Capital District Transportation Committee (CDTC)/ Capital District Regional Planning Commission (CDRPC) Technical Assistance Program

TECHNICAL MEMORANDUM

Village of Scotia

NY 5 & NY 50 Intersection Traffic and Complete Streets Case Study Review

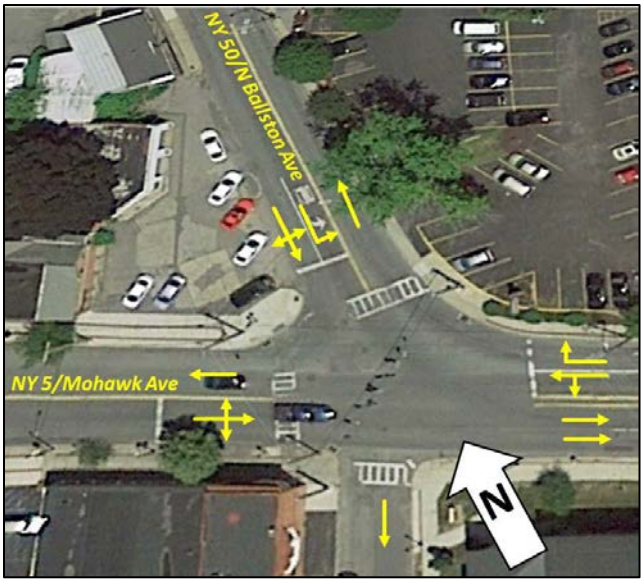
September 2019

Background

The primary objective of this analysis is to evaluate conditions at the intersection of NY 5/Mohawk Ave and NY 50/N Ballston Ave, in the Village of Scotia. The intersection has a high volume of traffic and is adjacent to Collins Park and the Village's Central Business District. The pavement cross-section at this intersection is wide and contains a right turn only lane from NY 5/Mohawk Ave westbound to NY 50/N Ballston Ave northbound, and dual left-turn lanes from NY 50/N Ballston Ave southbound to NY 5/Mohawk Ave eastbound, to accommodate morning and evening peak hour commuter traffic. On the eastbound NY 5/Mohawk Ave approach, drivers often improvise an additional through lane. Traffic often passes through the Village at higher than desired speeds and the current design favors motor vehicles over other roadway users. The Study Area and Lane Configuration are shown in Figure 1, below.

This effort seeks to evaluate, at a conceptual level of detail, travel conditions at the NY 5/Mohawk Ave and NY 50/N Ballston Ave intersection, in the context of providing a safe and enjoyable experience for all roadway users, including pedestrians, bicyclists, and mass transit riders. The information provided will assist the Village in assessing the need to undertake a more detailed planning study of the entire NY 5/Mohawk Ave corridor through the Central Business District in the future.

Figure 1: Study Area and Lane Configuration



Purpose and Scope of Work

CDTC and CDRPC completed the following tasks as described further in the Technical Assistance Award Letter Scope of Work, included as an attachment to this document:

- Task 1: Inventory and assess existing conditions
- Task 2: Complete Street Case Study Review
- Task 3: Informational Meeting

- Task 4: Technical Memorandum Preparation

Inventory and Assess Existing Conditions

Site Visit

CDTC staff met with Village of Scotia staff at the NY 5/Mohawk Ave and NY 50/N Ballston Ave intersection on June 3, 2019, and June 6, 2019. At the meetings, current conditions and data collection methodology were discussed. Existing transportation infrastructure and operations were cataloged. The following is a general list of the discussion and observations made during the site visit:

- The Village desires to make their Central Business District more attractive for all modes of transportation, including bicyclists, pedestrians, and transit riders.
- There are heavy left-turning movements from NY 50/N Ballston Ave southbound to NY 5/Mohawk Ave eastbound during the AM peak hour, and likewise, heavy right turning movements from NY 5/Mohawk Ave westbound to NY 50/N Ballston Ave northbound in the PM peak hour.
- Motorists often improvise an additional eastbound through lane on NY 5/Mohawk Ave
- Motorists on NY 5/Mohawk Ave westbound from the Western Gateway Bridge are often traveling at a higher than the desired rate of speed.

Roadway Characteristics

CDTC inventoried existing roadway conditions in the study area. Table 1, below, displays basic descriptive and geometric roadway characteristics including posted speed limit, total pavement width, the total number of lanes, lane width, etc.

Table 1: Study Area Roadway Characteristics

	NY 50/N Ballston Ave	S Ballston Ave	NY 5/Mohawk Ave	NY 5/Mohawk Ave
Leg	North	South	East	West
Posted Speed Limit	30 mph	30 mph	30 mph	30 mph
Total Pavement Width*	35’	24’	48’	40’
Total Number of Lanes	3	1	4	2
Lane Width*	SB right/thru/left: 10’ SB left: 10’ NB departure: 15’	SB departure: 24’ (includes on-street parking)	WB right: 12’ WB thru/left: 10’ EB departure (1): 12’ EB departure (2): 10’	EB right/thru/left: 19’ WB departure: 19’
Median	No	No	Yes: 4’ (striped)	No
Sidewalks	Yes, both sides	Yes, both sides	Yes, both sides	Yes, both sides
Bicycle Lanes	No	No	No	No
Transit Amenities	None	None	Stop with sign only	Stop with sign only
AADT	15,970 (2016 actual)	Not available	27,817 (2016 forecast)	12,305 (2016 forecast)

*Widths are approximate and should be verified before proceeding with a detailed design.

There are sidewalks and curb ramps on all four (4) legs of the intersection. There are crosswalks across NY 50/N Ballston Ave, S Ballston Ave, and NY 5/Mohawk Ave on the western leg of the intersection. There is no crosswalk across the eastern leg of NY 5/Mohawk Ave. There are pedestrian signal heads and push buttons to cross NY 50/N Ballston Ave and NY 5/Mohawk Ave on the western portion of the intersection. There are no pedestrian signal heads or push buttons to cross S Ballston Ave or the eastern leg of NY 5/Mohawk Ave.

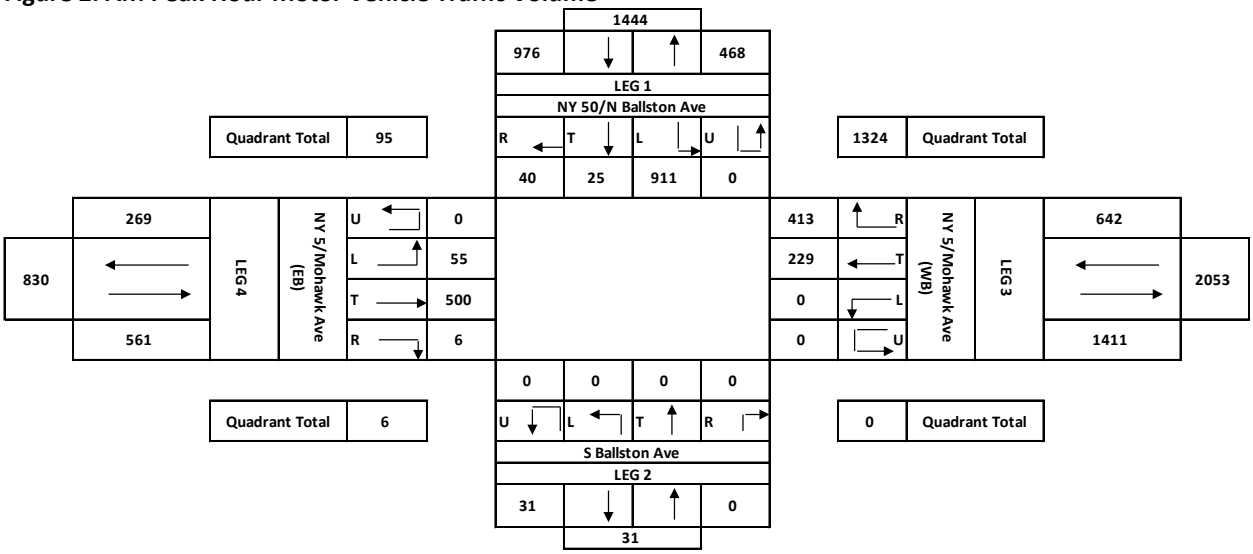
There are three (3) CDTA bus stops near the intersection, described further in the *CDTA Transit Information* section below.

Traffic Volume Data

Village staff, as part of its in-kind service commitment, collected motor vehicle, pedestrian and bicycle traffic volume data. Data was collected on June 6, 2019, during the morning (7:00 AM – 9:00 AM) and evening (4:00 PM – 6:00 PM) peak periods at the intersection of NY 5/Mohawk Ave and NY 50/N Ballston Ave.

Figure 2, below, displays AM Peak Hour Motor Vehicle Traffic Volumes. The observed AM Peak Hour was 7:15 AM – 8:15 AM.

Figure 2: AM Peak Hour Motor Vehicle Traffic Volume



During the AM Peak Motor Vehicle Traffic Hour, 7:15 AM to 8:15 AM, there were 2 bicycles observed, both traveling along NY 5/Mohawk Ave westbound. During the same period, there were 11 pedestrians observed, shown in Figure 3.

Figure 3: AM Peak Hour Pedestrian Traffic Volume

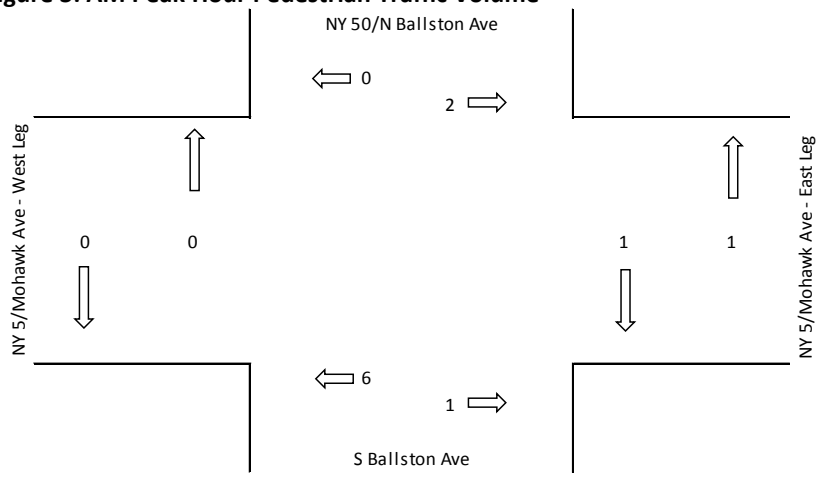
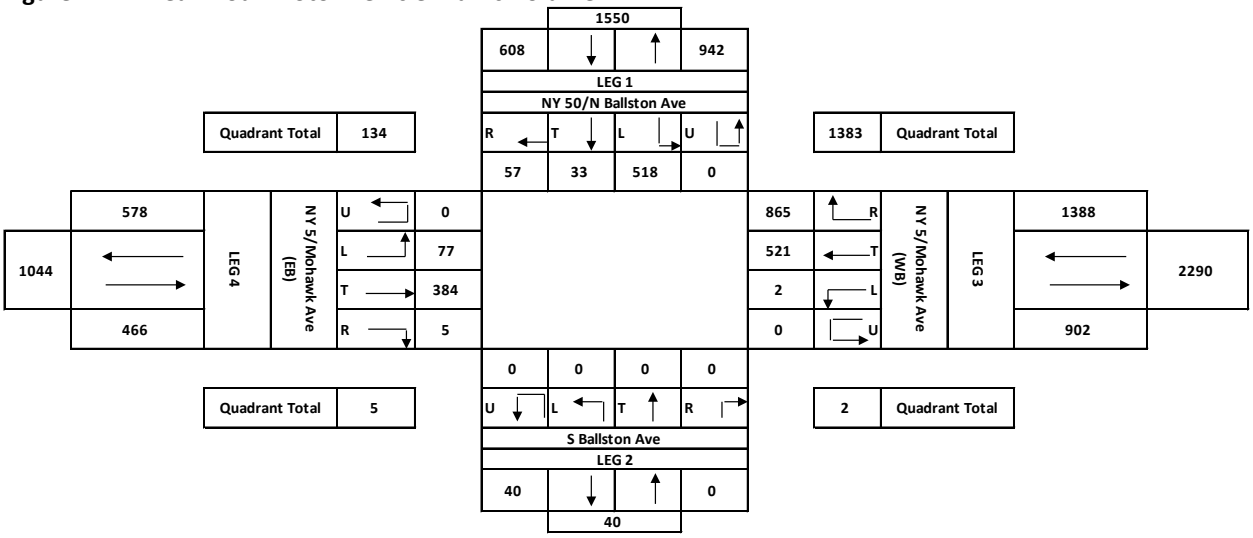


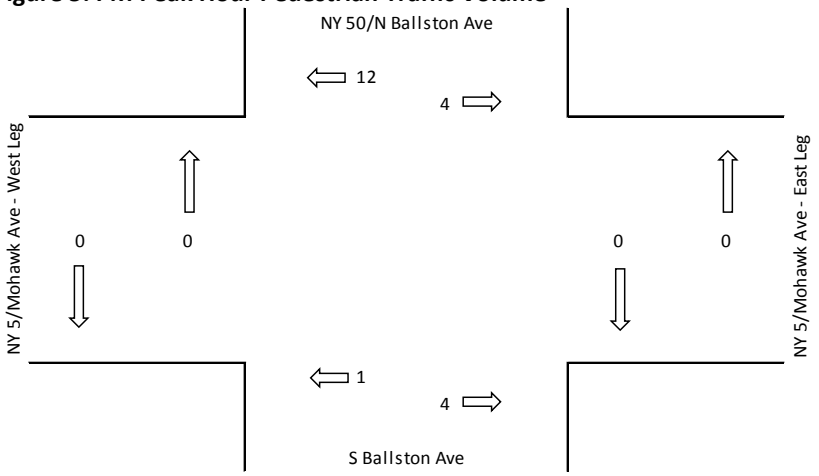
Figure 4, below, displays PM Peak Hour Motor Vehicle Traffic Volumes. The observed PM Peak Hour was 4:45 PM – 5:45 PM.

Figure 4: PM Peak Hour Motor Vehicle Traffic Volume



During the PM Peak Motor Vehicle Traffic Hour, 4:45 PM to 5:45 PM, there were five (5) bicycles observed, one (1) traveling along NY 5/Mohawk Ave westbound, one (1) traveling from NY 50/N Ballston Ave southbound to NY 5/Mohawk Ave eastbound, and three (3) traveling on NY 5/Mohawk Ave eastbound. During the same period, there were a total of twenty-one (21) pedestrians observed, shown in Figure 5.

Figure 5: PM Peak Hour Pedestrian Traffic Volume



The entire data set of AM and PM peak hour motor vehicle, pedestrian, and bicycle counts collected are attached to this document.

Level-of-Service (LOS) Analysis

A planning/sketch level-of-service (LOS) analysis was performed using Highway Capacity Software (HCS) Streets Version 7.6. HCS is a tool to implement the procedures defined in the Highway Capacity Manual. A LOS analysis was completed for the current AM and PM peak motor vehicle traffic hours, and the AM and PM peak hours with the removal of one southbound NY 50/N Ballston Ave left-turn lane (i.e. one lane for all turn movements on southbound NY 50/N Ballston Ave), for discussion purposes only.

Table 2: Planning/Sketch-Level LOS Analysis

	AM Peak (current)		AM Peak (remove one SB lane)		PM Peak (current)		PM Peak (remove one SB lane)	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
NY 5/Mohawk Ave Eastbound Approach	22.0	C	22.0	C	20.9	C	20.9	C
NY 5/Mohawk Ave Westbound Approach	6.3	A	6.3	A	8.5	A	8.5	A
NY 50/N Ballston Ave Southbound Approach	102.5	F	143.3	F	24.9	C	30.6	D
Intersection	**53.4**	**D**	**71.7**	**E**	**14.9**	**B**	**16.3**	**B**

Currently, the intersection is operating with 54 seconds of delay/vehicle (LOS D) during the AM peak, and 15 seconds of delay/vehicle (LOS B) in the PM peak. Based on this preliminary analysis, removing

the southbound NY 50/N Ballston Ave left-turn lane would result in an additional +/- 41 seconds of delay/vehicle in the AM peak and +/- 6 seconds of delay on the PM peak, for vehicles using the NY 50/N Ballston Ave southbound approach.

The HCS tool is sufficient for evaluating motor vehicle level-of-service; however, it is not the best tool for evaluating the level-of-service for all users. The Village is strongly encouraged to consider using a multi-modal approach to design at the intersection. This LOS analysis was completed at a planning/sketch level and should be verified before proceeding with a detailed design.

Crash Data

Data for crashes within the Village of Scotia was extracted from the New York State ALIS (Accident Location Information System) LESQR (Location Editing, Simple Query, and Reporting)/QRA (Query, Report, and Analysis) database containing data from the NYS DMV and DOT for a five (5)-year time period from March 1, 2014 through February 28, 2019.

A total of 853 crashes occurred within the Village during the five (5)-year period. A summary of crash types can be found in Table 3. 728 (85.3%) of the crashes involved collisions between two (2) or more motor vehicles. 21 (2.5%) of the crashes involved pedestrians and 8 (0.9%) involved bicyclists. The output data is summarized in an Excel spreadsheet, to be provided to the Village.

Table 3: Summary of Crash Type (All Crashes)

Crash Type	Number	Percent
Collision With Motor Vehicle	728	85.3%
Collision With Light Support/Utility Pole	21	2.5%
Collision With Pedestrian	14	1.6%
Collision With Fire Hydrant	9	1.1%
Collision With Other Fixed Object	9	1.1%
Collision With Bicyclist	8	0.9%
Collision With Building/Wall	8	0.9%
Collision With Curbing	8	0.9%
Other	48	5.6%
Total	**853**	**100.0%**

Further analysis, including factors such as lighting conditions, weather, collision type, and severity led to the following highlights:

- The majority (73%) of crashes occurred in daylight. There were 161 (19%) crashes on dark, lit roadways, and a combined 48 (6%) crashes occurred during dawn or dusk.
- The majority (61%) of crashes occurred in clear weather. There were 87 (10%) crashes in the rain, and 31 (4%) crashes in the snow.
- The most common collision types are rear-end (244/29%), right angle (175/21%), and overtaking (146/17%).
- Most of the crashes were classified as Property Damage Only (732/86%). A combined 120 (14%) of crashes were Serious Injury or Other Injury. There was one fatality during the five (5)-year period.

A summary of the crash data set can be found on Table 4.

Table 4: Summary of Village of Scotia Crash Data

Time of Day

	Num.	Percent
0600-1000	145	17%
1000-1600	331	39%
1600-1900	222	26%
1900-2400	119	14%
2400-0600	36	4%
Unknown	0	0%
Total	853	100%

Weather Conditions

	Num.	Percent
Clear	523	61%
Cloudy	197	23%
Rain/Snow	118	14%
Sleet/Hall/Freezing Rain	1	0%
Fog/Smog/Smoke	1	0%
Other/Unknown	13	2%
Total	853	100%

Lighting Conditions

	Num.	Percent
Daylight	624	73%
Dawn	15	2%
Dusk	33	4%
Dark Lighted	161	19%
Dark Unlighted	7	1%
Unknown	13	2%
Total	853	100%

Time of Year

	Num.	Percent
Winter (Dec-Feb)	352	41%
Spring (Mar-May)	203	24%
Summer (Jun-Aug)	220	26%
Fall (Sep-Nov)	78	9%
Total	853	100%

Crash Type

	Num.	Percent
Overtaking	146	17%
Rear-end	244	29%
Right Angle	175	21%
Left Turn	43	5%
Sideswipe	30	4%
Run Off Road	1	0%
Fixed Object	70	8%
Pedestrian	14	2%
Bicycle	8	1%
Animal	10	1%
Right Turn	28	3%
Head-on	0	0%
Other	84	10%
Total	853	100%

Roadway Characteristics

	Num.	Percent
Straight & Level	626	73%
Straight & Grade	174	20%
Straight & Hillcrest	9	1%
Curve & Level	20	2%
Curve & Grade	12	1%
Curve & Hillcrest	2	0%
Unknown	10	1%
Total	853	100%

Crash Severity

	Num.	Percent
Fatal	1	0%
Serious Injury	15	2%
Other Injury	105	12%
Prop damage Only	732	86%
Unknown	0	0%
Total	853	100%

Roadway Surface Condition

	Num.	Percent
Dry	624	73%
Wet	158	19%
Muddy	0	0%
Snow/Ice	51	6%
Slush	5	1%
Unknown	15	2%
Total	853	100%

Crash Locations

The locations of all crashes reported during the five (5)-year period are displayed on Figure 6, including "hot spots". The Kernel Density function, as part of ARCGIS's Spatial Analyst package, was used to identify locations in the Village with the highest number of crashes. The fitted surface value is highest at the crash location and decreases as distance increases from the crash location. The density is calculated by adding all of the kernel values overlaid.

It should be noted that "hot spots" in this case are comparing all locations in Scotia with each other, and do not necessarily represent a higher than normal crash rate, or locations with a higher than normal number of crashes. In many cases, the high crash locations are located along the highest traffic volume roadways, as could be expected. "Hot spots" can be observed at:

- NY 5/Mohawk Ave & NY 50/N Ballston Ave
- NY 5/Mohawk Ave & NY 147/Sacandaga Ave
- NY 5/Mohawk Ave & Glen Ave/Schonowee Ave
- 5th St/Washington Ave & NY 50/N Ballston Ave

Crashes at NY 5/Mohawk Ave and NY 50/N Ballston Ave

A total of 72 crashes occurred at or near the intersection of NY 5/Mohawk Ave and NY 50/N Ballston Ave during the five (5)-year period. A summary of crash types can be found in Table 5. 64 (88.9%) of the crashes involved collisions between two (2) or more motor vehicles. One (1.4%) crash involved a pedestrian(s).

Table 5: Summary of Crash Type (NY 5 & NY 50)

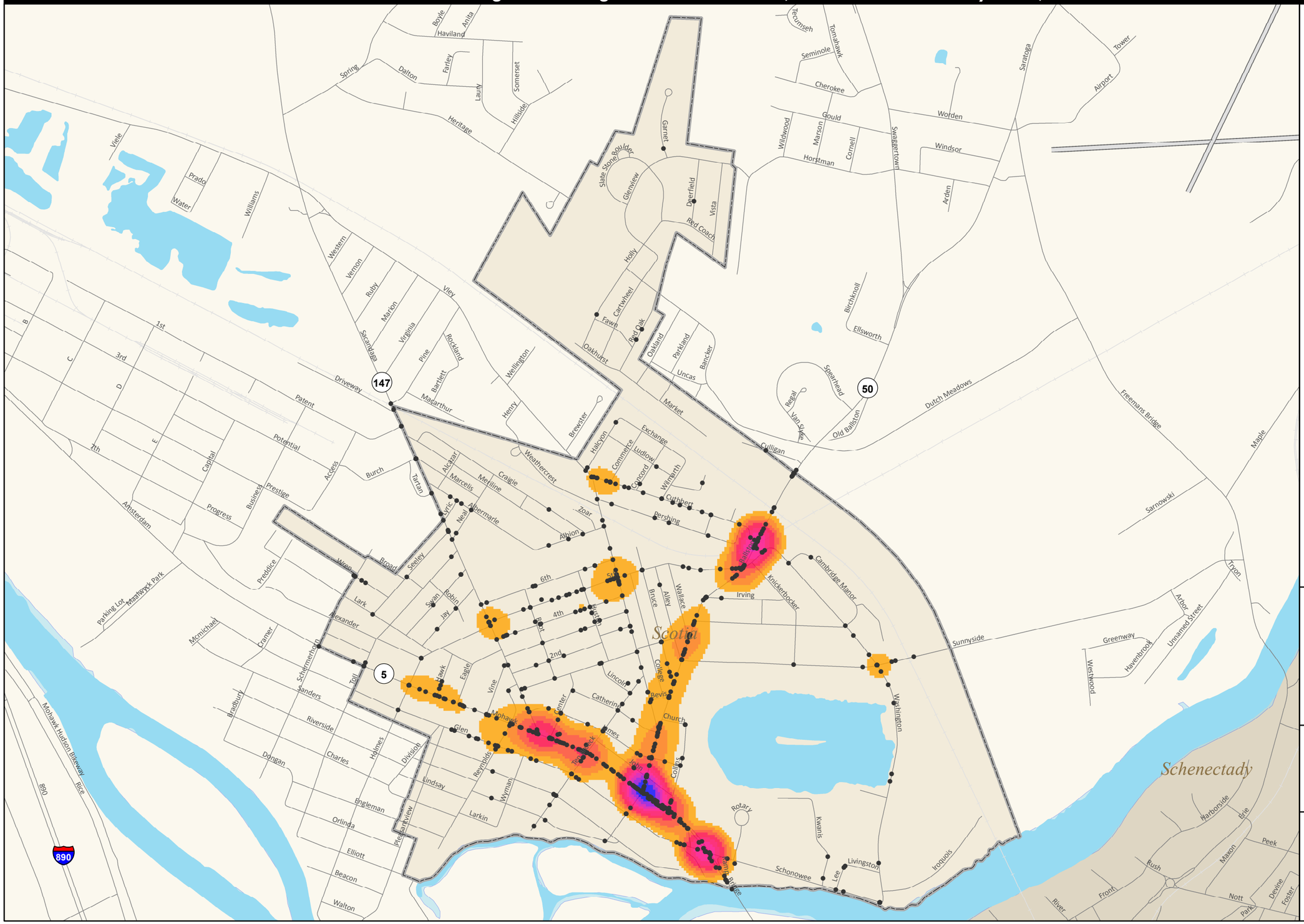
Crash Type	Number	Percent
Collision With Motor Vehicle	64	88.9%
Collision With Sign Post	3	4.2%
Collision With Pedestrian	2	2.8%
Coll. W/Light Support/Utility Pole	1	1.4%
Collision With Fire Hydrant	1	1.4%
Collision With Other Fixed Object	1	1.4%
Total	**72**	**100.0%**

Further analysis, including factors such as lighting conditions, weather, collision type, and severity led to the following highlights:

- The majority (52/72%) of crashes occurred in daylight. There were 15 (21%) crashes in dark, lit conditions.
- About half (37/51%) of crashes occurred in clear weather. There were 11 (15%) crashes in the rain, and 3 (4%) crashes in the snow.
- The most common collision types are overtaking (23/32%), rear-end (20/28%), and right angle (8/11%).
- Most of the crashes were classified as Property Damage Only (64/89%). A combined 7 (9%) of crashes were Serious Injury or Other Injury. There was one fatality during the five (5)-year period.

