

TRANSPORTATION

DRAFT DESIGN REPORT March 2017

Transportation Enhancement Project
PIN 3950.50
West Martin Luther King, Jr. Street
Corridor Enhancements
Floral Avenue (NYS Route 13A)
to Taughannock Boulevard
City of Ithaca, New York



PROJECT REPORT



CITY OF ITHACA ENGINEERING
SAVANTE L. MYRICK, Mayor
MICHAEL J. THORNE, Superintendent of Public Works

 **NEW YORK**
STATE OF OPPORTUNITY.
ANDREW M. CUOMO
Governor

**Department of
Transportation**

MATTHEW J. DRISCOLL
Commissioner

 **U.S. Department of Transportation
Federal Highway Administration**

PROJECT APPROVAL SHEET

A. IPP Approval: The project is ready to be added to the Regional Capital Program and project scoping can begin.
The IPP was approved by:

Tim Logue, Director of Engineering
Office of the City Engineer, City of Ithaca

B. Scope Approval: The project cost and schedule are consistent with the Regional Capital Program.
The scope was approved by:

Tim Logue, Director of Engineering
Office of the City Engineer, City of Ithaca

C. Recommendation for Design Approval: The project cost and schedule are consistent with the Regional Capital Program.

Douglas O. Stansbury, P.E. PTOE, Project Manager
C&S Engineers, Inc.

D. Recommendation for Design and Nonstandard Feature Approval: All requirements requisite to these actions and approvals have been met, the required independent quality control reviews separate from the functional group reviews have been accomplished, and the work is consistent with established standards, policies, regulations and procedures, except as otherwise noted and explained.

Douglas O. Stansbury, P.E. PTOE, Project Manager
C&S Engineers, Inc.

E. Nonstandard Feature Approval: No nonstandard features have been identified, created, or retained.

Tim Logue, Director of Engineering
Office of the City Engineer, City of Ithaca

F. Design Approval: The required environmental determinations have been made and the preferred alternative for this project is ready for final design.

Tim Logue, Director of Engineering
Office of the City Engineer, City of Ithaca

LIST OF PREPARERS

Group Director Responsible for Production of the Design Approval Document:

Douglas O. Stansbury, P.E., PTOE, Project Manager, C&S Engineers, Inc.
Description of Work Performed: Directed the preparation of the Design Approval Document in accordance with established standards, policies, regulations and procedures, except as otherwise explained in this document.



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CHAPTER 1 - EXECUTIVE SUMMARY

1.1. Introduction

This report was prepared in accordance with the New York State Department of Transportation (NYSDOT) *Procedures for Locally Administered Federal Aid Projects* (PLAFAP) Manual, NYSDOT Project Development Manual, 17 NYCRR (New York Codes, Rules and Regulations) Part 15, and 23 CFR (Code of Federal Regulations) Part 771. Transportation needs have been identified in Section 1.2.2, objectives established in Section 1.2.3 to address the needs, and cost-effective alternatives developed in Section 1.3. This project is 80% federally funded, and 20% locally funded.

1.2. Purpose and Need

1.2.1. Where is the Project Located?

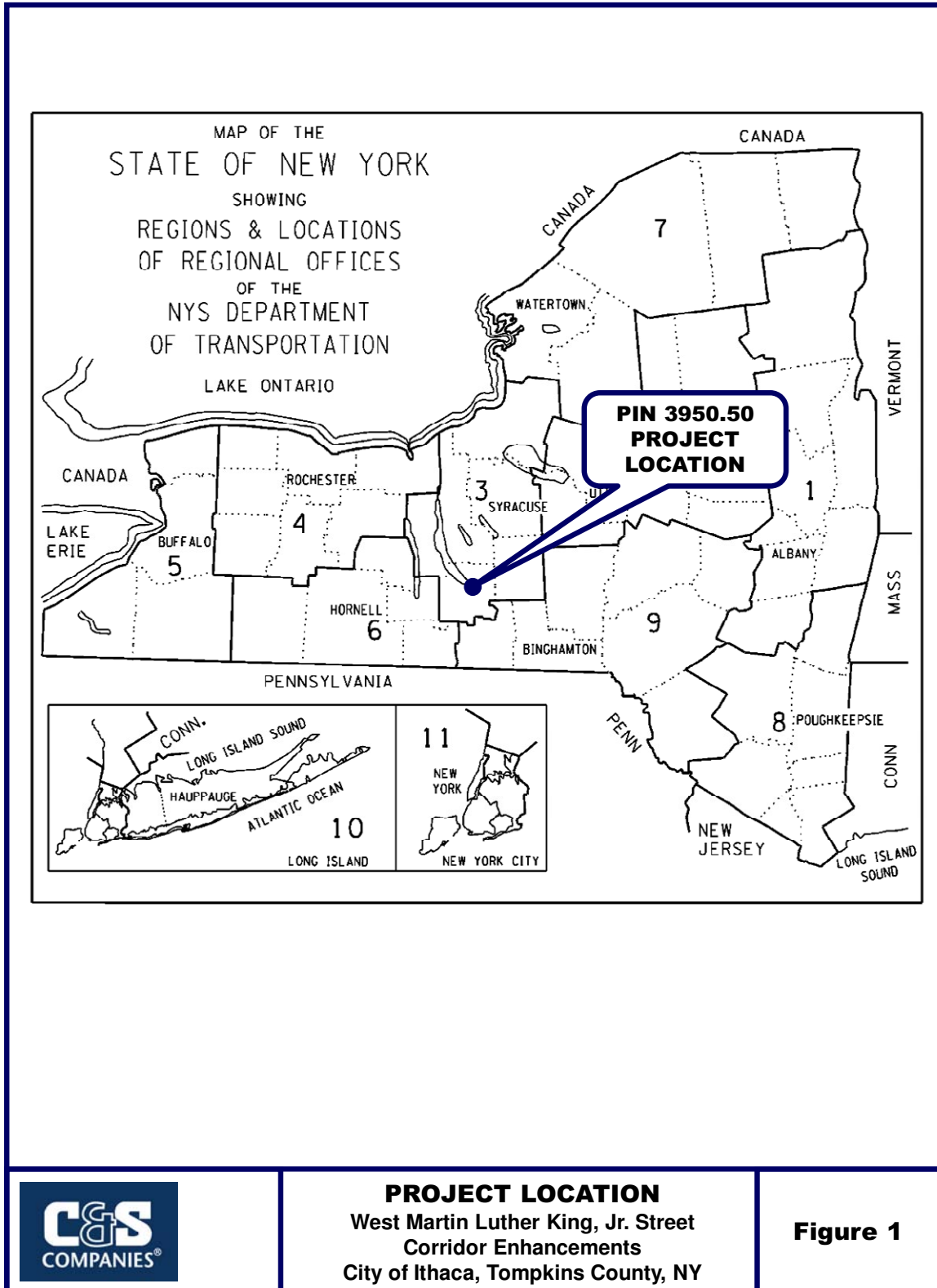
- (1) Route number: NYS Route 79
- (2) Route name: West Martin Luther King (MLK), Jr. Street (also known as West State Street)
- (3) SH number and official highway description: NA (City of Ithaca street)
- (4) Project limits: Floral Avenue (NYS Route 13A) to Taughannock Boulevard
- (5) BIN number and feature crossed: BIN 2210660, crosses the Flood Control Channel
- (6) City/Village/Township: City of Ithaca
- (7) County: Tompkins
- (8) Length: 1080' (0.20 mile)
- (9) Project Location Maps: see Figures 1 and 2, which follow this page.

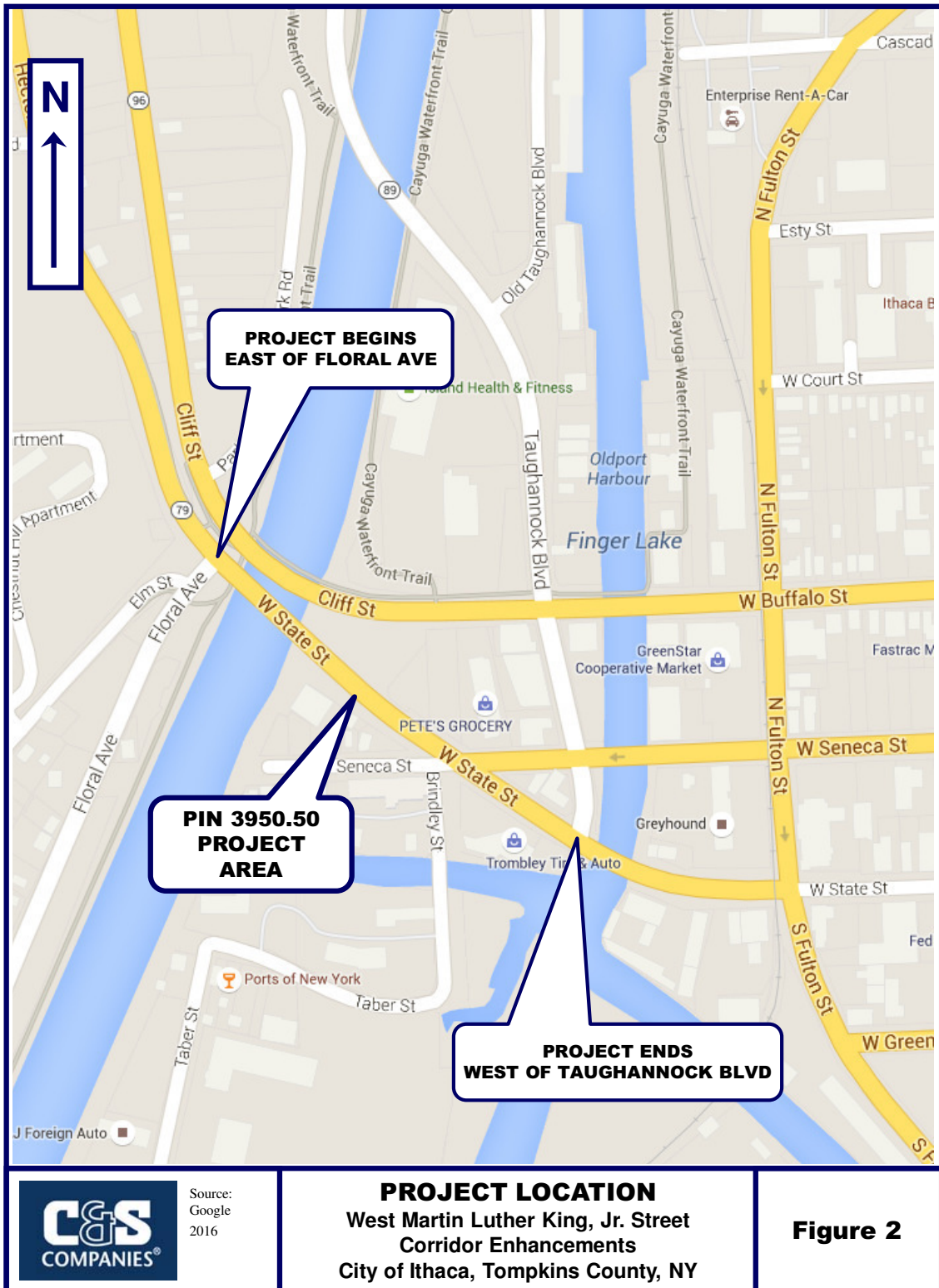
1.2.2. Why is the Project Needed?

The project is needed to address pedestrian and vehicular safety issues in this section of the West Martin Luther King, Jr. Street (referred to hereafter in this report as West MLK Jr. Street) corridor. The West MLK Jr. Street corridor is one of only two crossings over the Cayuga Inlet Flood Control Channel connecting the city's West Hill neighborhood and downtown Ithaca. Due to the distribution of housing, and especially the higher density apartment complexes in the West Hill neighborhood, most of the pedestrian activity from West Hill uses the West MLK Jr. Street Bridge across the Flood Control Channel to access commercial destinations on the downtown side of the Cayuga Inlet.

The project section of West MLK Jr. Street is a four-lane roadway that handles an average of approximately 16,000 vehicles per day. The 5' wide sidewalks on each side of the roadway handle a total of approximately 220 pedestrians per day. In the area of the bridge, the 5' sidewalks abut the curbs and travel lanes. Many of the pedestrians originating from West Hill are headed to commercial destinations on the north side of the street, such as Pete's Grocery, and cross the four-lane roadway at unmarked mid-block locations, rather than continuing two blocks along the street to the nearest signalized crossing. There is a need to provide a safe mid-block crossing point for this pedestrian traffic, and increased protection for pedestrian traffic on sidewalks abutting the roadway.

The intersection of West MLK Jr. Street, West Seneca Street, Brindley Street and the driveway to Pete's Grocery is a six-legged intersection with an accident rate well above the statewide average. Many of the accidents are sideswipe accidents due to weaving and lane changing. The West Seneca Street and Brindley Street approaches are highly skewed, and motorists appear to find the intersection geometry confusing and lane assignments unclear. There is a need to improve the geometry and safety of this intersection.





1.2.3. What are the Objectives/Purposes of the Project?

The following objectives were identified by the City of Ithaca in their Transportation Enhancement Program Project Application:

- (1) Enable pedestrians to safely and conveniently cross West MLK Jr. Street between the bridge over the Flood Control Channel and West Seneca Street.
- (2) Improve the level of comfort and safety for pedestrians and bicyclists traveling along West MLK Jr. Street.
- (3) Address geometric deficiencies to improve traffic flow and safety and facilitate traffic operations at the West MLK Jr. Street / West Seneca Street / Brindley Street intersection.

1.3. What Alternative(s) Are Being Considered?

Alternative 1 – Multi-use Path:

Alternative 1 provides a widened 10' to 12' mixed-use path along the south side of West MLK Jr. Street protected by a concrete barrier by reducing the street width from four travel lanes to three, similar to what is currently provided on West Buffalo Street. It connects the Cayuga Waterfront Trail on the west side of the Flood Control Channel Bridge with what will become the former Brindley Street. Alternative 1 also provides a westbound bike lane from West Seneca Street to Floral Avenue and provides a mid-block pedestrian crossing on the east side of the Flood Control Channel Bridge to allow pedestrians to more safely cross the street. A new traffic control signal would also be installed at the intersection of Floral Avenue and Hector/West MLK Jr. Street. This alternative is a feasible alternative and is being considered further.

Alternative 2 – Sidewalk Widening and Bike Lanes:

Alternative 2 provides a widened 10' sidewalk along the south side of West MLK Jr. Street and provides 5' bike lanes in both directions by reducing the street width from four travel lanes to three. It connects the Cayuga Waterfront Trail on the west side of the Flood Control Channel Bridge with what will become the former Brindley Street. Alternative 2 also provides a mid-block pedestrian crossing on the east side of the Flood Control Channel Bridge to allow pedestrians to more safely cross the street. A new traffic control signal would also be installed at the intersection of Floral Avenue and Hector/West MLK Jr. Street. This alternative is a feasible alternative and is being considered further.

Alternative 3 – Bridge Widening:

Alternative 3 retains the existing lane configuration on West MLK Jr. Street and widens the bridge to provide a widened 10' multi-use sidewalk along the south side of West MLK Jr. Street. Alternative 3 connects the Cayuga Waterfront Trail on the west side of the Flood Control Channel Bridge with what will become the former Brindley Street. This alternative was evaluated and it was determined that the cost to widen the bridge would be too expensive to pursue for this transportation enhancement project. This alternative is not a feasible alternative and is not being considered further.

Alternative 4 - No Build or "Null" Alternative:

Alternative 4 retains the existing configuration on West MLK Jr. Street. This alternative does not address any of the pedestrian or bicycle needs along the corridor and does not satisfy the project objectives. Alternative 4 is therefore not a feasible alternative, but it retained as a base line for comparison with the other feasible alternatives.

For a more in-depth discussion of the alternatives considered for this project, see Section 3.

1.4 How will the Alternative(s) Affect the Environment?

Exhibit 1.4-A Environmental Summary					
NEPA Classification	Class II CE	BY	NYSDOT	Date	
SEQR Type:	Unlisted Action	BY	City of Ithaca	Date	

Exhibit 1.4-B Comparison of Alternatives				
Category	Alternatives			
	1	2	3	4 (Null)
Wetland impacts	None	None	None	None
100 year floodplain impact	None	None	Yes	None
Archeological Sites Impacted	None	None	None	None
Noise Impacts	None	None	None	None
Property impacts	None	None	None	None
Operation at ETC + 10	No change	No change	No change	No change
Construction Cost (2016)	\$700,000	\$612,000	\$1,900,000	\$0
Satisfies project objectives	Yes	Yes	Yes	No
Addresses pedestrian safety concerns	Yes	Yes	Yes	No

No mitigation measures are proposed for this project.

