VOLUME 1

NEW YORK GATEWAY CONNECTIONS IMPROVEMENT PROJECT TO THE US PEACE BRIDGE PLAZA

Draft Design Report/Environmental Impact Statement

Draft Section 4(f) Evaluation (49 USC 303)

PIN 5760.80
City of Buffalo
Erie County, New York

November 15, 2013

U.S. Department of Transportation
Federal Highway Administration

New York State
Department of Transportation

FHWA-NY-EIS-13-02-D

New York Gateway Connections Improvement Project to the US Peace Bridge Plaza

P.I.N. 5760.80
City of Buffalo, Erie County, New York

Draft Environmental Impact Statement

Submitted Pursuant To 42 U.S.C. 4332 (2) (c) and 49 U.S.C. 303 by
the U.S. Department of Transportation,
the Federal Highway Administration,
and
the New York State Department of Transportation

Cooperating Agencies

Buffalo and Fort Erie Public Bridge Authority
Advisory Council on Historic Preservation
U.S. Customs and Border Protection
U.S. Environmental Protection Agency
U.S. General Services Administration
New York State Department of State
New York State Office of Parks, Recreation and Historic Preservation / State Historic Preservation Officer

Executive Deputy Commissioner
New York State Dept. of Transportation

November 12, 2013
Date of approval

For Division Administrator
Federal Highway Administration
New York Division

November 13, 2013
Date of approval

The draft Environmental Impact Statement examines the potential environmental, social and economic effects that may result from the advancement of the New York Gateway Connections Improvement Project to the US Peace Bridge Plaza, and where adverse impacts are identified, it discusses measures to mitigate those effects. The proposed project is located in the City of Buffalo, Erie County, New York.

The purpose of the project is to reduce the use of the local streets by interstate traffic which accesses the existing Plaza at its current location. The primary objectives of the project are to address the need for direct access from the Plaza to the northbound lanes of Interstate 190, to redirect through traffic from Front Park, and to remove Baird Drive. The alternatives considered include: (1) the no-build alternative, and (2) an alternative to construct a new ramp from the Plaza to the northbound lanes of Interstate 190, to remove Baird Drive, and to provide alternate access from Porter Avenue to the Plaza.

This document is available for public review and comments will be received until January 6, 2014; after which time the FHWA and the NYSDOT will issue a joint Record of Decision in accordance with 23 CFR 771 and 17 NYCRR Part 15, respectively. This environmental determination will be issued as a single Final Environmental Impact Statement and Record of Decision document pursuant to Pub. L. 112-141, Stat. 405, Section 1319(b) unless the FHWA determines statutory criteria or practicability considerations preclude issuance of the combined document pursuant to section 1319.

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B	Traffic Analysis
C	Air Quality
D	Noise Study
E	Water Quality (Results of Toler Analysis)
F	Coastal Zone Consistency Determination and Niagara Greenway Consistency
G	Project Planning and Development – U.S. Plaza of the Peace Bridge
H	Section 106 Documentation
I	Visual Impact Assessment
J	Project Coordination
K	List of Preparers
L	List of Recipients of the DEIS

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CHAPTER 1 – EXECUTIVE SUMMARY

1.1. Introduction

The Federal Highway Administration (FHWA), in cooperation with the New York State Department of Transportation (NYSDOT), is preparing an Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act (NEPA) for the NY Gateway Connections Improvement Project to the U.S. Peace Bridge Plaza (hereafter, "the NY Gateway Connections Project" or "the Project"). The Project is located within the City of Buffalo, Erie County, New York. The primary need of the Project is to address the limited direct access between the U.S. Border Port of Entry/Peace Bridge Plaza (hereafter, "Plaza") and Interstate 190 (I-190). The purpose of the Project is to reduce the use of the local streets by interstate traffic and provide access to the existing Plaza at its current location. FHWA and NYSDOT, as the joint lead agencies for this Project pursuant to NEPA, will advance the Project through the EIS process in consideration of public and agency input about the Project's potential effects.

This Draft EIS (DEIS) has been prepared in accordance with the NYSDOT *Project Development Manual*, 17 NYCRR (New York Codes, Rules and Regulations) Part 15, and 23 CFR (Code of Federal Regulations) 771. The Project is classified as a State Environmental Quality Review Act (SEQRA) non-Type II action, indicating that it has the potential for significant environmental impacts or substantial controversy on environmental grounds that should be evaluated under SEQRA. In accordance with 17 NYCRR Part 15, the NEPA and SEQRA processes for this Project are being coordinated; therefore, NYSDOT has no obligation to prepare an additional EIS under SEQRA. NYSDOT will give full consideration to the federal Final EIS (FEIS) and will be required to meet SEQRA requirements.

Table 1-1 below summarizes the environmental review processes being conducted for this Project.

Table 1-1 – Environmental Summary

NEPA Classification:	Class I (EIS)	**By:**	FHWA
SEQR Type:	Non-Type II (EIS)	**By:**	NYSDOT

This chapter of the DEIS provides an introduction to the Project, including project location and history (**Section 1.1**), the project's need, purpose and objectives (**Section 1.2**), alternatives and options considered (**Section 1.3**), a summary of the environmental studies conducted and their findings (**Section 1.4**), project costs (**Section 1.5**), project schedule (**Section 1.6**), and public and agency involvement activities (**Section 1.7**). This project is federally funded.

1.1.1. Where is the Project Located?

The NY Gateway Connections Project is located on the West Side of the City of Buffalo, Erie County, New York (see **Figure 1-1**). The Project Area is adjacent to Front Park, which was designed by Frederick Law Olmsted as part of a citywide park and parkway system opened in 1868, and a portion of the Project (the existing Baird Drive) traverses the Park. Roadways in the Project Area include Interstate 190 (I-190, also known as the Niagara Thruway), Porter Avenue, Baird Drive, Busti Avenue, and the I-190 ramp connections to and from the Plaza (see **Figure 1-2**).

1.1.2. Project History

For nearly 90 years, the roadway network in the project area has been used to access the Peace Bridge connecting Fort Erie; Ontario, Canada; and Buffalo, New York; U.S. Beginning in 1927 (date of the Peace Bridge opening), traffic used the local streets in the project area to travel to the bridge. As the local and regional transportation system grew, the Erie Barge Canal was filled in and I-190 was constructed in the 1950s. I-190, which is part of the New York State Thruway system, links I-90 at the southeastern Buffalo City limit with New York State Route 384 to the north. To further facilitate traffic movement between the Plaza and local city streets, Baird and Moore Drives were constructed through Front Park in the early 1950s. A direct connection from the Plaza to southbound I-190 was added in the 1960s. A direct connection from northbound I-190 to the Plaza was constructed in the 1980s. In the 1990s, Moore Drive was removed and Baird Drive, was converted to a two-way street.

Direct ramp connections from southbound I-190 to the Plaza and from the Plaza to northbound I-190 were never provided. As a result, southbound interstate traffic destined to Canada and U.S.-bound traffic destined to northbound I-190 must use the local streets, such as Porter Avenue and Baird Drive through Front Park. Without these direct connections, a number of interstate vehicles, including trucks, continue to use the local street system.

In summary, over time, several revisions were made to reduce the traffic load on city streets, but these have not been sufficient to fully minimize the usage of city streets by interstate traffic. Area residents have stated they believe the existing interstate traffic that continues to use local streets is having a negative impact on the surrounding, densely populated residential neighborhood and the ability of the residents of Buffalo to use the waterfront facilities envisioned by Olmsted.

The Peace Bridge, northwest of the project study area, is a major international link between the United States and Canada. The U.S. Plaza is located north of Front Park and the project area, and is where customs inspections for U.S.-bound international traffic between the U.S. and Canada are conducted. The Plaza is owned and operated by the Buffalo and Fort Erie Public Bridge Authority, also known as the Peace Bridge Authority (PBA).

Figure 1-1 - Regional Map of the NY Gateway Connections Improvement Project to the U.S. Peace Bridge Plaza

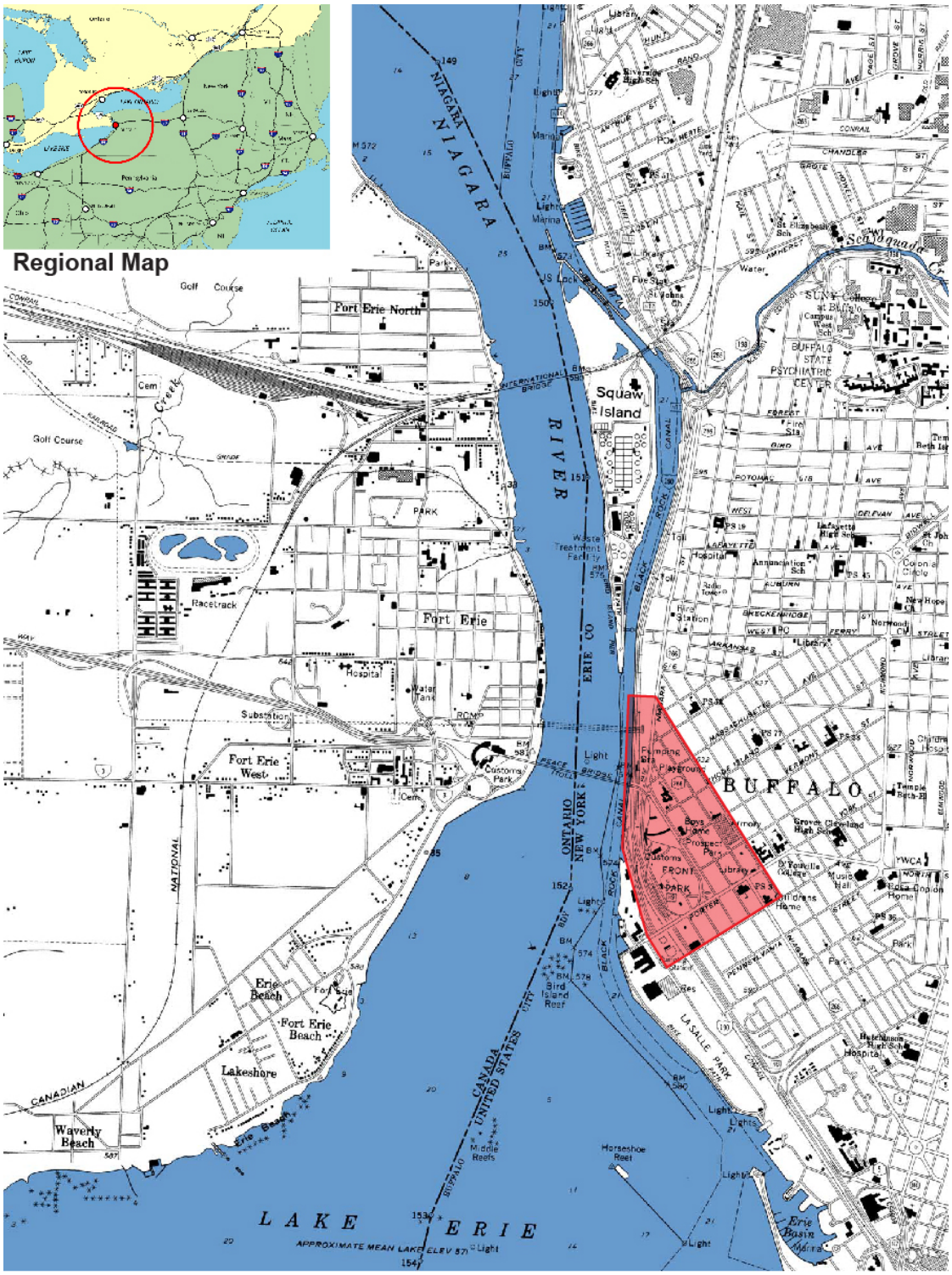

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Figure 1-2 - Existing Roadway Network of the NY Gateway Connections Improvement Project to the U.S. Peace Bridge Plaza

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Federal Highway Administration

New York State
Department of Transportation

1.2. Need, Purpose, and Objectives

1.2.1. Why is the Project Needed?

The primary need for the project is to address the limited direct access between the Plaza and I-190. Existing direct access is limited and requires regional and international traffic to use the local street system. The regional and international traffic which does experience limited direct access to I-190 does so by use of the local street system.

Analyses indicate that most cross-border traffic to and from the Plaza originates from or is destined to I-190. Though it varies by time of day[1], approximately 20 percent of cars and 10 percent of trucks that are destined to Canada must exit southbound I-190 at Porter Avenue and travel the local streets (Porter Avenue and Baird Drive through Front Park) to the Plaza. Similarly, 15 percent of cars and 5 percent of trucks exiting the Plaza must travel along the local streets (Baird Drive through Front Park and then Porter Avenue) to access northbound I-190. These Plaza movements result in as many as 211 interstate vehicles on Porter Avenue between I-190 and Baird Drive during the weekday PM peak hour. This accounts for approximately 15 percent of all traffic on the local-street segment and constitutes as many as 25 trucks during the weekday AM peak hour.

An additional need for the project was added during the Scoping Phase of the Project. The Porter Avenue Bridge over I-190 is rated structurally deficient and has a NYSDOT Condition Rating of 3.849. The bridge was on the New York Thruway's program for replacement and has been added to this project.

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

1.2.2.1. Project Purpose

The purpose of this project is to reduce the use of the local streets by interstate traffic (autos and trucks) which accesses the existing Plaza at its current location.

1.2.2.2. Project Objectives

The following objectives have been established to support the project's purpose and need.

- Provide direct access from the Plaza to northbound I-190
- Redirect through traffic from Front Park
- Remove Baird Drive
- Replace the Porter Avenue Bridge over I-190[2]

[1] Analyses were conducted for each of the peak weekday AM, midday, and PM peak hours.

[2] The Porter Avenue Bridge Replacement was added as an outcome after the Scoping Phase of the Project.

1.3. What Alternative(s) Are Being Considered?

1.3.1. No Build and Build Alternatives

Based on the project need, purpose, and objectives, the following alternatives have been developed for study within the EIS.

- **No Build Alternative.** The No Build Alternative assumes no improvements in the project area other than those planned by others or implemented as part of routine maintenance. Although the No-Build Alternative does not meet the project's purpose and need, NEPA requires that it be evaluated in the EIS. The No Build Alternative also serves as the baseline condition against which the potential benefits and effects of the Build Alternative are evaluated.

- **Build Alternative.** The Build Alternative would include a new ramp (Ramp D), providing direct access from the Plaza to northbound I-190. It would also include a new ramp (Ramp PN) from Porter Avenue to the existing northbound I-190 exit-ramp (Ramp N/Ramp A) to the Plaza. The combination of these new ramps would allow removal of Baird Drive and conversion of the existing 1.8 acres of roadbed and adjacent sidewalk into additional Front Park green space. With the removal of Baird Drive, and the additional 2.7 acres of isolated green space lying between Busti Avenue and Baird Drive, a total of 4.5 acres would be reconnected to the greater park area. This alternative would require modifications to the Massachusetts Pumping Station Access Road, the Shoreline Trail (formerly Riverwalk) bicycle/pedestrian facility along the waterfront, and four existing ramps in the vicinity of the Plaza, as well as new signing approaching and within the Plaza to clearly direct vehicles to the appropriate ramps and routes. To accommodate the new Ramp PN at Porter Avenue and the existing adjacent northbound I-190 entrance-ramp (Ramp P), Porter Avenue would be modified to include a roundabout or signalized intersection (see **Figure 1-3).**

  Modifications along Porter Avenue would include removal and replacement of the bridge over I-190 to optimize the lane width configurations on the bridge, and to consolidate the replacement of this structurally deficient bridge into this Project, which reduces overall costs and effects on the traveling public. Detailed descriptions of the proposed connections to and from the Plaza, the proposed Shoreline Trail (formerly Riverwalk) realignment, and the Massachusetts Pumping Station Access Road are discussed below. See **Appendix A** for detailed plans, profiles, typical sections, and select cross-sections for the Build Alternative.

Figure 1-3 - Proposed Roadway Network of the NY Gateway Connections Improvement Project to the U.S. Peace Bridge Plaza – Roundabout Option Shown

U.S. Department of Transportation
Federal Highway Administration

New York State
Department of Transportation

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The key features of the Build Alternative are listed below:

The Build Alternative addresses the limited direct access between the Plaza and I-190 by providing new and enhanced direct connections, thereby reducing the volume of regional and international traffic using the local street system. Key elements of this alternative include:

Geometry

This alternative includes removal of Baird Drive, construction of a new I-190 on-ramp (Ramp D), construction of Ramp PN, limited reconstruction of four other ramps, construction of a new city street intersection, relocation of the Shoreline Trail (Riverwalk) and modification to the Massachusetts Pumping Station Access Road.

This alternative would retain several non-standard features. Justification for retaining these non-standard features is included in **Appendix A** of this report.

Operational

This alternative would remove Baird Drive and all traffic through Front Park. The direct connection between the Plaza and northbound I-190 would effectively remove all U.S.-bound interstate Plaza traffic from the local streets (i.e., vehicles destined to southbound I-190 would use the existing Ramp B, and vehicles destined to northbound I-190 would use the new Ramp D), which would reduce passenger car and truck volumes on westbound Porter Avenue. The construction of the new Ramp PN would require local-street Plaza traffic to travel one block farther along eastbound Porter Avenue; however, it would remove both local and interstate traffic traveling between I-190 southbound and the Plaza from westbound Porter Avenue between the I-190 southbound ramp and Baird Drive/Lakeview Avenue. The removal of Baird Drive would allow the traffic signal at the Plaza Ramp A at Baird Drive intersection to be removed, which would allow free-flow operations in the area. The removal of Baird Drive would also require that all U.S.-bound local-street traffic utilize the existing Ramp C and typically Niagara Street or Busti Avenue to access the local-street system. This would alter traffic patterns in the area; however, the Build Alternative design would accommodate these traffic diversions and provide acceptable traffic operations in the area. Either the signalized intersection option or the roundabout option at the new Porter Avenue at Ramps P and PN intersection would alter traffic operations along Porter Avenue, but the proposed design of these, too, would provide acceptable levels of service. In addition, the Front Park driveway would be relocated to opposite Lakeview Avenue and a shared-use path would be constructed along the south side of Porter Avenue. This would eliminate pedestrian crossings at Ramps P and PN, and

would provide traffic signal-controlled and safe crossings for bicyclists and pedestrians to and from Front Park at the Lakeview Avenue intersection.

Control of Access Control of access for this alternative would meet the criteria in NYSDOT's *Highway Design Manual* (HDM) Chapter 2 for Freeways except at Ramp PN and for the COB Massachusetts Pumping Station Access Road. (See **Section 3.3.3.2. (2)**)

Right of Way The project includes six fee acquisitions and several temporary/permanent easements or "changes in use and occupancy". The six acquisitions are one small acquisition from the PBA, one narrow strip from D'Youville College for the Porter Avenue Roundabout, one from Linda Davis at the corner of 4th Street/Porter Avenue for sidewalks, one from the City of Buffalo within the existing signalize intersection along Ramp A, and two bed of street acquisitions.

Environmental There are no significant social, economic or environmental effects resulting from the proposed action.

Cost Total estimated construction cost of this alternative is $28.5 M.

Detailed descriptions of the upgraded connections between the Peace Bridge Plaza and I-190 are provided in **Chapter 3**. Other changes that would be included with the Build Alternative are described below:

- The Shoreline Trail (Riverwalk) crossing over the CSX Railroad will be relocated along a new alignment north of its existing location due to the construction of the new Ramp D. A new structure will be constructed over I-190 and CSX, and the realigned Shoreline Trail would turn south along the Black Rock Canal, extending it an additional 700 feet along the waterfront, and then connecting back to the existing Shoreline Trail south of its existing underpass beneath I-190 (see **Appendix A)**.

- In coordination with the City of Buffalo, the space vacated by the existing Shoreline Trail (Riverwalk) would be converted to a widened access road for the Massachusetts Pumping Station. A new point of ingress to the access road would be constructed at the southbound I-190 exit at Ramp SD via a short hook ramp (see **Appendix A)**.

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

1.4.1. General Environmental Considerations

The NY Gateway Connections Project will comply with applicable environmental legislation and regulations and NYSDOT policies and procedures, including NEPA and SEQRA, which were discussed in Section 1.1 above. Specific and/or general permits and approvals that are anticipated to be required for the construction of the Project are identified below:

- **U.S. Department of Transportation – FHWA:** U.S. Department of Transportation Act of 1966, Section 4(f): *Parks, Recreation Areas, Wildlife and Waterfowl Refuges, and Historic Sites* (23 CFR Part 774); and Section 106 Determinations of the National Historic Preservation Act of 1966
- **Advisory Council on Historic Preservation**: Section 106 consultation
- **New York State Department of Environmental Conservation:** State Pollution Discharge Elimination System (SPDES) General Permit (GP-0-10-001) for Stormwater Discharges from Construction Activities
- **NYS Office of Parks, Recreation and Historic Preservation**: Section 106 concurrence; Section 4(f) coordination as official with jurisdiction for historic sites
- **NYS Department of State:** Coastal Zone Consistency Determination
- **NYS Department of Transportation:** Niagara River Greenway Plan Consistency Determination

1.4.2. Environmental Methodology

Components of the environmental methodology used in the development of this EIS, include the following:

- ***Study Area.*** The Project Study Area (see **Figure 1-4**) was established to reflect the anticipated changes in traffic patterns on local streets. The Project Study Area is larger than the actual Project Area, which reflects only the area that would be disturbed by the construction activities. The Study Area boundary begins at the intersection of Prospect Avenue and Niagara Street and parallels Prospect Avenue southward to the intersection of Pennsylvania Avenue before extending westward along Pennsylvania Avenue to LaSalle Park. The Study Area boundary continues northward across Porter Avenue and then parallels the western boundary of the I-190 right-of-way northward to a point where it makes a right-angle turn eastward to connect with the intersection of Prospect Avenue and Niagara Street. For the analysis of certain environmental resources, the exact limits of the Study Area have been modified to some extent to ensure that all effects resulting from the Project are fully identified and assessed.

- ***Analysis Years.*** The years of study chosen for analysis follow standard NEPA protocols and vary depending on the particular area of concern or environmental feature. For example, analysis of socio-economic issues, including environmental justice, used year 2010 population, housing, and income data from the U.S. Census Bureau, supplemented by available updated information, when available, for demographic and economic profiles of the Study Area. For the noise analysis, standard NYSDOT modeling procedures were followed to compare the Build Alternative and projected future year (2045) traffic volumes with baseline conditions (2013). For the air quality analysis, the Build Alternative and the No Build Alternative were compared. Past meteorological data includes local historical data obtained from the Buffalo State College Great Lakes Center Laboratory, located at the foot of Porter Avenue near the study area.

- ***Assessment Methodology and Impact Criteria.*** The methodologies followed in preparing the EIS conform to FHWA Technical Advisory T6640.8A, Guidance for Preparing and Processing Environmental and Section 4(f) Documents (October 30, 1987), and the requirements of NYSDOT's *Environmental Procedures Manual* (EPM) and *The Environmental Manual* (TEM). The EIS assesses the social, economic, and environmental effects that the Build Alternative would have on the built and natural environment.

Figure 1-4 – Project Study Area

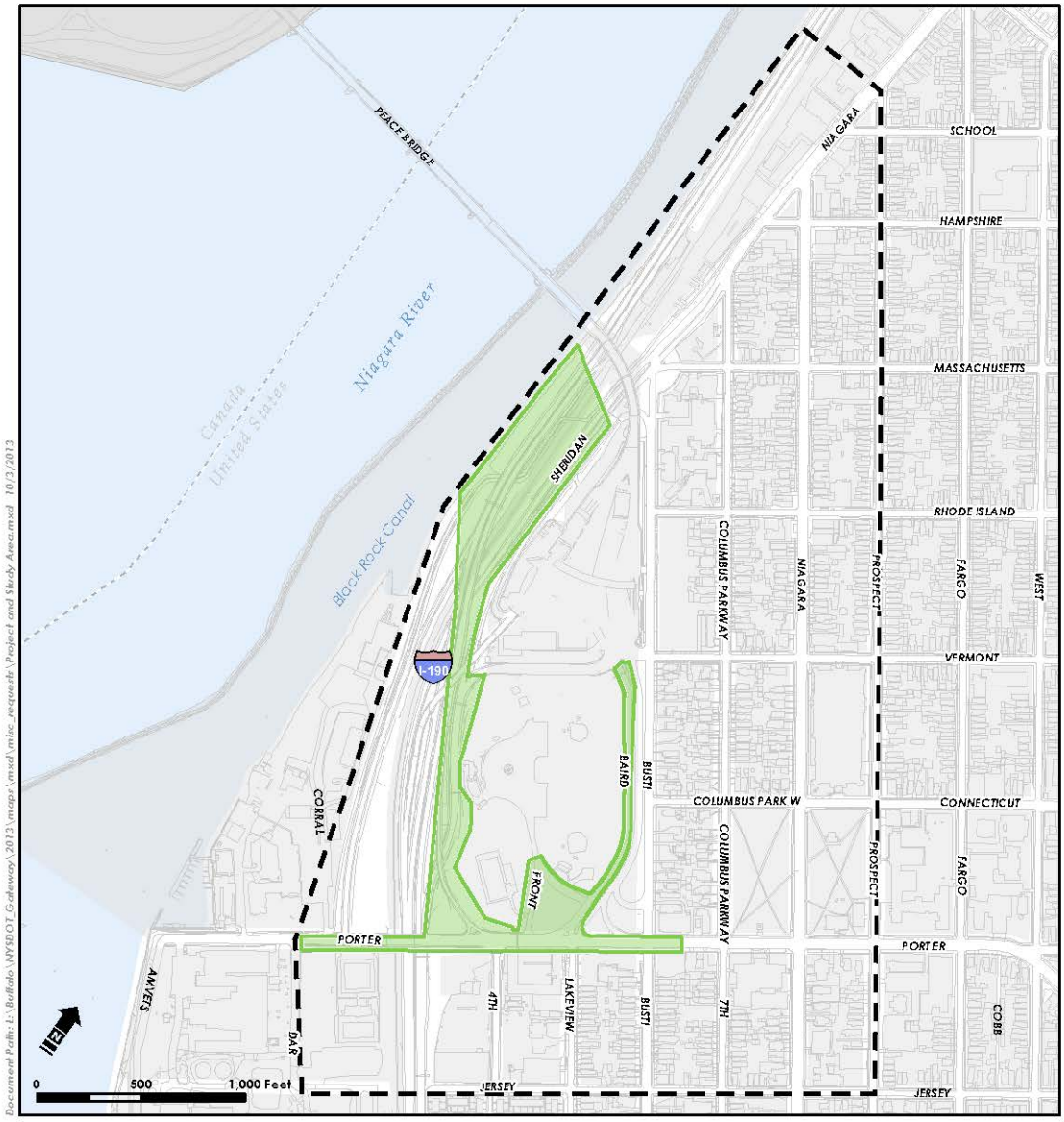


Figure 4-2
NY Gateway Connections Project
Project Study Area
Erie County, New York

Project Study Area
Project Area

SOURCE Ecology and Environment, Inc.

U.S. Department of Transportation
Federal Highway Administration

New York State
Department of Transportation

1.4.3. Analysis Issues and Methods

Assessments completed for the short-term (construction-related) and long-term (operations-related) effects of the Project on social, economic, and environmental conditions are described in **Chapters 4** and **6**. The environmental effects for the Build Alternative are presented in **Table 1-2**. The Project does not result in any significant adverse effects. The following categories were assessed in the EIS:

- Community Cohesion, Land Use, and Development Patterns
- Environmental Justice
- Wetlands
- Surface Waterbodies and Watercourses/Water Quality
- Wild, Scenic, and Recreational Rivers
- Navigable Waters
- Floodplains
- Coastal Resources
- General Ecology and Wildlife Resources, including Endangered and Threatened Species
- Historic/Cultural Resources
- Parks and Recreational Areas
- Visual Resources
- Air Quality
- Energy Consumption and Greenhouse Gas Emissions
- Noise
- Asbestos
- Hazardous Waste/Contaminated Materials Assessment
- Cumulative Impacts.

Table 1-2 – Summary of Effects of the Build Alternative

Category	Build Alternative
Floodplains	None
Section 106 - Historic Properties	No Adverse Effect
Noise	No Perceptible Change[1]
Air Quality	Negligible Change[2]
Section 4(f) Resources – Historic Properties	Use - De Minimis
Section 4(f) Resources – Parks and Recreation Areas	Use - De Minimis
Energy	None
Visual Resource	Small Positive[3]
Right-of-Way Acquisitions[4]	0.89 AC (Fee) 0.41 AC (PE) 7.74 AC (TE)
Traffic Operations at ETC+30	Improved[5]
Construction Costs	$28.5M

Notes:

1. No receptor would experience a noise level increase greater than 2 dBa over the existing noise level, which is barely perceptible by the typical person.
2. In 2025 and 2035, mesoscale emissions from the Build Alternative would be lower for all pollutants compared to the No Build Alternative. PM_{10} and $PM_{2.5}$ concentrations for the Build Alternative would be below the National Ambient Air Quality Standards. Greenhouse gas operational emissions would decrease in comparison to the No Build Alternative.
3. Improved view from residences on Busti Avenue due to removal of Baird Drive through Front Park.
4. Right-of-way Acquisitions are classified as Full Acquisitions (Fee), Permanent Easement (PE), and Temporary Easement (TE).
5. This alternative would reduce interstate traffic from local streets and would provide direct access to northbound I-190 from the Plaza. It also would provide improved facilities for pedestrian and bicycle travel and safety.

1.5. What Are the Costs & Schedules?

As noted in **Table 1-3**, Design Approval is expected in April 2014, followed by final design and construction beginning in the Fall 2014.

Table 1-3 – Tentative Project Schedule

Activity	Date Occurred/Tentative
Public Notice of Availability of DEIS	November 2013
Public Hearing	December 2013
Release of FEIS	February 2014
Design Approval / FHWA signs Record of Decision	March 2014
Contract Proposals Submitted	August 2014
Construction Start	Fall 2014

The estimated construction costs for the Build Alternative are detailed in **Table 1-4.**

Table 1-4 - Breakdown of Build Alternative Project Costs

Activities		Cost
Construction	Bridge	$10,860,000
	Highway	$10,826,000
	Shoreline Trail (Riverwalk) (& Bridge)	$2,945,000
Subtotal:		$24,631,000
Contingencies (15% @ Design Approval)		$3,219,000
Subtotal:		$27,850,000
ROW Acquisitions (approx):		$641,000
Total Cost		**$28,491,000**

1.6. Which is the Preferred Alternative?

The Build Alternative is the Preferred Alternative and includes the features described above, along with the two options for the Porter Avenue intersection at Ramp P / Ramp PN. Selection of the signalized intersection or roundabout option will be determined after the Public Hearing.

1.7. What are the Opportunities for Public Involvement?

1.7.1. Introduction

Public involvement is an integral part of the transportation planning process. Accordingly, the FHWA and NYSDOT provided many opportunities for open and meaningful public and agency participation throughout the environmental review process.

FHWA and NYSDOT prepared a coordination plan to describe the process and communication methods they followed to disseminate information about the Project, as well as to solicit and consider input from the public and other agencies. The coordination plan conformed to the requirements of NEPA and specifically complies with the current Federal surface transportation act, Moving Ahead for Progress in the 21st Century (MAP-21).

1.7.2. Public Involvement Activities

The public has been engaged and encouraged to provide feedback throughout the duration of the project. Efforts to involve the public include:

Public Meetings. The Public Scoping Meeting held at D'Youville College in Buffalo on Tuesday, June 11, 2013, was an early opportunity for the public to become directly involved with the development of project alternatives and the environmental impact review process. The meeting included presentations and informational displays as well as handouts in both English and Spanish. Project representatives were on hand to explain the project, answer questions and receive comments from the public. Spanish language and sign language interpreters were present and available to translate as necessary. Members of the public were able to give written comments or dictate their comments to a stenographer on the scope of the project and to suggest reasonable alternatives for consideration in the DEIS. Comments raised during the Scoping comment period, which was extended from July 11, 2013 to July 22, 2013, were responded to in the Scoping Report.

A separate public outreach meeting with the Spanish-speaking community was held at the Belle Center in Buffalo on Tuesday, July 2, 2013. Similar presentations about the Project were made and Spanish language and sign language interpreters were present and available. Informational displays and handouts were provided in both English and Spanish. Opportunities to provide comments and ask questions by the public were also available.

A Public Information Meeting was held at the Connecticut Street Armory in Buffalo on Tuesday, October 15, 2013. This meeting was conducted in a similar fashion to the July 2nd meeting, with presentations, informational displays, handouts in both English and Spanish, Spanish language and sign language interpreters, and opportunity for public comments and questions.

The next opportunity for public involvement will be at the Public Hearing following publication of the DEIS. Public comments will be solicited during the circulation of the DEIS and at the Public Hearing. The

comments raised in the Public Hearing and during the DEIS comment period will be considered during the preparation of the FEIS.

Other Meetings, Briefings, and Day-to-Day Contacts Throughout the environmental review process, meetings have been held with specific groups to provide additional project information. For example, meetings with elected officials, community groups, special interest groups, and agency representatives have been held on an as-requested, as-needed basis during the course of the project. Recent meetings were held with the Clean Air Coalition and the West Side Neighborhood.

Recent and Future Public Meetings – Spanish-Speaking*.* The list below highlights the Public Meetings held as part of the Project Process:

Scoping Meeting - June 11, 2013
Public Outreach Meeting with Spanish Community – July 2, 2013
Public Information Meeting – October 15, 2013
Public Hearing – December 18, 2013 (scheduled)

Informational Materials, including presentations, display boards, and written materials were provided to support public meetings and, as appropriate, to keep the public fully informed on study developments. Display boards and written materials were available in English and Spanish versions, and Spanish language and sign language interpreters were available for translation, as necessary. All informational materials development included efforts to ensure that materials were easy to read and appropriate for non-technical audiences.

A Project Website, www.dot.ny.gov/nygateway, was created to provide the public with an easy way to learn about the project and read project-related documents and materials. The site was updated regularly to include up-to-date information about the Project, as well as a Contact Us feature that allows the public to write to the team directly and submit comments to NYSDOT via e-mail. All comments received via the website will be considered as official submissions.

Mailing List. A project mailing list of contacts, including elected officials, public agency contacts, interested parties, and individuals has been developed. Included in the mailing list are organizations, media, and individuals that have relevance and connections with environmental justice communities in the area. The mailing list, which has been updated regularly, has been used to distribute meeting announcements and information about the Project.

1.7.3. Coordination with Cooperating and Participating Agencies

Cooperating and Participating Agencies are responsible for identifying, as early as practicable, any issues of concern regarding the Project's potential environmental or socio-economic impacts that could substantially delay or prevent an agency from granting a permit or other approval.

The following agencies were invited to serve as Cooperating and/or Participating Agencies:

Cooperating Agencies

- Advisory Council on Historic Preservation (ACHP)
- U.S. Customs and Border Protection (CBP)
- U.S. Environmental Protection Agency (EPA)
- U.S. General Services Administration (GSA)
- Buffalo and Fort Erie Public Bridge Authority (PBA)
- New York State Department of Environmental Conservation (NYSDEC)
- New York State Office of Parks, Recreation and Historic Preservation—State Historic Preservation Officer (SHPO)
- New York State Department of State (NYSDOS)

Participating Agencies

- New York State Thruway Authority (NYSTA)
- New York State Department of Health/Center for Environmental Health (NYSDOH)
- City of Buffalo
- Erie County
- Greater Buffalo-Niagara Regional Transportation Council (GBNRTC)

FHWA and NYSDOT have collaborated with the Cooperating and Participating Agencies on methodologies for documenting environmental conditions and assessing effects. Cooperating and Participating Agencies provided comments related to their specific jurisdiction or area of expertise during the project development process. All agencies will be notified of the availability of the DEIS and FEIS documents and given appropriate opportunities to comment. Following the Record of Decision (ROD), NYSDOT will coordinate with the appropriate agencies to complete any necessary permit(s) for the Project.

A list of recent agency meetings is provided below:

Cooperating Agencies - May 21, 2013
NYSTA – July 10, 2013
PBA/CBP/GSA – July 10, 2013
City of Buffalo/Erie County - July 11, 2013
Cooperating/Participating Agencies - July 13, 2013

NYSDEC/NYSDOH – August 8, 2013
Cooperating/Participating Agencies – September 4, 2013
Cooperating/Participating Agencies – October 2, 2013
Cooperating/Participating Agencies – November 6, 2013
Cooperating/Participating Agencies – December 4, 2013

A summary of the Agency and Public Participation is included in **Appendix J – Project Coordination**. This appendix is the most recent version at the time of printing.

1.7.4. Section 106 Consultation

In accordance with 36 CFR Part 800.2(c)(5), FHWA authorized NYSDOT to initiate consultation with the NYS Historic Preservation Office (SHPO) and other Consulting Parties. Through public outreach, NYSDOT provided an opportunity for members of the public with a demonstrated interest in the Project to request participation in the Section 106 process as Consulting Parties. Based on a review of the information contained in these requests, FHWA approved a list of individuals and organizations to be Consulting Parties to the Section 106 process for the Project. In addition, the Seneca Nation of Indians and the Tonawanda Seneca Nation were identified as having a consultative role in accordance with 36 CFR Part 800.2(c)(ii), since both have previously identified a geographical area of interest for Section 106 consultation that includes the Project location in the City of Buffalo, Erie County.

On July 30, 2013, NYSDOT and FHWA held a Consulting Party meeting to seek and consider the views of Consulting Party members regarding the Project's potential effects on identified historic properties, and to consider input on possible measures to avoid, minimize, or mitigate any adverse effects. Following the meeting, Consulting Parties were given 30 days to provide written comments based on review of a preliminary assessment of effects. In consultation with the SHPO and ACHP, NYSDOT and FHWA considered all Consulting Party comments received by August 30, 2013. The final effect determination made by FHWA, and their supporting documentation, were distributed to all Consulting Party members in November 2013. The Section 106 Finding Documentation has been made available to the public by incorporating the document in **Appendix H** of the DEIS.

1.7.5. Executive Order 12898, Environmental Justice

In accordance with Executive Order 12898 ("Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations"), particular efforts were made as part of the Project to engage minority and low-income populations into the process via targeted media within their communities and reaching out to community groups, religious institutions, special interest groups, public libraries, etc. Special services, such as translation for Spanish-speaking populations, were also provided to encourage participation in public involvement activities. For example, the public information meetings have been extensively publicized at locations throughout the affected minority and low-income neighborhoods. In addition to the traditional media outlets, meeting announcement posters and handouts were provided to

17 local community businesses and services for distribution to their customers and users. These businesses and services included retail, medical providers, and community-based locations.

1.7.6. Outreach to Limited English Proficient (LEP) Individuals

Individuals who do not speak English as their primary language and who have a limited ability to read, speak, write, or understand English can be limited English proficient, or LEP. Federal laws particularly applicable to language access include Title VI of the Civil Rights Act of 1964, the Title VI regulations prohibiting discrimination based on national origin, and Executive Order 13166. Executive Order 13166, "Improving Access to Services for Persons with Limited English Proficiency," was signed on August 11, 2000 and states that people who are LEP should have meaningful access to federally conducted and federally funded programs and activities. The Executive Order requires federal agencies to examine the services they provide, identify any need for services to those with limited English proficiency, and develop and implement a system to provide those services so LEP persons can have access to them.

This Project has included, and will continue to include on an as-needed basis, translations of public notices and meeting materials to ensure that LEP individuals have meaningful access to Project-related information and are aware of the opportunities to contribute to the public participation process. Based on demographic data, the primary language other than English spoken in the potential impacts study area, the Lower West Side of Buffalo, is Spanish. Efforts to inform LEP persons include:

- **Notices.** Newspaper notices have been and will continue to be translated into Spanish, and translation services were available at the scoping meeting and will be available at the public hearing, as appropriate. Other outreach efforts included the distribution of fliers (e.g., to notify those with LEP of public meetings) at religious institutions and cultural centers as well as other centers. Prior to the Project meetings, for example, copies of the meeting notifications, in English and Spanish, were distributed to such organizations and meeting places, including but not limited to PUSH Buffalo, Hispanics United of Buffalo, West Side Community Services, Primera Iglesia Metodista Unida de Buffalo, Grupo Ministerial, Inc., Holy Cross, R.C. Church, Councilmember Darius Pridgen, Councilmember David Rivera, Panorama Hispana, Belle Center, Heart of the City Neighborhood, Buffalo First!, Jericho Road Ministries, International Institute of Buffalo, Niagara Branch of the Public Library, and the TOPS Supermarket. Project materials and meeting notifications continue to be distributed to these centers to help inform the public about the Project and encourage public participation

- ***A Spanish-Language Translator*** and other Spanish-speaking staff were present at the Scoping meeting and other public meetings, and also will be present at the Public Hearing and any additional public meetings, as needed.

- ***Media Contacts.*** The media have been contacted when there are new Project developments to communicate, and press releases have been issued when appropriate. This effort, which has

included outreach to newspapers serving low-income and minority communities as well as LEP populations, will continue for the duration of the Project, as appropriate.

1.7.7. Contact Information

For further information about the project, please visit the project website, www.dot.ny.gov/nygateway, email NYSDOT at nygateway@dot.ny.gov, or contact:

Daniel Streett, PE & LS
Engineering Division
New York State Department of Transportation
50 Wolf Road
Albany, NY 12232
Email: Daniel.Streett@dot.ny.gov

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

2.1. Project History

For nearly 90 years, the roadway network in the project area has been used to access the Peace Bridge connecting Fort Erie; Ontario, Canada; and Buffalo, New York; U.S. Beginning in 1927 (date of the Peace Bridge opening), traffic used the local streets in the project area to travel to the bridge. As the local and regional transportation system grew, the Erie Barge Canal was filled in and Interstate 190 (I-190), known as the Niagara Thruway, was constructed in the 1950s. I-190, which is part of the New York State Thruway system, links I-90 at the southeastern Buffalo City limit with New York State Route 384 to the north. Work on the Niagara Thruway began with the purchase of Lehigh Valley Railroad right-of-way by the New York State Thruway Authority (NYSTA) in 1954. After acquiring the right-of-way, the NYSTA completed construction of the section between Church Street and Porter Avenue in 1959, and at the end of 1960, the section from Porter Avenue north to State Route 384 was opened. For a short time between 1958 and the opening of the highway section north of Porter Avenue, a ramp was provided through Front Park as a temporary connection between I-190 and the Peace Bridge.

To further facilitate traffic movement between the Peace Bridge Plaza (Plaza) and local city streets, Baird and Moore Drives were constructed through Front Park in the early 1950s. A direct connection from the Plaza to southbound I-190 was added in the 1960s. A direct connection from northbound I-190 to the Plaza was constructed in the 1980s. In the 1990s, Moore Drive was removed and Baird Drive was converted to a two-way street.

Direct ramp connections from southbound I-190 to the Plaza and from the Plaza to northbound I-190 were never provided. As a result, southbound interstate traffic destined for Canada and U.S.-bound traffic destined for northbound I-190 must use the local streets, such as Porter Avenue and Baird Drive through Front Park. Without these direct connections, a number of interstate vehicles, including trucks, continue to use the local street system.

Several concepts to reduce the number of vehicles using city streets to access the Plaza have been suggested in the past, but none have been advanced past the preliminary planning stage. This project has been developed to focus directly on the existing access limitations and to find the alternative(s) that strengthen the direct links between I-190 and the Plaza, while at the same time reduce the number of vehicles that must travel on city streets and through Front Park en-route to or from the Plaza.

The scoping process for this project began with publication of the Notice of Intent on May 6, 2013. A Public Scoping Meeting held at D'Youville College in Buffalo on June 11, 2013 was attended by many residents and community leaders. Comments received during and after the Scoping Meeting were incorporated into a Scoping Report, along with a description of the feasible alternatives and a discussion

of potential environmental consequences. The Scoping Report was completed on August 9, 2013 and was made available to the public at the local libraries and on the project website.

As a result of the scoping phase, and coordination with the Cooperating and Participating Agencies, the replacement of the Porter Avenue Bridge over I-190 was added to this project. This bridge replacement was added since it was previously programmed for replacement by the New York State Thruway Authority due to its deteriorated condition, and because of the need by this project to replace the deck in order to reconfigure the lanes on the bridge.

In summary, over time, transportation changes such as the construction of the New York State Thruway segment and connections made between the I-190 and the Plaza at this location, as well as the removal of Moore Drive, have attempted to reduce the traffic volumes on city streets, but these have not been sufficient to minimize the usage of city streets by interstate traffic.