A summary of the crash data set can be found on Table 6.

Figure 6: Village of Scotia Crashes (March 2014 - February 2019)



Legend:

- Crash Locations

Crash Kernel Density "Hot Spots":

- Higher
- Lower
- Roads
- Railroads
- Village Boundary

Data Sources: NYSDOT, CDTC

Disclaimer: Crash data provided by the NYS Department of Transportation's Accident Location Information System (ALIS)

Data Accessed: 8/20/2019

N

0 0.1 0.2 0.4 Miles

1 inch = 1,250 feet

CDTC
CAPITAL DISTRICT TRANSPORTATION COMMITTEE

Created by: Chris Bauer, CDTC
Last Updated: 8/30/2019

Table 6: Summary of NY 5/Mohawk Ave and NY 50/N Ballston Ave Crash Data

Time of Day

	Num.	Percent
0600-1000	13	18%
1000-1600	29	40%
1600-1900	19	26%
1900-2400	10	14%
2400-0600	1	1%
Unknown	0	0%
Total	72	100%

Weather Conditions

	Num.	Percent
Clear	37	51%
Cloudy	21	29%
Rain/Snow	14	19%
Sleet/Hall/Freezing Rain	0	0%
Fog/Smog/Smoke	0	0%
Other/Unknown	0	0%
Total	72	100%

Lighting Conditions

	Num.	Percent
Daylight	52	72%
Dawn	2	3%
Dusk	3	4%
Dark Lighted	15	21%
Dark Unlighted	0	0%
Unknown	0	0%
Total	72	100%

Time of Year

	Num.	Percent
Winter (Dec-Feb)	29	40%
Spring (Mar-May)	21	29%
Summer (Jun-Aug)	13	18%
Fall (Sep-Nov)	9	13%
Total	72	100%

Crash Type

	Num.	Percent
Overtaking	23	32%
Rear-end	20	28%
Right Angle	8	11%
Left Turn	5	7%
Sideswipe	0	0%
Run Off Road	0	0%
Fixed Object	5	7%
Pedestrian	2	3%
Bicycle	0	0%
Animal	0	0%
Right Turn	5	7%
Head-on	0	0%
Other	4	6%
Total	72	100%

Roadway Characteristics

	Num.	Percent
Straight & Level	62	86%
Straight & Grade	7	10%
Straight & Hillcrest	0	0%
Curve & Level	1	1%
Curve & Grade	2	3%
Curve & Hillcrest	0	0%
Unknown	0	0%
Total	72	100%

Crash Severity

	Num.	Percent
Fatal	1	1%
Serious Injury	1	1%
Other Injury	6	8%
Prop damage Only	64	89%
Unknown	0	0%
Total	72	100%

Roadway Surface Condition

	Num.	Percent
Dry	48	67%
Wet	22	31%
Muddy	0	0%
Snow/Ice	2	3%
Slush	0	0%
Unknown	0	0%
Total	72	100%

CDTA Transit Information

There are three (3) CDTA bus stops near the intersection. There are two (2) CDTA bus stops on NY 5/Mohawk Ave: one on the NY 5/Mohawk Ave eastbound approach and one on the westbound departure legs of the intersection[1]. At these bus stops, there are route signs and sidewalks, but no other transit rider amenities. The third bus stop is located approximately 400 feet east of the intersection, on NY 5/Mohawk Ave westbound approach, near Collins Park[2]. This bus stop has route signs, sidewalks, and a bench.

There are two (2) CDTA bus routes that operate in the study area, Route 353 *Scotia-Mt. Pleasant* and Route 50 *Schenectady-Wilton*. The Route 353 *Scotia-Mt. Pleasant* operates between the Wal-Mart Supercenter located at 200 Dutch Meadows Ln in the Town of Glenville, the Hamilton Hill neighborhood in Schenectady, and Price Chopper located at 1879 Altamont Ave in the Town of Rotterdam. In the Village of Scotia Route 353 operates along NY 5/Mohawk Ave, NY 147/Sacandaga Ave, 5th St, Vley Rd, Cuthbert St, and NY 50/N Ballston Ave. Route 353 operates seven (7) days a week, with thirty (30)-minute headways from 9:00 AM to 7:00 PM, and forty-five (45)-minute headways in the off-peak. Route 353 operates in the Village of Scotia from approximately 5:06 AM to 11:24 PM on weekdays.

The Village of Scotia is also served by CDTA Route 50 *Schenectady-Wilton.* Route 50 operates between Downtown Schenectady, Saratoga Springs, and Wilton. In the Village Route 50 operates along NY 5/Mohawk Ave and NY 50/N Ballston Ave. Route 50 operates seven (7) days a week, with twenty (20) to forty (40)-minute headways from 7:30 AM to 7:30 PM, and fifty (50)-minute headways in the off-peak. Route 50 operates in the Village of Scotia from approximately 4:45 AM to 12:18 PM on weekdays.

Average daily boarding (on) and alightings (off) are shown on Table 7, below. The data time period is September 1, 2018 to August 31, 2019.

Table 7: CDTA Average Daily Boarding's & Alightings

CDTA Bus Stop	Route	Avg. Weekday Boardings	Avg. Weekday Alightings
101 Mohawk Ave (ID# 12380)	353	8.2	3.7
NY 5/Mohawk Ave & NY 50 (ID#12196)	353	2.2	7.3
NY 5/Mohawk Ave & Collins St (03610)	450	9	3.5

Regional Trip Distribution from CDTC STEP Model

CDTC maintains a travel demand model for the four-county MPO region, which is called the STEP Model (Systematic Transportation Planning and Evaluation Model). The STEP Model is based on population, housing, and employment data and estimated traffic volumes based on demand. These estimated volumes are compared against actual traffic counts to validate the model. Each trip in the model simulation chooses a path based on the best travel time available, and as congestion increases, trips

[1] CDTA Bus Stop IDs: NY 5 eastbound approach 12380, NY 5 westbound departure 12196
[2] CDTA Bus Stop ID: NY 5 westbound approach 03610

divert to alternate routes if the alternate route travel time is less. The model simulates the PM peak hour, the typical peak hour for the Capital Region. CDTC STEP Model utilizes Visum software developed by the PTV Group. The model includes 1,000 traffic analysis zones that cover the entire four counties of Albany, Rensselaer, Saratoga, and Schenectady. The network includes all federal aid highways in the four counties, as well as selected streets not on the federal aid system. The network consists of over 12,000 directional links and over 4,700 nodes.

CDTC used the STEP model to help better understand the travel patterns of the users of the NY 5/Mohawk Ave and NY 50/N Ballston Ave intersection. Figure 7 shows PM Peak Hour estimated volumes for only northbound traffic using NY 50/N Ballston Ave, north of NY 5/Mohawk Ave. This gives a sense of where PM peak hour traffic using the intersection in the northbound direction is coming from and going to. Approximately 65% of NY 50/N Ballston Ave northbound PM peak hour traffic comes from I-890, 24% from the City of Schenectady and other points east of the Village, and the remaining +/- 10% from the Village or points west of the Village.

After passing through NY 50/N Ballston Ave northbound, approximately 75% of the traffic is destined for the Town of Glenville and other points north of the study intersection. Approximately 20% of the NY 50/N Ballston Ave northbound traffic is destined for other points in the Village, and the remaining 5% is destined to points west of the Village.

Figure 8 shows PM Peak Hour estimated volumes for only southbound traffic using NY 50/N Ballston Ave, north of NY 5/Mohawk Ave. This gives a sense of where PM peak hour traffic using the intersection in the southbound direction is coming from and going to. Approximately 85% of NY 50/N Ballston Ave southbound PM peak hour traffic comes from the Town of Glenville and other points north of the study intersection, and the remaining +/- 15% from the Village or points west of the Village.

After passing through NY 50/N Ballston Ave southbound, approximately 60% of the traffic is destined for I-890, and 15% is destined for the City of Schenectady and points east. Approximately 20% of the NY 50/N Ballston Ave southbound traffic is destined for other points in the Village, and the remaining 5% is destined to points west of the Village.

Figure 7: NY 50 PM Peak Hour Northbound Users

Project:

Village of Scotia, Technical Assistance Program, NY 5/Mohawk Ave & NY 50/Ballston Ave

Date:

8/9/2019

Comments:

PM Peak Hour CDTC Model Estimated Volumes (current)

Volumes shown are current users of NY 50 *Northbound,* north of NY 5

CDTC
Capital District Transportation Committee

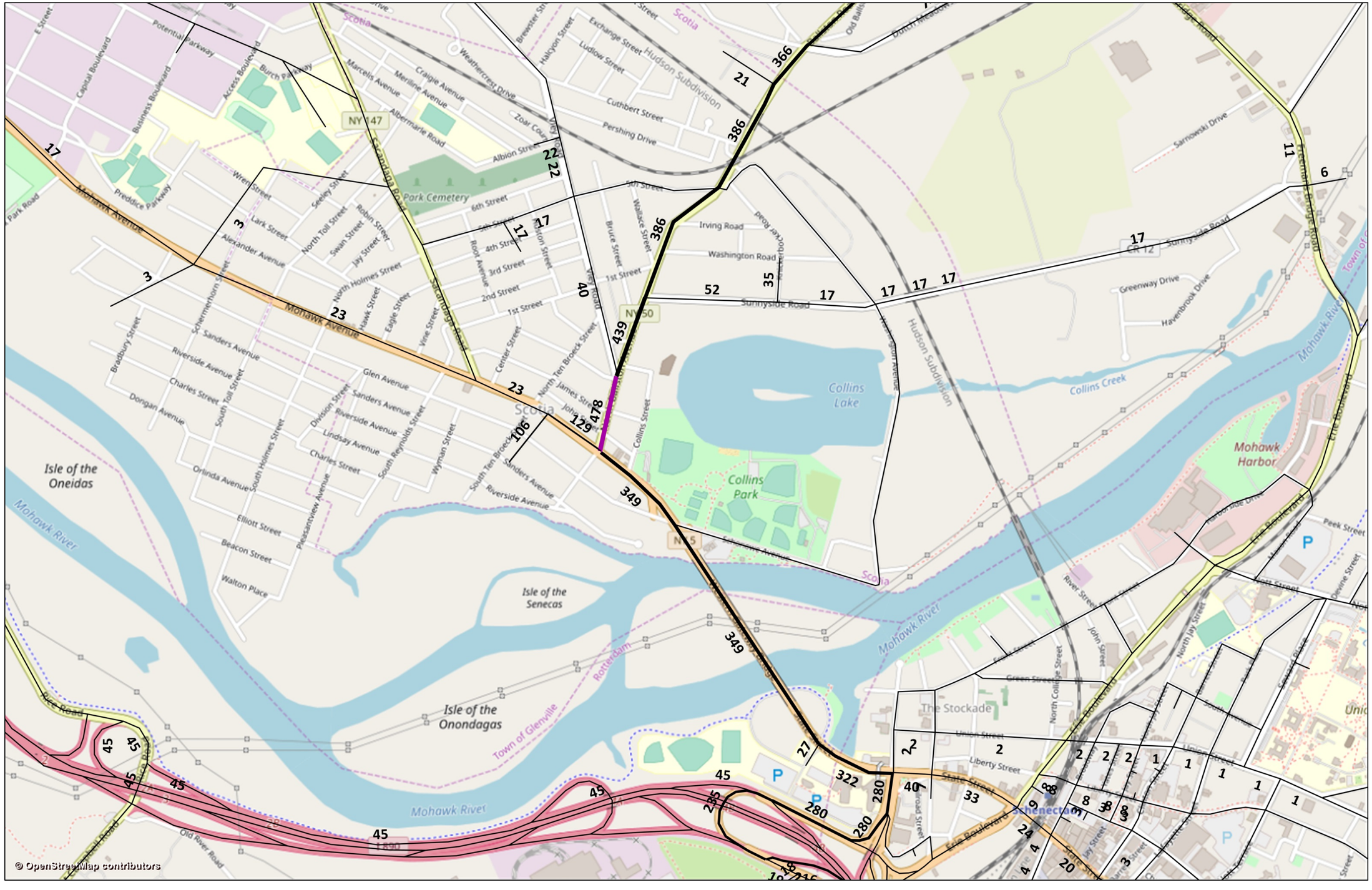


Figure 8: NY 50 PM Peak Hour Southbound Users

Project:

Village of Scotia, Technical Assistance Program, NY 5/Mohawk Ave & NY 50/Ballston Ave

Date:

8/9/2019

Comments:

PM Peak Hour CDTC Model Estimated Volumes (current)

Volumes shown are current users of NY 50 *Southbound,* north of NY 5

CDTC
Capital District Transportation Committee

Freight Base Map

A Freight Base Map for the Village of Scotia was developed and is shown on Figure 10. The numbers shown on the graphic are heavy vehicle volumes and percent heavy vehicles, derived from the 2017 NYSDOT Roadway Inventory System (RIS) database. The heavy vehicle volumes shown are for Federal Highway Administration (FHWA) vehicle classes F4-F13, shown on Figure 9 below. It is important to note the NYSDOT RIS count data is from years 2001 to 2017; some of the counts may be outdated.

Figure 9: FHWA Vehicle Classifications

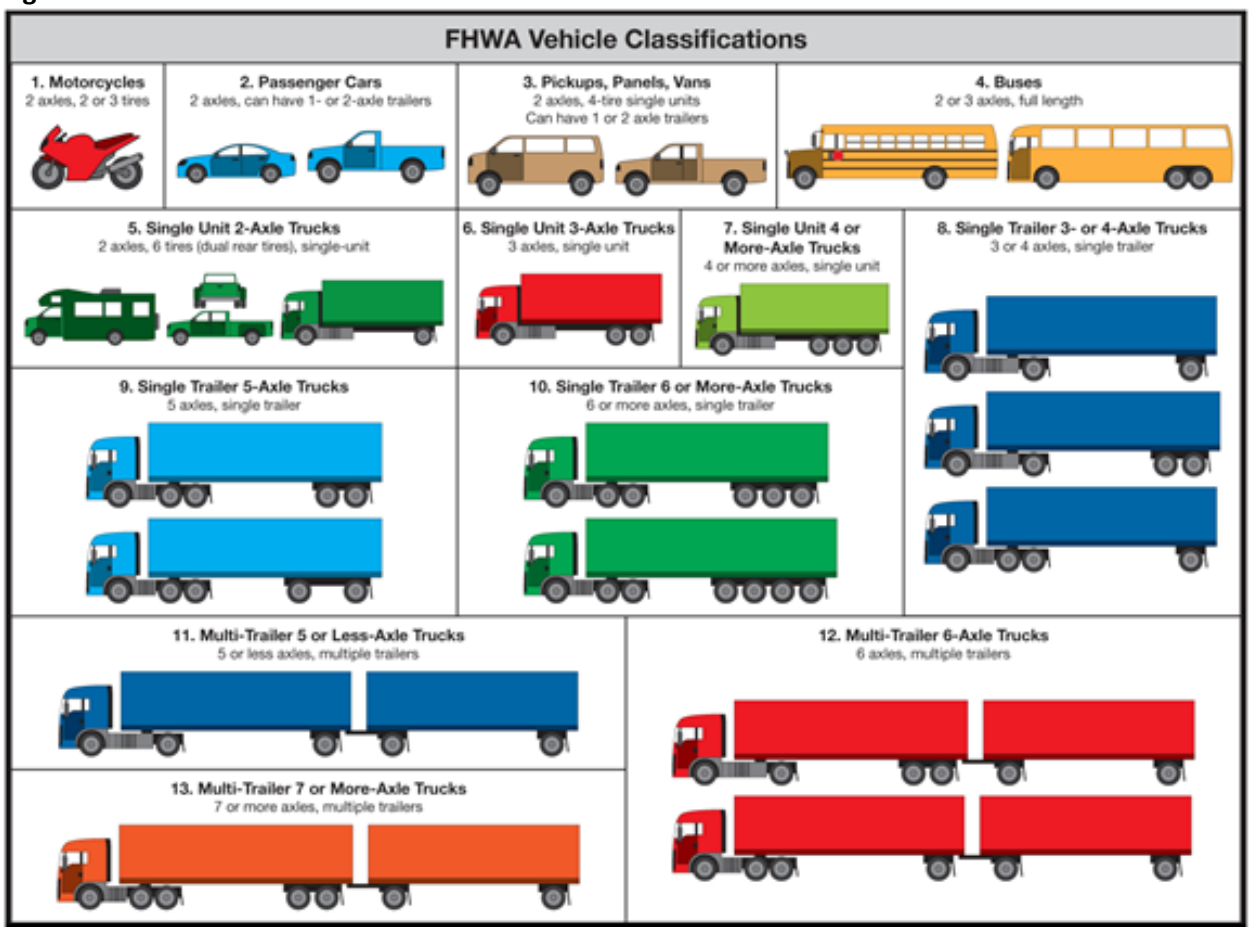


Figure 9: Village of Scotia Freight Base Map

Freight Networks:

- NYSDOT Qualifying Highway
- NYSDOT Access Highway
- CDTC Freight Priority Network

123 (4%) = F4-F13 Heavy Vehicle AADT (Percent Heavy Vehicles %), 2001 - 2017

Data Source: NYSDOT RIS (2017)

Freight Facilities:

- Airport
- Distribution Center
- Industrial Park
- Manufacturing
- Mining
- Port
- Rail
- Tech Zone
- Truck Rest Area
- Airport Runways
- Railroad

N

0 0.1 0.2 0.4 Miles

1 inch = 1,320 feet

CDTC
Capital District Transportation Committee

Created by: Chris Bauer, CDTC
Last Updated: 5/16/2019

Complete Street Case Study Review

Similar CDTC Linkage Studies

CDTC has identified three (3) recent planning studies, funded as part of CDTC's Community and Transportation Linkage Planning Program ("Linkage Program"), for consideration during scope development of future planning efforts:

1. *Delaware Avenue Complete Street Feasibility Study* (2017) – The primary purpose of the study was to identify and analyze the feasibility of appropriate complete streets elements for Delaware Avenue (NY State Route 443) between Elsmere Avenue and the Normanskill Bridge. The study included corridor specific traffic operations and crash analyses, development of feasible alternatives based on a complete streets framework, and strong stakeholder and community-based outreach, education and input. The study set out to develop conceptual future roadway designs that were acceptable to the town, its residents and businesses and NYSDOT as the road owner. To create a more balanced transportation corridor respectful of the existing land uses and Town vision for a community street, trade-offs were required. The study recommended a four (4)-lane to three (3)-lane road diet, a project that was later funded as part of the 2019-2024 Transportation Improvement Program (TIP).

Figure 11: Rendering from Delaware Avenue Complete Street Feasibility Study (2017)

2. *City of Albany Patroon Creek/Washington Avenue Corridor Study* (2019) - The primary purpose of the study was to identify and analyze the feasibility of a full range of appropriate complete streets elements for the study area of Washington Avenue in the City of Albany, NY, between Brevator Street and Eastbound I-90 Exit 2. The final plan outlines Complete Streets improvements and design modifications consistent with the roadway's 30 mph speed limit and changing land uses in the area.

3. *Freemans Bridge Rd Complete Streets Concept Plan* (2018) - The Freemans Bridge Road Complete Streets Concept Plan analyzed the existing conditions and researched alternatives for future roadway design and land use controls to enable safe, attractive, and comfortable access and travel for all users of Freemans Bridge Road (NY State Route 911F). Using a Complete Streets design approach, the Study considered the convenient access and mobility on the road network for motorists, pedestrians, bicyclists and public transportation users.

The surrounding land-use context of these three (3) studies is different from the Village's Central Business District, however, the Complete Streets approach to concept development and design used in these studies could be employed in any context, described further below. The final scope of work for these planning studies is attached to this document for reference.

Potential Linkage Study Approach

CDTC recommends using a Complete Streets approach to develop a concept plan for NY 5/Mohawk Ave in the Village's Central Business District. A Complete Streets design approach considers the needs of all users, including vehicles, pedestrians, bicycles, and freight. One common misconception is that Complete Streets must include a prescribed set of elements, such as sidewalks, bike lanes, etc.; however, Complete Streets are not a "one size fits all" design. Rather, the selected design alternatives depend on the surrounding context, goals and objectives, and careful analysis of tradeoffs of different solutions.

Conventional traffic planning evaluates transportation system performance using roadway level-of-service (LOS), which measures motor vehicle delays. This approach makes traffic congestion the primary planning "problem" and assumes that increasing roadway capacity is an improvement that is inherently desirable. Complete Streets planning requires multi-modal evaluation which recognizes the trade-offs that exist between different modes of transportation and the negative impacts that wider streets and increased vehicle traffic can have on access and community livability. These trade-offs need to be delineated and understood by the public, business owners, and Village elected and appointed officials.

A project of this scope and nature is typically a good candidate for the CDTC's Linkage Program, however, funding is not guaranteed. Linkage program awards vary by year and are dependent upon several factors including total available funding, the number of applications received, and the strength of the applications.

Potential Study Considerations

Based on the preliminary investigation completed as part of this effort, CDTC recommends considering the following elements as part of the planning and design process.

a. *Curb Extensions* - Where there is on-street parking, curb extensions (also referred to as "bulb-outs") can shorten the pedestrian crossing distance. Curb extensions visually and physically narrow the roadway at intersections and mid-block locations. They can also be used to channelize traffic, and to narrow excessively wide lanes, all of which help to lower speeds. Curb extensions should be

considered at intersections and any other pedestrian crossings along NY 5/Mohawk Ave. *Primary stakeholders: NYSDOT, business owners, public*

Figure 12: Complete Street Design with Curb Extension

Location: New Scotland Ave & Myrtle Ave, City of Albany

b. *Eliminate dual left-turn lane on NY 50/N Ballston Ave southbound* – The southbound left-straight-through lane has storage for only five (5) to six (6) vehicles. There are two (2) eastbound departure lanes that receive traffic from the two (2) southbound NY 50/N Ballston Ave lanes. Eliminating the dual left-turn lane would allow for shortening the distance across NY 5/Mohawk Ave. The scope of this change could include removing the lane completely, to also shorten the crossing the distance across NY 50/N Ballston Ave, or changing the lane to a right-turn and straight only. The feasibility of an improvement of this nature depends on the willingness to accept some additional vehicle delay on NY 50/N Ballston Ave southbound, and as such requires further outreach and analysis. The Village and NYSDOT should consider testing the idea using a temporary demonstration project. *Primary Stakeholders: NYSDOT, business owners, public*

c. *Relocate CDTA Bus Stop* – Consider relocating the NY 5/Mohawk Ave eastbound approach CDTA bus stop (CDTA bus stop ID 12380) from the west leg/near side of the intersection to the east leg/far side/eastbound departure. Far-side bus stops are located immediately after an intersection, allowing the vehicle to pass through the intersection before stopping for passenger loading and unloading. This would potentially allow for more on-street parking on NY 5/Mohawk Ave, and to help channelize traffic to use only one eastbound through lane. Relocating bus stops to the far side of an intersection also minimizes sight distance problems on approaches to the intersection, encourages pedestrians to cross behind the bus, and requires shorter deceleration distances for buses. *Primary stakeholders: CDTA, NYSDOT, transit users, business owners, public*

d. *Revise traffic signal timing* – based on field measurements, the traffic signal has a single timing plan for the entire day. The signal could be retimed to account for differences between AM and PM peak hour traffic. Based on this initial analysis, increasing the southbound NY 50/N Ballston Ave green time in the AM peak could improve the southbound AM vehicle delay time, and overall intersection efficiency. *Primary Stakeholders: NYSDOT*

e. *Additional Pedestrian Infrastructure* – consider adding a full complement of pedestrian crossing infrastructure, including crosswalks and pedestrian signals on all of the intersection legs. Currently there is no crosswalk on the east leg of NY 5/Mohawk Ave. To the east, there is approximately 1,000 feet to the next available crossing. Some pedestrians were observed crossing at this location. These improvements would be most effective if done in conjunction with some of the other considerations listed above. The feasibility of an improvement of this nature depends on the willingness to accept some additional vehicle delay on NY 50/N Ballston Ave southbound, and as such requires further outreach and analysis. *Primary Stakeholders: NYSDOT, business owners, public*

The above list is not exhaustive. A detailed concept plan should consider all alternatives for traffic calming, and consider the needs of all users. All of the above recommendations require further analysis. All of the subject roadways are owned and operated by NYSDOT, and as such, would require coordination and approval of NYSDOT. In addition, there should be extensive outreach to the public, property owners, and business owners.

