3	0.14	A	14.7	B
	NB-TR	15.6	0.56	B			12.4	0.50	B			15.4	0.61	B			9.8	0.52	A		
	SB-L	9.7	0.35	A			8.6	0.34	A			36.2	0.74	D			7.0	0.42	A		
	SB-TR	6.4	0.51	A			5.1	0.47	A			8.5	0.66	A			2.4	0.56	A		
	EB-LTR	46.0	0.52	D			38.9	0.46	D			65.1	0.83	E			70.6	0.79	E		
	WB-LTR	63.8	0.85	E			62.9	0.84	E			91.1	0.92	F			83.8	0.86	F		
2029 Build **WITH DRI RECOMMENDATIONS (OPTION 1)**	NB-L	42.0	0.65	D	280.9	F	25.8	0.31	C	83.7	F	66.1	0.60	E	86.5	F	55.6	0.53	E	140.9	F
	NB-TR	14.5	0.56	B			21.2	0.60	C			20.9	0.66	C			17.8	0.60	B		
	SB-L	1.5	0.22	A			5.8	0.48	A			27.7	0.87	C			16.3	0.58	B		
	SB-TR	4.5	0.76	A			4.9	0.81	A			97.0	1.16	F			13.1	0.87	B		
	EB-LTR	1613.1	4.51	F			437.7	1.88	F			253.2	1.45	F			697.0	2.47	F		
	WB-LTR	123.8	0.90	F			36.9	0.58	D			49.5	0.60	D			41.3	0.40	D		
2029 Build **WITH COMPLETE STREETS RECOMMENDATIONS (OPTION 4)**	NB-L	17.9	0.34	B	19.4	B	10.9	0.11	B	15.6	B	22.7	0.32	C	22.3	C	10.4	0.17	B	14.3	B
	NB-TR	15.6	0.56	B			12.4	0.50	B			15.4	0.61	B			9.8	0.52	A		
	SB-L	9.1	0.35	A			7.4	0.34	A			33.1	0.74	C			6.6	0.42	A		
	SB-TR	6.1	0.56	A			4.4	0.52	A			10.4	0.75	B			2.6	0.62	A		
	EB-LTR	46.0	0.52	D			38.9	0.46	D			65.1	0.83	E			70.6	0.79	E		
	WB-LTR	63.8	0.85	E			62.9	0.84	E			91.1	0.92	F			83.8	0.86	F		

SYNCHRO LEVEL OF SERVICE SUMMARY FOR THE SIGNALIZED INTERSECTION AT
NYS 106 & WEST OLD COUNTRY ROAD

Condition	Mvmnt.	AM Peak Hour					Midday Peak Hour					PM Peak Hour					Midday Saturday Peak Hour				
		Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS
2019 Existing Condition	NB-L	87.6	0.62	F	66.5	E	87.8	0.65	F	54.9	D	88.9	0.69	F	97.5	F	89.6	0.71	F	60.6	E
	NB-T	76.2	0.96	E			72.8	0.81	E			49.2	0.49	D			66.3	0.76	E		
	NB-R	33.0	0.47	C			49.5	0.61	D			33.4	0.48	C			41.8	0.51	D		
	SB-L	98.2	0.82	F			136.4	1.04	F			124.8	0.99	F			165.0	1.15	F		
	SB-T	45.9	0.49	D			62.7	0.70	E			126.4	1.15	F			66.6	0.82	E		
	SB-R	28.4	0.30	C			39.4	0.44	D			28.2	0.31	C			40.9	0.60	D		
	EB-L	84.6	0.73	F			83.9	0.77	F			85.3	0.79	F			83.5	0.82	F		
	EB-T	62.8	0.86	E			40.9	0.64	D			90.6	1.03	F			45.3	0.65	D		
	EB-R	26.6	0.08	C			18.7	0.16	B			27.8	0.20	C			21.6	0.17	C		
	WB-L	105.3	0.90	F			103.6	0.74	F			190.2	1.24	F			110.4	0.80	F		