Anticipated Permits/Certifications/Coordination:

Permits: None required.

Coordination:

- New York State Department of Transportation (NYSDOT)
- Federal Highway Administration (FHWA)
- New York State Historic Preservation Officer (SHPO)
- US Fish and Wildlife Service
- New York Natural Heritage Program

1.5. What Are The Costs & Schedule?

Design Approval is scheduled for April of 2017 with construction scheduled to last four months beginning in April of 2018.

Exhibit 1.5A Project Schedule	
Activity	Date Occurred/Tentative
Scoping Approval	August 2013
Design Approval	April 2017
ROW Acquisition	Not needed
Final Plans	August 2017
Construction Start	April 2018
Construction Complete	October 2018

Exhibit 1.5B Comparison of Alternatives Total Project Cost (Millions)		
Total cost	Alternative 1	Alternative 2
	\$817,000	\$714,000

For more detail on costs for each alternative refer to Section 3.2.1.

1.6. Which Alternative is Preferred?

The feasible alternative that best meets the project objectives has not yet been decided. Both Alternative 1 and Alternative 2 meet the project objectives. There will be one additional public meeting and comment period following the publication of this Draft Design Report, after which the preferred alternative will be selected. See Section 3 for discussion of the two feasible alternatives.

1.7. What are the Opportunities for Public Involvement?

Exhibit 1.7 Public Involvement Plan Schedule of Milestone Dates	
Activity	Date Occurred/Tentative
Initial Steering Advisory Meeting	December 10, 2015
First Public Information Meeting	February 18, 2016
Second Public Information and Steering Advisory Meeting	March 2017
Current Project Letting date	January 2018

Refer to **Appendix E** for Public Involvement (PI) Plan and Input from Stakeholders including Public.

You may offer your comments in a variety of ways.

- The initial Public Information Meeting was held on February 18, 2016 to present the project to the public and allow opportunity for input or comments on the project. A second Public Information Meeting will be scheduled for [redacted] 2017.
- Further input regarding this project or the contents of this report may be obtained by contacting:

Mr. Tim Logue
 Director of Engineering
 City of Ithaca, Office of the City Engineer
 108 East Green Street
 Ithaca, NY 14850

Correspondence regarding this project should refer to PIN 3950.50 West MLK Jr. Street Corridor Enhancements.

The remainder of this report is a detailed technical evaluation of the existing conditions, the proposed alternatives, and the impacts of the alternatives. Copies of technical reports, plans and other supporting information are also included

The City of Ithaca is responsible for selection of the preferred alternative.

CHAPTER 2 - PROJECT CONTEXT: HISTORY, TRANSPORTATION PLANS, CONDITIONS AND NEEDS

This chapter addresses the history and existing context of the project site, including the existing conditions, deficiencies, and needs for this part of the West MLK Jr. Street (aka West State Street or NYS Route 79) corridor.

2.1. Project History

The portion of West MLK Jr. Street within the project limits was reconstructed by NYSDOT in 1997 as part of a comprehensive project to improve the intersections of NYS Routes 13, 13A, 79, 89 and 96 (“the octopus”) in the City of Ithaca. The bridge over the Flood Control Channel received a significant rehabilitation at that time. Because of heavy vehicular and pedestrian volumes, the city, using New York State multi-modal funding, in 2013 constructed pedestrian and safety improvements at the West MLK Jr. Street / Floral Avenue (NYS Route 13A) / Elm Street intersection located immediately west of this project. In 2014, the city received Transportation Enhancement Program (TEP) funding from NYSDOT for improved bicycle and pedestrian accommodations in the area of this project on West MLK Jr. Street.

2.2. Transportation Plans and Land Use

2.2.1. Local Plans for the Project Area

2.2.1.1. Local Comprehensive Plans (“Master Plan”)

This project is consistent with Plan Ithaca, the local comprehensive plan prepared for the City of Ithaca and adopted by the City of Ithaca Planning Commission on September 2, 2015.

2.2.1.2. Local Private Development Plans

There are no approved local private developments planned within the project area that will impact traffic operations. There is an ongoing adjacent transportation project for the replacement of the Brindley Street Bridge which is discussed further under Section 2.2.2.5 below.

2.2.2. Transportation Corridor

2.2.2.1. Importance of the Project Route Segment

West MLK Jr. Street is part of NYS Touring Route 79 which connects the City of Ithaca with communities in Schuyler County and western Tompkins County to the west and Interstate 81 to the east and is a heavy commuter route. Within the City of Ithaca, West MLK Jr. Street is one of only two crossings of the Flood Control Channel that provide access for bicycles, pedestrians and motor vehicles between the West Hill and downtown areas.

2.2.2.2. Alternate Routes

The only alternative route in the immediate vicinity is Cliff Street/West Buffalo Street (NYS Route 96).

2.2.2.3. Corridor Deficiencies and Needs

Average daily traffic volumes on this section of West MLK Jr. Street are approximately 16,400 vehicles and average daily pedestrian volumes are approximately 220. These pedestrians originate from the West Hill Neighborhood area off Elm Street and Floral Avenue and utilize the existing 5' sidewalks that abut the curb line across the bridge and along the south side of the street. Many pedestrians attempt to cross the four-lane roadway at mid-block to travel to and from commercial destinations on the north side of the street. Bicycles share the travel lanes with motor vehicles. There is a need for wider sidewalks to improve pedestrian comfort and safety where the sidewalks are adjacent to the curb line and for a safe mid-block pedestrian crossing location between Floral Avenue and West Seneca Street.

2.2.2.4. Transportation Plans

This project is on the approved Transportation Improvement Program (TIP) as project No. 3950.50.

2.2.2.5. Abutting Highway Segments and Future Plans for Abutting Highway Segments 2

Abutting Highway Segments:

NYS Route 79 continues to the east and west of the project area. It extends across the City of Ithaca and Tompkins County to the east to connect with Tioga County and Broome county, and ultimately leads into Pennsylvania. To the west Route 79 connects with Schyler County and terminates at Route 414 near Watkins Glen. West MLK Jr. Street becomes Hector Street west of Floral Avenue and East State Street or East Martin Luther King, Jr. Street east of Cayuga Street.

West Seneca Street is a two-lane, one-way westbound street that connects North Fulton Street (NYS Route 13) and westbound traffic from downtown, to West MLK Jr. Street. West Seneca Street intersects West MLK Jr. Street at an acute skew angle and carries heavy traffic volume, making it challenging to make right turns onto West MLK Jr. Street.

Hector Street continues west of the project area as a two lane curbed city street with sidewalk on the north side of the street.

West MLK Jr. Street continues east of the project area as a three-lane curbed city street with two eastbound lanes and one westbound lane. Sidewalks are provided on both sides of the street.

Floral Avenue (NYS Route 13A) intersects West MLK Jr. Street on the west side of the Flood Control Channel Bridge and runs south to reconnect with NYS Route 13. Floral Avenue serves as a bypass to the busy Route 13 commercial corridor along the southwest corner of Ithaca.

Future Plans for Abutting Highway Segments:

The city is progressing a concurrent design project (PIN 3756.11) to replace the existing Brindley Street Bridge over Cayuga Inlet on a new alignment to the east. The relocated Brindley Street would intersect West MLK Jr. Street opposite Taughannock Boulevard, creating a four-way signalized intersection. The existing Brindley Street roadway and bridge would be converted to bicycle and pedestrian use only. This project is scheduled for construction in 2018, concurrent with this project.

2.3 Transportation Conditions, Deficiencies and Engineering Considerations

2.3.1. Operations (Traffic and Safety) & Maintenance

2.3.1.1. Functional Classification and National Highway System (NHS)

Route(s)	West MLK Jr. Street (aka West State Street / NYS Route 79)
Functional Classification	Urban Minor Arterial
National Highway System (NHS)	No
Designated Truck Access Route	Yes
Qualifying Highway	No
Within 1 mile (1.6 km) of a Qualifying Highway	No
Within the 16' (4.9 m) vertical clearance network	No

2.3.1.2. Control of Access

There is no right-of-way access control within the project limits. Access is controlled by curb cuts along both sides of the roadway and guide railing in the vicinity of the Flood Control Channel Bridge. There are seven driveways along West MLK Jr. Street within the project limits with wider than typical openings for minor commercial access.

2.3.1.3. Traffic Control Devices

The following intersection within the project limits is controlled by a traffic signal:

- West MLK Jr. Street (West State Street) / Taughannock Boulevard: a three-way (with a commercial driveway as a signalized fourth approach), three-color mast arm signal

Exhibit 2.3.1.3-1 Traffic Signal at West MLK Jr. Street (West State Street) / Taughannock Boulevard	
Type of Controller / Signal	New York State Department of Transportation maintenance jurisdiction. Pole mounted controller in NW quadrant. Mast arm signal poles in SW, NE and SE quadrants. Dual 12" LED indications. Pedestrian signal pole in SW quadrant. Pushbuttons, countdown timers and audible indications are provided.
Type of Actuation	Semi-actuated
Coordination with other Signals	Coordinated, part of NYSDOT's coordinated signal network along Fulton and Meadow Streets (NYS Routes 13, 34 and 96)
Number and Type of Phases	Two phases: Taughannock southbound left/right permissive; West MLK Jr. eastbound/westbound left/through/right permissive.
Pedestrian Accommodations	Pedestrian indications, push buttons, audible indications and signs provided across all legs. Type S Standard crosswalk markings and curb ramps provided.
Deficiencies, Including Lack of Conformance with Latest Guidelines and Warrants	Signal conforms to latest guidelines and warrants. Curb ramps do not conform to current ADAAG/PROWAG accessibility guidelines (missing detectable warning surfaces).

The remaining two intersections within the project limits are controlled by stop signs on the intersecting street approaches:

- Floral Ave (NYS Route 13A) / West MLK Jr. Street (West State Street) – Stop sign control on Floral Avenue, uncontrolled on West MLK Jr.
- West Seneca Street / Brindley Street / West MLK Jr. Street (West State Street) – Stop sign control on West Seneca and Brindley, uncontrolled on West MLK Jr. The Brindley approach may be downgraded to a driveway with the relocation of Brindley Street to the Taughannock Boulevard intersection.

Pavement markings and other traffic signs are the remaining extent of traffic control devices for this project. Traffic signs are generally in good condition and are not in need of replacement.

2.3.1.4. Intelligent Transportation Systems (ITS)

There is no ITS system in operation or planned for the project area.

2.3.1.5. Traffic Volumes

This project is classified as a Transportation Enhancement Project. Appendix 8-9 of the LAFAP manual recommends a design year traffic forecast of the estimated time of completion (ETC) for this type of project. Treatments for enhancement projects can generally have service lives greater than eight years if it includes pavement preventative maintenance, and therefore a design year traffic forecast of ETC+10 is recommended for this project. The traffic data was obtained from The City of Ithaca’s Brindley Street Bridge Project PIN 3756.11, Floral Avenue All-way Stop Study and a NYSDOT signal warrant analysis study at the intersection of West MLK Jr. Street, West Seneca Street and Brindley Street. Refer to **Appendix C** of this report for traffic flow diagrams.

Exhibit 2.3.1.5 below provides a summary of the daily traffic volume on West MLK Jr. Street. 24-hour traffic counts were collected with automatic traffic recorders (ATRs) for West MLK Jr. Street (West State Street / NYS Route 79) by NYSDOT in 2014. The traffic data was collected from August 4th to 7th in 2014 at a location 110 feet northwest of West Seneca Street.

Historical data was obtained from NYSDOT for station 360474 located in the middle of the corridor between two ATR counts from 2009 and 2014. The historical data indicated a minimal growth rate of 0.2%. Therefore, for the purpose of this analysis and report, 0.2% growth rate was used for future volume projections. Growth rate calculations are included in **Appendix C**. Exhibit 2.3.1.5 includes existing and future design year traffic volumes for this project.

Exhibit 2.3.1.5 Existing and Future Traffic Volumes			
West MLK Jr. Street between Avenue and Taughannock Boulevard			Floral
Year	AADT (vpd)	DHV (vph)	DDHV (vph)
Existing (2014)	16,330	1,990	1,160
ETC (2018)	16,460	2,005	1,165
ETC+10 (2028)	16,790	2,045	1,190
ETC: Estimated time of Completion AADT: Adjusted Annual Daily Traffic DHV: Design Hourly Volume DDHV: Directional Design Hour Volume vph: vehicles per hour vpd: vehicles per day			

Turning movement counts (TMCs) were taken from the Brindley Street Bridge Project for the 2014 weekday typical PM peak hour at the Taughannock Boulevard and West Seneca Street/Brindley Street intersections. The Floral Avenue Study and NYSDOT counts were also used to determine turning movement volumes at the Floral Avenue intersection. The weekday afternoon peak hour was found to occur between 4:30 and 5:30 p.m. and this was also the peak travel hour for the day and was therefore used as the design hour for this project.

Under the Brindley Street Bridge project, Brindley Street will be realigned opposite Taughannock Boulevard and therefore, traffic volumes for Brindley Street will be relocated to the Taughannock Boulevard intersection. Turning movements at the West Seneca Street Taughannock Boulevard intersections are adjusted accordingly for the estimated time of completion and future design year. Peak hour turning movement diagrams for existing conditions and for future years incorporating the realigned Brindley Street are included in **Appendix C**.

2.3.1.6. Speeds and Delay

A travel time study was conducted in April 2016 to determine average travel times through the project corridor, both westbound and eastbound, during different time periods of an average weekday. The time periods studied included the morning (AM) peak, the midday peak, the afternoon (PM) peak, as well as the off-peak period. A total of 85 travel time runs were collected through the corridor using GPS data collection methods.

During the off-peak period, the average eastbound travel time through the corridor between Floral Avenue and Taughannock Boulevard was 45 seconds eastbound and 28 seconds westbound. The somewhat longer eastbound travel time is due to stops at Taughannock Boulevard, whereas westbound travel is essentially unhindered.

The midday travel runs had essentially no delay, and were actually faster than the off-peak travel runs, averaging 25 seconds westbound and 24 seconds eastbound. The PM peak travel runs were essentially the same (29 seconds) as off peak for the westbound direction and approximately 10 seconds longer (56 seconds) than off peak for the eastbound direction. The AM travel runs were also about the same as off peak for the westbound direction, but were approximately 20 seconds longer for the eastbound direction.

There were also some stoppages noted in the eastbound direction between the flood control channel bridge and the Taughannock Boulevard intersection. This occurred for about half of the AM eastbound travel runs. The longest AM eastbound travel run was 2 minutes in duration due to the heavy commuter traffic volume, but there were also some that were less than 30 seconds, which is similar to the off peak travel time. Stops west of the West Seneca/Brindley intersection were not observed for any of the other travel time periods. Exhibit 2.3.1.6a shows the results of the travel time study.

The travel time study conducted for this project revealed that there is no significant delay traveling through the corridor during off-peak, midday peak or PM peak travel hours. There is some delay for the eastbound direction during morning peak hour and there are occasional stops west of the West Seneca/Brindley intersection, but the overall average eastbound travel time during the morning peak hour is approximately one minute, which is only 30 seconds longer than during other times of the day. Complete results of the travel time study are included in **Appendix C**.

Exhibit - 2.3.1.6a Travel Time Results													
	Average Travel Times (seconds)												
	Direction	AM Peak			Midday Peak			PM Peak			Off Peak		
		Runs	Stops	Travel Time	Runs	Stops	Travel Time	Runs	Stops	Travel Time	Runs	Stops	Travel Time
Total Runs and Stops/Average Travel Times	EB	19	9	66	4	0	24	7	0	56	10	0	45
	WB	17	0	26	4	0	25	9	0	29	11	1	28

Exhibit 2.3.1.6b shows the operating speeds within the project limits which were collected during the travel time study discussed above. The existing posted speed limit for West MLK Jr. Street is 30 mph from Floral Avenue to Taughannock Boulevard. Speeds within the project limits are regulated by the Taughannock Blvd signalized intersection on the south and free on the north. Operating speeds are expected to remain unchanged after the project is completed.