Informational Meeting

CDTC and staff participated in one (1) meeting involving Village employees, elected officials, business owners, and others to gather information on the issues related to the NY 5/Mohawk Ave & NY 50/N Ballston Ave intersection and to share the draft technical memorandum. The meeting was held on September 24, 2019, 10:00 AM, at the Village Hall.

At the meeting, CDTC staff presented the findings of the draft Tech Memo. CDTC staff explained the types of the data collected, and their relevance to the study area. Attendees noted changes that slow or otherwise reduce the capacity at the NY 5/Mohawk Ave & NY 50/N Ballston Ave intersection could have secondary effects at other intersections in the Town. US 9W in the Hamlet of Port Ewen, Ulster County, NY, was shown as an example of a similar context. CDTC emphasized the need for further planning beyond the scope of this effort.

Hardcopies of the draft Tech Memo were distributed at the meeting, and the attendees were given one month to review and provide comments to CDTC. The comments received were incorporated into the final document. The Village's consultant engineer provided additional traffic and truck count data to CDTC following the meeting, for their information and use.

Meeting attendees:

Andrew Kohout, Scotia Superintendent of Public Works
Dan Harrigan, Interim Scotia Police Chief
George Solotruck, Village Trustee
John Jones, resident and Traffic Safety Committee member
Keith Phillips, Scotia Fire Department
Tom Gallant, BID President and owner of Turf Tavern
Tom Gifford, Scotia Mayor
Tom Melander, Traffic Engineer
Carrie Ward, Capital District Transportation Committee
Chris Bauer, Capital District Transportation Committee

Attachments:

1. Turn Movement Counts
2. HCS Level-of-Service Results
    a. AM Peak Hour No Build/Current
    b. AM Peak Hour Build
    c. PM Peak Hour No Build/Current
    d. PM Peak Hour Build
3. Previous Linkage Study Scope-of-work
    a. Delaware Avenue Complete Street Feasibility Study
    b. City of Albany Patroon Creek/Washington Avenue Corridor Study
    c. Freemans Bridge Rd Complete Streets Concept Plan
4. Technical Assistance Award Letter Scope of Work
5. Informational Meeting PowerPoint Presentation

Capital District Transportation Committee
Technical Assistance: NY 5 & NY 50, Village of Scotia
Turning Movement Counts Study

Location: NY 5/Mohawk Ave & NY 50/Ballston Ave
Date: 6/6/2019 Thursday
Recorder: Village of Scotia DPW Staff
Interval (dd) : 15
(In Minutes)

County: Schenectady
Municipality: Village of Scotia
Weather: Mosty clear, light rain showers before 7:30 AM

PEAK HOURS	AM PERIOD 7:00 AM - 9:00 AM	Start	End	Volume	PM PERIOD 4:00 PM - 6:00 PM	Start	End	Volume
		07:15	08:15	**2179**		16:45	17:45	**2462**

Street Name-->	NY 50/N Ballston Ave				S Ballston Ave				NY 5/Mohawk Ave (WB)				NY 5/Mohawk Ave (EB)				GRAND
HOUR	From North				From South				From East				From West				
ENDING	L	T	R	TOT	L	T	R	TOT	L	T	R	TOT	L	T	R	TOT	TOTAL
00:15				0				0				0				0	0
00:30				0				0				0				0	0
00:45				0				0				0				0	0
01:00				0				0				0				0	0
01:15				0				0				0				0	0
01:30				0				0				0				0	0
01:45				0				0				0				0	0
02:00				0				0				0				0	0
02:15				0				0				0				0	0
02:30				0				0				0				0	0
02:45				0				0				0				0	0
03:00				0				0				0				0	0
03:15				0				0				0				0	0
03:30				0				0				0				0	0
03:45				0				0				0				0	0
04:00				0				0				0				0	0
04:15				0				0				0				0	0
04:30				0				0				0				0	0
04:45				0				0				0				0	0
05:00				0				0				0				0	0
05:15				0				0				0				0	0
05:30				0				0				0				0	0
05:45				0				0				0				0	0
06:00				0				0				0				0	0
06:15				0				0				0				0	0
06:30				0				0				0				0	0
06:45				0				0				0				0	0
07:00				0				0				0				0	0
07:15	180	2	7	189	0	0	0	0	1	57	71	129	8	106	0	114	432
07:30	**247**	**7**	**13**	**267**	**0**	**0**	**0**	**0**	**0**	**52**	**86**	**138**	**6**	**129**	**0**	**135**	**540**
07:45	**217**	**5**	**7**	**229**	**0**	**0**	**0**	**0**	**0**	**54**	**98**	**152**	**17**	**134**	**1**	**152**	**533**
08:00	**227**	**9**	**6**	**242**	**0**	**0**	**0**	**0**	**0**	**74**	**133**	**207**	**17**	**118**	**3**	**138**	**587**
08:15	**220**	**4**	**14**	**238**	**0**	**0**	**0**	**0**	**0**	**49**	**96**	**145**	**15**	**119**	**2**	**136**	**519**
08:30	183	5	11	199	0	0	0	0	1	78	80	159	13	94	1	108	466
08:45	156	3	14	173	0	0	0	0	2	48	93	143	15	134	0	149	465
09:00	149	10	16	175	0	0	0	0	1	68	81	150	16	103	0	119	444
09:15				0				0				0				0	0
09:30				0				0				0				0	0
09:45				0				0				0				0	0
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10:15				0				0				0				0	0
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10:45				0				0				0				0	0
11:00				0				0				0				0	0
11:15				0				0				0				0	0
11:30				0				0				0				0	0
11:45				0				0				0				0	0
12:00				0				0				0				0	0
12:15				0				0				0				0	0
12:30				0				0				0				0	0
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15:30				0				0				0				0	0
15:45				0				0				0				0	0
16:00				0				0				0				0	0
16:15	123	12	20	155	0	0	0	0	2	113	161	276	18	66	0	84	515
16:30	102	8	14	124	0	0	0	0	0	121	178	299	23	83	1	107	530
16:45	116	7	13	136	0	0	0	0	0	113	206	319	26	78	1	105	560
17:00	**130**	**8**	**14**	**152**	**0**	**0**	**0**	**0**	**0**	**135**	**218**	**353**	**17**	**81**	**0**	**98**	**603**
17:15	**121**	**4**	**12**	**137**	**0**	**0**	**0**	**0**	**1**	**135**	**231**	**367**	**21**	**105**	**2**	**128**	**632**
17:30	**124**	**11**	**8**	**143**	**0**	**0**	**0**	**0**	**0**	**149**	**220**	**369**	**18**	**88**	**2**	**108**	**620**
17:45	**143**	**10**	**23**	**176**	**0**	**0**	**0**	**0**	**1**	**102**	**196**	**299**	**21**	**110**	**1**	**132**	**607**
18:00	117	5	18	140	0	0	0	0	1	113	157	271	22	96	1	119	530
18:15				0				0				0				0	0
18:30				0				0				0				0	0
18:45				0				0				0				0	0
19:00				0				0				0				0	0
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19:30				0				0				0				0	0
19:45				0				0				0				0	0
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20:15				0				0				0				0	0
20:30				0				0				0				0	0
20:45				0				0				0				0	0
21:00				0				0				0				0	0

TOTAL	2555	110	210	2875	0	0	0	0	10	1461	2305	3776	273	1644	15	1932	8583
AM Peak Vol	911	25	40	976	0	0	0	0	0	229	413	642	55	500	6	561	2179
PM Peak Vol	518	33	57	608	0	0	0	0	2	521	865	1388	77	384	5	466	2462

Capital District Transportation Committee
Technical Assistance: NY 5 & NY 50, Village of Scotia
Turning Movement Counts Study

Location: NY 5/Mohawk Ave & NY 50/Ballston Ave
Date: 6/6/2019 Thursday
Recorder: Village of Scotia DPW Staff
Interval (dd) : 15
(In Minutes)

County: Schenectady
Municipality: Village of Scotia
Weather: Mosty clear, light rain showers before 7:30 AM

PEAK HOURS	AM PERIOD 7:00 AM - 9:00 AM	Start	End	Volume	PM PERIOD 4:00 PM - 6:00 PM	Start	End	Volume
		07:15	08:15	**2179**		16:45	17:45	**2462**

BICYCLE, PEDESTRIAN, & U-TURN BREAKDOWN

Hour Ending	NY 50/N Ballston Ave			S Ballston Ave			NY 5/Mohawk Ave (WB)			NY 5/Mohawk Ave (EB)		
	BIKE	PED.	U.T.	BIKE	PED.	U.T.	BIKE	PED.	U.T.	BIKE	PED.	U.T.
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07:00												
07:15	0	0		0	0		0	0		0	0	
07:30	0	2		0	0		0	0		0	0	
07:45	0	0		0	1		0	0		0	1	
08:00	0	0		0	2		0	0		0	0	
08:15	2	0		0	4		0	0		0	1	
08:30	0	1		0	1		0	2		0	0	
08:45	0	2		0	1		0	2		0	0	
09:00	1	1		0	1		0	1		1	0	
09:15												
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16:15	0	1		0	1		0	3		0	0	
16:30	1	2		0	1		1	0		0	0	
16:45	0	4		0	3		0	0		0	0	
17:00	0	1		1	2		0	2		0	0	
17:15	1	6		2	0		1	1		0	0	
17:30	0	1		0	1		0	0		0	0	
17:45	0	8		0	2		0	0		0	0	
18:00	0	4		0	1		0	0		0	0	
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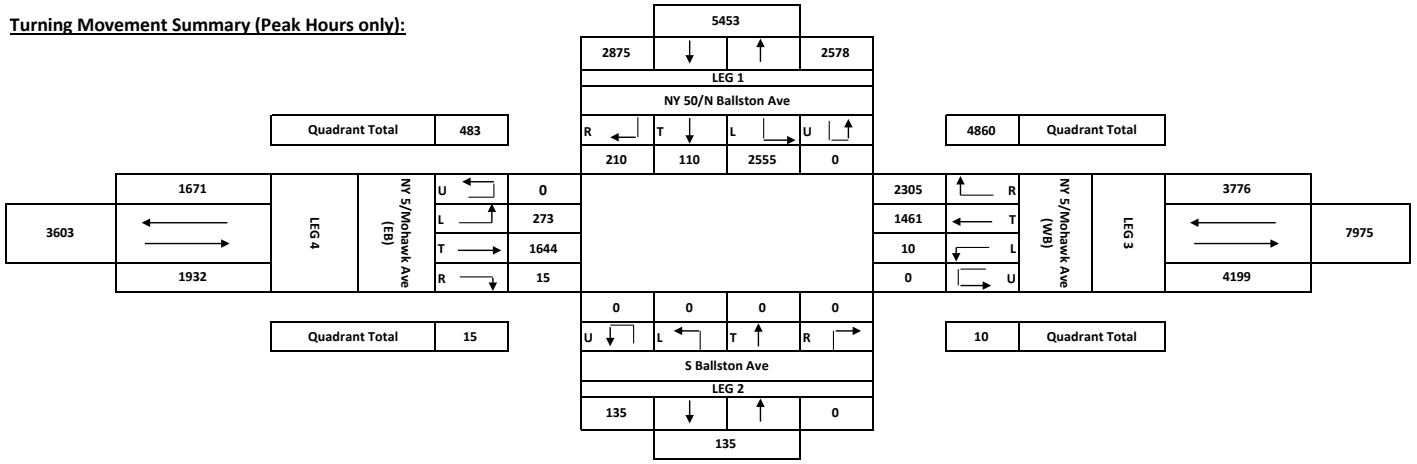
19:45												
20:00												
20:15												
20:30												
20:45												
21:00												
TOTAL	**5**	**33**	0	**3**	**21**	0	**2**	**11**	0	**1**	**2**	0
AM Peak Vol	2	2	0	0	7	0	0	0	0	0	2	0
PM Peak Vol	1	16	0	3	5	0	1	3	0	0	0	0

Capital District Transportation Committee
Technical Assistance: NY 5 & NY 50, Village of Scotia
Turning Movement Counts Study

Location:	NY 5/Mohawk Ave & NY 50/Ballston Ave	**County:**	Schenectady
Date:	6/6/2019 Thursday	**Municipality:**	Village of Scotia
Recorder:	Village of Scotia DPW Staff	**Weather:**	Mosty clear, light rain showers before 7:30 AM
Interval (dd) :	15		
(In Minutes)			

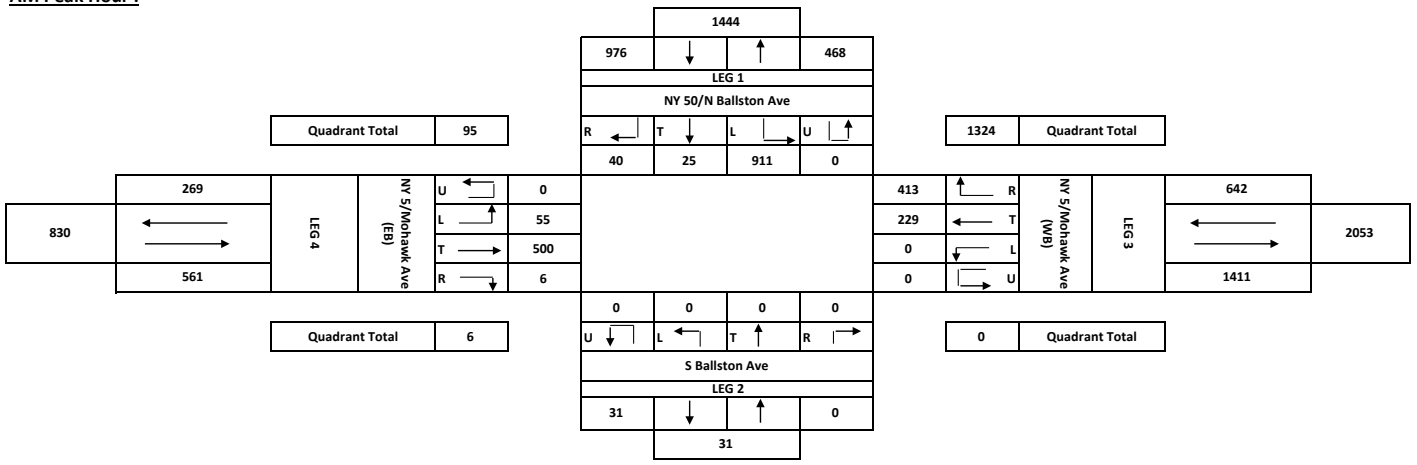
PEAK HOURS	AM PERIOD 7:00 AM - 9:00 AM	Start	End	Volume	PM PERIOD 4:00 PM - 6:00 PM	Start	End	Volume
		07:15	08:15	2179		16:45	17:45	2462

Turning Movement Summary (Peak Hours only):

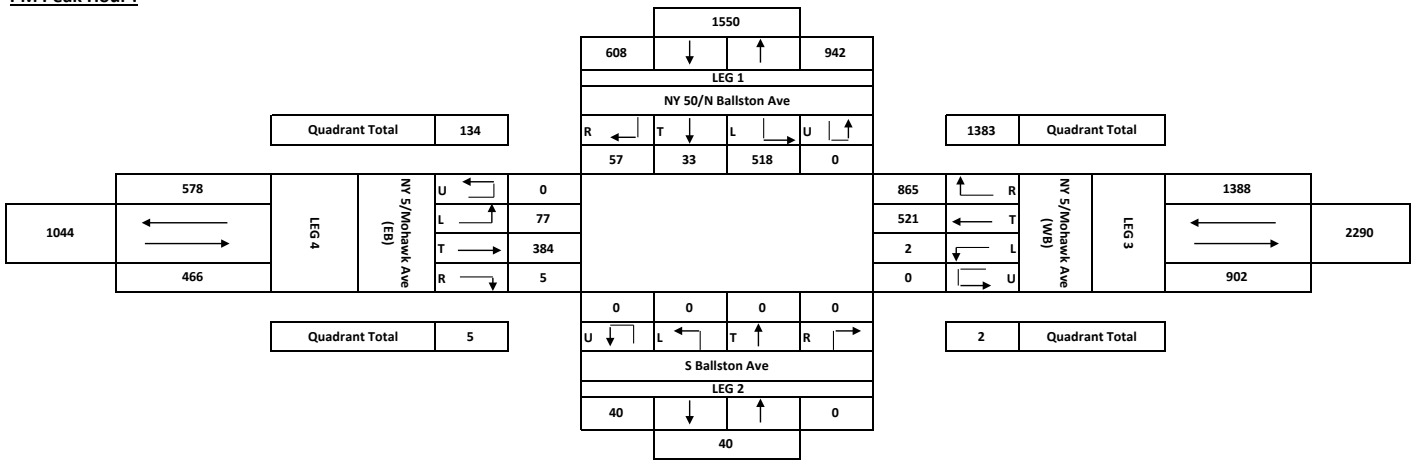


Comments: LOS AM: _( ) PM: _( )

AM Peak Hour :

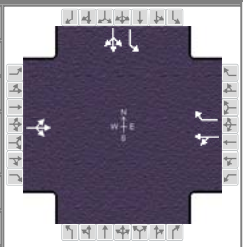


PM Peak Hour :



HCS7 Signalized Intersection Results Summary

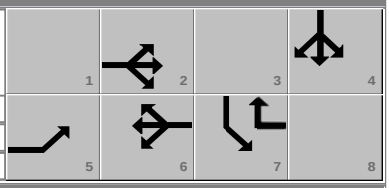
General Information				Intersection Information	
Agency	CDTC			Duration, h	0.25
Analyst	Chris Bauer	Analysis Date	Jun 6, 2019	Area Type	Other
Jurisdiction	Village of Scotia	Time Period	7:15 AM to 8:15 AM	PHF	1.00
Urban Street	NY 5/Mohawk Ave	Analysis Year	2019	Analysis Period	1> 7:15
Intersection	NY 5 & NY 50	File Name	Scotia NY 5 and NY 50 AM Peak No Build.xus		
Project Description	AM Peak Hour (Current)				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	55	500	6	0	229	413				911	25	40

Signal Information			
Cycle, s	113.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	55.0	50.0	0.0	0.0	0.0	
Yellow	4.0	4.0	4.0	0.0	0.0	0.0	
Red	0.0	0.0	0.0	0.0	0.0	0.0	



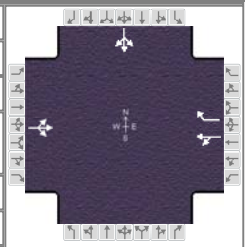
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6				4
Case Number	0.0	14.0		7.3				10.0
Phase Duration, s	0.0	59.0		59.0				54.0
Change Period, ($Y+R_c$), s	4.0	4.0		4.0				4.0
Max Allow Headway (*MAH*), s	0.0	3.2		3.2				3.2
Queue Clearance Time (g_s), s		26.6		9.9				52.0
Green Extension Time (g_e), s	0.0	2.8		2.8				0.0
Phase Call Probability		1.00		1.00				1.00
Max Out Probability		0.00		0.00				1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16				7	4	14
Adjusted Flow Rate (*v*), veh/h		561			0	413				911	65	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1820			0	1610				1810	1711	
Queue Service Time (g_s), s		6.0			0.0	2.8				50.0	2.5	
Cycle Queue Clearance Time (g_c), s		24.6			0.0	2.8				50.0	2.5	
Green Ratio (*g/C*)		0.49				0.93				0.44	0.44	
Capacity (*c*), veh/h		921				1496				801	757	
Volume-to-Capacity Ratio (*X*)		0.609			0.000	0.276				1.138	0.086	
Back of Queue (*Q*), ft/ln (50 th percentile)		268.7			0	0.4				953.4	24.8	
Back of Queue (*Q*), veh/ln (50 th percentile)		10.7			0.0	0.0				38.1	1.0	
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00			0.00	0.00				0.00	0.00	
Uniform Delay (d_1), s/veh		21.2				0.4				31.5	18.3	
Incremental Delay (d_2), s/veh		0.8			0.0	0.0				77.0	0.0	
Initial Queue Delay (d_3), s/veh		0.0			0.0	0.0				0.0	0.0	
Control Delay (*d*), s/veh		22.0				0.4				108.5	18.3	
Level of Service (LOS)		C				A				F	B	
Approach Delay, s/veh / LOS	22.0	C		6.3	A		0.0			102.5	F	
Intersection Delay, s/veh / LOS	53.4						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.39	A	1.91	B	1.96	B	1.74	B
Bicycle LOS Score / LOS	1.41	A	1.55	B			2.10	B

HCS7 Signalized Intersection Results Summary

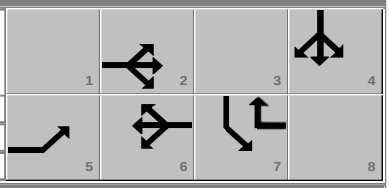
General Information				Intersection Information	
Agency	CDTC			Duration, h	0.25
Analyst	Chris Bauer	Analysis Date	Jun 6, 2019	Area Type	Other
Jurisdiction	Village of Scotia	Time Period	7:15 AM to 8:15 AM	PHF	1.00
Urban Street	NY 5/Mohawk Ave	Analysis Year	2019	Analysis Period	1> 7:15
Intersection	NY 5 & NY 50	File Name	Scotia NY 5 and NY 50 AM Peak Build.xus		
Project Description	AM Peak Hour (Build)				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	55	500	6	0	229	413				911	25	40

Signal Information			
Cycle, s	113.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	55.0	50.0	0.0	0.0	0.0	
Yellow	4.0	4.0	4.0	0.0	0.0	0.0	
Red	0.0	0.0	0.0	0.0	0.0	0.0	



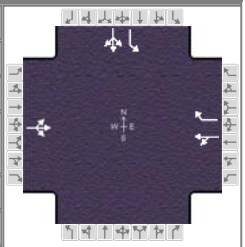
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6				4
Case Number	0.0	14.0		7.3				12.0
Phase Duration, s	0.0	59.0		59.0				54.0
Change Period, ($Y+R_c$), s	4.0	4.0		4.0				4.0
Max Allow Headway (*MAH*), s	0.0	3.2		3.2				3.2
Queue Clearance Time (g_s), s		26.6		9.9				52.0
Green Extension Time (g_e), s	0.0	2.8		2.8				0.0
Phase Call Probability		1.00		1.00				1.00
Max Out Probability		0.00		0.00				1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16				7	4	14
Adjusted Flow Rate (*v*), veh/h		561			0	413					976	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1820			0	1610					1803	
Queue Service Time (g_s), s		6.0			0.0	2.8					50.0	
Cycle Queue Clearance Time (g_c), s		24.6			0.0	2.8					50.0	
Green Ratio (*g/C*)		0.49				0.93					0.44	
Capacity (*c*), veh/h		921				1496					798	
Volume-to-Capacity Ratio (*X*)		0.609			0.000	0.276					1.224	
Back of Queue (*Q*), ft/ln (50 th percentile)		268.7			0	0.4					1142.5	
Back of Queue (*Q*), veh/ln (50 th percentile)		10.7			0.0	0.0					45.7	
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00			0.00	0.00					0.00	
Uniform Delay (d_1), s/veh		21.2				0.4					31.5	
Incremental Delay (d_2), s/veh		0.8			0.0	0.0					111.8	
Initial Queue Delay (d_3), s/veh		0.0			0.0	0.0					0.0	
Control Delay (*d*), s/veh		22.0				0.4					143.3	
Level of Service (LOS)		C				A					F	
Approach Delay, s/veh / LOS	22.0	C		6.3	A		0.0			143.3	F	
Intersection Delay, s/veh / LOS	71.7						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.39	A	1.68	B	1.96	B	1.74	B
Bicycle LOS Score / LOS	1.41	A	1.55	B			2.10	B

HCS7 Signalized Intersection Results Summary

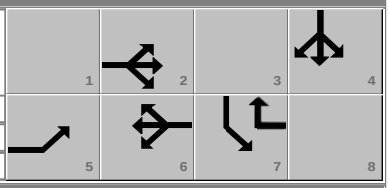
General Information				Intersection Information	
Agency	CDTC			Duration, h	0.25
Analyst	Chris Bauer	Analysis Date	Jun 6, 2019	Area Type	Other
Jurisdiction	Village of Scotia	Time Period	4:45 PM to 5:45 PM	PHF	1.00
Urban Street	NY 5/Mohawk Ave	Analysis Year	2019	Analysis Period	1> 16:45
Intersection	NY 5 & NY 50	File Name	Scotia NY 5 and NY 50 PM Peak No Build.xus		
Project Description	PM Peak Hour (Current)				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	77	384	5	2	521	865				518	33	57

Signal Information			
Cycle, s	113.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	55.0	50.0	0.0	0.0	0.0	
Yellow	4.0	4.0	4.0	0.0	0.0	0.0	
Red	0.0	0.0	0.0	0.0	0.0	0.0	