	WB-T	76.0	1.07	E			25.2	0.72	C			90.8	1.11	F			27.5	0.67	C		
	WB-R	17.6	0.35	B			13.9	0.17	B			14.6	0.14	B			17.3	0.15	B		
2029 No Build **WITH DRI TRAFFIC**	NB-L	91.6	0.67	F	70.6	E	91.4	0.70	F	61.3	E	263.5	1.35	F	115.0	F	91.0	0.74	F	62.3	E
	NB-T	97.8	1.05	F			72.2	0.83	E			52.3	0.58	D			67.1	0.82	E		
	NB-R	33.3	0.49	C			46.6	0.60	D			36.8	0.53	D			39.7	0.51	D		
	SB-L	148.7	1.05	F			114.7	0.97	F			154.4	1.11	F			136.7	1.07	F		
	SB-T	51.5	0.61	D			57.8	0.68	E			136.8	1.19	F			62.7	0.82	E		
	SB-R	34.4	0.37	C			34.0	0.44	C			28.8	0.38	C			35.9	0.61	D		
	EB-L	111.3	0.92	F			77.3	0.72	E			180.4	1.21	F			75.3	0.79	E		
	EB-T	62.1	0.88	E			49.1	0.76	D			83.2	1.01	F			54.2	0.78	D		
	EB-R	24.8	0.08	C			23.5	0.27	C			32.2	0.28	C			25.4	0.25	C		
	WB-L	60.4	0.91	E			75.6	0.73	E			259.4	1.46	F			87.7	0.83	F		
	WB-T	72.0	1.05	E			66.5	0.92	E			96.1	1.08	F			54.8	0.91	D		
	WB-R	27.3	0.37	C			22.0	0.19	C			21.0	0.14	C			22.4	0.17	C		
2029 Build **WITH DRI RECOMMENDATIONS (OPTION 1)**	NB-L	87.5	0.64	F	83.7	F	88.9	0.68	F	59.3	E	90.2	0.72	F	162.7	F	91.0	0.74	F	65.6	E
	NB-T	88.5	1.05	F			68.7	0.81	E			51.3	0.57	D			59.4	0.73	E		
	NB-R	33.2	0.49	C			44.3	0.58	D			34.2	0.51	C			36.2	0.48	D		
	SB-L	102.1	0.86	F			151.9	1.11	F			138.9	1.06	F			187.2	1.22	F		
	SB-T	52.1	0.71	D			63.8	0.79	E			308.2	1.60	F			70.7	0.92	E		
	SB-R	28.5	0.33	C			35.5	0.46	D			29.3	0.38	C			37.3	0.63	D		
	EB-L	85.6	0.76	F			85.8	0.82	F			59.9	0.86	E			89.2	0.90	F		
	EB-T	75.8	0.96	E			47.6	0.74	D			109.8	1.10	F			55.5	0.80	E		
	EB-R	26.4	0.09	C			22.9	0.26	C			28.7	0.27	C			26.0	0.25	C		
	WB-L	105.0	0.94	F			106.7	0.75	F			216.9	1.32	F			111.2	0.85	F		
	WB-T	134.0	1.20	F			38.8	0.88	D			149.0	1.25	F			41.3	0.88	D		
	WB-R	17.8	0.39	B			16.1	0.19	B			14.8	0.15	B			20.2	0.18	C		
2029 Build **WITH COMPLETE STREETS RECOMMENDATIONS (OPTION 4)**	NB-L	91.6	0.67	F	70.9	E	91.4	0.70	F	61.2	E	263.5	1.35	F	116.7	F	91.0	0.74	F	62.5	E
	NB-T	97.8	1.05	F			72.2	0.83	E			52.3	0.58	D			67.1	0.82	E		
	NB-R	33.3	0.49	C			46.6	0.60	D			36.8	0.53	D			39.7	0.51	D		
	SB-L	148.7	1.05	F			114.7	0.97	F			154.4	1.11	F			136.7	1.07	F		