Exhibit - 2.3.1.6b Speed Data	
Route	West MLK Jr. Street (West State Street / NYS Route 79)
Existing Speed Limit (mph)	30 mph
Operating Speed and Method Used to Measure	35 mph (85th percentile) measured by NYSDOT Traffic Count Station 360474, from 10/6/09 to 10/12/09

2.3.1.7. Level of Service

A level of service (LOS) analysis was conducted using Synchro 9 which is based on the methods described in the 2010 Highway Capacity Manual (HCM), for the three intersections within the project limits. The LOS analysis was conducted for the evening (PM) peak hour. Existing traffic signal operations were obtained from The City of Ithaca's Brindley Bridge Project PIN 3756.11, Floral Ave Study and NYSDOT Synchro files.

The analysis includes one signalized intersection West MLK Jr. Street at Taughannock Boulevard, and two unsignalized stop controlled intersections: West MLK Jr. Street at Floral Avenue/ Hector Street and West MLK Jr. Street at West Seneca /Brindley Street. The signal at Taughannock Blvd is an actuated uncoordinated signal and is maintained and operated by NYSDOT. The existing LOS for the segment of West MLK Jr. Street is summarized in Exhibit 2.3.1.7. Detailed LOS and capacity analysis results are included in **Appendix C**.

Exhibit 2.3.1.7 Intersection Level of Service and Delay (sec)	
PM Peak Hour (4:30 to 5:30 PM)	
Intersection	Existing (2014)
West MLK Jr. Street & Taughannock Boulevard (Average)	B (14.2)
Taughannock Southbound	B (12.6)
West MLK Jr. Westbound	B (17.4)
West MLK Jr. Eastbound	B (11.6)
West MLK Jr. Street & West Seneca/Brindley Street (Average)	F (724)
Brindley/West Seneca Eastbound	F
West Seneca Westbound	F (56.8)
West MLK Jr. Westbound Left	A (1.2)
West MLK Jr. Eastbound	No delay
West MLK Jr. Street & Floral Avenue (Average)	C (7.5)
Floral Eastbound	E (40.6)
West MLK Jr. Westbound Left	B (5.3)

The existing average intersection level of service for the West Seneca/Brindley intersection is LOS F. The relocation of Brindley Street to the Taughannock Boulevard intersection under PIN 3756.11 is expected to improve the level of service at this intersection. See Section 3.3.1.7 of this report for projected levels of service at the completion and design year for this project.

2.3.1.8. Safety Considerations, Accident History and Analysis

An accident analysis was performed in accordance with the NYSDOT Highway Design Manual, chapter 5. Accident Information was collected from NYSDMV Police Accident Reports in the Accident Location Information System (ALIS) for the three-year period of August 1, 2013 to August 6, 2016. The analysis included the intersections of Floral Avenue and West Seneca/Brindley Street and included the roadway segment along West MLK Jr. Street between these two intersections. The accident data included 59 accidents, seven (7) occurring along the roadway segment, six (6) at the Floral Avenue intersection and 46 at the West Seneca/Brindley Street intersection. The analysis found the accident rate was below the statewide average for the linear segment, while both intersections were above statewide averages for similar type intersections. Exhibits 2.3.1.8, 2.3.1.9 and 2.3.1.10 below summarize and tabulate number and severity of accidents, predominate accident types and accident rates in comparison to state wide averages.

Exhibit 2.3.1.8 Accident Severity West MLK Jr. Street					
Location	Total Accidents	Non- Reportable	Property Damage Only	Personal Injury	Fatality
Floral Avenue and Hector/West MLK Jr. Street Intersection	6	1	3	2	0
West Seneca/Brindley Street and West MLK Jr. Street Intersection	46	25	12	9	0
Floral Avenue to West Seneca/Brindley Street Linear Segment	7	3	3	1	0

Exhibit 2.3.1.9 Collision Summary West MLK Jr. Street					
Location	Rear End	Right Angle	Left Turn	Right Turn	Other
Floral Avenue and Hector/West MLK Jr. Street Intersection	0	2	0	0	4
West Seneca/Brindley Street and West MLK Jr. Street Intersection	18	18	4	3	3
Floral Avenue to West Seneca/Brindley Street Linear Segment	1	1	0	0	5

Exhibit 2.3.1.10 Accident Rate Summary West MLK Jr. Street				
Location	No. of Accidents	Calculated Accident Rate	NYSDOT State- Wide Average Rate for Similar Facilities	Percentage Greater or Less than State-Wide Average Rate
Floral Avenue and Hector/West MLK Jr. Street Intersection	6	0.34	0.12	183%
West Seneca/Brindley Street and West MLK Jr. Street Intersection	46	2.06	0.14	1371%
Floral Avenue to West Seneca/Brindley Street Linear Segment	7	4.61	5.43	-15%

Notes: 1. Segment accident rate is measured in accident per million vehicle miles traveled (acc/MVM)
2. Intersection accident rate is measured in accidents per million entering vehicles (acc/MEV)

Seven (7) accidents were identified along the West MLK Jr. Street segment between the Floral Avenue and West Seneca/Brindley Street intersections. The segment is 700' in length and includes four (4) travel lanes and the bridge over the Flood Control Channel with three commercial driveways. The accidents were a mixture of types, including one rear end due to following too closely, two overtaking accidents due to unsafe lane change and failure to yield right of way, two turn type accidents caused by turning improperly, failure to keep right, and two others involving bicyclist and pedestrian error, one of which resulting in an injury. The accident rate for this segment was calculated to be 4.61 accidents per million vehicle miles traveled (acc/MVM) which is 15% below the state wide average of 5.43 acc/MVM.

The Floral Avenue intersection had six accidents occur during the analysis period. Elm Street intersects Floral Avenue at less than 100' from the Floral intersection with West MLK Jr. Street which adds some complexity to the operations at the Floral Avenue intersection. There is a dedicated left turn lane on West MLK Jr. Street for vehicles turning left onto Floral and Elm Streets. Of the six accidents, two involved hitting deer, one hit the bridge due to slippery pavement, two were right angle type accidents and one was a collision with a bicyclist. The last three were caused by failure to yield right of way and two of these three included injuries. The accident rate for this location was calculated to be 0.34 accidents per million entering vehicles (acc/MEV), which is above the state average for similar facilities of 0.12 acc/MEV.

The intersection West Seneca/ Brindley St and West State St had a total of 46 accidents during the analysis period. The intersection is characterized by a high volume of traffic turning from West Seneca Street onto West MLK Jr. Street and a significantly acute intersection skew angle. There are also several commercial driveways within close proximity to the intersection which add to conflict and confusion at the intersection. There are three lanes southeast of the intersection which become 4 lanes northwest of the intersection. There are stop sign controls on Brindley and West Seneca Streets on the east and west approaches and no stop controls on West MLK Jr. Street. A number of the accidents are direct or indirect results of the commercial driveways near the intersection. The prevailing type of accident that occurred were 18 rear end and 18 right angle collisions, comprising 78% of accidents at this intersection. Seventeen of the rear end accidents were concentrated on the westbound stop controlled approach of West Seneca Street and appear to have resulted from following too closely and/or driver inattention. Twenty-five turn-related and right angle accidents occurred on West MLK Jr. Street at the intersection, 19 of which were caused by failure to yield right of way. Four accidents occurred as drivers exited Pete's Grocery store driveway. Nine (9) total injury accidents were reported, 2 rear end accidents, 6 of the 15 right angle accidents and one from a driver hit a utility pole. The accident rate for this intersection was calculated to be 2.06 acc/MEV, which is significantly above the state average for similar facilities of 0.14 acc/MEV for similar type intersections.

There are no apparent geometric improvements needed for the Floral Avenue intersection to reduce accident potential at this location. The intersection angle is near 90 degrees and sight distance is adequate. Reducing the number of travel lanes on West MLK Jr. Street from 4 to 3 would reduce the number of conflict points.

The West Seneca Street intersection needs improving to reduce accident potential at this location. The intersection skew angle is poorly aligned, making sight lines difficult, there are too many turning conflicts with the current configuration, and there are too many competing maneuvers through the intersection. This intersection needs to have the approaches re-aligned closer to 90 degrees and better lane utilization through the intersection and/or narrower lanes would reduce potential for accidents.

Supporting data, including an accident summary table, rate calculations, and referenced studies, are included in **Appendix D**.

2.3.1.9. Existing Police, Fire Protection and Ambulance Access

Cayuga Health Center at Ithaca is located off NYS Route 96 (Trumansburg Road) about 2 miles northwest of the project site. The Ithaca Fire Department is located at on West Green Street, about six blocks east of the project site. Fire and emergency vehicles from both locations use West MLK Jr. Street.

2.3.1.10. Parking Regulations and Parking Related Conditions

There is currently minimal posting of parking restrictions along West MLK Jr. Street, although any stopped or parked vehicles would block marked travel lanes. There is one “No Standing Any Time” sign posted for eastbound traffic just west of West Seneca Street. Although there are currently limited to no existing parking restrictions posted along West MLK Jr. Street, parking will not be permitted along the project corridor upon completion of this project due to proposed changes in lane configuration and utilization.

2.3.1.11. Lighting

There are street lights mounted on bracket arms attached to utility poles throughout the project limits. Pedestrian scale ornamental lights are mounted to the fascia of the bridge over the Flood Control Channel. No changes to street lighting are proposed under this project.

2.3.1.12. Ownership and Maintenance Jurisdiction

West MLK Jr. Street (aka West State Street) and its associated sidewalks, traffic signals and drainage system within the project limits, including the bridge over the Flood Control Channel, are owned and maintained by the City of Ithaca. The traffic signal located at the intersection of West MLK Jr. Street and Taughannock Boulevard is owned and maintained by NYSDOT Region 3.

2.3.2. Multimodal

2.3.2.1. Pedestrians

There are existing 5' wide concrete sidewalks on both sides of West MLK Jr. Street throughout the project length. The south sidewalk is located adjacent to the curbline of the street throughout the project length. The north sidewalk is located adjacent to the curbline on the bridge over the Flood Control Channel. East of the bridge, a 5' grass snow storage area is provided between the curb and sidewalk. Connecting sidewalks on Floral Avenue and Elm Street at the west end of the project provide access to residential areas in the city's West Hill area and to the Cayuga Waterfront Trail on the west side of the Flood Control Channel. A connecting sidewalk east of the bridge provides access to Cliff Street (NYS Route 96), located on an adjacent alignment to the north, and the Cayuga Waterfront Trail on the east side of the Flood Control Channel. The sidewalks are in generally good condition.

Sidewalk curb ramps exist at all intersections but, except for those that were installed recently at Floral Avenue, do not meet current Americans with Disabilities Act guidelines and NYSDOT Highway Design Manual Chapter 18 standards.

Pedestrian signals with push buttons and signs and Type S marked crosswalks are provided at the signalized intersection at Taughannock Boulevard. Countdown timers are currently not provided. Type S crosswalks are also provided across West MLK Jr. Street on the east side of West Seneca Street and across the intersecting side streets. The crosswalks at the Floral Avenue intersection are high visibility Type LS crosswalks.

A Complete Streets Checklist was completed for this project and it concluded that opportunities exist, and are needed, for incorporating pedestrian and bicycle facility improvements within the project limits. The Complete Streets Checklist is included in **Appendix C**.

2.3.2.2. Bicyclists

There are no separate provisions for bicyclists within the project limits. Bicyclists currently legally share the 13-foot wide outside travel lanes with motor vehicles. A connection to the Cayuga Waterfront Trail on the west side of the Flood Control Channel is provided on Floral Avenue opposite Elm Street, 100 feet south of the intersection with West MLK Jr. Street.

2.3.2.3. Transit

Tompkins Consolidated Area Transit, Inc. (TCAT) operates several bus routes along West MLK Jr. Street (West State Street / NYS Route 79). Route 14 operates from downtown Ithaca along NYS Routes 79 and 96 to the Cayuga Medical Center. Route 20 operates from Cornell University through downtown Ithaca then along NYS Routes 79 and 327 to Enfield. Route 21 operates from Cornell University through downtown Ithaca then along NYS Route 96 to Trumansburg; this route passes through the intersection of Taughannock Boulevard and West MLK Jr. Street just beyond the east end of the project.

The only bus stop within the project limits is at the intersection of Taughannock Boulevard and West MLK Jr. Street just beyond the east end of the project.

2.3.2.4. Airports, Railroad Stations, and Ports

There are no airports, railroad stations or port entrances within the project limits. Several marinas accommodating private boats and tour boats on Cayuga Lake are accessed via Taughannock Boulevard north of the project area.

2.3.2.5. Access to Recreation Areas (Parks, Trails, Waterways, State Lands)

A connection to the Cayuga Waterfront Trail on the west side of the Flood Control Channel is provided on Floral Avenue opposite Elm Street, 100 feet south of the intersection with West MLK Jr. Street. Cliff Street (NYS Route 96), located on an adjacent alignment to the north, provides access to the Cayuga Waterfront Trail on the east side of the Flood Control Channel. Cass Park, Allan H. Treman State Marine Park and the Black Diamond Trail are located off Taughannock Boulevard just north of the project area.

2.3.3. Infrastructure

2.3.3.1. Existing Highway Section

Roadway Section: the roadway section in the project area consists of two eastbound and two westbound travel lanes west of West Seneca Street and two eastbound travel lanes and one westbound travel lane east of West Seneca Street. The normal curb-to-curb pavement width is 48 feet in the four-lane section and 39 feet in the three-lane section. The roadway width on the bridge over the Flood Control Channel is 48 feet. The four-lane section is delineated as two 11' travel lanes in each direction with 2' curb offsets on the outside lanes. The three-lane section is striped as two 12' outside travel lanes with 2' curb offsets, and an 11' center travel lane.

Curbing: West MLK Jr. Street has granite curbing throughout the length of the project. The curbing is in good condition and has adequate reveal. The intersecting streets, except for Brindley Street, also have granite curbing.

Medians: there are no medians on West MLK Jr. Street.

Alignments: using a design speed of 35 mph, the 450'. radius horizontal curvature on West MLK Jr. Street exceeds the standard minimum radius of 371' for a 4% superelevation rate on low speed urban streets. The terrain is generally level with a maximum grade of 2.5% along the western half of the project area.

Intersection Geometry: at the west end of the project, the left westbound travel lane becomes a left turn lane for Floral Avenue (NYS Route 13A). West Seneca Street east of West MLK Jr. Street is a two-lane, one-way westbound street. All the remaining intersecting side streets are two-lane, two-way streets. The geometry of intersections located within the project limits is summarized in the table below.

Exhibit 2.3.3.1 Intersection Geometry			
Intersection Name	Type	Entrance From	Angle of Skew
Floral Avenue (NYS Route 13A)	T-Intersection	Right	5°
West Seneca Street / Brindley Street	5-way Intersection (plus a minor commercial driveway)	Right/Left	West Seneca St – 54° Brindley St - 36°
Taughannock Boulevard	T-Intersection*	Left	5°

* Taughannock Boulevard will become a 4-way intersection with the realignment of Brindley Street

Roadside Elements: Besides the sidewalk and snow storage areas discussed under Section 2.3.2.1 above, other roadside elements include utility poles, traffic and commercial signs, commercial parking areas and some street trees along the north side of the street.

See Typical Sections and Plan Sheets in **Appendix A**.

2.3.3.2. Geometric Design Elements Not Meeting Minimum Standards

There are no existing nonstandard features.

2.3.3.2.(1) Other Design Parameters

There are no existing nonconforming features.

2.3.3.3. Pavement and Shoulder

A Pavement Evaluation and Treatment Selection Report (PETSr) was not prepared for this project. The 2014 NYSDOT *Pavement Data Report* gives the pavement within the project limits a surface rating of 6 (Fair - surface distress clearly visible). The dominant distress is identified as alligator cracking on the HMA roadway pavement and isolated spalling on the concrete bridge deck.