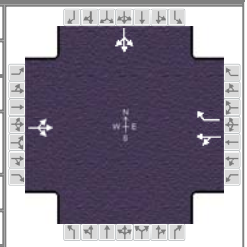
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6				4
Case Number	0.0	14.0		7.3				10.0
Phase Duration, s	0.0	59.0		59.0				54.0
Change Period, ($Y+R_c$), s	4.0	4.0		4.0				4.0
Max Allow Headway (*MAH*), s	0.0	3.3		3.3				3.2
Queue Clearance Time (g_s), s		22.6		24.0				27.3
Green Extension Time (g_e), s	0.0	5.7		5.7				1.3
Phase Call Probability		1.00		1.00				1.00
Max Out Probability		0.03		0.03				0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16				7	4	14
Adjusted Flow Rate (*v*), veh/h		466			523	865				518	90	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1607			1899	1610				1810	1706	
Queue Service Time (g_s), s		6.0			0.0	9.3				25.3	3.5	
Cycle Queue Clearance Time (g_c), s		20.6			22.0	9.3				25.3	3.5	
Green Ratio (*g/C*)		0.49			0.49	0.93				0.44	0.44	
Capacity (*c*), veh/h		819			956	1496				801	755	
Volume-to-Capacity Ratio (*X*)		0.569			0.547	0.578				0.647	0.119	
Back of Queue (*Q*), ft/ln (50 th percentile)		216			241.5	3.8				273.4	34.9	
Back of Queue (*Q*), veh/ln (50 th percentile)		8.6			9.7	0.2				10.9	1.4	
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00			0.00	0.00				0.00	0.00	
Uniform Delay (d_1), s/veh		20.3			20.5	0.6				24.6	18.5	
Incremental Delay (d_2), s/veh		0.6			0.4	0.4				1.4	0.0	
Initial Queue Delay (d_3), s/veh		0.0			0.0	0.0				0.0	0.0	
Control Delay (*d*), s/veh		20.9			20.9	1.0				26.0	18.6	
Level of Service (LOS)		C			C	A				C	B	
Approach Delay, s/veh / LOS	20.9	C		8.5	A		0.0			24.9	C	
Intersection Delay, s/veh / LOS	14.9						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.39	A	1.91	B	1.96	B	1.74	B
Bicycle LOS Score / LOS	1.26	A	2.78	C			1.49	A

HCS7 Signalized Intersection Results Summary

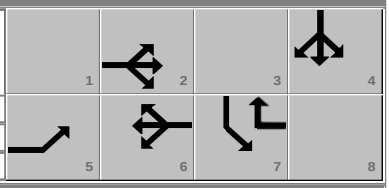
General Information				Intersection Information	
Agency	CDTC			Duration, h	0.25
Analyst	Chris Bauer	Analysis Date	Jun 6, 2019	Area Type	Other
Jurisdiction	Village of Scotia	Time Period	4:45 PM to 5:45 PM	PHF	1.00
Urban Street	NY 5/Mohawk Ave	Analysis Year	2019	Analysis Period	1> 16:45
Intersection	NY 5 & NY 50	File Name	Scotia NY 5 and NY 50 PM Peak Build.xus		
Project Description	PM Peak Hour (Build)				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	77	384	5	2	521	865				518	33	57

Signal Information			
Cycle, s	113.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	55.0	50.0	0.0	0.0	0.0
Yellow	4.0	4.0	4.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6				4
Case Number	0.0	14.0		7.3				12.0
Phase Duration, s	0.0	59.0		59.0				54.0
Change Period, ($Y+R_c$), s	4.0	4.0		4.0				4.0
Max Allow Headway (*MAH*), s	0.0	3.3		3.3				3.2
Queue Clearance Time (g_s), s		22.6		24.0				34.3
Green Extension Time (g_e), s	0.0	5.7		5.7				1.3
Phase Call Probability		1.00		1.00				1.00
Max Out Probability		0.03		0.03				0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16				7	4	14
Adjusted Flow Rate (*v*), veh/h		466			523	865					608	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1607			1899	1610					1793	
Queue Service Time (g_s), s		6.0			0.0	9.3					32.3	
Cycle Queue Clearance Time (g_c), s		20.6			22.0	9.3					32.3	
Green Ratio (*g/C*)		0.49			0.49	0.93					0.44	
Capacity (*c*), veh/h		819			956	1496					794	
Volume-to-Capacity Ratio (*X*)		0.569			0.547	0.578					0.766	
Back of Queue (*Q*), ft/ln (50 th percentile)		216			241.5	3.8					359	
Back of Queue (*Q*), veh/ln (50 th percentile)		8.6			9.7	0.2					14.4	
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00			0.00	0.00					0.00	
Uniform Delay (d_1), s/veh		20.3			20.5	0.6					26.6	
Incremental Delay (d_2), s/veh		0.6			0.4	0.4					4.1	
Initial Queue Delay (d_3), s/veh		0.0			0.0	0.0					0.0	
Control Delay (*d*), s/veh		20.9			20.9	1.0					30.6	
Level of Service (LOS)		C			C	A					C	
Approach Delay, s/veh / LOS	20.9	C		8.5	A		0.0			30.6	C	
Intersection Delay, s/veh / LOS	16.3						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.39	A	1.68	B	1.96	B	1.74	B
Bicycle LOS Score / LOS	1.26	A	2.78	C			1.49	A

REQUEST FOR EXPRESSIONS OF INTEREST

TOWN OF BETHLEHEM
DELAWARE AVENUE
COMPLETE STREETS FEASIBILITY STUDY
ELSMERE AVENUE TO NORMANSKILL BRIDGE

issued by

Capital District Transportation Committee
Albany, N.Y.

April 7, 2016

Introduction

The Capital District Transportation Committee (CDTC) is the designated Metropolitan Planning Organization (MPO) carrying out federal requirements for cooperative transportation planning and programming within the metropolitan area surrounding the Albany-Schenectady-Troy and Saratoga Springs urbanized areas. The Delaware Avenue Complete Streets Feasibility Study was proposed by the Town of Bethlehem to encourage a transportation system along Delaware Avenue that is designed and operated to enable safe access for all users, including pedestrians, bicyclists, transit users and motor vehicle drivers, otherwise known as Complete Streets. This study is funded through CDTC's 2015-16 Community and Transportation Linkage Planning Program with matching funds from the Town of Bethlehem. The study has a fixed budget of $60,000 for consultant services. CDTC, on behalf of the Town of Bethlehem, will administer the consultant contract and will jointly manage the study with the Town. CDTC is issuing this Request for Expressions of Interest (REI) to qualified firms or individuals to carryout and complete the Delaware Avenue Complete Streets Feasibility Study.

Study Area and Purpose

The study will identify and analyze the feasibility of a full range of appropriate complete streets elements, for the section of Delaware Avenue in the Town of Bethlehem, NY that extends from Elsmere Avenue to the Normanskill Bridge. The Town's continued focus on fostering a walkable, bikeable and transit friendly community along with the current and evolving land use context and access management along the corridor provides the opportunity to rethink the physical layout of the roadway in a manner that strives to result in a better balance in serving all user's needs.

This linkage study is an important step toward the implementation of a number of goals and recommendations expressed in the Town of Bethlehem's adopted plans, resolutions, and initiatives including the Comprehensive Plan, the Complete Streets Resolution and the Delaware Avenue Hamlet Enhancement Plan, among others.

The potentially feasible future street designs and complete streets features to be identified through this study will balance the needs of all roadway users in a manner that enhances community quality of life, the local economy, and safety for all roadway users along this multi-modal and increasingly mixed use corridor and its adjacent neighborhoods.

This study will include corridor specific traffic operations and crash analyses, development of feasible alternatives based on a complete streets framework, and strong stakeholder and community based outreach, education and input.

Background: Community and Corridor Context

Delaware Avenue is one of Bethlehem's primary main streets, connecting the town to the City of Albany to the east and the more rural parts of Albany County to the west. Delaware Avenue is the main street of the neighborhood hamlet areas of Delmar and Elsmere. The section of Delaware Avenue, which is the subject of this study, extends approximately 1.3 miles from the intersection of Delaware Avenue and Elsmere Avenue to the Normanskill Bridge.

Land uses along Delaware Avenue are primarily lower intensity commercial businesses (restaurants, shops, offices, neighborhood services) serving the local Bethlehem community; many were formerly single or two family homes converted to commercial use. Lot sizes along the corridor are small and depth is approximately 100-200ft, which does not provide future opportunity for high trip generation type developments such as big-box stores or office parks. Several recent parcel redevelopments along the roadway consist of mixed commercial/multi-family residential buildings (ranging in size from 1,200 sq.ft. to 5,000 sq.ft.) A new two-story 48,000 sq.ft. medical building replaced two one-story 24,000 sq.ft. buildings (medical building and former pharmacy) on the same parcel.

Elsmere Elementary School is located within the study area, near the Elsmere Avenue/Delaware Avenue intersection. The largest concentration of retail is located within the Delaware Plaza shopping center, near the study area's eastern end. Side streets connecting to Delaware Avenue are lined primarily with single-family residential homes in what is considered the Elsmere neighborhood within the Town. These homes are located within the Core Residential zoning district of the Town, and are immediately adjacent to the corridor's commercial parcels (Commercial Hamlet zoning district).

Delaware Avenue from Elsmere Avenue to the Normanskill Bridge predominantly consists of a four-lane roadway (two lanes in each direction) with a 40 mph posted speed limit and with traffic volumes ranging between 15,000 to 17,000 vehicles per day. A review of AADT over the past 10-15 years indicates AADT has remained flat. At either end of the study area Delaware Avenue transitions to a two-lane roadway.

CDTA's Bus Route 18 runs along Delaware Avenue providing transit service connecting the City of Albany with Slingerlands. There are approximately ten CDTA transit stops within the study area.

The corridor is characterized by more than 70 commercial driveways, with some parcels having multiple curb cuts. In recent years some access points have been consolidated (shared driveways or curb cuts limited to side street access only) as properties have redeveloped.

There are two signalized intersections within the study area, located at Elsmere Avenue and Delaware Plaza. These signals are over ½ mile apart and provide the only protected pedestrian crossings. There are no midblock pedestrian crosswalks within the study area.

Bicyclists traveling along the corridor either ride in the outside travel lanes (14-ft. wide), which have a minimal striped shoulder (less than one foot), or on the sidewalks that run the length of the corridor within the study area. The Albany County Rail Trail runs somewhat parallel to and south of the Delaware Avenue corridor within the study area.

There is a documented crash history along the corridor including not only motor vehicle to vehicle crashes, but crashes involving bicycles and pedestrians as well. The current roadway characteristics create an uninviting pedestrian, bicycle, transit user and motor vehicle environment for commuters and shoppers traveling the roadway, as well as for corridor businesses and residents located directly on Delaware Avenue and living in adjacent local, neighborhood streets.

Through this study various alternatives that incorporate complete streets features will be analyzed and explored with town and neighborhood residents, businesses, travelers, public agencies and officials and other stakeholders.

The current four lane configuration of Delaware Avenue within the study area, existing traffic volumes and documented crash history make this corridor a candidate for exploration of a complete streets treatment termed a road diet. Road diets come in various forms, with the most common being a reduction in the number of travel lanes to one in each direction and a center turn lane with remaining space used for a bicycle lane or bus transit area. Because of their documented safety benefits, as well as the ability to convert a roadway during repaving projects through restriping of lanes, the FHWA and NYSDOT have identified road diets as both a Proven Safety Countermeasure and an Everyday Counts initiative.

Through this study process an assessment of the feasibility, benefits, and impacts of various street design concepts along the Delaware Avenue corridor will be completed using a context sensitive, complete streets framework. This framework will consider bicycles, pedestrians, transit, safety, and motor vehicle operations. Alternatives developed should strive to maintain the existing curb lines and current signalized intersection configurations.

This study will assist in determining the most effective set of features to improve the corridor for travelers of all modes (pedestrian, bicycling, transit, motor vehicle) both along and across the corridor to corridor businesses and residences and connecting neighborhoods.

Because of the limited budget this study will focus on feasible alternatives for incorporation of complete streets features primarily within the existing curb to curb portion of Delaware Avenue. Associated needed improvement alternatives related to adjacent sidewalks and ADA compliant curb ramps will also be important to include. Concepts to improve access management opportunities along both sides of the corridor between parcels will also be identified. The study seeks to improve the movement of traffic while enhancing the safe and efficient access to and from abutting properties. The study will evaluate roadway design and access characteristics and propose changes that maintain reasonable access to property, while improving the safety and operation of the highway for all users.

The study seeks to improve bicycle and pedestrian accommodations within the study area. The project is located on the Town of Bethlehem Bicycle and Pedestrian Priority Network, which establishes a priority network of roadways that should be given additional consideration for accommodating safe and efficient bicycle and pedestrian travel. The goal of the priority network is to provide a continuous system of usable accommodations focusing on bicycle and pedestrian infrastructure investments to roadways located on the network. This section of Delaware Avenue is also listed on CDTC's Bicycle and Pedestrian Priority Network, and this task will address the network's goals for bicycle and pedestrian improvements.

Delaware Avenue is also listed on CDTA's Transit Priority Network which is a system of corridors that produce sufficient ridership to warrant increased service and enhanced infrastructure. Transit specific improvements will be identified through this study with the assistance of CDTA staff. Improvements may include transit signal priority (TSP). It is important that this study help identify bus stops within the study area where more conventional infrastructure, such as shelters, benches, pedestrian connections to buildings, and safer crossings are warranted.

Because this study will bring together town staff, volunteer town committees (bike/ped committee, Delaware Avenue Improvement group, Street Tree subcommittee), corridor businesses, neighborhood residents, the Study Advisory Committee and others to develop ideas on how to improve the Delaware Avenue Corridor from Elsmere Avenue to the Normanskill Bridge, innovative ideas related to the following will be sought:

- Improving the aesthetics, landscaping, lighting;
- Gateway enhancements at the Normanskill Bridge;
- Redevelopment options of vacant parcels along the Corridor (i.e. former Albany Medical site and former dry cleaners site);
- Storm water management/green infrastructure;
- Connections to other important off-corridor destinations, including the Helderberg Hudson/Albany County Rail Trail.
- An analysis of the park and ride market on the corridor, led by CDTA staff, and identification of enhancements to the park and ride lot necessary to accommodate future demand.

Idea development will be accomplished through both in kind work from Town staff, CDTC and CDTA staff, and Town committees and group discussions coordinated with specific tasks outlined in the scope of work for this study.

The study will focus on identifying appropriate complete streets treatments for two future scenarios including:

- Complete street alternatives achieved through a repaving project: new striping, signage and ADA compliant curb ramps and other treatments (e.g. protected midblock crossings) that could be coordinated with a repaving project.
- Complete streets alternatives focused on roadway changes that could be achieved through a "Beyond Pavement Preservation" type project in the future.

Scope of Work

Consultants will be required to complete the scope of work as outlined below. **If, based on consultants' knowledge or experience, the consultant believes the required scope of work should be changed in any way the suggested changes should be outlined in the letter of interest (as described in the Submission Instructions section of this REI).** Consultants will not be required to reproduce or recreate this scope of work in their letters of interest. Only modifications to what is requested will be required and considered in consultant evaluations.

Please note that traffic counts, land use/existing access arrangement data and traffic forecasts, as well as crash data, will be provided by CDTC and Town staff. The selected consultant will be expected to:

- carry out operational analyses using HCM methods and CDTC Congestion Management Process Excess Delay Thresholds (see attached). A micro-simulation model, such as Synchro or Vissim, is desirable but not required. If, however, a consultant determines development and use of a

micro-simulation model for the study area is possible within the study budget this should be specified in the submitted letter of interest.

- conduct safety analyses using NYSDOT methods, and Highway Safety Manual (HSM) crash prediction procedures (CDTC staff will assist with this effort)
- use the NYSDOT/CDTC collaboratively developed Road Diet evaluation process identified for a previous Linkage Study, Routes 9/20 in Schodack, as a guide for analyzing road diet alternatives (see attached).

The technical staff from the Town, NYSDOT, CDTC, CDTA, and the selected consultant will meet periodically throughout the study as needed to ensure consistency with data requirements, etc. This group will meet initially to discuss additional data collection needs and responsibilities as well as the framework and methods to be used for the technical assessments, including the operational and safety analyses.

Involvement of the public in this planning effort is critical to its success. The consultant will participate in two (2) public workshops to receive input as well as to inform citizens, staff, stakeholders, and other agencies about the study. It will be critical to provide ample and easily understood information regarding what complete streets are and are not, and the potential array of benefits as well as impacts.

The Consultant will conduct an initial Town Board presentation, two public workshops that will involve residents, targeted stakeholders and business/property owners within the study area, and a final presentation at a Town Board meeting.

Educational and outreach materials for use at the public workshops, stakeholder outreach and the SAC will be developed cooperatively with the consultant taking the lead and with assistance from CDTC and Town staff. Numerous national and state resources exist from which to pull from.

The consultant will be required to develop a project website where study materials will be posted.

Of note is that Federal policies require documentation of certain subjects within Linkage study plans including Environmental Justice, Title VI of Civil Rights Act of 1964, the Americans with Disabilities Act and environmental considerations (environmental mitigation requirements) during the planning process at a scan-level, not engineering-level of detail. These elements must be addressed in the study. CDTC staff will work with the Town and the selected consultant to ensure that these factors are integrated appropriately into the study and final report.

Task 1.0: Study Initiation and Initial Data Gathering/Synthesis

A) Review Previous and Ongoing Efforts
The consultant will review the prior Delaware Avenue Hamlet Enhancement Study final report and the current information on the Delaware Avenue Enhancement Streetscape Project to familiarize themselves with the Town's vision for the study area.

B) Study Area Site Visit
The consultant along with staff from the Town and CDTC will walk through the study area to become familiar with its existing physical attributes and potential constraints that must be considered in developing feasible alternatives.

C) Data

CDTC and Town staff will provide data and information on:

- Weekday AM and PM peak hour manual turn counts of motor vehicles (including trucks and busses), bicyclists and pedestrians at the two signalized intersections. A more limited set of traffic counts will be collected for minor intersections/driveways
- As part of the signalized intersection count task, lane configurations and field collected signal timing and phasing information, including pedestrian heads/timing and phases, will be collected
- Corridor Land Use and Access: property name, type, access arrangements, curb cut density, and estimates of trip generation. For trip generation, CDTC staff will use both ITE trip generation estimates and CDTC collected trip generation data.
- NYSDOT ALIS crash data will be used to summarize crash history for the most recently available five year period, HALs and PILs will be included.

The consultant will be expected to collect some data including:

- ATR traffic count: a count is needed between Elsmere Avenue and Delaware Plaza (NYSDOT Traffic Data Viewer count is taken just west of the Normanskill Bridge)
- Speed: two spot speed study locations. One in the school zone near the Elsmere Elementary School and one in another location between Elsmere Avenue and Normanskill Blvd; speed data east of Delaware Plaza is available through the NYSDOT Traffic Data Viewer
- Signal timing plans and data on roadway geometry, ROW limits, sidewalks, ADA curb ramps, drainage features, pavement condition, and other roadway profile information will be obtained from NYSDOT
- Data on Bus Route 18 frequency, headways, bus stop locations and features, ridership and bikes on busses from CDTA. CDTA can supply maps and GIS files as necessary.

D) Study Advisory Committee (SAC) Meeting #1

SAC Meeting #1 will serve as the study kick-off meeting and will be led by the consultant team. The consultant should be prepared to

- explain context sensitive complete streets
- review and confirm the scope of work and study area boundaries with the group
- present a preliminary draft of study principles and objectives for review
- facilitate a discussion of expected outcomes and measures of effectiveness
- review the overall study process including the roles and responsibilities of the study partners

A draft public education and outreach approach and stakeholder involvement process will be reviewed, including educational materials to be used and potential timing of the first of the two planned public workshops. Use of the Town's newsletter, social media, or other formal outreach techniques will be discussed. The Town's web site will be utilized for input on the project and its draft products.
See the Study Advisory Committee section of this REI (Page 13) for additional detail on the study advisory committee roles and responsibilities.

E) Initial Presentation to Town Board

The selected consultant will give a brief presentation at a Town Board meeting to introduce the study and summarize information presented at the first SAC meeting.

Deliverables:

- *Technical staffs/consultant data discussion notes*
- *draft study principles and objectives*

• *draft MOEs*
• *draft public education and outreach approach/stakeholder involvement process*
• SAC Meeting 1 summary

Task 2.0: Existing Conditions Multi-modal Operational and Safety Analyses/Corridor Profile/Establishment of Project Objectives and Expected Outcomes

A) Operational and Safety Analyses/Existing Conditions Corridor Profile
The consultant will be required to create an existing conditions corridor profile based on synthesis of data above and results of baseline operational and safety analyses for all modes. The purpose of this task is to produce the information needed for all directly involved with the study, as well as the public and other stakeholders, to understand how the current corridor functions for all roadway users. Results and deliverables from this task will serve as the basis upon which complete streets concepts can then be evaluated in subsequent tasks. Deliverables must be of a quality to clearly convey information to a variety of audiences.

This baseline corridor profile will document in narrative, tabular and graphic formats current roadway mainline and intersection geometry (including: number of travel lanes, turn lanes, lane widths, shoulders, current pavement striping plan, and pedestrian features including sidewalks, sidewalk buffer areas and crosswalks, etc.) as well as current multi-modal level of service, access management, safety and other operational aspects of Delaware Avenue, such as operating speeds and overall corridor travel time. Land uses, community context and the corridor environment (e.g. description of Delaware Avenue appearance as one enters the Town) will also be documented. Pedestrian delay at signalized and non-signalized intersections and alternative pedestrian travel paths to protected crossings should be evaluated in terms of distance and travel time.

Using accepted procedures from the Highway Capacity Manual, existing operating conditions at the two signalized intersections and a select set of unsignalized intersections (LOS) and along the mainline will be analyzed.

Through this task a target or desired design and operating speed will be established for the corridor. Design and operating speed are considered to be critical factors in influencing complete street design parameters such as lane width, traffic control, crossing design, bike and pedestrian treatments, etc. The success of any complete street concept is largely dependent on achieving slower speeds through the corridor. According to the *TRB Special Report 254, Managing Speed*, target speed for an urban main street should be established based on context and other factors, not solely on the basis of the 85th percentile speed.

The safety analysis will be conducted consistent with federal Highway Safety Manual (HSM) procedures to allow use of the HSM crash prediction methodology to evaluate alternatives to be developed in a subsequent task. Crashes by type and pattern will be tallied with CDTC's assistance. Crash types that have been proven to be mitigated by various measures will be noted.

B) Study Advisory Committee (SAC) Meeting #2
This SAC meeting will take place after the completion of the operational and safety analysis in Task 2 A) for review/discussion of the products developed. Based on the initial discussion at the first SAC meeting, the project objectives, expected outcomes and measures of effectiveness for the roadway, centered on

identified community goals and actions and existing conditions assessment of roadway operations and safety for all modes will be confirmed.

The first public meeting will be scheduled at this meeting. Educational and outreach materials for use at the first public meeting and stakeholder outreach will be developed cooperatively with the consultant taking the lead and with assistance from CDTC and Town staff. These draft education and outreach materials will be reviewed by the SAC at meeting 2. At a minimum information on complete streets, the study background, and the corridor profile/existing conditions will be provided. NYSDOT and national guidance on complete streets from sources such as FHWA, the National Complete Streets Coalition, AASHTO and NACTO should be used and cited as appropriate.

Deliverables:

- *Existing Conditions Multi-modal Operational and Safety Analyses results*
- *Corridor Profile report including narrative, maps and other graphics, integrating these analyses and other information as required in the task description*
- *Draft Education and Outreach materials on complete streets elements*
- *SAC Meeting 2 summary - After SAC review, deliverables will be posted to the project website*

Task 3.0: Public Workshop #1

The first public meeting will be an opportunity for citizens to learn about complete streets and to share their residential, business, walking, bicycling, transit riding and driving experiences, opinions and advice and also have a chance to learn about the study process, including the results of the Operational and Safety Analyses/Corridor Profile tasks.

It is anticipated that this meeting will be an interactive workshop in which participants can mark-up maps and provide input on draft elements to be considered in the subsequent alternatives' concepts to be developed and evaluated in later tasks.

Advertising for the public workshop and securing appropriate meeting space will be the responsibility of the Town. The consultant will be responsible for presenting the educational materials, leading facilitation of the discussion and engaging the public at the workshop and will prepare necessary meeting materials such as poster size visuals of the study area, maps and associated pertinent data/material. CDTC staff can assist with workshop facilitation.

Deliverables:

- *The consultant will develop a one-page flier to advertise the meeting with a link to the project website*
- *Workshop materials, handouts and presentations*
- *Workshop notes/summary of public comments*
  After SAC review at Meeting #3 deliverables will be posted to the project website

Task 4.0: Development of Draft Conceptual Complete Streets Design Alternatives/SAC Meeting #3

A) SAC Meeting #3 to Review Public Workshop Results/Draft Complete Streets Alternatives
The SAC will review and approve for web posting the public workshop #1 notes and summary of comments at this meeting.

This meeting will also include a consultant facilitated "brain-storming" session to help develop desirable and practical draft complete streets concept(s) based on previous study tasks, including discussions with the technical staffs, SAC and information learned at the public workshop.

B) Identification of Complete Streets Treatment Alternatives
The selected consultant will develop options for context sensitive complete streets based redesign of Delaware Avenue. Potential roadway and corridor concepts will include alternative cross sections and lane configurations/reconfigurations, access management treatments, ,traffic control devices (striping, signage, protected pedestrian crossings, etc.), and other complete streets elements identified through the study process. Alternatives are to be tested for feasibility based on agreed upon expected outcomes/measures of effectiveness to balance the needs of all roadway users and the surrounding community and its existing and planned future context.

Feasible alternatives for several future scenarios should be developed including but not necessarily limited to:

- Complete street alternatives achieved through a repaving project: new striping, signage and ADA compliant curb ramps and other treatments (e.g. protected midblock crossings, etc.) that could be coordinated with a repaving project.
- An alternative(s) focused on roadway changes that could be achieved through a "Beyond Pavement Preservation" type project in the future

Based on input from and information provided by town staff and volunteer town committees, concepts for "outside the curb" treatments related to streetscaping and green infrastructure should be integrated into alternatives where appropriate.