	SB-T	51.8	0.62	D			58.2	0.69	E			143.0	1.20	F			62.7	0.82	E		
	SB-R	34.3	0.37	C			34.0	0.44	C			28.8	0.38	C			35.9	0.61	D		
	EB-L	111.3	0.92	F			77.3	0.72	E			180.4	1.21	F			75.3	0.79	E		
	EB-T	62.1	0.88	E			49.1	0.76	D			83.2	1.01	F			54.2	0.78	D		
	EB-R	24.8	0.08	C			23.5	0.27	C			32.2	0.28	C			25.4	0.25	C		
	WB-L	61.6	0.91	E			75.9	0.73	E			259.7	1.46	F			90.0	0.83	F		
	WB-T	73.0	1.05	E			65.8	0.92	E			97.0	1.08	F			54.6	0.91	D		
	WB-R	27.4	0.37	C			22.1	0.19	C			21.0	0.14	C			22.7	0.17	C		

SYNCHRO LEVEL OF SERVICE SUMMARY FOR THE SIGNALIZED INTERSECTION AT JERUSALEM AVENUE & WEST OLD COUNTRY ROAD

Condition	Mvmnt.	AM Peak Hour					Midday Peak Hour					PM Peak Hour					Midday Saturday Peak Hour				
		Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS
2019 Existing Condition	NB-L	205.5	1.33	F	86.4	F	107.8	1.01	F	44.7	D	154.7	1.17	F	69.9	E	141.6	1.14	F	49.7	D
	NB-TR	151.3	1.20	F			54.4	0.62	D			63.0	0.78	E			62.5	0.77	E		
	SB-L	66.3	0.72	E			55.9	0.38	E			80.1	0.93	F			54.8	0.43	D		
	SB-TR	65.4	0.62	E			85.2	0.79	F			100.5	1.03	F			81.0	0.78	F		
	EB-L	50.7	0.69	D			15.5	0.39	B			35.4	0.44	D			18.1	0.28	B		
	EB-T	48.2	0.83	D			23.3	0.59	C			56.3	0.91	E			30.8	0.67	C		
	EB-R	13.1	0.14	B			8.3	0.16	A			14.3	0.20	B			11.7	0.22	B		
	WB-L	38.8	0.74	D			24.4	0.41	C			69.5	0.95	E			30.1	0.60	C		
	WB-T	63.2	0.83	E			40.4	0.52	D			58.9	0.80	E			39.1	0.50	D		
	WB-R	12.2	0.09	B			2.8	0.04	A			0.1	0.03	A			10.9	0.07	B		
2029 No Build **WITH DRI TRAFFIC**	NB-L	95.6	1.05	F	61.1	E	67.1	0.86	E	35.0	D	124.2	1.08	F	57.4	E	84.5	0.96	F	45.8	D
	NB-TR	74.9	0.98	E			44.7	0.52	D			65.4	0.82	E			50.1	0.65	D		
	SB-L	94.9	0.94	F			43.5	0.40	D			61.0	0.89	E			42.9	0.43	D		
	SB-TR	66.1	0.75	E			74.0	0.81	E			99.3	1.06	F			72.9	0.83	E		
	EB-L	95.1	1.01	F			21.6	0.50	C			46.7	0.67	D			18.6	0.38	B		
	EB-T	63.2	1.00	E			21.6	0.71	C			49.2	1.03	D			31.7	0.83	C		
	EB-R	19.8	0.14	B			6.7	0.18	A			9.5	0.21	A			10.5	0.24	B		
	WB-L	111.3	1.03	F			35.7	0.54	D			137.7	1.12	F			63.4	0.77	E		
	WB-T	29.3	0.98	C			25.8	0.62	C			18.5	0.92	B			45.6	0.60	D		
	WB-R	0.1	0.10	A			0.2	0.05	A			0.0	0.03	A			4.8	0.08	A		