2.2. Transportation Plans and Land Use

2.2.1. Local Plans for the Project Area

Metropolitan Planning Organization, 2035 Long-Range Transportation Plan

The Metropolitan Planning Organization (MPO) for Erie and Niagara Counties is the Greater Buffalo-Niagara Regional Transportation Council (GBNRTC). The GBNRTC is focused on establishing a comprehensive, coordinated, and continuing transportation planning process for the metropolitan area, including development of the 2035 Long-Range Transportation Plan (LRTP). This Plan serves as a guide to meeting the area's multimodal transportation system needs, including development of the Transportation Improvement Program (TIP). The TIP is the complementary capital-programming component of the Long Range Transportation Plan consisting of all federally-funded roadways, transit, and major transportation projects being considered within the region over the next five (5) years. The completed metropolitan planning process allows for the allocation of millions of dollars in federal funding annually to improve all modes of travel as identified in the TIP or LRTP. This includes public transit, pedestrian usage, and bicycling, as well as vehicular travel, in Niagara and Erie Counties. The current 2035 LRTP is an update to the 2030 Long Range Transportation Plan and reaffirms the previous (2030) plan. While the Plan itself is unchanged, the 2035 LRTP update includes reassessment of many key plan elements including goals and objectives, financial resources, Transportation Plan projects, 2035 demographics, resource agency consultation, congestion management, on-going long range planning activities, and continuous public involvement opportunities. The 2035 LRTP was officially endorsed by GBNRTC on May 17, 2010.

As the state designated MPO, GBNRTC's planning process must be consistent with federal transportation law. Legislation known as the Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) outlined eight (8) planning factors, which are specific areas that need to be considered for all metropolitan planning activities. The planning factors include economic vitality of the area; transportation system; safety and security; mobility improvements; environmental protection and enhancement; enhanced connectivity; efficient system management, and preservation of the existing

transportation system. The current legislation known as The Moving Ahead for Progress in the 21st Century Act (MAP-21) will be adopted in the next update to the GBNRTC's Long-Range Plan.

The current LRTP was developed with input from many stakeholder groups, including representatives from public agencies such as the New York State Department of Transportation (NYSDOT) and the Niagara Frontier Transportation Authority (NFTA), community-based organizations, environmental agencies, business groups, local municipalities, and private citizens. The stakeholder input combined with other planning activities by regional, state, and binational agencies have helped to create a LRTP with a greater focus on projects and investment plans to achieve the mutually supported plan objectives. The current 2014-2018 TIP represents a regional consensus on which priority transportation projects are essential to the Buffalo-Niagara region during the next five years. Projects included in the program help move the region towards implementing the LRTP, meet short-range needs, and provide for the maintenance of the existing transportation system. Listed below are projects located within or adjacent to the project corridor that are recognized on the current TIP or LRTP.

- **NY Gateway Connections Improvement Project to U.S. Peace Bridge PIN 576080 (2014 – 2018 TIP) (Subject Project)**
- Niagara Street Gateway Project; Carolina/Virginia Streets – Niagara Square PIN 575714 (2014 – 2018 TIP)
- W Ferry St/Black Rock Canal Bridge Repairs, PIN 575609 (2014 – 2018 TIP)

2.2.1.1. Local Comprehensive Plans ("Master Plan")

The City of Buffalo approved a Comprehensive Plan in 2006 for development in the city. The project area is located within the West Side Planning Community, one of 11 planning communities throughout the city. The West Side community consists of dense residential areas interspersed with small commercial establishments and some older industrial development along the major thoroughfares (i.e., Niagara Street). There are no plans to change the existing zoning within the project area. The area is almost entirely developed, with open space limited to designated parkland. The Lower West Side Resources and Development Corporation is studying revitalization plans for economic growth and development for the Lower West Side area, which includes the proposed project area. The Land Use Plan in the Study Area is included in **Figure 2-1**.

Buffalo's Comprehensive Plan states that while it is City policy "to increase efficiency of the international corridor for the economic benefit of Buffalo and the region, it also demands that planned development will help reclaim parkland, minimize negative impacts on the immediate neighborhood, and help create a memorable international gateway." The Plan tries to reinforce the commercial character along Niagara Street.

Figure 2-1 - Land Use Plan in Study Area

The Buffalo Municipal Housing Authority has proceeded with plans for a replacement of the Lakeview Housing Complex with a new development (U.S. Housing and Urban Development Hope 6 Project). The goal of this renovation is density reduction and income diversification. The construction of the planned senior citizen housing, private homes and apartments, and increased green space is complete.

This project is consistent with the local comprehensive plan for the City of Buffalo. A Neighborhood Plan for the West Side Community has yet to be completed.

The area adjacent to the Niagara River and Black Rock Canal is included in the City of Buffalo Draft Local Waterfront Redevelopment Plan and the *Niagara River Greenway Plan*. The Greenway Plan outlines eleven principles that are intended to promote high-quality, ecologically sensitive, and sustainable development. The eleven principles include *Excellence, Sustainability, Accessibility, Ecological Integrity, Public Well-Being, Connectivity, Restoration, Authenticity, Celebration, Partnerships, and Community Based.*

The City of Buffalo's Draft Green Code identifies this area as part of the City's West Planning Area. Future plans for this area are to maintain the current land uses within the study area.

2.2.1.2. Local Public and Private Development Plans

There are several ongoing or planned improvements to the project study area between now and 2045, including the Niagara Street Gateway project, widening of the existing U.S. approach at the Peace Bridge, remodeling and expansion of the existing Peace Bridge Commercial Inspection Building, and a pilot project to facilitate pre-inspection of U.S.-bound trucks in Canada. Other local development plans include the D'Youville College Athletic Field on Porter Avenue. Although each of these projects is expected to result in minor effects to traffic, none would have a substantial effect on the I-190 traffic operations.

One of the largest planned improvements is the City of Buffalo's Niagara Street Gateway project. Construction of the $4.7 million project is expected to begin in the spring of 2014. The project will include the rehabilitation of Niagara Street from Porter Avenue, in the NY Gateway Connections project study area, to South Elmwood Avenue, in downtown Buffalo, south of the NY Gateway Connections project study area. As part of this project, Niagara Street will be converted from four travel lanes to two travel lanes with a center median or turn lane, as well as either shared or exclusive bicycle lanes. There will be minor pavement widening, milling/asphalt overlay, streetscape and signage improvements, and traffic signal improvements, including the implementation of bus priority and the replacements of traffic signals on Niagara Street at the I-190 Interchange 8 off-ramps and Virginia, Carolina, and Georgia Streets. See **Attachment 12** of **Appendix B - Traffic Analysis** for conceptual drawings of the Niagara Street Gateway project and for planned traffic signal timings for the area as provided by GBNRTC.

While this project is completely independent of other projects or proposals, it is recognized that other studies and projects are being pursued at this time to achieve other purposes. The following list

represents all projects that are currently funded or about to be funded and are associated with the U.S. Plaza.

1) **Bridge widening along the throat area between the U.S. Plaza and the Peace Bridge** - This PBA project will allow for better separation of truck and automobile traffic by adding a 500-foot by 60-foot structural addition to the U.S.-bound approach to the U.S. Plaza. A wider approach will provide for better commercial traffic management on the U.S. Plaza, and a longer 2-lane car approach, allowing cars with NEXUS better access to the booths. In addition, the re-decking of the Peace Bridge is anticipated in approximately 3 to 5 years and due to the swift current in the Niagara River, barge access is very limited, if at all possible. The expanded deck area will provide for some immediately adjacent staging area for the bridge re-decking. The first phase of the bridge widening construction, consisting of utility relocations and foundations, will be completed in 2013. The superstructure work is in final design and is anticipated to be under construction early in 2014 and completed by the end of 2014.
2) **Renovations of the PBA Customs Warehouse** – This PBA project will involve remodeling the existing 1960s building to meet post 9/11 security requirements, to increase energy efficiency, and providing a small addition to the existing building. A construction manager was hired in April 2013, and actual construction contracts are anticipated to begin in early 2014.
3) **Truck Pre-Inspection Pilot Study** - President Barack Obama and Canadian Prime Minister Stephen Harper agreed to take steps to speed the flow of goods and people across the border while enhancing security and harmonizing regulation, by signing the Obama-Harper accord on December 7, 2011. One of the provisions of the Obama-Harper accord was the development of a "proof of concept" pilot project to establish long-term commercial pre-inspection (primary customs inspection) in Canada. Two locations were chosen: Blaine, WA, which is a land crossing, and Buffalo, NY at the Peace Bridge. Blaine was to be the first phase of the pilot, to run six months prior to the commencement of the Buffalo pilot phase. Blaine started their pilot on June 17, 2013, and Buffalo is expected to start in mid-December 2013. The pilots are to run from 12 to 18 months, allowing implementation issues to be resolved before there is permanent and wide-scale application. This study will be overseen by U.S. Customs & Border Protection (CBP) and the Canada Border Protection Agency (CBSA).
4) **Episcopal Church Home Property** – This property is located along the entire block of Busti Avenue from Massachusetts to Rhode Island Streets. It has been vacant for more than seven years. The property had in excess of $16 million in liens and composition agreements, was in City of Buffalo tax foreclosure, and was in City of Buffalo Housing Court due to numerous violations. Consistent with the core mission of the Urban Development Corporation doing business as Empire State Development (ESD), the property was acquired on June 28, 2013. Currently, ESD has a construction and operations manager who is maintaining the property while developing an alternatives analysis and estimates, State Environmental Quality Review (SEQR) documentation, structural stability and remediation studies, and a stabilization and potential demolition plan. The intent of these studies is to prepare the property for future re-development as shovel-ready, but not to actually undertake redevelopment. The redevelopment may consist of a buffer area between the neighborhood and the existing Plaza, or it may include

limited Plaza expansion and/or reconfiguration or other related development. At such time in the future when potential redevelopment may occur, that redevelopment will be subject to an appropriate environmental review process.

5) **Comprehensive Traffic Study on the U.S. Plaza** – This traffic study for the U.S. Plaza as a Plaza Operational Optimization Planning Study that will require the collaboration of the PBA, NYSDOT, NYSTA, and CBP in identifying improvements to the traffic patterns on the existing footprint for two scenarios: (i) all pre-inspection moves to Canada or (ii) no pre-inspection moves to Canada. It will also use the traffic model developed for inspection processes to evaluate the two scenarios with a remodeled/minor-expanded Plaza. The PBA currently has an outstanding Request for Proposals (RFP) for procuring an engineering consultant, and the current schedule anticipates consultant selection by October, 2013. Concurrently, the Ministry of Transportation Ontario has completed origin/destination surveys of both commercial and passenger traffic and will use those to develop a comprehensive report that is also expected to be completed in early 2014. These two planning studies will then be used to establish potential feasible alternatives to begin a new plaza planning process and environmental review process. Consideration of any expansion or redesign of the existing U.S. Plaza cannot begin until these two planning studies are complete.
6) **Redecking of the Existing Peace Bridge** – While the Peace Bridge is well maintained, it is an 87-year-old structure with its original deck. Plans are underway by PBA to start the design on the re-decking of the bridge, including the necessary structural steel repairs in January 2014. The PBA is anticipating a design-bid-build contract and expects to let this contract in 2015 for fall 2015. It is estimated that the re-decking project will take three years to complete. The design and construction phases were included in the Board-adopted 2014 – 2019 Capital Plan.

The projects and activities listed above are not connected to, nor are they dependent upon, the NY Gateway Project. They do not satisfy the purpose and need of the NY Gateway Project or the realization of its stated objectives. They can proceed prior to, currently, or subsequent to the completion of the NY Gateway Project. These activities do not dictate the design configuration of the NY Gateway Project nor do they prescribe the scope or location of the proposed interstate connections. Conversely, the NY Gateway Project does not influence, restrict or dictate the consideration of any of the above listed initiatives.

The NY Gateway Project will accomplish the project purpose through access and egress from the Plaza and local road improvements. The other projects referred to above, including any future modifications to the Plaza; do not dictate the geometrics and design of the NY Gateway Project. Should these projects occur after the NY Gateway Project is built, they will not require any modifications or changes to this Project as built.

Additional discussion and information regarding these projects and their influence on the NY Gateway Project are included in **Appendix G - Project Planning and Development - U.S. Plaza of the Peace Bridge**.

2.2.2. Transportation Corridor

2.2.2.1 Importance of the Project Route Segment

The Niagara Expressway (I-190) is the main route connecting Buffalo and the surrounding Western New York area to the Peace Bridge. Approximately 85 percent of the Canadian-bound traffic and 90 percent of the vehicles arriving in the United States via the Peace Bridge travel on I-190. This high level of I-190 usage exists despite the fact that there is no direct connectivity to northbound I-190 or from southbound I-190 to the Plaza. The only connection from the Plaza to the north-bound Niagara Expressway is via city streets.

I-190 also serves as a primary north–south commuter route between downtown Buffalo and the northern suburbs, including Tonawanda and Amherst.

2.2.2.2. Alternate Routes

There are no alternative routes that would be suitable as a permanent detour for the Niagara Expressway mainline or ramps.

2.2.2.3. Corridor Deficiencies and Needs

Within the corridor, there are deficiencies that limit the mobility of people and goods with respect to direct access to and from the U.S. Plaza coming to and from the interstate system. There have been no Transportation Systems Management (TSM) or Transportation Demand Management (TDM) improvements implemented in the project area to alleviate routine delays for vehicles accessing the Peace Bridge.

For the special cases where traffic delays cause traffic to backup onto I-190 (i.e., overflow condition), the PBA, the Niagara International Transportation Technology Coalition (NITTEC), and the NYSTA have prepared a plan describing the type and schedule for actions needed to remove the backups. The plan includes measures such as closure of Ramp A, displaying international bridge wait times, and other measures to manage demand.

2.2.2.4. Transportation Plans

This project is on the approved Transportation Improvement Program (TIP) under Project Identification Number (PIN) 5760.80.

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

The NYSTA completed rehabilitation and reconstruction of the segments of I-190 directly adjacent to the Peace Bridge during the mid-1990s. Mainline travel lanes were typically reconstructed to a maximum width of 12 feet, with shoulders varying between 2 feet and 10 feet. Ramps were typically reconstructed with 12-foot travel lanes and 6-foot-6-inch shoulders on the right, and 3 feet shoulders on the left. The

NYSTA has confirmed that there are currently no plans to reconstruct or widen this highway segment, or the adjoining segments, within the next 20 years.

PBA has begun construction of a project to widen the existing U.S. side bridge approach. The intent of the Project is to improve commercial traffic management while improving automobile access to NEXUS lanes. The widening would also help reduce the times when the waiting trucks are partially blocking access to the auto primary inspection area. The PBA is also preparing an engineering study to select an alternative for the proposed bridge deck replacement project. The replacement project would not begin before 2015.

The PBA will also be updating and expanding the commercial inspection building during 2014. At the present time, there have been no other approved plans for plaza modification or expansion.

The City of Buffalo recently completed improvements to Porter Avenue including, curb replacement, pavement reconstruction/overlay, and traffic signage updates. This project did not include any structural modifications or repairs for the bridge over I-190.

Another important transportation feature that traverses the project is the Shoreline Trail (formerly named Riverwalk). This bicycle and pedestrian trail was created as part of a plan to provide a continuous, multi-use path extending from Lake Erie to Lake Ontario. The portion in the project area was completed more than 20 years ago and includes pathways on grade and supported by a structure over the CSX Railroad. Currently, there are no immediate plans by the City of Buffalo or the County of Erie for revisions to the trail in the project area.

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)

The Functional Classifications and the Federal Aid Highway System designations for the roadways within the study area are identified in **Table 2-1**.

Table 2-1 – Roadway Functional Classifications

Classification Data					
Road or Highway	**Functional Classification**	**National Highway System**	**Qualifying/ Access Highway**	**16-foot Vertical Clearance Network***	**Within 1 mile of Qualifying Highway**
I-190 (Note 1)	Urban Principal Arterial Interstate	Yes	Qualifying	Yes	No
Porter Avenue	Urban Principal Arterial Other	Yes	Neither	No	Yes
Niagara Street	Urban Principal Arterial Other	Yes	Access	No	Yes
Busti Avenue	Urban Collector	No	Neither	No	Yes
Baird Drive	Urban Collector	No	Neither	No	Yes
Other City Streets	Urban Local	No	Neither	No	No

Note 1

The minimum vertical clearance at the structure carrying the ramp form Porter Avenue to northbound I-190 (Ramp P) over Ramp N (Exit N-9), BIN 5512570 is 15.42 feet.

The minimum vertical clearance at the structure carrying the ramp from the PBA Plaza over I-190 (Ramp B), BIN 1063110 is 14.53 feet.

Both structures are included in the listing of structures in Appendix 2C of the NYSDOT Bridge Manual whose existing clearance can be retained as agreed by the Federal Highway Administration (FHWA) on December 12, 1991.

2.3.1.2. Control of Access

Access to I-190 is fully controlled for all traffic except at the access road leading to the City of Buffalo Massachusetts Pumping Station from the right shoulder of northbound I-190. The Massachusetts Pumping Station access is provided only for city employees and has no connections to any other roadways. Control of access where the Niagara Expressway ramps intersect the local street network is limited due to the urban conditions. All other roads in the project area have uncontrolled access.

2.3.1.3. Traffic Control Devices

There are 51 intersections in the project study area. Seventeen (17) intersections are signalized and 34 are unsignalized. There are 12 coordinated traffic signals along Niagara Street and 4 traffic signals that are either pre-timed or semi-actuated along Porter Avenue. These traffic signals are all operated by the City of Buffalo. There is also a traffic signal at Baird Drive and the Plaza (Ramp A) that is under the purview of PBA. Most traffic signals are two-phase; however, there may be leading and/or lagging turn phases at major intersections. All other intersections in the project study area are unsignalized and typically all-way stop-controlled, with at least one of the streets being one-way. It should be noted that there are plans to update traffic signals in the study area as part of the Niagara Street Gateway Project. Based on discussions with the City, there are also frequent modifications made to the traffic signal timings in the area. See **Appendix B** for detailed traffic signal timing inventories and information.

2.3.1.4. Intelligent Transportation Systems (ITS)

There is a combination of NYSDOT, NYSTA and PBA owned ITS devices located within the project area. Devices currently in operation include variable message signs, closed circuit video cameras (CCTV) and permanent traffic counting systems. These devices along with other ITS devices in the region are used to monitor traffic conditions, as well as warn and inform motorists when an incident or other operational condition impacts the normal flow of traffic on I-190 or en-route to Canada. Within the project limit there is a one single line dynamic message sign near the entrance to Ramp A, one standard dynamic message sign located on the La Salle Park Pedestrian bridge over northbound I-190, and 3 CCTV cameras. The timing, type of notification, and responsibility for initiating device operation are spelled out in NITTEC's Canada Bound Niagara Frontier Border Crossing Transportation Management Plan. It is anticipated that new ITS deployment will be required for this Project which will be consistent with the goals of the Transportation Management Plan and regional ITS architecture.

2.3.1.5. Speeds and Delays

A combination of travel time and delay runs and automatic traffic recordings (ATRs) by vehicle speed was conducted to determine existing average and 85th-percentile speed on the major roadways in the project area. The travel time runs indicate that average speeds on I-190 between Interchanges 8 and 11 are higher than the 55-miles-per-hour (mph) speed limit during the peak periods, although there are often slowdowns along the segment. During the weekday AM peak period, the average travel speed southbound toward downtown is 57 (mph); however, the speed may decrease to approximately 39 mph at the Interchange 11 on-ramp to the north and/or around Ramp B near the Plaza. During the weekday P.M. peak period, the average travel speed northbound leaving downtown is 60 mph; however, there were slowdowns to approximately 47 mph between the Interchange 8 on-ramp and Interchange 9, where I-190 decreases from three to two travel lanes. The weekday mid-day peak period was found to represent free-flow conditions along the Thruway. During this time period, the average running speed (representative of 85th-percentile speed) was approximately 63 mph along both directions of the Thruway, with slowdowns near the ramps to no less than 50 mph. Average and 85th-percentile speeds obtained from 24-hour ATRs along the local streets were found to be approximately 25 and 35 mph, respectively. Peak-hour travel

time runs confirm this range, which is near the posted 30-mph speed limit, although travel speeds during the peak periods were found to be slightly (approximately 5 mph) slower than those over the course of the day. It should be noted that the average and 85th-percentile speeds on Ramp A and Sheridan Terrace in the vicinity of the Plaza were higher than along other ramps and local streets, approximately 45 and 55 mph, respectively. See **Appendices C** and **E** of **Appendix B – Traffic Analysis** for detailed ATR speed data and travel time and delay run information.

2.3.1.6. Traffic Volumes

Refer to **Appendix B – Traffic Analysis** for weekday AM and PM peak-hour traffic flow diagrams. Existing condition traffic volume networks were developed for the project study area based on a combination of traffic data collected for this project and available traffic data provided by GBNRTC, NYSTA, and PBA. Spring 2013 traffic data were collected at key locations and seasonally adjusted to reflect peak summer conditions; these data were combined with available summer 2011 and 2012 data and balanced to create existing condition weekday AM and PM peak-hour traffic volume networks. 2015 and 2045 No Build condition traffic volume networks were developed for the project study area, based on forecast data provided from GBNRTC's travel demand model.

It should be noted that traffic volumes were developed specifically for the weekday AM and PM traffic analysis hours, as these are critical time periods for typical traffic conditions in the study area. Traffic volumes were not developed for the overflow condition (i.e., when backup occurs at the Plaza and traffic is sometimes re-routed from I-190 to the local streets). This is because: 1) the overflow condition occurs occasionally; 2) may occur during any time of day and for numerous, sometimes unpredictable, reasons; 3) is handled differently based on magnitude/duration; and 4) the analysis of the congested, standstill conditions would not provide valuable results.

2.3.1.6. (1) Existing Traffic Volumes

Discussions of the traffic data collection program, development of the peak-hours, and existing traffic volumes, including trucks, for all major intersections, major traffic generator driveways/entrances, and other locations with identified accident problems, are included in **Appendix B**. It should be noted that large trucks, oversized vehicles, and school buses travel along I-190 and/or the local streets in the project study area.

2.3.1.6. (2) Future No-Build Design Year Traffic Volume Forecasts

The Estimated Time of Completion (ETC)+30 design year was selected per NYSDOT's Project Development Manual (PDM) Appendix 5. Peak-hour turning movement volumes for all major intersections, major traffic generator driveways/entrances, and other locations with identified accident problems are included for both ETC = 2015 and ETC+30 = 2045 in **Appendix B**.

2.3.1.7. Level of Service and Mobility

2.3.1.7. (1) Existing Level of Service and Capacity Analysis

To assess traffic operations in the project study area, freeway, ramp, signalized intersection, and unsignalized intersection analyses were conducted using VISSIM, a microscopic time step- and behavior-based traffic simulation model. Inputs into the model included passenger car, truck, bus, bicycle, and pedestrian volumes, as well as roadway geometry and traffic controls, including stop signs, yield signs, or signal timings. Traffic models were calibrated based on field observations and validated based on travel time runs. Model outputs included simulated volumes, speeds, delays, etc. from which densities and freeway and intersection levels of service (LOS) could be calculated. The LOS criteria, ranging from excellent LOS A to failing LOS F, that were used for basic freeway segment, weaving and merge/diverge segment, signalized intersection, and unsignalized intersection analyses are those published in the Transportation Research Board (TRB) 2010 *Highway Capacity Manual* (HCM) and are described in detail in **Appendix B**.

The existing condition weekday AM and PM freeway, ramp, signalized and unsignalized LOS analysis results are summarized and detailed discussions are provided in **Appendix B**. As discussed previously, traffic analyses were conducted for the weekday AM and PM peak-hours, as these are the critical time periods for typical traffic conditions in the area (i.e., the weekday morning and evening commuter peaks). Traffic analyses were not conducted for overflow condition.

The I-190 mainline operates well in the non-peak travel directions – at LOS D or better. However, in the peak travel directions (i.e., toward downtown in the mornings and away from downtown in the evenings), there is some congestion. During the weekday AM peak-hour, in the two-lane segment of the Thruway, and particularly in the Scajaquada Expressway area, southbound I-190 operates at LOS D or E. During the weekday PM peak-hour, most of northbound I-190 is congested, operating at LOS E north of the Niagara Street on-ramp. Speeds are typically less than 50 mph, and as slow as 35 mph in the area between the Niagara Street on-ramp and the Peace Bridge off-ramp as vehicles approach the transition in the Thruway from three to two lanes.

The results of the ramp analyses are provided in **Appendix B**. During the weekday AM peak-hour, most ramp merges operate at LOS D or better. However, the two-lane segment of southbound I-190 north of the Scajaquada Expressway off-ramp operates at LOS E. Speeds slow substantially (i.e., to less than 45 mph) at this location and in the three-lane segment of the Thruway upstream of the off-ramp to Niagara Street. During the weekday PM peak-hour, southbound I-190 operates at LOS E near the Peace Bridge/Ramp S, at the complex merge of the two-lane mainline with a two-lane on-ramp. Northbound I-190 (the peak travel direction) is congested at all ramp merges, generally operating at LOS F with speeds in the 30- to 40-mph range.

As shown in **Appendix B**, traffic at the local-street intersections typically operates well during both the weekday AM and PM peak-hours (LOS C or better). The only location that experiences relatively high delays is Porter Avenue at Niagara Street, the signalized intersection of the two highest-volume local streets in the study area. Left-turn movements at the intersection typically operate at LOS D with delays

of 40 to 55 seconds per vehicle (s/veh). During the weekday PM peak-hour, the northbound left turn from Niagara Street to Porter Avenue (headed toward I-190) operates at LOS E with a delay of nearly 75 s/veh.

2.3.1.7. (2) Future No Build Design Year Level of Service

2015 and 2045 No Build condition weekday AM and PM freeway, ramp, signalized and unsignalized LOS results are summarized and detailed discussions are provided in **Appendix B**.

2015

As shown in **Appendix B**, I-190 mainline and ramp operations essentially would be the same for 2015 No Build conditions as for existing conditions. Peak-direction traffic segments would operate at the same levels of service as existing conditions, and non-peak direction segments would continue to operate at LOS D or better. Traffic operations in the ramp areas would worsen slightly. During the weekday AM peak-hour on southbound I-190, the diverge at the Scajaquada Expressway off-ramp would become more congested, and the diverge to Niagara Street would deteriorate from LOS C to LOS D. During the weekday PM peak-hour, the northbound I-190 weave between Church and Niagara Streets would deteriorate from LOS D to LOS E.

The results of the 2015 No Build condition signalized and unsignalized intersection analyses are provided in **Appendix B**. Most intersections would continue to operate well. The only location that would continue to experience high delays is Porter Avenue at Niagara Street. During the weekday PM peak-hour, with the planned Niagara Street Gateway project's roadway configurations and signal timings, left turns at the intersection typically would deteriorate from LOS D to LOS F and would incur a 15 to 75 s/veh additional delay. Delays for the northbound and eastbound left turns would exceed the 100-second cycle length. This would result in backups (especially in the northbound direction) and would cause some congestion at the adjacent intersections at Jersey and Pennsylvania Streets. It should be noted that these deteriorations in operations are due to the City's planned narrowing of Niagara Street and not to the NY Gateway Connections project.

2045

Traffic operations on the I-190 mainline and ramps would become congested with 2045 projected volumes. As shown in **Appendix B**, the southbound I-190 mainline typically would deteriorate to LOS E or LOS F between Interchanges 8 and 11 during the weekday peak-hours, and speeds would decrease by at least 10 mph and to approximately 30 mph in the vicinities of Scajaquada Expressway and Niagara Street during the weekday AM peak-hour. Northbound I-190 would become very congested at the south end of the study area during the weekday PM peak-hour (operating at LOS F and with speeds of less than 25 mph), causing a bottleneck. This would effectively meter traffic into the study area and result in better downstream levels-of-service than for existing conditions. As indicated in **Appendix B**, during the weekday AM peak-hour, the southbound I-190 diverge at Scajaquada Expressway and merge at Peace Bridge Plaza/Ramp S would deteriorate to LOS F. During the weekday PM peak-hour, all southbound I-190 ramp segments would deteriorate to LOS F, as would the northbound I-190 weave between Church

and Niagara Streets This would be due, in part, to queuing from the intersection of the I-190 off-ramps at Niagara Street extending onto the Thruway. During the weekday PM peak-hour, the northbound I-190 merges at Niagara Street and at Porter Avenue would also operate at LOS F with speeds in the 20- to 35-mph range.

The results of the 2045 No Build condition signalized and unsignalized intersection analyses are provided in **Appendix B**. Most intersections in the project study area would continue to operate well for the 2045 No Build condition. However, weekday PM peak-hour traffic operations at the Porter Avenue/Niagara Street intersection would continue to deteriorate, with overall intersection operations worsening to LOS E All left turns would experience excessive delays from 70 to 185 s/veh, and other movements on the northbound Niagara Street and westbound Porter Avenue approaches would begin to operate poorly. The congestion at this intersection would cause backups along Niagara Street that would affect adjacent intersections. The northbound Niagara Street through movements at Jersey Street and at Pennsylvania Street would operate at LOS F with delays of approximately 100 s/veh; the westbound right turn from Pennsylvania Street to Niagara Street would also operate at LOS F, incurring delays of more than 165 s/veh.

2.3.1.8. Safety Considerations, Accident History, and Analysis

An examination was made of accidents in the area to ensure that the NY Gateway Connections project would not adversely affect safety. Accident data for I-190 and the local street system in the area between Interchange 8 and Niagara Street at Prospect Avenue were provided by NYSDOT. The data included police accident reports (MV-104s) from the New York State Department of Motor Vehicles for the three-year period from June 1, 2009 through May 31, 2012 and high accident location (HAL) and expected accident rate information (i.e., statewide averages) from the New York State Safety Information Management System (SIMS) for Region 5.

Based on the data, there were 524 accidents in the study area over the three-year period – 192 (118 northbound, 74 southbound) on I-190 and 331 on the local streets; 1 accident could not be located. As indicated in **Table 2-2**, the accident rates for I-190 in the study area were calculated to be less than, and the accident rates along Porter Avenue and Niagara Street were calculated to be higher than, the statewide average accident rates for similar/corresponding roadway facilities in New York State. The types of accidents that occurred along I-190 and the local streets are provided in **Tables 2-3** and **2-4**, respectively. Most accidents along I-190 were rear-end, overtake, or fixed object– accidents associated with congestion and lane changing or losing control while avoiding congestion or lane changing. Most accidents on the local streets were right-angle, rear-end, overtake, and left-turn– accidents associated with intersections and vehicles turning into and out of, or trying to maneuver around other vehicles turning into and out of, intersections and driveways.

Table 2-2 – Comparison of Calculated Segment Accident Rates to Statewide Averages

Roadway Segment	Lanes	AADT[1]	Accident Rate (per MVM)[2]		
			Calculated	NYSDOT Average	High?
I-190 NB South of Interchange 9	3	50,000	1.26	1.29	No
I-190 NB North of Interchange 9	2	40,000	1.07	1.19	No
I-190 SB South of Interchange 9	3	45,000	0.83	1.29	No
I-190 SB North of Interchange 9	2	40,000	0.74	1.19	No
Porter Avenue	4	10,000	16.44	4.86	Yes
Niagara Street South of Porter Avenue	4	12,000	12.55	4.86	Yes
Niagara Street North of Porter Avenue	3	7,000	9.02	3.55	Yes

Note: [1]AADT ≡ annual average daily traffic
[2]MVM ≡ million vehicle miles. Accident rate is the number of accidents that occurred per MVM.

Table 2-3 – I-190 Accident Type Summary

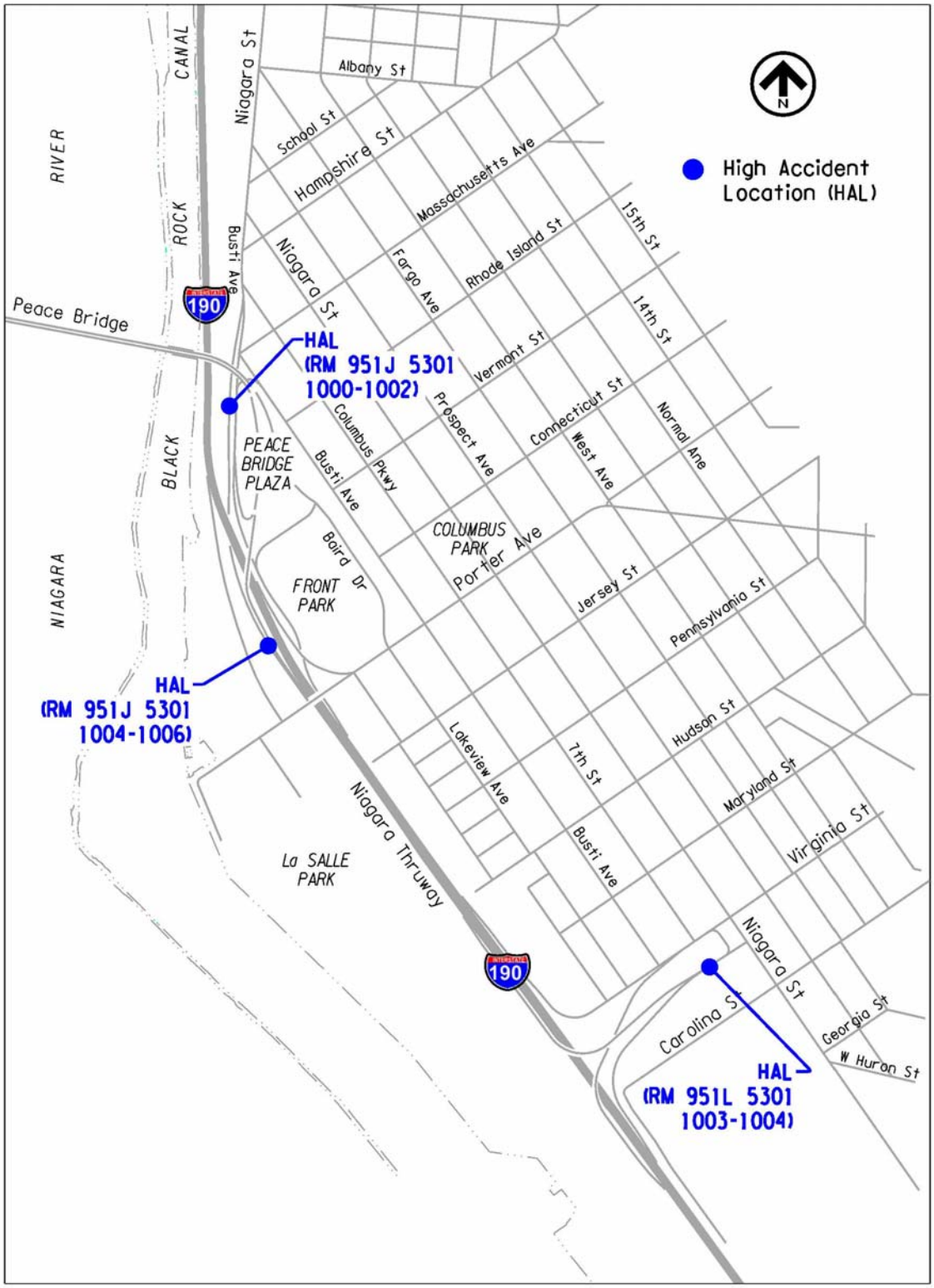
Accident Type	Number of Accidents	Percentage of Accidents
Rear-End	76	40%
Overtake	46	24%
Fixed-Object	45	23%
Other	22	11%
Backing	2	1%
Sideswipe	1	1%
Total	**192**	**100%**

Table 2-4 – Local Street Accident Type Summary

Accident Type	Number of Accidents	Percentage of Accidents
Right-Angle	90	27%
Rear-End	85	25%
Overtake	51	15%
Left-Turn	30	9%
Fixed-Object	17	5%
Right-Turn	12	4%
Backing	12	4%
Other	12	4%
Parking	11	3%
Pedestrian	6	2%
Head-On	2	1%
Sideswipe	2	1%
Run-Off-The-Road	1	0%
Total	**331**	**100%**

It should be noted that SIMS identified three High Accident Locations (HALs) in the project study area, as shown in **Figure 2-2**. Ramp S at its north end between Busti Avenue/Massachusetts Avenue and the I-190 overpass (reference marker (RM) 951J 5301 1000 to 1002) is a Safety Deficiency Location (SDL), due to horizontal and vertical curvature and non-standard shoulders. Ramp S at its other end, at the merge with the Plaza's Ramp B and then immediate merge with southbound I-190 (RM 951J 5301 1004 to 1006), is a Priority Investigation Location (PIL) – likely due to the proximity and unconventional design of the merges. The I-190 off-ramps at Interchange 8 between their merge and Niagara Street (RM 951L 5301 1003 to 1004) are also an SDL, which experiences high volumes and operational deficiencies/capacity constraints at the downstream signalized intersections. There were also two fatalities on the local streets that involved collisions with pedestrians. Detailed accident discussion and analysis, including accident summaries (TE-213) and collision diagrams (TE-56), are provided in **Appendix B**.

Figure 2-2 – High Accident Locations (HALs)



2.3.1.9. Existing Police, Fire Protection and Ambulance Access

Fire protection services in the project area are provided by the City of Buffalo Fire Department. There are two fire stations located within a mile of the project. Engine 37/Ladder 4 is located to the north at 500 Rhode Island Street at Chenango Street. The second station is located south of the project on 376 Virginia Street at Elmwood Avenue.

Police services within the city are provided by The City of Buffalo Police Department. The project is located within the Department's "B" District and is served from 695 Main Street.

Ambulance services throughout Buffalo are generally provided by Rural Metro Medical Services.

2.3.1.10. Parking Regulations and Parking-Related Conditions

Parking on I-190 is restricted by law. Parking is also not allowed on Porter Avenue south of Niagara Street. However, on-street parking is generally allowed throughout the rest of the project area, including the Niagara Street commercial strip and in the residential neighborhoods. Off-street parking is also provided for most schools and major retail/ commercial developments in the area. More detailed roadway inventory information is provided in **Appendix B**.

2.3.1.11. Lighting

There is existing street lighting along all city streets within the project limits, including Baird Drive. The existing lighting is in fair to good condition on all streets except Porter Avenue, where new period style poles and lumineirs were installed in 2012. Limited lighting is also provided along Ramp A, Ramp N, and Sheridan Terrace. There were no locations identified where the lack of adequate street lighting could have contributed to accidents or other safety deficiencies.

2.3.1.12. Ownership and Maintenance Jurisdiction

The roads and highways within the project limits are owned and maintained as described in **Table 2-5.**

Table 2-5 - Ownership and Maintenance Jurisdiction

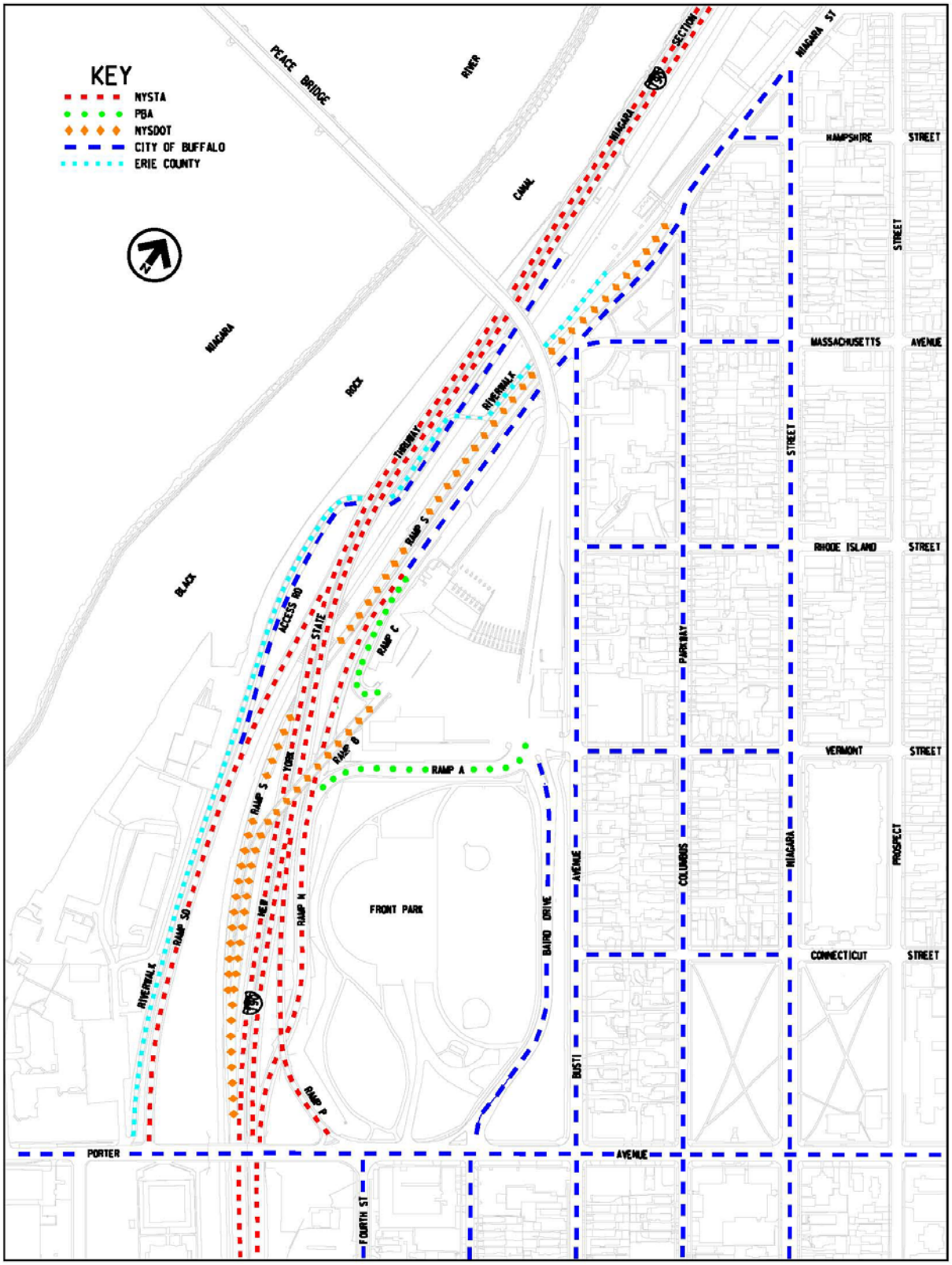
Highway	Limits	Feature(s) Being Maintained	Centerline within Project (mile)	Maintenance Agency[1]	Owned By[1]
I-190 (NB & SB)	Virginia Ave. to Peace Bridge	Highway, Bridges	1.3	NYSTA	NYSTA
Ramp N	I-190 NB to Ramp C merge	Highway	0.5	NYSTA	NYSTA
Ramp N / Sheridan Terr.	Ramp C merge to Busti Ave.	Highway	0.2	COB	COB
Ramp A	Ramp N to Plaza Entrance.	Highway	0.2	PBA	PBA
Ramp P	Porter to I-190 NB	Highway	0.3	NYSTA	NYSTA
Ramp B	PBA Plaza to I-190 SB	Highway, Bridge	0.4	NYSDOT	NYSTA
Ramp S	Niagara Street to I-190 SB	Highway	0.9	NYSDOT	NYSTA
Ramp SD	I-190 SB to Porter Avenue	Highway	0.4	NYSTA	NYSTA
Ramp C	PBA Plaza to Sheridan Terr.	Highway	0.1	PBA	PBA
Porter Avenue	Busti Ave. to Ramp SD[3]	Roadway	0.3	COB	COB
Porter Avenue	Portion over I-190	Bridge	0.03	NYSTA	NYSTA
Porter Avenue	Portion over CSX	Bridge	0.01	COB and CSX	COB and CSX
Shoreline Trail (Riverwalk)	Niagara Street to Porter Ave	Bikeway, Bridge	0.9	Erie County/COB	NYSTA
Local City Streets[2]	Project wide	Roadway	Varies	COB	COB

Notes:

1. NYSTA = New York State Thruway Authority, NYSDOT = New York State Department of Transportation, COB = City of Buffalo, PBA = Buffalo and Fort Erie Peace Bridge Authority
2. City of Buffalo Streets Include: Baird Drive, Busti Avenue, Niagara Street, Vermont Street, Rhode Island Street, Massachusetts Avenue, Hampshire Street, School Street, Connecticut Street, Columbus Parkway, Seventh Street, Fourth Street, and Lakeview Avenue.
3. Jurisdictional limits along Porter Avenue exclude the Porter Avenue Bridge over I-190/CSX.

The maintenance jurisdiction is also shown by agency in **Figure 2-3**.