NYSDOT and national guidance on road diets and complete streets from sources such as FHWA, the National Complete Streets Coalition, AASHTO and NACTO should be used to assist in alternatives development.

C) Gateway Improvements and Connections to the Albany County Rail Trail
The selected consultant will develop graphics and other concept materials for gateway improvements in the vicinity of the Normanskill Bridge, which could be integrated into the alternatives where appropriate. Through discussions with the SAC, volunteer town committees and other stakeholders, as mentioned above, ideas for gateway improvements will be identified; the consultant will be responsible for developing graphics illustrating several concepts. Also, feasible connections from the corridor to the Albany County Rail Trail, such as at Delaware Plaza, Rockefeller Road, and along Ellsworth Avenue, will be evaluated and concept designs prepared. The Town has geographic information systems (GIS) data on topography and other information to assist in identifying feasible connection locations.

Deliverables:

- *SAC Meeting 3 summary*
- *Materials needed to explain in various formats (narrative, maps and other graphics) each draft context sensitive complete street alternative overall and proposed elements they contain*
- *Materials needed to explain in various formats (narrative, maps and other graphics) gateway enhancements and connections to the Albany County Rail Trail*

Task 5.0: Evaluation of Identified Complete Streets Treatment Alternatives/SAC Meeting #4

A) Evaluation Process
The consultant will conduct an evaluation of the alternatives. The evaluation will be based on the same operational and safety analyses methods used to create the existing conditions corridor profile and the agreed upon study objectives, planned outcomes/measures of effectiveness developed at the beginning of the study.

Evaluation methodology should be documented and results for each alternative presented in narrative, tabular and graphic formats to provide easily identifiable proposed locations for various complete streets elements and to allow easily understood comparisons to existing conditions and other alternatives. . The potential safety, multimodal level of service/operations, access management, traffic calming and other impacts, including relative cost ranges (i.e. lower cost, moderate or higher cost), of each alternative are to be described.

A corridor micro-simulation tool could be helpful in evaluating options.

B) SAC Meeting #4 to Review Evaluation Results of Complete Streets Alternatives
The SAC will meet to review and discuss products resulting from completion of the evaluation and technical assessments in Task 5 A).

The second public meeting will be scheduled at this meeting. Based on the SAC meeting, materials produced as part of this task will be revised in preparation for the public meeting. Educational and outreach materials needed to clearly convey the impacts of the proposed alternatives against the safety and operational assessments for all modes and other measures of effectiveness, especially any potential trade-offs that will be required, will be discussed. Materials, which could include a multi-page booklet, will be used at the second public meeting and for stakeholder outreach; these will be developed cooperatively with the consultant taking the lead and with assistance from CDTC and Town staff.

Deliverables:
- *Draft Alternatives and Multi-modal Operational and Safety Analyses results*
- *Draft Alternatives report including narrative, maps and other graphics*
- *Education and Outreach materials to clearly convey results of the Draft Alternatives evaluations*
- *SAC Meeting 4 summary*

After SAC review, deliverables will be posted to the project website prior to Public Meeting #2.

Task 6.0: Public Meeting #2

The consultant will conduct a second public meeting using a workshop format to review the material in the draft complete streets alternatives and evaluation results with the community. The consultant will facilitate the workshop in a way to maximize public interaction and comment for use in finalizing the alternative concepts. CDTC staff can assist with facilitation.

The consultant will develop a one-page flier to advertise the meeting with a link to the project website. Advertising for the public workshop and securing appropriate meeting space will be the responsibility of the Town. The consultant will be responsible for facilitating the discussion and engaging the public at the workshop and will prepare poster size visuals of the corridor study area, graphics illustrating the

alternatives and their various complete streets elements, maps and associated pertinent data/material related to the evaluation and multi-modal performance results, highlighting any needed trade-offs.

SAC meeting #5 will be scheduled after the second Public Meeting for review/discussion of the results.

Deliverables:

- *Workshop materials, handouts and presentations*
- *One-page flier to advertise the meeting*
- *Public Workshop notes/summary of public comments*
- *All materials will be placed on the project website for public review after SAC Meeting #5*.
- *SAC meeting 5 summary.*

Task 7.0: Development of Final Report on Feasible Complete Streets Alternatives and Features including an Implementation Strategy

The Final Report will incorporate revisions to the materials presented at the public meeting based on public input, stakeholder input, and SAC and Inter-Agency committee review and discussion. The Final Report will present concepts in narrative form, photos, maps, renderings, and detail graphics to clearly and logically present the alternatives and a plan for implementation. The implementation component of the report will develop general order of magnitude costs, and outline an implementation plan that includes ways to finance the recommended action. Recommendations for lower cost improvements that can be implemented during maintenance projects or other town or state activities will also be described. A phased approach to modifications to Delaware Avenue may be necessary, and should be discussed. A speed management protocol acceptable to NYSDOT and the Town will be outlined.

Recommendations for potential adjustments to the Town Zoning Law to address any identified conflicts or disconnects between existing zoning requirements (including site plan design guidelines) and the proposed complete streets alternatives and features are to be described.

The consultant will complete any necessary revisions to drafts and a final report in a timely manner and in the format requested by the Study Advisory Committee.

Deliverables:

- *Two (2) digital copies and four (4) color hardcopies of the final documents with all the necessary figures, photos and sketches. Digital copies of any and all PowerPoint presentations, and any and all hand drawn original renderings and maps are also required. Any GIS mapping that is developed by the consultant will be given to the Town of Bethlehem and CDTC in ArcView 10.x format for future use. Materials will be placed on the project website*.

Task 8: Final Presentation to the Bethlehem Town Board

The consultant will present the final document to the Bethlehem Town Board. This formal presentation will inform the public as to how a final report was formulated based on the findings throughout the study. This report and presentation are to include any recommendations that the consultant has formed as a result of the study.

Administrative Aspects

The Town of Bethlehem and CDTC will be jointly responsible for study oversight. A Study Advisory Committee (SAC) with representatives from Bethlehem, CDTC, CDTA, Albany County, CDRPC, NYSDOT, and other stakeholders selected by Bethlehem, will guide the study and meet with the consultant on a regular basis—five SAC meetings are planned as noted in individual tasks above.
Materials to be reviewed and discussed at SAC meetings will be available at least one (1) week prior to the scheduled meeting to allow adequate review time by members. Materials will be distributed to SAC members via email.

Regular correspondence between the consultant and the SAC via email and/or phone will be included. The public workshops are in addition to the SAC meetings and the consultant is expected to attend all meetings. Interim documents will be provided to Bethlehem and CDTC in MS Word or Adobe Acrobat (.pdf) format to enable Bethlehem and CDTC to place them on their web sites.

The final report will be provided in electronic and hardcopy formats. CDTC will receive two (2) color copies of the final report and Bethlehem will receive four (4) color copies of the final report. CDTC and Bethlehem will each receive two (2) copies of the final report on CD in MS Word (.doc/docx) and Adobe Acrobat (.pdf) format. The final report will also be posted on the project website, the Town of Bethlehem and CDTC's web site. **CDTC and the Town of Bethlehem will assume ownership of all materials, studies, and graphics etc., which are part of the document and/or planning process.**
The consultant contract will be administered by CDTC on behalf of Bethlehem. Anne Benware from the CDTC staff will serve as the contact for expressions of interest and administrative questions. Her telephone number is 518-458-2161. Bethlehem and CDTC will be jointly responsible for study oversight.

Submission Instructions:

Offerors may be firms or qualified individuals. Responses to this REI must include all of the following elements (the letter of interest is supplemented by the additional material). Please note that materials submitted to CDTC are subject to the Freedom of Information Law (FOIL). If respondent provides material(s) of a confidential nature for disclosure to third parties, the respondent should clearly indicate the specific material(s) it considers confidential. Subject to the provisions of FOIL and any other applicable laws, CDTC may agree to maintain confidentiality of such material(s) if requested. CDTC assumes no responsibility for any loss or damage resulting out of any determination requiring disclosure of information pursuant to FOIL.

1. ***A letter of interest*** (no more than two pages) that demonstrates the offeror has a clear understanding of the issues associated with this study and communicates the offeror's ability to complete the scope of work as required. The offeror may propose adjustments to the required scope of work in this letter if the offeror believes that those adjustments would add value to the study or would be more appropriate for the allotted budget. Inclusion of a project schedule is essential and should be included as a one-page addendum to this letter of interest. There is no need to repeat the required scope of work in the letter of interest. Attached is a proposed contract form for this agreement, containing standard CDTA language for a federally assisted contract. Any exceptions to this agreement must be clearly identified in the offeror's letter of interest.

2. ***Examples of relevant previous work*** that demonstrate the offeror has the technical capabilities, experience, and inter-personal skills to perform the required tasks. Demonstrated experience of the

personnel assigned to the study with multimodal operations and safety analysis, innovative and creative roadway, bicycle and pedestrian network and facility planning and design should also be included.

3. A ***management plan identifying the contractor's personnel*** who will be working on the study ***including resumes***. The project manager should be clearly identified and reflect a professional experienced in conducting challenging community conversations. If a team of firms is responding to this REI, please include the resumes of the personnel working on the study for the lead firm as well as all sub-consultant firms. Please ensure that the titles of the identified personnel match those on the resumes and in the price proposal described below in number 4. Failure to properly identify personnel significantly reduces the credibility of the proposal. A project schedule should also be provided that demonstrates how the team will complete the work on time.

4. ***A price proposal including all costs anticipated***. Hours and hourly wages by task and by personnel should be included. This should be completed for both the lead consultant and any sub-consultants, if they are utilized for the study. In addition, a timeline for the study by task should be included.

CDTC and Bethlehem would like to have this study conducted in an expeditious manner. The time frame for the study is expected to run for ***no greater than*** 12 calendar months from the date of contract execution. **CDTC has budgeted $60,000 for consultant services. This figure should be considered the upset amount of the contract.**

Submission Deadline:
Letters of interest will be due at **5:00 PM on Friday, May 20, 2016 at** the Capital District Transportation Committee offices (Attn: Anne Benware), One Park Place, Main Floor, Albany, NY 12205. **Six (6) hard copies of the submission and one (1) electronic copy on a CD are required.**

Steering Committee and Study Advisory Committee (SAC)
CDTC and the Town of Bethlehem will jointly manage the project. Final decision making authority rests with the Town in consultation with NYSDOT. A study advisory committee will be created with numerous representatives from the Town of Bethlehem and representatives from CDTC, CDRPC, NYSDOT, CDTA and Albany County (all as needed) to guide the study and meet with the consultant on, at minimum, five occasions as described in the scope of work.
All deliverables to be reviewed at study advisory committee meetings and public meetings must be received by committee members at least two weeks prior to the meeting. The consultant will be responsible for distributing deliverables to the study advisory committee via email or printed copy.

Deliverables –
The consultant will be responsible for providing the following deliverables:
Task 1.0
- *Technical staffs/consultant data discussion notes*
- *SAC Meeting 1 summary*
- *draft study principles and objectives*
- *draft MOEs*

Task 2.0
- *Existing Conditions Multi-modal Operational and Safety Analyses results*
- *Corridor Profile report including narrative, maps and other graphics, integrating these analyses and other information as required in the task description*
- *Draft Education and Outreach materials on complete streets elements*

- *SAC Meeting 2 summary*

Task 3.0

- *The consultant will develop a one-page flier to advertise the meeting with a link to the project website*
- *Workshop materials, handouts and presentations*
- *Workshop notes/summary of public comments*

Task 4.0

- *SAC Meeting 3 summary*
- *Materials needed to explain in various formats (narrative, maps and other graphics) each draft alternative overall and proposed elements they contain*

Task 5.0

- *Draft Alternatives and Multi-modal Operational and Safety Analyses results*
- *Draft Alternatives report including narrative, maps and other graphics*
- *Education and Outreach materials to clearly convey results of the Draft Alternatives evaluations*
- *SAC Meeting 4 summary*

Task 6.0

- *Workshop materials, handouts and presentations*
- *One-page flier to advertise the meeting*
- *Public Workshop notes/summary of public comments*
- *All materials will be placed on the project website for public review after SAC Meeting #5.*
- *SAC meeting 5 summary.*

Task 7.0

- *Two (2) digital copies and four (4) color hardcopies of the final documents with all the necessary figures, photos and sketches. Digital copies of any and all PowerPoint presentations, and any and all hand drawn original renderings and maps are also required.*

Submission Evaluation:

CDTC reserves the right to reject any or all submissions associated with this work. Based on the mix of qualified offerors responding to this REI, CDTC may request qualified offerors to consider contracting for only certain elements of the study or to consider partnering with other qualified offerors. CDTC may also require offerors to clarify aspects of their understanding of and approach to the study in person, in writing, or by telephone.

A qualified offeror will be selected based on the following criteria:

1. Relevant experience and the success of similar studies (in terms of scope and product) completed by the personnel assigned to the study. Extensive experience with multi-modal operations and safety analysis, pedestrian, bicycle and complete streets planning and design is required. Understanding of transit needs is also required.

2. Qualified personnel assigned to the study. The experience of the project manager will be heavily weighted in evaluation.

3. Responsiveness to the REI and understanding of the scope of products.

4. Ability to meet the desired schedule and willingness to be flexible if faced with unexpected delays.

5. Past performance of the offeror on Linkage Program studies or other relevant planning work.

6. Amount of work indicated to be accomplished within the budgeted amount for the study (if the offeror proposes adjustments to the scope of work outlined in this REI).

7. Demonstrated understanding of the context of the study area (knowledge of the Capital Region may be a plus).

8. CDTC considers Disadvantaged Business Enterprise (DBE). DBE offerors are strongly encouraged.

Federal Requirements and Compensation:
This study will be financed through the United States Department of Transportation. Federal contracting requirements will govern the solicitation. The contract will be executed by the Capital District Transportation Authority on behalf of CDTC.

CDTC will pay the Contractor on a reimbursement basis using invoices. Invoices shall document the number of hours worked, salary rate, and expenses by individual summarized by project task (tasks one to eight in this REI). Any other direct expenses should also be identified. With each invoice, the Contractor must submit a brief progress report describing the progress on each task. The progress report will serve as the basis for payment.

REQUEST FOR EXPRESSIONS OF INTEREST

CITY OF ALBANY
WASHINGTON AVENUE / PATROON CREEK CORRIDOR STUDY

issued by

Capital District Transportation Committee
Albany, N.Y.

August 22, 2017

Introduction

The Capital District Transportation Committee (CDTC) is the designated Metropolitan Planning Organization (MPO) carrying out federal requirements for cooperative transportation planning and programming within the metropolitan area surrounding the Albany-Schenectady (-Troy) and Saratoga Springs urbanized areas. The Washington Avenue / Patroon Creek Corridor Study was proposed by the City of Albany, in collaboration with UAlbany, to make further safety improvements after a recent reduction in the posted speed limit and to consider complete street design modifications consistent with the new speed limit. This study is funded through CDTC's 2017-18 Community and Transportation Linkage Planning Program with matching funds from the City of Albany. The study has a fixed budget of $90,000 for consultant services. CDTC, on behalf of the City of Albany, will administer the consultant contract and will jointly manage the study with the City.

Study Purpose, Background, and Study Area

The proposed project is related to CDTC's commitment in New Visions to linking transportation and land use planning under the Plan's goals for urban investment, concentrated development patterns and transit supportive land use; infrastructure that promotes health and smart growth; and planning and building for all modes of transportation including pedestrian, bicycle, public transit, cars and trucks. The purpose of the study is to identify and analyze the feasibility of a full range of appropriate complete streets elements for the study area of Washington Avenue in the City of Albany, NY, between Brevator Street and Eastbound I-90 Exit 2 (see Image 1 at right), and will provide the City and its partners with detailed illustrations of three complete design concepts. The study partners have identified a need to better accommodate all roadway users, of which personal vehicles have over time taken a higher priority than is desired.

Image 1: Study Area

While outside the City's area of influence, contextual consideration will be given to Washington Avenue Extension between Eastbound I-90 Exit 2 and Fuller Road. The roadway near Fuller was recently redesigned and reconstructed.

As one of several historic streetcar lines, Washington Avenue is a major east-west arterial that radiates from downtown Albany to the western boundary of the City. It is a "Principal Urban Arterial – Other" on the National Highway System, and is not a Qualifying or Access Highway. Within the study area, Washington Avenue is an automobile dominated roadway with a width ranging from 75ft to 100ft providing 4 – 6 vehicle travel lanes, multiple turn lanes, a striped center median, and wide shoulders. Four bus routes operate here, resulting in a peak-hour frequency of about ten minutes. While designed to accommodate vehicles from I-90, this particular area has had and continues to undergo development, including recent significant investment in water and sewer infrastructure. The UAlbany campus retains some of the aesthetic of the former country club on the site, including adjacent to Washington Avenue. What once was a wooded area on the north side of the street now consists of hotels, private dormitories, a gas station and other commercial uses, many of which serve the University at Albany, the Harriman State Office Campus, and the SUNY Polytechnic Institute campus. Combined, these three institutions serve 25,000 - 30,000 students and employees. As a result of this intensification of use, trip generators on the northern side of Washington Avenue have created the need for pedestrian and bicycle traffic to transverse the corridor, as well as a need for vehicular traffic to cross the corridor.

Recently, the City of Albany implemented its first zoning code update in almost 50 years. The new code has shifted the zoning for the study area corridor from primarily auto focused to a district that encourages mixed use development and provides much more specificity on design. Significant new activity located within the study area should be anticipated. The City also completed its Complete Streets Design Manual in early 2017, which will help to guide City Agencies in the design and construction of roadways that provide convenient access and mobility to all users.

In an effort to accommodate all users and modes of transportation, and create a complete street, the City of Albany reduced the speed limit along this segment of Washington Avenue from 45 mph to 30 mph in August 2016. In addition, exclusive pedestrian phases have been and will continue to be integrated into the traffic signal design at the SUNY campus entrances. However, despite these efforts, the design of the roadway still leads to higher speeds than those desired in a pedestrian friendly environment. This project will establish a target operating speed and identify complete streets design solutions consistent with the target operating speed and the need to better accommodate all roadway users.

The design concepts and complete streets features to be identified through this study will balance the needs of all roadway users in a manner that enhances quality of life, urban design, the local economy, and safety for all roadway users along this multi-modal and increasingly mixed use corridor. The Study Advisory Committee will determine any prioritization of competing roadway needs, and may not value free-flow, high-speed travel over pedestrian safety.

This study will include corridor specific traffic operations analyses and crash analyses of multiple design concepts, detailed illustrations of three complete design concepts, and strong stakeholder and community based outreach, education and input. One of the preferred concepts will be consistent with a repaving project: new striping, signage and ADA compliant curb ramps and other treatments (e.g. protected midblock crossings) and the others will be achievable through reconstruction type projects.

Scope of Work

The consultant will be required to complete the scope of work as outlined below. **If, based on consultants' knowledge or experience, the consultant believes the required scope of work should be changed in any way (including additional data needed from others) the suggested changes should be outlined in the letter of interest (as described in the Submission Instructions section of this REI).** Consultants will not be required to reproduce or recreate this scope of work in their letters of interest. The proposed micro-simulation approach should be included. Only modifications to what is requested will be required and considered in consultant evaluations.

The consultant will be available to meet with City and CDTC staff up to three times over the course of the study, as needed. The Planning Director will continuously communicate the project's status and concepts to the City's Mayor.

Of note is that Federal policies require documentation of certain subjects within Linkage study plans including Environmental Justice, Title VI of the Civil Rights Act of 1964, and environmental mitigation during the planning process at a scan-level, not engineering-level of detail. These elements must be addressed in the study. CDTC staff will work with the City and the selected consultant to ensure that these factors are integrated appropriately into the study and final report. Consideration throughout the document should be given to the Americans with Disabilities Act and the federal Ladders of Opportunity initiative. In addition, the final report must include a Planning/Environmental Linkages Questionnaire, to be completed after distribution of a draft final report, and may be incorporated as an appendix, or as determined by the Consultant. All visualizations must include a disclaimer statement, available from CDTC staff.

The consultant agrees to distribute all deliverables (except meeting summaries) to the Advisory Committee no later than two weeks prior to Study Advisory Committee meetings, to allow sufficient time for review and informed discussion. The consultant agrees to distribute meeting summaries and public outreach summaries to the Advisory Committee no later than two weeks after the meetings and outreach events. All deliverables must be complete, without grammatical errors, and provide labels where necessary, including for all charts, graphs, images, and quotes. All data sources will be cited, and axes on graphs will be labeled. Changes to correct such deficiencies are not to be considered extra work for the Consultant.

Task 1: Study Initiation and Initial Data Gathering/Synthesis

A) Review Previous and Ongoing Efforts

The consultant will review the prior Harriman Campus-University at Albany Transportation Linkage Study and CDTA Washington/Western BRT plans to familiarize themselves with the City's vision for the study area. The consultant will also review the City's new zoning code with a focus on the study area, as well as the City's Complete Streets Design Manual.

B) Study Area Site Visit

The consultant along with staff from the City, CDTC, UAlbany, and other SAC members will walk through the study area to become familiar with its existing physical attributes and potential constraints that must be considered in developing feasible alternatives.

C) Data

Prior to Study Advisory Committee Meeting #1, CDTC and City staff will provide data and information including:

- New zoning map, zoning district descriptions, allowable uses, and design requirements
- Existing land use data by parcel
- Existing access arrangements among parcels and between parcels and Washington Avenue
- Contact information for property and business owners on the corridor within the study area and between Washington Avenue and I-90
- Peak hour manual turn counts of motor vehicles (including trucks and busses), at the five signalized intersections
- Speed data near UAlbany, from before the speed limit change
- Three years of recent crash data, segmented by date of the speed limit change
- Signal timing and phasing plans for all signals in the study area, including pedestrian phases
- Pavement conditions and paving history
- Right-of-way limits in the study area
- Location of water lines, sewer lines, man holes, catch basins, and storm basins in the study area
- Corridor Land Use and Access: property name, type, access arrangements, curb cut density, and estimates of trip generation. For trip generation, CDTC staff will use both ITE trip generation estimates, and CDTC collected trip generation data for select land uses.
- Standard level of service calculations within the UAlbany campus
- Off-street parking supply on the north side of Washington Avenue between Exit 2 and the Harriman Campus
- Video and/or written description of pedestrian and traffic safety impacts immediately after a major snowfall, provided by UAlbany

The consultant will be expected to collect data including:

- School-year observation of pedestrian behavior and desire routes within the study area, at days and times agreed upon by the SAC
- Five Automatic Traffic Recorder counts, including volume and speed classification using methodology approved by the SAC, on Washington Avenue, approximately under the ring road bridges, east of the Collins Circle access, between the two signals near the State Police Academy, and at the two ring road ramps accessing Washington Avenue
- At agreed-upon times, peak hour counts of bicyclist and pedestrian crossings at the five signalized intersections, as well as at up to six agreed-upon non-signalized locations
- Motorist turn counts at Washington Avenue and Brevator Street, and a limited set at unsignalized driveways west of Harriman Campus
- Inventory of traffic signals, pedestrian signal heads and push buttons and their locations, as well as lighting locations and quality, and signage
- Number, widths, and locations of through lanes, turn lanes, shoulders, sidewalks, and pedestrian pathways throughout the study area, and location of curbing
- Data on CDTA route frequency, headways, bus stop locations and features, ridership and bikes on busses from CDTA, as well as plans for the Washington/Western BRT route.
- Projections of employment and student population in the study area
- Parking demand on the north side of Washington Avenue between Exit 2 and the Harriman Campus, as requested by the SAC

The consultant will be expected to perform data analysis including:

- Carry out current and forecast operational analyses using CDTC Congestion Management Process Excess Delay Thresholds (see attached). A micro-simulation model, such as Synchro or Vissim, is required – the proposed approach to the micro-simulation should be included in the letter of interest.
- Conduct safety analyses using nationally recognized crash reduction factors (CDTC staff will assist with this effort), or a Road Safety Audit following guidance from the Federal Highway Administration.

D) Study Advisory Committee (SAC) Meeting #1

SAC Meeting #1 will serve as the study kick-off meeting and will be led by the consultant team. The consultant should be prepared to

- Summarize previous and ongoing efforts, focusing on their relationship to this study
- Request any additional data necessary for the project
- Present a preliminary draft of the study's purpose and need for review, along with the planning horizon year, which is suggested to be 2040
- Review and confirm the scope of work and study area boundaries with the group
- Facilitate a discussion of expected performance outcomes, measures of effectiveness, prioritization of competing roadway needs, and methods for evaluating trade-offs, including methods and definitions for level of service, which will include a comfort scale for bicycle and pedestrian modes.
- Facilitate a discussion of data collection locations for limited turn counts and pedestrian and bicycle crossings, as well as timing of pedestrian behavior observations and pedestrian/bicycle crossings
- Review the overall study process including the roles and responsibilities of the study partners
- Propose a public education and outreach approach and stakeholder involvement process, including educational materials to be used and potential timing of the first of the two planned public workshops. Use of the City's social media accounts, paid social media outreach, and formal outreach techniques will be discussed. The City's web site will be utilized for input on the project and its draft products.

See the Study Advisory Committee section of this REI for additional detail on the study advisory committee roles and responsibilities.