2.3.3.4. Drainage Systems

Type: closed drainage system throughout the project limits, consisting of curbside drainage inlets, manholes and pipe. There are three separate short drainage systems. A 24-in RCP storm sewer drains the section of West MLK Jr. Street immediately east of the bridge and discharges to the Flood Control Channel. An 18-in storm sewer drains the section of roadway near the West Seneca Street intersection and discharges down Brindley Street to Six Mile Creek. An 18-in storm sewer drains the section of roadway east of West Seneca Street and discharges to the Cayuga Inlet just east of Taughannock Boulevard.

Condition: Assumed to be generally good, will be verified in final design. The majority of the drainage system on West MLK Jr. Street was installed in 1997 when the roadway was reconstructed.

Deficiencies/Needs: None.

Some existing drainage structures will be impacted by this project. These impacts will result in replacement with new slightly offset structures with connections to existing structures and pipes. No new drainage outfalls are anticipated. There are also existing scuppers on the Flood Control Channel Bridge which will be impacted by this project. The existing scuppers will be removed or abandoned in place and new scuppers will need to be installed.

2.3.3.5. Geotechnical

There are no special geotechnical concerns with the soils or rock slopes within the project area.

2.3.3.6. Structure

2.3.3.6. (1) Description:

- (a) BIN – 2210660
- (b) Feature carried and crossed – West MLK Jr. Street (aka West State Street), NYS Touring Route 79, over the Flood Control Channel
- (c) Type of bridge, number and length of spans, etc. – 218' long, Steel multi-girder structure, 3 spans (76', 51', and 84').
- (d) Width of travel lanes, parking lanes, and shoulders – Four 11'-0" to 13'-0" travel lanes, two in each direction
- (e) Sidewalks – Two 5' concrete sidewalks, one in each direction (Refer to Typical Section Drawings TYP-A1 and TYP-A2 in **Appendix A.**)
- (f) Utilities carried – Gas Line, Water Line, Telephone, and Electric

2.3.3.6. (2) Clearances (Horizontal/Vertical) – The existing horizontal clearance on the structure is the sidewalk width of 5 feet between the edge of travel lane and the face of rail. This does not appear to cause any restrictions. There are no vertical clearance restrictions within the project limits.

2.3.3.6. (3) History & Deficiencies – The bridge was originally constructed in 1968 and substantially rehabilitated in 1997. The concrete deck and wearing surface were replaced with new armored joints along with new Texas Barrier railing and other safety improvements. The bridge bearings were replaced and the steel members were rehabilitated and received partial length cover plates. The substructures received pressure relief joints and some concrete repairs.

2.3.3.6. (4) Inspection

- (a) Federal Sufficiency Rating – 75.3 (2013)
- (b) State Condition Rating – 5.56 (2015)
- (c) Summary of Condition and Inspection Reports and In-depth Inspection if done.

The federal sufficiency rating (FSR) for bridge components ranges from 0 to 100. According to FHWA criteria, a bridge is eligible for HBRRP funds for replacement if the FSR is under 50. If the FSR is between 50 and 80, a bridge is only qualified for rehabilitation funding, and there is no eligibility for HBRRP funds if the FSR is above 80. The existing bridge's FSR of 75.3 indicates it is eligible for rehabilitation funds.

The biennial inspection (2009) indicates that the bridge superstructure joints and utilities have a rating of 4 or less.

2.3.3.6. (5) Restrictions - There are no restrictions on the existing bridge.

2.3.3.6. (6) Future Conditions – The existing bridge is currently functioning as designed with the exception of the bridge superstructure joints and utilities. Without replacement, the joints will deteriorate to the point where the additional exposure to weather will affect the rest of the bridge structure. Rehabilitation of this bridge is beyond the scope of this project and will be addressed under a separate project in the future.

2.3.3.6. (7) Waterway - A Coast Guard Checklist is not required.

2.3.3.8. Guide Railing, Median Barriers and Impact Attenuators

There is decorative concrete "Texas rail" with incorporated ornamental lighting present on the Flood Control Channel Bridge with box beam guide rail transition end treatments on all four quadrant ends of the bridge. These transitions will not be affected by this project. An additional short run of box beam guide railing is

located in the snow storage area between the curb and sidewalk on the east side of Floral Avenue opposite Elm Street. The section of guide rail will be affected by at least one build alternative. There are no median barriers or impact attenuators present in the project area.

2.3.3.9. Utilities

Overhead and underground utilities exist throughout the project limits. The utilities are listed below:

Exhibit - 2.3.3.9 Existing Utilities				
Owner	Type	Location/Side	Length	Condition/Conflict
City of Ithaca	Water	North side of street	Entire project	Condition unknown, no obvious conflicts
City of Ithaca	Sanitary Sewer	8- and 10-inch pipes under pavement	ML16+60 to ML22+00	Condition unknown, no obvious conflicts
City of Ithaca	Storm Sewer	Three short systems with 18- and 24-inch pipes under pavement	ML15+80 to ML16+30 ML17+70 to ML19+40 ML20+40 to ML23+20	Condition unknown. Drainage structures at ML15+80 and ML16+30 will be impacted by curblines changes. Manhole at ML19+40 RT will need rim adjustment to match new sidewalk.
New York State Electric and Gas	Natural Gas	8-inch pipe on north side of bridge over Flood Control Channel 4-inch pipe south side of street behind sidewalk	ML12+40 to ML17+00 ML 20+00 to ML22+50	Installed 1997. Condition unknown, no obvious conflicts Installed 1995. Condition unknown, no obvious conflicts
New York State Electric and Gas	Overhead Electric	Generally south side of street	Entire project	Condition unknown, no obvious conflicts
Verizon	Overhead Telephone	Generally south side of street	Entire project	Condition unknown, no obvious conflicts
Verizon	Underground Fiber Optic	Generally south side of street	Entire project	Condition unknown, no obvious conflicts
Time Warner Cable	Overhead Cable TV	Generally south side of street	Entire project	Condition unknown, no obvious conflicts

2.3.3.10. Railroad Facilities

There are no railroads within the project limits, but there is a Norfolk Southern Railroad at-grade crossing of West MLK Jr. Street located about 500' east of Taughannock Boulevard. The rail line is currently very lightly used and should have minimal impact on traffic conditions.

2.3.4. Potential Enhancement Opportunities

This section focuses on the existing areas to identify potential enhancement opportunities related to the project and to help avoid and minimize impacts. Chapter 4 focuses on the impacts, enhancements, and mitigation. Being a Transportation Enhancement Project, there are several opportunities and objectives to enhance the project area primarily for pedestrian and bicycle users, particularly by providing wider sidewalks, bicycle lanes, safer crossings and better connections between existing facilities. There is also

a opportunity to push the sidewalk back from the adjacent curb line in some areas and plant some street trees and/or provide landscaping areas.

2.3.4.1. Landscape

2.3.4.1. (1) Terrain

The terrain within the project limits can be characterized as flat, with a slight change in grade (2.5% max) for the western half of the project corridor. Rolling terrain begins immediately west of the project.

2.3.4.1. (2) Unusual Weather Conditions

There are no unusual weather conditions within the project area.

2.3.4.1. (3) Visual Resources

The visual environment of the project area can be characterized as generally urban, with primarily commercial development. The project is located at the western edge of Ithaca's downtown flats area and connects it to the West Hill residential area. The West End waterfront area adjacent to the Cayuga Inlet and Cayuga Lake is located immediately to the north. The level city setting that encompasses the project is surrounded by Cayuga Lake extending to the north and wooded hills with Cornell University, Ithaca College and residential development rising 750 feet above the flats area to the east, south and west.

2.3.4.2. Opportunities for Environmental Enhancements

The immediate project area is well-served by multiple parks and multi-use trails, including Cass Park, Allan H. Treman State Marine Park, Cayuga Waterfront Trail, and Black Diamond Trail. An additional section of multi-use trail that would cross Six Mile Creek is proposed as part of the Brindley Street bridge replacement project that abuts this project to the east.

2.3.5. Miscellaneous

NYS Smart Growth Public Infrastructure Policy Act (SGPIPA): Pursuant to ECL Article 6, this project is compliant with the New York State Smart Growth Public Infrastructure Policy Act (SGPIPA). This project has been determined to meet the relevant criteria, to the extent practicable, described in ECL Sec. 6-0107. This publically supported infrastructure project complies with the state policy of maximizing the social, economic and environmental benefits from public infrastructure development. The project will not contribute to the unnecessary costs of sprawl development, including environmental degradation, disinvestment in urban and suburban communities, or loss of open space induced by sprawl.

The Smart Growth Screening Tool has been completed for the project. A signed copy is included in **Appendix B**.

There are no other relevant/identifiable features or conditions in the area that have not been previously mentioned in this chapter that could be affected by the project.

CHAPTER 3 – ALTERNATIVES

This chapter discusses the alternatives considered and examines the engineering aspects for all feasible alternatives to address project objectives identified in Chapter 1 of this report.

3.1. Alternatives Considered and Eliminated from Further Study

The **Bridge Widening Alternative (Alternative 3)** would involve widening the existing West MLK Jr. Street Bridge over the Flood Control Channel by 8 feet to the south to provide a 13' wide multiuse trail in place of the existing 5' south sidewalk while maintaining the existing 48' roadway width and four travel lanes. This would require adding an additional girder to the three spans of the bridge. This alternative was eliminated because of cost considerations. The cost for Alternative 3 is over three times greater than Alternative 1, which would also provide a 13' wide multiuse trail in place of the existing 5' south sidewalk by narrowing the roadway width to 38 feet (three lanes).

The **No-Build or "Null" Alternative (Alternative 4)** would result in retention of the curbside, narrow sidewalks along West MLK Jr. Street, pedestrians continuing to cross the street at uncontrolled midblock locations between intersections, and maintaining the existing geometry of the West MLK Jr. Street / West Seneca Street / Brindley Street / Pete's Grocery driveway intersection that experiences an above-average accident rate and motorists appear to find confusing. Since this alternative will not satisfy the project objectives, it is not considered a feasible alternative, but will be used for comparison with the feasible alternatives for the purpose of evaluating impacts.

3.2. Feasible Build Alternatives

3.2.1. Description of Feasible Alternatives

Alternative 1 – Multi-use Path: This alternative for West MLK Jr. Street consists of reducing the pavement and width and number of travel lanes to increase the south sidewalk width between Floral Avenue and West Seneca Street to develop a multi-use pedestrian and bicycle path. A westbound bike lane would be provided between West Seneca Street and Floral Avenue and eastbound bikes would share the eastbound travel lane or use the multi-use path. A signalized, protected mid-block pedestrian crossing on the east side of the Flood Control Channel Bridge would be installed, and a new traffic signal would be installed at the Floral Avenue intersection. Geometric and delineation improvements at the West MLK Jr. Street/West Seneca Street/Brindley Street/Pete's Grocery driveway intersection and providing a single course mill and overlay pavement treatment from Floral Avenue to Taughannock Boulevard would also be included. Key elements of this alternative include:

- | | |
|----------|--|
| Geometry | <ul style="list-style-type: none">• Reducing the curb to curb pavement width on the bridge over the Flood Control Channel from 48' to 41' and increasing the south sidewalk width from 5' to 10' to provide a multi-use path across the bridge. A concrete barrier would be installed between Floral Avenue and the proposed mid-block pedestrian crossing on the east side of the bridge. Between the crossing and West Seneca Street, the curb and sidewalk would be bumped out 7' into the roadway to accommodate continuation of the multi-use path.
• Realigning both approaches of West Seneca Street to intersect West MLK Jr. Street at right angles, eliminating the common intersection of these two approaches, and providing separate intersections spaced 80 feet apart. The south approach (Brindley Street) would be downgraded to a minor commercial driveway since Brindley Street is being relocated to the Taughannock Boulevard intersection under PIN 3756.11 and the driveway to Pete's Grocery would be shifted approximately 16' to the west to improve turning movements in this area. |
|----------|--|

- | | |
|-------------------|---|
| Operational | <ul style="list-style-type: none"> • Changing the operation of the roadway between Floral Avenue and West Seneca Street from two travel lanes eastbound and westbound to one travel lane eastbound and one travel lane westbound with a center left turn lane for Floral Avenue westbound and Pete's Grocery eastbound. A westbound bike lane would also be installed between Floral Avenue and West Seneca Street. • Adding a new midblock pedestrian crosswalk between Floral Avenue and West Seneca Street controlled by a pedestrian-actuated traffic signal. The traffic signal would be a hi-intensity activated crosswalk (HAWK) signal that would require approaching vehicles to stop for crossing pedestrians. • Installing a new traffic signal at the Floral Avenue intersection will improve operations at this intersection for vehicles approaching from Floral Avenue and Elm Street and will provide a protected means for pedestrians to cross Hector Street/West MLK Jr. Street at this location. |
| Control of Access | <ul style="list-style-type: none"> • There will continue to be no right-of-way control of access. • The commercial driveway curb cut for Trombley Tire and Auto Service will be reduced by approximately 15 feet in width to accommodate the relocated sidewalk curb ramp at West Seneca Street. • The commercial driveways to Just Be Cause, State Farm Insurance and Mama Teresa's Pizza will also be somewhat reduced to between 20' and 24'. • The commercial driveway to Pete's Grocery would be shifted 16' to the west. • As mentioned under geometry, Brindley Street would be downgraded to a minor commercial driveway for Ithaca Grain and Pet Supply and the offices at 1001 West Seneca Street, the Sign Works Building. |
| Right of Way | <ul style="list-style-type: none"> • There are no right of way impacts associated with this alternative. |
| Environmental | <ul style="list-style-type: none"> • There are no environmental impacts associated with this project. See Section 4 of this report for more environmental discussion. |
| Cost | <ul style="list-style-type: none"> • Total estimated construction cost of this alternative is \$700,000 (2016 dollars). |
| Project Goals | <ul style="list-style-type: none"> • These improvements meet the overall objectives of improving the level of safety and comfort of pedestrians and bicyclists traveling along West MLK Jr. Street, enabling pedestrians to safely and conveniently cross West MLK Jr. Street between the bridge over the Flood Control Channel and West Seneca Street, and providing improved geometry and lane delineation at the West MLK Jr. Street/West Seneca Street/Brindley Street/Pete's Grocery driveway intersection. |

Alternative 2 – Sidewalk Widening and Bike Lanes: This alternative for West MLK Jr. Street consists of reducing the pavement and width and number of travel lanes to increase the south sidewalk width between Floral Avenue and West Seneca Street and providing both westbound and eastbound bike lanes between West Seneca Street and Floral Avenue. The westbound bike lane would continue to the Taughannock Boulevard intersection. A signalized, protected mid-block pedestrian crossing on the east side of the Flood Control Channel Bridge would be installed, and a new traffic signal would be installed at the Floral Avenue intersection. Geometric and delineation improvements at the West MLK Jr. Street/West Seneca Street/Brindley Street/Pete's Grocery driveway intersection and providing a single course mill and overlay pavement treatment from Floral Avenue to Taughannock Boulevard would also be included. Key elements of this alternative include:

- | | |
|-------------------|--|
| Geometry | <ul style="list-style-type: none">• Reducing the pavement width on the bridge over the Flood Control Channel from 48' to 43' and increasing the south sidewalk width from 5' to 10'. The curb and sidewalk would be bumped out 5' into the roadway to accommodate the widened sidewalk. The roadway between the bridge and West Seneca Street would also be narrowed to provide the wider sidewalk.• Realigning the West Seneca Street and Brindley Street intersections to intersect West MLK Jr. Street at right angles. Eliminating the common intersection of these two streets on the south side of West MLK Jr. Street and providing separate intersections spaced 80 feet apart. |
| Operational | <ul style="list-style-type: none">• Changing the operation of the roadway between Floral Avenue and West Seneca Street from two travel lanes eastbound and westbound to one travel lane with a bike lane in both directions and a center left turn lane for Floral Avenue and Pete's Grocery.• Adding a new midblock pedestrian crosswalk between Floral Avenue and West Seneca Street controlled by a pedestrian-actuated traffic signal. The traffic signal would be a hi-intensity activated crosswalk (HAWK) signal that would require approaching vehicles to stop for crossing pedestrians.• Installing a new traffic signal at the Floral Avenue intersection will improve operations at this intersection for vehicles approaching from Floral Avenue and Elm Street and will provide a protected means for pedestrians to cross Hector Street/West MLK Jr. Street at this location. |
| Control of Access | <ul style="list-style-type: none">• There will continue to be no right-of-way control of access.• The commercial driveway curb cut for Trombley Tire and Auto Service will be reduced by about 15 feet in width to accommodate the relocated sidewalk curb ramp at West Seneca Street.• The commercial driveways to Just Be Cause, State Farm Insurance and Mama Teresa's Pizza will also be somewhat reduced to between 20' and 24'.• The commercial driveway to Pete's Grocery would be shifted 16' to the west. |
| Right of Way | <ul style="list-style-type: none">• There are no right of way impacts associated with this alternative. |
| Environmental | <ul style="list-style-type: none">• There are no environmental impacts associated with this project. See Section 4 of this report for more environmental discussion. |
| Cost | <ul style="list-style-type: none">• Total estimated construction cost of this alternative is \$612,000 (2016 dollars). |
| Project Goals | <ul style="list-style-type: none">• These improvements meet the overall objectives of improving the level of safety and comfort of pedestrians and bicyclists traveling along West MLK Jr. Street, enabling pedestrians to safely and conveniently cross West MLK Jr. Street between the bridge over the Flood Control Channel and West Seneca Street, and providing improved geometry and lane delineation at the West MLK Jr. Street / West Seneca Street / Brindley Street / Pete's Grocery driveway intersection. |

Exhibit 3.2.1 Summary of Alternative Costs - Million Dollars (Calculated Year)			
Activities		Alternative 1 Protected Multi-use Path	Alternative 2 Wider Sidewalk With Bike Lanes
Construction	Bridge	\$32,000	\$34,000
	Highway	\$525,000	\$453,000
Subtotal (2016)		\$557,000	\$487,000
Incidentals/Contingencies ¹ (15% @ Design Approval)		\$84,000	\$73,000
Subtotal (2016)		\$641,000	\$560,000
Potential Field Change Payment		\$32,000	\$28,000
Subtotal (2016)		\$673,000	\$588,000
Mobilization (4%)		\$27,000	\$24,000
Subtotal (2016)		\$700,000	\$612,000
Expected Award Amount – Inflated @ 3%/year to midpoint of Construction (2018)		\$743,000	\$649,000
Construction Inspection (10%)		\$74,000	\$65,000
ROW Costs (2016)		\$0	\$0
Total Cost		\$817,000	\$714,000
Notes: 1. The potential cost increase due to unknown or un-tabulated items. NYSDOT recommends standard contingencies: 25% Scoping stage, 15% Design Approval stage, 5% Advanced Detail Plans stage.			