Figure 2-3 – Maintenance Jurisdiction Plan



U.S. Department of Transportation
Federal Highway Administration

New York State
Department of Transportation

2.3.2. Multimodal

2.3.2.1. Pedestrians

There are numerous pedestrian-generators within or in close proximity to the project study area, including D'Youville College, Public School 3, D'Youville Porter Campus School (pre-kindergarten through eighth grade), Leonardo da Vinci High School, Front Park, LaSalle Park, the waterfront, and the residential neighborhood. Pedestrians are prohibited on I-190; however, the Shoreline Trail (Riverwalk) bicycle/pedestrian facility runs along the waterfront in close proximity to I-190. There are pedestrian crossings at most ramp terminals and intersections in the study area. High-visibility crosswalks have recently been added to some intersections in the area, and there are currently No Turn On Red restrictions during school hours at select locations along Porter Avenue, and crossing guards throughout the area during school arrival and dismissal times to make crossings safer for pedestrians. Pedestrians are permitted on the Peace Bridge and the deck replacement project will enhance pedestrian facilities. A pedestrian generator checklist and more detailed roadway inventory information are provided in **Appendix B,** Attachment 6.

2.3.2.2. Bicyclists

The bicycle generators are generally the same as the pedestrian generators. Bicyclists are prohibited on I-190 by state law. There are striped bicycle lanes on Porter Avenue north of Niagara Street, and there are off-street bicycle paths, including the Shoreline Trail (Riverwalk), on the waterfront, in Front Park, and along Porter Avenue south of Niagara Street. Along Niagara Street and most of the local streets, however, there are currently no separate provisions for bicyclists. As part of the Niagara Street Gateway Project, there are plans to stripe exclusive or shared bicycle lanes along Niagara Street. Bicycles are permitted on the Peace Bridge and the deck replacement project will enhance bicycling facilities. More detailed bicycle information is provided in **Appendix B**.

2.3.2.3. Transit

There are numerous Niagara Frontier Transportation Authority-Metro (NFTA-Metro) bus routes that operate in the greater traffic study area. These include the 5, 12, 22, 29, 60, 61, and 79 routes. The primary routes are along Niagara Street and Porter Avenue. More detailed transit bus information is provided in **Appendix B**.

2.3.2.4. Airports, Railroad Stations, and Ports

The Buffalo Airport is located approximately 9 miles north-east of the project area.

There are no actual marine ports in the project area; however, the Black Rock Channel is located adjacent to the westerly limit of the project area. This channel and the Black Rock Lock provide safe passage for vessels to travel between Buffalo Harbor to the south and Tonawanda Harbor around the reefs, rapids, and fast currents that exist in the upstream portion of the Niagara River. The project will not affect this facility.

The Peace Bridge facility is classified as a Land Entry Port by the U.S. Office of Homeland Security and U.S. Customs and Border Protection. This facility serves as a port for the land-based import and export of goods between Canada and the United States. The facility is open 24 hours a day, 365 days a year and processes 1,300 trucks per day. No changes in the day-to-day operations within the bridge plaza are expected in conjunction with this project.

The nearest passenger railroad station is located in downtown Buffalo and the nearest commercial rail yard is located in Black Rock, approximately two miles north of the project.

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

The vehicular, bicycle, and pedestrian entrances to Front Park are currently on the north side of Porter Avenue between Baird Drive/Lakeview Avenue and Fourth Street. LaSalle Park, on the waterfront west of the project study area, is accessible by foot via Porter Avenue or by all travel modes via DAR Drive or Amvets Drive. The Shoreline Trail (Riverwalk) shared-use path can be accessed from the north side of Porter Avenue immediately west of the southbound I-190 off-ramp.

The Shoreline Trail (Riverwalk) can also be accessed from Busti Avenue near the intersection of Sheridan Terrace. There is a small triangular park bounded by Massachusetts Avenue, Seventh Street and Busti Avenue opposite the Shoreline Trail Entrance.

Access to the Niagara River, including the West Side Rowing Club, Frank Lloyd Wright Fontana Boathouse, and the Buffalo Yacht Club is provided from Porter Avenue west of the I-190 off-ramp.

There are no state-owned recreational lands near the project area.

2.3.3. Infrastructure

2.3.3.1. Existing Highway Section

The existing highway section for the Niagara Expressway (I-190) consists of two 12-foot-wide travel lanes in each direction with shoulders of varying width on both sides. The northbound and southbound sections are divided by a narrow median. Ramps connecting to the interstate vary in width depending on the number of lanes and the radius of any curves. Travel lanes on the ramps are generally 12 feet wide and have shoulders on both sides.

For Porter Avenue, the existing roadway has five 10-foot-wide lanes from Niagara Street west towards the bridge over I-190. At the bridge approach, the pavement section narrows to four 11-foot-wide lanes which continue over the bridge towards the Niagara River. Curbs and sidewalks are present on both sides of Porter Avenue.

Niagara Street is three lanes wide with parking lanes north of Porter Avenue. The 52-foot-wide pavement section consists of two 11-foot-wide travel lanes, a 10-foot-wide center turn lane, and two 10-foot wide

parking lanes. Curbs and sidewalks are present on both sides. South of Porter Avenue, the existing Niagara Street pavement section is the same, except travel lanes are 12 feet wide.

Along Busti Avenue, the pavement is 40 feet wide with 12-foot travel lanes. Beyond the travel lanes, a 12-foot-wide parking lane has been provided along the east side, and a 4-foot curb offset is included along the west side. The street is curbed and sidewalks are provided on both sides. Busti Avenue often is utilized during overflow conditions (i.e., when there is queuing/congestion along the Peace Bridge) to re-route and store queued vehicles. There is also a gate on Busti Avenue across from Vermont Street that can be opened to provide Plaza access to trucks and emergency vehicles.

The other city streets in the project area are typically about 30 feet wide, with two travel lanes and a parking lane.

The Shoreline Trail (Riverwalk) pavement is approximately 16 feet wide with 2-foot shoulders on both sides, except on the bridge over the CSX Railroad, where the travel way narrows to about 12 feet. Railings and fences are provided along the bridge and elevated sections of the trail.

A detailed listing of the existing highway properties is provided in **Table 2-6**.

Table 2-6 - Properties of Existing Highways Within the Project Area

	I-190 NB	I-190 SB	Ramp A	Ramp B	Ramp C	Ramp N	Ramp P	Porter Ave.	Busti Ave.	Local Streets[1]
Right-of-Way Width	Varies	Varies	Varies	Varies	Varies	Varies	Varies	100 ft.	100 ft.	Varies[2]
Pavement Width	Varies	Varies	Varies	23 ft.	Varies	23 ft.	15.5 ft.	50 ft.	24 ft.	Varies
Number of Travel Lanes	2,3,4	2,3	3	1	1	2,3	1	5	2	Varies[4]
Curbs	No	No	Yes – Rt. Side only	No	Yes	No	No	Yes	Yes	Yes
Shoulders	Yes–Width Varies	Yes-Width Varies	Yes-Width Varies	4.5 ft.	Yes Width varies	Yes	Yes	No	No	No
Sidewalks	No	No	No	No	No	No	No	Yes	Yes	Yes
Drainage	Closed & Open	Closed & Open	Closed	Closed	Closed	Open & Closed	Open	Closed	Yes	Closed
Grades (Max.)	3%	3%	6%	6%	4%	4%	4%	4%	2%	Varies
Curves (Min.) Radius)	1700 ft.	1700 ft.	170 ft.	325 ft.	40 ft.	700 ft.	350 ft.	None	None	None
Intersections Turn Lanes	No	No	No	No	No	No	No	Yes	No	No
Parking	None	None	No	No	No	No	No	No	Yes	Yes
Driveways	Yes[3]	None	No	No	No	No	No	Yes	Yes	Yes

Notes:

1. Local streets include: Baird Drive, Lakeview Ave., and 4th Street.
2. Baird Drive is located within Front Park.
3. Access driveway to the Water Authority pump station currently exists on I-190 NB within the project limits.
4. 4th Street currently has two lanes (one in each direction) and will be modified for one-way traffic only.

2.3.3.2. Geometric Design Elements Not Meeting Minimum Standards

2.3.3.2. (1) Critical Design Elements

Critical geometric elements of the existing expressway, ramps, and streets were evaluated in accordance with standards set forth in the latest version of the *Highway Design Manual* (HDM) published by the New York State Department of Transportation.

In accordance with the requirements of Chapter 2 of the NYSDOT HDM, there are 17 critical elements that must be compared to the minimum design criteria for capital improvements (2R/3R or bridge rehabilitation). Any critical design element that fails to meet the minimum design standards is considered a “non-standard feature” and should be evaluated for remediation or mitigation. Existing non-standard features that must be retained after the proposed improvements shall be reported, justified, and approved in accordance with the procedures described in the HDM. Existing non-standard features are listed in **Table 2-7.**

For freeways and expressways, it should be noted that for evaluation of certain existing elements it is permissible to compare the existing condition to the design standards that were in effect when the facility was built. Use of “Standards of the Day,” as described in Chapter 7 of the HDM, is acceptable when evaluating the stopping sight distance, minimum radii, grade, and the widths of medians, mainline travel lanes, and mainline shoulders. All other elements, including ramp travel lane width must comply with the current NYSDOT highway design standards.

Table 2-7 – Highway Non-Standard Features

Highway Segment	Feature	Existing Condition	NYSDOT Standards
Porter Ave.	**Lane Width**		
	Travel Lane/ Turn Lane	10.0 ft./ 10.0 ft.	12.0 ft. / 11.0 ft.
Ramp N	**Horizontal Clearance**	2.5 ft.	6.0 ft.
	Shoulder Width - Left / Right	Areas < 3.0 ft./ < 6.0 ft.	3.0 ft. / 6.0 ft
	Vertical Clearance - Ramp P	15.4 ft.	16.0 ft.
	Level of Service	E	C (D min.)
I-190	**Vertical Clearance - Ramp B**	14.53 ft.	16.0 ft.
	Shoulder Width /Bridge Width Left / Right	Areas < 3.0 ft. / < 6.0 ft.	3.0 ft. / 6.0 ft.
	Horizontal Clearance	3.5 ft.	4.0 ft.
	Level of Service	D or F	C (D min.)
Shoreline Trail	**Minimum Radius**	36.0 ft.	60.0 ft.
Ramp C	**Shoulder Width** - Left / Right	Areas < 3.0 ft. / < 6.0 ft.	3.0 ft. / 6.0 ft.
	Horizontal Clearance	4.6 ft.	6.0 ft.
Ramp P	**Superelevation**	4.5 %	6.0 %
	Level of Service	E	C (D min.)
Ramp N Extension	**Horizontal Clearance**	2.5 ft.	6.0 ft.
	Shoulder Width - Left / Right	Areas < 3.0 ft. / < 6.0 ft.	3.0 ft. / 6.0 ft.
	Vertical Clearance - Ramp B	14.9 ft.	16.0 ft.
CSX	**Vertical Clearance – Porter Ave.**	17.89 ft.	22.0 ft.
	Vertical Clearance – 190	17.25 ft.	22.0 ft.

2.3.3.2. (2) Other Design Parameters

Other design elements that must be considered in addition to the *critical design elements* are identified as "non-conforming features." These features are important because they have a considerable effect on operational efficiency, safety, cost, and scope. A decision to vary from the recommended values and acceptable practice for elements such as taper length needs to be explained and documented in the design report document. The existing non-conforming features are listed in **Table 2-8.**

Table 2-8 – Existing Non-Conforming Features

Highway Segment	Feature	Existing Condition	NYSDOT HDM Recommendations
Ramp B	Lane Taper Length	460 ft.	700 ft.
Ramp N	Exit Taper Length	100 ft.	250 ft.
Ramp B/S	Successive Ramp Merge	335 ft.	800 ft.

2.3.3.3. Pavement and Shoulder

The pavement and shoulders along the I-190 mainline and connecting ramps are in good condition without any indication of major distress. For the adjacent city streets, the pavement condition ranges from "very good" along Porter Avenue to "good" along the major streets and "fair" along some of the minor cross block streets.

Due to the limited length of the different types of reconstruction sections, variability in traffic volumes and the number of owning agencies, it was impractical to prepare a pavement selection report. Pavement section design shall as much as practical match or exceed the section dimensions and materials used in the existing pavement sections.

2.3.3.4. Drainage Systems

The I-190 transportation corridor within the project study area comprises two primary drainage areas; I-190 south of Ramp B and I-190 north of Ramp B, adjacent to the Peace Bridge Plaza,. The area south of Ramp B extends from Ramp A to the Virginia/Carolina Interchange. This system is made up of a three-foot-diameter reinforced concrete pipe (RCP) trunk line, which was constructed down the center of the Former Erie Barge Canal and discharges into the Black Rock Canal, at the original canal discharge point. The area north of the Ramp B Bridge, including Ramps S and N, connects to a two-foot- four-inch diameter RCP. The trunk line also carries the Peace Bridge plaza storm and sanitary ties into the eight-foot-diameter Swan Trunk Sewer via a drop shaft. This drop shaft contains a weir plate to direct flows to the drop shaft and an overflow to the Black Rock Canal.

The residential area, adjacent to the northeast edge of the project along Busti Avenue, is accommodated by a system that outlets at Albany Street. There are various individual discharge points into the Black Rock Canal throughout the study area.

The Porter Avenue drainage system, west of I-190, includes typical curb inlets connected to an 18-inch storm drain and out letting into Lake Erie at the Buffalo Yacht Club.

The Porter Avenue drainage system, east of I-190, is connected to a combined sanitary and storm system.

2.3.3.5. Geotechnical

Based on soil borings collected within the project limits, there are no special geotechnical concerns with the soils or rock slopes in the project area. Limestone bedrock is present 15 to 50 feet below the existing ground surface. Beneath the existing roadways, the overburden consists of uncontrolled fill ranging from 3 feet to 45 feet in depth. Indigenous soils were encountered beneath the fill soils, except at two locations where the fill extended to the top of bedrock.

2.3.3.6. Structure

There are many bridges within the project limits. These structures are discussed below and are listed in **Table 2-9** and **Table 2-10.**

2.3.3.6. (1) Description

(1) Description: Peace Bridge

(a) BIN: 5516290

(b) Feature carried: *Peace Bridge over Rt. I-190, CSX Railroad, Black Rock Canal, Niagara River*

(c) Type of bridge: *49 spans - various types inc. R-C Slab, Steel Girder, Steel Arch, and Steel Truss*

(d) Width of travel lanes: *3 – 12-foot lanes*

(e) Sidewalks: *6-foot-wide sidewalks (both sides)*

(f) Utilities carried: *Numerous Fiber-Optic lines*

(2) Description: Ramp - Peace Bridge (U.S. Plaza) to I-190 SB over I-190 (Ramp B)

(a) BIN: *1063110*

(b) Feature carried: *Ramp B over Route I-190 NB & SB, Ramp N*

(c) Type of bridge*: Steel – Stringer/multi-beam (7 spans)*

(d) Width of travel lanes*: 2 – 12-foot lanes tapering to a single lane*

(e) Sidewalks: *No Sidewalks*

(f) Utilities carried*: None*

(3) Description: Ramp – Porter Avenue to Route I-190 NB (Ramp P)

(a) BIN: *5512570*

(b) Feature carried: Ramp P over Ramp N

(c) Type of bridge*: Steel – Stringer/multi-beam (1 span)*

(d) Width of travel lanes*: 1 – 14.4-foot travel lane, 6-foot-wide Rt. Shoulder, 3.5-footwide Lt. shoulder*

(e) Sidewalks: *No Sidewalks*

(f) Utilities carried*: None*

(4) Description: Route I-190 NB & SB over CSX Railroad & Ramp S

(a) BIN: 5512589

(b) Feature carried: *Rt. I-190 NB/SB over CSX railroad and access road to I-190 SB (Ramp S*)

(c) Type of bridge: *Steel: Stringer/multi-beam (3 spans)*

(d) Width of travel lanes: *2 – 11.5-foot travel lanes each direction, 8-footwide Rt. Shoulders, 3'± wide Lt. Shoulders*

(e) Sidewalks: *No Sidewalks*

(f) Utilities carried*: None*

(5) Description: Route I-190 over the Massachusetts Pumping Station Access Rd. & Shoreline Trail (Riverwalk)

(a) BIN: 5512599

(b) Feature carried: *Rt. I-190 NB/SB over Access Road and Shoreline Trail (Riverwalk)*

(c) Type of bridge *Steel: Stringer/ multi-beam (1 span)*

(d) Width of travel lanes: *2 – 11.5-foot travel lanes each direction, 8-foot-wide Rt. Shoulders, -3-foot'±-wide Lt. Shoulders*

(e) Sidewalks: *No Sidewalks*

(f) Utilities carried*: None*

(6) Description: Porter Ave. over Route I-190 (NB, SB) & CSX

(a) BIN: 5512560

(b) Feature carried: *Porter Ave. over Route I-190 (NB, SB) & CSX*

(c) Type of bridge *Steel: Stringer/ multi-beam (3 spans)*

(d) Width of travel lanes: *4 – 12-foot travel lanes*

(e) Sidewalks: *5-foot-wide sidewalks (both sides)*

(f) Utilities carried: *Miscellaneous 4-inch dia. Conduits*

(7) Description: Shoreline Trail (Riverwalk) over CSX/Access Road

(a) BIN: N/A

(b) Feature carried: *Shoreline Trail (Riverwalk) over CSX Railroad and Massachusetts Pumping Station Access Road*

(c) Type of bridge *Steel: Steel Girder*

(d) Width of travel lanes: *1 – 12-foot-wide trail*

(e) Sidewalks: *N/A – Pedestrian and Bicycle Trail*

(f) Utilities carried: *None*

2.3.3.6. (2) Clearances (Horizontal/Vertical)

Vertical and horizontal clearances meet standards at all structures except those listed in **Table 2-9**.

Table 2-9 – Existing Bridge Vertical Clearance Deficiencies

Bridge Identification No.	Feature Carried and Crossed	Clearance	Minimum	Existing Condition
1063110	Ramp B from Peace Bridge: Over Rt. I-190	Vertical	16.0’	14.53’ (1)
	Over Ramp N	Vertical	16.0’	15.00’
5512560	Porter Ave. over I-190, CSX/Amtrak	Vertical	23.0’	17.89’
5512570	Porter Ave. to I-190 NB (Ramp P) over Ramp N	Vertical	16.0’	15.42’(1)
5512589	Route I-190 over CSX and Ramp S	Vertical	22.0’	Varies 17.25’ to 17.92’

(1) This structure is one of those on the listing of structures in Appendix 2C of the NYSDOT Bridge Manual whose existing clearance can be retained as agreed by FHWA on December 12, 1991

2.3.3.6. (3) History & Deficiencies

The bridges associated with I-190 were constructed between 1957 and 1958 with the completion of the original Niagara Expressway construction. The Ramp P and Ramp B bridges were completed between 1969 and 1972. The bridge over the Massachusetts Pumping Station Access Road was constructed in 1994. The Shoreline Trail (Riverwalk) Bridge was built in 1986. All bridges except Porter Avenue over I-190 have NYSDOT Condition Ratings that range between 4.18 and 5.92. The Porter Avenue Bridge is rated structurally deficient and has a NYSDOT Condition Rating of 3.849.

2.3.3.6. (4) Inspection

The ratings from the most recent bridge inspection reports are listed in **Table 2-10.**

Table 2-10 – Existing U.S. Connecting Roadway Bridges

Bridge Identification No.	Location	Year Built	NYSDOT Condition Rating	FHWA Sufficiency Rating	Inspection Date	Curb-to-Curb Width	Length	Super-structure Type
1063110	Peace Bridge to I-190 SB (Ramp B) over I-190 (NB, SB) & Ramp N	1972	4.73	92.6	11/03/2012	32 ft.	845 ft.	Steel – Stringer/ multi-beam
5512570	Porter Ave. to I-190 NB (Ramp P) over Ramp N	1969	5.2	99.4	09/26/2011	26 ft.	142 ft.	Steel – Stringer/ multi-beam
5512589	Route I-190 over CSX & Ramp S	1957	4.24	66.0	11/19/2012	Varies 37.4 ft. to 35.2 ft.	301 ft.	Steel – Stringer/ multi-beam
5512599	Route I-190 over the Massachusetts Pumping Station Access Road	1994	5.92	87.1	05/07/2012	68.6 ft.	46 ft.	Steel – Stringer/ multi-beam
N/A	Shoreline Trail (Riverwalk) Pedestrian Bridge over CSX	1986	N/A	N/A	N/A	12 ft.	220 ft.	Steel – Stringer/ multi-beam
5512560	Porter Avenue over I-190 (NB, SB) & CSX	1958	3.89	59.3	09/13/2012	50 ft.	199 ft.	Steel – Stringer/ multi-beam

Note: N/A refers to not available as opposed to the acronym not applicable.

2.3.3.6. (5) Restrictions

There are no posted restrictions on the bridges within the project study area.

2.3.3.6. (6) Future Conditions

Routine maintenance of the structures in the project area is expected to continue for the foreseeable future. During the next few years, no significant changes in the structural condition of the project area bridges are expected.

2.3.3.6. (7) Waterway

The Project does not affect clearances or access to the Niagara River; therefore a Coast Guard Checklist is not required.

2.3.3.7. Hydraulics of Bridges and Culverts

There are no bridges or culverts over waterways within the project limits. The proposed changes to be completed as part of this project do not include any modifications to the existing Peace Bridge and therefore will not include any work in or directly adjacent to the Niagara River or Black Rock Canal.

2.3.3.8. Guide Railing, Median Barriers and Impact Attenuators

The limited right-of-way, high number of ramps, proximity to the CSX Railroad, many bridges and varying topography have resulted in many locations where guiderail and impact attenuators were necessary. **Table 2-11** lists the existing locations for guide railing, impact attenuators, and median barrier.

Table 2-11 - Existing Guiderail, Median Barrier & Impact Attenuators

Type	Location/Side	Length	Condition[1]
Two-Rail Guide Railing	Porter Ave. (LT/RT)	640 ft.	Fair Condition – Sections leaning & rusting
Box Beam Guide Railing	Ramp A (LT)	60 ft.	Good Condition
Impact Attenuator	Ramp A/Ramp N Gore	N/A	Barrel Attenuator - Good Condition
Box Beam Guide Railing	Ramp B (LT/RT) North Bridge Approach	270 ft.	Good Condition
Box Beam Guide Railing	Ramp S/Ramp B Median	560 ft.	Good Condition
Box Beam Guide Railing	Ramp S (LT)	1800 ft.	Good Condition
Box Beam Guide Railing	Ramp S (RT)	100 ft.	Good Condition
Box Beam Guide Railing	I-190 SB/Ramp S Gore	330 ft.	Good Condition
Corrugated Guide Railing	Ramp SD (LT/RT)	860 ft.	Good Condition
Corrugated Guide railing	Ramp SD (RT)	240 ft.	Good Condition
Corrugated Guide Railing	Ramp SD/Massachusetts Pumping Station Access Road (LT)	2260 ft.	Good Condition
Impact Attenuator	I-190 SB/Ramp SD Gore	N/A	Barrel Attenuator – Good Condition
Impact Attenuator	Ramp N/ Busti Ave Slip Ramp Gore	N/A	Barrel Attenuator – Good Condition
Box Beam Guide Railing	Ramp N (LT) (Underneath Ramp B Bridge to Busti Ave.)	1570 ft.	Good Condition
Box Beam Guide Railing	Ramp N (RT) (underneath Ramp B Bridge)	150 ft.	Good Condition
Box Beam Guide Railing	Ramp N (RT) (protect overhead sign)	125 ft.	Good Condition
Box Beam Guide Railing	Ramp N (LT/RT) (underneath Ramp P Bridge)	740 ft.	Good Condition
Box Beam Guide Railing	Ramp N (RT) (underneath Porter Ave. Bridge)	150 ft.	Good Condition
Box Beam Guide Railing	Ramp P (LT/RT) (approaches for bridge over Ramp N)	790 ft.	Good Condition
Box Beam Guide Railing	I-190 SB	2550 ft.	Good Condition
Box Beam Guide Railing	I-190 NB	1030 ft.	Good Condition
Concrete Median Barrier	I-190 Median	5200 ft	Good Condition
Impact Attenuator	I-190 NB/Massachusetts Pumping Station Access Road Gore	N/A	Barrel Attenuator – Good Condition

Note:

Current standards call for a 31-inch guide railing section for both corrugated and box beam railing types. The existing guide railing sections meet previous height standards.

2.3.3.9. Utilities

There are numerous public and privately-owned utilities within the project study area. The City of Buffalo owns and maintains the area sewers and waterlines. Natural gas lines are owned by National Fuel Gas Corporation. Niagara Mohawk provides electric service via overhead and underground lines. Because the Peace Bridge is used as a major crossing for communication lines, there are also many fiber-optic communication lines traversing the project area. The individual utilities, including owner information, are listed in **Table 2-12.**

Table 2-12 - Existing Utilities

Owner	Type	Location/ Side	Length
COB Water	Twin 60–inch Water Line	Porter Ave (North side)[1]	2 @ 1650 ft./ea
COB Water	Misc Water supply	City Streets	NA
Buffalo Sewer Authority	108–inch Sewer Line	I-190/Ramp B/Busti Ave.	3000 ft.
Buffalo Sewer Authority	96-inch Sewer Line	Ramp P(East side)/I-190 SB(west/within travel lanes)	3200 ft.
COB Water	108-inch Water Tunnel	East side of Lake Erie	3470 ft.
Buffalo Sewer Authority	24-inch Combined Sewer	Busti Ave./Center	2020 ft.
Buffalo Sewer Authority	10-inch Combined Sewer	Busti Ave./East Side	380 ft.
COB Water	48-inch Water Line	Busti Ave./West Side	2620 ft.
COB Water	16-inch Water Line	Busti Ave./West Side	2620 ft.
COB Water	20–inch Water Line	Busti Ave./East Side	1360 ft.
COB Water	8-inch/6-inch Water Line	Busti Ave./East Side	2030 ft.
National Fuel Distribution	16-inch Gas Line	Busti Ave./East Side	1020 ft.
National Fuel Distribution	3-inch/4-inch/6-inch Gas Line	Busti Ave./East Side	1600 ft.
COB Water	Water Line Service	Peace Bridge Authority	N/A
National Fuel Distribution	Gas Line Service	Peace Bridge Authority	N/A
Niagara Mohawk	Underground Electrical	Busti Ave. (East Side/West Side)	N/A
MCI	Underground Telephone	Busti Ave. (West Side)	N/A
Verizon	Underground Telephone	Busti Ave./(West Side)	N/A
MCI	Underground Telephone	Peace Bridge Authority	N/A
Verizon	Underground Telephone	Peace Bridge Authority	N/A
MFS	Fiber Optic	Peace Bridge	N/A
MCI	Fiber Optic	Peace Bridge	N/A
Verizon	Telephone	Peace Bridge	N/A
Sprint	Fiber Optic	Peace Bridge	N/A
Fondrola	Telephone	Peace Bridge	N/A
RCI	Fiber Optic	Peace Bridge	N/A
AT&T	Telephone	Peace Bridge	N/A

1. The twin 60-inch water line is located on the north side of Porter Avenue from DAR Drive to Ramp P, then shifts within the Porter Avenue pavement.

2.3.3.10. Railroad Facilities

An existing single line branch owned by CSX is located west of Front Park adjacent to I-190 and the Niagara River. It is currently used by Amtrak for passenger service between Buffalo and Niagara Falls with service to Toronto, Ontario. Passenger train traffic on this line averages six trains per day. Freight trains do not use this line until it approaches Tonawanda. It does serve as an emergency freight line, but there are restrictions due to low clearances in the tunnels under Main Street.

Maximum authorized speeds are 40 mph for freight and 60 mph for passenger cars. There are no at-grade crossings in the study area, but it does pass under bridges at Porter Avenue, the I-190 mainline, Peace Bridge, and the Shoreline Trail (Riverwalk). The minimum vertical clearance is at the northbound and southbound I-190 bridges, which cross over the railroad with 17.37 feet of clearance. The minimum horizontal clearance within the project limits is at an adjacent retaining wall, which is offset approximately 8.5 feet from the centerline of track.

For the Porter Avenue Bridge over the CSX tracks, the existing vertical clearance is 17.46 feet. Horizontal clearance at Porter Avenue exceeds 30 feet (measured from centerline of track). Vertical clearances at both bridges are less than the 22-foot minimum specified by CSX.

Table 2-13 – Existing Railroad Tracks

Owner	Location	Crossing	Side	Length
CSX	Parallel to I-190	None	Left/right	0.95 mi

2.3.4. Potential Enhancement Opportunities

Chapter 4 focuses on social, economic, and environmental effects and enhancements.

2.3.4.1. Landscape

Minimal vegetation exists within the study area, with the exception of Front Park. The remaining vegetation is scattered within heavily-paved transportation corridors and areas with built structures. Front Park's vegetation consists of mature trees and thick plantings along the bluff to screen the transportation and railroad corridors. Pockets of vegetation line the abutments of Porter Avenue Bridge over I-190, in addition to vegetation along the shoreline. Vegetation within the residential areas is primarily comprised of large mature street trees and landscaped backyards, which provide limited views of the project area roadways. Busti Avenue, along the east side, consists of linden, maple and London planetree, while Porter Avenue, which is an Olmsted Parkway, consists of a variety of hybrid elms, which is consistent with the vegetation communities found within Front Park. Front Park includes spruce, pine, oak, yellow wood, maple, catalpa, linden, ash, honey locust, elm, and tulip trees.

2.3.4.1. (1) Terrain

The project site and surrounding city area sit atop a bluff which is uniformly flat overlooking the head of the Niagara River and Lake Erie along the western border. The terrain within the study limits is classified as rolling, with the highest point in the project area (Front Park) being approximately 60 feet above the water elevation of the Black Rock Canal and the Niagara River. Terraced between the park and the waterways are I-190 with associated ramps, the water authority access road, CSX Railroad, and the Shoreline Trail (Riverwalk).

Access to the Plaza and park plateau from the I-190 exit ramp slopes upward at a rate of approximately 4 percent. Most of the park area along with the adjacent neighborhoods is fairly level. The Plaza area is also generally flat, sloping in a southerly direction with gradients ranging from 0.5 percent to 2.0 percent.

2.3.4.1. (2) Unusual Weather

The prevailing winds are moderate to strong in the project area and are predominantly from the west or northwest in winter and southwest in the summer. The wind acquires moisture as it moves over the Great Lakes, contributing to local precipitation in the form of rain and snow (a phenomenon called “lake effect”). Seasonal temperatures fluctuate between extremes of -24°F to 100°F with an average annual temperature of 47°F. The lake has a cooling effect that inhibits the temperature from rising much above 86°F in the summer, because Lake Erie warms and cools at a slower rate than the surrounding land. In the winter, the modifying temperature effect prevents temperatures from falling below -13°F most of the time. The lake also plays a major role in winter snowfall distribution. Snowfalls of 1 to 2 feet or more in 24 hours is not uncommon near the lake during the winter, due to lake effect alone. The openness of the adjacent river and lake also can contribute to reduced visibility during the winter months, due to blowing snow.

2.3.4.1. (3) Visual Resources

The proposed project site is a highly engineered utilitarian site, located within the City of Buffalo limits, and characterized by relatively level topography, minimal vegetation, and various paved surfaces and built structures. The numerous roadways include large sections of linear pavement with barriers, guiderail, or walls adjacent to the roadway. There are numerous signs and light fixtures adjacent to the roadways. The bridge plaza located at the approach to the Peace Bridge consists of a visually cluttered environment with numerous signs, light fixtures, structures, and broad paved areas, The plaza buildings are generally one to two stories in height, made of various masonry materials (e.g., concrete, brick) and have flat or gable roofs. Outside of Front Park, vegetation along the perimeter of the project site consists of mowed grass, limited deciduous/evergreen trees and shrubs, and planted flower beds.

The exception to the typical utilitarian environment is Front Park. Adjacent to the project site atop the bluff sits the historic Front Park, which was a key part of the nation’s first park and parkway system designed by Frederick Law Olmsted in 1868. A large play area is located adjacent to Busti Avenue with a formal space, referred to as “the Terrace,” located at the edge of the bluff.

Existing land use in the area can be defined as urban center, urban neighborhood, retail, campus, industrial, open space, and transportation corridor. Transportation corridor and open space dominate the project area. The urban neighborhood, with its single-family detached housing, covers the northeast region of the study area, while retail and open space borders along the south. To the west, open space and campus line the shoreline of the Black Rock Canal, with the transportation corridor covering a small section of the shoreline. A small section of industrial land is to the north, just beyond the Peace Bridge connection to the Plaza.

Open views of the project site occur along the adjacent properties interspersed with tight, obscured views due to buildings and vegetation. Views towards the scenic Niagara River are primarily obstructed by the existing U.S. Plaza, except for along the river's edge. Views are constricted due to the cluster of housing, commercial/industrial development and roadside vegetation, except for some open views within Front Park. Views from Front Park are of open fields in the foreground with vegetation obscuring the project site in the background. Views towards the Niagara River are overshadowed by the major transportation corridor. In summary, residential, commercial, and industrial development and vegetation influence the viewing opportunities within and around the project site.

2.3.4.2. Opportunities for Environmental Enhancements

The focused scope of this transportation project limits the practical opportunities for environmental enhancements in the project limits. Adjacent to the I-190 corridor there is little space for any type of improvement. The removal of Baird Drive and reconfiguration of the Front Park driveway would provide room for green space and park entrance gateway improvements suggested by the Olmsted Park Conservancy. There would also be an opportunity to improve the Porter Avenue Corridor in conjunction with construction of a new walkway. NYSDOT will consider salvaging the abutments' remaining stone and architectural elements for reuse on a new bridge, for the purpose of incorporating these materials as aesthetic elements of a context-sensitive design reflecting the history of the location and setting. Relocation of the Shoreline Trail (Riverwalk) to the west side of the I-190 would enhance the connection between this shared-use path and the Niagara River shoreline. The views from the residential properties along Busti Avenue would be improved by rerouting the trucks and cars accessing the Peace Bridge via Baird Drive away from that neighborhood.

The more efficient connections between I-190 and the Peace Bridge Plaza may also result in moderate air quality improvements.

Relocation of the Shoreline Trail (Riverwalk) closer to the Niagara River would allow for an increased connection between the path and the waterway.

2.3.5. Miscellaneous

2.3.5.1. Bridge Traffic Overflow Conditions

At several times during the year, traffic heading towards the Peace Bridge becomes severely congested. These conditions can occur for numerous reasons, such as when U.S. CBP Outbound inspection operations are taking place, when there is insufficient Canadian CBSA inspection staff at the Canadian Plaza, vehicle accidents on the bridge, and at the end of large sporting events or concerts where there are very large numbers of Canadians heading back to Canada.

None of these events are under the control of the NYSDOT, and this project was not intended to solve this condition. However, there are strategies currently in place to accommodate these conditions. This condition of severe congestion is commonly known as an overflow condition.

In general, under current overflow conditions, as the traffic begins to queue across the Peace Bridge and onto the ramps leading onto the Plaza, traffic exiting at Ramp N to reach the Peace Bridge from I-190 Northbound must be diverted along Ramp N (closing Ramp A) to Sheridan Terrace, Busti Avenue, Porter Avenue, and Baird Drive to reach the Plaza. Immediately before and sometimes during the overflow period, traffic backs up on Ramp N well south of the Porter Avenue Bridge. If the traffic backup becomes long enough, it has the potential to negatively impact the travel conditions for through traffic traveling northbound on I-190.

2.3.5.2. Wide/Long Truck Loads

There are four (4) constraints placed on oversized trucks that limit the routes available when entering the U.S. from Canada. First, the PBA regulates oversized loads crossing the bridge. Secondly, the NYSTA regulates the size of vehicles allowed on the Niagara Thruway (I-190). The final two constraints are the existing plaza configuration and the existing geometry of the ramps and streets leading to the plaza.

The PBA regulates the maximum truck dimensions and weights allowed over the Peace Bridge. The PBA uses a permitting process to document and classify trucks as “oversized” loads. If a truck meets one or any combination of the following, it is classified as an oversized load: truck/load width > 12feet-0inches, total truck length > 85 feet-0inches, or total weight > 117,000 lbs. A total of 862 oversized loads were recorded crossing the Peace Bridge by the PBA during the 9-month period from November 2012 through July 2013. Of these loads, the maximum truck/load width was 19 feet 1inch, and the maximum total truck length was 187 feet-0 inches.

The oversize truck data can be broken into seven common width ranges, as shown in **Table 2-14.** This table also shows the distribution of trucks by width during the November 2012 through July 2013 period.

Table 2-14 – Common Oversize Truck Widths Crossing the Peace Bridge

Group	Width Range	Count (n)	% of Total
1	12'-0" < Truck Width < 12'-6"	418	48%
2	12'-6" < Truck Width < 14'-6"	269	31%
3	14'-6" ≤ Truck Width < 15'-6"	100	12%
4	15'-6" ≤ Truck Width < 16'-6"	61	7%
5	16'-6" ≤ Truck Width < 17'-6"	3	<1%
6	17'-6" ≤ Truck Width < 19'-0"	4	<1%
7	Truck Width ≥ 19'-0"	7	<1%
	TOTAL	**862**	

In addition to the PBA's truck restrictions on the Bridge, the NYSTA also places regulations on the maximum width and length of trucks that are allowed on the Niagara Thruway (I-190). These limitations affect the movement of trucks exiting the plaza using the proposed NY Gateway Connections layout. The maximum load width allowed on the Thruway without a permit is 8 feet'-6inches, while the maximum load width allowed on the Thruway with a permit is 12 feet-6 inches; all trucks with widths exceeding 12 feet-6 inches are not allowed on the Thruway, either with or without a permit. Similarly, the maximum truck length not requiring a permit on the Thruway is 72 feet-4 inches, which is a standard double-tandem truck length. All other trucks are classified as *Longer Combination Vehicles* (LCV) and require a special permit to use the Thruway, although any truck length of greater than 120 feet is generally not allowed on the Thruway, either with or without a permit.

The 862 oversize trucks crossing the Peace Bridge from November 2012 through July 2013 can be broken down by various NYSTA width restrictions on the Niagara Thruway (I-190) is presented in **Table 2-15.** A similar breakdown of those trucks by various NYSTA length restrictions is presented in **Table 2-16.**

Table 2-15 – Summary of Trucks Meeting NYSTA Width Requirements

Description	Range	Count (n)	% of Total
Standard Width, No NYSTA Permit Required	Truck Width≤ 8'-6"	69	8%
Max Width Range, NYSTA Permit Required	8'-6"> Truck Width≤ 12'- 6"	349	40%
Generally not permitted	Truck Width > 12'-6"	444	52%

Table 2-16 – Summary of Trucks Meeting NYSTA Length Requirements

Description	Range	Count (n)	% of Total
Non-LCV Truck Length. No NYSTA Permit Required	Truck Length ≤ 72'-4"	82	9%
Max Cargo Carrying Unit Length Range, NYSTA Permit Required	72'-4"< Truck Length ≤ 120'	737	86%
Generally not permitted	Truck Length > 120'	43	5%

As indicated in the tables above, approximately 52 percent of the oversize trucks crossing the Peace Bridge in either direction are restricted from traveling on the Thruway due to excessive width. In addition, approximately 5 percent of the oversize trucks crossing the Peace Bridge in either direction are restricted from traveling on the Thruway due to excessive length. Although it is likely that a portion of these two sets of restricted trucks overlap, the total represents a significant portion of total truck traffic crossing the bridge that is unable to enter or leave the Peace Bridge Plaza via the Thruway. These restricted trucks are therefore forced to utilize Baird Drive through Front Park, as well as the local street system to access the Plaza.

CHAPTER 3 - ALTERNATIVES

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

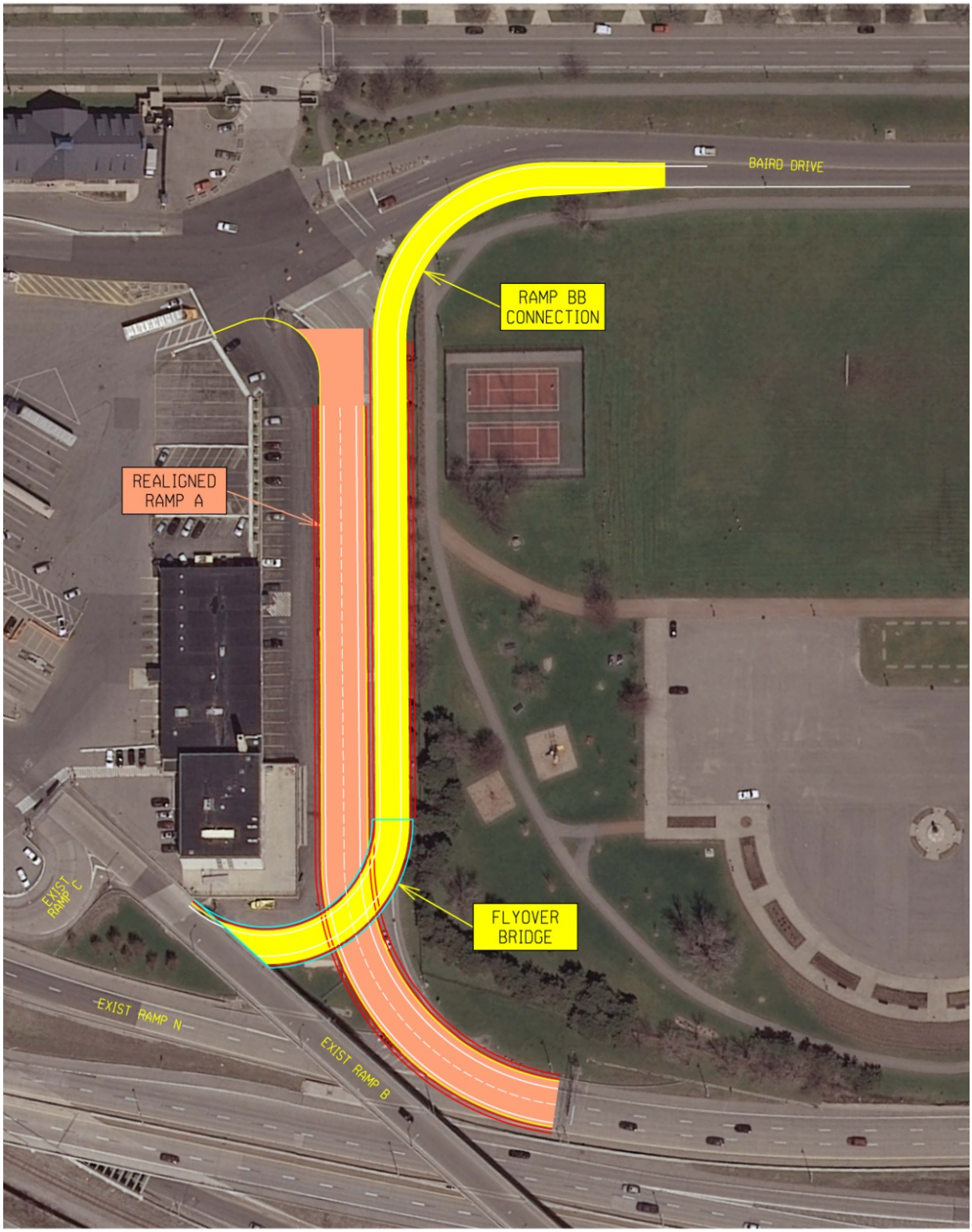
3.1. Alternatives Considered and Eliminated from Further Study

Development of alternatives for this project was limited by the configuration and location of the existing connecting roadways. In many locations within the overall project area, it was not possible to shift a ramp alignment in one direction or another without adversely affecting a nearby ramp or I-190. The development of the potential alternatives was also limited by the existing property boundaries of Front Park and by the existing Peace Bridge Plaza (Plaza). Within this limited project area, only one alternative as discussed in **Section 3.2** below was considered.

A new flyover ramp (Ramp BB) was considered that would provide access to Baird Drive for vehicles leaving the Plaza at Ramp B. At the point where Ramp BB diverges from Ramp B, it turns easterly, crossing over a lowered Ramp A, then continuing between the south side of Ramp A and the north side of Front Park to Baird Drive (see **Figure 3.1**).

At the intersection with Baird Drive, the proposed flyover ramp would then make an uninterrupted right turn onto Baird Drive, free of any conflict with traffic entering the Plaza via Ramp A. This option would eliminate the need for a traffic signal at the intersection of Ramp A and Baird Drive, thereby improving free traffic flow conditions at the Plaza. However, the alternative would not reduce the use of local streets by interstate traffic, would not provide direct access from the Plaza to northbound I-190, and would not redirect through traffic from Front Park or remove Baird Drive. This option would also adversely affect the viewshed of Front Park by construction of an elevated ramp adjacent to the park. Since it would not achieve the project's purpose, need, or objectives, the new flyover Ramp Alternative was eliminated from further consideration.

Figure 3.1. – Flyover Ramp BB Alternative



Development of the reasonable build alternatives for the NY Gateway Connections Project was guided by the project purpose, need and objectives.

Purpose

The purpose of this project is to reduce the use of the local streets by interstate traffic (autos and trucks) which accesses the existing Plaza at its current location.

Need

The primary need for the project is to address the limited direct access between the Plaza and I-190. Existing direct access is limited and requires regional and international traffic to use the local street system.

An additional need was identified to address the structurally deficient Porter Avenue Bridge over I-190.