2029 Build **WITH DRI RECOMMENDATIONS (OPTION 1)**	NB-L	189.9	1.29	F	95.0	F	117.6	1.05	F	44.9	D	163.9	1.20	F	64.8	E	158.0	1.19	F	52.2	D
	NB-TR	190.7	1.30	F			61.8	0.74	E			72.1	0.88	E			65.1	0.82	E		
	SB-L	63.7	0.74	E			38.7	0.46	D			73.2	0.85	E			37.8	0.48	D		
	SB-TR	49.5	0.54	D			56.4	0.77	E			51.0	0.85	D			53.7	0.76	D		
	EB-L	62.6	0.78	E			21.8	0.46	C			40.7	0.53	D			23.6	0.34	C		
	EB-T	55.7	0.91	E			29.4	0.66	C			60.8	0.97	E			41.6	0.77	D		
	EB-R	13.8	0.16	B			9.8	0.18	A			14.4	0.21	B			13.7	0.24	B		
	WB-L	40.3	0.82	D			25.6	0.48	C			57.8	0.93	E			17.6	0.69	B		
	WB-T	64.3	0.91	E			43.2	0.58	D			60.5	0.87	E			42.6	0.56	D		
	WB-R	12.2	0.09	B			9.6	0.07	A			0.0	0.03	A			11.5	0.08	B		
2029 Build **WITH COMPLETE STREETS RECOMMENDATIONS (OPTION 4)**	NB-L	72.0	0.96	E	58.3	E	65.4	0.84	E	33.6	C	123.4	1.08	F	51.7	D	81.6	0.94	F	43.8	D
	NB-TR	74.9	0.98	E			47.2	0.55	D			69.3	0.86	E			56.2	0.73	E		
	SB-L	94.2	0.94	F			46.5	0.44	D			71.4	0.91	E			52.1	0.52	D		
	SB-TR	56.3	0.62	E			73.7	0.78	E			69.9	0.90	E			73.2	0.78	E		
	EB-L	95.1	1.01	F			19.1	0.48	B			44.9	0.65	D			16.0	0.35	B		
	EB-T	63.2	1.00	E			20.1	0.68	C			49.2	1.03	D			29.1	0.79	C		
	EB-R	19.8	0.14	B			6.1	0.17	A			9.5	0.21	A			9.7	0.23	A		
	WB-L	111.3	1.03	F			31.4	0.51	C			112.5	1.03	F			51.3	0.68	D		
	WB-T	29.3	0.98	C			24.5	0.60	C			17.7	0.91	B			42.2	0.57	D		
	WB-R	0.1	0.10	A			0.2	0.05	A			0.0	0.03	A			4.7	0.08	A		

SYNCHRO LEVEL OF SERVICE SUMMARY FOR THE SIGNALIZED INTERSECTION AT
NYS 107 & WEST OLD COUNTRY ROAD

Condition	Mvmnt.	AM Peak Hour					Midday Peak Hour					PM Peak Hour					Midday Saturday Peak Hour				
		Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS
2019 Existing Condition	NB-L	192.3	1.27	F	65.9	E	144.1	1.16	F	57.4	E	134.1	1.11	F	78.1	E	232.7	1.38	F	80.2	F
	NB-T	113.5	1.08	F			76.0	0.90	E			130.2	1.13	F			113.4	1.08	F		
	NB-R	36.9	0.12	D			39.9	0.28	D			39.8	0.26	D			43.5	0.39	D		
	SB-L	106.6	1.00	F			176.2	1.23	F			108.1	1.01	F			94.0	0.95	F		
	SB-T	91.6	0.99	F			67.4	0.79	E			174.2	1.25	F			147.8	1.18	F		
	SB-R	38.0	0.22	D			41.2	0.29	D			40.3	0.28	D			42.3	0.32	D		
	EB-L	33.0	0.77	C			15.2	0.38	B			28.9	0.64	C			13.4	0.38	B		