3.2.2 Preferred Alternative

A preferred alternative has not been decided at this time and both feasible alternatives are still under consideration. Upon holding a third and final public meeting after this Draft Design Report is complete, a alternative will be chosen as the preferred alternative for the Final Design Report. The selection of the preferred alternative will not be finalized until the alternatives' impacts, comments on the draft design approval document, and comments from the public information meeting have been fully evaluated.

3.2.3. Design Criteria for Feasible Alternative(s)

3.2.3.1. Design Standards

This project is a Transportation Enhancement Project. The design standards for this project however, are based on the work type defined as highway rehabilitation per PDM Appendix 5, Table 5-1. Design values are obtained from Chapter 2 and Chapter 7 of the NYSDOT Highway Design Manual.

3.2.3.2. Critical Design Elements

Exhibit 3.2.3.2 Critical Design Elements for West MLK Jr. Street Corridor					
PIN:		3950.50		NHS (Y/N):	No
Route No. & Name:		West MLK Jr. Street (aka West State Street) (NYS Route 79)		Functional Classification:	Urban Minor Arterial FHWA Code 4 NYS Code 16
Project Type:		Transportation Enhancement		Design Classification:	Urban Arterial
% Trucks:		5		Terrain:	Level
ADT:		16460		Truck Access/Qualifying Hwy.	Access-Yes; Qualifying-No
Element		Standard		Existing Condition	Proposed Condition
1	Design Speed	30 mph minimum HDM Section 2.7.2.2 A		30 mph posted 35 mph 85 th %	35 mph (See Note 1)
2	Lane Width	Travel Lanes: 11' minimum Left or Right Turning Lanes: 11' minimum, 12' desirable HDM Section 2.7.2.2 B, Exhibit 2-4		11' to 13' travel lanes No turning lanes	11' to 13' travel lanes 11' left turn lane
3	Shoulder Width	0 to 4' minimum right shoulder where 12' travel lane or multiuse path is provided HDM Section 2.7.2.2 C, Exhibit 2-4, Note 2		1'	1' to 5'
4	Bridge Roadway Width	Same as approach lane and shoulder width		Same as approach lane and shoulder width	Same as approach lane and shoulder width
5	Maximum Grade	7% HDM Section 2.7.2.2.E, Exhibit 2.4		2.5%	2.5%
6	Horizontal Curvature	371' (@ e = 4.0%) HDM Section 2.7.2.2 F, Exhibit 2-4		450'	450'
7	Superelevation Rate	4% maximum HDM Section 2.7.3.2 G		3.2%	3.2%
8	Stopping Sight Distance	250' Minimum HDM Section 2.7.2.2 H, Exhibit 2-4		>500'	>500'
9	Horizontal Clearance	0' min. with barrier 1.5' min. without barrier 3' min. at intersections HDM Section 2.7.2.2 I		1.5' min 3' min at intersections	1.5' min 3' min at intersections
10	Vertical Clearance (above traveled way)	14'-0" Min., 14'-6" Desirable HDM Section 2.7.2.2 J Bridge Manual Section 2.4.1 Table 2-2		No overhead bridges	No overhead bridges
11	Travel Lane Cross Slope	1.5% minimum to 2% maximum HDM Section 2.7.2.2 K		Varies from 1.5% to 2%	1.5% min. to 2% max.
12	Rollover	4% max. between travel lanes 8% max. at edge of traveled way HDM Section 2.7.2.2 L		4% max. between travel lanes	4% max. between travel lanes
13	Control of Access	None		None	None
14	Pedestrian Accommodation	Comply with HDM Chapter 18 and ADAAG/PROWAG		Concrete sidewalks (5' minimum width) and curb ramps	Comply with HDM Chapter 18 and ADAAG/PROWAG
15	Median Width	N/A		N/A	N/A
(1) The City of Ithaca Director of Engineering has concurred that the use of a Design Speed of 35 mph is consistent with the anticipated off-peak 85 th percentile speed within the range of functional class speeds for the terrain and volume.					

3.2.3.3. Other Design Parameters

Exhibit 3.2.3.3 a Other Design Parameters			
Highway or Feature			
	Element	Criteria	Proposed Condition
1	Level of Service (for non – interstate projects)	C (desirable) D (minimum)	C (overall intersection) (See Note 1)
2	Drainage Design Storm	5 years (Storm Drainage System)	5 Years
Exhibit 3.2.3.3 b Other Design Parameter: Design Vehicle			
	Location	Design Vehicle	Vehicle Accommodated
	West Seneca Street	SU	SU
	Brindley Street	P	P (See Note 2)
<p>(1) The proposed level of service C will be achieved by the relocation of Brindley Street under PIN 3756.11.</p> <p>(2) Brindley Street, which will be relocated as part of the Brindley Bridge Project. The former Brindley Street will be downgraded to a minor commercial driveway which needs to accommodate an occasional WB-40 tractor trailer vehicle for deliveries to the Ithaca Grain and Pet Supply Store.</p>			

3.3. Engineering Considerations

3.3.1. Operations (Traffic and Safety) & Maintenance

3.3.1.1. Functional Classification and National Highway System

This project will not change the functional classification of the highway.

3.3.1.2. Control of Access

Right-of-way access to the highway will remain uncontrolled. Driveway access control will remain, but some openings will be reduced in width. The 60’ wide driveway curb cut to Trombley Tire and Auto Service at Station ML 21+00 RT will be reduced by about 15 feet in width to accommodate the relocated sidewalk curb ramp at West Seneca Street. This can be done without adversely impacting access to the garage doors and parking on this property. Three other driveways to Just Be Cause, State Farm Insurance and Mama Teresa’s Pizza will be reduced in width to 20 to 24’. The driveway to Pete’s Grocery will be shifted approximately 16’ to the west. With the relocation of Brindley Street to the Taughannock Boulevard intersection, the former Brindley Street will be downgraded to a minor commercial driveway under Alternative 1 serving the Ithaca Grain and Pet Supply and the offices at 1001 West Seneca Street, the Sign Works building.

3.3.1.3. Traffic Control Devices

3.3.1.3. (1) Traffic Signals

No modifications to the existing State-owned mast arm traffic signal at the West MLK Jr. Street/Taughannock Boulevard intersection are proposed. A new pedestrian-actuated traffic signal is proposed for the new mid-block pedestrian crossing at Station ML 16+60. A HAWK signal system, which like a railroad crossing remains dark (unlit) until activated by a pedestrian pushbutton, will be considered for this installation.

A new semi-actuated traffic signal will be installed at the intersection of Floral Avenue and West MLK Jr. Street/Hector Street under either of the feasible alternatives, including pedestrian signal accommodations for crossing West MLK Jr. Street/Hector Street. The installation will be a mast arm system with a protected/permissive left turn indication for the westbound left turn from West MLK Jr. Street to Floral Avenue. Pedestrian signal controls will include audible indications and countdown timers.

3.3.1.3. (2) Signs

The existing traffic signs are in good condition and will be retained where appropriate. New signs will be added where required by current standards.

3.3.1.3. (3) Pavement Markings

New pavement markings will be provided throughout the project length delineating the new lane configuration planned for West MLK Jr. Street. Hi-intensity crosswalk pavement markings will be used for the new signal-protected pedestrian crossing.

3.3.1.4. Intelligent Transportation Systems (ITS)

No ITS measures are proposed under this project.

3.3.1.5. Speeds and Delay

3.3.1.5. (1) Proposed Speed Limit

The existing posted speed limit of 30 mph will be retained upon completion of the project. Speeds are not expected to be significantly affected by either of the feasible alternatives, although should be somewhat reduced with the implementation of narrower travel lanes and a reduction in the number of travel lanes from 2 to 1. Narrower travel lanes have been shown to have a traffic calming (speed reducing) effect on motorists. Refer to Section 2.3.1.5 for posted and existing operating speeds.

3.3.1.5. (2) Travel Time Estimates

The feasible alternatives will not significantly affect travel times through the project corridor, although may be marginally longer with reduced speeds through traffic calming measures that are planned as part of the feasible alternatives. The reduction in the number of travel lanes will not impact travel times because travel through the corridor is still controlled eastbound by the traffic signal at Taughannock Boulevard and westbound will still have a dedicated left turn lane for Floral Avenue. Refer to Section 2.3.1.5 for current average travel times through the project corridor.

3.3.1.6. Traffic Volumes

Since there are no anticipated changes in traffic volumes, see Section 2.3.1.6 for existing and projected traffic volumes. Refer to **Appendix C** for traffic flow diagrams. Refer to Exhibits 2.3.1.5 for a summary of the traffic data.

3.3.1.7. Level of Service and Mobility

3.3.1.7 (1) At Project Completion & Design Year

A level of service (LOS) capacity analysis was conducted using Synchro 9 for the estimated time of completion and design year for the three intersections within the project limits. The LOS analysis was conducted for the evening (PM) peak hour which is the design peak hour for a typical weekday. The analysis takes into consideration the road diet proposed under each of the two feasible alternatives. The analysis results are the same for each alternative since the proposed lane configurations at each of the intersections is the same under both alternatives. The analysis also incorporates the planned relocation of Brindley Street to the Taughannock Boulevard intersection, which will occur with the Brindley Street bridge Project. The

results of this analysis is shown below in Exhibit 3.3.1.7. Existing LOS as discussed under Section 2.3.1.7 of this report is repeated here for comparison.

Exhibit 3.3.1.7 Intersection Level of Service and Delay (sec)			
PM Peak Hour (4:30 to 5:30 PM)			
Intersection	Existing (2014)	ETC (2018)	ETC+10 (2028)
West MLK Jr. Street & Taughannock Boulevard (Average)	B (14.2)	C (22.3)	C (22.3)
Taughannock Southbound	B (12.6)	B (17.8)	B (17.8)
Brindley Northbound	N/A	B (15.4)	B (15.4)
West MLK Jr. Westbound	B (17.4)	C (28.2)	C (28.2)
West MLK Jr. Eastbound	B (11.6)	B (19.4)	B (19.4)
West MLK Jr. Street & West Seneca/Brindley Street (Average)	F (724)	C (22.2)	C (22.2)
Brindley/West Seneca Eastbound	F	A (0)	A (0)
West Seneca Westbound	F (56.8)	F (83.3)	F (83.3)
West MLK Jr. Westbound Left	A (1.2)	A (0)	A (0)
West MLK Jr. Eastbound	No delay	No delay	No delay
West MLK Jr. Street & Floral Avenue (Avg)	A (7.5)	B (10.9)	B (11.9)
Floral Eastbound	E (40.6)	B (15.4)	B (15.4)
West MLK Jr. Westbound Left	B (5.3)	A (9.6)	B (11.1)
West MLK Jr. Westbound Through	No delay	A (4.2)	A (4.3)
Hector Eastbound	No delay	B (20.0)	C (21.8)

The level of service at the Taughannock Boulevard intersection drops down to LOS C at the time of completion of this project due to the addition of Brindley Street to the intersection (as part of the Brindley Street Bridge Project). All approaches will operate at LOS C or better and the intersection average level of service will be LOS C. This project in itself has no impact on the future operations at this intersection.

The West Seneca Street/former Brindley Street intersection level of service will improve with the realignment of Brindley Street to an average LOS C for the intersection. The West Seneca westbound approach however will continue to operate at LOS F due to heavy conflicting and uncontrolled westbound traffic on West MLK Jr. Street.

The average intersection level of service at the Floral Avenue intersection will drop from LOS A under both alternatives to LOS B at ETC and the design year of ETC+10. This drop in the average intersection level of service is due to the installation of a traffic signal at this intersection and the sacrifice of some delay being added to the eastbound and westbound movements for the Hector and West MLK Jr. Street approaches to improve operations for the Floral Avenue approach. Floral Avenue level of service will improve from the existing LOS E to LOS B.

3.3.1.7 (2) Work Zone Safety & Mobility

A. Work Zone Traffic Control Plan - Traffic will be maintained on the existing roadway alignment, and the construction will be phased. Two-way continuous traffic will be maintained at all times, except for occasional alternating single lane traffic with flagger control at times of paving. Routes for emergency vehicles will be maintained and open during construction. Pedestrian traffic will be maintained during construction using existing or temporary sidewalks and will be detoured where necessary. Pedestrian access through the corridor will be maintained through construction. Bicycle traffic will utilize vehicular travel lanes during construction. Work zone traffic control details will be prepared and evaluated during final design.

B. Special Provisions - Due to the ability to generally maintain traffic with acceptable delays during the daylight hours, night time construction will not be utilized. The work zone traffic control will need to be coordinated with city officials, Tompkins Consolidated Area Transit (TCAT), and business owners.

C. Significant Projects (per 23 CFR 630.1010) - This project is not considered a significant project per 23 CFR 630.1010. A Transportation Management Plan (TMP) will be prepared for the project consistent with 23 CFR 630.1012. The TMP will consist of a Temporary Traffic Control (TTC) plan. Transportation Operations (TO) and Public Information (PI) components of a TMP will be considered during final design.

3.3.1.8. Safety Considerations, Accident History and Analysis

Under both feasible alternatives, the potential for accidents is expected to decrease along the project corridor with the implementation of the proposed road diet, the installation of the protected signalized pedestrian crossing and the provision of dedicated bicycle facilities for bike traffic. Speeds are expected to be reduced by taking away one of the travel lanes and providing narrower travel lanes. Pedestrians will feel better protected from traffic by having a wider sidewalk to walk on and by having some separation from the vehicular travel lane.

The separate Brindley Street Bridge Project, which will relocate Brindley Street opposite Taughannock Boulevard, along with the intersection realignment of West Seneca Street under this project, will improve turning operations and reduce conflict points at the West Seneca Street intersection. By separating the intersections and slightly relocating the driveway to Pete's Grocery will make the intersection less confusing to navigate through.

3.3.1.9. Impacts on Police, Fire Protection and Ambulance Access

Refer to Section 3.3.1.7(2) for a discussion of the anticipated impacts during construction. There are no anticipated impacts to police, fire protection and ambulance access during construction, although there will be slight delays for all traffic while construction work is in progress.