Deliverables:

- *A brief chronology of previous planning activities including the year(s) the studies or projects were completed and the main take-aways related to this corridor study, and a summary of current efforts*
- *Draft purpose and need of a future project*
- *No greater than two weeks following SAC #1, performance outcomes, measures of effectiveness, prioritization of competing roadway needs, and methods for evaluating trade-offs, including methods and definitions for level of service, including a comfort scale for bicycle and pedestrian modes.*
- *Public education and outreach approach/stakeholder involvement process*
- *SAC Meeting 1 summary*

Task 2: Existing Conditions Multi-modal Operational and Safety Analyses/Corridor Profile

A) Operational and Safety Analyses/Existing Conditions Corridor Profile
The consultant will create an existing conditions corridor profile based on synthesis of data above and results of baseline operational and crash analyses for all modes. This task will produce the information needed for all directly involved with the study, as well as the public and other stakeholders, to understand how the current corridor functions for all roadway users. Results and deliverables from this task will serve as the basis upon which design concepts can then be evaluated in subsequent tasks. Deliverables must be of a quality to clearly convey information to a variety of audiences.

This baseline corridor profile will document in narrative, tabular and graphic formats current roadway mainline and intersection geometry (including number and width of travel lanes, turn lanes, and shoulders; current pavement striping plan; and pedestrian features including sidewalks, sidewalk buffer areas and crosswalks, pedestrian intersection infrastructure etc.) as well as current multi-modal level of service, access management, safety and other operational aspects of Washington Avenue, including operating speeds and overall corridor travel time. It will include functional classification and access control. The profile will document land uses (type of surrounding environment), community context and the corridor environment, both on the ground, and as expected with current approved development and new zoning. Pedestrian delay at signalized and non-signalized intersections and existing pedestrian travel paths to protected crossings should be evaluated in terms of distance and travel time.

Using accepted procedures as determined in Task 1, existing operating conditions at the five signalized intersections, a select set of unsignalized intersections and along the mainline will be analyzed.

Through this task a target operating speed and design speed will be established for the corridor. Design and operating speed are considered to be critical factors in influencing complete street design parameters such as lane width, traffic control, crossing design, bike and pedestrian treatments, etc. The success of any complete street concept is largely dependent on achieving slower speeds through the corridor. According to the *TRB Special Report 254, Managing Speed*, target speed for an urban main street should be established based on context and other factors, not solely on the basis of the 85th percentile speed.

The safety analysis will describe options based on the Federal Highway Administration's crash modification factors to evaluate alternatives developed in a subsequent task. Crashes by type and pattern will be tallied with CDTC's assistance. Crash types in the corridor that have been proven to be mitigated by various measures will be noted.

B) Educational and Outreach Materials
Educational and outreach materials for use at the first public meeting and stakeholder outreach will be developed cooperatively with the consultant taking the lead and with assistance from CDTC and City staff. They will include a presentation and poster-sized visual aids. These draft education and outreach materials will be reviewed by the SAC at Meeting #2. At a minimum information on numerous roadway design elements, the study background, and the corridor profile/existing conditions will be provided. The City's Complete Streets Design Manual should be used and cited as appropriate. In addition, guidance on complete streets from sources such as NYSDOT, FHWA, the National Complete Streets Coalition, AASHTO and NACTO may be referenced.

C) Study Advisory Committee (SAC) Meeting #2

This SAC meeting will take place after the completion of the operational and safety analysis in Task 2A for review/discussion of the products developed. Based on the initial discussion at the first SAC meeting, the project's purpose and need, the performance outcomes, measures of effectiveness, prioritization of competing roadway needs, and methods for evaluating trade-offs, including methods and definitions for level of service will all be confirmed.

The first public meeting will be scheduled at this meeting. The consultant will develop a one-page flier to advertise the public meeting with a link to the project website, and present a plan for paid social media to advertise the meeting. Materials produced as part of this task will be revised in preparation for the public meeting. The SAC will review materials to be shown at the public workshop, including information on numerous roadway design elements, the study background, and the corridor profile/existing conditions. The Consultant will design and distribute a survey to elicit public input from people unable to attend the workshop and stakeholder meetings. The SAC will discuss survey type and distribution at this meeting. This survey shall be available to the public no later than one day after the workshop.

Deliverables:

- *Finalized project purpose and need, performance outcomes, measures of effectiveness, prioritization of competing roadway needs, and methods for evaluating trade-offs, including methods and definitions for level of service*
- *Existing Conditions Multi-modal Operational and Safety Analyses results*
- *Corridor Profile report including narrative, maps, charts, and other graphics, painting a holistic yet easily understandable picture of the corridor*
- *No greater than two weeks following SAC #2, target operating speed and design speed for use in the study*
- *Education and Outreach materials for Public Workshop #1, including one-page flier, information on roadway design elements, the study background, and the corridor profile/existing conditions*
- *Survey document*
- *SAC Meeting 2 summary*

Task 3: Public Workshop #1 and Stakeholder Meetings

A) Public Workshop #1

The first public meeting will be an opportunity for people to learn about design options and to share their walking, bicycling, transit riding and driving experiences, opinions and advice and also have a chance to learn about the study process, including the results of the Operational and Safety Analyses/Corridor Profile tasks. The meeting will take place during the UAlbany fall or spring session.

It is anticipated that this meeting will be an interactive workshop in which participants can mark-up maps and provide input on target speed and draft elements to be considered in the subsequent alternatives' concepts to be developed and evaluated in later tasks.

The City will secure appropriate meeting space. The consultant will be responsible for advertising the public workshop, presenting the educational materials, leading facilitation of the discussion, engaging the public at the workshop and preparing necessary meeting materials such as poster size visuals of the study area, maps and associated pertinent data/material. CDTC and City staff can assist with workshop

facilitation with prior arrangement. Materials shown at the public workshop will be provided to the City for posting to the project website the day after the workshop.

B) Stakeholder Meetings

The Consultant will organize a minimum of two stakeholder meetings for property and business owners, at times and locations convenient for the property and business owners. The minimum two meetings are envisioned to divide the corridor generally into the UAlbany area and the Harriman Campus area, as divided by the ramps between the SEFCU Headquarters and the Washington Center Medical Arts area. The consultant will invite all business and property owners in the corridor, including all parcels between Washington Avenue and I-90. In addition, the Consultant will design and distribute a survey to elicit public input from stakeholders unable to attend the meetings. This survey shall be available no later than one day after the first meeting. Future development ideas should be discussed.

Deliverables:

- *Workshop materials, handouts and presentations, posted to website no later than 1 day following Public Workshop #1*
- *Workshop notes/summary of public comments*
- *Stakeholder meeting notes/summary of comments*
- *Stakeholder survey document*

Task 4: Development of Draft Design Concepts/SAC Meeting #3

A) Study Advisory Committee (SAC) Meeting #3

The SAC will review and approve for web posting the public workshop #1 notes and summary of comments at this meeting.

The consultant will facilitate a “brain-storming” session to help develop desirable and practical design concept(s) based on previous study tasks, including discussions with the technical staffs, SAC, information learned at the public workshop, discussion at the stakeholder meetings, and survey results.

B) Identification of Draft Design Concepts

The consultant will develop multiple concepts for a redesign of Washington Avenue. Creativity will be necessary. Potential roadway and corridor concepts will include alternatives for cross sections and lane configurations/reconfigurations, access management treatments, traffic control devices (striping, signage, medians, protected pedestrian crossings, etc.), intersection designs, and other complete streets elements identified through the study process, such as bicycle accommodations. The Consultant shall relate design concepts to the City’s Complete Streets Design Manual. The consultant will describe preliminarily undesired design elements, which may include walls, tunnels, and bridges. Based on input and information from City staff and volunteer City committees, streetscaping and green infrastructure should be integrated into concepts where appropriate. Effects on transportation system resiliency and reliability and stormwater mitigation should be evaluated. The Consultant shall seek and integrate opportunities for placemaking and preserving existing natural settings, particularly along the UAlbany campus. Design concepts are to be tested for feasibility based on agreed upon performance outcomes and measures of effectiveness to balance the needs of all roadway users and the existing and planned surrounding land uses.

Feasible concepts will include but not necessarily be limited to:

- Concepts achievable through a repaving project: new striping, signage and ADA compliant curb ramps and other treatments (e.g. protected midblock crossings, etc.) that could be coordinated with a repaving project.
- Concepts achievable through roadway changes that could be achieved through a "Beyond Pavement Preservation" type project in the future

Guidance on road diets and complete streets from sources such as NYSDOT, FHWA, the National Complete Streets Coalition, AASHTO and NACTO may be used to assist in alternatives development.

C) SAC Meeting #4 to Review Evaluation Results of Complete Streets Design Concepts
The SAC will meet to review and discuss the draft design concepts, and come to agreement on the concepts to be carried into Task 5. This may be a recombination of design elements among the design concepts. The SAC will also determine the types of renderings to be created in Task 5.

Deliverables:

- *SAC Meeting 3 summary*
- *Survey results*
- *Narrative, maps and other graphics of each draft design concept as well as the elements they contain and disclaimer statements*
- *Feasibility analysis based on agreed-upon performance outcomes and measures of effectiveness*
- *No greater than two weeks after SAC #4, description of concepts to be carried into Task 5*
- *SAC Meeting 4 summary*

Task 5: Evaluation of Identified Design Concepts/SAC Meeting #5

A) Evaluation Process
The consultant will conduct an evaluation of the design concepts. The evaluation will be based on the same operational methods used to create the existing conditions corridor profile and the agreed upon project purpose and need, performance outcomes, and measures of effectiveness developed at the beginning of the study. It will include both current and forecast year conditions under each design concept. As part of this task the Consultant will conduct safety analyses using nationally recognized crash reduction factors (CDTC staff will assist with this effort), or a Road Safety Audit following guidance from the Federal Highway Administration.

Evaluation methodology should be documented and results for each design concept presented in narrative, tabular and graphic formats to provide easily identifiable proposed locations for various elements and to allow easily understood comparisons to existing conditions and the design concepts. The potential safety, multimodal level of service/operations, access management, traffic calming (including anticipated speeds and driving time), resiliency, reliability, and stormwater impacts and other impacts such as relative cost ranges (i.e. lower cost, moderate or higher cost), of each alternative are to be described. The consultant will describe any undesired design elements along with a rough estimate of the cost of each and the reason(s) each is undesired. Using CDTC-provided environmental resource and environmental justice mapping, any potential resource impacts should be described, along with potential mitigation measures; and effects on environmental justice populations should be described, along with mitigation measures for potentially negative impacts. The consultant will prepare draft renderings representative of each design concept, to be used for feedback at the public workshop.

The corridor micro-simulation model will be helpful in evaluating options. CDTC will supplement this model to determine any diversion impacts of design concepts.

B) Meeting with NYSDOT Region I staff
If necessary as requested by NYSDOT staff, the consultant will be available to prepare for and attend one meeting with the City of Albany, CDTC, and NYSDOT Region 1 staff, to provide NYSDOT the opportunity to review and comment on alternatives. This meeting is likely to be desired at this point in the project if any of the alternatives under consideration may impact the intersection at the Exit 2/West University Drive intersection with Washington Avenue. However, NYSDOT staff will determine appropriate timing.

C) SAC Meeting #5 to Review Evaluation Results of Complete Streets Alternatives
The SAC will meet to review and discuss products resulting from completion of the evaluation and technical assessments in Task 5A.

The second public meeting will be scheduled at this meeting. Based on the SAC meeting, materials produced as part of this task will be revised in preparation for the public meeting. Educational and outreach materials needed to clearly convey the impacts of the proposed alternatives against the safety and operational assessments for all modes and other measures of effectiveness, especially any potential trade-offs that will be required, will be discussed. Materials will be used at the second public meeting and for stakeholder outreach. The Consultant will design and distribute a survey to elicit public input from people unable to attend the meeting, and will present a plan for paid social media to advertise the meeting. The SAC will discuss survey type and distribution at this meeting. This survey shall be available to the public no later than one day after the workshop.

Deliverables:
- *Draft Design Concepts and Multi-modal Operational and Safety Analyses results, provided to the City no later than the day after Public Workshop #2, for posting to the project website*
- *Draft Design Concepts report including narrative, maps and other graphics with disclaimers, provided to the City no later than the day after Public Workshop #2, for posting to the project website*
- *Education and Outreach materials, as needed to clearly convey results of the Draft Design Concepts evaluations*
- *Draft renderings (with disclaimers) representative of each design concept*
- *SAC Meeting 5 summary*

Task 6: Public Workshop #2

The consultant will conduct a second public meeting using a presentation and workshop format to review the material in the draft complete streets alternatives and evaluation results with the community. The meeting will take place during the UAlbany fall or spring session. The consultant will facilitate the workshop in a way to maximize public interaction and comment for use in finalizing three preferred concepts. CDTC and City staff can assist with facilitation with prior arrangement.

The consultant will develop a one-page flier to advertise the meeting with a link to the project website. The consultant will be responsible for advertising the public workshop. The City will secure appropriate meeting space. The consultant will facilitate the discussion, engaging the public at the workshop. The consultant will also prepare poster size visuals of the corridor study area and graphics illustrating the

alternatives and their various complete streets elements, and will provide pertinent data/material related to the evaluation and multi-modal performance results, highlighting all trade-offs.

SAC meeting #6 will be scheduled after the second Public Meeting for review/discussion of the results.

Deliverables:

- *Workshop materials, handouts and presentations, provided to the City no later than the day after the public workshop, for posting to the project website*
- *One-page flier to advertise the meeting, poster size visuals of the study area, and graphics (with disclaimers) illustrating the alternatives, provided no later than two weeks prior to the public meeting*
- *Survey document*
- *Public Workshop notes/summary of public comments, no later than two weeks following the meeting*

Task 7.0: Development of Final Report on Design Concepts and Features including an Implementation Strategy/SAC Meeting #6

A) SAC Meeting #6

The SAC will review and approve for web posting the public workshop #1 notes and summary of comments at this meeting. The Consultant will facilitate a discussion of public and SAC input on the design concepts, and determination of three design concepts to carry into the final report.

B) Final Report

The Final Report will incorporate revisions to the design concepts and materials presented at the public meeting based on public input, stakeholder input, and Study Advisory Committee review and discussion. The Final Report will present concepts in narrative form, photos, maps, renderings, and detailed graphics to clearly and logically present the design concepts and a plan for implementation. It will include detailed illustrations of three complete design concepts. Disclaimers will accompany all graphical representations. The report will include documentation of any eliminated design concepts and individual design elements that are not desired, along with reasons for their elimination, which should relate to the project's purpose and need. The report will include an implementation component that develops preliminary costs of the three complete design concepts, and outlines an implementation plan that includes ways to finance the preferred design concepts. Project phasing may be included in the implementation plan. Recommendations for lower cost improvements that can be implemented during maintenance projects other than repaving or other City, state, or private developer activities will also be described. Necessary and recommended education, enforcement, and legal system actions should be detailed, including the recommended implementer of each.

Recommendations for potential adjustments to the City's new zoning code to address any identified conflicts or disconnects between the new zoning requirements (including design guidelines) and the preferred design options and features are to be described.

The report will describe the study's coordination with federal, state and local environmental, regulatory and resource agencies and will describe their level of participation. It will provide a synopsis of

coordination efforts with the public and stakeholders, and describe any unresolved issues or concerns from the public, stakeholders, and/or agencies. The report will include a summary of the types of public outreach, the number and type of meetings held and the number of attendees. It will include a Planning/Environmental Linkages Questionnaire, a template for which is available from CDTC staff. The final report will document communication on the status and concepts of the project with the City's Mayor, as provided by the City's Director of Planning. Finally, it will describe CDTC's Congestion Management Process Excess Delay Thresholds as it relates to the forecasting of traffic volumes.

The consultant will complete up to two (2) revisions to the final report in a timely manner and in the format requested by the Study Advisory Committee. The final draft will include environmental justice and environmental features documentation, and credit and disclaimer statements, provided by CDTC staff. Please note that the final draft is not the final draft until it is complete: without placeholder, without grammatical errors; with a table of contents and page numbers; with labels where necessary, including for all charts, graphs, images, and quotes; with citations for all data sources, and with labels on axes on graphs. Changes to correct such deficiencies are not to be considered extra work for the Consultant. Final materials will be placed on the project website.

Deliverables:

- *SAC Meeting 6 Summary*
- *Four (4) digital copies and six (6) color hardcopies of the final documents with all the necessary figures, photos and sketches. Digital copies of any and all PowerPoint presentations, and native format original files of any and all hand drawn original renderings, digital renderings, and maps are also required. Any GIS mapping that is developed by the consultant will be given to the City of Albany and CDTC in ArcView 10.x format for future use.*

Administrative Aspects

The City of Albany and CDTC will be jointly responsible for study oversight. A Study Advisory Committee (SAC) with representatives from the City, CDTC, CDTA, Albany County, CDRPC, NYSDOT, and other stakeholders selected by the City will guide the study and meet with the consultant on a regular basis—six SAC meetings are planned as noted in individual tasks above. Materials to be reviewed and discussed at SAC meetings will be available at least two (2) weeks prior to the scheduled meeting to allow adequate review time by members. Materials will be distributed to SAC members via email.

Regular correspondence between the consultant and the SAC via email and/or phone will be included. The public workshops are in addition to the SAC meetings and the consultant is expected to attend all meetings. Three meetings with City of Albany and CDTC staff should also be expected. Interim documents will be provided to the City and CDTC in MS Word or Adobe Acrobat (.pdf) format to enable the City and CDTC to place them on their websites.

The final report will be provided in electronic and hardcopy formats. CDTC will receive two (2) color copies of the final report and the City will receive four (4) color copies of the final report. CDTC will receive one (1) and the City will receive three (3) copies of the final report on CD or USB drive in MS Word (.doc/docx) and Adobe Acrobat (.pdf) format, along with native format files of all renderings, GIS files, and any other work done for the project. The final report will also be posted on the project website and the City of Albany's and CDTC's websites. **CDTC and the City of Albany will assume ownership of all materials, studies, and graphics etc., which are part of the document and/or planning process.**

The consultant contract will be administered by CDTC on behalf of the City of Albany. Carrie Ward from the CDTC staff will serve as the contact for expressions of interest and administrative questions. Her telephone number is 518-458-2161. The City and CDTC will be jointly responsible for study oversight.

Submission Instructions:

Offerors may be firms or qualified individuals. Responses to this REI must include all of the following elements (the letter of interest is supplemented by the additional material). Please note that materials submitted to CDTC are subject to the Freedom of Information Law (FOIL). If the respondent provides material(s) of a confidential nature for disclosure to third parties, the respondent should clearly indicate the specific material(s) it considers confidential. Subject to the provisions of FOIL and any other applicable laws, CDTC may agree to maintain confidentiality of such material(s) if requested. CDTC assumes no responsibility for any loss or damage resulting out of any determination requiring disclosure of information pursuant to FOIL.

1. ***A letter of interest*** (no more than two pages) that demonstrates the offeror has a clear understanding of the issues associated with this study and communicates the offeror's ability to complete the scope of work as required. The offeror may propose adjustments to the required scope of work in this letter if the offeror believes that those adjustments would add value to the study or would be more appropriate for the allotted budget. Inclusion of a project schedule is essential and should be included as a one-page addendum to this letter of interest. Proposed micro-simulation approach should be specified. There is no need to repeat the required scope of work in the letter of interest. Attached is a proposed contract form for this agreement, containing standard CDTA language for a federally assisted contract. Any exceptions to this agreement must be clearly identified in the offeror's letter of interest***.***

2. ***Examples of relevant previous work*** that demonstrate the offeror has the technical capabilities, experience, and inter-personal skills to perform the required tasks. Examples of completed work assignments and successful plan implementation projects that demonstrate experience of the personnel assigned to the study with multimodal operations and safety analysis, graphic design, innovative and creative roadway, bicycle and pedestrian network and facility planning and design should also be included. Stressing experience in unrelated activities is not encouraged and may leave the impression that the offeror does not correctly grasp the project's scope. Reference contact information is required.

3. A ***management plan identifying the contractor's personnel*** who will be working on the study ***including resumes***. The project manager should be clearly identified and reflect a professional experienced in conducting challenging community conversations. If a team of firms is responding to this REI, please include the resumes of the personnel working on the study for the lead firm as well as all sub-consultant firms. Please ensure that the titles of the identified personnel match those on the resumes and in the price proposal described below in number 4. Failure to properly identify personnel significantly reduces the credibility of the proposal. A project schedule should also be provided that demonstrates how the team will complete the work on time.

4. ***A price proposal including all costs anticipated***. Hours and hourly wages by task and by personnel should be included. This should be completed for both the lead consultant and any sub-consultants, if they are utilized for the study. In addition, a timeline for the study by task should be included.

CDTC and the City would like to have this study conducted in an expeditious manner. The time frame for the study is expected to run for ***no greater than*** 12 calendar months from the date of contract

execution. **CDTC has budgeted $90,000 for consultant services. This figure should be considered the upset amount of the contract.**

Submission Deadline:
Letters of interest will be due at **5:00 PM on Monday, September 25, 2017 at** the Capital District Transportation Committee offices (Attn: Carrie Ward), One Park Place, First Floor, Albany, NY 12205. **Seven (7) hard copies of the submission and one (1) electronic copy on a CD or USB drive are required.**

Steering Committee and Study Advisory Committee (SAC)
CDTC and the City of Albany will jointly manage the project. Final decision making authority for this study rests with the City in consultation with Albany County and NYSDOT. A study advisory committee will be created with numerous representatives from the City of Albany and representatives from CDTC, CDRPC, NYSDOT, CDTA and Albany County (all as needed) to guide the study and meet with the consultant on, at minimum, six occasions as described in the scope of work.

All deliverables to be reviewed at study advisory committee meetings and public meetings must be completed and received by committee members at least two weeks prior to the meeting. The consultant will be responsible for distributing deliverables to the study advisory committee via email or printed copy. Study Advisory Committee members must provide any comments on documents to be used at public meetings a minimum of one week prior to the scheduled public meeting. Likewise, any major issues with

Deliverables –
The consultant will be responsible for providing the following deliverables:
Task 1
- *A brief chronology of previous planning activities including the year(s) the studies or projects were completed and the main take-aways related to this corridor study, and a summary of current efforts*
- *Draft purpose and need of a future project*
- *No greater than two weeks following SAC #1, performance outcomes, measures of effectiveness, prioritization of competing roadway needs, and methods for evaluating trade-offs, including methods and definitions for level of service, including a comfort scale for bicycle and pedestrian modes.*
- *Public education and outreach approach/stakeholder involvement process*
- *SAC Meeting 1 summary*

Task 2
- *Finalized project purpose and need, performance outcomes, measures of effectiveness, prioritization of competing roadway needs, and methods for evaluating trade-offs, including methods and definitions for level of service*
- *Existing Conditions Multi-modal Operational and Safety Analyses results*
- *Corridor Profile report including narrative, maps, charts, and other graphics, painting a holistic yet easily understandable picture of the corridor*
- *No greater than two weeks following SAC #2, target operating speed and design speed for use in the study*
- *Education and Outreach materials for Public Workshop #1, including one-page flier, information on roadway design elements, the study background, and the corridor profile/existing conditions*
- *Survey document*
- *SAC Meeting 2 summary*

Task 3

- *Workshop materials, handouts and presentations, posted to website no later than 1 day following Public Workshop #1*
- *Workshop notes/summary of public comments*
- *Stakeholder meeting notes/summary of comments*
- *Stakeholder survey document*

Task 4

- *SAC Meeting 3 summary*
- *Survey results*
- *Narrative, maps and other graphics of each draft design concept as well as the elements they contain and disclaimer statements*
- *Feasibility analysis based on agreed-upon performance outcomes and measures of effectiveness*
- *No greater than two weeks after SAC #4, description of concepts to be carried into Task 5*
- *SAC Meeting 4 summary*

Task 5

- *Draft Design Concepts and Multi-modal Operational and Safety Analyses results, provided to the City no later than the day after Public Workshop #2, for posting to the project website*
- *Draft Design Concepts report including narrative, maps and other graphics with disclaimers, provided to the City no later than the day after Public Workshop #2, for posting to the project website*
- *Education and Outreach materials, as needed to clearly convey results of the Draft Design Concepts evaluations*
- *Draft renderings (with disclaimers) representative of each design concept*
- *SAC Meeting 5 summary*

Task 6

- *Workshop materials, handouts and presentations, provided to the City no later than the day after the public workshop, for posting to the project website*
- *One-page flier to advertise the meeting, poster size visuals of the study area, and graphics (with disclaimers) illustrating the alternatives, provided no later than two weeks prior to the public meeting*
- *Survey document*
- *Public Workshop notes/summary of public comments, no later than two weeks following the meeting*

Task 7

- *SAC Meeting 6 Summary*
- *Four (4) digital copies and six (6) color hardcopies of the final documents with all the necessary figures, photos and sketches. Digital copies of any and all PowerPoint presentations, and native format original files of any and all hand drawn original renderings, digital renderings, and maps are also required. Any GIS mapping that is developed by the consultant will be given to the City of Albany and CDTC in ArcView 10.x format for future use.*

Submission Evaluation:

CDTC reserves the right to reject any or all submissions associated with this work. Based on the mix of qualified offerors responding to this REI, CDTC may request qualified offerors to consider contracting for only certain elements of the study or to consider partnering with other qualified offerors. CDTC may also require offerors to clarify aspects of their understanding of and approach to the study in person, in writing, or by telephone.

A qualified offeror will be selected based on the following criteria:

1. Relevant experience (knowledge, understanding, and experience with multi-modal operations and safety analysis, pedestrian, bicycle, transit, and complete streets planning and design) and the successful completion of similar projects (in terms of scope and product) accomplished by the personnel assigned to the project.
2. Qualified personnel assigned to the project. The experience of the Project Manager will be heavily weighed, as will the number of hours by key personnel.
3. Responsiveness to the REI and understanding of the scope of products.
4. Past performance of the offeror on Linkage Program studies or other relevant planning work.
5. Amount of work indicated to be accomplished within the budgeted amount for the study (if the offeror proposes adjustments to the scope of work outlined in this REI).
6. Demonstrated understanding of the context of the study area.
7. CDTC considers Disadvantaged Business Enterprises (DBE). DBE offerors are strongly encouraged.