	EB-T	33.6	0.70	C			31.8	0.53	C			29.4	0.71	C			30.8	0.57	C		
	EB-R	18.4	0.38	B			31.0	0.45	C			19.0	0.47	B			25.3	0.38	C		
	WB-L	29.4	0.62	C			23.3	0.51	C			31.1	0.64	C			22.8	0.49	C		
	WB-T	42.5	0.77	D			31.2	0.47	C			41.9	0.79	D			31.1	0.48	C		
	WB-R	17.3	0.21	B			15.7	0.19	B			16.3	0.21	B			15.1	0.16	B		
2029 No Build **WITH DRI TRAFFIC**	NB-L	123.0	1.08	F	76.9	E	55.0	0.85	D	46.5	D	106.6	1.01	F	74.8	E	102.0	1.01	F	56.4	E
	NB-T	83.7	0.99	F			68.8	0.87	E			79.2	0.98	E			58.2	0.86	E		
	NB-R	30.9	0.11	C			35.2	0.26	D			33.6	0.23	C			30.9	0.30	C		
	SB-L	115.8	1.04	F			72.8	0.89	E			105.9	1.01	F			82.1	0.91	F		
	SB-T	97.0	1.03	F			59.7	0.74	E			99.7	1.07	F			78.0	0.99	E		
	SB-R	33.3	0.21	C			35.8	0.26	D			35.2	0.25	D			32.3	0.26	C		
	EB-L	110.7	1.08	F			29.8	0.57	C			96.0	1.00	F			53.8	0.72	D		
	EB-T	59.1	0.88	E			32.1	0.76	C			63.1	0.94	E			37.1	0.91	D		
	EB-R	17.5	0.43	B			12.5	0.52	B			22.7	0.56	C			13.3	0.47	B		
	WB-L	77.0	0.86	E			50.2	0.76	D			125.9	1.05	F			94.0	0.94	F		
	WB-T	79.0	1.01	E			47.6	0.67	D			75.9	1.02	E			54.0	0.76	D		
	WB-R	23.8	0.27	C			19.4	0.23	B			20.7	0.28	C			24.8	0.26	C		
2029 Build **WITH DRI RECOMMENDATIONS (OPTION 1)**	NB-L	220.0	1.34	F	100.0	F	233.0	1.38	F	70.0	E	153.4	1.17	F	136.5	F	266.7	1.47	F	106.9	F
	NB-T	167.9	1.24	F			92.2	0.99	F			196.7	1.31	F			187.2	1.29	F		
	NB-R	36.6	0.13	D			39.8	0.29	D			39.6	0.28	D			43.6	0.41	D		
	SB-L	131.6	1.09	F			221.3	1.35	F			150.7	1.16	F			145.7	1.14	F		
	SB-T	200.7	1.32	F			77.4	0.91	E			367.5	1.73	F			194.7	1.31	F		
	SB-R	36.9	0.22	D			41.1	0.30	D			40.4	29.00	D			42.4	0.33	D		
	EB-L	80.7	1.02	F			16.6	0.45	B			45.4	0.73	D			13.5	0.44	B		
	EB-T	35.8	0.75	D			34.0	0.59	C			32.3	0.75	C			31.7	0.63	C		
	EB-R	18.6	0.40	B			30.8	0.48	C			21.4	0.50	C			23.7	0.41	C		
	WB-L	38.5	0.71	D			26.6	0.59	C			38.2	0.70	D			25.9	0.57	C		
	WB-T	49.5	0.86	D			33.0	0.53	C			46.2	0.86	D			32.5	0.53	C		
	WB-R	18.7	0.24	B			16.3	0.22	B			17.1	0.25	B			15.9	0.21	B		
2029 Build **WITH COMPLETE STREETS RECOMMENDATIONS (OPTION 4)**	NB-L	123.0	1.08	F	76.9	E	55.0	0.85	D	46.8	D	106.6	1.01	F	74.7	E	102.0	1.01	F	56.7	E
	NB-T	83.7	0.99	F			68.8	0.87	E			79.2	0.98	E			58.2	0.86	E		