3.3.1.10. Parking Regulations and Parking Related Issues

No changes to parking regulations are proposed, although existing regulations will be reinforced by the installation of additional parking restriction signage. No stopping will be allowed along the project corridor.

3.3.1.11. Lighting

No changes to the existing street lighting are proposed.

3.3.1.12. Ownership and Maintenance Jurisdiction

West MLK Jr. Street and its associated sidewalks and drainage system will continue to be owned and maintained by the City of Ithaca. The traffic signal located at the intersection of West MLK Jr. Street and Taughannock Boulevard will continue to be owned and maintained by NYSDOT Region 3. The new pedestrian traffic signal will be owned and operated by the City of Ithaca.

3.3.2. Multimodal

3.3.2.1. Pedestrians

Under Alternative 1, the existing 5' sidewalk on the south side of West MLK Jr. Street between Floral Avenue and West Seneca Street will be widened to a 10' multi-use path by narrowing the roadway pavement in this area. Also, a 55' long section of existing sidewalk on the east side of Floral Avenue between West MLK Jr. Street and the Cayuga Waterfront Trail access will be widened from the existing 3 feet to 8 feet to extend the multiuse path to the trail. The remaining existing 5' sidewalks on the north and south sides of West MLK Jr. Street within the project limits will be either retained or reconstructed setback from the curb line to provide a snow storage area and potential tree planting area.

Under Alternative 2, the existing 5' sidewalks on the south side of West MLK Jr. Street between Floral Avenue and West Seneca Street will be widened to 10 feet. The remaining existing 5' sidewalks on the north and south sides of West MLK Jr. Street within the project limits will be maintained.

Under both Alternatives 1 and 2, a new midblock pedestrian crosswalk will be added between Floral Avenue and West Seneca Street to accommodate the large number of pedestrians from the West Hill area wishing to cross the street at this location to access commercial destinations on the north side of the street. This crosswalk will be controlled by a pedestrian-actuated traffic signal; see Section 3.3.1.3 (1) for further discussion of the proposed signal. Also under both alternatives, a new traffic signal would be installed at the Floral Avenue intersection, which will make it easier for pedestrian to cross Hector Street/West MLK Jr. Street at this location.

Also as part of both feasible alternatives, a new section of sidewalk will be provided on the south side of West MLK Jr. Street between the relocated intersections of West Seneca Street and Brindley Street to provide better continuity with the existing south sidewalk to the east and west. The new sidewalk will also connect with the existing sidewalk on the south side of West Seneca Street and with Brindley Street, which is proposed, along with the existing Brindley Street Bridge over Six Mile Creek, to be converted to exclusive pedestrian and bicycle use as part of replacing the bridge and approach roadway on a new alignment to the east.

At the West Seneca Street, Brindley Street and Taughannock Boulevard intersections, existing curb ramps will be upgraded to current Americans with Disabilities Act guidelines and NYSDOT standards where needed, including installation of detectable warning units. Existing crosswalk markings at these intersections will be refreshed. Type LS crosswalk markings will be installed at the new midblock pedestrian crosswalk.

3.3.2.2. Bicyclists

Special provisions are proposed to accommodate bicyclists as part of this project. Under Alternative 1, the existing 5' sidewalk on the south side of West MLK Jr. Street between Floral Avenue and West Seneca Street will be widened to a 10' multiuse path by narrowing the roadway pavement in this area. Also, a 55' long section of existing sidewalk on the east side of Floral Avenue between West MLK Jr. Street and the Cayuga Waterfront Trail access will be widened from the existing 3 feet to approximately 8 feet to extend the multiuse path to the trail. This will provide bicyclists an off-road connection between the Cayuga Waterfront Trail and Brindley Street, where the existing Brindley Street Bridge over Six Mile Creek and its approaches are proposed to be converted to exclusive bicycle and pedestrian use as part of replacing the bridge and approach roadway on a new alignment to the east. A variable 5' to 6' westbound bike lane between Floral Avenue and West Seneca Street will also be included under Alternative 1 as an alternative to using the multi-use path for bicyclists traveling from Downtown to Hector Street and points west. East of West Seneca Street, bicyclists will be accommodated in each direction by 14' wide shared use lanes.

Under Alternative 2, 5' bike lanes will be provided on both sides of West MLK Jr. Street between Floral Avenue and West Seneca Street and the westbound bike lane will continue to the Taughannock Boulevard intersection. East of West Seneca Street, eastbound bicyclists will be accommodated by 12' wide shared

use lanes but some bike traffic is expected to divert at the former Brindley Street which is to become a pedestrian and bicycle trail.

3.3.2.3. Transit

No changes are proposed to existing TCAT bus stops.

3.3.2.4. Airports, Railroad Stations, and Ports

Not applicable for this project.

3.3.2.5. Access to Recreation Areas (Parks, Trails, Waterways, and State Lands)

The multiuse path proposed on the south side of West MLK Jr. Street under Alternative 1, the wider sidewalks and bike lanes proposed on both sides of the street under Alternative 2, and the new mid-block crosswalk controlled by a pedestrian actuated traffic signal under both alternatives should enhance pedestrian and bicycle access to the Cayuga Waterfront Trail connection near the West MLK Jr. Street / Floral Avenue intersection.

3.3.3. Infrastructure

3.3.3.1. Proposed Highway Section

Refer to Drawings TYP-A1 and TYP-A2 in **Appendix A** for proposed typical sections of West MLK Jr. Street for Alternatives 1 and 2, respectively. Under Alternative 1, the proposed highway section would consist of a 5' to 6' westbound bike lane, a 12' westbound travel lane, an 11' center left turn lane, and a 11' with 2' curb/barrier offset eastbound travel lane between Floral Avenue and West Seneca Street. Between West Seneca Street and Taughannock Boulevard, there would be 14' shared-use travel lanes in each direction and a second 11' eastbound travel lane.

Under Alternative 2, there would be 5' to 6' bike lanes and 11' to 12' travel lanes in both directions and an 11' center left turn lane between Floral Avenue and West Seneca Street. Between West Seneca Street and Taughannock Boulevard, there would be a 5' westbound bike lane, an 11' westbound and eastbound travel lane, and a 12' shared-use eastbound travel lane.

Refer also to plan drawings in **Appendix A** for proposed changes to curbing, sidewalks, intersection geometry, storm drainage and pavement marking and lane utilization.

3.3.3.1. (1) Right of Way

There are no right-of-way acquisitions necessary for either Alternatives 1 or 2.

3.3.3.1. (2) Curb

The existing vertical faced granite curbing on West MLK Jr. Street will generally be retained with the exception of the south curb between Floral Avenue and West Seneca Street and the curb at the intersections to be realigned. Any damaged curb sections will be replaced. Under Alternative 1, approximately 300' of the existing south side curb between Floral Avenue and West Seneca Street will be replaced by single slope concrete median barrier between the roadway and proposed multiuse path. The remaining 250' will be removed and reset or replaced. The existing curb on the Flood Control Bridge will remain in place but will be incorporated into the multi-use PCC path.

Under Alternative 2, the existing curbing along the south side of the street between Floral Avenue and West Seneca Street will be reset 5 feet into the roadway to provide a wider sidewalk along that side of the roadway. As with Alternative 1, the existing curb on the Flood Control Bridge will remain in place, but will be incorporated into the new sidewalk.

Under both alternatives, new vertical faced granite curbing will be provided at the realigned intersections of West Seneca Street and Brindley Street.

3.3.3.1. (3) Grades

The existing roadway grades will be maintained. The maximum grade is 2.5% and the minimum grade is 0.3%.

3.3.3.1. (4) Intersection Geometry and Conditions

Under both feasible alternatives, existing intersection geometry will be significantly altered as part of this project. Following are anticipated modifications:

Floral Avenue Intersection:

- The southeast corner radius would be increased to 34' under Alternative 1 as part of the street width reduction on West MLK Jr. Street and the addition of the proposed multi-use path. Shop curved box beam median barrier will be used on this corner to provide protection for the multi-use path. This barrier will continue southward to the crosswalk across Floral Avenue.

West Seneca Street and Brindley Street Intersections:

- Both legs of West Seneca Street would be altered to intersect West MLK Jr. Street at 90 degrees, creating approximately 80' of separation between the two intersections.
- Former Brindley Street, which will be re-aligned to intersect West MLK Jr. Street opposite Taughannock Boulevard, will be downgraded to a commercial driveway. The commercial driveway to Pete's Grocery, which is also in the vicinity of this intersection would be shifted westward approximately 16' to improve turning operations at this intersection.

Refer to Drawings PLN-A1-1 to PLN-A2-2 in **Appendix A** for the geometry of the proposed intersections.

3.3.3.1. (5) Roadside Elements

- (a) Snow Storage, Sidewalks, Utility Strips, Bikeways – Under Alternative 1, the sidewalk will be widened to 12' between the Flood Control Channel Bridge and West Seneca Street. The widened sidewalk will serve a dual purpose of additional sidewalk width and snow storage area. East of West Seneca Street, the existing sidewalk which is adjacent to the existing curb line will be moved back 5' to provide 5' of snow storage area between the curb and the new sidewalk.

Under Alternative 2, the sidewalk will be widened to 10' between Floral Avenue and West Seneca Street to serve a dual purpose of additional sidewalk width and snow storage area. East of West Seneca Street, as with Alternative 1, the sidewalk will be moved back 5' to provide 5' of snow storage area between the curb and the new sidewalk. See Section 3.3.2.1 for a discussion of sidewalks and the multi-use path to be provided. No utility strips or bikeways are included; see Section 3.3.2.2 for a discussion of shared use lanes and bike lanes to be provided.

- (b) Driveways – Existing driveway entrances along the project corridor will be retained but the driveway aprons will be re-built and the curb cuts will be narrowed to shorten pedestrian crossing distances and/or to improve turning operations. The three driveways on the south side of West MLK Jr Street between the Flood Control Channel Bridge and West Seneca Street will be narrowed to between 20' and 24'. The driveway to Pete's Grocery will be retained at 35' width, but will be shifted to the west by approximately 16' to improve turning operations near the intersection of West MLK Jr. Street with West Seneca Street. The driveway to Trombley Tire and Auto Service will be reduced in width by about 15' to 35' in order to accommodate the relocated sidewalk curb ramp at West Seneca Street. See Section 3.3.1.2 for further discussion. Ithaca Grain and Pet Supply and the offices at 1001 West Seneca Street, which share a driveway off the existing Brindley Street alignment will have a new driveway constructed off West MLK Jr. Street within the former Brindley Street right of way.

- (c) Clear Zone – Alternative 1: a 2' buffer will be provided between the eastbound travel lane of West MLK Jr. Street and the proposed single slope concrete median barrier separating the multi-use path from the roadway between Floral Avenue and the proposed crosswalk on the west side of the Flood Control Channel Bridge. This alternative will therefore not change the existing minimum clear zone width of approximately 2 feet from edge of travel lane within the project limits.

Alternative 2: the addition of the bike lanes and sidewalk widening on the south side of West MLK Jr. Street west of West Seneca Street will provide an additional 10 feet of clear zone width in this area. This alternative will not change the existing minimum clear zone width of approximately 2 feet from edge of travel lane within the remainder of the project limits.

3.3.3.2. Special Geometric Design Elements

3.3.3.2. (1) Nonstandard Features

The feasible alternatives comply with the geometric features and cross section elements in the design criteria.

3.3.3.2. (2) Non-Conforming Features

There will be no non-conforming features within the project limits.

3.3.3.3. Pavement and Shoulder

3.3.3.3. Pavement and Shoulder

The proposed pavement treatment consists of a single course mill and overlay treatment from Station ML 12+48 just west of Floral Avenue to the west end of the Flood Control Channel Bridge, and from the east end of the bridge to approximately Station ML 22+35 just west of Taughannock Boulevard. This mill and overlay treatment will address existing surface irregularities and provide a clean surface for application of new pavement markings and will encompass the section of roadway affected by curb line relocations and intersection realignments. The relocated segment of Brindley Street that connects to West MLK Jr. Street will either be reconstructed as a new stub street (Alternative 2) or a new minor commercial driveway (Alternative 1).

Refer to Drawings TYP-A1 and TYP-A2 in **Appendix A** for the proposed pavement resurfacing and reconstruction sections for Alternatives 1 and 2.

3.3.3.4. Drainage Systems

The project area is served by a closed drainage system consisting of drainage inlet structures and pipes that discharge to the Flood Control Channel, Cayuga Inlet and Six Mile Creek. Both alternatives 1 and 2 include proposed curb line changes that will impact two existing drainage inlet structures located in the vicinity of Station ML 16+00 RT that discharge via a 24-inch diameter pipe to the Flood Control Channel on the south side of the Flood Control Channel Bridge. The existing drainage inlets will be converted to manhole structures and will serve as connecting structures for two new drainage structures that will be installed along the new curb line.

3.3.3.5. Geotechnical

No special techniques or considerations are needed.

3.3.3.6. Structures

The West MLK Jr. Street (NYS Route 79) Bridge over the Flood Control Channel (BIN 2210660), is a significant structure that covers much of the project limits. Refer to Section 2.3.3.6 for information on this structure. Work on the bridge associated with this project consists of the following:

- Alternative 1: widening of the south sidewalk on the bridge from 5' to 10' to serve as a multi-use path by installing a single-slope concrete barrier inward from the existing curb line by 7' and filling the gap between the barrier and the existing bridge curb with new PCC sidewalk. The two existing scuppers along the south side of the roadway will need to be reconstructed along the new concrete barrier. See Drawing TYP-A1 in **Appendix A**.
- Alternative 2: widening of the south sidewalk on the bridge from 5' to 10' by moving the curb line inward 5' and filling the gap between the new curb and the existing curb with new PCC sidewalk. The two scuppers along the south side of the roadway will need to be reconstructed along the new curb line. See Drawing TYP-A2 in **Appendix A**.

Under each alternative, existing pavement markings on the concrete bridge surface will need to be ground off in order to accommodate the new lane configuration across the bridge. The existing Level 1 loading of the bridge was reviewed and it was determined that the bridge will have adequate load capacity for the proposed improvements for either alternative. As part of final design, a new Level 1 Load Rating of the bridge will be developed based on the increased loading. A bridge deck drainage analysis will be performed to determine appropriate locations for the relocated bridge scuppers.

3.3.3.7. Hydraulics of Bridges and Culverts

The hydraulic opening of BIN 2210660 is not affected by this project. There are no dams in the vicinity of the project.

3.3.3.8. Guide Railing, Median Barriers and Impact Attenuators

The short segment of box beam guide railing located between curb and sidewalk on the east side of Floral Avenue at the extreme western end of the project will be removed and replaced by a box beam median barrier under Alternative 1 to allow widening of the 3' wide sidewalk to an 8' multi-use path that will connect the proposed multi-use path along West MLK Jr. Street to the Cayuga Waterfront Trail. The segments of bridge approach guide rail are not affected by the project and will be retained.

3.3.3.9. Utilities

No overhead or underground utilities are in conflict with the work proposed under this project. Utility manhole and valve box covers located in areas where the proposed grade is changing from existing grade will be adjusted to proposed finished grade.

3.3.3.10. Railroad Facilities

The project will not affect any railroad facilities.

3.3.4. Landscape and Environmental Enhancements

3.3.4.1. Landscape Development and Other Aesthetics Improvements

The project will include a new landscaped area between the relocated West Seneca Street and Brindley Street intersections on the south side of West MLK Jr. Street. There will also be a new landscape area between the driveway or new stub street that will replace former Brindley Street and a new HMA path that will connect to the old Brindley Street Bridge. A curb bump out on the east leg of West Seneca Street will also provide an opportunity for additional landscaping.

3.3.4.2. Environmental Enhancements

There are currently no plans for environmental enhancements within the project limits.

3.3.5. Miscellaneous

There are no other miscellaneous items for this project not already discussed in previous sections.

CHAPTER 4 - SOCIAL, ECONOMIC and ENVIRONMENTAL CONDITIONS and CONSEQUENCES

4.1 Introduction

4.1.1 Environmental Classification

4.1.1.1 NEPA Classification

This project is being progressed as a Class II action (Categorical Exclusion) for both feasible alternatives. Both alternatives will not individually or cumulatively have a significant environmental impact and are excluded from the requirement to prepare an Environmental Impact Statement (EIS) or an Environmental Assessment (EA) as documented in the Federal Environmental Approvals Worksheet (FEAW) and following discussion in this chapter.