Objectives

The following objectives have been established to support the project's purpose and need.

- Provide direct access from the Plaza to northbound I-190
- Redirect through traffic from Front Park
- Remove Baird Drive
- Replace the Porter Avenue Bridge over I-190

During development of the design alternatives, many options for the realignment and reconfiguration of individual features (such as the Massachusetts Pumping Station Access Road) were studied to find the best modification for each element. A few of the options developed were eliminated from any further consideration for the project due to a failure to meet design standards or impacts or concerns raised by the facility owner.

3.2. Reasonable Build Alternative(s)

To satisfy the project purpose, needs and objectives, a reasonable build alternative would need to include a new ramp (Ramp D), providing direct access from the Plaza to northbound I-190. It would also need to include a new ramp (Ramp PN) from Porter Avenue to the existing I-190 northbound exit-ramp (Ramp N/Ramp A) that leads to the Plaza. The combination of these new ramps (Ramp D and PN) would then allow removal of Baird Drive.

Development of these main elements of a reasonable build alternative (Ramps D and PN) is constrained by many project area features including the narrow corridor between I-190 to the west and the existing Plaza / Front Park properties to the east. Within this corridor there exists an active railroad (CSX), several existing ramps, existing bridges, portions of the Shoreline Trail (Riverwalk) and an access road to the City of Buffalo's Massachusetts Pumping Station (one of two main water supply pumping stations). The site is also terraced between the existing Black Rock Canal and the Plaza which could influence

design of the new ramps. Alternative development was also constrained by the limitation that relocation of the I-190 and/or the CSX railroad was beyond the scope and budget of this project.

As the development of alternatives for the project progressed, each considered plan had several features in common, including construction of a Ramp D (connection between the Peace Bridge Plaza and the northbound I-190), reconstruction of portions of Ramps N and A, improvements at the intersection of Porter Avenue and Ramp P and removal of Baird Drive. The differences were minor and included changes in the number of lanes and the specific lane configurations, several Porter Avenue intersection designs, various Shoreline Trail (Riverwalk) alignments and several Massachusetts Pumping Station Access Road options.

During preliminary design development, a single reasonable alternative was progressed with minor changes to the individual features noted above. The actual Build Alternative selected for detailed study in this EIS document is a result of combining the most desirable option for each of the affected features. The selection of which options were to be included in the Build Alternative was determined through coordination with the transportation agencies involved including the New York State Thruway Authority, City of Buffalo and the Peace Bridge Authority. The Build Alternative along with the selected options is discussed in **Section 3.2.1**.

3.2.1. Description of Reasonable Alternative(s)

Based on the project need, purpose, and objectives, the following alternatives have been developed for study within the EIS.

- ***No Build Alternative.*** The No Build Alternative assumes no improvements in the project area other than those planned by others or implemented as part of routine maintenance. Although the No-Build Alternative does not meet the project's purpose and need, NEPA requires that it be evaluated in the EIS. The No Build Alternative also serves as the baseline condition against which the potential benefits and impacts of the Build Alternative are evaluated

- ***Build Alternative*.** The Build Alternative would include a new ramp (Ramp D), providing direct access from the Plaza to northbound I-190. It would also include a new ramp (Ramp PN) from Porter Avenue to the existing I-190 northbound exit-ramp (Ramp N/Ramp A) to the Plaza. The combination of these new ramps would allow removal of Baird Drive and conversion of the existing roadbed into additional Front Park green space. With the removal of Baird Drive, 4.5 acres of green space located between Busti Avenue and Baird Drive would be reconnected to the greater park area. This alternative would require modifications to the Massachusetts Pumping Station Access Road, the Shoreline Trail (Riverwalk) bicycle/pedestrian facility along the waterfront, and four existing ramps in the vicinity of the Plaza, as well as new signing approaching and within the Plaza to clearly direct vehicles to the appropriate ramps and routes. To accommodate the new Ramp PN at Porter Avenue and the existing adjacent I-190 northbound

entrance-ramp (Ramp P), Porter Avenue would be modified to include a roundabout or signalized intersection**.** Modifications along Porter Avenue would include removal and replacement of the bridge over I-190, relocation of the Front Park entrance, and a new shared-use path. Detailed descriptions of the connections to and from the Plaza, the proposed Shoreline Trail (Riverwalk) realignment, and the Massachusetts Pumping Station Access Road are discussed below. See **Appendix A** for detailed plans, profiles, typical sections, and select cross-sections for the Build Alternative. Specific elements comprising the Build Alternative are presented below.

Connections to the Plaza

From I-190 Southbound. Under the Build Alternative, a new ramp (Ramp PN) would be constructed from Porter Avenue to Ramp N east of the existing entrance-ramp (Ramp P) to I-190 northbound. Ramp PN would be the new route by which I-190 southbound traffic would enter the Plaza, replacing the removed Baird Drive. Interstate traffic would travel a shorter distance than it does today along Porter Avenue to access Ramp PN, Front Park. Traffic movements at the Porter Avenue/Ramp PN/Ramp P intersection could be controlled with either a roundabout or a signalized intersection.

From I-190 Northbound. The existing direct connection from I-190 northbound to the Plaza would be retained and interstate traffic would continue to use the Interchange 9 exit-ramp (Ramp N) to the Plaza access ramp (Ramp A). Under the Build Alternative, however, Ramp N would be reduced to one lane at Ramp A to allow for three lanes of traffic to continue onto Ramp A toward the Plaza. Ramp N would include a wide left shoulder and would be widened to two lanes before it reaches Ramp D. The wide shoulder could be used as a second lane on Ramp N for traffic bypass during an overflow condition (i.e., when a backup occurs at the Plaza, traffic is sometimes re-routed from I-190 to the local streets, as discussed in **Section 3.3.5.1.**). Ramp N also would be lowered to allow for adequate vertical clearance under the new proposed direct ramp from the Plaza to I-190 northbound (Ramp D). The alignment of Ramp N, where it passes beneath Porter Avenue, would remain nearly the same as existing.

From the Existing Local Street Network**.** Instead of using Baird Drive, local-street traffic would use the proposed Ramp PN from Porter Avenue to Ramp N to Ramp A and onto the Plaza. The existing traffic signal at the intersection of Ramp A and Baird Drive would be removed, allowing all Canada-bound traffic to operate under a free-flow (without stops) condition to the Plaza, reducing queues along Ramp A.

Connections from the Plaza

To I-190 Southbound**.** The direct connection from the Plaza to I-190 southbound (Ramp B) would remain in its current location under the Build Alternative.

To I-190 Northbound. Under the Build Alternative, a new ramp (Ramp D) from the Plaza directly onto I-190 northbound would be constructed. The construction of the new ramp would require

modification of existing Ramps B, C, and N; the Massachusetts Pumping Station Access Road north of the Plaza; and the Shoreline Trail (Riverwalk). Ramp D would eliminate northbound interstate Peace Bridge traffic (cars and trucks) from traveling on Baird Drive, on Porter Avenue between Front Park and Ramp P and on Ramp P. All exiting Plaza traffic would converge at one point, and new signs would be installed within the Plaza to clearly guide drivers to the appropriate ramps and exit routes. The existing vertical clearance at the I-190 and the CSX Railroad near the Plaza is about 18 feet. This clearance does not meet the CSX design standard of 23 feet. CSX reviewed the conditions and has approved a waiver for the Ramp D clearance over its tracks to be 18 feet as well.

To the Existing Local Street Network. The connection from the Plaza to the local street network (Ramp C) would remain and become the only local-street access from the Plaza. Under the Build Alternative, Ramp C would be modified to accommodate construction of Ramp D and proposed changes to Ramp N.

Shoreline Trail (formerly named Riverwalk) Realignment

New Alignment. The Shoreline Trail (Riverwalk) crossing over the CSX Railroad would be relocated north of its existing location due to the construction of the new Ramp D. A new structure would be constructed over I-190 and CSX and then the realigned Shoreline Trail would turn south along the Black Rock Canal, extending the trail directly along the waterfront, and then connecting to the existing Shoreline Trail south of its existing underpass beneath I-190 (see **Appendix A)**. Modifying the Shoreline Trail in its current location was considered; however, due to the constrained space available for Ramp D, the Shoreline Trail and the Massachusetts Pumping Station Access Road, there are difficulties in meeting current design standards for multi-use pathways. This proposed relocation would continue to be coordinated with the City of Buffalo and Erie County.

Massachusetts Pumping Station Access Road

Widened Access Road. This option would use the space vacated by the existing Shoreline Trail (Riverwalk) for a widened access road. A new point of ingress to the access road would be constructed at the southbound I-190 exit at Ramp SD via a short hook ramp (see **Appendix A)**. This proposed roadway change would continue to be coordinated with the City of Buffalo.

The key features of the Build Alternative are listed below:

This Alternative addresses the limited direct access between the Plaza and I-190 by providing new and enhanced direct connections, thereby reducing the volume of regional and international traffic using the local street system. Key elements of this alternative include:

Geometry

This alternative includes removal of Baird Drive, construction of a new I-190 on-ramp (Ramp D), construction of Ramp PN, limited reconstruction of four other ramps, construction of a new city street intersection, relocation of the Shoreline Trail (Riverwalk) and modification to the Massachusetts Pumping Station Access Road.

This alternative would retain several non-standard features. Justification for retaining these non-standard features is included in **Appendix A** of this report.

Operational

This alternative would remove Baird Drive and all traffic through Front Park. The direct connection between the Plaza and northbound I-190 would effectively remove all U.S.-bound interstate Plaza traffic from the local streets (i.e., vehicles destined to southbound I-190 would use the existing Ramp B, and vehicles destined to northbound I-190 would use the new Ramp D), which would reduce passenger car and truck volumes on westbound Porter Avenue. The construction of the new Ramp PN would require local-street Plaza traffic to travel one block farther along eastbound Porter Avenue; however, it would remove both local and interstate traffic traveling between I-190 southbound and the Plaza from westbound Porter Avenue between the I-190 southbound ramp and Baird Drive/Lakeview Avenue. The removal of Baird Drive would allow the traffic signal at the Plaza Ramp A at Baird Drive intersection to be removed, which would allow free-flow operations in the area. The removal of Baird Drive would also require that all U.S.-bound local-street traffic utilize the existing Ramp C and typically Niagara Street or Busti Avenue to access the local-street system. This would alter traffic patterns in the area; however, the Build Alternative design would accommodate these traffic diversions and provide acceptable traffic operations in the area. Either the signalized intersection option or the roundabout option at the new Porter Avenue at Ramps P and PN intersection would alter traffic operations along Porter Avenue, but the proposed design of these, too, would provide acceptable levels of service. In addition, the Front Park driveway would be relocated to opposite Lakeview Avenue and a shared-use path would be constructed along the south side of Porter Avenue. This could reduce bicycle traffic in the Porter Avenue travelway,

would eliminate pedestrian crossings on Ramps P and PN, and would provide traffic signal-controlled and safe crossings for bicyclists and pedestrians to and from Front Park at the Lakeview Avenue intersection.

Control of Access Control of access for this alternative would meet the criteria in NYSDOT's *Highway Design Manual* (HDM) Chapter 2 for Freeways except at Ramp PN and for the COB Massachusetts Pumping Station Access Road. (See **Section 3.3.3.2. (2)**)

Right of Way The project includes six fee acquisitions and several temporary/permanent easements or "changes in use and occupancy". The six acquisitions are one small acquisition from the PBA, one narrow strip from D'Youville College for the Porter Avenue Roundabout, one from Linda Davis at the corner of 4th Street/Porter Avenue for sidewalks, one from the City of Buffalo within the existing signalize intersection along Ramp A, and two bed of street acquisitions.

Environmental There are no significant social, economic or environmental effects resulting from the proposed action.

Cost Total estimated cost of this alternative is $28.5 M. (see **Table 3-1**)

The key features, design options and layout for the Build Alternative are included in **Appendix A**.

Table 3-1 - Summary of Alternative Costs – Million Dollars (2014)

Activities		Cost
Construction	Bridge*	$10,860,000
	Highway**	$10,826,000
	Shoreline Trail (Riverwalk) (& Bridge)	$2,945,000
Subtotal:		$24,631,000
Contingencies (15% @ Design Approval)		$3,219,000
Subtotal:		$27,850,000
ROW Acquisitions (approx):		$641,000
Total Cost		**$28,491,000**

*Bridge costs include the following bridges: Porter Avenue over I-190/CSX, Ramp D over CSX and Ramp D over Access Road.
** Highway costs include restoration of Front Park and Baird Drive / Ramp A intersection.

3.2.2. Preferred Alternative

The Build Alternative described in **Section 3.2.1** is also the Preferred Alternative. The Preferred Alternative includes the features described above along with two options for the Porter Avenue intersection at Ramp P / Ramp PN. The options for the intersection include a signalized intersection or a roundabout. Detailed plans for the Preferred Alternative along with the Porter Avenue intersection options are included in **Appendix A.**

3.2.3. Design Criteria for Feasible Alternative (s)

3.2.3.1. Design Standards

The following design standards and resources were consulted to develop the Critical Design Element and Other Design Element Parameters for this Project:

- New York State Department of Transportation (NYSDOT) *Highway Design Manual* (HDM), Chapters 2 (2013), 5 (2011) and 7 (2013)
- NYSDOT *Project Development Manual* (PDM)
- NYSDOT *Bridge Manual* (BM)
- AASHTO *Guide for the Development of Bicycle Facilities 4th edition* (2012)
- AASHTO Roadside Design Guide *4th edition* (2011)

3.2.3.2. Critical Design Elements

The design criteria applicable to the project roadways consisted of 17 critical design elements as described in the NYSDOT *Highway Design Manual* (Chapter 2). Other controlling parameters, such as acceleration lane length are found in AASHTO's *A Policy on Geometric Design of Highways & Streets* (2011). A list of the critical design elements follows:

Critical Design Elements

1 Design Speed
2 Lane Width
3 Shoulder Width
4 Bridge Roadway Width
5 Maximum Grade
6 Horizontal Curvature
7 Superelevation Rate
8 Stopping Sight Distance
9 Horizontal Clearance
10 Vertical Clearance
11 Pavement Cross Slope
12 Rollover*
13 Structural Capacity
14 Level of Service
15 Control of Access
16 Pedestrian Accommodation
17 Median Width

* Change of grade between cross slope of adjacent lanes or between travel lanes and shoulder.

The critical design element tables for each specific type of highway including expressway ramps and local streets, can be found in **Appendix A**.

3.2.3.3. Other Design Parameters

In addition to the 17 critical design elements described in **Section 3.2.3.2**, other parameters established by NYSDOT or AASHTO, that are typically used to design highway and bridge projects, include: the size and type of the design vehicle, the Level of Service (LOS) to be provided, which identifies the ease with which traffic can move along the roadways, the intensity of rainfall for design of storm drainage facilities and the configuration of ramp connections to major expressways. **Table 3-2** lists other highway design parameters used to develop the project design and **Table 3-3** lists the design vehicles used.

Table 3-2 - Other Design Parameters

Highway or Feature			
Element		**Criteria**	**Proposed Condition**
1	Level of Service (for non – interstate projects)	D (min.) C (desirable)	C
2	<u>Drainage Design Storm</u> Storm Drain Systems • Interstates and Other Freeways • Principal Arterials Ditch Design Storm • Interstate and Other Freeways • Principal Arterials	 10 yr.[1] 10 yr.[1] 25 yr.[2] 25 yr.[2]	 10 yr.[1] 10 yr.[1] 25 yr.[2] 25 yr.[2]
3	Freeboard	N/A	N/A
4	<u>Ramp Criteria</u> Deceleration Length[3] (60mph to 35mph) Acceleration Length[4] (40mph to 60mph)	 405 ft. 550 ft.	 >405 ft. (Ramp N) 550 ft. (Ramp D)

Notes:

1. A 50-year frequency shall be used for design at the following locations where no overflow relief is available:
   a. A sag vertical curves connecting negative and positive grades.
   b. Other locations such as underpasses, depressed roadways, etc.
2. Including lining material.
3. Refer to AASHTO Policy on Geometric Design of Highways & Streets, Exhibit 10-73.
4. Refer to AASHTO Policy on Geometric Design of Highways & Streets, Exhibit 10-70

Table 3-3 – Other Design Parameters: Design Vehicle

Location	Design Vehicle	Vehicle Accommodated
Ramp A	WB-67	WB-67
Ramp C	WB-67	WB-67[1]
Ramp D	WB-67	WB-67
Ramp N	WB-67	WB-67
Ramp P	WB-67	WB-67
Ramp PN	WB-67	WB-67
Porter Avenue	WB-67	WB-67

Notes:

1. Ramp C can accommodate a WB-67 with up to a 16 ft. by 80 ft. trailer or a 20 ft. by 60 ft. trailer (oversized loads), with the temporary suspension of parking adjacent to Ramp C and the north side of the existing maintenance building.

3.3. Engineering Considerations

3.3.1. Operations (Traffic and Safety) & Maintenance

3.3.1.1. Functional Classification and National Highway System

This project would not change the functional classification of any project area highways or streets.

3.3.1.2. Control of Access

Access to the Niagara Expressway (I-190) and the connecting ramps would continue to be fully controlled except at the entrances to the Massachusetts Pumping Station. The entrance from Ramp D (Sta D21+00) is an existing access road condition that would be maintained so the City of Buffalo can deliver or remove equipment transported on a flatbed to a tractor-trailer truck. Everyday access for employees would be via the realigned access road and a connection to Ramp SD. Justification for the Massachusetts Pumping Station access is included in **Appendix A**.

Control of access at the entrance to Ramp PN would not be extended along Porter Avenue to avoid an acquisition of property from Front Park, which is protected under Section 4(f). Section 4(f) of the Department of Transportation Act of 1966 (Section 4(f)) applies to publicly owned parks (such as Front Park), recreation areas, and wildlife and waterfowl refuges and publicly or privately owned significant historic properties. Section 4(f) prohibits the use of any Section 4(f) resource for a transportation project, except under the following conditions: (1) by making a determination that there is no feasible and prudent alternative that would avoid the use of the Section 4(f) resource, and that the project includes all possible planning to minimize harm to that property; or (2) by making a finding of *de minimis* use for that property.

3.3.1.3. Traffic Control Devices

3.3.1.3. (1) Traffic Signals

For the Build Alternative Signalized Intersection Option, a new traffic signal is proposed at Porter Avenue and the northbound I-190/Canada-bound Peace Bridge on-ramps (Ramps P and PN). Traffic signal timing modifications (i.e., phasing, split, and offset changes) are recommended along Porter Avenue during the weekday AM and/or PM periods, regardless of Build Alternative option, to mitigate project-related traffic impacts. Since there is expected to be traffic congestion at some locations in the project study area even without this project (i.e., for the No Build condition because of the combination of planned Niagara Street roadway modifications and forecast traffic volumes), it is recommended that traffic signal timings in the area be examined, as needed and coordinated with local operations of the signals, to ensure optimized capacity and traffic progression. Details of Build condition traffic analyses and recommended improvements are provided in **Appendix B**.

3.3.1.3. (2) Signs

Existing signs will be evaluated and, if appropriate for the alternative design, will be retained. Replacement sign size and text will conform to the latest FHWA *Manuals for Uniform Traffic Control Devices (MUTCD)* and New York State MUTCD Supplement. New signs will be added where required along the existing ramps. Installation of new overhead guide signs will be included for Exit 9, at the entrance to Ramps B, C, D, and along Ramp N. Curve warning and speed advisory signs will be added for the ramps. Signing along Porter Avenue will be dependent on the final intersection configuration at Ramp P (i.e. signalized intersection or roundabout). In either case the installation of road side signs is preferred to the installation of overhead signs to maintain the open view along Porter Avenue towards the River.

3.3.1.4. Intelligent Transportation Systems (ITS)

Occasional traffic backups (overflow condition) along Ramp A and Ramp N extending onto northbound I-190 can occur when there is an accident on the Peace Bridge, when the U.S. Customs conducts out-bound inspections, or any time there is reduced staffing at the Canadian Inspection Plaza. The PBA is proactive in planning for the backup when they have advance notice of the above conditions; however, prediction of when or how fast traffic backs up onto the Niagara Expressway is often not possible due to the variability of traffic volumes and driver's choice to use another crossing to Canada. See Section 3.3.5.1 for more information about the overflow condition. To improve safety and provide drivers with as much advance warning as possible during a backup condition, the following Intelligent Transportation System (ITS) device deployments have been recommended for inclusion in this project:

- Replacement of Dynamic Message Sign (DMS) on LaSalle Park pedestrian overpass bridge
- Installation of a new DMS on northbound I-190, south of Exit 7 (Elm Street)
- Installation of a new DMS on northbound I-190 north of Exit 9 (Peace Bridge)

- Consider installation of the "Be Prepared to Stop When Flashing" signs on four existing overhead sign locations between Exits 7 and 9 suitable for.
- Install additional Closed-Circuit Television (CCTV) cameras to improve monitoring and earlier detection of slow or stopped traffic by PBA Operations Center, Niagara International Transportation Technology Coalition (NITTEC), and NYSTA Thruway Statewide Operations Center (TSOC). Specific locations include Ramp A and northbound I-190 at MP N6.6.
- Update of the NITTEC Peace Bridge Incident Management Plan to reflect the latest procedures and traffic rerouting schemes developed by NYSDOT, NYSTA, PBA, & NITTEC for deployment during overflow conditions including the closure of Exit 9

I addition to providing advanced warning for conditions at Exit 9 the proposed ITS devices could also be used to provide information regarding any traffic incidents that occur north of the project area along the northbound I-190.

3.3.1.5. Speeds and Delay

3.3.1.5. (1) Proposed Speed Limit

The existing posted speed limits of 55 mph for I-190 and 30 mph for the local streets would be retained upon completion of the project. Advisory speed signs for the new ramps would be installed where necessary.

3.3.1.5. (2) Travel Time Estimates

A comparison was made of 2045 weekday AM and PM peak-hour travel times for the No Build Alternative and for the Build Alternative with both Porter Avenue intersection options. In general, the travel times for the Signalized Intersection and Roundabout options were the same. The Build Alternative would result in only minor changes in travel times in the area. Between the U.S.-bound Plaza and northbound I-190, travel times would be reduced up to 70 seconds with the construction of Ramp D. Either an increase or decrease of 30 to 60 seconds of travel time would be incurred along Porter Avenue by westbound local-street vehicles destined to the Plaza, depending on origin and time of day. U.S.-bound vehicles re-routed to the local streets via Ramp C would experience an increase in travel time of 40 to 100 seconds. Only the travel time savings for southbound I-190 traffic and for local-street traffic along the waterfront destined to the Canada-bound Plaza would vary noticeably by Build Alternative option. The Roundabout option would reduce the eastbound Porter Avenue travel times by approximately 25 seconds, while the Signalized Intersection option travel times would remain similar as for the No Build conditions.

3.3.1.6. Traffic Volumes

Refer to **Appendix B** for 2015 and 2045 weekday AM and PM peak hour traffic flow diagrams for the Build Alternative with Signalized Intersection Option and for the Build Alternative with Roundabout Option. For either option, traffic from southbound I-190 to the Plaza would be re-routed from the removed Baird

Drive to the new Ramp PN on Porter Avenue across from Fourth Street. This reduce eastbound Porter Avenue traffic by as many as 162 total vehicles during the weekday PM peak hour and by as many as 19 trucks during the weekday AM peak hour. In addition, a direct access between the U.S.-bound Plaza and northbound I-190 would be constructed, which would remove as many as 96 total vehicles, including 11 trucks, from Baird Drive and westbound Porter Avenue during the weekday AM peak hour. With the removal of Baird Drive, all local-street traffic from Canada destined for local streets would enter the roadway network via Ramp C and Sheridan Terrace. Between 25 and 70 vehicles during a peak hour would be re-routed from eastbound Porter Avenue to southbound Niagara Street, via Massachusetts Avenue, and between 80 and 145 vehicles would be re-routed from eastbound Porter Avenue to southbound Busti Avenue, via the Sheridan Terrace hook ramp. It should be noted that all traffic destined to Canada-bound Plaza from local streets would continue along eastbound Porter Avenue to the new Ramp PN. In addition, the Front Park entrance would be relocated to Porter Avenue opposite Lakeview Avenue, and Fourth Street would be made one-way southbound on the block south of Porter Avenue, resulting in the local re-routing of small volumes of traffic. Detailed discussion of the Build Alternative traffic volume development is provided in **Appendix B**.

It should be noted that a significant number of vehicles traveling between Canada and the U.S. are trucks carrying oversized loads. Those vehicles carrying oversize loads that are not permitted on I-190 use city streets in the Project Area. The accommodation of these oversize vehicles is described in more detail in **Section 3.3.5.2**.

3.3.1.7. Level of Service and Mobility

3.3.1.7. (1) At Project Completion & Design Year

The operating performance of a roadway segment or intersection is commonly measured by level of service (LOS), based on such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort, and convenience. The 2000 Highway Capacity Manual (HCM) defines six LOS ratings (letters A through F), with LOS A representing free-flow conditions and LOS F signifying unstable or breakdown conditions. The remaining LOS letters represent gradually declining traffic conditions as traffic performance drops from LOS B through LOS E.

2015 and 2045 weekday AM and PM peak hour traffic analyses were conducted for the Build Alternative with Signalized Intersection Option and Build Alternative with Roundabout Option. Both options would require traffic signal phasing, split, and/or offset changes to minimize project-related traffic impacts. In the long-term, geometric changes would also be required at the Porter Avenue at Niagara Street intersection to mitigate impacts. Details of the project-recommended improvements are provided in **Appendix B**.

<u>Build Alternative (Both Signalized Intersection and Roundabout Options)</u>

The 2015 and 2045 freeway mainline and ramp segment level of service (LOS) results for the Build Alternative with recommended improvements are provided in **Appendix B**. Operations would be the

same for the Signalized Intersection and Roundabout Options, since the Porter Avenue design would have little impact on I-190 – even in the northbound direction in which the Ramp D access directly from the Plaza would be added. The LOS results are summarized and detailed discussions are provided in **Appendix B**.

2015

As shown in **Appendix B**, the new Ramp D would operate at LOS D for all conditions, which would satisfy the design standards for a new interstate ramp. In the vicinity of Ramp D, there would be a minor decrease in average speed (i.e., of approximately 5 mph) on the mainline around the northbound Porter Avenue and Peace Bridge Plaza on-ramps. However, mainline and ramp levels of service would remain the same as for No Build conditions. It should be noted that traffic operations on I-190 and at the Porter Avenue on-ramp for the Build Alternative would sometimes be less than the minimum recommended LOS D; however, this would be true for the No Build condition and is due to the current geometry and the limited capacity in the two-lane segment of I-190 north of Interchange 9, rather than to the NY Gateway Connections project.

2045

As shown in **Appendix B**, the new Ramp D would continue to operate at LOS D in 2045. Other I-190 mainline and ramp locations would operate the same as for 2045 No Build conditions. As for 2015 conditions, there would be certain time periods during which the mainline and/or ramps would operate below the recommended LOS D; again, this is due to downstream capacity constraints in the northbound direction of the Thruway, rather than to the NY Gateway Connections project.

Signalized Intersection Option

The results of the 2015 and 2045 signalized and unsignalized intersection analyses for the Build condition with Signalized Intersection Option are provided in **Appendix B**. The LOS results are summarized and detailed discussions are provided in **Appendix B**.

2015

As shown in **Appendix B**, all intersections would operate well (generally at LOS B or better) during the weekday AM and PM peak hours for the Build Alternative. Traffic operations at the proposed split-phased signal at Porter Avenue and Ramps P and PN would be LOS B. With proposed traffic signal phasing and timing changes, traffic operations at Porter Avenue and Niagara Street would be better than for the No Build conditions, During the weekday PM peak hour, all left turns at the Porter Avenue at Niagara Street intersection would be improved to LOS E, from typical LOS F, and all delays would be reduced to substantially less than the 100-second cycle length.

2045

As shown in **Appendix B**, most intersections would continue to operate well (generally at LOS B or better) in 2045 with the Build Alternative. Traffic operations at the proposed Porter Avenue at Ramps P and PN intersection would operate at LOS C or better. With proposed traffic signal modifications in the

area and the restriping of additional or longer left-turn bays on three of the four approaches of Porter Avenue at Niagara Street, traffic operations at the Porter Avenue and Niagara Street intersection would be improved, During the weekday PM peak hour, the left turns on all Porter Avenue at Niagara Street approaches would operate at LOS E or better, rather than typical LOS F as for the No Build conditions, and all delays would continue to be substantially less than the 100-second cycle length.

Roundabout Option

Traffic operations for the Roundabout Option would only differ from those for the Signalized Intersection Option at the intersections along Porter Avenue. The results of the 2015 and 2045 signalized and unsignalized intersection analyses for the Build condition with Roundabout Option, for Porter Avenue only, are provided in **Appendix B**. The LOS results are summarized and detailed discussions are provided in **Appendix B**.

2015

As shown in **Appendix B**, all Porter Avenue intersections would operate well (generally at LOS B or better) during the weekday AM and PM peak hours for the Build Alternative. Traffic operations at the proposed one-lane roundabout would be LOS A. With the proposed traffic signal timing improvements, as for the Signalized Intersection Option, all Porter Avenue at Niagara Street left turns would be improved to LOS E, and all delays would be substantially reduced.

2045

As shown in **Appendix B**, all Porter Avenue intersections would continue to operate well (generally at LOS B or better) in 2045 with the Build Alternative. Traffic operations at the proposed roundabout would continue to be LOS A. With the same proposed traffic signal and geometric improvements as for the Signalized Intersection Option, all Porter Avenue at Niagara Street left turns would be improved to LOS E, and all delays would be substantially reduced from the No Build conditions.

A summary table of the levels of service at critical locations for the No Build Alternative, the Build Alternative with the Signalized Intersection Option, and the Build Alternative with the Roundabout Option is provided in **Table 3-4**. As indicated, I-190 northbound mainline operations would basically be unaffected with the addition of Ramp D; the mainline before and after Interchange 9 would operate the same with the Build Alternative (either option) as for the No Build condition. Porter Avenue intersections would also operate well with either Build Alternative option. With recommended signal timing and geometric changes, the intersection operations at Niagara Street would be improved from the No Build condition during the congested weekday PM peak hour. As shown in the table, the Roundabout Option would provide LOS A at the Porter Avenue intersection with the new Ramp PN, while the signal would provide LOS B or C at this location.

Table 3-4 – Weekday Peak-Hour No Build Alternative, Build Alternative with Signalized Intersection Option, and Build Alternative with Roundabout Option Level-of-Service Comparison Table for Project-Affected Locations

Location	No Build Alternative		Build Alternative Signal Option		Build Alternative Roundabout Option	
	AM	PM	AM	PM	AM	PM
	LOS	LOS	LOS	LOS	LOS	LOS
Northbound I-190 Mainline between Niagara Street On-Ramp and Peace Bridge Off-Ramp	D	E	D	E	D	E
Northbound I-190 Diverge at Peace Bridge Off-Ramp	C	C	D	D	D	D
Northbound I-190 Mainline between Peace Bridge Off-Ramp and Porter Avenue On-Ramp	D	D	D	D	D	D
Northbound I-190 Merge at Porter Avenue On-Ramp	D	F	D	D	D	D
Northbound I-190 Mainline between Porter Avenue On-Ramp and Peace Bridge Plaza/Ramp D On-Ramp	---	---	C	D	C	D
Northbound I-190 Merge at Peace Bridge Plaza/Ramp D On-Ramp	---	---	C	D	C	D
Northbound I-190 Mainline between new Ramp D On-Ramp and Scajaquada Expressway Off-Ramp	D	E	D	E	D	E
Porter Avenue at Niagara Street	B	E	B	D	C	D
Porter Avenue at Columbus Parkway/Seventh Street	B	B	B	A	A	A
Porter Avenue at Busti Avenue	A	A	A	A	A	A
Porter Avenue at Front Park Driveway/Lakeview Avenue	A	B	B	A	A	A
Porter Avenue at I-190/Peace Bridge On-Ramps (Ramps P and PN)	A	A	C	B	A	A
Porter Avenue at I-190 Southbound Off-Ramp	A	A	A	A	A	A

3.3.1.7. (2) Work Zone Safety & Mobility

A. Work Zone Traffic Control Plan

Based on the Build Alternative, the construction could be completed in four stages as described below. The construction staging described below shows one possible plan for maintaining traffic during construction. The final plan use will be as suggested by the Contractor and approved by NYSDOT, NYSTA, PBA, CSX, and the City of Buffalo prior to implementation.

During Stage 1, the construction of the relocated Shoreline Trail (Riverwalk) would commence while maintaining pedestrian and bicycle access to the existing facility except for temporary short term closures to facilitate trail tie-ins. This stage would also include the closure of Ramp C and Ramp N just north of the Ramp A gore during the reconstruction of a portion of Ramp N. Traffic that typically utilize these exit ramps would be detoured along Ramp A (Ramp N traffic only) to Baird Drive and onto Porter Avenue. The construction of Ramp D bridges over Ramp N, CSX, and Ramp S would also take place during this stage.

Stages 2A and 2B would comprise the reconstruction of Porter Avenue and the replacement of the Porter Avenue Bridge over I-190 and CSX. The intersection of Porter Avenue with Ramp P and Ramp PN would also be performed under this stage. In order to maintain access to northbound I-190, a temporary Ramp P access from Porter Avenue would be required for the roundabout option. Two-way traffic would be maintained on Porter Avenue via lane closures and traffic shifts during non-peak traffic flow time periods in accordance with NYSDOT guidelines. The entrance to Front Park would be relocated to Baird Drive to allow for the reconstruction of the north side of Porter Avenue.

Stage 3 would commence upon the completion of the Shoreline Trail (Riverwalk) construction. This stage would comprise the widening of existing I-190 adjacent to the Massachusetts Pumping Station Access Road, the completion of the construction of Ramp D and the removal of the existing Shoreline Trail (Riverwalk) bridge and associated approaches. Work along I-190 which requires closures of travel lanes will be restricted to off-peak hours.

Stage 4 would commence upon the completion of Ramps C, N, A and D. This stage would consist of the closure/removal of Baird Drive and the relocation of the Front Park entrance. Improvements on the Massachusetts Pumping Station Access Road would be completed during this stage. During all stages, emergency access to the Massachusetts Pumping Station would be maintained.

The total estimated duration of the construction is 18 to 24 months.

B. Special Provisions

Due to the close proximity of the Peace Bridge to the proposed improvements, coordination of lane closures with the PBA operations center would be required to reduce the potential for traffic backups on Ramp A during construction.

Because the Peace Bridge is a major connection between Canada and the U.S., there will be several Canadian and U.S. holiday long weekends where all available lanes to the PBA Plaza must be open. Coordination with major Buffalo sporting events including Buffalo Bills and Sabres games would also result in lane closure restrictions

Work on or adjacent to NYSTA-owned facilities would be subject to the restrictions on daytime lane closures and holiday lane closures.

C. Significant Projects (per 23 CFR 630.1010)

This project has been determined as significant per 23 CFR 630.1010 (Part of 23 CFR 630 Subpart J Work Zone Safety and Mobility) under section 630.1010. A significant project is one that, alone or in combination with other concurrent projects nearby, is anticipated to cause sustained work zone impacts that are greater than what is considered tolerable based on State policy and/or engineering judgment.

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
- A Transportation Operations (TO) component
- A Public Information (PI) component

3.3.1.8. Safety Considerations, Accident History and Analysis

As discussed in Section 2.3.1.8, neither northbound nor southbound I-190 experience higher than statewide average accident rates in the study area. However, three High Accident Locations (HALs) were identified on ramps to or from the Thruway in the accident study area. One is at Interchange 8 significantly south of the project work limits and will not be addressed as part of this project. The other two are at either end of Ramp S, the ramp leading from Busti Avenue to southbound I-190 in the vicinity of the Plaza. Ramp S is also outside of the project work limits; however, an examination was made of the ramp due to its proximity to the project area. Based on this examination, corrections to address the alignment and shoulder width deficiencies at the ramp's north end would be limited by the ramp's location in a cut section with existing retaining walls, while the ability to widen the ramp at its south end to reduce conflicts at the Ramp SD and southbound I-190 merges would be limited by existing railroad right-of-way. Improvements on Ramp S will, therefore, not be progressed as part of this project.

It should be noted that high accident rates were identified along the major local streets. The types of accidents at these locations are those expected at intersections and along roadways with numerous driveways. The traffic control, signal timing, and geometric improvements for this project, including the construction of a shared-use path on the south side of Porter Avenue, are anticipated to improve local-street safety conditions in the area.

Where fixed objects and other hazards within the established clear zones cannot be removed, appurtenances, such as guide rail, will be provided in accordance with current design standards and warrants.

It is recommended that two dynamic message signs be located well in advance of Exit 9 and that the DMS be used to provide advanced warning for traffic backups at (or closure of) exit 9. The installation of additional CCTV cameras is also recommended to facilitate monitoring of traffic on Ramps A and N during overflow conditions. See **Sections 3.3.1.4** and **3.3.5.1** for more details.

3.3.1.9. Impacts on Police, Fire Protection and Ambulance Access

After construction of the Build Alternative is completed, there would be no impact on the emergency vehicles that routinely use the highways and streets in the project area. During construction, access for emergency vehicles would be maintained at the Plaza, as it presently is, through the gate at Vermont Street and Busti Avenue.

3.3.1.10. Parking Regulations and Parking Related Issues

No changes to the existing parking regulations are proposed as part of this project.

3.3.1.11. Lighting

The existing street lighting along City of Buffalo and Peace Bridge owned facilities that are impacted by the project would be restored to maintain the preconstruction lighting levels.

3.3.1.12. Ownership and Maintenance Jurisdiction

In general, NYSTA and NYSDOT would continue maintenance responsibilities for the highways they currently own. During final design, the facility owners would review the existing maintenance responsibilities to determine if minor changes in some maintenance tasks (such as snow plowing) should be enacted to improve efficiency and safety. These changes would impact the ramps only.

3.3.1.13 Constructability Review

Final design of this project will receive a full constructability review prior to beginning construction work.

3.3.2. Multimodal

3.3.2.1. Pedestrians

Based on many public comments asking for better connections to LaSalle Park, a 10 - 13-foot wide shared-use path is proposed for the south side of Porter Avenue. This path would provide a safer link between the neighborhoods adjacent to Front Park and the entrance to LaSalle Park. This path would begin at Lakeview Avenue and extend along the south side of Porter Avenue to DAR Drive, eliminating a pedestrian crossing through the new Porter Avenue intersection at Ramp P. The path along Porter Avenue also connects with the Shoreline Trail (Riverwalk).

Improved pedestrian crossings will be provided at the Porter Avenue / Lakeview Avenue intersection and at the Porter Avenue / Ramp SD and Shoreline Trail (Riverwalk) intersection. Other pedestrian paths in Front Park severed by Baird Drive would be reconnected. Curb ramps complying with Americans with Disabilities Act (ADA) guidelines would be provided for all reconstructed sidewalks, paths and intersection crossings. All other sidewalks disturbed by this project would be replaced as appropriate. A Pedestrian Generator Checklist is included in **Appendix B**.

There are no planned provisions for pedestrians on the I-190 or connecting ramps under the Build Alternative as pedestrians are prohibited on interstate highways by state law.

3.3.2.2. Bicyclists

The proposed improvements on Porter Avenue include a new shared-use path along the south side of this city street from Lakeview Avenue to Ramp SD (southbound off-ramp from I-190) and Shoreline Trail (Riverwalk). The new path would be wide enough to accommodate bicyclists and pedestrians, providing an alternative for bicyclists who would prefer not to travel in the Porter Avenue vehicular traffic stream. Bicycles along Porter Avenue would still be allowed and bicycle accommodations on all other city streets in the project area would be unaffected by the Build Alternative.

The route currently used by bicyclists to access the Peace Bridge would not be affected by any of the proposed actions under this project.

The existing Shoreline Trail (Riverwalk) would be realigned to maintain the connectivity of the trail through the project area.

No provisions for bicyclists are provided on I-190 or its connecting ramps under the Build Alternative, as bicycles are prohibited on interstate highways by state law.

3.3.2.3. Transit

No changes to the current project area bus routes are proposed. There are no bus shelters or signed bus stops along Porter Avenue between Baird Drive and DAR Drive.

3.3.2.4. Airports, Railroad Stations, and Ports

None of the reasonable alternatives studied for this project would lead to changes or conflicts at the Buffalo Niagara Airport or area railroad stations.

This project would change the routes used to access the Land Port of Entry at the Peace Bridge. Construction of Ramp D would provide a direct link from the Plaza to the northbound Niagara Expressway (I-190) and would allow for removal of Baird Drive. The addition of Ramp D would eliminate the current inefficient route traversing a combination of city streets and a traffic signal controlled intersection to reach the northbound I-190 on-ramp.

Without the connection at Baird Drive, Ramp C would be the only link directly connecting the Plaza to the City of Buffalo streets. As highlighted in **Appendix B – Traffic Analysis**, the number of vehicles that exit onto and remain on the city street network is small. Exiting the Plaza using Ramp C instead of Baird Drive would not substantially increase the travel time needed to reach the city streets, including Niagara Street.

The route for Canada-bound traffic would be very similar to the configuration that exists today. Ramp A would be three lanes wide as it is currently, but the signal at Baird Drive would be removed, thereby reducing delays for vehicles traveling to Canada.

None of the proposed revisions are expected to result in changes to U.S. Customs and Border Protection (CBP) or PBA Plaza operations.

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

Access to LaSalle Park and other facilities would be provided via a new shared-use path to be constructed along the south side of Porter Avenue. The 13-foot wide path would replace the narrow sidewalks that currently connect the park to the school and neighborhoods on the east side of the Porter Avenue Bridge. The path would also help those crossing Porter Avenue by redirecting them away from the busy Ramp P/ Porter Avenue intersection.

A new driveway entering Front Park, opposite Lakeview Avenue, would provide safe access to and from the park at a signalized intersection and would remove the other non-signalized entrance near Ramp P. After removal of Baird Drive, the existing park walkways would be reconnected and extended to the Busti Avenue sidewalk.

The existing Shoreline Trail (Riverwalk) would be reconfigured with a new bridge over the CSX Railroad and I-190. The new bridge and trail alignment would help to enhance the connection between the trail and the Niagara River waterfront. Replacement of the Shoreline Trail (Riverwalk) bridge would also include upgraded railings and fencing that are in need of replacement on the existing structure.

3.3.3. Infrastructure

3.3.3.1. Proposed Highway Section

Refer to Appendix A for proposed typical sections.

3.3.3.1. (1) Right-of-Way

The right-of-way acquisitions proposed as part of the Build Alternative, are listed in **Table 3-5**.

Table 3-5 - Right-of-Way Acquisitions

Reputed Owner	Type of Acquisition	Estimated Acquisition Area
Lands of the People of the State of New York	Concurrent Use & Occupancy	712,374.7 SF
D'Youville College	Fee	1,048.7 SF
	PE	2,314.3 SF
Linda Davis	Fee	47.8 SF
City of Buffalo	Fee	3,999.7 SF
City of Buffalo	Fee	18,303.3 SF
	TE	233,599.7 SF
Buffalo and Fort Erie Public Bridge Authority	Fee	14,388.3 SF
	TE	77,496.2 SF
CSX Transportation Inc.	PE	15,126.1 SF
	TE	6,979.0 SF
City of Buffalo	PE	565.0 SF
	TE	16,909.5 SF
Buffalo Water Board	TE	1,952.3 SF
City of Buffalo	Fee	984.1 SF

3.3.3.1. (2) Curb

Within the project construction limits, six-inch-high vertical faced curbs would be provided on both sides of Porter Avenue, along the right side of Ramp A, and along Sheridan Terrace north of the Ramp N terminus.

3.3.3.1. (3) Grades

The proposed maximum grades would be as shown below.

- Niagara Expressway (I-190): Maximum Grade would be 3 percent.
- Ramps D and N: Maximum Grade would be 6 percent.
- Ramps A, C, P, and PN: Maximum Grade would be 7 percent.
- Porter Avenue: Maximum Grade would be 2 percent.
- Shoreline Trail (Riverwalk): Maximum Grade would be 5 percent.

3.3.3.1. (4) Intersection Geometry and Conditions

The Build Alternative includes two options for the Porter Avenue intersection with Ramp P. This intersection may be reconstructed as a Signalized Intersection or as a Roundabout. Plans for both options are provided in **Appendix A.** Please refer to **Chapter 5** for a discussion of the benefits and disadvantages of the two options.

Removal of Baird Drive would eliminate this route's intersection at Porter Avenue and would allow for the construction of a new park entrance opposite Lakeshore Avenue. Without Baird Drive, Ramp A could connect directly into the Plaza and the existing traffic signal at the Baird Drive/Ramp intersection could be removed.

Other intersection changes include the conversion of 4th Street to a one way street (southbound) and minor changes to the curbs at the Porter Avenue/I-190 southbound off-ramp intersection. The City of Buffalo agreed to this change.