	NB-R	30.9	0.11	C			35.2	0.26	D			33.6	0.23	C			30.9	0.30	C		
	SB-L	115.8	1.04	F			72.8	0.89	E			105.9	1.01	F			82.1	0.91	F		
	SB-T	97.0	1.03	F			59.7	0.74	E			99.7	1.07	F			78.0	0.99	E		
	SB-R	33.3	0.21	C			35.8	0.26	D			35.2	0.25	D			32.3	0.26	C		
	EB-L	110.7	1.08	F			30.2	0.57	C			94.9	1.00	F			51.8	0.72	D		
	EB-T	59.0	0.88	E			33.5	0.76	C			63.0	0.94	E			39.0	0.91	D		
	EB-R	17.4	0.43	B			13.4	0.52	B			22.8	0.56	C			14.6	0.47	B		
	WB-L	77.0	0.86	E			50.2	0.76	D			125.9	1.05	F			94.0	0.94	F		
	WB-T	79.0	1.01	E			47.6	0.67	D			75.9	1.02	E			54.0	0.76	D		
	WB-R	23.8	0.27	C			19.4	0.23	B			20.7	0.28	C			24.8	0.26	C		

SYNCHRO LEVEL OF SERVICE SUMMARY FOR THE PROPOSED SIGNALIZED INTERSECTION AT JOHN STREET & MARION PLACE

Condition	Mvmnt.	AM Peak Hour					Midday Peak Hour					PM Peak Hour					Midday Saturday Peak Hour				
		Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS
2029 Build **WITH DRI RECOMMENDATIONS (OPTION 1)**	NB-L	40.3	0.17	D	3.3	A	41.1	0.23	D	4.1	A	41.7	0.31	D	5.7	A	41.1	0.23	D	4.1	A
	NB-R	15.7	0.23	B			16.0	0.19	B			30.8	0.38	C			15.4	0.21	B		
	EB-T	2.3	0.26	A			2.8	0.23	A			4.5	0.50	A			2.8	0.24	A		
	WB-T	2.4	0.27	A			2.8	0.24	A			3.3	0.31	A			2.8	0.24	A		

SYNCHRO LEVEL OF SERVICE SUMMARY FOR THE UNSIGNALIZED INTERSECTION AT
WEST BARCLAY & WYCKOFF STREET

Condition	Mvmnt.	AM Peak Hour					Midday Peak Hour					PM Peak Hour					Midday Saturday Peak Hour				
		Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS	Mvmnt. Delay (sec/veh)	Mvmnt. V/C Ratio	Mvmnt. LOS	Inter. Delay (sec/veh)	Inter. LOS
2029 Build **WITH DRI RECOMMENDATIONS (OPTION 1)**	NB-L	15.6	0.18	C	6.3	A	9.8	0.08	A	5.0	A	12.7	0.24	B	5.2	A	9.5	0.06	A	4.9	A
	NB-R	15.6	0.18	C			9.8	0.08	A			12.7	0.24	B			9.5	0.06	A		
	SB-L	27.0	0.11	D			11.0	0.01	B			16.0	0.07	C			11.3	0.03	B		
	SB-T	21.0	0.11	C			10.2	0.02	B			13.6	0.07	B			10.5	0.03	B		
	SB-R	15.0	0.08	B			9.3	0.02	A			11.2	0.06	B			9.6	0.02	A		
	EB-T	0.0	0.06	A			0.0	0.03	A			0.0	0.11	A			0.0	0.03	A		
	EB-R	0.0	0.06	A			0.0	0.03	A			0.0	0.11	A			0.0	0.03	A		
	WB-L	1.9	0.20	A			0.4	0.05	A			0.6	0.07	A			0.4	0.06	A		
	WB-T	5.0	0.20	A			3.8	0.05	A			3.1	0.07	A			4.4	0.06	A		