Specifically, in accordance with the Federal Highway Administration's regulations in 23 CFR 771.117(c) (the 'c-list'), this project is one of the project types described in the 'c' list as "Federally-funded projects that receive less than \$5M of Federal funds; or with a total estimated cost of not more than \$30M and Federal funds comprising less than 15% of the total estimated project cost."

The Federal Environmental Approval Worksheet is included in **Appendix B**.

4.1.1.2 SEQR Classification This project is classified as a SEQR Unlisted Action in accordance with 6 NYCRR Part 617.7, with the City of Ithaca acting as the Lead Agency. An Unlisted Action is assumed to not have a significant effect on the environment, or is precluded from review under the Environmental Conservation Law, Article 8. City Ordinance No. **xxx**, determining that the project is an Unlisted Action and authorizing the City Engineer to prepare a Negative Declaration, was adopted on **xxx** and is included in **Appendix B**.

4.1.1.3 CEQR Classification

The proposed project is anticipated to meet the criteria established for a CEQR Type I Action in accordance with the CEQR Chapter 176 Section 4. The project has been identified as a Type I action, per Chapter 176 Section 4 Subdivision B Item (1) "Construction of any of the following: (m) Bridges (or demolition thereof)." A CEQR Full Environmental Assessment Form (EAF) has been completed to determine the significance of the proposed project in concurrence with The Ithaca City Code Chapter 176-7. See **Appendix B** for completed CEQR Full EAF.

4.1.2 Coordination with Agencies

4.1.2.1 NEPA Cooperating and Participating Agencies

The following agencies are Cooperating Agencies in accordance with 23 CFR 771.111(d):

Federal Highway Administration (FHWA)
New York State Department of Transportation (NYSDOT)
New York State Department of Environmental Conservation (NYSDEC)
US Department of the Interior Fish and Wildlife Service (USFWS)
New York State Historic Preservation Office (SHPO)

4.2 Social

The purpose of this section is to discuss the social environment in the vicinity of the project. This project involves West MLK Jr. Street in an urban, highly developed area within the City of Ithaca. The alternatives include the no-build, a road diet with a multi-use trail on the south side of the street, and a road diet with bike lanes and widened sidewalks on both sides of the street. Both build alternatives will re-align the West

Seneca Street intersections, will provide a signal-protected pedestrian crossing, and will provide a bicycle and pedestrian connection to the former Brindley Street Bridge which will be closed to vehicular traffic and used for bicycles and pedestrians only. Other sidewalk and landscape enhancements are also included under both build alternatives.

4.2.1 Land Use

4.2.1.1 Demographics and Affected Population

The project area is urban and highly developed with commercial buildings predominate to the west and north, and unoccupied land and waterbodies to the east and south.

The 2010 US Census reports that the City has a regular population of 30,020 persons, however this figure nearly doubles when Cornell and Ithaca College are in Session. The median reported age was 22.4, with 5.9% of the population being reported at age 65 or older. 70.5% of the population was identified as white. 5.2% of the population was identified as Limited English Proficient (LEP), i.e., speaking English "less than very well."

Based on data collected from the U.S. Census American Community Survey (ACS) from 2013, approximately 7.4% of the City's population was identified as disabled, (although specific disabilities were not listed). This percentage is lower than the percentage for New York State (10.9 %).

The City had 46.4% of its population reported to be below the poverty level, which is above the 2010 year's national average of 15.3%. This project is located in a NYSDEC Environmental Justice Area.

The ACS reported that in 2013, 30.5% of the City's working population commuted individually by car or truck to work with an average travel time of 15 minutes. This is approximately 16 minutes shorter than the national average.

4.2.1.2 Comprehensive Plans and Zoning

The project objectives and alternatives are consistent with the City of Ithaca's Comprehensive Plan and will not affect local zoning.

4.2.2 Neighborhoods and Community Cohesion

4.2.2.1 Community Cohesion

The project will not divide neighborhoods, isolate part of a neighborhood, generate new development or otherwise adversely affect community cohesion. In fact, this project is expected to improve community cohesion. The age and ethnic background of the affected population is of a similar composition as the rest of the City of Ithaca. No occupied dwellings will be acquired for the purpose of this project.

4.2.2.2 Home and Business Relocations

Since this project involves the enhancement of an existing street corridor to promote safer pedestrian and bicycle travel on predominately the existing alignment and does not require the acquisition of occupied dwellings/businesses, it will not cause adverse impacts upon neighborhood character and stability. The proposed project will not require displacement of any residences or businesses and there will be no relocation impacts.

4.2.3 Social Groups Benefited or Harmed

4.2.3.1 Elderly and/or Disabled Persons or Groups

A review of US Census data indicates there is no significant concentration of elderly or disabled persons in the project area. The project proposes new sidewalks, ADA compliant curb ramps and high visibility crosswalks to improve the accessibility accommodations for these and all user groups.

4.2.3.2 Transit Dependent

4.2.3.3 Low Income, Minority and Ethnic Groups (Environmental Justice)

According to the NYSDEC, the project is located in an environmental justice area. Consistent with Executive Order 12898 and FHWA Guidance on Environmental Justice, the project has not directly or indirectly used criteria, methods or practices that discriminate on the basis of race, color, national origin or income level. Whenever feasible, mitigation measures outlined or analyzed in this document address significant adverse environmental effects on minority and low-income populations.

4.2.4 School Districts, Recreational Areas, and Places of Worship

4.2.4.1 School Districts

The project is within the Ithaca City School District. There are no city schools or school properties within the project corridor. The Lehman Alternative Community School is located on Chestnut Street, approximately 0.4 miles west of West MLK Jr. Street. Students attending this school frequently walk through the project corridor.

4.2.4.2 Recreational Areas

The Cayuga Waterfront Trail is adjacent to this project and this project will enhance this trail by providing bicycle and pedestrian connectivity between the west and east sides of the flood control channel.

4.2.4.3 Places of Worship

There are no places of worship within or adjacent to the proposed project.

4.3 Economic

4.3.1 Regional and Local Economies

During construction of this project, a temporary increase in traffic and congestion within the project corridor would result due to the presence of heavy construction equipment and other construction related vehicles. This increased congestion may result in potential business patrons avoiding the area during the construction period; however, the effect will be temporary. Access to all businesses will be maintained during construction.

4.3.2 Business District Impacts

The project is located in the Waterfront Zone and “the flats” within the City of Ithaca and connects the West Hill Residential Neighborhood to the Downtown Business District. Both build alternatives will result in improved bicycle and pedestrian access between these zones.

4.3.3 Specific Business Impacts

There are no specific business impacts anticipated by either of the build alternatives for this project. Temporary inconveniences due to congestion during construction would result but the effect will be temporary and access to all businesses will be retained during construction.

4.4 Environmental

4.4.1 Wetlands

4.4.1.1 State Freshwater Wetlands

There are no NYSDEC regulated freshwater wetlands or regulated adjacent areas (100ft) within the project area, as per the NYSDEC online Environmental Resource Mapper. No further investigation is required and Environmental Conservation Law, Article 24 is satisfied.

4.4.1.2 State Tidal Wetlands

A review of the NYSDEC GIS wetland data files indicates that there are no NYSDEC jurisdictional tidal wetlands or regulated adjacent areas within or near the project limits, and ECL Article 25 does not apply.

4.4.1.3 Federal Jurisdiction Wetlands

The National Wetlands Inventory (NWI) online mapper accessed from the USFWS indicates that the project is not located within federally regulated wetlands.

4.4.1.4 Executive Order 11990

Based on a site visit, there are no wetlands located within the project's area of potential effect. Executive Order 11990 does not apply to this project.

4.4.1.5 Mitigation Summary

No wetland mitigation/monitoring plan is required for this project, since no wetlands are present.

4.4.2 Surface Waterbodies and Watercourses

4.4.2.1 Surface Waters

The project activities do not involve excavation in or the discharge of dredged or fill material into, Waters of the U.S. No permits under this Section are anticipated.

4.4.2.2 Surface Water Classification and Standards

Based upon a review of the NYSDEC online Environmental Resource Mapper for regulated streams, there is one waterway within the proposed project limits; Cayuga Inlet is a Class C(t) stream. The best usage for Class/Standard "C(t)" waters is fishing. The water quality is suitable for trout propagation and survival. Water quality shall be suitable for primary and secondary contact recreation, although other factors may list the use for these purposes. No work is planned within any regulated streams and therefore, consultation with the New York State Department of Conservation (NYSDEC) is not necessary.

4.4.2.3 Stream Bed and Bank Protection

Based upon a review of the NYSDEC GIS database, there are protected streams in the proposed project area including Cayuga Inlet, Six Mile Creek and tributaries of each that flow into Cayuga Lake.

NYS DOT GIS information indicates that Cayuga Inlet and Six Mile Creek are designated as Class B, Standard B Surface Waters as defined by Title 6, Part 701 of the Water Quality Regulations. No work is planned within Cayuga Inlet or Six Mile Creek, therefore no coordination with NYSDEC pursuant to 1997 "DEC/DOT MOU Regarding ECL Articles 15 and 24" is necessary.

4.4.2.4 Airport and Airway Improvement

There are no airport or airways within or adjacent to the project area and therefore no effects or impacts to any airports are anticipated for this project.

4.4.2.5 Mitigation Summary

No surface water mitigation is necessary for this project. During construction, precautions should be taken to prevent contamination of the Cayuga Inlet by silt, sediment, fuels, solvents, lubricants, or any other pollutants. Promptly after construction, all disturbed areas will be stabilized.

4.4.3 Wild, Scenic, and Recreational Rivers

4.4.3.1 State Wild, Scenic and Recreational Rivers

There are no NYSDEC Designated, Study or Inventory State Wild, Scenic or Recreational Rivers within or adjacent to the proposed project site.

4.4.3.2 National Wild and Scenic Rivers

Cayuga Inlet is not classified as a National Wild and Scenic River as listed by the Nationwide Rivers Inventory List of National Wild and Scenic Rivers.

4.4.3.3 Section 4(f) Involvement

The proposed project does not involve work in or adjacent to a wildlife or waterfowl refuge.

4.4.3.4 Mitigation Summary

No wild, scenic and recreational river mitigation is necessary for this project.

4.4.4 Navigable Waters

4.4.4.1 State Regulated Waters

Cayuga Inlet is a state regulated navigable water, mostly utilized for recreational purposes. Both build alternatives will not impact navigation. A NYSDEC Article 15 Protection of Waters Permit will not be required.

4.4.4.2 Office of General Services Lands and Navigable Waters

Both build alternatives are located within underwater OGS holdings in the Cayuga Inlet, but no impacts are anticipated with either of the build alternatives. No permit is required for NY SOGS owned lands underneath the water since no work will be performed within Cayuga Inlet.

4.4.4.3 Rivers and Harbors Act – Section 9

The project does involve the modification roadway width across the Flood Control Channel Bridge, but since it does not include any construction or modification of the substructure of this bridge, or any other bridge, dam, dike, or causeway over any navigable water of the United States, Section 9 is not applicable.

4.4.4.4 Rivers and Harbors Act – Section 10

Since the project does not involve the creation of any obstruction to the navigable capacity of any of the waters of the United States, or in any manner alter or modify the course, location, condition, or capacity of any navigable water of the United States, Section 10 is not applicable.

4.4.5 Floodplains

4.4.5.1 State Flood Insurance Compliance Program

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) dated September 30, 1981 indicates the project is located within FEMA zones designated B and A-4. Zone B is an area of minimal flood hazard usually between the limits of 100 and 500-year floods, for which no further review is required. Zone A is an area subject to inundation by the 1-percent-annual-chance (100-year) flood event. No work is anticipated within the floodplain for either of the build alternatives and therefore, a Floodplains Development Permit will not be required from the City of Ithaca.

4.4.5.2 Executive Order 11988

The project will not impact any floodplains. EO 11988 does not apply.

4.4.6 Coastal Resources

4.4.6.1 State Coastal Zone Management Program

The proposed project is not located in a State Coastal Zone Management (CZM) area, according to the Coastal Zone Area Map from the NYS Department of State's Coastal Zone Management Unit.

4.4.6.2 State Coastal Erosion Hazard Area

The proposed project is not located in or near a Coastal Erosion Hazard Area.

4.4.6.3 Waterfront Revitalization and Coastal Resources Program

According to NYS DOS "List of Approved Coastal Local Waterfront Revitalization Programs (LWRPs)," dated July 2016, the proposed project is not located in a Local Waterfront Revitalization Area.

4.4.6.4 Federal Coastal Barrier Resources Act (CBRA) and Coastal Barrier Improvement Act (CBIA)

The proposed project is not located in, or near a coastal area under the jurisdiction of the Coastal Barrier Resources Act (CBRA) or the Coastal Barrier Improvement Act (CBIA).

4.4.7 Groundwater Resources, Aquifers, and Reservoirs

4.4.7.1 Aquifers

NYSDEC aquifer GIS data files have been reviewed and it has been determined that the proposed project is located in an identified Principal Aquifer Area. This project will take measures in design and construction to avoid, minimize or mitigate any possible adverse impacts to the aquifer. These measures are intended to minimize contamination from highway runoff and construction activities. Project activities will comply with the applicable standards in 6 NYCRR Part 703.

4.4.7.2 Drinking Water Supply Wells (Public and Private Wells) and Reservoirs

There are no municipal drinking water wells, wellhead influence zones, or reservoirs within or near the project area, according to the *NYS Atlas of Community Water System Sources*, dated 1982, issued by the NYS Department of Health.

4.4.8 Stormwater Management

This project will disturb less than one acre and will not require a SPDES permit. While this project is not required to assess the requirements for stormwater management practices, they will be considered where feasible.

4.4.9 General Ecology and Wildlife Resources

Fish, Wildlife, and Waterfowl

The National Oceanic and Atmospheric Administration (NOAA) division of National Marine Fisheries Service (NMFS) and the United States Fish and Wildlife Service (USFWS) share the responsibility for managing federally listed threatened and endangered species. NOAA division of NMFS manages marine and anadromous species while the USFWS typically manages land and freshwater species. The NOAA, NMFS list of endangered, threatened and candidate species was reviewed. There are no marine or anadromous species listed as being present within the project area. No further coordination with the NOAA, NMFS is necessary.

4.4.9.2 Habitat Areas, Wildlife Refuges, and Wildfowl Refuges

The proposed project does not involve work in, or adjacent to, a wildlife or waterfowl refuge.

4.4.9.3 Endangered and Threatened Species

The U.S. Fish and Wildlife Service (USFWS) New York State Field Office website and the NYS Natural Heritage Database findings were reviewed for the potential impacts from this project to federally protected species within the project area. The USFWS Information, Planning and Conservation (IPac) System lists the following species within the project area: Northern long-eared bat (*Myotis septentrionalis*) (threatened) and the Bald eagle (delisted). The IPac consultation tracking number 05E1NY00-2016-SLI-0760 and the event code is 05E1NY00-2016-E-01672. The NYS Natural Heritage Database indicated the state endangered Kentucky Coffee Tree near the project area.

- **Northern Long-eared Bat:** Based on USFWS website, suitable summer habitat for Northern Long-eared Bat (NLEB) consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags ≥ 3 inches dbh that

have exfoliating bark, cracks, crevices, and/or cavities), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit characteristics of suitable roost trees and are within 1000 feet of other forested/wooded habitat. NLEB has also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. NLEBs typically occupy their summer habitat from mid-May through mid-August each year and the species may arrive or leave some time before or after this period. Even though correspondence with Natural Heritage did not indicate the presence of Northern Long-eared Bat within or near the project area, the project location was screened for the presence of potential habitat or trees suitable for roosting and there are potential trees within the project area leading to the assumption of presence of NLEB. The project will involve the removal of no more than ten trees. The following mitigation measures will be used to avoid impacting the Northern Long-eared Bat:

- Tree removal will be done between October 31 and March 31.

A determination of “May Affect, Not Likely to Adversely Affect” for this species was determined.