3.3.3.1. (5) Roadside Elements

a) Where appropriate, sidewalks and snow storage areas would be provided adjacent to the curbs on Porter Avenue.
b) A 13-foot-wide shared-use path would be constructed along the south side of Porter Avenue.
c) Existing bus stops affected by the project would be restored.
d) Driveways would be modified to comply with City of Buffalo Department of Public Works (DPW) standards or current NYSDOT "Policy and Standards for Design of Entrances to State Highways," depending on location.

e) Clear Zone - The design clear zone would be established in accordance with the NYSDOT Highway Design Manual (HDM) and the AASHTO Roadside Design Guide and would be evaluated during final design to adjust for slopes, roadway curvature, etc. Where fixed objects and other hazards within the clear zone cannot be removed, roadside barriers, such as guide rail, would be installed. See **Table 3-6**.

Table 3-6 – Roadside Elements – Clear Zone

Route Name	Design Speed	Clear Zone[1]	Adjusted Clear Zone[2]
Niagara Expressway (I-190)	60 mph	30 ft.	---
Ramp A	25 mph	17 ft.	---
Ramp C	30 mph	16 ft.	---
Ramp D	40 mph	16 ft.	24 ft.
Ramp N	35 mph	17 ft.	---
Ramp P	35 mph	17 ft.	---
Ramp PN	30 mph	17 ft.	---
Porter Avenue	30 mph	Note 3	

Notes:
1. Clear zone values taken from Table 10-1 from the NYSDOT Highway Design Manual.
2. Adjusted clear zone is determined from the adjustments made from minimum curvature and Table 10-2 from the NYSDOT Highway Design Manual.
3. For Porter Avenue, suggested clear zone is 1.5 ft. and 3.0 ft. at intersections.

3.3.3.2. Special Geometric Design Elements

3.3.3.2. (1) Non-Standard Features

During the development of alternatives for this project, special emphasis was taken to ensure that the design complied with the geometric features and cross sectional elements set forth in the design criteria section. Existing roadside design features, within the project corridor, were also analyzed against these criteria to ensure that they met these current design standards. Where feasible, the existing non-standard features were modified to meet these current standards.

The following criteria design elements for the Build Alternative do not comply with the design criteria identified for this project.

- Non-standard lane widths along Porter Avenue for travel lanes (10' exist vs. 12' standard) and turning lane (11' exist. vs. 11' standard). This segment of Porter Avenue was recently reconstructed as part of a City of Buffalo roadway improvement project and is listed in the National Register of Historic Places as a contributing resource of the Olmsted Parks and Parkways Thematic Resources. Along this portion of Porter Avenue, the Build Alternative does not add any additional travel lanes and only consists of relocating the Front Park entrance along

with the closure of Baird Drive. A Non-Standard Feature Justification form has been completed for approval. See **Appendix A** for the Non-Standard Feature Justification form.

- Non-standard vertical clearance at the Ramp P Bridge (BIN 5512570) over Ramp N (15.42' exist vs. 16.5' standard). This bridge structure is listed in Appendix 2C of the NYSDOT Bridge Manual whose existing clearance can be retained as agreed by FHWA on December 12, 1999. Replacement of this bridge is not part of the Build Alternative.
- Non-standard vertical clearance at the Ramp B Bridge (BIN 1063110) over I-190 (14.53' exist vs. 16.5' standard). This bridge is also listed in Appendix 2C of the NYSDOT Bridge Manual whose existing clearance can be retained as agreed by FHWA on December 12, 1999. Replacement of this bridge is not part of the Build Alternative.
- Non-standard vertical clearance at the Ramp D Bridge over CSX (18' proposed vs. 22' standard). Because Ramp D ties-in with the I-190 a short distance north of this bridge, the ramp profile must follow the existing I-190 profile. The existing I-190 bridge over CSX Bridge (BIN 5512589) at this location also does not meet the minimum clearance requirements (17.25' exist. vs. 22' standard). A waiver for non-standard clearance at Ramp D Bridge was granted by CSX. Modifications to the I-190 bridge are not in the scope of this project.
- Non-standard vertical clearance at the Porter Avenue Bridge (BIN 5512560) over I-190/CSX. At the span over CSX, clearance is 17.89' exist vs. standard of 22.0'. Vertical clearance over I-190 meets or exceeds the 16.0' standard. This bridge will be replaced under the Build Alternative.
- Non-standard Level of Service (LOS) along I-190 and Ramp P are expected due to inadequate capacity along I-190.
- Non-standard control of access along Ramp SD. The break in access control will result when a driveway from Ramp SD to access the City of Buffalo pump station is built. The driveway is provided only for authorized city employees and replaces one that currently provides access from the I-190. A Non-Standard Feature Justification form has been included in **Appendix A.**
- Other non-standard elements along I-190 include existing shoulder width, bridge width, and horizontal clearance.

3.3.3.2. (2) Non-Conforming Features

In addition to the critical design elements depicted in Chapter 2 of the NYSDOT Highway Design Manual, there are many other design features that were taken into consideration during the development of the identified Build Alternative to ensure that normally accepted engineering policies are followed. Due to the extremely confined project corridor, some design elements had to be adjusted in order to develop an alternative that met the project objectives. The following is a list of non-conforming features and explanations:

- Limits of fully controlled access at expressway ramps – Per Chapter 6 of the NYSDOT Highway Design Manual, full access control should be maintained for a minimum of 100 ft. (300 ft. desired) from the radius return and/or ramp taper. At Ramp P, while there is over 300 ft. from the proposed new entrance to Front Park and the ramp, the project does not propose to acquire right-of-way without access in the intervening area along Porter Avenue, as this would require

acquisition of property from a 4(f) resource. Given the nature of the land (protected and historic City park), it is highly unlikely there would ever be an additional point of access along Porter Avenue in this area. On the opposite side of the road from Ramp P, 4th Street exists approximately opposite the ramp, but it is proposed to make 4th Street one way south and the volumes at this intersection are very minor (less than 50 total entering vehicles in the design year 2045).

- Compound curves – Per Chapter 5 of the NYSDOT Highway Design Manual, the ratio of successive curve radii should be a maximum of 1:1.5 for mainlines and 1:2 for ramps. Due to the right-of-way restrictions along the east side of Ramp A (Front Park), a compound curve was introduced with a ratio of 8.2:1 that does not meet the standard ratio of 1:2. Despite this condition, the number of accidents on Ramp A is low.
- Broken-Back curves - Per Chapter 5 of the NYSDOT Highway Design Manual, a minimum tangent of 1,476 ft. should be provided between curves. The curves on Ramp PN (97.36' tangent), Ramp C (100.17' tangent) and Ramp D (473.18' tangent) are not separated by the minimum tangent distance. These ramps are relatively short and the location of their corresponding merging roadways, prohibit this distance to be obtained.
- Reverse curves - Chapter 5 of the NYSDOT Highway Design Manual, recommends that a minimum 328 ft. tangent section be provided between the reverse curves to allow for full runoff and runout of the superelevation for both curves. Ramp N and the merge with Ramp PN do not meet this recommendation.

3.3.3.3. Pavement and Shoulder

Generally, the reconstruction is limited to localized areas as needed to construct a transition from one ramp to the next, complete a side road tie-ins at a new intersection or lower a ramp profile to increase the vertical clearance.

Due to the limited length of the different types of reconstruction sections, variability in traffic volumes and the number of owning agencies, it was impractical to prepare a pavement selection report. Pavement section design shall, as much as practical, match or exceed the section dimensions and materials used in the existing pavement sections. For I-190 and its connecting ramps, the travel lanes shall be full depth Portland cement concrete pavement and shoulders shall be full depth asphalt. The pavement section for Porter Avenue shall follow the City of Buffalo DPW standards, which specify a multi-course asphalt wearing surface over a concrete base.

3.3.3.4. Drainage Systems

In general, the proposed surface runoff that is generated by the proposed corridor improvements would be collected by a closed drainage system consisting of catch basins, drainage inlets and longitudinal pipes. The layout of the proposed system shall be designed to maintain the existing pre-construction drainage patterns by utilizing existing drainage system outfalls. These existing outfall systems shall be

inspected and analyzed to ensure that the condition and capacity can handle the added flow created by the proposed system. The current best practices for treatment of storm water, including green techniques, will be included as part of the drainage system design.

There is one critical location within the project corridor that deviates from the existing drainage patterns, which is located on Ramp N underneath the proposed Ramp D Bridge. In this area the Ramp N profile has been lowered to create adequate clearance underneath Ramp D, thus creating a low point. Under existing conditions, the drainage runoff from Ramp N is collected via concrete gutter to the drainage structure located at the Ramp A gore. After reconstruction, the drainage runoff would be collected via an inlet at the low point under Ramp B and outlet it to the existing Massachusetts Pumping Station Access Road system. Further analysis will be required upon receipt of existing drainage system survey.

3.3.3.5. Geotechnical

No special techniques or considerations are anticipated for this project.

3.3.3.6. Structures

3.3.3.6. (1) Description of Work

Refer to **Section 2.3.3.6. (1)** for a description of all existing structures within the project limits.

The Build Alternative includes: construction of one new bridge structure, two replacement bridges, and bridge rehabilitation. Bridges to be replaced include: the Porter Avenue Bridge over I-190 and CSX (BIN 5512560) and the Shoreline Trail (Riverwalk) Bridge over the CSX railroad track. Rehabilitation work is required for I-190 over the Massachusetts Pumping Station Access Road and the Shoreline Trail (BIN 5512599) to accommodate the proposed new bridge structure(s) (Ramp D) from the Peace Bridge Plaza to northbound I-190.

In addition to the proposed bridge structures, multiple retaining wall structures are required at various locations within the project limits. All retaining walls not associated with a bridge structure could be cast-in-place gravity walls. For various locations, refer to detail plans included in **Appendix A**.

Various geometric constraints affect the type of structure(s) used for Ramp D. The constraints include: high skews, curvature, varying roadway widths, non-standard vertical clearances, and ROW constraints. Span 1 and the beginning approach are 48’-0” wide comprised of a 39’-0” travel lane, a 3’-0” right shoulder and a 6’-0” left shoulder. Between spans 1 and 2, the roadway width transitions from 48’-0” to 25’-0”. The remaining roadway width is 25’-0” that includes a 3’-0” right shoulder and a 6’-0” left shoulder. Spans 1, 3, and 5 could be simple span, steel, multi-girder superstructures with full height abutments and retaining walls. The beginning approach to span 1 from the Peace Bridge Plaza will most likely be earth fill and retaining walls. Spans 2, 4 and 6 could be earth fill and retaining walls. Span 6 of Ramp D connects to the proposed rehabilitation of BIN 5512599. The end approach of Ramp D, which connects to

the north approach of BIN 5512699, may also consist of earth fill and retaining walls. No long-term detours are anticipated. Refer to typical sections included in **Appendix A**.

The replacement of the Porter Avenue Bridge has two options depending on the option selected for the intersection (traffic signal or roundabout) located on Porter Avenue just east of the existing bridge approach at the new Ramp PN. The replacement structure type is also limited by the vertical clearance issues over the CSX Railroad. An on-site detour would likely be employed through use of construction staging. The proposed travel-way and total bridge width will vary depending on the option selected. Each width corresponds to the constraints imposed by the roadway width and use at each approach. Each bridge option has a different number of lanes and the shoulder widths vary; however, a 13'-0" shared-use path is located adjacent to the eastbound travel lane in both options. Refer to typical sections included in **Appendix A**.

Replacement of the Shoreline Trail (Riverwalk) Pedestrian Bridge would include re-alignment of the existing Shoreline Trail (Riverwalk), removal of the existing bridge and constructing a replacement pedestrian bridge north of its existing location. The proposed structure would span I-190 and CSX rail lines and tie back into the existing Shoreline Trail path at the north pedestrian bridge approach. The proposed pedestrian path width is 13'-0" with a total bridge width of 18'-0". The existing pedestrian bridge and Shoreline Trail would remain open during construction of the new structure. No detour would be required. Refer to the typical section included in **Appendix A**.

The NYS Thruway I-190 Bridge over the Massachusetts Pumping Station Access Road and Shoreline Trail (BIN 5512599) would be widened to accommodate Ramp D, connecting the Peace Bridge Plaza with the northbound I-190. Review of previous inspection reports indicates the existing structure is in good to excellent condition with a condition rating of 5.92. The existing superstructure would be replicated directly adjacent to the existing structure and the abutments would simply be extended to accommodate the expanded superstructure. The existing deck would be cut to form a connection to the new deck. Temporary lane closures may be required to perform the work during non-peak hour traffic periods. No detours would be required. Refer to the typical section included in **Appendix A**.

3.3.3.6. (2) Clearances (Horizontal/Vertical)

The following bridges were identified as having limited vertical clearances as compared to current design standards: Porter Avenue Bridge over I-190 and CSX (BIN 5512560); Porter Avenue to I-190 northbound Ramp P over Ramp N (BIN 5512570); Ramp B from Peace Bridge over I-190 and over Ramp N (BIN 1063110); and I-190 over CSX and Ramp S (BIN 5512589). BINs 1063110 and 5512570 are on the *FHWA* agreed acceptable vertical clearance deficiencies list contained in *Appendix C* of the *NYSDOT Bridge Manual*; therefore, the existing vertical clearance can be maintained.

Based on the most recent inspection reports, the existing minimum railroad vertical clearance for BIN 5512560 is 17.89' and for BIN 5512589 is 17.46'. The current vertical clearance standard for railroads is

22'-0" (*NYSDOT BM 2.4.2*). No work is proposed for BIN 5512589, but replacement of BIN 5512560 is anticipated. Due to the geometric constraints of the existing and proposed roadway and ramp configurations, raising the profile of the proposed Porter Avenue Bridge over I-190 and the CSX tracks is not practical without creating additional non-standard features and requiring that additional structures be replaced. In addition, Span 5 of proposed Ramp D crosses CSX tracks and, due to geometric constraints, the profile of the proposed alignment would create a non-standard railroad vertical clearance feature. CSX has granted a vertical clearance waiver for the Ramp D Bridge and it is anticipated that a second vertical clearance waiver will be granted for the Porter Avenue Bridge.

3.3.3.6. (3) Live Load

The proposed new bridge structures would be designed to accommodate the current *AASHTO HL-93* Live Load requirements, as well as the *NYSDOT Design Permit Vehicle* (*NYSDOT BM 2.6.1*).

Rehabilitated bridge structures would be designed to carry HS-20 live load or H-20 live load where economically unjustifiable (*NYSDOT BM 2.6.2*).

The replacement pedestrian bridge structures would be designed in accordance with *NYSDOT LRFD Bridge Design Specifications* and *AASHTO LRFD Guide Specifications for Design of Pedestrian Bridges, December 2009*. The bridge shall be designed to accommodate pedestrian and or bicycle traffic live loads of 0.090 ksf and a vehicle live load of H10 (*AASHTO 3.6.1.6*).

3.3.3.6. (4) Waterway

There are no bridges within the NY Gateway Connections Project limits that cross a waterway that would be affected by the Project. The Peace Bridge crossing to Canada is not included in this project.

3.3.3.7. Hydraulics of Bridges and Culverts

There are no hydraulic concerns within the project limits.

3.3.3.8. Guide Railing, Median Barriers and Impact Attenuators

At all locations where fixed objects and other hazards cannot be removed from the clear zone, guiderail or concrete barrier would be provided. The proposed limits for guiderail and impact attenuators within the Project are shown in **Table 3-7**.

Table 3-7 – Proposed Location of Guide Railing, Median Barrier and Impact Attenuators

Type	Location	Side	Length
Corrugated Guide Railing	Porter Ave. (Bridge Approaches)	LT / RT	± 640 ft.
Concrete Median Barrier	Ramp A / Ramp N	LT	± 1550 ft
Box Beam Guide Railing	Ramp A	LT	± 60 ft.
Impact Attenuator	Ramp A / Ramp N Gore	N/A	1 ea.
Impact Attenuator	Ramp D / Massachusetts Pumping Station Access Road	N/A	1 ea.

3.3.3.9. Utilities

With the exception of drainage/sewers, most utilities in the project area would not be affected by the Build Alternative. Along Porter Avenue, relocation of service connections for water or sanitary sewers may be needed in the reconstruction section. In addition, street lighting conduits may require relocation along Porter Avenue, Ramp N and Ramp A.

Major utilities within the project limits including the dual 60" water lines along Porter Avenue, the water tunnel paralleling the Shoreline Trail (Riverwalk) and two large diameter sewers will not be affected by the Project.

No major utility relocations are anticipated under the Build Alternative. See **Table 3-8** for various project area utility impacts.

Table 3-8 – Location of Potential Utilities Impacts

Owner	Type	Location	Side	Length	Impact
COB Water	Twin 60" Water Line	Porter Ave.	North[1]	N/A	No
COB Water	Misc Water Supply	City Streets	Varies	N/A	Only minor adjustments on Porter Ave
COB Water	108" Water Tunnel	East Side of Lake Erie		N/A	No
COB Water	48" Water Line 16" Water Line 20" Water Line 8"/6" Water Line	Busti Ave.	West West East East	2620 ft.	No identified impacts
COB Water	Water Line Service	Peace Bridge Authority		N/A	No identified impacts
Buffalo Sewer Authority	108" Sewer Line	I-190/Ramp B/Busti Ave.		N/A	No identified impacts
Buffalo Sewer Authority	96" Sewer Line	Ramp P I-190 SB	East West	N/A	No identified impacts
Buffalo Sewer Authority	24" Combined 10" Combined	Busti Ave.	Center East	N/A	No identified impacts
National Fuel Distribution	16" Gas Line 3"/4"/6" Gas Line	Busti Ave.	East	N/A	No identified impacts
National Fuel Distribution	Gas Line Service	Peace Bridge Authority		N/A	No identified impacts
Niagara Mohawk	UG Electrical	Busti Ave.	East/West	N/A	No identified impacts
MCI	UG Telephone	Busti Ave.	West	N/A	No identified impacts
MCI	UG Telephone	Peace Bridge Authority		N/A	No identified impacts
MCI	Fiber Optic	Peace Bridge		N/A	No identified impacts
NYNEX	UG Telephone	Busti Ave.	West	N/A	No identified impacts
NYNEX	UG Telephone	Peace Bridge Authority		N/A	No identified impacts
NYNEX	Telephone	Peace Bridge		N/A	No identified impacts
MFS	Fiber Optic	Peace Bridge		N/A	No identified impacts
Sprint	Fiber Optic	Peace Bridge		N/A	No identified impacts
Fondrola	Telephone	Peace Bridge		N/A	No identified impacts
RCI	Fiber Optic	Peace Bridge		N/A	No identified impacts
AT&T	Telephone	Peace Bridge		N/A	No identified impacts

The twin 60-inch waterline is located on the north side of Porter Ave. from DAR Dr. to Ramp P, and then shifts within the Porter Ave. pavement

3.3.3.10. Railroad Facilities

There are no new railroad tracks proposed as part of this project, however, there would be one new bridge and one replacement bridge constructed over the CSX tracks. The new Ramp D Bridge over the CSX tracks would provide a minimum vertical clearance of not less than 18.0 feet and a horizontal clearance of 12.0 feet (measured from centerline of track). For replacement of the Porter Avenue Bridge over the CSX tracks, the vertical clearance shall be equal to or greater than the existing value of 17.46 feet. Horizontal clearance would exceed 30 feet (measured from centerline of track). Both vertical clearances are less than the minimum specified by CSX. A clearance waiver has already been issued for the Ramp D clearance and another will be requested for the Porter Avenue Bridge. It is anticipated that a railroad force account agreement would be necessary

3.3.4. Landscape and Environmental Enhancements

Modifications along Porter Avenue, including the creation of a roundabout would affect the streetscape elements along Porter Avenue but provide the potential for a focal point within the viewshed. Elimination of Baird Drive through Front Park would improve the viewshed from adjacent residences and the park. Traffic, pavement, and utilities would be removed. Front Park's existing vegetation provides a natural buffer to the proposed Ramp D and Ramp PN resulting in minimal visual impact from Front Park. Relocating a portion of the Shoreline Trail (Riverwalk) along the Niagara River would improve the pedestrian's visual environment, providing open views of the river and the Canadian shoreline in the background.

Mitigation measures, including landscaping, would be provided as part of the overall enhancement and aesthetic improvement efforts for this project. Additional landscaping along the park's edge would strengthen the park's buffer from the proposed ramps.

3.3.5. Miscellaneous

3.3.5.1 Bridge Traffic Overflow Conditions

Under the Build Alternative, the overflow condition would be different than the Existing and No Build overflow condition. Under the Existing and No Build condition, as the traffic begins to queue across the Peace Bridge and onto the ramps leading onto the bridge, traffic exiting at Ramp N (Exit 9) to reach the Peace Bridge from northbound I-190 must be diverted along Ramp N (closing access to Ramp A) to Sheridan Terrace, Busti Avenue, Porter Avenue, and onto Baird Drive.

Under the Build Alternative, Ramp N (Exit 9) would be closed to all traffic from northbound I-190. The ramp closure would be initiated through incident management strategies that will be developed by the PBA, the NYSTA, and NITTEC for the final configuration of the Build Alternative. In general, traffic bound for the Peace Bridge will be diverted off northbound I-190 at Exit 8 – Niagara Street and be directed north on Niagara Street to Porter Ave. to Ramp PN. Traffic bound for the Peace Bridge that did not take this

alternate route would be directed past Exit 9 and onto Exit 12 - Amherst Street to Niagara Street and then south onto Porter Ave. The ITS components (Dynamic Message Signs, CCTV cameras, etc.) required to carry out these strategies are discussed in **Section 3.3.1.4.**

3.3.5.2 Wide/Long Truck Loads

An initial assessment was done to determine if the oversize trucks that are currently using Baird Drive to enter or leave the Peace Bridge Plaza will still be able to travel to/from the Plaza after the ramp modifications and the proposed removal of Baird Drive are completed as part of the Build Alternative.

Limited wide/long truck load data was provided by the PBA and evaluated for a nine-month period of PBA permits from November 2012 to July 2013. The No Build condition requires special handling by the PBA for many (approximately 48%) of these permits utilizing a U.S. Plaza counterflow movement. The Build Alternative allows for 63% of this traffic to move through the plaza without special handling by PBA or other public staff. An additional 18% can be accommodated by providing a specific time window, where certain CBP parking spaces are needed to be vacated.

Less than 19% of special loads would require special handling by the PBA utilizing the counterflow movement on Ramps A, N and PN. This action will require specific timing in the special permits and close coordination between the PBA, NYSTA and with the City of Buffalo. Consideration could be given of establishing possible specific time windows for counterflow or when parking spaces might be vacated such as between midnight and 5 AM when traffic volumes are extremely low.

The above evaluation was based on the limited information provided by the PBA and conservative estimates as to the ability of the vehicles to maneuver through the Plaza and ramps. Additional coordination with the carriers of these loads would be necessary to determine the actual maneuverability (e.g. rear wheel steering capabilities, articulating axles, etc.) of the extreme wide/long loads to determine the actual number of vehicles that would need to use the counterflow movement.

These issues have been discussed at several meetings with the Buffalo Niagara Partnership Logistics Council, and the New York State Motor Truck Association.

CHAPTER 4 – SOCIAL, ECONOMIC, AND ENVIRONMENTAL CONSIDERATIONS

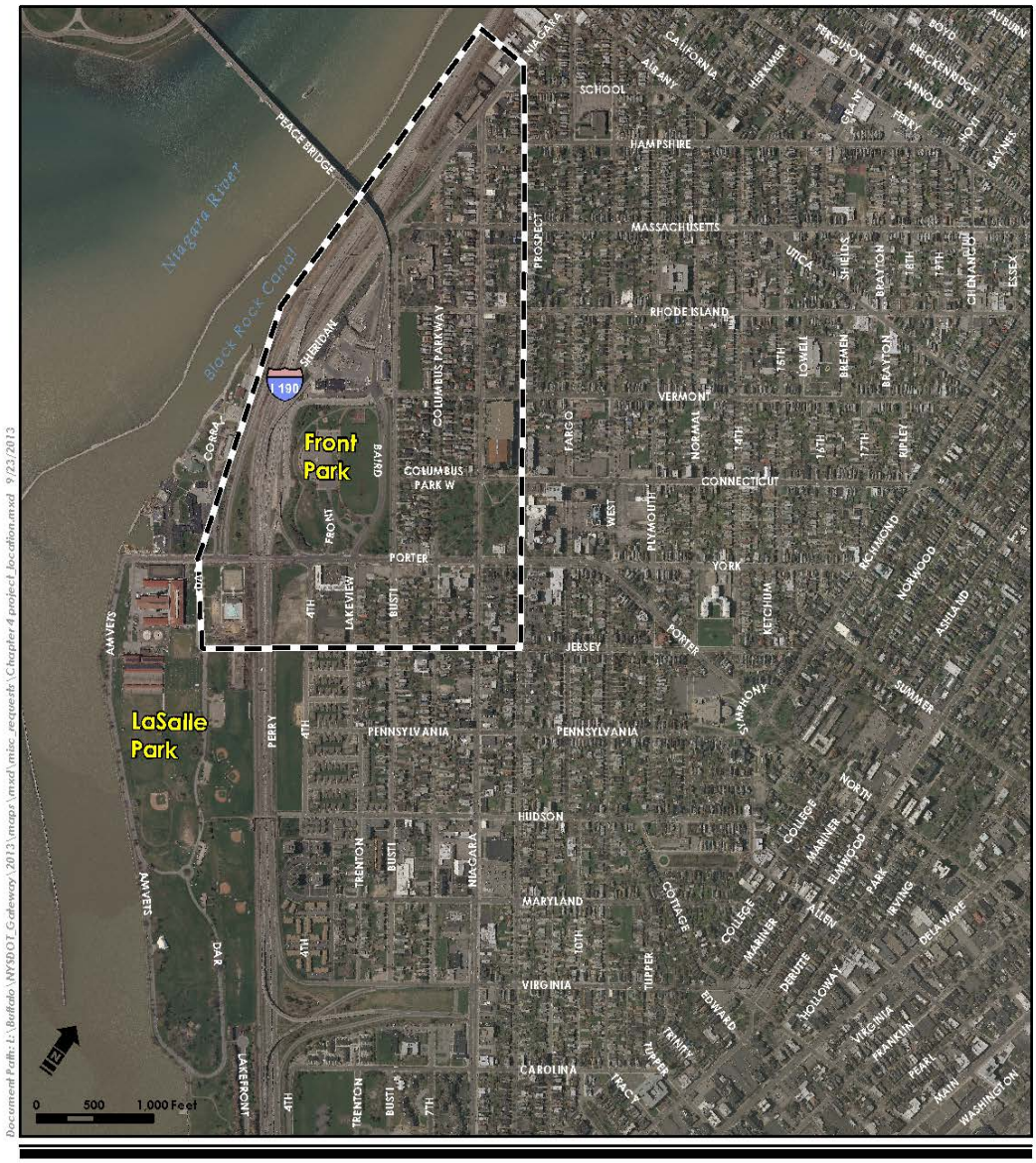
4.1. Introduction

This document was prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) of 1969 and the State Environmental Quality Review Act (SEQRA) of 1975. Both NEPA and SEQRA require a statement and evaluation of the potential significant effects associated with the proposed NY Gateway Connections Improvement Project to the U.S. Peace Bridge Plaza (Project) in sufficient detail to accurately portray the context and intensity of the effects and the likelihood of occurrence.

The New York State Department of Transportation (NYSDOT) and Federal Highway Administration (FHWA), as joint lead agencies, will advance the Project through the NEPA Environmental Impact Statement (EIS) process in consideration of community concerns about the Project's potential effects. The Project is classified as a SEQRA non-Type II action (17 NYCRR Part 15), indicating that it has the potential for environmental effects that should be evaluated under SEQRA. In accordance with 17 NYCRR Part 15, the NEPA and SEQRA processes for this Project are being coordinated; therefore, NYSDOT has no obligation to prepare an additional EIS under SEQRA. NYSDOT will give full consideration to the federal Final EIS (FEIS) and assure compliance with SEQRA requirements.

The Project is located within the west side of the City of Buffalo (see **Figure 4-1**). The Project Study Area (Study Area) as shown in **Figure 4-2** was established to reflect the anticipated changes in traffic patterns on local streets. The Study Area is larger than the actual Project Area, which reflects only the area that would be disturbed by the construction activities. The Study Area boundary begins at the intersection of Prospect Avenue and Niagara Street and parallels Prospect Avenue southward to the intersection of Jersey Street before extending westward along Jersey Street to LaSalle Park. The Study Area boundary continues northward across Porter Avenue and then parallels the western boundary of the I-190 right-of-way northward to a point where it makes a right-angle turn eastward to connect with the intersection of Prospect Avenue and Niagara Street. For some environmental concerns (e.g., air quality, noise, socioeconomics) the Study Area (see **Figure 4-2**) was enlarged to ensure that the full areal extent of potential effects the Build Alternatives would be considered.

Figure 4-1 – Project Location



NY Gateway Connections Project
Project Location
Erie County, New York

Project Study Area

SOURCE Aerial NYS office of Cybersecurity 2011
Ecology and Environment, Inc. 2012;

U.S. Department of Transportation
Federal Highway Administration

New York State
Department of Transportation

Figure 4-2 – Project Study Area

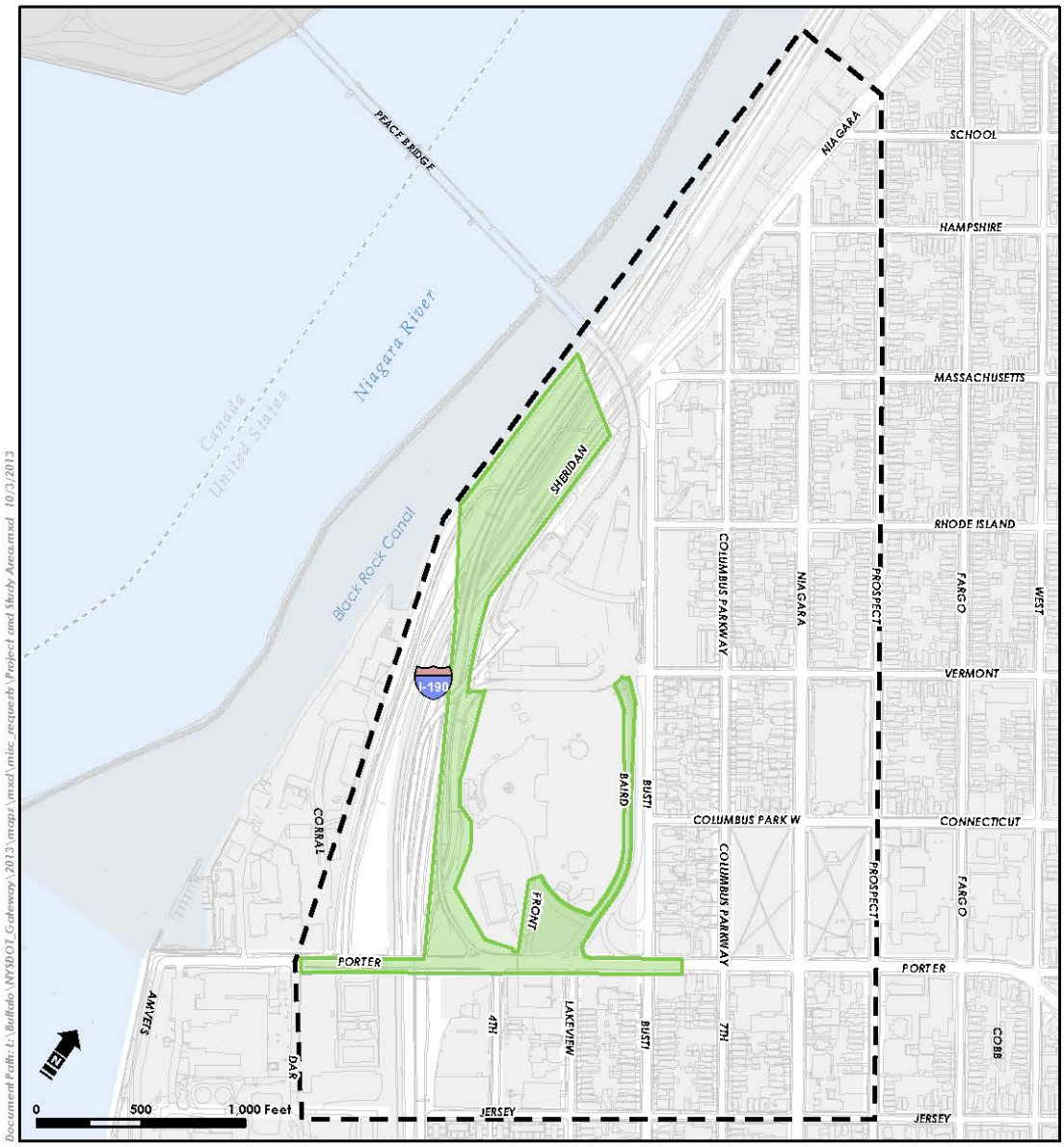


Figure 4-2
NY Gateway Connections Project
Project Study Area
Erie County, New York

Project Study Area
Project Area

SOURCE Ecology and Environment, Inc.

U.S. Department of Transportation
Federal Highway Administration

New York State
Department of Transportation

Chapter 4 describes the affected environment and provides an evaluation of the social, economic, and environmental effects associated with the Project, which includes the construction and operation of the proposed new ramps to the U.S. Peace Bridge Plaza (Plaza), the removal of Baird Drive through Front Park, and the alterations to Porter Avenue (Build Alternative). The primary objectives of the Project are to address the need for direct access from the Plaza to the northbound lanes of Interstate 190 (I-190), to redirect through traffic from Front Park, and to remove Baird Drive.

As detailed in **Chapter 3**, the Build Alternative presented in this Draft EIS (DEIS) was developed to: (1) minimize adverse effects; (2) incorporate community and agency feedback into the design elements of the Project; and (3) add certain features to improve the aesthetic qualities of Front Park after the removal of Baird Drive. The Build Alternative provides for enhanced connectivity between the Niagara River waterfront, Front Park, and the adjacent neighborhood.

Mitigation measures, if determined to be necessary to eliminate or minimize effects, would be incorporated during the Project's final design and are presented in the respective sections below. The approach taken by the lead agencies throughout the process has been to avoid effects to the extent practicable while continuing to achieving the Project's stated purpose and need (see **Chapter 2**).

4.2. Social

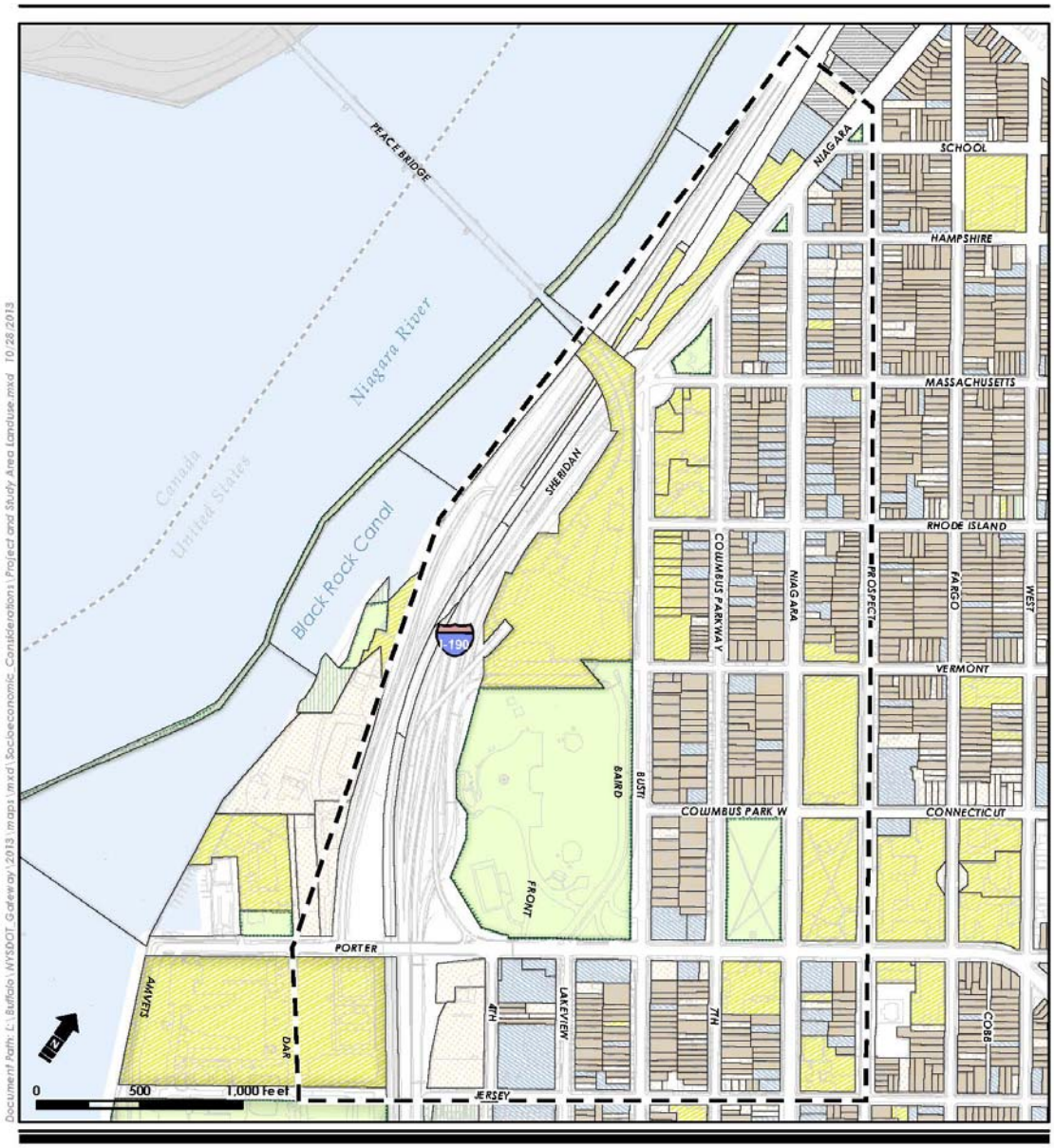
The Project is located on the western edge of the West Side neighborhood of Buffalo, New York. Residential development began in this neighborhood in the 1850s, and today it is composed of a mix of residential, commercial, and industrial uses (see **Figure 4-3**). The Project Area is separated from the residential neighborhoods by Busti Avenue to the east, Porter Avenue to the south, by the Black Rock Canal and other non-residential properties bordering the Black Rock Canal (e.g., West Side Rowing Club) to the west, and the Plaza to the north.

4.2.1. Land Use

Existing Conditions

The neighborhood area surrounding the Project Area is almost entirely developed, with open space limited to designated park land and other smaller green spaces. High- to moderate-density residential areas exist throughout most of the Study Area with commercial establishments limited mostly to Porter Avenue and Niagara Street (see **Figure 4-3**).

Figure 4-3 – Land Use



The City of Buffalo approved a comprehensive plan in 2006 to guide its development (COB, 2006). The Project is located within the West Side Planning Neighborhood, one of eleven planning communities throughout the city. The West Side community consists of dense residential areas interspersed with small commercial establishments and some older industrial developments along the major thoroughfares (e.g., Niagara Street). The Study Area encompasses a wide variety of zoning designations with the predominate zoning surrounding the Project Area being R3 dwelling (residential). Permitted uses include, but are not limited, to single-, double-, and multi-family residential units; churches, not-for-profit uses and schools; and colleges, hospitals, and accessory uses or structures. Niagara Street contains several scattered local business districts, including the C1 business district (between Rhode Island Street and Massachusetts Avenue) and the CM general commercial district (to the northeast, beyond the Study Area). Permitted uses in the C1 district include all uses permitted in the residential districts, including apartments/hotels, room and boarding houses, offices and clinics, funeral homes, day nurseries, neighborhood retail businesses and services, banks and offices, restaurants, and public parking and accessory uses or structures. Permitted uses in the CM general commercial district include banks, business and professional offices; restaurants, contracting shops, passenger terminals/stations, and manufacturing and processing businesses; car washes; warehousing and accessory uses or structures; and dry cleaning shops, automobile repair shops, veterinary hospitals, and laboratories. The areas west of I-190 that run along the Niagara River are zoned M1 (light industrial). Uses permitted in this district include all uses permitted in the metal working shop, and concrete products manufacturing.

Properties fronting on Busti Avenue between Massachusetts Avenue to the north and Porter Avenue to the south, and on Porter Avenue from Fourth Street to Seventh Street, are in an area designated as the Porter-Busti Special Zoning District (PB). Compatible with the district's gateway role, as defined in Section 511-62 of the City of Buffalo Charter and Code, the PB district was formed "to create an economic climate which will foster the proper commercial growth and development along Porter Avenue," while protecting against possible commercial overdevelopment in a densely populated residential neighborhood. This district aims to alleviate existing traffic problems and helps to keep the traffic from increasing on adjacent quiet residential streets. It is the area designated as the PB district that lies immediately adjacent to the Project Area.

The City of Buffalo is currently in the process of developing a new Green Code that will include a new land use plan and zoning ordinance that builds upon Buffalo's Comprehensive Plan (COB, 2012). This form-based code will replace the existing zoning plan that was developed in 1951. The new code will include a set of standards to guide development based on place-based character rather than specific land uses. The Draft Green Code, though not yet adopted by the City of Buffalo, identifies the West Side as an Urban Center neighborhood and as one of Buffalo's oldest neighborhoods, characterized by small, densely packed residential lot sizes and scattered, walkable commercial establishments.

The City of Buffalo Local Waterfront Revitalization Program (LWRP), drafted in 2007 but not officially adopted by the City, addresses land use policies near the Project Area (COB 2007). The Project Area is contained within Sub-Area 2 – Central/Downtown Area. This Sub-Area includes the upstream portion of the Niagara River from the border crossing extending south along the Lake Erie shoreline and the mouth

of the Buffalo River. This Sub-Area encompasses the neighborhood to the north of Porter Avenue and west of Niagara Street. The City intends this Sub-Area to be a major regional attraction and center for tourist activities.

The LWRP states that "the redevelopment of the Peace Bridge Plaza, which is a key node in the waterfront transportation system, should be aimed at improving overall traffic flow between the U.S. and Canada, as well as enhancing shared-border management, establishing the area as a gateway for the City and region, and improving connections between the surrounding parkland and nearby residential neighborhoods."

Effects

No Build Alternative

The No Build Alternative would continue to conform to existing and proposed zoning, but would not address traffic concerns.

Build Alternative

The Build Alternative is consistent with and would have no effect on current zoning and zoning under the Draft Green Code. Properties along Porter Avenue and Busti Avenue are currently zoned as Porter-Busti District. The neighborhood in the Study Area is a mix of neighborhood retail business and multi-family dwellings, including converted homes and apartment buildings. Consistent with the goals of the Porter-Busti District, the Build Alternative would help to reduce the use of residential neighborhood streets by border-crossing traffic and facilitate the flow of traffic to and from the Plaza.

Based on the Draft Green Code, the neighborhood within the Study Area would be identified primarily as Restricted Urban Center-Restricted (compact area generally restricted to residential), along with some Retail Strip zoning along Porter Avenue. The Project Area is identified as Transportation Corridor, and Front Park is designated as Open Space. The Draft Green Code indicates that retail parcels along Porter Avenue may be transitioned to Urban Center-Pedestrian (traditional mixed-use streets with pedestrian-scale ground floor frontages). The Draft Green Code calls for efforts to improve traffic flow through the border crossing while minimizing effects on Front Park and the surrounding neighborhood (COB, 2012).

The Build Alternative would remove Baird Drive, enhancing neighborhood connectivity to Front Park.

4.2.2. Neighborhoods/Community Cohesion/Residential Displacements

Existing Conditions

A number of factors affect the cohesion and character of neighborhoods. The presence of public facilities and service providers are positive factors that contribute to a sense of community. The vitality of local businesses and employment opportunities exert a strong influence on community cohesion. The city has a number of attractive, stable, well-built neighborhoods, but some neighborhoods have experienced loss of population and deterioration during the past 10 to 20 years. The loss of jobs in the city, out-migration to the suburbs and beyond, and the increase in individuals and families living below the poverty line and

depending on social assistance have contributed to these trends. In recent years the City has set up the Good Neighbors Planning Alliance and established "Comprehensive Code Enforcement Areas" as part of a "Livable Communities Initiative," to help focus efforts to improve local housing and neighborhood programs. The HUD Hope VI project is an example of the efforts being put forth to revitalize the Lower West Side of Buffalo (COB 2006). As a result of these efforts the West Side neighborhood exhibits a high level of cohesion, with a strong sense of community and broad ethnic diversity.

Effects

No Build Alternative

The No Build Alternative would have a continuing, long-term negative effect on the overall character of the local neighborhood immediately adjacent to the Project Area by continuing the use of local roads by interstate traffic and limiting access to Front Park.