Federal Requirements and Compensation:
This study will be financed through the United States Department of Transportation. Federal contracting requirements will govern the solicitation. The contract will be executed by the Capital District Transportation Authority on behalf of CDTC.

CDTC will pay the Contractor on a reimbursement basis using invoices. Invoices shall document the number of hours worked, salary rate, and expenses by individual summarized by project task (tasks one to seven in this REI). Any other direct expenses should also be identified and receipts must be provided. With each invoice, the Contractor must submit a brief progress report describing the progress on each task. The progress report will serve as the basis for payment.

REQUEST FOR EXPRESSIONS OF INTEREST

FREEMANS BRIDGE ROAD COMPLETE STREETS CONCEPT PLAN
issued by

Capital District Transportation Committee
Albany, N.Y.

January 23, 2017

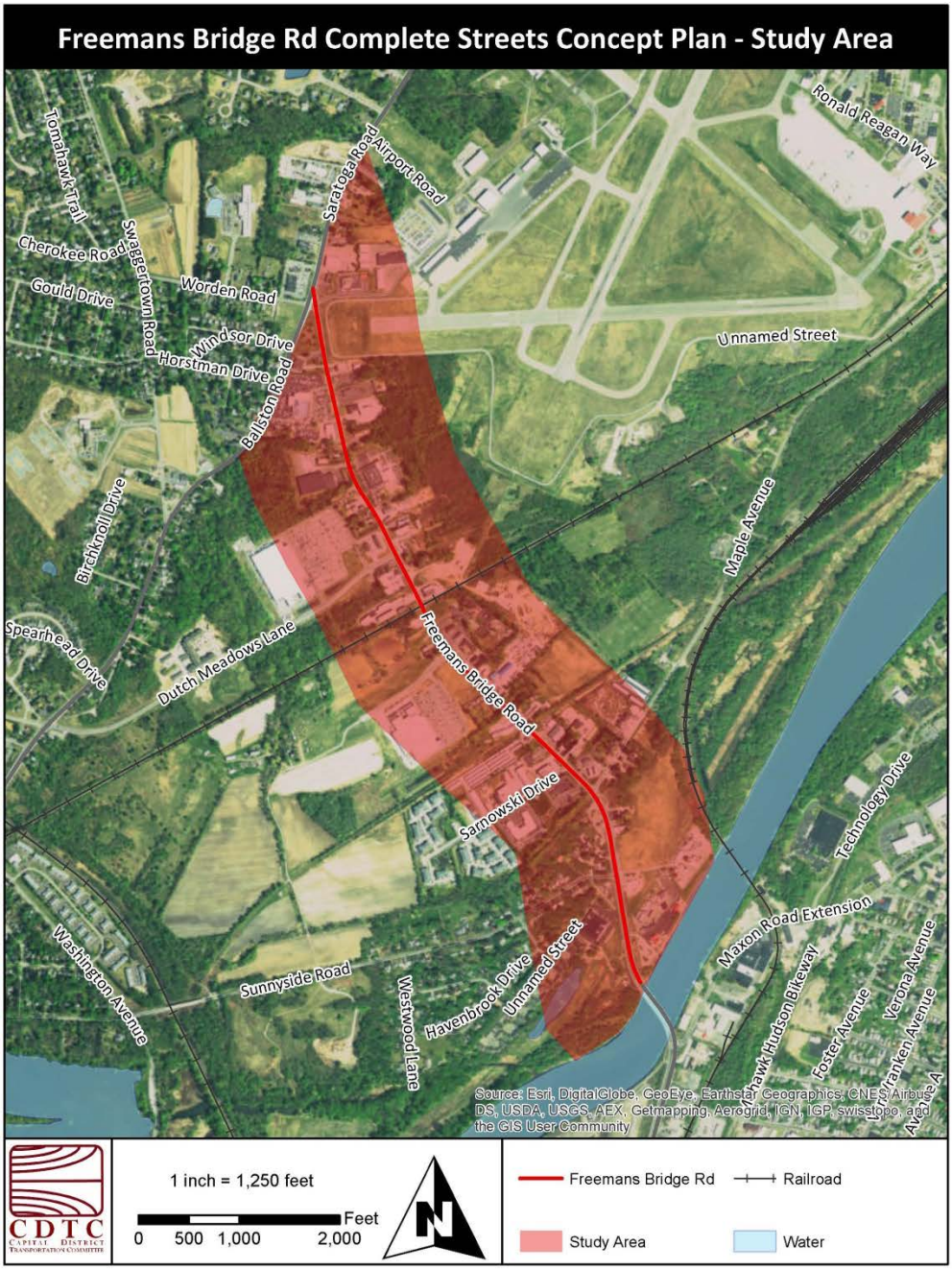
Study Background & Purpose

The Freemans Bridge Road Complete Streets Concept Plan will analyze the existing conditions and research alternatives for future roadway design and land use controls that will enable safe, attractive, and comfortable access and travel for all users of Freemans Bridge Road. Using a Complete Streets design approach, the Study will consider the convenient access and mobility on the road network for motorists, pedestrians, bicyclists and public transportation users. Currently Freemans Bridge Road (NY Route 911F), a state-owned facility between Nott Street and its intersection with Route 50, adequately serves the needs of motor vehicles, however, alternative modes of transportation, including cycling and walking, are accommodated less so.

The purpose of the study is to develop recommendations for alternative design concepts toward creation of a more welcoming built environment that will accommodate the needs of all users. Future land use and transportation planning policies will integrate safety improvements, minimize environmental impacts, encourage economic growth, and build a Complete Street that is safe, convenient and comfortable for all ages and abilities using any mode of transportation (motor vehicle, public transportation, foot, bicycle, etc.), and make the Town a more walkable, livable, and healthy place to live, work, and play. The Study will be developed with guidance from local residents and business owners, as well as other key stakeholders in the corridor to ensure understanding, and achieve "buy-in" on the Complete Streets concepts.

Study Area

The Study Area includes Freemans Bridge Road (NY Route 911F) in the Town of Glenville from the Mohawk River in the east to NY Route 50 in the west. Adjacent roadways, neighborhoods, and other land uses are part of the analysis.



Scope of Work

The consultant will be required to complete the scope of work as outlined below. If, based on consultant knowledge or experience, the consultant believes the required scope of work should be changed in any way; the suggested changes should be outlined in the letter of interest (as described in the Submission Instructions section of this REI). Consultants will not be required to reproduce or recreate this scope of work in their letters of interest. Only modifications to what is requested will be required and considered in consultant evaluations.

Task 1: Project Coordination/Initial SAC Meeting (approximately 10% of effort)

The initial meeting will set the stage for the development of the project. At this meeting, key transportation and land use issues regarding the Freemans Bridge Road corridor will be identified by the consultant and discussed with the Study Advisory Committee (SAC). The project scope and schedule will be reviewed and refined, project tasks will be delineated, and the planning process will be reviewed. The methods to be used to ensure broad participation from residents, key stakeholder groups and the business community in the public outreach tasks will be reviewed and refined, including project website or webpages development. The existing conditions inventory work (Task 2) will be discussed in detail including any outstanding data collection needs.

The draft study goals, objectives, planning principles, and corridor vision will be developed at this meeting to help guide the study, and will be consistent with the Town's Complete Streets goals, Comprehensive Plan, and other relevant previous planning efforts as identified by the Town of Glenville, CDTC and NYSDOT. Complete streets are not a "one size fits all" design. Rather, the selected design alternative(s) will depend on the surrounding context, goals and objectives, as well as careful analysis of tradeoffs of different solutions. Conventional planning evaluates transportation system performance using roadway level-of-service (LOS), which measures motor vehicle delays. This approach makes traffic congestion the primary planning "problem" and assumes that increasing roadway capacity is an improvement that is inherently desirable. Complete Streets planning requires multi-modal evaluation which recognizes the trade-offs that exist between different modes of transportation and the negative impacts that wider streets and increased vehicle traffic can have on access and community livability. These trade-offs need to be clearly delineated and understood by the Study Advisory Committee (SAC) during this phase of the project.

The selected consultant will develop a Complete Streets Educational and Policy Toolkit. The Town of Glenville is considering adopting a town-wide Complete Streets Policy. The selected consultant will review and summarize Complete Streets policies/ordinances from jurisdictions similar to the Town of Glenville, for consideration by the Town Board, and assemble an appendix of current policies and/or ordinances in New York State. Educational and outreach materials for use at the public workshops, stakeholder outreach and the Study Advisory Committee (SAC) will be developed cooperatively with the consultant taking the lead and with assistance from CDTC and Town staff. Numerous national and state resources exist from which to pull from.

Deliverables: *Prepare SAC meeting #1 minutes. Prepare a technical memo outlining and explaining draft study goals, objectives, and planning principles, and a discussion of trade-offs. Prepare a Complete Streets Education and Policy Toolkit*. This information will subsequently be distributed to all SAC members. Using web-based software, the consultant will develop and maintain a project website to be used for information sharing and as a means of public outreach.

Task 2: Existing Conditions Inventory and Analysis (approximately 15% of effort)

The consultant, with assistance from Town and CDTC staff, will review and summarize, as they relate to the Freemans Bridge Road corridor, all relevant previous planning efforts, including, but not limited to, the Freemans Bridge Road Traffic Evaluation (2015), Town of Glenville Comprehensive Plan (underway), Freemans Bridge Road Master Plan (2004), and the Town Center Master Plan (2004). It is anticipated the consultant will review any previous planning efforts, and suggest additional improvements with respect to traffic flow and safety for all users. Turn movement counts, other traffic data, future traffic volumes, and traffic operations and capacity evaluations contained in the Town's Freemans Bridge Rd Traffic Evaluation (2015) should be used as a baseline and updated only as needed.

The selected consultant will be expected to coordinate with the Freemans Bridge Gateway Revitalization project, a planning effort being developed concurrently through a NY Dept. of State 2015-2016 Environmental Protection Fund Local Waterfront Revitalization Grant. The selected consultant will be expected to, at a minimum, share all project information with the Gateway project team, have a flexible approach that allows incorporation of Gateway project recommendations as they evolve, and provide feedback on Gateway project plans as they are developed. In addition, the selected consultant should expect to attend up to two (2) project coordination meetings with the Freemans Bridge Gateway Revitalization project team. These meetings will be scheduled and coordinated by Town of Glenville staff.

The consultant will review and analyze an inventory of existing and proposed transportation facilities within the Study Area, including roadway, pedestrian, bicycle, freight, and transit. The existing conditions inventory includes, but is not limited to:

To be provided by:		
Town of Glenville	CDTC	Consultant
▪ Property Ownership ▪ Tax Parcel Data ▪ Current Land Use ▪ Current Zoning ▪ Info on current and proposed projects ▪ Turn movement counts, other traffic data, future traffic volumes, and traffic operations and capacity evaluations contained in the Town's Freemans Bridge Rd Traffic Evaluation (2015)	▪ Bicycle and Pedestrian Facilities, such as: o Sidewalks o Crosswalks o Bicycle Routes o Multi-use Trails o On street bicycle facilities ▪ Transit Facilities, such as: o Bus routes o Bus stops o Bus shelters ▪ Freight Facilities, such as: o Designated Truck Routes o Location of freight infrastructure (ex: Railroad right-of-way) ▪ Crash data ▪ Completed Planning and Environmental Checklist Questionnaire ▪ Highway Roadway Data available from the NYSDOT Roadway Inventory System (RIS), such as o Functional Class o Number of Lanes o Street right-of-way o Lane and shoulder width o Parking o Speed Limit	▪ Right-of-way(s) ▪ Easements ▪ Highway/Roadway Data not available in the NYSDOT RIS, such as: o Street right-of-way and other easements o Lane, shoulder and snow storage width o Traffic volumes, class and speed o Driveway access(es) o Pavement Condition (available from NYSDOT) ▪ Roadway Operational Characteristics, such as: o Any available data from the NYSDOT Traffic Data Viewer o Signal timing plans (available from NYSDOT) o Travel times and travel speeds (with assistance from CDTC) ▪ NYSDOT Record Plans

Information on projects that are under construction, are funded but not yet built, and those that have been proposed/planned will also be made available to the selected consultant by the Town of Glenville.

The consultant will use this inventory along with other information, including a field survey of the Study Area to document the natural and built environment, and review any relevant planning and zoning documents, land use regulations and street design standards.

The consultant will prepare maps, other graphics, and a narrative analysis of the existing conditions in the study area. Mapping will include a base map(s) of the Study Area based upon tax parcel data and other data provided by CDTC, the Town of Glenville, and Schenectady County. The map(s) should include inventories of land uses, transportation features, property ownership, easements & right-of-ways, recreational facilities, as well as

other local destinations.

The mapping products should be presentation quality for use during meetings with the Study Advisory Committee (SAC). Paper (color) copies of these map(s) should be made available to the SAC. Also, digital photographs should be taken and given detailed descriptive captions to illustrate existing land uses, current pedestrian, bicycle and/or transit facilities, street and traffic conditions and other important elements of the Study Area infrastructure.

A SAC meeting (meeting #2) will be scheduled after the completion of Task 2 for review/discussion of the products developed. At the meeting the consultant will gather input on how the existing conditions information, goals, objectives, planning principles, corridor vision, and various Complete Streets elements, and Complete Streets trade-offs could best be presented to the public. The first public workshop is expected to be scheduled at this meeting. The consultant will organize and lead a study area field walk and/or bike ride with the SAC in conjunction with SAC meeting #2.

Deliverables: *Prepare base map(s), digital photographs with captions, and existing conditions analysis and narrative. The deliverables shall include a descriptive summary of the corridor's context, existing conditions, current land-uses, a map of tax parcel ownership, and route right-of-way or other significant constraints.* After SAC review and any needed revision, the maps, photographs, and narrative of existing conditions, etc. will be posted to the project website/webpages. The selected consultant will prepare meeting notes and distribute to all Study Advisory Committee members. *Prepare SAC meeting #2 minutes.*

Task 3: Public Workshop #1 (approximately 5% of effort)

The Consultant will conduct two (2) public workshops and a public presentation (a total of 3 public meetings) that will involve residents, targeted stakeholders and business/property owners within the study area. The first public workshop is detailed in this section; the second public workshop is detailed in Task 5, while the public final presentation is described in Task 7.

Involvement of the public in this planning effort is critical to its success. The consultant will participate in first public workshops to gather input and inform citizens, elected officials, staff, stakeholders, and other agencies about the project. The first workshop will be an opportunity for citizens to share their experiences traveling along the corridor and have a chance to learn about the planning process. The workshop content should educate citizens about what Complete Streets are (and are not), the Complete Streets approach to roadway design, and the wide range of benefits associated with Complete Streets.

It is anticipated that this meeting will be an interactive workshop in which participants can mark-up maps indicating such items as the destinations they want to go to by walking or bicycling, their preferred Complete Streets treatment(s), safety issues or concerns and where other amenities, such as way finding signage or bicycle parking, are needed.

The Consultant will use the draft products developed in Task 2 as a basis for initial ideas on filling in gaps in the respective vehicular, pedestrian, bicycle and transit networks and to help identify opportunities and challenges related to each network, potential methods for prioritizing

improvements, opportunities for connections to destinations within the Town and surrounding municipalities, and economic benefits and for the public to discuss and provide comment.

Advertising for the public workshop and securing appropriate meeting space will be a collaborative effort between Town of Glenville staff and the selected consultant. The consultant will be responsible for facilitating the discussion and engaging the public at the workshop and will prepare necessary meeting materials such as poster size visuals of the study area, maps and associated pertinent data/material.

Deliverables: *The consultant will develop a one-page flier to advertise the public meeting with a link to the project website/webpage as well as workshop materials, handouts and presentations. Notes and a summary of public comments from the workshop, including the number and nature (ex: resident, business owner, etc.) of attendees, will be prepared by the consultant and distributed to the entire Study Advisory Committee.* Once approved by the SAC, all meeting materials will be posted to the project website.

Task 4: Develop Draft Freemans Bridge Road Complete Streets Concept Plan (approximately 35% of effort)

Using the recommendations outlined in past planning efforts, the results of Task 2, and the input received in Task 3 as a baseline, the consultant will develop a draft motor vehicle, pedestrian, bicycle, access management and transit transportation network and plan: a Draft Freemans Bridge Road Complete Streets Concept Plan. The consultant will provide implementation recommendations and opportunities for funding. The Plan will identify and evaluate a full range of potential improvements that are appropriate for all users, which at minimum meet the identified project key objectives.

The consultant will compile and analyze all data collected to help develop the preliminaryDraft Freemans Bridge Road Complete Streets Concept Plan. The consultant will analyze study area roadways for potential addition of bicycle and pedestrian facilities using Geographic Information Systems (GIS) analysis and field evaluation. The Draft Freemans Bridge Road Complete Streets Concept Plan will consider, to the extent possible, all potential Complete Streets treatments, including, but not limited to, suggestions of stakeholders and previous studies.

The Draft Freemans Bridge Road Complete Streets Concept Plan will develop comprehensive Complete Streets alternatives and recommendations. The consultant will determine the most appropriate types of bicycle & pedestrian facilities (ex: on-street bike lanes, sidewalks, off-street bicycle paths, shared-use paths, marked shared lanes, and signed routes) for Freemans Bridge Road and other connecting roadways in the study area.

The Draft Freemans Bridge Road Complete Streets Concept Plan shall include at a minimum:

- Up to 2 conceptual designs for the corridor that address the goals, objectives, planning principles, and vision developed in Tasks 1-3.

- Design recommendations for the study area, including representative typical cross-sections for roadways based on roadway classifications, making use of currently available resources as appropriate (i.e. New York State Highway Design Manual, AASHTO Guide for the Development of Bicycle Facilities 2012, the NACTO Urban Street Design Guide and Bikeway Design Guide, among others).
- Opportunities for corridor "gateway" improvements to complement the desired roadway character.
- Multi-modal connection recommendations, including potential new connecting collector streets.
- Access Management opportunities, including opportunities for driveway consolidation.
- Multi-modal planning-level operational analysis, including level-of-service, sufficient to meet the decision-making needs of the roadway owner(s).
- Conceptual intersection designs and renderings of proposed concepts.
- Clear delineation of trade-offs amongst the various modes of transportation treatments, displayed in a matrix format, using measures-of-effectiveness as the basis for comparison.
- Opportunities for green stormwater infrastructure, including identifying locations and providing similar examples.
- Order-of-magnitude (planning-level) cost estimates to aid with decision-making.
- Implementation strategy, including potential funding sources, and recommended changes to existing Town Standards, Codes and/or Ordinances, and review/approval processes needed to implement the plan.
    - Define short, medium, and long term implementation opportunities
    - Explanation of methodology to prioritize improvements to facilities

As concepts are first being developed, the consultant is to prepare for and attend a meeting with the Town of Glenville, CDTC, and NYSDOT Region 1 staff, to provide NYSDOT the opportunity to review and comment on concepts related to Freemans Bridge Rd (NY 911F) or other State-owned roads before the plan reaches the draft stage. Similarly, if any of the proposed concepts appears to traverse large areas of privately-owned property, the consultant will be available to prepare for and attend up to three (3) meetings with potentially affected property owners, or their representatives.

A SAC meeting (meeting #3) will be scheduled before the completion of Task 4 for review/discussion of the products developed. Necessary revisions to draft products will then be made prior to Public Workshop #2.

Deliverables: *Prepare Draft Freemans Bridge Road Complete Streets Concept Plan in hard copy and electronic versions. Prepare SAC meeting #3 minutes.* The Draft Freemans Bridge Road Complete Streets Concept Plan will be placed on the project website after SAC review and approval, and at least 2 weeks prior to Public Workshop #2.

Task 5: Public Workshop #2 (approximately 5% of effort)

The consultant will conduct a second public workshop to review the material in the Draft Freemans Bridge Road Complete Streets Concept Plan with the community. The consultant will facilitate the workshop in a way to maximize public interaction and comment for use in finalizing the document. The second public meeting will incorporate suggestions received from the first public workshop and present the Draft Freemans Bridge Road Complete Streets Concept Plan designs, renderings, and conceptual cost estimates.

Advertising for the public workshop and securing appropriate meeting space will be a collaborative effort between Town of Glenville staff and the selected consultant. The consultant will be responsible for facilitating the discussion and engaging the public at the workshop and will prepare poster size visuals of the study area, maps and associated pertinent data/material.

SAC meeting #4 will be scheduled after the completion of Task 5 for review/discussion of the public workshop results.

Deliverables: *Prepare workshop materials, handouts and presentations. The consultant will develop a one-page flier to advertise the meeting with a link to the project website. Notes and a summary of public comments from the workshop, including the number of attendees, will be prepared by the consultant and distributed to the entire Study Advisory Committee.* All materials will be placed on the project website at least 2 weeks prior for public review. *Prepare SAC meeting #4 minutes.*

Task 6: Development of Final Freemans Bridge Road Complete Streets Concept Plan (approximately 25% of effort)

The Final Freemans Bridge Road Complete Streets Concept Plan will incorporate revisions to the draft document resulting from the public and stakeholder outreach process, and recommendations made by the SAC. The Final Study will present concepts in narrative form, photos, maps, renderings, and detailed graphics to clearly and logically present the concept(s) for the study area.

The consultant will identify implementation strategies and priorities for future pedestrian, bicycle, and transit improvements. The consultant will also recommend changes to existing Town Standards, Codes and/or Ordinances, and will identify review/ approval processes needed to implement the plan. The consultant will develop conceptual cost estimates for construction of all recommended improvements in the study area. Contingencies should be built into the conceptual cost estimates budget to include such things as areas that may need additional engineering or environmental analysis and amenities (ex: bike racks, signage, etc.). The consultant will assist in prioritization of recommended improvements for local capital projects and will advise on maintenance responsibilities and possible appropriate state/federal grants.

As final concepts are first being developed, the consultant will be available to prepare for and attend a meeting with the Town of Glenville, CDTC, and NYSDOT Region 1 staff, if needed. The meeting will provide NYSDOT the opportunity to review and comment on concepts

related to State owned roads, with the goal of developing a final study and concept plan that is acceptable to all affected parties.

Of note is that Federal policies require documentation of certain subjects within Linkage study plans including Environmental Justice, Title VI of Civil Rights Act of 1964, the Americans with Disabilities Act and environmental considerations (environmental mitigation requirements) during the planning process at a scan-level, not engineering-level of detail. These elements must be addressed in the final product. CDTC staff will provide the required information to the consultant to be included in the final plan report.

SAC meeting #5 will be scheduled after the completion of Task 6 for final review and discussion of next steps toward developing and implementing the recommended improvements.

Deliverables: *The consultant will complete any necessary revisions to drafts and a final Study in a timely manner and in the format requested by the Study Advisory Committee. Two (2) digital copies and four (4) color hardcopies of the final documents with all the necessary figures, photos and sketches. Digital copies of any and all PowerPoint presentations, and any and all hand drawn original renderings and maps are also required.* Any GIS mapping that is developed by the consultant will be given to Town of Glenville and CDTC in ArcView format for future use. *Prepare SAC meeting #5 notes*. Materials will be placed on the project website/webpages.

Task 7: Final Public Presentation (approximately 5% of effort)

At this final public meeting the consultant will present the final document to the Town of Glenville Town Board in a public presentation. This formal presentation will inform the public as to how a final study and concept plan was formulated based on the findings throughout the study. This plan and presentation are to include any recommendations that the consultant has formed as a result of the study. Securing appropriate meeting space will be a collaborative effort between Town of Glenville staff and the selected consultant. The consultant will be responsible for presenting the project findings, and engaging the elected officials at the workshop, and will prepare visuals of the study area, maps and associated pertinent data/material.

Deliverables: *The consultant will develop visuals of the study area, maps and associated pertinent data/material. The consultant will develop a one-page flier to advertise the meeting with a link to the project website.*

Upon completion of the Linkage Study process, the Town Board will consider the findings of the Study and consider adopting the Study by a formal resolution. The Town will also consider adopting a Complete Streets Policy, to enhance the transportation network to meet the needs of motorists, pedestrians, bicyclists, children, persons with disabilities, movers of commercial goods, and users of public transportation. A Complete Streets Policy will also support future land use changes that will enhance the corridor, and assist the Town with planning for reconstruction,

maintenance, and/or repair of the roadway to improve safety and accessibility for all roadway users.

Administrative Responsibilities

The consultant contract will be administered and managed by CDTC on behalf of the Town. CDTC and the Town of Glenville will jointly manage the study.

Study Advisory Committee (SAC)

A study advisory committee will be created with, at a minimum, numerous representatives from the Town of Glenville, and representatives from CDTC, CDRPC, CDTA, NYSDOT and Schenectady County, as needed, to guide the study and meet with the consultant on a regular basis. The consultant will be expected to present information related to the study tasks at these meetings as outlined in the scope of work. The consultant will lead a minimum of five (5) SAC meetings, one public information session, two (2) public workshops and at least one (1) presentation to the Glenville Town Board as described in the scope of work, all of which will have participation from the SAC.

All deliverables to be reviewed at study advisory committee meetings and public meetings must be received by the study advisory committee at least one week prior to the meeting. The consultant will be responsible for distributing deliverables to the study advisory committee via email or via the internet (FTP site, project website, etc.). If there is no way to provide the files electronically, the consultant will be responsible for providing hardcopies to the members of the study advisory committee one week prior to the meeting.