- Bald Eagle: Though the Bald Eagle was delisted in 2007 from the Endangered Species Act (ESA), it is still afforded federal protection under the Bald and Golden Eagle Protection Act (BGEPA). The Bald Eagle is still listed as threatened in New York State. Bald Eagles are typically found near large bodies of water, such as bays, rivers, and lakes, which support a healthy population of fish and waterfowl, their primary food source. Generally, Bald Eagles tend to avoid areas with human activities. They will perch in either deciduous or coniferous trees. Large, heavy nests are usually built near water in tall pine, spruce, fir, cottonwood, oak, poplar, or beech trees. Non-breeding adults and wintering birds are known to have communal roost sites. During the winter, the roost sites may be farther away from food sources. This may be due to the need for a more sheltered, warmer area. Feeding areas during the winter months usually have a high concentration of fish and waterfowl and open water¹. The project does not involve the cutting of any known Bald Eagle nesting trees or constructing any towers, wires and/or other obstructions known to potentially affect the Bald Eagle. Also, NYS Natural Heritage correspondence did not list the Bald Eagle within or near the project area. C&S made a determination of “No Effect” for this species.
- Kentucky Coffee Tree: Kentucky coffeetree grows in moist soils in bottom-land woods or rocky open wooded hillsides with other hardwood trees. It is commonly found on limestone soils and seldom found on unglaciated sites. Based on Natural Heritage response the tree is located “in the angle between Route 96 (Cliff Street) and Route 79 (Hector Street) and within 400 feet of the intersection. A dense, almost pure stand of Kentucky coffee tree on a moderately steep slope of talus. Within the stand there are almost no other species. Around the edge there are also lawn grasses and other weedy annuals.” Based on this description and the project scope, the project will not impact this species. C&S made a determination of “No Effect” for this species.

Based on the above findings, a Consistency Determination for Threatened and Endangered Species letter was sent to NYSDOT for their consultation with the USFWS on August 1, 2016 stating that the proposed project may affect, but is not likely to adversely affect, the federally-listed endangered Northern long-eared bat, and will likely have no effect to the delisted but still federally protected bald eagle. NYSDOT concurred with the findings in a letter to the USFWS dated August 29, 2016. Concurrence from FHWA was received in a letter dated September 16, 2016. Correspondence with NYSDOT, FHWA and the USFWS can be found in **Appendix B**.

¹ NYNHAP: Bald Eagle: <http://www.acris.nynhp.org/guide.php?id=6811&part=2>

4.4.9.4 Invasive Species

A review of the existing corridor did not indicate any significant presence of known invasive species within the right-of-way. Precautions will be taken to prevent the introduction of invasive species during project design and construction.

4.4.9.5 Roadside Vegetation Management

Existing roadside vegetation consists primarily of maintained lawn areas. Efforts will be made to replace wildlife-supporting vegetation that is removed in the course of construction.

4.4.10 Critical Environmental Areas

4.4.10.1 State Critical Environmental Areas

According to information obtained from NYSDEC, the proposed project does not involve work in or near a Critical Environmental Area.

4.4.10.2 State Forest Preserve Lands

According to information obtained from NYSDEC, the proposed project does not involve work in or near state forest preserve lands.

4.4.11 Historic and Cultural Resources

4.4.11.1 National Heritage Areas Program

The proposed project is located within the Erie Canalway National Heritage Area. The Preservation and Management Plan was reviewed to ensure that the project is consistent with the Heritage Area's objectives.

4.4.11.2 National Historic Preservation Act – Section 106 / State Historic Preservation Act – Section 14.09

A Cultural Resource Screening consisting of a Section 106 Project Submittal Package was prepared and submitted to The NYSDOT Regional Cultural Resource Coordinator (RCRC) for review in April 2016.

According to the National Register (NR) of Historic Places, there are no historic properties eligible, or listed, within the project's area of potential effect. There is one building, the Signworks Building, located on the southwest corner of West Seneca Street and Brindley Street within the project area that has been inventoried and identified as a unique building according to the New York State Office of Parks, Recreation and Historic Preservation Cultural Resource Information System (CRIS). This building however is not on the national register or eligible for inclusion on the national register of historic places.

The NYSDOT RCRC's review of the Section 106 Project Submittal Package determined the project activities will have no potential to cause effect on historic properties in accordance with 36 CFR 800.3(a)(1) and therefore there are no further obligations for compliance with Section 106 of the National Historic Preservation Act. A memo indicating the RCRC finding, as well as the complete Section 106 Project Submittal Package, is included in **Appendix F**.

Because the project is a federally funded action, the City of Ithaca and NYSDOT are following the Section 106 Process of the National Historic Preservation Act. This ensures compliance with the NYSHPA Section 14.09 process.

4.4.11.3 Architectural Resources

The proposed project does not involve federally owned, jurisdictional or controlled property that is eligible for inclusion in the National Register of Historic Places. Therefore, Section 110 does not apply. See Section 4.4.11.2 above for additional information.

4.4.11.4 Archaeological Resources

The proposed project will not require project activities within previously undisturbed areas that have the potential to contain archeological resources. Thus, a 4(f) evaluation will not be required for archaeological resources.

4.4.11.5 Historic Bridges

The Brindley Street Bridge is not listed on NYSDOT's Historic Bridge Inventory. However, per correspondence with the NYSDOT Region 3 Cultural Resources Coordinator under the Brindley Bridge Replacement Project (PIN 3756.11, BIN 2210400), a bridge inventory and evaluation of National Register eligibility was required. Results are pending under that project. This project will not have any impact on this or any other historic bridges.

4.4.11.6 Historic Parkways

This project does not have the potential to impact any Historic Parkways since there are none located in the project area.

4.4.11.7 Native American Involvement

The proposed project does not lie within Federal or Native-American-owned property. American Antiquities Act does not apply.

4.4.11.8 Section 4(f) Involvement

The proposed project will not require project activities within previously undisturbed areas that have the potential to contain archeological resources. A 4(f) evaluation will not be required for archaeological resources.

4.4.12 Parks and Recreational Resources

4.4.12.1 State Heritage Area Program

The proposed project will not impact areas identified as State Heritage Areas.

4.4.12.2 National Heritage Areas Program

The proposed project is located in the Erie Canalway National Heritage Corridor. Refer to section 4.4.11 Historic and Cultural Resources – “National Heritage Area Program,” for detailed information on the Heritage Area, potential impacts, and coordination with the management entity.

4.4.12.3 National Registry of Natural Landmarks

There are no listed nationally significant natural areas within, or adjacent to, the project area.

4.4.12.4 Section 4(f) Involvement

The Cayuga Waterfront Trail is adjacent to the project area. The project may enhance the existing trail by adding on to it, however the project will not impact the existing trail and a Section 4(f) evaluation is not required.

4.4.12.5 Section 6(f) Involvement

The project does not impact parklands or facilities that have been partially or fully federally funded through the Land and Water Conservation Act. No further consideration under Section 6(f) is required.

4.4.12.6 Section 1010 Involvement

This project does not involve the use of land from a park to which Urban Park and Recreation Recovery Program funds have been applied.

4.4.13 Visual Resources

4.4.13.1 Introduction

The existing landscape surrounding the West MLK Jr. Street includes developed commercial areas where man-made features are dominant. Cayuga Inlet is visible all year from the corridor. The visual volume of the area is high volume traffic at moderate speed along West MLK Jr. Street and surrounding roadways. The viewer groups include commuter motorists, pedestrians, and commercial shoppers. Given the general aesthetics of the area, sensitivity to changes are not expected to be significant. The opportunity for increased viewership of visual resources will be enhanced by this project by improving travel ways for bicycles and pedestrians.

4.4.13.2 Effects Assessment

The proposed project, which is an enhancement project for pedestrians and bicyclists on the existing West MLK Jr. Street alignment, is adjacent to the Cayuga Inlet and Cayuga Waterfront Trail. There will be three primary viewer groups of the proposed project: commuter traffic users, bicyclists, and pedestrians. Impacts to the visual environment include the introduction of new visual elements, such as sidewalks, streetscaping, and reconfigured intersections.

4.4.14 Farmlands

4.4.14.1 State Farmland and Agricultural Districts

Based on a review of the NYS Agricultural District Maps for Tompkins County, the proposed project is not located in or adjacent to an Agricultural District.

4.4.14.2 Federal Prime and Unique Farmland

The proposed project activities will not convert any prime or unique farmland, or farmland of state or local importance, as defined by the USDA Natural Resources Conservation Service, to a nonagricultural use.

4.4.15 Air Quality

4.4.15.1 Regulatory Framework

This analysis was not completed and is not applicable, as the project will not increase traffic volumes,

reduce-receptor distances, or change other existing conditions to such a degree as to jeopardize attainment of the National Ambient Air Quality Standards.

4.4.15.2 Transportation Conformity

This project is located in Tompkins County which is considered an ozone attainment area. The project is considered an exempt project as per Table 2 in Section 93.126 of 40 CFR. In addition, this project is also exempt from Regional Emissions Analysis as per Table 3 in Section 93.127 of 40 CFR. Therefore, no additional analysis is required for this project.

4.4.15.3 Carbon Monoxide (CO) Microscale Analysis

An air quality analysis for CO is not required since this project will not increase traffic volumes, reduce source-receptor distances by 10% or more, or change other existing conditions to such a degree as to jeopardize attainment of the National Ambient Air Quality Standards. The project does not require a project-level conformity determination.

4.4.15.4 Mesoscale Analysis

A Mesoscale Analysis is not required for this project since it does not significantly affect air quality conditions over a large area and is not a regionally significant project.

4.4.15.5 Mobile Source Air Toxics (MSATs) Analysis

This analysis was not completed and is not applicable, as the project will not increase traffic volumes, reduce source receptor distances, or change other existing conditions to such a degree as to jeopardize attainment of the National Ambient Air Quality Standards.

4.4.15.6 Particulate Matter (PM) Analysis

This analysis was not completed and is not applicable, as the project will not increase traffic volumes, reduce source receptor distances, or change other existing conditions to such a degree as to jeopardize attainment of the National Ambient Air Quality Standards.

4.4.15.7 Greenhouse Gas Analysis

This analysis was not completed and is not applicable, as the project will not increase traffic volumes, reduce source receptor distances, or change other existing conditions to such a degree as to jeopardize attainment of the National Ambient Air Quality Standards.

4.4.16 Energy

An energy assessment is not required for the proposed project since it is not expected to:

- a. Increase or decrease VMT;
- b. Generate additional vehicle trips;
- c. Significantly affect land use development patterns;
- d. Result in a shift in travel patterns; or
- e. Significantly increase or decrease vehicle operating speeds.

Therefore, the project will not significantly affect energy consumption.

4.4.17 Noise

The project will not significantly change either the horizontal or vertical alignment, or increase the number of through-traffic lanes. Therefore, this project is not a Type I project and does not require a traffic noise analysis as per 23 CFR 772.

4.4.18 Asbestos

4.4.18.1 Screening

An asbestos screening has been performed for this project and it has been determined that there are no areas of potential asbestos material present, since the scope of this project is limited and does not involve underground utilities, bridges, large culverts, or structure demolitions. Further asbestos screening will be performed during final design to identify any asbestos containing materials present in sidewalks and utility structures or pipes if they are to be disturbed by this project.

4.4.19 Hazardous Waste and Contaminated Materials

4.4.19.1 Screening

A Contaminated Materials and Hazardous Substances Screening was performed in October 2016 for this project. The objective of the screening was to identify historical or current land use practices that may indicate the presence of contaminated materials or hazardous substances within the Project Area that could potentially be encountered during construction phases of the Project.

4.4.19.2 Assessment and Quantification

Environmental Data Resources, Inc. was contracted to provide a comprehensive review of Federal, State and local listed data on potential hazardous waste sites within the project vicinity. This data search was performed in accordance with ASTM E-1527-13 standards. The use of the EDR resource allows for a comprehensive listing of sites of potential concern.

4.4.19.3 Screening and Site Assessment

Consistent with TEM 4.4.20, this Screening consisted of the following elements:

- 1) Investigation of historical and current site use(s). In an effort to identify Project and adjacent activities or uses of concern, C&S reviewed the following documents provided by Environmental Data Resources (EDR) of Milford, Connecticut and USGS:
 - a) Sanborn Fire Insurance Maps, dated 1888, 1893, 1898, 1904, 1910, 1919, 1929, 1961, and 1971.
 - b) Historical aerial photographs, dated 1938, 1942, 1944, 1954, 1957, 1965, 1968, 1980, 1985, 1991, 1995, 2006, 2008, 2009, and 2011.
- 2) Review of a Radius Map Report by EDR, consistent with ASTM E 1527-13. The report provides details regarding properties that are located within a 1-mile radius of the Project Area that are listed in one or more of a myriad of local, state, and federal environmental databases that EDR searches; and
- 3) Completion of a site visit of the Project Area. During the site visit, the properties adjoining the Project Area were viewed from edge of pavement within the right-of-way. The purpose of the site visit was to gather information regarding present conditions and to identify observable physical evidence that may be indicative of contamination, such as stained soil, seepage, stressed or dead

vegetation, and sheens or discolored water within drainage swales and ditches. Also during the walkover, attention was paid to existing property uses and commercial enterprises in the area of the project, especially those that may be associated with an environmental concern.

As a result of the completion of the above elements, the following findings are provided:

- Current land use in the vicinity of the Project Area consists of developed commercial land that spans the entire Project Area on both sides of the street corridor as well as a bridge that spans across Cayuga Inlet. Review of the historical information sources (Sanborn maps & aerial photos) indicate that the eastern side of the Project Area has been associated with commercial development since at least the late 1800s. The western side appeared to be residential in nature until at least 1965. Between 1965 and 1980 the bridge that spans Cayuga Inlet in the present day was built and then the area became commercial in nature as it is today.
- After reviewing the Sanborn Fire Insurance Maps report, there were fillings stations located on the south side of West State Street along the Project Area between 1929 and 1971.
- The EDR Radius Report indicates that there are 27 properties listed within the standard ¼ mile radius search. The majority of these properties do not pose a concern for the proposed Project Area do to the distance away from the Project Area and the nature of the proposed work being non-intrusive.
- A site visit of the Project Area was performed on September 2nd, 2016. No obvious environmental concerns were observed in association with the Project or adjacent properties.

Based upon the information gathered during the completion of this Contaminated Materials and Hazardous Substances Screening, and the scope of the Project, there is evidence that would constitute a Recognized Environmental Condition within the Project Area, however due to the nature of the non-intrusive work proposed for the project no further action is necessary.

4.4.19.4 Mitigation Summary

No hazardous waste/contaminated materials were identified in the Hazardous Waste/Contaminated Materials Site Screening. No remediation activities are likely warranted for this project.

4.5 Construction Effects

No construction effects are anticipated as a result of this project.

4.5.1 Construction Impacts

Potential short-term construction effects from the proposed project include dust, visual, noise, air, and minor traffic disruptions during construction operations.

4.5.2 Mitigation Measures

Mitigation measures will include proper equipment maintenance, the use of erosion and sediment control measures to mitigate potential erosion impacts, and construction management. The project has been designed to avoid and minimize adverse effects, both temporary and permanent.

4.6 Indirect and Secondary Effects

4.6.1 Indirect Socioeconomic Effects

The project is not expected to have effects on population or development patterns in the area.

4.6.2 Social Consequences

No adverse social impacts are anticipated as a result of the project.

4.6.3 Economic Consequences

The area in the vicinity of the project is primarily urban. No businesses should be affected during construction of the project. As a result, there will be no change in population growth or movement, demands for public services, or changes in business or economic activity as a result of this project. Based on this information, there is no economic consequences as a result of this project.

4.7 Cumulative Effects

Neither build alternative will lead to additional development, subsequent projects, or increased traffic within the vicinity of the project area. Based on the environmental screening performed for this project, it is anticipated that there will be no significant direct, indirect, secondary or cumulative impacts resulting from the project.

This project is determined to be a SEQR Type II Action and is classified as a NEPA Class II Categorical Exclusion with Documentation and does not qualify as an EA or EIS project. Consistent with the CEQ guidelines a Cumulative Effects Analysis (CEA) is not necessary for this project. This project will enhance safety and mobility for pedestrians and bicyclists on an existing city street with no significant adverse effects on the most sensitive elements of the environment: water quality, wetlands, flora and fauna, farmland, cultural resources, hazardous materials, noise, and/or socio-economic conditions in the vicinity of the project.