Build Alternative

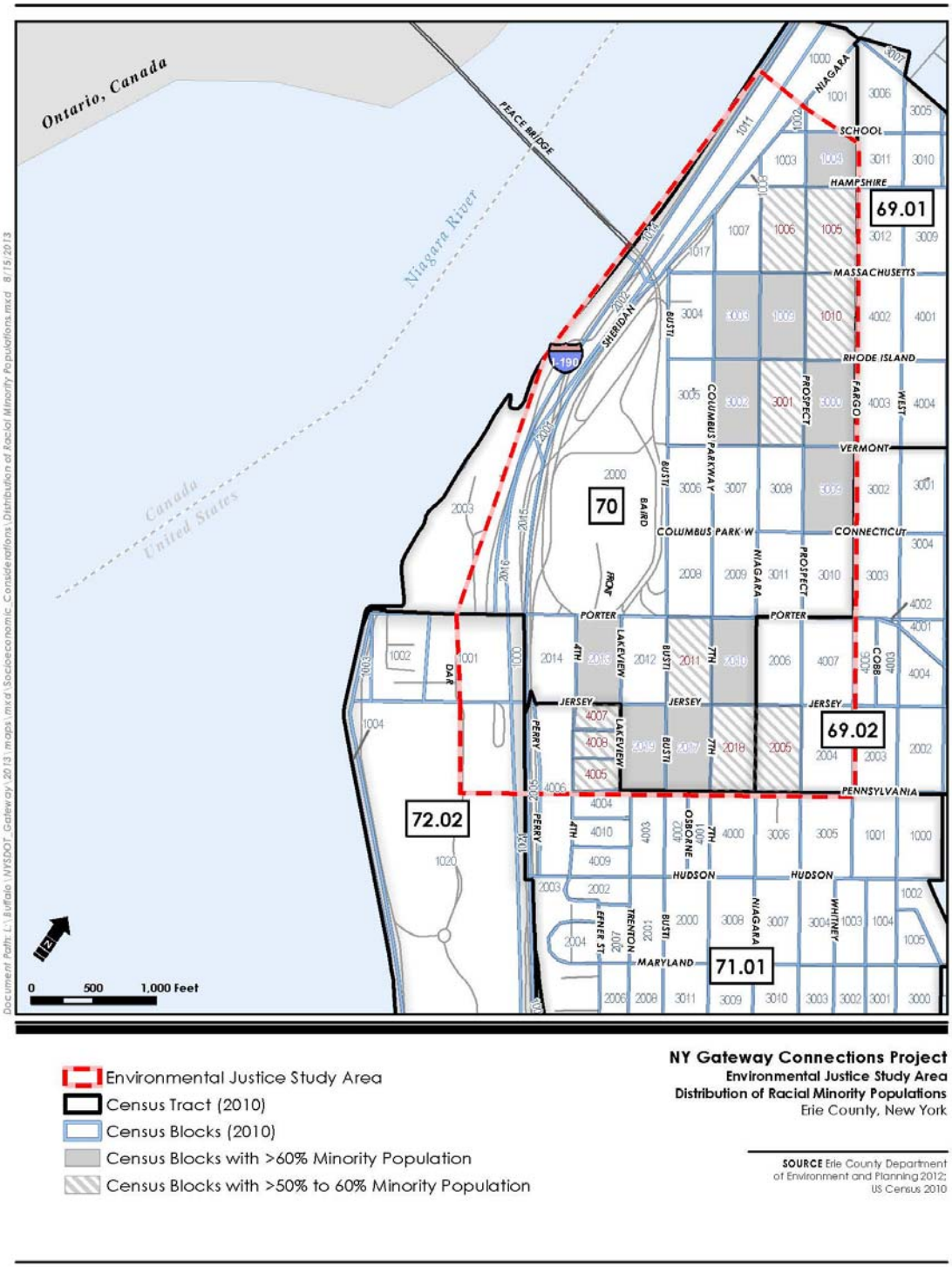
The Build Alternative would have no adverse effect on community cohesion because it would not result in the acquisition of residential property, division or isolation of neighborhoods, or disruption or alteration of any existing community service boundaries (i.e., school districts, police, or fire districts). Right of Way acquisition of any non-residential property (publically or institutionally owned) will be done in compliance with the NYSDOT ROW Manual, Uniform Act, and 49 CFR 24.

4.2.3. Social Groups Benefited or Harmed/Environmental Justice Populations

Existing Conditions

The Environmental Justice Study Area (EJ Study Area) (**see Figure 4-4**) was designated based on the anticipated maximum extent of effects on air quality that would result from the Build Alternative and in consultation and coordination with NYSDOT and USEPA. The Air Quality Study Area was chosen as this study area represented the maximum extent to which effects from this Project would be experienced. The EJ Study Area extends eastward to Fargo Avenue and southward to Pennsylvania Street. For the analysis of income and poverty levels, Census Block Group data were considered from an even broader area than this EJ Study Area. For comparison purposes, the analysis considered Erie County, the City of Buffalo, and Census Tract 70 as whole entities as they completely encompass and extend well beyond the limits of the Project Area and the EJ Study Area. Data from the 2010 U.S. Census show that the demographics of Census Tract 70, within which the Project Area entirely resides, are similar to that of the EJ Study Area, although there is some variation when comparing data from individual block groups.

Figure 4-4 – Environmental Justice Study Area



As shown in **Table 4-1**, approximately 49% of the population within the EJ Study Area is white, which is comparable with the population of the City of Buffalo as a whole (50%). The next largest racial groups in the EJ Study Area include African Americans (21.9%) and other races (17.2%). These percentages are similar to the population within Census Track 70 but different from the rest of the City of Buffalo, where African Americans comprise 38.6% of the total population and other races account for 3.9% of the citywide population. Individuals reported as Two or More Races account for 4.2% of the EJ Study Area population, 4.0% of Census Tract 70 and 3.1% of the city-wide population. The percentage of Asians in the EJ Study Area (6.5%) is less than in Census Tract 70 (8.2%) but double the percentage reported within the city (3.2%). Native Hawaiians and Other Pacific Islanders accounted for less than 1% of the total population in the EJ Study Area, Census Tract 70, and city-wide. The ethnic Hispanic population, which includes multiple races, comprises less than 37% of the population within the EJ Study Area and over 40% of Census Tract 70 as a whole, but only 10.5% of the City of Buffalo's total population.

Table 4-1 – Race and Ethnicity Data for Project Study Area

	Erie County		City of Buffalo		Census Tract 70		Project Study Area*	
	Total	Percent	Total	Percent	Total	Percent	Total	Percent
Total Population	919,040	100.0	261,310	100.0	3,133	100.0	3,955	100.0
Race								
White	735,244	80.0	131,753	50.4	1,433	45.7	1,930	48.8
Black or African American	123,931	13.5	100,774	38.6	671	21.4	866	21.9
American Indian and Alaska Native	5,908	0.6	2,009	0.8	32	1.0	44	1.1
Asian	23,789	2.6	8,409	3.2	257	8.2	257	6.5
Native Hawaiian and Other Pacific Islander	219	0.0	119	0.0	11	0.4	12	0.3
Some Other Race	13,427	1.5	10,247	3.9	603	19.2	680	17.2
Two or More Races	16,522	1.8	7,999	3.1	126	4.0	166	4.2
Ethnicity								
Hispanic or Latino**	41,731	4.5	27,519	10.5	1,276	40.7	1,459	36.9

Source: 2010 U.S. Census.

*Includes Block Groups listed which abut the Study Area or are adjacent to blocks abutting the Study Area (see **Figure 4-4**).

**Hispanic or Latino refers to an ethnicity and language, not race therefore population total overlaps with the race.

Executive Order 12898, Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations, February 11, 1994, requires Federal Actions to evaluate any disproportionately high or adverse effects on minority and low-income populations. Additionally, NYSDOT Order 5610.2(a) Department of Transportation Action to Address Environmental Justice in Minority Populations and Low-Income Populations, May 2012, requires the NYSDOT to evaluate the potential for disproportionate effects on these populations. For the purposes of this environmental justice analysis, a "minority community" is considered to be any geographic area where: (1) the minority population of the affected area is greater than 50%, or (2) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate geographic area of analysis. The 2010 Census data for the following geographic areas were used to analyze effects of the Project with respect to minority populations:

- Erie County;
- The City of Buffalo;
- Census Tracts 69.01, 69.02, 70, 71.01, 71.02, 72.02; and
- All individual Census Blocks making up the EJ Study Area (see **Figure 4-4** for Census Blocks included in the EJ Study Area).
-

Table 4-2 shows the racial and ethnic compositions of the individual affected Census Blocks in the EJ Study Area. To provide regional context, the same indicators are presented for the City of Buffalo and Erie County. Four of the six Census Tracts and 19 of the 31 populated Census Blocks have a non-white population in excess of 50%. All six Census Tracts have an ethnic Hispanic population greater than 24.6% compared to the City (10.5%), as a whole. Only three of the 31 populated Census Blocks within the Study Area have an ethnic Hispanic population of less than the City's 10.5%. Twenty-two of the Census Blocks adjacent to the Project Area show no population numbers, as they are uninhabited.

Table 4-2 – Minority Population in Project Study Area

Geographic Unit	Total Population	White*		Total Non-White Population**		Hispanic or Latino***	
	Total	Total	Percent	Total	Percent	Total	Percent
New York State	19,378,102	12,740,974	65.7	6,637,128	34.3	3,416,922	17.6
Erie County	919,040	735,244	80.0	183,796	20.0	41,731	4.5
City of Buffalo	261,310	131,753	50.4	129,557	49.6	27,519	10.5
Census Tract 69.01	3,773	1,487	39.4	2,286	60.6	1,497	39.7
Census Tract 69.02	3,948	2,135	54.1	1,813	45.9	970	24.6
Block 2004	172	113	65.7	59	34.3	53	30.8
Block 2005	127	50	39.4	77	60.6	67	52.8
Block 2006	58	45	77.6	13	22.4	8	13.8
Block 4007	419	303	72.3	116	27.7	30	7.2
Census Tract 70	3,133	1,433	45.7	1,700	54.3	1,276	40.7
Block 1002	0	0	0.0	0	0.0	0	0.0
Block 1003	54	29	53.7	25	46.3	29	53.7
Block 1004	132	63	47.7	69	52.3	49	37.1
Block 1005	245	78	31.8	167	68.2	154	62.9
Block 1006	163	58	35.6	105	64.4	72	44.2
Block 1007	93	51	54.8	42	45.2	46	49.5
Block 1008	0	0	0.0	0	0.0	0	0.0
Block 1009	122	60	49.2	62	50.8	61	50.0
Block 1010	166	47	28.3	119	71.7	93	56.0
Block 1011	0	0	0.0	0	0.0	0	0.0
Block 1014	0	0	0.0	0	0.0	0	0.0
Block 1017	0	0	0.0	0	0.0	0	0.0
Block 2000	0	0	0.0	0	0.0	0	0.0
Block 2001	0	0	0.0	0	0.0	0	0.0
Block 2002	0	0	0.0	0	0.0	0	0.0
Block 2003	0	0	0.0	0	0.0	0	0.0
Block 2008	55	50	90.9	5	9.1	4	7.3
Block 2009	0	0	0.0	0	0.0	0	0.0
Block 2010	91	41	45.1	50	54.9	32	35.2
Block 2011	147	50	34.0	97	66.0	82	55.8
Block 2012	106	77	72.6	29	27.4	49	46.2
Block 2013	133	61	45.9	72	54.1	27	20.3
Block 2014	0	0	0.0	0	0.0	0	0.0
Block 2015	0	0	0.0	0	0.0	0	0.0
Block 2016	0	0	0.0	0	0.0	0	0.0
Block 2017	61	25	41.0	36	59.0	35	57.4
Block 2018	140	50	35.7	90	64.3	87	62.1
Block 2019	131	64	48.9	67	51.1	87	66.4
Block 3000	175	76	43.4	99	56.6	61	34.9
Block 3001	150	43	28.7	107	71.3	53	35.3
Block 3002	105	52	49.5	53	50.5	34	32.4
Block 3003	230	108	47.0	122	53.0	71	30.9
Block 3004	0	0	0.0	0	0.0	0	0.0

Geographic Unit	Total Population	White*		Total Non-White Population**		Hispanic or Latino***	
	Total	Total	Percent	Total	Percent	Total	Percent
Block 3005	50	33	66.0	17	34.0	5	10.0
Block 3006	82	46	56.1	36	43.9	20	24.4
Block 3007	123	86	69.9	37	30.1	23	18.7
Block 3008	0	0	0.0	0	0.0	0	0.0
Block 3009	240	116	48.3	124	51.7	36	15.0
Block 3010	8	8	100.0	0	0.0	4	50.0
Block 3011	0	0	0.0	0	0.0	0	0.0
Census Tract 71.01	3,642	1,361	37.4	2,281	62.6	2,170	59.6
Block 2005	0	0	0.0	0	0.0	0	0.0
Block 4005	66	14	21.2	52	78.8	33	50.0
Block 4006	0	0	0.0	0	0.0	0	0.0
Block 4007	60	19	31.7	41	68.3	24	40.0
Block 4008	51	14	27.5	37	72.5	30	58.8
Census Tract 71.02	2,681	1,063	39.6	1,618	60.4	1,034	38.6
Census Tract 72.02	1,639	1,015	61.9	624	38.1	432	26.4
Block 1000	0	0	0.0	0	0.0	0	0.0
Block 1001	0	0	0.0	0	0.0	0	0.0
Block 1020	0	0	0.0	0	0.0	0	0.0
Block 1021	0	0	0.0	0	0.0	0	0.0
Project Study Area Totals****	3,955	1,930	48.8	2,025	51.2	1,459	36.9

Source: 2010 U.S. Census.
*Reported as one race
**Includes Black or African American; Asian; American Indian or Alaskan Native; Native Hawaiian or Other Pacific Islander; Some Other Race Alone; and Two or More Races.
***Hispanic or Latino refers to an ethnicity and language, not race therefore population total overlaps with the race.
****Includes Block Groups listed which abut the Study Area or are adjacent to blocks abutting the Study Area (See Census Tract Map).

Census Block Group data were used to evaluate effects on low-income populations. The Block Groups included in **Table 4-3** encompass all of the Census Blocks in the EJ Study Area and some additional blocks just outside of the EJ Study Area. The median household income, based on 2010 Census data, ranged from $11,465 in Block Group 4 of Census Tract 71.01 to $34, 905 in Block Group 1 of Census Tract 72.02. Census Tract 70, which includes 77.5% of the Census Blocks in the EJ Study Area, had a median household income of $21,223. Block Groups 2 and 3 in Census Tract 70 are adjacent to the Project Area and had median incomes of $28,239 and $28,750, respectively. The percentage of individuals below the poverty level varied among the Census Blocks and correlated with median income. Block Group 1 of Census Tract 72.01 had 12.8% of its population below the poverty level. The highest poverty rate was in Block Group 4 of Census Tract 71.01 where 82.4% of the population was below the poverty level. Approximately 35.5% of the population living within the Block Groups studied was below the poverty level, which is 5.5% higher than the City of Buffalo's poverty rate of 30%.

Table 4-3 – Income and Poverty Levels

Geographic Unit	Median Household Income	Population for Whom Poverty is Determined	Percent of Population Below Poverty Level
New York State	$55,603	18,710,113	14.2
Erie County	$47,372	895,442	14.0
City of Buffalo	$30,043	256,303	29.6
Census Tract 69.01	$16,881	3,511	52.6
Census Tract 69.02	$25,430	3,973	41.3
Block Group 2	$29,901	1,039	18.1
Block Group 4	$26,083	951	56.3
Census Tract 70	$21,223	3,133	46.0
Block Group 1	$16,547	1,096	48.3
Block Group 2	$28,239	612	47.1
Block Group 3	$28,750	1,425	43.8
Census Tract 71.01	$15,773	4,241	58.5
Block Group 4	$11,465	1,016	82.4
Census Tract 71.02	$12,492	2,582	62.5
Census Tract 72.02	$34,905	1,276	12.8
Block Group 1	$34,905	1,276	12.8
Income Study Area*	n/a	7,415	35.5

Source: U.S. Census Bureau 2010.

* Includes above Census Block Groups.

Effects

No Build Alternative

The No Build Alternative would not cause additional effects on the local minority or low-income populations on the West Side of Buffalo because there would be no changes to the access routes to the existing Plaza. Minority and low-income populations would not benefit from any potential reduction in local traffic and/or improved access to Front Park under the No Build Alternative. This alternative would not affect the local population, and no disproportionately high or adverse effects on low-income populations would be experienced.

Build Alternative

The Build Alternative would not affect the racial or ethnic distribution of the adjacent neighborhoods; nor would it involve the taking of any residential properties or expansion of the current traffic pattern within the neighborhood adjacent to the Project Area. Improvements to the signaling and establishment of improved access to both Front and LaSalle Parks and the waterfront results in beneficial effects to the population living within the EJ Study Area.

The racial distribution in the EJ Study Area as a whole is similar to that of the entire City of Buffalo; however, variation exists among individual Census Blocks. Twenty-two of the 53 Census Blocks encompassed by the EJ Study Area are uninhabited. The racial makeup of the population within the remaining 31 Census Blocks varies greatly. The percentages of the non-white population ranges from 3.4% in Block 2006 of Census Tract 69.02 to 78.8% of Census Block 4005 in Census Tract 71.01 (see **Table 4-2** and **Figure 4-4**).

Twenty of the populated individual Census Blocks within the EJ Study Area have racial minority of greater than 50%. This compares to the City's average of 49.6%. Ten of these 20 Census Blocks have between 50.5 and 59.0% minority populations. The remaining 10 Census Blocks of the 20 have a minority population ranging from 60.6 to 78.8%. Two of the 20 Census Blocks with higher than 50% minority populations (Nos. 2011 and 2013) are situated along the south side of Porter Avenue and immediately adjacent to the Project Area. All of the remaining 18 Census Blocks are separated from the Project Area by at least one or more city blocks.

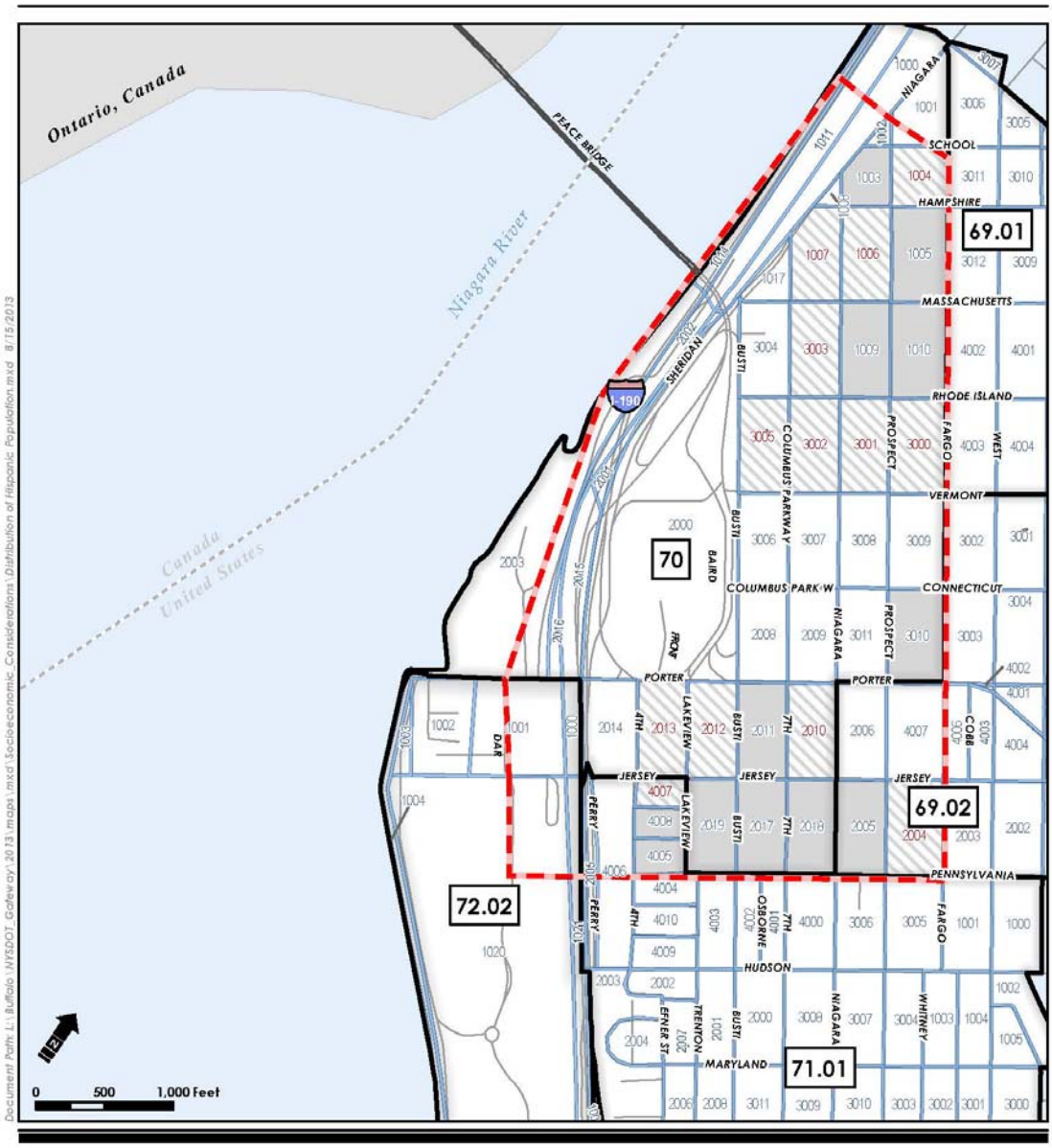
Four of the seven Census Blocks located along Busti Avenue and Porter Avenue immediately adjacent to the Project Area have white populations ranging from 56.1 to 90.9%. The seventh Census Block (#2014) is vacant land.

The Hispanic population makes up greater than 50% of the total population in 12 of the 31 populated Census Blocks within the EJ Study Area (see **Figure 4-5**). An additional 13 Census Blocks have greater than 20% Hispanic population. These numbers compare to a city-wide Hispanic population estimated at 10.5%. Six populated Census Blocks adjacent to the Project Area along Busti Avenue and Porter Avenue have ethnic Hispanic population percentages in excess of 20% (Census Block 2011 has a 55.8% ethnic Hispanic population and Census Blocks 2010, 2011, and 2012 of Census Tract 70 have between 20.3 and 46.2% ethnic Hispanic populations). Since this Project is not designed to increase the amount of traffic entering the Plaza and would result in less traffic exiting the Plaza through the immediate neighborhood (Baird Drive to Porter Avenue), the Project would not have an adverse effect to the population within the Study Area, but would have an overall beneficial effect to the entire West Side neighborhood population in the long-term.

Income data from the Year 2010 Census is provided only on the Block Group level and not by the individual Census Blocks. Therefore, the data presented here represent a slightly larger area than that used for the previous discussions (see **Figure 4-6**). Approximately 36% of the population within the EJ Study Area lives below the poverty level; this compares to 29.6% in the City of Buffalo. Two of the seven Block Groups have greater than 50% of the population living below the poverty level (Block Group 4 of Census Tract 71.01 and Block Group 4 of Census Tract 69.02). Both of these Block Groups are located a minimum of one block from the Project Area. Three block groups have a reported percentage of the population living below the poverty level ranging between 43.8% and 48.3% (Block Groups 1, 2, and 3 of Census Tract 70). Block Groups 2 and 3 of Census Tract 70 encompass the seven Census Blocks immediately adjacent to the Project Area. The remaining two Block Groups (Block Group 1 of Census Tract 72.02 and Block Group 2 of Census Tract 69.02) have a poverty rate of 18.1% or lower.

The percentage of individuals living within Block Groups 2 and 3 of Census Tract 70 that are below the poverty level is 47.1% and 43.8%, respectively. The median household income in these two Block Groups ranges from $28,239 to $28,750 or 6.0% or less than the City's median income of $30,043. As stated in the discussion above, this Project is not designed to increase the amount of traffic entering the Plans and would have an overall beneficial effect on all residents within the Study Area; it would result in less traffic exiting the Plaza through the immediate neighborhood (Baird Drive to Porter Avenue) and the West Side neighborhood in the long-term.

Figure 4-5 – Distribution of Ethnic Hispanic Populations Within the Project Study Area

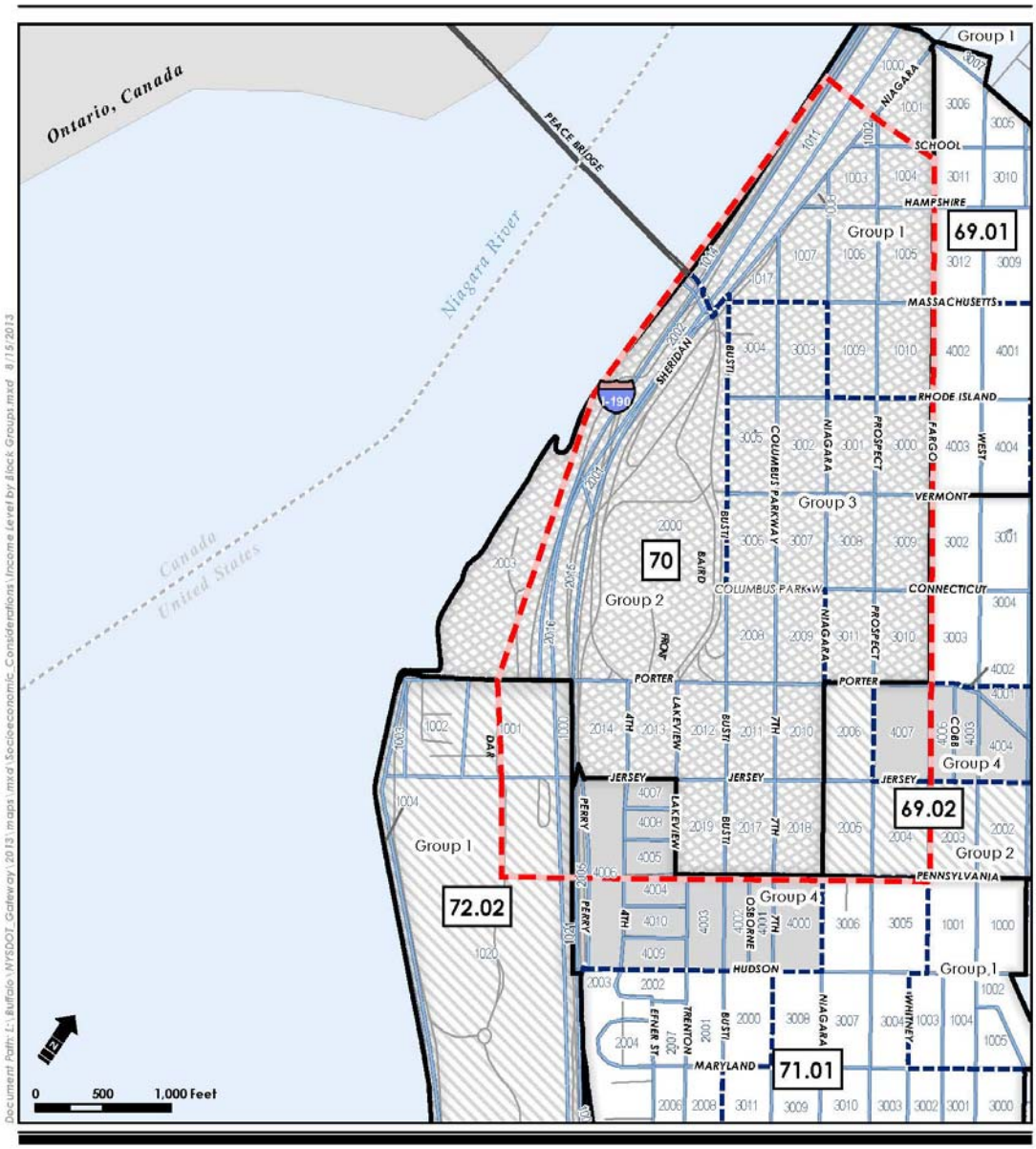


Environmental Justice Study Area
Census Tract (2010)
Census Block (2010)
> 50% Hispanic Population
20% to 50% Hispanic Population

NY Gateway Connections Project
Environmental Justice Study Area
Distribution of Hispanic Population
Erie County, New York

SOURCE Erie County Department of Environment and Planning 2012; US Census 2010

Figure 4-6 – Income Levels by Block Groups



NY Gateway Connections Project
Environmental Justice Study Area
Income Level by Block Groups
Erie County, New York

Environmental Justice Study Area
Census Tract (2010)
Census Block Group (2010)
Census Block (2010)
> 50% Below Poverty Level
40% - 50% Below Poverty Level
< 30% Below Poverty Level

SOURCE Erie County Department of Environment and Planning 2012; US Census 2010

Consistent with the NYSDOT's commitment to Title VI of the Civil Rights Act of 1964 and Executive Order 12898 regarding environmental justice, efforts were made to provide minority and low-income communities with meaningful access to public information and involve the public in the development of reasonable alternatives. A public scoping meeting was held on June 11, 2013 at D'Youville College. A follow-up meeting with the Hispanic community was held on July 2, 2013 at the Belle Center. Both meeting locations are located within the West Side neighborhood. The public was informed of the proposed Project work elements, the Project's schedule, and the NEPA process, and asked to submit comments, questions and suggestions of potential development alternatives. An extended comment period (see **Chapters 7.3** and **7.4**) provided an initial opportunity for the public to submit their input to the design process.

Following the public scoping meeting, information concerning the Project was posted on the Project webpage, which includes a place for the public to provide additional comments during the entire NEPA EIS process. All written comments received from the public as well as from participating and cooperating agencies were considered and recommendations were evaluated. NYSDOT provided responses to these comments as an attachment to the Project Scoping Report.

4.2.4. Community Facilities and Services

Existing Conditions

Only one Buffalo public school is located within the Study Area: School No. 3 (D'Youville Porter Campus), located on the southwest corner of Niagara Street and Porter Avenue. Two Buffalo public schools are located within approximately 0.5 mile of the Project Area and outside of the Study Area: School No. 18 (Dr. Antonia Pantoja Community School of Academic Excellence), located two blocks east of Niagara Street on Hampshire Street between Fargo Avenue and West Avenue; and School No. 212 (Leonardo da Vinci High School), located at the corner of Fargo Avenue and Porter Avenue. The former School No. 49, located on Vermont Street between Fargo Avenue and West Avenue, has been converted into the West Side Community Center.

The Study Area is characterized as predominantly urban residential, with a scattering of small commercial establishments providing a variety of services to local residents. Police and fire services are readily available, although no police stations or fire houses are located within the Study Area. The Study Area lies within District B of the Buffalo Police Department, and the district station house is located at 695 Main Street. Fire Department services for this neighborhood are provided primarily through a fire house located at 500 Rhode Island Street, approximately 1 mile from the Study Area, and a second fire house located at 376 Virginia Avenue, approximately 1.1 miles from the Study Area.

The Hutchinson Chapel, the only religious facility within the Study Area was part of the former Episcopal Church Home. The entire Church Home complex was de-consecrated by the Episcopal Church in 2005, and formally closed in the fall of 2005 when its last residents were relocated to other facilities throughout the western New York region. There are no public health facilities for local residents inside the Study Area.

A discussion of the parks and recreational facilities located within the Study Area can be found in **Section 4.4.12** of this DEIS.

Effects

No Build Alternative

The No Build Alternative would not affect any community facilities or services because there would be no changes in the existing conditions within the Study Area.

Build Alternative

The Build Alternative would have no effect on community facilities in the Study Area as no facilities would be acquired or have their access disrupted as part of this Project. This Project would have no effects on schools or their enrollment.

The Project would have no permanent effect on local police, fire protection, or ambulance services. Localized short-term delays to motorists traveling on roadways adjacent to the Project Area may result from associated construction activities. Construction activities would avoid peak traffic flows to minimize the effect on adjacent roadways. However, access to all residences and commercial establishments would be maintained at all times throughout the construction period, and normal response times would be maintained. Following construction of the Build Alternative, fire and police services and response times would be the same as prior to construction.

4.3. Economic

Existing Conditions

For the purposes of this analysis, the Project's region has been defined as the Buffalo-Niagara Falls, New York, Metropolitan Statistical Area (MSA), which includes all of Erie and Niagara counties, including the City of Buffalo and the City of Niagara Falls. This region is where a majority of the construction expenditures needed to complete the Project are expected to be made and is, therefore, the area where the positive economic effects associated with construction are likely to occur. Local businesses and the business district are defined as those establishments located within the Study Area.

The Buffalo-Niagara Falls MSA is the second largest economic region in New York State, with an estimated 579,813 persons in the labor force in 2011. The educational services and health care and social assistance sector is the largest single employment sector in the region, employing an estimated 148,378 workers, or approximately 28.1% of the employed labor force. Other large employment sectors in the region include the retail trade sector, which employs 62,527 workers, or 11.8% of the employed labor force, and the manufacturing sector, which employs 55,519 workers, or 10.5% of the employed labor force. In contrast, during the same time period (2011), the construction sector employed 23,068 workers, or only 4.4% of the employed labor force (U.S. Census Bureau n.d.).

For the Buffalo-Niagara Falls MSA, the median household income in 2011 was $47,081 and the per capita income for the region was estimated to be $26,444. Approximately 14.8% of the total population in the Buffalo-Niagara Falls MSA had incomes that fell below the poverty level (U.S Census Bureau n.d.).

Businesses located in the local Study Area are concentrated primarily along Porter Avenue between Columbus Parkway and Busti Avenue, and along Niagara Street between Hampshire and Vermont Streets. The businesses located on Porter Avenue include a Burger King restaurant, a Mobil gas station, and an ice cream/custard stand. Businesses located on Niagara Street within the Study Area include a dental office, hair dressers/barbers; car care facilities; a party store; a pizza restaurant; convenience stores and several delis and ethnic markets. In addition, a restaurant supply store is located on Rhode Island Street near Niagara Street.

Effects

No Build Alternative

The No Build Alternative would have no effect on the economy of the Buffalo-Niagara Falls MSA. The Project would not be built; therefore, no additional construction expenditures would be made in the region and no additional employment or income would be generated in the regional economy.

Businesses within the Study Area would not be affected by any changes in local traffic patterns, which would remain the same. Therefore, incidental sales associated with cross-border traffic using Porter Avenue and along Niagara Street would remain unchanged.

Build Alternative

The Project has the potential to have minor, short-term, positive economic effects on the local and regional economies if local workers and construction materials are used to construct the new entrance ramps and traffic layout. It currently has not been determined the extent of local construction workers or purchase of local construction materials, that will be required during construction. However, it is anticipated that any local expenditures for the Project would have a positive effect on the local and regional construction industries and on local construction employment for the duration of the Project's construction period. In addition to the direct expenditures and employment effects, the Project would have the potential to generate additional indirect economic benefits from the increased economic activity. A portion of the wages paid to construction workers would be expected to be spent locally, by workers who are recruited from the Buffalo-Niagara Falls MSA labor force. Furthermore, increased revenues resulting from the purchases of goods and services and letting of construction contracts would inject funds into the greater regional economy.

As the overall demand for goods and services in the region increases, merchants may respond by increasing employment at their operations and/or purchasing more goods and services from their providers. These providers may then, in turn, increase employment in their establishments and/or spend a portion of their income in the region, thus "multiplying" the positive economic effects of the original increase in construction spending many times. These "multiplier" effects would continue on until all of the original funds have left the region's economy through either taxes, savings, or through purchases from

outside the region. Since construction expenditures are one-time in nature, the positive economic effects would be short-term in nature and would end not long after construction is completed.

In addition to the regional economic effects associated with construction expenditures, local shippers and haulers may experience minor positive economic effects as traffic delays are reduced due to the more efficient pattern of traffic entering and exiting the Plaza.

Effects on local businesses and the business district within the Study Area would be minimal. A slight reduction in cross-border traffic on Porter Avenue and Baird Drive may cause a slight reduction in sales volume at a few local establishments. The Mobil gas station and the Burger King restaurant, both of which are located at or near the intersection of Porter Avenue and Columbus Parkway, are the businesses most likely to experience any affect as a result of the proposed change in traffic patterns. However, this impact would be minor. Currently, an estimated 160 vehicles (trucks and cars) exit the Plaza via Baird Drive per hour to enter the City of Buffalo, while an additional 345 vehicles per hour from the local city streets enter the Plaza via Baird Drive. This Project would not lead to a change in the number of vehicles entering the Plaza via Porter Avenue. The vehicles currently utilizing Baird Drive would travel a few hundred yards further to the west on Porter Avenue and enter the Plaza via the new Ramp PN at the southwest corner of Front Park. Therefore, the same number of vehicles would still travel past these two establishments as they make their way to the new entrance ramp near the Porter Avenue Bridge over I-190. However, traffic exiting the Plaza would no longer be able to use Baird Drive, as they would be guided to either I-190 ramps to the north and south or towards Niagara Street via Sheridan Terrace. Therefore, 160 fewer vehicles per day would traverse Porter Avenue and have the opportunity to use either or both establishments if the Build Alternative were to be implemented. While a small portion of this traffic may stop to use these businesses.

A majority of the businesses located within the Study Area are either small neighborhood businesses that primarily serve local residents or are destination businesses, such as the Niagara Prime Restaurant Equipment Sales, whose customers come from throughout the region. Neither type of enterprise is likely to be substantially affected by the change in traffic volume as they do not rely on incidental drive-by customers for much of their business.

4.4. Environmental

4.4.1. Wetlands

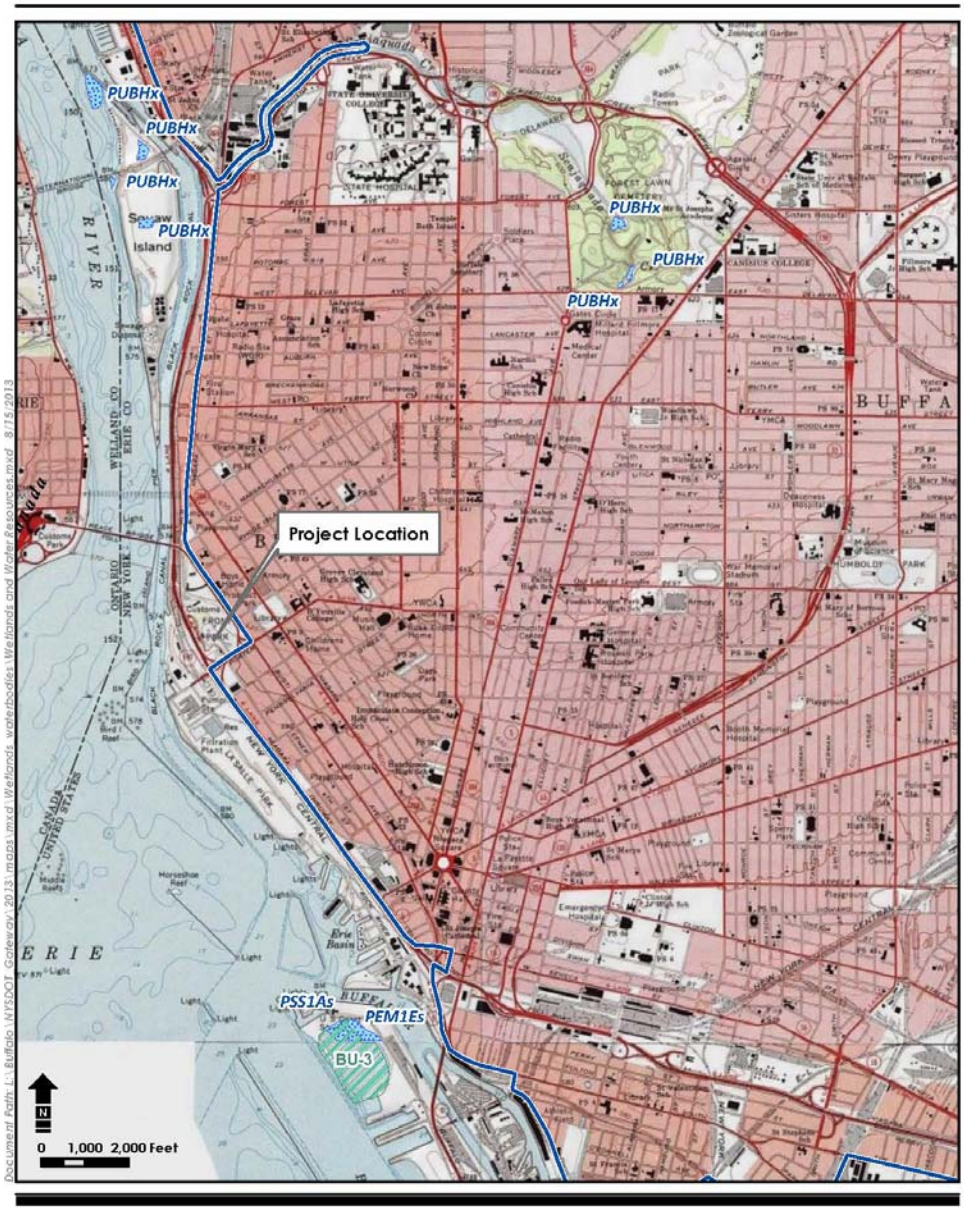
Existing Conditions

An analysis consisting of a detailed desktop analysis combined with field verification confirmed that no wetlands exist within the Project Area**.** (See **Figure 4-7**).

The analysis and field verification indicates the closest National Wetland Inventory (NWI)-mapped wetlands are located approximately 1.5 river miles north (downstream) of the Project Area on Squaw Island. The four separately mapped wetlands are all mapped as PUBHx (i.e., palustrine, open-water, unconsolidated bottom, permanently flooded and excavated ponds). These four wetlands appear to be the result of topographic alterations resulting from landfill activities that have taken place on the island. Executive Order 11990 “Protection of Wetlands” does not apply to this Project.

The nearest New York State Department of Environment Conservation (NYSDEC) regulated mapped wetland area is located upstream and within the Buffalo Outer Harbor at the Times Beach Nature Preserve, which is adjacent to the U.S. Coast Guard station, approximately 2.3 river miles south of the Project Area. The nearest NYSDEC-regulated mapped wetlands downstream of the Project Area are located approximately 4.1 river miles northward at the southern tip of Grand Island and are located within Beaver Island State Park. These wetlands are beyond the geographic limits of **Figure 4-7**.

Figure 4-7 – Wetlands and Water Resources



NWI Federal Wetland
NYSDEC State Wetlands
Coastal Zone Management Boundary

NY Gateway Connections Project
Wetlands and Water Resources
Erie County, New York

SOURCE USGS 1:24K Quadrangle (1965 publication date); NY Department of State 2003

Effects

No Build Alternative

The closest mapped wetlands are 1.5 river miles north of the Project Area and are within the Study Area; therefore, the No Build Alternative would have no effect on wetlands.

Build Alternative

The Build Alternative would have no effect on wetlands. The closest mapped wetlands are 1.5 river miles north of the Project Area and not within the Study Area; therefore.

4.4.2. Surface Waterbodies and Water Courses/Water Quality

Existing Conditions

No surface waterbodies or water courses are located within the Study Area (see **Figures 4-2** and **4-7**).

Two principal surface waterbodies are located west of and immediately adjacent to the Study Area. They are the New York State Barge Canal/Black Rock Canal (Black Rock Canal) and the adjacent Niagara River. Lake Erie, the dominant water body in the region, is upstream and approximately 2 miles south of the Study Area. The Black Rock Canal parallels the waterfront immediately to the west of the I-190 right-of-way and extends from the Buffalo Harbor northward to its single lock at Tonawanda Harbor. The Black Rock Canal is separated from the Niagara River by the man-made Bird Island Pier. Along the bluff containing the Plaza and Front Park, several small, intermittent seeps in the hillside flow into the swales paralleling the CSX railroad line. The drainage swales along the railroad line empty into the Black Rock Canal. The area below the bluff includes the railroad line and the I-190 right-of-way, which is immediately south and west of the Plaza and Front Park. The new Ramp D extending from the Plaza to northbound I-190 would be constructed in this area (see **Figure 4-7**).

The area around Front Park and the Plaza is densely developed and has an urban stormwater collection and containment system. The collection system within the Study Area discharges water into the City's overall collection system for treatment at the Squaw Island treatment facility, which discharges the treated water into the Black Rock Canal.

Black Rock Canal. The Black Rock Canal and Lock provide a protected waterway for shipping and recreational vessels in the upstream portion of the Niagara River between Buffalo Harbor and Tonawanda Harbor. The southern terminus of the Black Rock Canal is located at the head of the Niagara River. The canal is 3.5 miles long and at least 200 feet wide at all points. Water quality in the Black Rock Canal is designated Class C by NYSDEC, indicating that the best use of these waters is for fishing. Sediments in the Black Rock Canal contain levels of organic and inorganic contamination that exceed the levels established by the U.S. Environmental Protection Agency (USEPA) and NYSDEC (USEPA 2013a).