Deliverables

The consultant will be responsible for providing the following deliverables as outlined in the scope of work.

Task 1: Project Coordination/Initial SAC Meeting Deliverables: *Prepare SAC meeting #1 minutes. Prepare a technical memo outlining and explaining draft study goals, objectives, and planning principles, and a discussion of trade-offs. Prepare a Complete Streets Education and Policy Toolkit.*

Task 2: Existing Conditions Inventory and Analysis Deliverables: *Prepare base map(s), digital photographs with captions, and existing conditions analysis and narrative. The deliverables shall include a descriptive summary of the corridor's context, existing conditions, current land-uses, a map of tax parcel ownership, and route right-of-way or other significant constraints. Prepare SAC meeting #2 minutes.*

Task 3: Public Workshop #1 Deliverables: *The consultant will develop a one-page flier to advertise the public meeting with a link to the project website/webpage as well as workshop materials, handouts and presentations. Notes and a summary of public comments from the workshop, including the number and nature (ex: resident, business owner, etc.) of attendees, will be prepared by the consultant and distributed to the entire Study Advisory Committee.*

Task 4: Develop Draft Freemans Bridge Road Complete Streets Concept Plan Deliverables: *Prepare Draft Freemans Bridge Road Complete Streets Concept Plan in hard copy and electronic versions. Prepare SAC meeting #3 minutes.*

Task 5: Public Workshop #2 Deliverables: *Prepare workshop materials, handouts and presentations. The consultant will develop a one-page flier to advertise the meeting with a link to the project website. Notes and a summary of public comments from the workshop, including the number of attendees, will be prepared by the consultant and distributed to the entire Study Advisory Committee. Prepare SAC meeting #4 minutes.*

Task 6: Development of Final Freemans Bridge Road Complete Streets Concept Plan Deliverables: *The consultant will complete any necessary revisions to drafts and a final Study in a timely manner and in the format requested by the Study Advisory Committee. Two (2) digital copies and four (4) color hardcopies of the final documents with all the necessary figures, photos and sketches. Digital copies of any and all PowerPoint presentations, and any and all hand drawn original renderings and maps are also required. Prepare SAC meeting #5 notes*.

Task 7: Final Public Presentation Deliverables: *The consultant will develop visuals of the study area, maps and associated pertinent data/material. The consultant will develop a one-page flier to advertise the meeting with a link to the project website.*

The final report will be provided in digital and paper formats. The consultant will provide a total of nine (9) full-color copies to CDTC and the Town for distribution to Town Board members and CDTC staff. Each agency will also receive digital copies of the report. Base files for all graphics, maps, charts, and other materials must also be provided digitally using software that can allow town staff to make modifications or simple edit changes. CDTC and the Town of Glenville will assume ownership of all materials, studies, surveys, mapping, illustrations, etc. which are part of the document and planning process.

CDTC
CAPITAL DISTRICT TRANSPORTATION COMMITTEE

CAPITAL DISTRICT Regional Planning Commission

May 29, 2019

Mayor Thomas A. Gifford
Village of Scotia
4 North Ten Broeck Street
Scotia, NY 12302-2280

The Honorable Thomas A. Gifford:

The Capital District Transportation Committee (CDTC) and the Capital District Regional Planning Commission (CDRPC) are pleased to inform you that the Village of Scotia NY 5/NY 50 Traffic and Case Study Review has been approved for funding by CDTC's Planning Committee through the 2019 CDTC/CDRPC Community Planning Technical Assistance Program. Your CDTC/CDRPC technical assistance award is $7,196 in addition to the Village's 25% local match contribution of $1,799 (adjusted based on the CDTC/CDRPC budget) for a total project value of $8,995. Chris Bauer (cbauer@cdtcmpo.org, 518-458-2161) and Dave Jukins (djukins@cdtcmpo.org, 518-458-2161) of the CDTC have been assigned to work with you on this project.

This letter serves as our mutual commitment to the project and includes the final scope of work by task, a detailed breakdown of the estimated project value and a match documentation template form for the local match contribution. The match documentation form will be provided to CDRPC at the conclusion of the project. The Technical Assistance Program is new and we have done our best to anticipate the scale of the requests and estimate the amount of time it will take to complete the agreed to tasks. Flexibility will be provided to account for unforeseen challenges in completing the scope of work in a timely manner. Additional requests for assistance beyond the agreed to scope of work cannot be considered. Failure to provide the agreed to local support for the project may result in cancellation of the project and impact your ability to apply for Technical Assistance Program projects in the next two federal fiscal years (through March 31, 2022).

If you have any questions about the enclosed material, please contact Sandy Misiewicz of the CDTC (518-458-2161) or Mark Castiglione of the CDRPC (518-453-0850). We thank you for your interest in the Technical Assistance Program and look forward to working with you.

Sincerely,

Michael V. Franchini
CDTC Executive Director

CC: Andrew Kohout, Village of Scotia Superintendent of Public Works
Mark Castiglione, CDRPC

Encl.

2019 CDTC/CDRPC Technical Assistance Program

Village of Scotia
NY 5/NY 50 Intersection Traffic and Case Study Review
Scope of Work

The Village of Scotia has a high volume intersection adjacent to its central business district and Collins Park at the intersection of NY 5 and NY 50. The pavement at this intersection is wide and contains a right turn only lane from NY 5 to NY 50 and a left turn only lane from NY 50 to NY 5 to accommodate morning and evening commuter traffic. This traffic often passes through the Village at higher than desired speeds and favors motor vehicles over other roadway users. This effort seeks to evaluate, at a conceptual level of detail, traffic at the NY 5/NY 50 intersection in the context of providing a safe and enjoyable experience for all roadway users, especially pedestrians, bicyclists and mass transit riders. The information provided will assist the Village in assessing the need to undertake a more detailed planning study of the entire NY 5 corridor through the business district in the future. CDTC and CDRPC will provide Technical Assistance to the Village as follows:

Task 1: Inventory and assess existing conditions

Village staff, as part of its in-kind service commitment, will collect motor vehicle, pedestrian and bicyclist traffic volume data during the morning and evening peak periods (7 – 9 a.m. and 4 – 6 p.m., respectively) at the NY 5/NY 50 intersection. In addition, any Village required traffic impact studies or other relevant data related to this intersection will be provided to CDTC for review. CDTC will catalog traffic, roadway characteristics and crash data available through NYSDOT, will request transit use information from CDTA and will utilize the regional travel model to estimate the distribution of trips from areas adjacent to this intersection. A site visit will be conducted jointly by CDTC and Village staff to catalog the existing infrastructure features and other relevant site specific information. Maps may be created by CDTC to communicate the findings.

Task 2: Complete Street Case Study Review

CDTC will identify no more than four (4) case studies of traffic calming/road diet/complete street projects planned or implemented on State highways that have characteristics that in some way resemble those of the NY 5/NY 50 intersection. The Village would like to see examples of what might be possible and learn about the tradeoffs made in their design. Delaware Avenue in the Town of Bethlehem could be one example.

Task 3: Informational Meeting

CDTC and CDRPC staff will participate in one meeting involving Village employees, elected officials, business owners and others to gather information on the issues related to the NY 5/NY 50 intersection and to share the case study and existing conditions information.

Task 4: Technical Memorandum Preparation

CDTC will work with the Village to prepare a technical memo documenting the findings of Tasks 1, 2 and 3 including next steps and potential funding opportunities.

Total Project Value:

CDTC and CDRPC have developed a total project value based on the value of CDTC and CDRPC staff time and the 25% match required for the 2019 CDTC/CDRPC Technical Assistance Program. At the conclusion of the project, the applicant will be required to document actual cash or in-kind match contribution of not less than 25% of the project value using the Match Documentation template on page 4.

Local Match Source

In- Kind Match: Salaries/ Wages/ Travel (See https://www.gsa.gov/portal/category/26429 for rates)

Staff Time and/or Activity (meetings, plan production, review)	**Rate (x/hr or x/mile)**	**Estimated Total Hours or Mileage**	**Value (Total Hours or Mileage X Rate)**
Project Coordination Calls/Meetings	$59.78/hr	5	$298.90
Data Collection/Traffic Counts	$43.15/hr	30	$1,294.50
Case Study and Material Review	$59.78/hr	5	$298.90

Total Local Match $1,892.30

CDTC/CDRPC Staff Time

Description	**Hours**	**Total Amount**
CDTC Staff Time	75	$6,675.00
CDRPC Staff Time	5	$521.00

Total CDTC/CDRPC Staff Time $7,196.00

Total Project Value and Match

Total Value of Staff Time: $7,196.00

Total 25% Match*: $1,799.00

Total Project Value: **$8,995.00**

Additional Local Match: *$93.30*

*Documentation of in-kind match contributions is required for up to 25% of the project value. Documentation for the additional local match is not required.

SCOTIA ADDRESS
PHONE | EMAIL

2019 Technical Assistance Program
Match Documentation

DATE: XXXXXXX

TO:
Capital District Regional Planning Commission
c/o Mark Castiglione
1 Park Place
Albany, NY 12205

FOR:
CDTC/CDRPC 2019 Technical Assistance Program
[PROJECT NAME]
[SUBMITTED BY]

QUANTITY	DESCRIPTION	RATE	AMOUNT*
		TOTAL	

* For in-kind contributions, provide the number of hours worked, salary rate, and expenses by individual and any other direct expenses such as meeting expenses, employee per diem, etc. with receipts.

Pursuant to the authority vested in me, I certify that the costs were expended in performance of work authorized under the referenced project.

Date _____ Signature _____

VILLAGE OF SCOTIA: NY 5 & NY 50 INTERSECTION TRAFFIC AND COMPLETE STREETS CASE STUDY REVIEW

September 24, 2019

CDTC/CDRPC Technical Assistance Program

Today's Agenda

1. Introductions
2. Review Tech Memo
3. Discussion
4. Adjourn

After meeting – review and comment

Draft Tech Memo

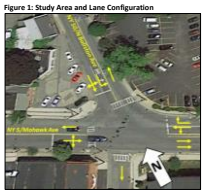
- CDTC/CDRPC Tech Assist Program
  - Small-scale – not a fully vetted "plan"
- Outline:
  - Background
  - Existing Conditions
    - All modes
    - Crash data
    - STEP model output
  - Complete Streets Case Study
    - Similar planning projects
    - Potential next steps and approach
- Draft – not for distribution (yet)

Background (p. 1-2)

Site visit 6/3/2019 and 6/6/2019 w/ Staff

- The Village desires to make their Central Business District more attractive for all modes of transportation
- Heavy left-turning movements from NY 50 southbound to NY 5 eastbound during the AM peak hour, and heavy right turning movements from NY 5 westbound to NY 50 northbound in the PM peak hour
- Motorists often improvise an additional eastbound through lane on NY 5/Mohawk Ave
- Motorists on NY 5/Mohawk Ave westbound from the Western Gateway Bridge are often traveling 'fast'

Figure 1: Study Area and Lane Configuration



Roadway Characteristics (p. 2-3)

Table 1: Study Area Roadway Characteristics

Leg	North	South	East	West
Posted Speed Limit	30 mph	30 mph	30 mph	30 mph
Total Pavement Width*	35'	24'	48'	40'
Total Number of Lanes	3	1	4	2
Lane Width*	SB right/thru/left: 10' SB left: 10' NB departure: 15'	SB departure: 24' (includes on-street parking)	WB right: 12' WB thru/left: 10' EB departure (1): 12' EB departure (2): 10'	EB right/thru/left: 19' WB departure: 19'
Median	No	No	Yes: 4' (striped)	No
Sidewalks	Yes, both sides	Yes, both sides	Yes, both sides	Yes, both sides
Bicycle Lanes	No	No	No	No
Transit Amenities	None	None	Stop with sign only	Stop with sign only
AADT	15,970 (2016 actual)	Not available	27,817 (2016 forecast)	12,305 (2016 forecast)

*Widths are approximate and should be verified before proceeding with a detailed design.

Roadway Characteristics (p. 2-3)

Table 1: Study Area Roadway Characteristics

	NY 50/N Ballston Ave	S Ballston Ave	NY 5/Mohawk Ave	NY 5/Mohawk Ave
Leg	North	South	East	West
Posted Speed Limit	30 mph	30 mph	30 mph	30 mph
Total Pavement Width*	35'	24'	48'	40'
Total Number of Lanes	3	1	4	2
Lane Width*	SB right/thru/left: 10' SB left: 10' NB departure: 15'	SB departure: 24' (includes on-street parking)	WB right: 12' WB thru/left: 10' EB departure (1): 12' EB departure (2): 10'	EB right/thru/left: 19' WB departure: 19'
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Transit Amenities	None	None	Stop with sign only	Stop with sign only
AADT	15,970 (2016 actual)	Not available	27,817 (2016 forecast)	12,305 (2016 forecast)

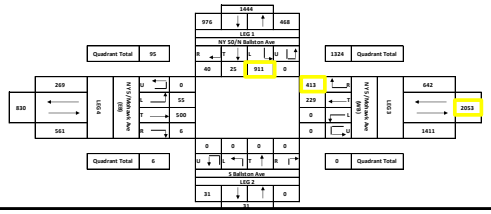
*Widths are approximate and should be verified before proceeding with a detailed design.

Roadway Characteristics (p. 2-3)

- Sidewalks and curb ramps on all four (4) legs of the intersection
- Crosswalks across NY 50/N Ballston Ave, S Ballston Ave, and NY 5/Mohawk Ave on the western leg of the intersection.
  - There is no crosswalk across the eastern leg of NY 5/Mohawk Ave
- Pedestrian signal heads and push buttons to cross NY 50/N Ballston Ave and NY 5/Mohawk Ave on the western portion of the intersection
  - No pedestrian signal heads or push buttons to cross S Ballston Ave or the eastern leg of NY 5/Mohawk Ave

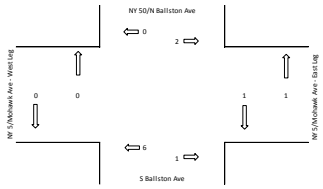
Traffic Volume Data – AM Peak (p. 3)

- Motor Vehicle Peak 7:15 AM – 8:15 AM



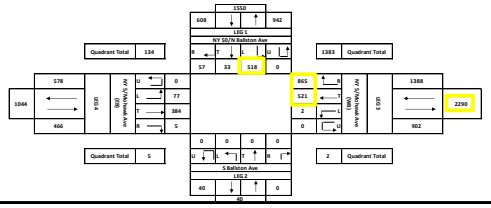
Traffic Volume Data – AM Peak (p. 4)

- Motor Vehicle Peak 7:15 AM – 8:15 AM
  - Pedestrians:
  - 2 Bicycles
    - Both NY 5 wb



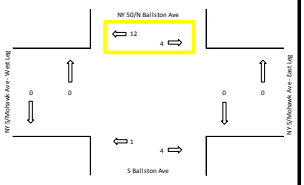
Traffic Volume Data – PM Peak (p. 4)

- Motor Vehicle Peak 4:45 PM -5:45 PM



Traffic Volume Data – AM Peak (p. 5)

- Motor Vehicle Peak 4:45 PM – 5:45 PM
  - Pedestrians:
  - 5 Bicycles
    - 1 NY 5 WB
    - 1 NY 50 SB to NY 5 EB
    - 3 NY 5 EB



Planning/Sketch Level-of-Service (LOS) Analysis (p.5)

- HCS 7
- Highway Capacity Manual
- Field SB delay varies
- Signal timed for PM Peak?

Table 2: Planning/Sketch Level LOS Analysis

	AM Peak (current)		AM Peak (remove one SB lane)		PM Peak (current)		PM Peak (remove one SB lane)	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
NY 5/Mohawk Ave Eastbound Approach	22.0	C	22.0	C	20.9	C	20.9	C
NY 5/Mohawk Ave Westbound Approach	6.3	A	6.3	A	8.5	A	8.5	A
NY 50/N Ballston Ave Southbound Approach	102.5	F	143.3	F	24.9	C	30.6	D
Intersection	**53.4**	**D**	**71.7**	**E**	**14.9**	**B**	**16.3**	**B**

- **Requires further analysis**

Crash Data (p. 6-7)

- Entire Village
- March 1, 2014 – February 28, 2019
- Total crashes = 853
- 728 (85.3%) collisions between two (2) or more motor vehicles
- 21 (2.5%) of the crashes involved pedestrians and 8 (0.9%) involved bicyclists
- Majority:
  - Daylight (73%)
  - Clear Weather (61%)
  - Property Damage Only (86%)
- 120 (14%) were Serious Injury or Other Injury
- 1 Fatality

Crash Locations (p. 8-9)

- # of crashes (not crash rate)
- Top intersections:
  - **NY 5 & NY 50**
  - NY 5 & NY 147
  - NY 5/ Mohawk Ave & Glen Ave/ Schonowee Ave
  - 5th St/ Washington Ave & NY 50

Crashes at NY 5/Mohawk Ave and NY 50/N Ballston Ave (p. 8-10)

- Same period March 1, 2014 – February 28, 2019
- Total crashes = 72 (at or near)
- 64 (88.9%) collisions between two (2) or more motor vehicles
- 1 (1.4%) involved a pedestrian
- Majority:
  - Daylight (72%)
  - Clear Weather (51%)
  - Property Damage Only (64%)
- 7 (9%) were Serious Injury or Other Injury
- 1 Fatality

CDTA Transit Information (p. 11)

- Bus Stops – 3
  - 2 on NY 5/Mohawk Ave; 1 on NY 5 eastbound approach, 1 on the westbound departure
    - Route signs and sidewalks,
  - 1 is 400' east of the intersection, on NY 5/Mohawk Ave westbound approach, near Collins Park
    - Route signs, sidewalks, and a bench

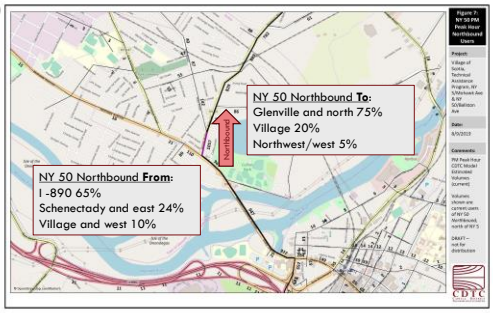
CDTA Transit Information (p. 11)

- Bus Routes – 2
  - **Route 353 Scotia-Mt. Pleasant**
    - Wal-Mart Supercenter on Dutch Meadows Ln in Glenville, the Hamilton Hill neighborhood in Schenectady, and Price Chopper located on Altamont Ave in Rotterdam
    - In the Village operates along NY 5/Mohawk Ave, NY 147/Sacandaga Ave, 5th St, Vley Rd, Cuthbert St, and NY 50/N Ballston Ave
    - 7 days a week; 30-minute headways from 9:00 AM to 7:00 PM, and 45-minute headways in the off-peak
    - From approximately 5:06 AM to 11:24 PM on weekdays
  - **Route 50 Schenectady-Wilton**
    - Downtown Schenectady, Saratoga Springs, and Wilton
    - In the Village operates along NY 5/Mohawk Ave and NY 50/N Ballston Ave
    - 7 days a week; 20 to 40-minute headways from 7:30 AM to 7:30 PM, and 50-minute headways in the off-peak
    - From approximately 4:45 AM to 12:18 PM on weekdays
  - It is unknown if CDTA is planning any improvements in the area of the NY 5/Mohawk Ave and NY 50/N Ballston Ave intersection
  - CDTA Ridership Data – requested

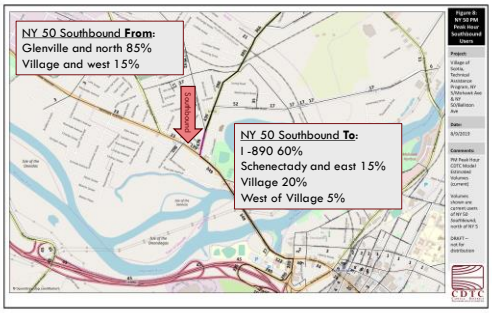
Regional Trip Distribution from CDTC STEP Model (p. 12-14)

- STEP Model (Systematic Transportation Planning and Evaluation Model)
- 4 counties, Federal Aid eligible roads+
- Based on demographic data
- PM Peak Hour estimated volumes - compared against actual traffic counts to validate
- Who is using the intersection? 2 questions:
  1. **Where are people using NY 50 northbound, north of NY 5, coming from and going to? (Figure 7)**
  2. **Where are people using NY 50 southbound, north of NY 5, coming from and going to? (Figure 8)**

(p. 13)



(p. 14)



Freight Base Map (p. 15-16)

- Vehicle class counts from 2001-2017 (use with caution)
- NY 5 is NYSDOT Access Highway (correct limits?)

Complete Streets Case Study Review (p. 17-18)

- Similar CDTC Linkage Studies:
  - Delaware Avenue Complete Street Feasibility Study (2017) – NY 443
  - City of Albany Patroon Creek/Washington Avenue Corridor Study (2019)
  - Freemans Bridge Rd Complete Streets Concept Plan (2018) – NY 911F

- Multi-modal Complete Streets approach and analysis – **Trade-offs**
- Heavy NYSDOT Coordination
- Business owner and public input
- Scope-of-work included – Linkage application scope does not need to be as detailed

Potential Linkage Study Approach (p. 18)

- Typically a good candidate for a Linkage Study
- Consider a *Complete Streets Concept Plan* or similar for NY 5/Mohawk Ave and/or Village's Central Business District
- Build off of CS Workshop, Tech Assist, and other previous
- CS not a "one size fits all" design
  - Trade offs need to delineated and understood by the public and business owners
- Linkage funding not guaranteed – depends on funding and pool of applications

Potential Study Considerations (p. 18-21)

a. Curb extensions (aka bulbs-outs)

- Channelize traffic
- Narrower roadway feel (speed)
- Shortens pedestrian crossing distance
- Primary stakeholders: CDTA, NYSDOT, transit users, business owners, public

Figure 12: Complete Street Design with Curb Extension

Location: New Scotland Ave & Myrtle Ave, City of Albany

Potential Study Considerations (p. 18-21)

b. Eliminate dual left-turn lane on NY 50/N Ballston Ave southbound

- Could be done with A
- Storage lane is relatively short
  - Could eliminate lane for sidewalk or change to straight/right (previous arrangement)
- Depends on willingness to accept additional delay on NY 50 southbound
  - How much and for how long?

Table 2: Planning/Sketch Level LOS Analysis

	AM Peak (current)		AM Peak (remove one SB lane)		PM Peak (current)		PM Peak (remove one SB lane)	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
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Intersection	53.4	D	71.7	E	14.9	B	16.3	B

Potential Study Considerations (p. 18-21)

c. ***Relocate CDTA Bus Stop*** –NY 5/Mohawk Ave eastbound approach CDTA bus stop from the west leg/near side of the intersection to the east leg/far side/eastbound departure

- Allows the vehicle to pass through the intersection before stopping
- Potentially allow for more on-street parking on NY 5/Mohawk Ave,
- Help channelize traffic to use only one eastbound through lane (with a)
- *Primary stakeholders: CDTA, NYSDOT, transit users, business owners, public*

d. ***Revise traffic signal timing*** –

- Based on field measurements, the traffic signal has a single timing plan for the entire day
- Re-time to account for differences between AM and PM peak hour traffic
- Very low cost
- *Primary Stakeholders: NYSDOT*

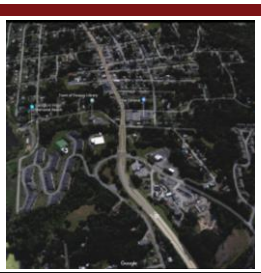
e. ***Additional Pedestrian Infrastructure*** –

- Pedestrian signals, crosswalks
- 1000' east to next crossing

Potentially others, investigate all feasible alternatives

Similar Example

- US 9W, Port Ewen, Town of Esopus, (Ulster Co); NYSDOT Region 8
  - NYSDOT roadway
  - 4-lane, 45mph bridge to 2-lane 30 mph
  - 14,000 vpd, many pass through
  - 2010 project (?)

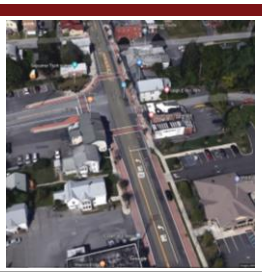


Similar Example – US 9W in Port Ewen

- Sidewalks
- Crosswalks
- Mid-block crossings
- ADA accessible

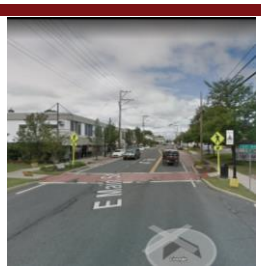
Similar Example – US 9W in Port Ewen

- Well-marked crosswalks and parking lanes
- Channelization
- Many driveway accesses



Similar Example – US 9W in Port Ewen

- Many other aspects of the project
  - Utilities
  - Trees
  - Benches
  - Trash cans
  - Banners
  - Lighting
  - Points-of-interest
- Maintenance



Attachments

1. Turn Movement Counts
2. HCS Level-of-Service Results
   a. AM Peak Hour No Build/Current
   b. AM Peak Hour Build
   c. PM Peak Hour No Build/Current
   d. PM Peak Hour Build
3. Previous Linkage Study Scope-of-work
   a. Delaware Avenue Complete Street Feasibility Study
   b. City of Albany Patroon Creek/Washington Avenue Corridor Study
   c. Freemans Bridge Rd Complete Streets Concept Plan
4. Technical Assistance Award Letter Scope of Work

Questions and Discussion

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