Niagara River. The Niagara River is the main waterway connecting Lake Erie and Lake Ontario and forms part of the border between the United States and Canada. The river, which is part of the Niagara/Lake Erie drainage basin, is approximately 32 river miles in length and ranges from 110 to 2,200 yards in width.

The Niagara River, a popular recreational area, has been designated as an Area of Concern (AOC) by the International Joint Commission (IJC) because of the historic shoreline development and modifications that have severely affected the water quality and availability and integrity of fish and wildlife habitats. The IJC, which was created by the United States and Canada, provides the two countries with a mechanism to cooperatively manage the waters that lie within each of the countries, and to protect them for the benefit of all citizens. The Niagara River AOC (U.S. side), located in Erie and Niagara counties in western New York, extends from Smoke Creek near the southern end of Buffalo Harbor, north to the mouth of the Niagara River at Lake Ontario. The AOC includes the Black Rock Canal, the Buffalo River, and several other Niagara River tributaries. Past municipal and industrial discharges, waste disposal sites, combined sewer overflows, and other point and non-point sources have been sources of contaminants to the Niagara River. Aquatic life living in the AOC have been impaired by toxic chemicals such as PCBs, mirex, chlordane, dioxin, dibenzofuran, hexachlorocyclo-hexane, polycyclic aromatic hydrocarbons (PAHs), and pesticides. Metals and cyanides in the sediment prevent open lake disposal of bottom sediments dredged from the river. Contamination originating from discharges within Lake Erie's watershed contributes to effects in the Niagara River and Lake Ontario.

While contamination persists in the river's sediments, water quality within the Niagara River generally meets New York State standards and guidance values for Class A - Special Waters (USEPA, revised March 4, 2003; www.epa.gov/glnpo/aoc; 6 NYCRR Part 701.4).

Effects

No Build Alternative

The No Build Alternative would not affect surface waterbodies, water courses, or water quality adjacent to the Project Area.

Build Alternative

The Build Alternative would not affect surface waterbodies, water courses, or water quality. Project-related construction activities and the planned redirection of traffic within the neighborhood adjacent to the Project Area would not involve any actions affecting surface waterbodies, water courses, or water quality adjacent to the Project Area (i.e., there would be no excavations in or discharges to these waterbodies).

4.4.3. Wild, Scenic, and Recreational Rivers

The Project would have no affect Wild, Scenic, or Recreational River. The Niagara River is not a list Wild, Scenic, or Recreational River.

4.4.4. Navigable Waters

The Project would not affect navigable waters. The Study Area does not include the adjacent Black Rock Canal or the Niagara River, both of which are classified as navigable waterways. Therefore, the Project

would not require a Section 10 permit from the U.S. Army Corps of Engineers or a Section 9 Bridge Permit from the U.S. Coast Guard.

4.4.5. Floodplains

The Project would not affect floodplains. The Project Area is not located within an established floodplain. Executive Order 11988 "Floodplain Management" does not apply to this Project.

4.4.6. Coastal Zone Consistency Determination

Existing Conditions

In response to the Federal Coastal Zone Management Act of 1972, New York State prepared a Statewide Coastal Management Program. This program was enacted into law in 1981 and amended in 2001 to become the Waterfront Revitalization of Coastal Areas and Inland Waterways Act. The program consists of 44 state policies for protecting and improving the waterfront. In general, the inland boundary of coastal zone management areas are considered to extend approximately 1,000 feet from the shoreline following well-defined features such as roads, railroads, or shorelines.

Buffalo's coastal zone management area extends from Buffalo Harbor northward along the Niagara River (see **Figure 4-7**). The Study Area encompasses Front Park and LaSalle Park, which are identified as "key neighborhood/waterfront nodes and parks" by Buffalo's comprehensive plan (COB, 2006). The comprehensive plan calls for programs and policies to protect, restore, and promote sustainable use of waterfront resources.

The Project is federally-funded and the Project Area is located within the designated New York State Coastal Area. NYSDOT provided Federal Aid Notification (FAN) and completed Coastal Assessment Form (CAF) to the New York State Department of State (NYSDOS) (see **Appendix F – Coastal Zone Consistency Determination**) for review. The CAF identified only one applicable Coastal Zone effect--No. 2(f)--"Will the proposed activity have a significant effect upon existing or potential public recreation opportunities?"

Coastal Erosion Hazard Area. The Project Area is not located in a Coastal Erosion Hazard Area as it is not located within 1,000 feet of the shoreline of Lake Erie (Environmental Conservation Law Article 34); therefore, no designated coastal erosion hazard area would be affected by this Project.

Effects

No Build Alternative

The No Build Alternative would have no effect on established Coastal Zone Consistency Policies beyond current conditions.

Build Alternative

The Project would have no adverse effect on coastal zone management area. The Project's planned removal of Baird Drive from Front Park and improvements to Porter Avenue would contribute positively to

the local environment and quality of life of current and future West Side residents. The Project would have a positive effect on Front Park through the reunification of the 4.3-acre area of the park along Busti Avenue that is currently isolated from the rest of the park via Baird Drive and would ultimately improve access to all of Front Park for neighborhood residents and visitors. Therefore, the Project would have no potential negative effect on other Niagara Greenway Projects or the City of Buffalo's (COB's) and the Buffalo Olmsted Parks Conservancy's (BOPC's) plans for the development and restoration of Front Park and the local waterfront (BOPC 2008; COB 2006, 2007).

Part E of the CAF (see **Appendix F – Coastal Zone Consistency Determination**) further demonstrates that the Project will have beneficial effects on the existing recreational opportunities, and is consistent with the NYSDOS coastal policies.

4.4.7. Groundwater Resources, Aquifers, and Reservoirs

Existing Conditions

The Study Area is located within the Lake Erie basin, which has a recharge area encompassing thousands of square miles. Local climatic conditions and variations in Lake Erie water levels heavily influence groundwater elevations. No primary, principal, or sole-source aquifers are located beneath the Study Area (NYSDOT 2007). Potable water is supplied to the Study Area by the City of Buffalo, New York. Due to the impervious nature of the existing paved roadways and the use of stormwater collection systems within the city, surface water runoff is generally prevented from seeping into the surface soils and affecting the groundwater quality. There are no reservoirs within or near the Study Area.

The groundwater regime within the Study Area is typical of those adjacent to open water (i.e., the groundwater elevation near the edge of the open water [Lake Erie/Niagara River] is very close to the elevation of the open water). In general, as the distance increases from the open water, the groundwater elevation rises with the topography. Based on monitoring wells previously installed as part of several past subsurface exploration programs for the Buffalo and Fort Erie Public Bridge Authority, groundwater in the Study Area was found to occur at depths ranging from 7.5 to 37 feet below ground surface.

Effects

No Build Alternative

The No Build Alternative would have no effect on groundwater resources.

Build Alternative

The Build Alternative would have no effect on groundwater resources. The impervious nature of the existing road surfaces and the existence of surface water collection and conveyance systems on both local streets and the planned ramps restrict the opportunity for surface water infiltration into the groundwater. Construction of the Build Alternative would not require upgrading or replacement of the existing stormwater collection system components. Additions to the existing stormwater collection system would be required for the new Ramp D to ensure that it is able to handle future storm events. As such,

there would be little, if any, opportunity for surface water to seep into the groundwater as a result of this Project.

4.4.8. Stormwater Management

Existing Conditions

During Project-related construction and post-construction periods, erosion, runoff, and sedimentation must be controlled to prevent adverse effects on topography, water quality and quantity, storm drainage systems/pathways, and existing or potential vegetation. Erosion and sedimentation effects associated with transportation infrastructure are caused primarily during construction, when soil is stripped of protective vegetation. Soil erosion can come about when open excavations, disturbed areas, and soil stockpiles are exposed to wind, the vertical force of rain, and stormwater runoff. Sedimentation occurs when water velocities decrease and suspended particles settle out, collecting in storm sewers and drainage ways.

Highways and other paved areas that vehicles use on a regular basis are a source of metal pollution. This pollution can have substantial effects on the local watershed and water resources. To estimate the effects the Project may have on surface water quality, both current conditions and future conditions were analyzed using the Toler Method Analysis as described in the FHWA's *Pollutant Loadings and Impacts from Highway Stormwater Runoff* (FHWA 1990; see **Appendix E – Water Quality**).

Effects

Pollutants from vehicles, maintenance, and deposition of air emissions accumulate on the road surfaces. These pollutants are primarily moved from the road surfaces to surface waters by rainfall runoff and the melting of snow and ice. Although these contaminants have the potential to adversely affect the quality of surface water in the vicinity of the Project, these effects are minimized by the design of the closed stormwater collection and conveyance systems. These collection systems incorporate a combination of grit, sediment, and oil separator devices to control the initial runoff, or water quality treatment volume, thus preventing the potentially most polluted runoff from discharging directly into nearby surface waters.

Most of the stormwater flows over the Project area roadways via sheet flow and is collected in closed surface drainage collection and conveyance system prior to being discharged. The storm water collection and conveyance system carries the WQv and low flows to the Buffalo Sewer Authority (BSA) Bird Island Wastewater Treatment Plant (WWTP), where it is processed and then discharged to the Black Rock Canal. Heavy flows that exceed the capacity of the first-flush system are discharged directly to the Black Rock Canal.

Estimates were made of the concentrations of copper, lead, and zinc that would flow from the new impervious pavement into the stormwater containment system if the Build Alternative were implemented and then compared to the existing conditions. The concentrations of these metals were examined because they have been shown to be the most dominant toxic pollutants contributed by highway

stormwater runoff (FHWA 1990). The following assumptions and conditions were applied in order to complete this analysis:

- The pollution source includes the entire impervious surface area affected by the Build Alternative.
- Rainfall, stream flow, and hardness data were taken from FHWA Pollutant Loadings and Impacts from Highway Stormwater Runoff, 1990.
- Urban traffic conditions were assumed (average daily traffic greater than 30,000 vehicles per day).

The method used in FHWA Pollutant Loadings and Impacts from Highway Stormwater Runoff, 1990, assumes that an affect may occur if the ratio of the predicted once-in-three-year stream pollutant concentration of a metal to its USEPA acute criterion is 1.0 or greater. The acute criteria were developed by the USEPA for protection of freshwater aquatic life. The acute criteria concentrations increase with total water hardness (mg/L calcium carbonate [$CaCO_3$]) of the receiving water. The water hardness in the Project Area studied is expected to range from 120 to 180 mg/L $CaCO_3$; therefore, an assumed average water hardness of 150 mg/L $CaCO_3$ was used in the analysis. The once-in-three-year stream pollutant concentrations were compared with the corresponding acute criterion for each heavy metal. The acute criteria for copper, lead, and zinc are presented in **Table 4-4**.

Table 4-4 – Summary of Once-In-Three Year Stream Pollutant Concentrations

Alternative	Watershed	U.S. EPA NURP Criteria					
		Copper		Lead		Zinc	
		Acute: 0.026 Threshold: 0.060		Acute: 0.137 Threshold: 0.600		Acute: 0.450 Threshold: 0.945	
		Existing	Proposed	Existing	Proposed	Existing	Proposed
No Build	Existing	0.0001	N/A	0.0004	N/A	0.0013	N/A
Build	U.S. Side	N/A	0.0001	N/A	0.0006	N/A	0.0020

Criteria Source: FHWA, 1990.
Water Hardness = 150 mg/L CaCO3.
All concentrations shown in mg/L.
N/A = Not Applicable
NURP = Nationwide Urban Runoff Program

The acute criteria were conservatively developed using 96-hour test exposures of the most sensitive aquatic species to the pollutants, but are specified as a maximum 1-hour average with a 3-year return period. The criteria are based on a continuous exposure concept although actual exposures of aquatic

life to contaminants in stormwater runoff are intermittent and short in duration. Therefore, the USEPA Nationwide Urban Runoff Program (NURP) developed estimates of approximate concentrations that would cause adverse effects for short duration, intermittent exposures. These concentrations are referred to as threshold effect levels (FHWA 1990).

An analysis was performed of the estimated affect from the use of de-icers on the chloride concentration of the water flowing into the Black Rock Canal and ultimately into the Niagara River further downstream.

No Build Alternative

The No Build Alternative does not involve construction activities or changes in the existing traffic patterns; thus, there would be no erosion or sedimentation effects on water resources in the Project Area.

The Toler Method Analysis showed that the current concentrations of copper, lead, and zinc from the new ramps (D and PN) are well below acceptable values and have little to no effect on the environment. Predicted future concentrations for the No Build Alternative would remain well below acceptable values and have little or no effect on the environment as pollutants from both ramps are collected by closed stormwater collection systems and conveyed to the Bird Island Waste Water Treatment Plant (WWTP) before being discharged to the Niagara River. Because stormwater runoff is treated at the Bird Island WWTP, there is no surface water effect.

Build Alternative

The Project would have no adverse storm water related effects on the Project Area. The addition of Ramp D, the removal of Baird Drive, and the change to the vehicular entrance to Front Park proposed by the Project results in an overall reduction in the existing impervious pavement area associated with the current vehicular entrance and exit to the Plaza. It is these impervious pavement areas where de-icing chemicals are applied seasonally that are of concern. Soil and groundwater would not be affected by this Project due to presence of an established storm water runoff collection and containment system that collect stormwater from the current paved areas and discharges the runoff to the Buffalo Sewer Authority's Bird Island Waste Water Treatment System or the Black Rock Canal. The new paved area would be designed to collect and transport stormwater to the existing system and eliminate almost all runoff; thus minimizing the potential for effects to nearby surface waterbodies (i.e., Black Rock Canal and ultimately, the Niagara River). The new paved area would be designed to collect and transport storm water to the existing system and eliminate almost all runoff; thus minimizing the potential for affects to nearby surface waterbodies (i.e., Black Rock Canal and ultimately, the Niagara River). NYSDOT will consider the use of green stormwater management technology in the final design.

The analysis showed that future concentrations of copper, lead, and zinc resulting from the Build Alternative would remain well below acceptable values and have no effect on the environment (see **Table 4-4**).

An analysis of the effect of de-icing agents using the Toler Method Analysis (Toler 1974) resulted in a finding that the chlorine concentrations within any runoff would be less than existing 0.02% of the chloride concentration of the water in Lake Erie which provides the vast majority of the water entering the Niagara

River and the Black Rock Canal; these are the two waterways that would receive runoff from the road surfaces within the Project Area.

Standard construction methods, including reasonable measures and best management practices would be used to minimize the two critical elements of erosion and sediment control: stormwater runoff and wind exposure. State Pollutant Discharge Elimination System (SPDES) general permits (GP-0-10-001, etc.) require the completion and implementation of a Storm Water Pollution Prevention Plan (SWPPP). As part of the SWPPP, the project design would develop and implement storm water management practices, including water quality treatment volume. The SWPPP would detail the site-specific methods that would be implemented to control or reduce the rate of stormwater runoff, reduce potential erosion of exposed soil, and minimize potential flooding. The SWPPP would identify and define controls to prevent or reduce wind erosion and dust during and after construction activities. Construction activities would be scheduled to minimize the extent of disturbed areas at any one time, thus avoiding exposure of large areas of open soil to the adverse effects of wind. Vegetative covers, mulch, spray adhesives, wetting of exposed soil, and wind barriers may be employed, as appropriate.

A Project-specific SWPPP would be completed during final design in accordance with the requirements of NYSDOT's Standard Specifications for Soil Erosion and Sediment Control (NYSDEC 2005). The SWPPP would be prepared prior to the start of any construction activities and would be closely adhered to. The critical elements of an SWPPP are described in **Appendix E – Water Quality**. The use of best management practices and adherence to the SWPPP would prevent effects to surface waterbodies and mitigate any potential stormwater effects.

Once construction is completed and stormwater collection and containment systems are in place, operation of the new Ramps PN and D would not contribute to the degradation of the quality of water resources adjacent to the Project Area. Regular maintenance of the surface water runoff collection systems on these roadways leading to and from the Plaza will prevent potential future effects on water quality in the vicinity of the Project Area.

The use of best management practices detailed in the SWPPP and the enforcement of EPCs included within the construction contracts would ensure that construction activities adjacent to the Black Rock Canal would not affect water quality and would not lead to any subsequent indirect effect on aquatic habitats downstream of the Project area. Any potential affects to water quality would be short-term, minor, and limited to the area immediately adjacent to the construction zone.

4.4.9. General Ecology and Wildlife Resources

The Project Area lies within the densely developed West Side neighborhood of the City of Buffalo, immediately adjacent to the international border crossing with Canada. The general landscape is characterized as terrestrial-urban, reflecting the effects of intense human disturbance of the area's natural ecological systems over the past 150 years. The following paragraphs describe the affected environment and potential project-related effects as they relate to four primary ecological concerns:

- Terrestrial Ecology,
- Resident and Migratory Birds and Waterfowl,
- Threatened and Endangered Species, and
- Invasive Species.

4.4.9.1. Terrestrial Ecology

Existing Conditions

The Project Area includes primarily areas developed for residential, commercial, transportation, and recreational use, including Front Park and access to and from I-190.

The occurrence and availability of terrestrial ecological habitats in the vicinity of the Project Area have been influenced by development patterns and current land uses throughout the West Side of Buffalo. Terrestrial ecological resources are limited due to the intensity of development and the consequent lack of vegetated communities or suitable remaining habitat. Development in the Project Area is dominated by Front Park, the I-190 corridor, the CSX railroad line, and the local transportation network. Vegetation or terrestrial habitat is limited to areas that do not contain structures and are not paved. Consequently, there are very few areas where the local habitat offers forage, cover, or nesting sites for use by wildlife.

The largest expanse of open space occurs within Front Park. Maintained lawns and ornamental plant species tolerant of urban settings dominate vegetation in the park and the surrounding developed areas. Previously disturbed areas along I-190 are dominated by volunteer species typical of disturbed or waste areas, including common reed (*Phragmites australis*), Canada goldenrod (*Solidago canadensis*), asters (*Symphyotrichum* spp.), crown vetch (*Securigera varia*), common mullein (*Verbascum thapsus*), Norway maple (*Acer platenoides*), and box elder (*Acer negundo*).

The lack of habitat diversity and the intensity of land use limit the occurrence of wildlife species in the Project Area. Species that may occur within the vicinity of the Project Area are those that have demonstrated adaptation to changing environments dominated by human activities. Potential mammal species include the eastern gray squirrel (*Sciurus carolinensis*), red squirrel (*Tamiasciurus hudsonicus*), American mink (*Mustela vison*), striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), black rat (*Rattus rattus*), Norway rat (*Rattus norvegicus*), eastern cottontail (*Sylvilagus floridanus*), woodchuck (*Marmota monax*), Virginia opossum (*Didelphis virginiana*), and various species of mice, voles, moles, shrews, and bats. A variety of bird species make use of the area.

Effects

No Build Alternative

The No Build Alternative would not affect the terrestrial ecology of the Project Area, as this alternative requires no construction activity or changes in the physical nature of the area. Continuous vehicular traffic and human activity generally discourage terrestrial wildlife from entering the Project Area except on an infrequent basis to forage for food.

Build Alternative

Construction and use of the Build Alternative would have negligible effects on the terrestrial ecology of the Study Area. No adverse effects would occur as a result of the removal of Baird Drive from Front Park or the construction and use of the proposed new ramps to either the Plaza (Ramp PN) or northbound I-190 (Ramp D). The current overall residential, commercial, and transportation network would not change. Vegetation within the Project Area consists of maintained lawns and ornamental species added for landscape purposes. The lack of habitat diversity and the intensity of existing land use limit the occurrence of wildlife species to those that are able to adapt to environments dominated by human activities. Urban wildlife species are generally highly adaptable and mobile, and construction noise and activities would likely motivate the wildlife to temporarily relocate to neighboring areas outside of the construction zone.

4.4.9.2. Resident and Migratory Birds and Waterfowl

Existing Conditions

Important Bird Area (IBA) Program. As part of Audubon's international program to identify and protect critical bird habitat, the IBA Program of Audubon New York, in cooperation with a host of governmental and non-governmental partners, has identified 150 critical areas within the state, one of which is the Niagara River corridor. The IBA Program is a bird conservation initiative. To be considered an IBA, an area must have international significance for the conservation of birds that are threatened, confined to restricted ranges or habitats, or that congregate in large numbers on their breeding grounds, feeding areas, migration stopover sites, or over-wintering grounds (Burger and Liner 2005). The Niagara River corridor, an area covering 51 kilometers (32 miles) from Lake Erie to Lake Ontario, was designated an IBA because of the large concentration of gulls and its recognized use as a migratory stopover and over-wintering site (Burger and Liner 2005). Regulatory protection of an IBA is provided by the Endangered Species Act (ESA) only if threatened and/or endangered species are present in the IBA.

Bird Conservation Area (BCA) Program. New York State established a Bird Conservation Area program in 1997. This program is modeled after the IBA and seeks to identify important bird areas and manage those sites that are owned by the state. Although the Buckhorn Island BCA and the Joseph Davis BCA have been designated in the Niagara River corridor, the Niagara River corridor near the Project Area has not been designated a BCA (NYSDEC 2013a).

NYSDOS Significant Coastal Fish and Wildlife Habitat (SCFWH). The NYSDOS was contacted to determine whether significant coastal fish and/or wildlife habitats occur within the Project Area. An area identified as North Buffalo Harbor and designated as significant habitat was identified near the Project Area. North Buffalo Harbor comprises an 800-acre open-water area within Lake Erie and the upper Niagara River. This area extends from the mouth of the Buffalo River to the border crossing, which forms the northern boundary of the SCFWH.

Effects

No Build Alternative

The No Build Alternative does not involve changes to the existing transportation network. This alternative would have no effect on general ecological resources within the Project Area.

Build Alternative

The Build Alternative would have no effect on resident or migratory birds. The Project Area contains limited habitat for avian species. Common species of birds found within the Project Area are well acclimated to urban conditions and would readily adapt to the proposed changes brought about by the Build Alternative.

Construction and changes to the traffic pattern brought about by the Build Alternative within the Project Area would have no effect on resident and migratory birds.

4.4.9.3. Threatened and Endangered Species

Existing Conditions

The U. S. Fish and Wildlife Service (USFWS) and the NYSDEC Natural Heritage Program were contacted to determine whether federally and state-listed endangered and/or threatened (T/E) species and significant natural communities and habitats potentially occur within the Project Area.

The USFWS indicated that no federally listed or proposed T/E species or designated or proposed critical habitat exists within the Project Area and no further ESA coordination or consultation with the USFWS is required (USFWS 2013).

A review of NYSDEC's Natural Heritage Program database revealed that only the first four T/E species listed in **Table 4-5** were historically recorded as occurring within or adjacent to the Study Area.

Reporting Blocks representing the Project Area were reviewed in the *Atlas of Breeding Birds for New York State* (Andrle and Carroll 1988), the *Ontario Breeding Bird Atlas* (Bird Studies Ontario 2009), and atlas updates to determine whether sensitive species breed within the Project Area. Field survey records conducted as part of the Peace Bridge Capacity Expansion Project conducted from April 2001 through April 2002 and October through December 2006 revealed that seven species listed by the U.S. and New York State as endangered, threatened, or as a species of concern were identified as residing near or passing through the immediate area. These species are identified in **Table 4-5**.

Table 4-5 – Threatened and Endangered Species Identified as Potentially Occurring Within the Project Area

Species Common Name	Scientific Name	Status (State or Federal)
T/E Species Historically Recorded as Residing in the Study Area		
Golden Dock	*Rumex fueginus*	State Endangered
Four-flowered Loosestrife	*Lysimachia quadriflora*	State Endangered
American Burying Beetle	*Nicrophorus americanus*	Both State and Federally Endangered
Lake Sturgeon	*Acipenser fulvescens*	State Threatened
Avian T/E Species Known to pass through the Study Area		
Common Loon	*Gavia immer*	State Special Concern
Pied-billed Grebe	*Podilymbus podiceps*	State Threatened
Bald Eagle	*Haliaeetus leucocephalus*	State Threatened
Sharp-shinned Hawk	*Accipiter striatus*	State Special Concern
Cooper's Hawk	*Accipiter cooperii*	State Special Concern
Peregrine Falcon	*Falco peregrinus*	State Endangered
Common Tern	*Sterna hirundo*	State Threatened

Golden dock is a wetland and saline species known to occur along lakes and streams. Four-flowered loosestrife inhabits thickets along streams and lakes. The Project Area does not include habitat suitable for either of these two plant species, and neither species has been identified as existing in the area since the early 1920s.

The American burying beetle is listed as extirpated from New York State, so it is unlikely to be found within the Project Area. USFWS does not list this beetle as occurring in New York State.

The lake sturgeon is listed as a threatened species by New York State and is known to inhabit Lake Erie and the upper Niagara River.

All seven of the identified birds are highly mobile and are known to pass through or nest within western New York. None of the birds are known to nest or forage within the Project Area. The Peregrine Falcon observed during previous avian studies was thought to be one of the breeding pair nesting in downtown Buffalo. It is likely well adapted to an urban environment and would avoid the Project Area during construction. NYSDEC is engaged in a long-term project to reestablish the Common Tern in the western New York/Lake Erie area. Common Terns regularly fly throughout the Niagara River Corridor on daily foraging and feeding flights from the Buffalo Harbor SCFWH to their feeding grounds downriver around Grand Island. Cooper's and Sharp-shinned Hawks could potentially forage on the urban-adapted songbirds that use the Project Area; however, this has yet to be documented. These species are well adapted to an urban environment and would likely avoid the Project Area during construction. The Pied-

billed Grebe and Common Loon are water birds that are likely to pass through and possibly forage along the Niagara River or Black Rock Canal; however, these species would not utilize the Project Area because of its lack of open water. Lastly, Bald Eagles may pass through and possibly forage along the Niagara River or Black Rock Canal, but they are unlikely to utilize the Project Area other than to temporally perch in a tree. This species would likely avoid the Project Area during construction.

In addition to the species identified above, the Northern Long-eared Bat, which occurs throughout New York State, has been proposed for protection by USFWS. This bat's preferred habitat is mature forest and mature trees, none of which occur within our study area. As the project plans do not call for the removal of any trees, the likelihood of this project effecting the species is extremely low.

Effects

No Build Alternative

The No Build Alternative would not affect T/E species or significant coastal habitat.

Build Alternative

The Project would not affect any T/E species or significant habitats. The USFWS and NYSDEC have not identified any significant habitats within the Project Area, and no T/E species are known to occur in the Project Area. Likewise, this Project would have no effect on the Northern Long-eared Bat.

4.4.9.4. Aquatic Resources

Existing Conditions

As previously presented in **Section 4.4.2.**, the major water resources near the Project Area include the Niagara River and the Black Rock Canal. None of these resources occur within the Project Area.

Effects

No Build Alternative

The No Build Alternative would not result in any effects on aquatic ecology or the fisheries within the nearby waterbodies.

Build Alternative

The Project would have no effects on aquatic ecology, water quality, or fisheries and fish habitat from its construction and operation. Ramp D would be constructed on the east side of the existing I-190 right-of-way and thus would be segregated from the Black Rock Canal.

4.4.9.5. Invasive Species

Projects requiring federal agency approval must comply with Executive Order (EO) 13112, which requires demonstrating that they are not likely to cause or promote the introduction or spread of invasive species. EO 13112 additionally requires detection and rapid respond to and monitoring of any invasive species present.

Existing Conditions

A survey for invasive species within the Project Area was conducted on June 26, 2013. Vegetated areas, except within the CSX corridor, are generally maintained as lawns, supplemented with native and non-native ornamental plantings. Although no single, comprehensive statewide list of invasive species currently exists, invasive species widely regarded as priorities have been identified in the portion of the CSX corridor that falls within the immediate Project Area. These include garlic mustard (*Alliaria petiolata*), common buckthorn (*Rhamnus cathartica*), multiflora rose (*Rosa multiflora*), and bush honeysuckles (*Lonicera* spp.). Other invasive species observed within the disturbed areas along the I-190 and CSX corridors include crown vetch (*Securigera varia*), common mullein (*Verbascum thapsus*), tree-of-heaven (*Ailanthus altissima*), mugwort (*Artemisia vulgaris*), and cut-leaf teasel (*Dipsacus laciniatus*), as well as NYSDOT priority species Japanese knotweed (*Fallopia japonica*), purple loosestrife (*Lythrum salicaria*) and common reed (*Phragmites australis*).

Effects

No Build Alternative

The No Build Alternative would not contribute to the introduction, continued existence, or spread of invasive species.

Build Alternative

The Project would not contribute to the introduction, continued existence, or spread of invasive species. Construction of this alternative would require the removal of concrete and asphalt pavement and stripping of vegetation. The final design for the Project would include measures to restore disturbed areas with non-invasive materials, designed with future maintenance and ecological stability in mind. Standard construction methods including reasonable measures and best management practices would be used to minimize the possibility of introducing or spreading invasive species during construction.

4.4.10. Critical Environmental Areas

State and local agencies may designate specific geographic areas within their boundaries as Critical Environmental Areas (CEAs). To be designated as a CEA, an area must have an exceptional or unique character with respect to one or more of the following:

- a benefit or threat to human health;
- a natural setting (e.g., fish and wildlife habitat, forest and vegetation, open space and areas of important aesthetic or scenic quality);
- agricultural, social, cultural, historic, archaeological, recreational, or educational values; or
- an inherent ecological, geological, or hydrological sensitivity to change that may be adversely affected by any change.

The Project would not affect any CEAs as there are no designated CEAs within or in the vicinity of the Project Area (NYSDEC 2013b).

4.4.11. Cultural Resources

4.4.11.1. Section 106 Process

As a federal-aid project requiring federal approval, the Project is subject to review under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulation, 36 CFR Part 800. Under Section 106, federal agencies are required to take into account the effects of an undertaking on historic properties listed in or eligible for listing in the National Register of Historic Places (NRHP), and to afford the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on the undertaking. Consultation with the New York State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and other designated Consulting Parties is required as part of the Section 106 Process.

4.4.11.1.1. *Initiation of the Section 106 Process*

NYSDOT, in coordination with FHWA, initiated consultation with the SHPO in May 2013, with a meeting to provide an overview of the Project, and to seek input from the SHPO on proposed identification efforts and potential effects on historic properties. Consultation with the SHPO was formally initiated by letter dated June 19, 2013 (NYSDOT 2013b).

Due to the presence of known historic resources in the vicinity of the Project Area and the anticipated interest of the local community in the NEPA/EIS and Section 106 processes, FHWA formally invited the ACHP to participate in the Section 106 consultation process by letter dated May 10, 2013 (FHWA 2013a). In response, the ACHP offered to provide technical assistance on matters related to historic preservation and Section 106, and to participate in the Section 106 Consulting Party meeting scheduled for July 2013 (ACHP 2013a). The ACHP did attend this meeting.

The Project is located off tribal lands, but within the geographical area of interest for Section 106 consultation identified by the Seneca Nation of Indians and the Tonawanda Seneca Nation. FHWA initiated consultation with the Seneca Nation and Tonawanda Seneca Nation on June 18, 2013, inviting both Nations to meet with FHWA and NYSDOT representatives to hear and consider their views on the Project and its potential effects on properties of religious and cultural significance (FHWA 2013b & c).

Section 106 requirements for public involvement are being met in coordination with NEPA requirements for the EIS process and established NYSDOT procedures. During the Scoping Phase of the NEPA process, the public was introduced to the Section 106 process for the Project through a public notice published in the *Buffalo News* on June 4, 2013, and a Public Scoping Meeting held in Buffalo on June 11, 2013. Informational boards and Project staff were available at the Scoping Meeting to explain the Section 106 Process for the Project, and application forms were available for those individuals wishing to be considered for Consulting Party status. The Project website (https://www.dot.ny.gov/nygateway) was established shortly thereafter, on which the same application forms for Consulting Party status consideration were posted and made available for completion with directions on how to submit the applications to NYSDOT. To ensure that the public had a chance to be heard during the scoping

process, NYSDOT and FHWA extended the initial 30-day scoping comment period. Public comments pertaining to the Project's potential effects on historic and cultural resources were recorded for consideration as part of the Section 106 process.

Requests for Section 106 Consulting Party status for the Project were submitted to NYSDOT and reviewed by FHWA in accordance with 36 CFR Part 800.2(c)(5):

> *Certain individuals and organizations with a demonstrated interest in the undertaking may participate as consulting parties due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties.*

Based on their written statements of interest in the Project and its potential effects on historic properties, FHWA approved the following individuals and organizations as Section 106 Consulting Parties:

- Buffalo Olmsted Parks Conservancy (BOPC) - Mr. Thomas Herrera-Mishler, Mr. Gary Mucci, and Mr. Brian Dold
- Mr. Clinton Brown – Clinton Brown Company Architecture, PC
- Ms. Catherine Faust – Catherine Faust Architect
- Ms. Linda DeTine - Property Owner
- Ms. Kate Cody - Property Owner
- Ms. Carole Perla - Property Owner
- Mr. Peter J. Merlo - City of Buffalo
- Mr. Daniel Mackay and Ms. Tania Werbizky - Preservation League of New York State
- Ms. Kathleen Mecca and Ms. Elisabeth A Martina - Niagara Gateway Columbus Park Association
- Mr. Timothy Tielman - Campaign for Greater Buffalo History, Architecture & Culture
- Mr. Jason Wilson – Preservation Buffalo Niagara
- Mr. Matthew Ricchiazzi – Change Buffalo PAC
- Ms. Joyce DiChristina - Property Owner
- Mr. Alan Oberst – Vision Niagara
- Mr. Daniel Culross – KCA & Allentown Association
- Mr. Peter Joseph Certo and Ms. Joanne Certo - Property Owners

4.4.11.1.2. *Section 106 Consultation*

On July 12, 2013, letters were sent to the approved Consulting Parties, inviting them to a Section 106 Consulting Party meeting for the Project, which was held on July 30, 2013, at the NYSDOT Region 5 offices in downtown Buffalo (see **Appendix H – Section 106 Supporting Documentation**). The Seneca Nation of Indians and Tonawanda Seneca Nation were invited to participate in the scheduled July 30, 2013 Consulting Parties meeting as well (NYSDOT 2013f, NYSDOT 2013g). NYSDOT extended an

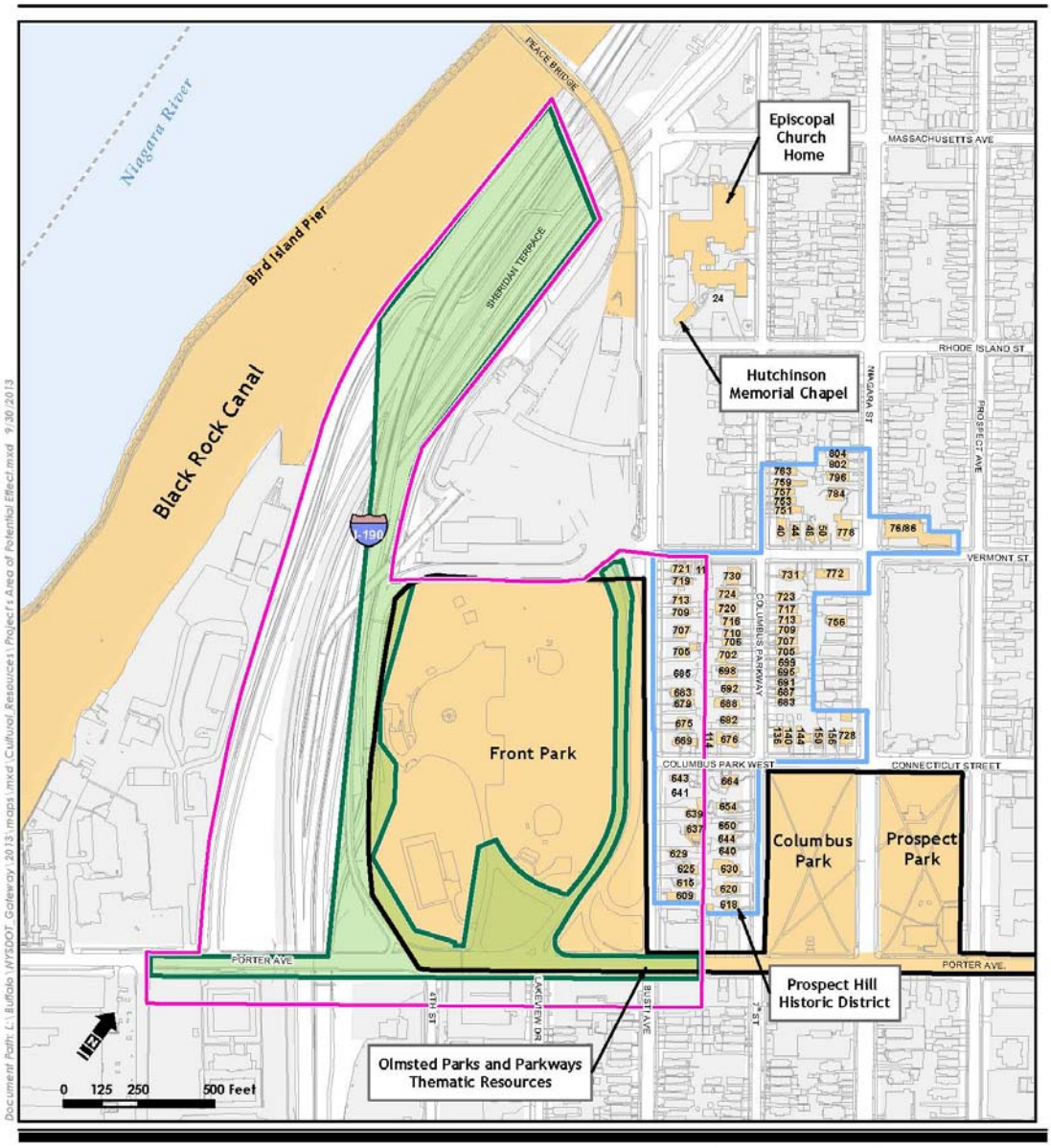
invitation to the Tribal Nations to meet separately with representatives of FHWA and NYSDOT. The FHWA and NYSDOT will continue to consult with the nation throughout the final design and construction.

4.4.11.2. Definition of the Area of Potential Effects

The Project's Area of Potential Effects (APE) was defined by NYSDOT and FHWA in consultation with the SHPO and in accordance with 800.4(a)(1) to incorporate a geographical area that includes both direct and indirect effects associated with an alternative to construct a new ramp from the Plaza to northbound I-190, the removal of Baird Drive from Front Park, and alternate access from Porter Avenue to Ramp A leading to the Plaza. The APE was subsequently revised to incorporate an area within Front Park associated with the realignment of the park driveway at the entrance on Porter Avenue; with the relocation of the Shoreline Trail where it crosses over the CSX right-of-way and under I-190 to a location slightly north of the existing alignment; and with the replacement of the Porter Avenue bridge over the CSX right-of-way and I-190 **(Figure 4-8**). The Project's entire APE represents the area associated with potential indirect visual and auditory effects associated with new elements of the Build Alternative, changes in traffic patterns, and access to and from the Plaza. Within the APE, a smaller area was defined for potential direct effects resulting from physical alterations or ground disturbance associated with the proposed construction of the new ramps, removal of Baird Drive, and the proposed modifications to Porter Avenue in the vicinity of the existing ramps to provide alternative access to the Plaza. With the exception of a small area within Front Park, the area associated with direct effects is confined to land occupied by existing transportation facilities (i.e., Baird Drive, Porter Avenue, and the Thruway corridor).

NYSDOT formally submitted the APE for review by the SHPO (NYSDOT 2013b), and obtained SHPO concurrence on June 21, 2013 (SHPO 2013a). NYSDOT requested FHWA concurrence with the initial APE on June 28, 2013 (NYSDOT 2013c). On July 2, 2013 NYSDOT requested concurrence from SHPO for a revised APE (NYSDOT 2013d) and obtained SHPO's concurrence on July 3, 2013 (SHPO 2013b). The FHWA concurred with the definition of the initial APE in a letter dated July 2, 2013 (FHWA 2013d) and with the revised APE on July 10, 2013 (FHWA 2013e). The SHPO and FHWA concurred with the final APE as a component of the Section 106 Finding Documentation on November 4, 2013 and November 7, 2013, respectively (SHPO 2013d and FHWA 2013i).

Figure 4-8 – Area of Potential Effect



NY Gateway Connections Improvement Project to the U.S. Peace Bridge Plaza
Cultural Resources
Area of Potential Effect (APE)
Erie County, New York

SOURCE Ecology and Environment, Inc. September 30, 2013

- Direct APE
- Project APE
- Prospect Hill Historic District
- Olmsted Park Historic Thematic Resource
- National Register Resources

U.S. Department of Transportation
Federal Highway Administration

New York State
Department of Transportation

4.4.11.2.1. *Historic Properties Identified in the APE*

Identification efforts focused on a review and update of existing information from past studies, including previous cultural resource survey reports, and the NYSHPO database and site files.

Table 4-6 summarizes studies to inventory and evaluate historic properties within the APE.

The architectural resources that have been identified within the Project Area are discussed below in **Sections 4.4.11.2.2** and **4.4.11.2.3**, respectively.

Table 4-6 – Studies Identifying Historic Properties within the APE

DATE	TITLE	OBJECTIVE / DESCRIPTION	PREPARED BY
July 2013	PIN 5760.80 – NY Gateway Connections Improvement Project to the US Peace Bridge Plaza	Update of previously evaluated historic properties w/in the APE; assessment of archaeological sensitivity and proposal for archaeological monitoring during construction	University at Buffalo Archaeological Survey
June 2008 (Appendix D – 2013 Update)	PIN 5753.58 – Prospect Hill Historic District, Peace Bridge Expansion Project	Final documentation of historic district determined National Register eligible through Section 106 review for PIN 5753.58	University at Buffalo Archaeological Survey KTA Preservation Specialists and NYSDOT
October 2013	Addendum Report: Archaeological Sensitivity and Proposal for Archaeological Testing and Monitoring	Update of archaeological assessment for additional areas within APE	University at Buffalo Archaeological Survey

4.4.11.2.2. *Previously Identified NRHP-Listed and –Eligible Historic Properties*

All above-ground resources within the APE have been previously evaluated for National Register eligibility. Front Park and Porter Avenue are listed in the National Register of Historic Places under Olmsted Parks and Parkways Thematic Resources, as contributing resources of the NRHP-listed Delaware Park-Front Park System (90NR01217). No other NR-listed properties exist within the APE.

As contributing resources in the Olmsted Parks and Parkways Thematic Resource, Front Park and Porter Avenue meet National Register Criteria A and C due to their part in Buffalo's history of landscape architecture and urban development. Front Park was originally designed by Frederick Law Olmsted to capture views of Lake Erie and the Niagara River. Front Park, situated on an elevated bluff, contains manicured lawns, specimen trees, and a 1908 shelter. Porter Avenue, a former city street that was

upgraded by Olmsted to a width of 100 feet and lined with elms, connected Front Park with other elements of the Olmsted Parks and Parkway system in Buffalo (Montaque and Perrelli 2013).

In April 2013, the Archaeological Survey, State University of New York at Buffalo conducted a site visit to update information on historic properties within the APE. The results of this study are contained in the following report:

- ***Update of Previously Identified Historic Properties, Archaeological Sensitivity, and Proposal for Archaeological Monitoring.*** PIN 5760.80.101, NY Gateway Connections Improvement Project to the US Peace Bridge Plaza, City of Buffalo, Erie County, New York. Nathan Montague, M.A., and Douglas J. Perrelli, Ph.D., RPA. Reports of the Archaeological Survey, Vol. 45, No. 13, Department of Anthropology, State University of NY at Buffalo, July 2013. Prepared for: NYS Museum, NYSDOT, FHWA.

South of Porter Avenue, all 8 buildings within the APE, 50 years in age or older, were previously inventoried and determined not eligible for the National Register: 565, 567, 570, and 573 Busti Avenue; 113, 115, and 132 Lakeview Avenue (also known as 111 Porter Avenue); and 637 4th Street.

The bridge carrying Porter Avenue over I-190 (BIN 5512560) was evaluated in 2010, and the bridge was determined not eligible for the National Register. In 2013, NYSDOT in coordination with FHWA and in consultation with the SHPO updated the evaluation to consider the masonry abutments. Based upon information provided to the SHPO, including modification to the abutments over time and changes to the setting, the SHPO concurred with the updated determination of eligibility for the Porter Avenue Bridge as not eligible for listing in the National Register of Historic Places SHPO 2013c). By letter dated September 16, 2013, FHWA concurred with the determination that the Porter Avenue Bridge is not eligible for listing in the National Register of Historic Places, and concurred that the abutments are not considered a Section 4(f) 'historic site' as defined in 23 CFR Part 774.17 (FHWA 2013f).

Eighteen contributing resources of the Prospect Hill Historic District are located within the APE for this Project. Seventeen of the contributing resources (Nos. 609-721) are located on Busti Avenue, and one property (No. 11) is located on Vermont Street. The Prospect Hill Historic District was determined National Register eligible in 2008 as a result of the Section 106 review process for the Peace Bridge Expansion Project (PIN 573.58.123 / PR# 01PR04982) (**Appendix H – Section 106 Documentation**, Montague and Perrelli, 2013). The NYSDOT and FHWA, in consultation with the SHPO, ACHP, and other Consulting Parties, delineated district boundaries incorporating one non-contributing and 73 contributing resources, including portions of Niagara Street, Vermont Street, Columbus Parkway, Columbus Park West, and Busti Avenue. The 2013 report cited above includes documentation of the process by which FHWA, in consultation with the SHPO, made a determination of National Register eligibility for the Prospect Hill Historic District in 2008 (**Appendix H – Section 106 Documentation**).

The Prospect Hill Historic District is a residential historic district with Columbus Parkway as its main axis. Determined National Register eligible under Criteria A and C, the district possesses a concentration of

architectural styles popular during the period ca. 1880-1955, depicting residential growth and development in the City of Buffalo adjacent to the Olmsted-designed Front Park and Prospect Park. Contributing resources located within the Project's APE include two intact blocks of vernacular architecture along Busti Avenue extending from the southern end of the district north to Vermont Street. The scale, massing, and setback of these dwellings present a unified streetscape oriented towards Front Park, and individually, field survey in 2013 found the buildings retain the same degree of architectural integrity recorded at the time the properties were evaluated in 2008 (Montague and Perrelli 2013).

Based on the 2013 site visit and updated assessment, the SHPO and FHWA have concurred there is no change in the characteristics that qualify these previously-identified historic properties for the National Register:

- 18 contributing resources to the National Register eligible Prospect Hill Historic District: 609, 615, 625, 629, 637, 639, 643, 669, 675, 679, 683, 705, 707, 709, 713, 719, and 721 Busti Avenue; and 11 Vermont Street.
- Front Park and Porter Avenue, contributing resources of the National Register listed Olmsted Parks and Parkways Thematic Resources; elements of the NRHP-listed Delaware Park-Front Park System (90NR01217)

Documentation describing the Project's APE and a copy of the report titled *Update of Previously Identified Historic Properties and Archaeological Sensitivity, and Proposal for Archaeological Monitoring*, prepared by the State University of New York at Buffalo (SUNY Buffalo), Department of Anthropology (Montague and Perrelli 2013), was sent to Consulting Party members and Tribal Nations on July 12, 2013 (NYSDOT 2013f and 2013g).

4.4.11.2.3. *Evaluation of Project Effects on Identified Historic Properties*

An addendum report was prepared in October 2013, providing an update to address proposed archaeological testing and monitoring during construction for the revised APE in areas associated with the proposed relocation of the Shoreline Trail and replacement of the Porter Avenue Bridge. A copy of the Addendum Report was made available to the Seneca Nation, Tonawanda Seneca Nation, and other Section 106 Consulting Parties as a component of the final Finding Documentation, distributed on November 8, 2013 (NYSDOT 2013k, NYSDOT 2013l, and NYSDTO 2013m).

Project effects on the identified NRHP-listed or –eligible properties within the Project's APE are associated with the removal of Baird Drive from Front Park, modification of the entrance to Front Park along Porter Avenue, the construction of a traffic ramp from Porter Avenue off the southwestern corner of Front Park to the existing Ramp A, and the construction of a new ramp from the Plaza to northbound I-190.

As defined in 36 CFR 800.5 (a)(1), an adverse effect is found when a project "…may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the

National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association." Direct effects may occur from effects that result in physical destruction or damage to all or part of the historic property, removal of the property from its historic location, and alterations not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR 68) and applicable guidelines (36 CFR 800.5(a)(2)(i-iii). Indirect effects may occur from effects that result from a change in character of the property's use or to physical features that contribute to the historic setting, the introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's historic features (36 CFR 800.5(a)(2)(iv-v).

No Build Alternative

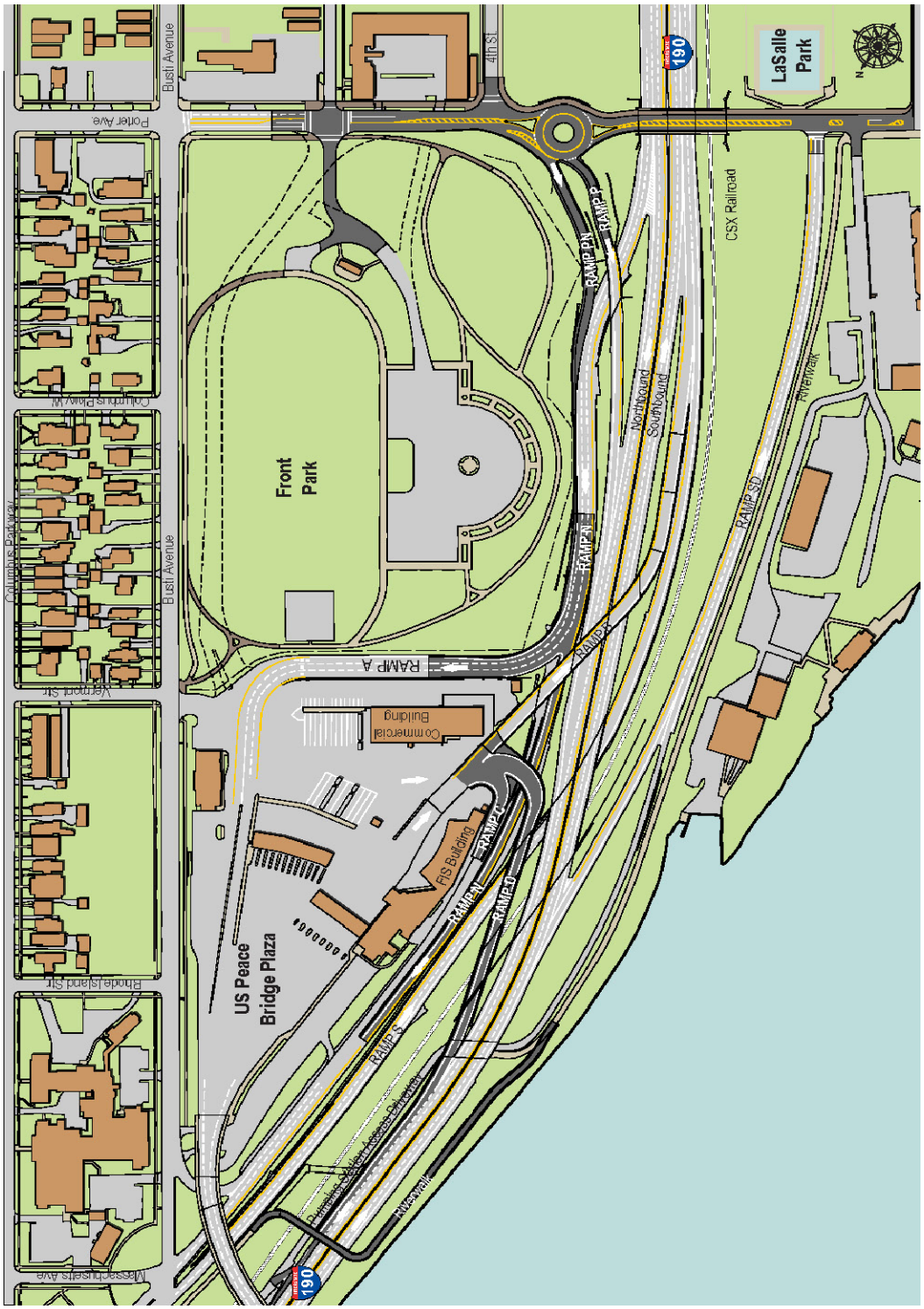
The No Build Alternative does not involve any construction activity or changes to NRHP-listed or -eligible historic properties within the APE. In accordance with 36 CFR 800.4(d)(1), the No Build Alternative would have no effect on NRHP-listed or -eligible historic properties within the APE.

Build Alternative

As described above, the Build Alternative would result in direct effects on two historic properties within the APE, Front Park and Porter Avenue through the removal of Baird Drive, reconfiguring the entrance to Front Park from Porter Avenue, and modifications to Porter Avenue as a result of new ingress/egress for the Plaza, as shown on **Figure 4-9**. The Project would result in indirect effects on all the historic properties within the APE (Front Park, Porter Avenue, and the 18 contributing elements of the PHHD), primarily through changes to viewsheds of, within, and from these historic properties. These effects would result from the removal of traffic flow from the eastern edge of Front Park, the reconfigured access to Front Park from Porter Avenue, the reconfigured ingress/egress for the Plaza, development of a multi-use path along Porter Avenue to facilitate access to LaSalle Park.

In consultation with the New York SHPO and FHWA, NYSDOT applied the Criteria of Adverse Effect (36 CFR 800.5(a)) to the activities included in the Build Alternative and determined that the Build Alternative would not "alter, directly or indirectly any of the characteristics … that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association" (36 CFR 800.5(a)(1)). The views of Consulting Parties and the public regarding the potential direct and indirect effects and effects on historic properties, including written comments and the transcript from the Consulting Parties meeting held on July 30, 2013, were considered as part of this assessment.

Figure 4-9 – Parsons Conceptual Design



Prospect Hill Historic District: While the Project would have no direct effects on the Prospect Hill Historic District, proposed changes within Front Park will have indirect effects resulting in a positive change to the historic setting. Contributing properties along Busti Avenue face Front Park, and under existing conditions, are subject to visual and auditory intrusions associated with through traffic on Baird Drive. The removal of Baird Drive and the resulting return of green space will improve the viewshed, and along with proposed changes to pedestrian walkways within the park, will improve pedestrian access and enhance the historic association between Front Park and the historic district.

Indirect effects associated with proposed changes in Front Park would therefore enhance the historic setting of the Prospect Hill Historic District and its contributing resources adjacent to the Park.

Front Park: The Project would result in changes to Porter Avenue and ingress/egress for the Plaza. These facilities are part of an interconnecting roadway system that is adjacent to the western and southwestern edges of Front Park, but outside of the NRHP property boundary. Based on existing conditions, the proposed reconfiguration of Porter Avenue and construction of Ramps N, P, and PN adjacent to the southwest corner of Front Park would not negatively affect the historic significance, integrity, or recreational use of Front Park, as these areas are already occupied by transportation uses. The proposed elevation of these ramps is similar to existing conditions, and would not alter the character of existing views from the park.

On the east side of Front Park, Baird Drive currently provides direct access to the Plaza for vehicular traffic from Porter Avenue, traversing the area of the historic Parade / Play Ground, an important landscape space within Front Park,. Proposed changes include the removal of Baird Drive and its associated sidewalk, proposed relocation of the current park entrance from Porter Avenue, and minor realignment of the Front Park driveway. The relocated entrance would be aligned with the intersection of Lakeview Terrace, providing improved vehicular access to the park and pedestrian safety with crosswalks at a signalized intersection. The proposed driveway realignment between the existing driveway and Porter Avenue would add a minimum amount of new pavement (0.1 acres). When combined with the proposed removal of Baird Drive and existing driveway pavement, this change would result in a net gain of 1.8 acres returned to green space.

Under existing conditions, Baird Drive impairs easy access to the park from the residential neighborhood to the east. The Project proposes to re-establish walkways within Front Park which are currently cut off by Baird Drive, providing improved pedestrian access and connectivity with the adjacent residential neighborhood on Busti Avenue, including properties within the Prospect Hill Historic District.

Changes to Front Park proposed as part of this Project would not preclude the future implementation of any aspect of the *Buffalo Olmsted Park System: Plan for the 21st Century* (BOPC 2008). Any new landscape elements included in this Project would be developed in coordination with the City of Buffalo and the BOPC, consistent with the goals of the master plan and the historic character of the Olmsted design.

The Project would not adversely affect Front Park, but would have a beneficial effect. By proposing the elimination of cross-border traffic through Front Park, returning the current paved Baird Drive and adjacent sidewalk to green space and allowing for the reconnection of a separated portion of the Park between Baird Drive and Busti Avenue, and improving pedestrian access, safety, and connectivity with the residential neighborhood and historic district, the Build Alternative would result in a positive effect on the historic character of the Park and its historic use within the context of the residential neighborhood.

Porter Avenue: Porter Avenue currently functions as the sole entrance to the Plaza for southbound I-190 traffic, as well as for local access to and from the Plaza. Southbound traffic from I-190 headed to the Plaza must exit onto Porter Avenue and travel east before turning left onto Baird Drive to access the Plaza through Front Park. With modifications to Porter Avenue and construction of the new Ramp PN just east of the Porter Avenue bridge over I-190, eastbound cross-border traffic on Porter Avenue would decrease as the traffic would utilize the new Ramp PN instead of continuing eastward to where Baird Drive is located. Additional modifications to Porter Avenue, including relining the roadway to slightly alter the existing traffic pattern in order to add a non-motorized recreational lane along the south side, bypassing I-190 ramp, would improve pedestrian access from the surrounding neighborhoods to the Shoreline Trail (Riverwalk) and LaSalle Park. Within the National Register-listed segment of Porter Avenue, proposed changes include a multi-use path for the purpose of providing safe access to LaSalle Park on the south side of Porter Avenue, outside the APE. The proposed multi-use path is consistent with the historic function of Olmsted's circulation system, enhancing connectivity between Front Park and the rest of the park system. Any landscape treatments on Porter Avenue included in this Project would be coordinated with the City of Buffalo.

These beneficial changes are consistent with the historic use of Porter Avenue and would not alter its historic association with other contributing elements of the National Register listed Olmsted Parks and Parkways system. A summary of the proposed changes to the identified historic properties within the APE is provided in the Section 106 Finding Documentation (see Appendix H – Section 106 Documentation).

4.4.11.2.4. *Measures to Avoid or Minimize Adverse Effects on Identified Historic Properties*

Within Front Park only very limited landscaping is anticipated at either end of Baird Drive. The rest of the parcel would be grass only at this time and left to the City and the BOPC to decide on further landscaping. In addition, a few trees may potentially be planted along Porter Avenue as part of the Project. Decisions regarding the planting of trees would be developed further during final design and in coordination with both the City and BOPC. All work would minimize effects on the park and adjacent historic resources and ensure consistency with the historic character of the Olmsted design.

With an understanding of previously identified historic resources in the vicinity of the Project, proposed access improvements to the US Peace Bridge Plaza and I-190 were designed to avoid or minimize effects on the Prospect Hill Historic District, Front Park and Porter Avenue.

- New Ramp PN and modifications to existing Ramp P are within the existing I-190 ROW, and avoid the acquisition of land from Front Park.
- Modifications to Ramp N and Ramp A are confined to existing pavement, and avoid the acquisition of land from Front Park.
- The segment of Porter Avenue listed in the National Register was recently reconstructed as part of a City of Buffalo roadway improvement project. Along this segment of Porter Avenue, the Build Alternative will not add new lanes or widen the existing road.

4.4.11.3. Archaeological Resources in the APE

Identification efforts for archaeological resources included background research and an assessment of archaeological sensitivity within the area of potential effects (APE) for direct effects associated with ground-disturbing construction activities. There are no known, intact archaeological sites within the APE for direct effects. "Extensive land alterations and the presence of deep fill soils suggest that any archaeological deposits which may be present are beneath paved and other impervious surfaces associated with existing transportation facilities, and / or deeply buried and therefore inaccessible through archaeological shovel testing. The only exception is a small grass-covered area in the portion of the APE corresponding to the proposed Shoreline Trail realignment, where a limited number of shovel tests could be excavated to assess what may be encountered during archaeological monitoring.

4.4.11.3.1. Archaeological Sensitivity of the APE

Archaeological sensitivity was assessed on the basis of 19th century maps, existing archaeological site file data, previous cultural resource studies, and literature documenting the prehistory and history of the area. The potential presence of archaeological resources within the APE is affected by documented historic and modern land use in the area. This includes the nearby construction of the Erie Canal, which was completed in 1825, enlarged and modified numerous times in the 19th century; construction of Fort Porter in the mid-19th century; 19th century railroad construction; and construction of the New York State Thruway over the canal in the 1950's (Montague and Perrelli 2013).

The results of background research suggest that at one time, the area within which this Project is located had a high prehistoric sensitivity for all prehistoric site types, as indicated by the wide range of previously recorded sites in the vicinity (outside the APE) and presence of a natural bluff and terrace situated within the relatively level lake plain (Montague and Perrelli 2013).

Historic literature and an analysis of 19th century maps indicate historic archaeological sensitivity due to human activities in the past within the context of military, transportation, residential, industrial / commercial, public utility, and public recreation themes. Specific locations, designated as "Map Documented Structures" indicate the potential for buried traces of structures and landscape features in locations identified on the basis of historic maps.

Historic and modern land use reduce the potential for intact, culture-bearing soil deposits and suggest that if archaeological sites are present, "…they will likely occur as deeply buried deposits below fill and disturbed soil layers" (Montague and Perrelli 2013).

Archaeological monitoring during construction is proposed in the event that deeply buried soils within the APE contain archaeological deposits.

4.4.11.3.2. *Evaluation of Project Effects on Archaeological Resources*

No Build Alternative

The No Build Alternative does not involve any construction activity. Therefore, in accordance with 36 CFR 800.4(d)(1), the No Build Alternative would have no effect on archaeological resources, if present.

Build Alternative

Project-related activities which may affect potential archaeological resources include excavation and other ground disturbance associated with the proposed reconfiguration of points of ingress to and egress from the Plaza (Ramps C and D), construction of new Ramp PN and modifications to Ramp P and N, construction of a signalized intersection or roundabout on Porter Avenue, replacement of the Porter Avenue bridge, and a new crossing for the realigned segment of the Shoreline Trail.

There are no identified (previously recorded) archaeological sites within the APE for direct effects. The SHPO and FHWA have concurred with the proposal for archaeological monitoring during construction, due to the likely depth of potential archaeological deposits based on documented land alterations associated with modern construction and the presence of deep fill soils, and the inaccessibility of areas beneath paved and other impervious surfaces associated with existing transportation facilities. A plan for archaeological monitoring has been developed for locations of high archaeological sensitivity, and where deep excavations will occur. In addition to monitoring procedures, the plan outlines a protocol for consultation in the event that potentially National Register eligible archaeological resources are encountered during construction (see **Appendix H – Section 106 Finding Documentation**). As the Project's design is advanced, the current plan for archaeological monitoring will be refined and updated, consistent with established professional standards and guidelines for the investigation, documentation, and appropriate treatment and curation of archaeological resources (NYAC 2004 & Montague and Perrelli 2013).

4.4.11.4. Measures to Avoid, Minimize, or Mitigate Adverse Effects on Archaeological Resources

The purpose of the Archaeological Monitoring Plan is to ensure that potential cultural deposits encountered during construction, if any, would be appropriately addressed in accordance with Section 106 obligations to avoid, minimize, or mitigate adverse effects. The plan includes a protocol for consultation in the event that archaeological resources are encountered, including the discovery of

human remains and funerary objects identified during archaeological monitoring (Montague and Perrelli 2013).

4.4.11.4.1. *Section 106 Effect Finding*

NYSDOT, in coordination with the FHWA and in consultation with the New York SHPO, has applied the *Criteria of Adverse Effect* (36 CFR Part 800.5(a) (1)), and finds the Project would have No Adverse Effect on historic properties within the APE. The Project would not alter, directly or indirectly, the characteristics that qualify identified historic properties for listing in the NRHP. On July 29, 2013, copies of the Draft Finding Documentation: Preliminary Assessment of Effects was mailed to all Consulting Parties participating in the Section 106 process. Duplicate copies were provided to those who attended the Consulting Party meeting held on July 30, 2013. Oral and written comments specific to the Section 106 Process and potential effects on historic properties were accepted at this meeting. A 30-day comment period ending on August 30, 2013, was established for receipt of written comments from the Consulting Parties on the Draft Finding Documentation.

Following the end of the review period, NYSDOT and FHWA, in consultation with the SHPO, considered all written comments received from Consulting Party members and the public regarding the Project's effects on historic properties, and potential measures to avoid, minimize, or mitigate adverse effects. The effect finding and supporting documentation were submitted to the SHPO with a request for concurrence. Following receipt of SHPO concurrence on November 4, 2013 (SHPO 2013d), FHWA issued a 'No Adverse Effect' determination for the Project on November 7, 2013 (FHWA 2013g).

The ACHP, Seneca Nation, Tonawanda Seneca Nation, and other Section 106 Consulting Parties were subsequently notified of the FHWA determination, and provided copies of the *Section 106 Finding Documentation*. This document and associated correspondence are incorporated in the Draft EIS, Appendix H, making the Section 106 effect determination available to the public.

4.4.11.5. Tribal Consultation

In compliance with Sections 101(d)(6)(A) and 101(d)(6)(B) of the NHPA, as amended, FHWA initiated consultation with the Seneca Nation of Indians and Tonawanda Seneca Nation by letter dated June 18, 2013, inviting tribal representatives to meet with FHWA and NYSDOT to discuss and consider their views concerning the Project and its potential to affect properties of religious and cultural significance to the Nations. The invitation to meet was also extended by NYSDOT through subsequent telephone and e-mail messages in June and July 2013. The Seneca Nation and Tonawanda Seneca Nation were invited to participate in the general Consulting Party meeting held on July 30, 2013 but were unable to attend. All meeting materials and handouts were sent to the Nations by NYSDOT on August 15, 2013 (NYSDOT 2013n and NYSDOT 2013o).

The Seneca and Tonawanda Seneca were provided an opportunity to review the draft documentation for the preliminary assessment of effects sent to all Consulting Parties on July 29, 2013. To date, there have

been no written comments from the Seneca Nation or Tonawanda Seneca Nation, and they have declined, or not responded to offers for separate consultation meetings. The Nations were provided with copies of the *Section 106 Finding Documentation* and FHWA determination of 'No Adverse Effect' on November 8, 2013 (NYSDOT 2013k and NYSDOT 2013l)

4.4.11.6. Results of Section 106 Consultation

In summary, Consulting Parties and Tribal Nations have been provided an opportunity to offer comments on the Project's effects on historic above-ground resources. All received comments are part of the Project's record. Documentation of the assessment of effects reflects consideration of the views of the Consulting Parties and has been shared with the Consulting Parties, Tribal Nations and the public as notification of the draft finding of No Adverse Effects on historic properties (see **Appendix H –Section 106 Documentation**).

4.4.12. Parks and Recreation Areas (Including Section 4(f)/6(f) Involvement)

All parks and recreation areas shown within the Project's Study Area are well known and are owned by the City of Buffalo. Four parks are located within the Study Area, as shown in **Figure 4-10**. They are Front Park, Columbus Park, and Prospect Park, all along the north side of Porter Avenue, and Pat Sole Park located at the intersection of Busti Avenue and Massachusetts Avenue. Columbus Park, Prospect Park, and Pat Sole Park are outside the Project Area and are not subject to Section 4(f) for this Project.

The only park affected by this Project is Front Park, which has been determined to be a Section 4(f) resource by FHWA.

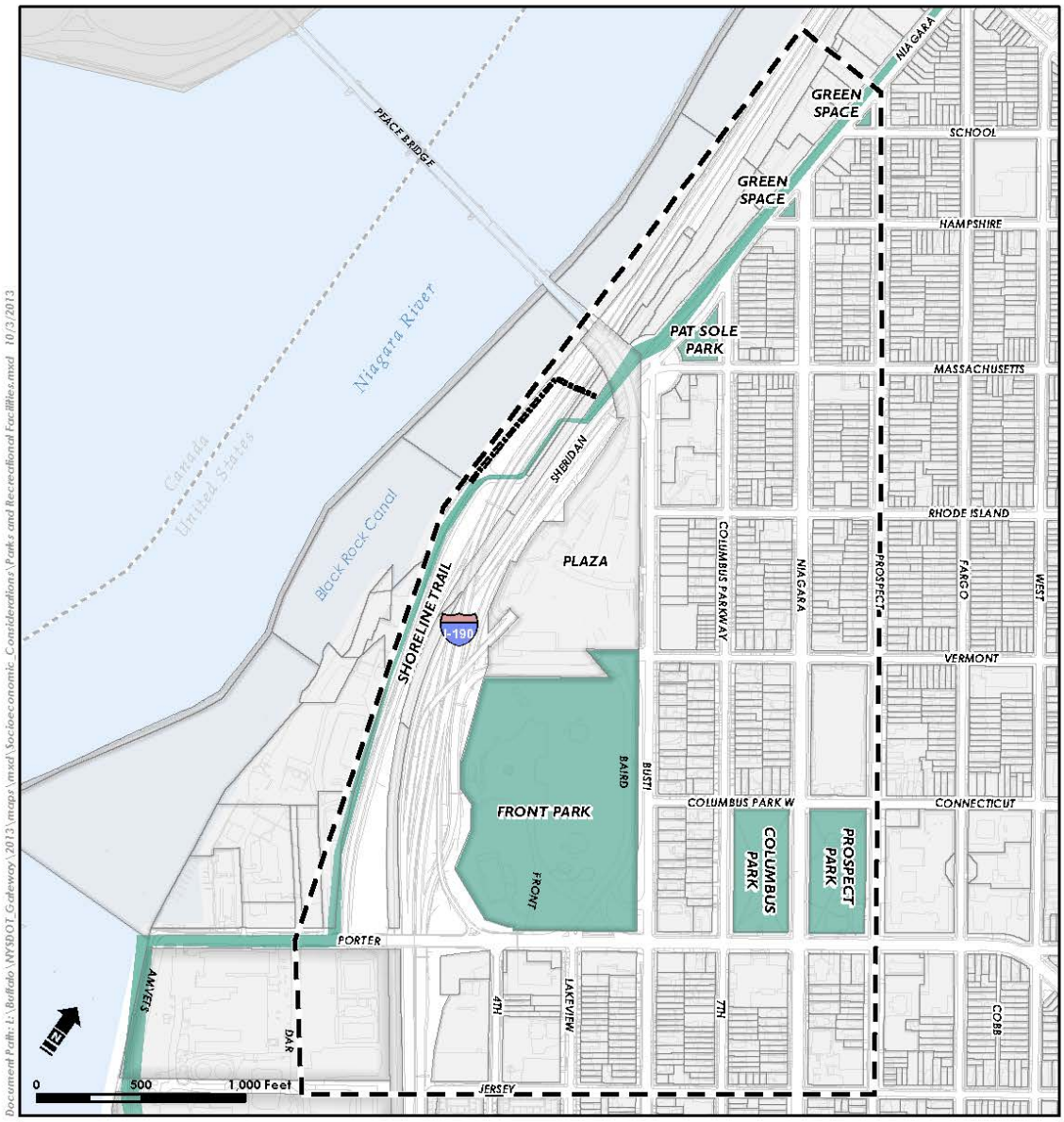
This Project also involves the relocation of the existing Shoreline Trail (formerly named Riverwalk) from its current location as it crosses over the railroad right-of-way and under I-190 to a location slightly further to the north toward the Peace Bridge, thus allowing for the placement of the new Ramp D. The Shoreline Trail has been determined to be a Section 4(f) resource by FHWA.

There are no wildlife or waterfowl refuges subject to Section 4(f) for this Project.

Existing Conditions

As described in **Section 4.4.6**, Front Park is one of several "key neighborhood/waterfront nodes and parks" in Buffalo's comprehensive development plan (COB, 2006), which specifically calls for the protection, restoration, and promotion of sustainable use of these waterfront resources.

Figure 4-10 – Parks and Recreational Facilities



NY Gateway Connections Project
Parks and Recreational Facilities
Erie County, New York

Project Study Area
Park and Recreational Facility
Proposed New Alignment of Shoreline Trail

SOURCE Erie County Department of Environment and Planning 2012

U.S. Department of Transportation
Federal Highway Administration

New York State
Department of Transportation

The useable parkland within the roadways bordering Front Park currently totals approximately 21.31 acres, with approximately 3.01 acres of non-contiguous portions of the park between Baird Drive and Busti Avenue. An additional 1.8 acres is occupied by Baird Drive and the adjacent sidewalk, which traverse the park near its eastern edge on land that was formerly part of Front Park's Parade/Play Ground. This road currently provides access for interstate traffic to and from the Plaza. An entrance ramp to northbound I-190 occupies a small portion of land adjacent to the southwestern boundary of the park. The entrance onto the Plaza from northbound I-190 occupies land immediately adjacent to the western and northern boundaries of the park.

Three major zones characterize the spatial organization of Front Park: the Parade/Play Ground (playing fields), the Terrace with the bronze Commodore Oliver Hazard Perry Monument, and the area below the bluff where an outdoor ice skating rink was once located. The most visible topographic feature is the curved bluff, which slopes toward the river. Overall, grass, specimen trees, and a few scattered structures dominate the park and are in fair condition. Views of the river are partially obscured by trees and the I-190 highway.

The entrance into Front Park is located on Porter Avenue, which runs along the southern boundary of the park. Front Park currently has one building, a stone picnic structure. This picnic structure, located at the southern end of the Parade/Play Ground, is not noteworthy or distinctive. Specimen trees, hedge/screen plantings, and turf grass form the primary vegetation features of Front Park. A total of five commemorative memorials, plaques, or monuments are scattered throughout Front Park and along Baird Drive and Busti Avenue, along with contemporary site furnishings such as benches, picnic tables, and light standards typically found in Buffalo parks.

The determination of Section 4(f) Use of Front Park and the recreational resources, as defined by FHWA 49 USC Section 303, is discussed in detail in **Chapter 6**.

Section 6(f) of the Land and Water Conservation Fund Act of 1965 (LWCF) requires that property acquired or developed with LWCF funds shall not be converted to uses other than for public outdoor recreation uses. Coordination with the New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP) is necessary since they are the state agency responsible for administering LWCF funds. Consultation with the National Park Service is required for final approval if it is determined that a conversion is needed.

Front Park has been identified as a Section 6(f) resource, due to a LWCF grant approved in 1978 for the Front Park Ice Rink Renovations. While the skating rink has since been removed, Front Park is still considered a Section 6(f) resource according to NYSOPRHP.

NYSDOT and NYSOPRHP met on July 17, 2013 to consider the applicability of Section 6(f) to the Project. Within Front Park, Project activities would include the removal of Baird Drive and realignment of the park entrance driveway with Lakeview Avenue at a signalized intersection. The Project would result in a net removal of approximately 1.5 acres of roadway and 0.3 acres of sidewalk; totaling 1.8 acres of

pavement removal that would be restored to green space. The removal of Baird Drive and the adjacent sidewalk, which currently bisect the Park, would reconnect approximately 4.5 acres of green space to the east with the remainder of Front Park to the west.

Based on the meeting discussion, NYSDOT proposed that work within the Park does not constitute a Section 6(f) conversion, and does not meet the criteria for a non-conversion (e.g., proposal for temporary non-conforming use, proposal to construct public facilities). Based upon review of the project information, the existing 6(f) map for Front Park, and consultation with the Northeast Regional Office of the National Park Service, the NYSOPRHP Alternate State Liaison Officer determined that the "removal of Baird Drive and rearranging park entryways will not be in violation of Section 6(f)(3) of the Land and Water Conservation Fund Act"; therefore there is no conversion of Section 6(f) property. No further consultation under Section 6(f) is required for this Project (NYSOPRHP 2013).

Recreational trails in the vicinity of the Project Area include the Buffalo and Erie County Shoreline Trail (Riverwalk), which extends from downtown Buffalo north to the City of Tonawanda. The Trail provides a link between existing recreation areas and bicyclist/pedestrian trails from Riverside Park to the City of Tonawanda. The Shoreline Trail link now provides public access from northern Erie County to downtown Buffalo.

Niagara River Greenway Plan

The Niagara River Greenway is a linear system of State and local parks and conservation areas linked by a network of multi-use trails within the greenway area established by the Niagara River Greenway Plan ("Greenway Plan") of the Niagara River Greenway Commission. The Greenway boundary follows municipal lines and encompasses the municipalities of Porter, Youngstown, Lewiston (Town and Village), Niagara, Niagara Falls, Wheatfield, North Tonawanda, Grand Island, Tonawanda (City and Town), Kenmore, and Buffalo. The Project Area and more specifically Front Park and the Shoreline Trail (Riverwalk), are integral parts of the Greenway extending from the headwaters of the Niagara River at Lake Erie to its outflow into Lake Ontario. The vision of the Greenway Plan is to promote an ecologically sustainable and accessible area of conservation value that provides connections to related corridors and resources across the region. The Greenway is a means to establish a clear sense of "place" and identity that reflects the traditional spirit and heritage of the area.

The goals of the Greenway Plan are to:

- Promote public access to the Greenway through the development of multi-use trails, water-based trails, waterfront access points, scenic overlooks, and interpretive centers;
- Promote physical connections that link destinations and communities;
- Protect and restore environmental systems for environmental purposes and promote the future revitalization of the region's economic health;
- Celebrate the region's shared history and heritage through consistent signage and way-finding systems, interpretive centers, and thematic frameworks for coordination of interpretive activities;

- Spark revitalization, reinvestment, and renewal in the cities and communities along the Greenway through sustainable development, tourism, and improved quality of life factors;
- Promote long-term sustainability through rehabilitation and improvement of aging facilities to ensure their long-term viability and world-class stature; and
- Extend Olmsted's legacy by achieving Olmsted's vision of a necklace of parks and open spaces along the length of the Niagara River.

Effects

No Build Alternative

The No Build Alternative would not affect any parks or recreation areas because no Project-related disturbances or property acquisitions are planned.

Build Alternative

The Build Alternative would have an overall positive effect on Front Park because approximately 1.8 acres of land now utilized as a transportation corridor through the Park would be removed and returned to green space. This would improve the connection of Front Park with the nearby Columbus Park and the immediate residential neighborhood.

A new shared-use pathway for pedestrians and bicyclist would be established along the south side of Porter Avenue to provide residents and visitors a safer connection between Front Park and LaSalle Park, the waterfront, and the Shoreline Trail (Riverwalk). The pathway would be accomplished by widening the existing sidewalk along Porter Avenue and establishing a separate pathway across the Porter Avenue Bridge over I-190 and the CSX rail line. Users of Front Park would be able to cross to the south side of Porter Avenue at the signalized intersection of Porter Avenue and the vehicular entrance to Front Park.

The portion of the Shoreline Trail (Riverwalk) where it descends from Busti Avenue and crosses the CSX railroad right-of-way would be temporarily unavailable to the public during construction of Ramp D (ramp from the Plaza directly to northbound I-190) for public safety reasons. The Shoreline Trail's current alignment between Niagara Street and waterfront west of I-190 would be relocated between the Peace Bridge and the tunnel under 1-190. The Trail would be rerouted immediately as it passes beneath the Peace Bridge, and descend part way down the embankment before turning westward across a newly constructed pedestrian/bicycle bridge over both the CSX rail road line right-of-way and I-190 before turning southward and descending to the existing ground level. The Trail would proceed in a southerly alignment along the Black Rock Canal shoreline and rejoin its existing alignment at the point where the current route passes under I-190. This new alignment would afford users a longer journey adjacent to the shoreline and eliminate the need to cross under I-190 by way of the existing tunnel. During construction, recreational users of the Shoreline Trail would be redirected further south along Busti Avenue to Vermont Street or Porter Avenue, and then westward through or around Front Park and across the Porter Avenue bridge over I-190 to rejoin the Shoreline Trail. Once construction of Ramp D is completed, the portion of the Shoreline Trail immediately north of the existing bridge would be relocated to accommodate the proposed new Ramp D connecting the expanded Plaza to northbound I-190 (see **Figures 4-9** and **4-10**).

The Niagara River Greenway Commission is a public benefit corporation established by Chapter 460 of the New York State laws of 2004, and charged with the planning and development of a greenway of interconnected parks, river access points and waterfront trails along the Niagara River from Lake Erie to Lake Ontario at the site of the historic Fort Niagara. As stated in § 39.19 State actions, each State agency shall review its actions within the Greenway in relation to the consistency of such actions with the approved Niagara River Greenway Plan. Accordingly, NYSDOT developed consistency certification procedures in coordination with the Niagara River Greenway Commission.

To the extent practicable, this Project has been determined to be consistent with the Niagara River Greenway Plan. The Niagara River Greenway Consistency Review Form (NRGCRF) was used to assess the Project's consistency with the Niagara River Greenway Plan, and was completed by NYSDOT on 10/28/2013 (see Appendix F).

4.4.13. Visual Resources

The Project, which is to provide direct access from the Plaza to northbound I-190 and redirect traffic from Front Park, is adjacent to the historic Front Park and located within a typical urban city mixed-use setting located along the Niagara River. There are four viewer groups for the Project: local residents, business employees, travelers/commuters, and recreational users (including pedestrians and bicyclists).

The Study Area contains a varying landscape character including narrow residential streets with large street trees and small front yards, a wide commercial corridor along Porter Avenue with diverse architectural styles, and a transportation corridor with minimal color, texture or landscaping. The visual character of the Study Area is punctuated by the large open lawn and mature landscape of Front Park (see **Appendix I – Visual Impact Assessment**).

The viewsheds of the pedestrian and bicyclist viewer groups are generally contained or screened by vegetation, buildings, or transportation structures. Regarding Front Park, as discussed in Sections 4.4.11.2.3 and 4.6 and the Section 106 Finding Documentation in Appendix H, the proposed elevations of Ramps N, P, and PN under the Build Alternative are similar to existing conditions, and would not alter the character of the existing views from the park. In addition, the Build Alternative would remove Baird Drive and its associated sidewalk, providing open, unobstructed views within the park by eliminating the pavement and through traffic from the green space. The removal of Baird Drive would also improve the viewshed of those properties along Busti Avenue that face Front Park. Exceptions to the impacts to recreational users are found along the Shoreline Trail (Riverwalk) due to its proposed extension and pedestrian bridge along the Black Rock Canal. This viewshed will have moderate impacts due to the loss of vegetation and introduction of additional structural elements along the river's edge.

The most prominent proposed action includes additional ramps and bridges and a new roundabout and/or intersection within the transportation corridors. While motorists' sensitivity is low due to their concentration on the road, signage and other motorists, the viewsheds will have moderate impacts due to the additional

structures, roadway utilities and loss of vegetation. There will also be minor impacts to local residents who frequently travel these transportation corridors and are sensitive to the area's visual character.

Based on the evaluation of selected viewsheds, the Project is expected to have a minimal/low change to the visual resources with viewer groups having a low/moderate response. Proposing additional landscaping, enhancing structural elements, and introducing streetscape treatments will enhance the viewshed.

4.4.14. Farmland Assessment

The Project Area has no Federal Protection Policy Act-defined farmlands; thus, no further federal review is required. Based on review of NYS Agricultural District Maps for Erie County, the Project is not located in or adjacent to an Agricultural District. The Project would not affect farmland.

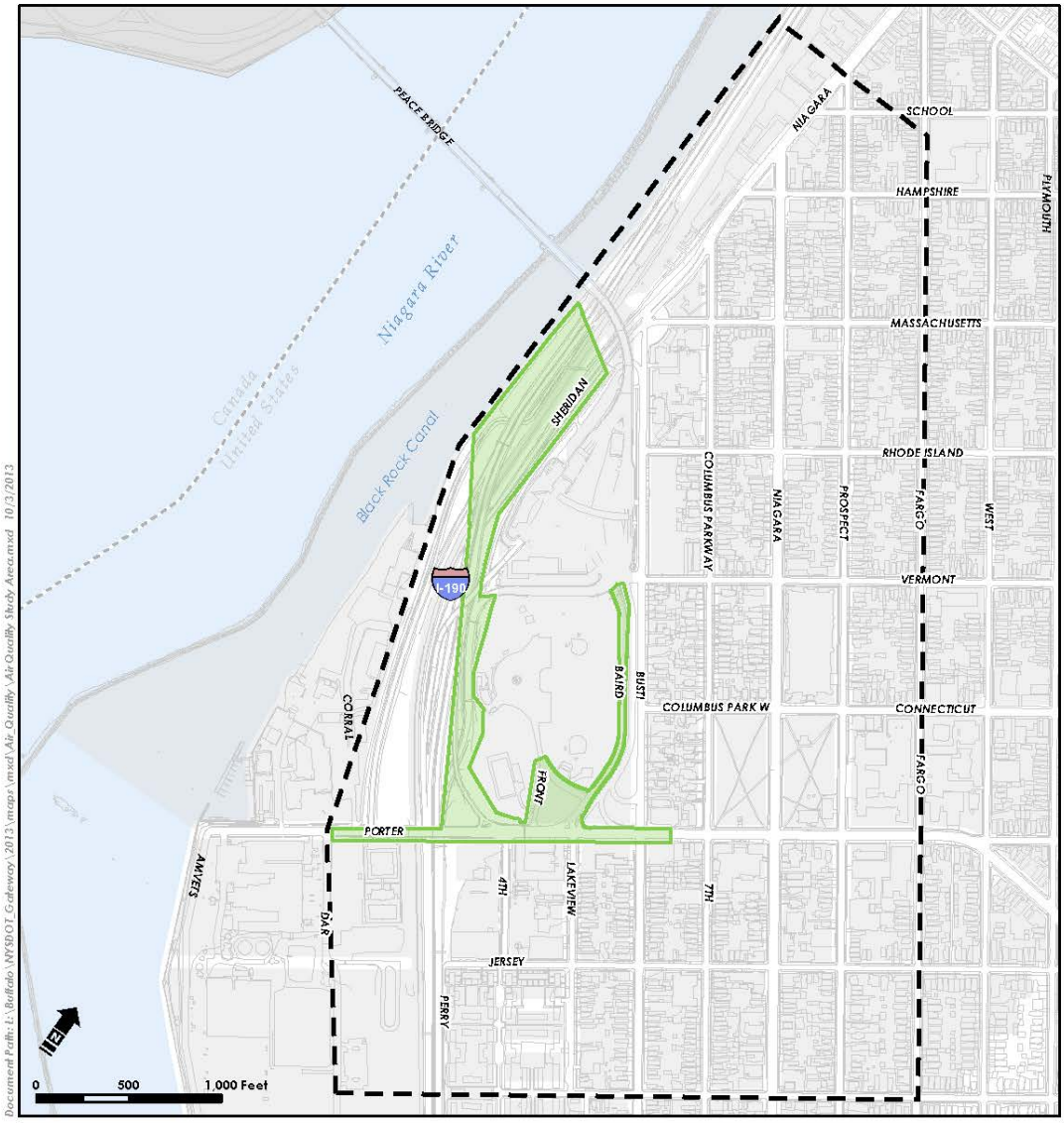
4.4.15. Air Quality

A project-level air quality analysis for this Project has been conducted. The air quality analysis included four types of specific analyses: 1) construction phase particulate matter (PM) analysis; 2) a mesoscale emission analysis; 3) a microscale analysis; and 4) a mobile source air toxics (MSAT) analysis. A transportation conformity analysis is not applicable to the Study Area after July 1, 2013 due to USEPA action to revoke the transportation conformity requirements for the 1997 ozone ambient air quality standard (Federal Register, Volume 77, Issue 98, Monday, May 21, 2012).

The air quality analyses were performed in accordance with methodologies presented in NYSDOT's The Environmental Manual (TEM), updated in December 2012 (NYSDOT 2001). The NYSDOT TEM guidance specifies use of the MOVES emission factor model, and specifies the USEPA guidance "Using MOVES in Project-Level Carbon Monoxide Analyses" (USEPA 2010) and "Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas" (USEPA 2010a) for project-level microscale/hot-spot analyses for NEPA and SEQRA. In addition to the TEM guidance, the FHWA "Interim Guidance Update on Mobile Source Air Toxic (MSAT) Analysis in NEPA Documents" was used (FHWA 2012).

The Air Quality Study Area for this Project resulted in no material difference with our modeling with that used for the traffic analysis. This Study Area extends two blocks to the south of Porter Avenue, two blocks east of Niagara Street and north along Niagara Street to School Street as shown on **Figure 4-11**.

Figure 4-11 – Air Quality Study Area



NY Gateway Connections Project
Air Quality Study Area
Erie County, New York

Air Quality Study Area
Project Area

SOURCE Ecology and Environment, Inc.

U.S. Department of Transportation
Federal Highway Administration

New York State
Department of Transportation

The air quality analysis compares the Build Alternative with the No Build Alternative. The Build Alternative consists of two options that are similar except for the configuration of the intersection of Porter Avenue/4th Avenue and the entrance to northbound I-190. The Build Alternative with Signalized Intersection Option includes a signalized intersection with conventional through and turn lane configurations. The Build Alternative with Roundabout Option includes an intersection configured as a roundabout with no signalized traffic control, essentially allowing traffic to free flow through the intersection with minimal to no delay; traffic approaching the roundabout may be required to slow or stop, based upon the traffic volume within the roundabout.

The Build Alternative with Signalized Intersection Option was analyzed in the air quality analysis because, of the two options, ambient air quality impacts near the intersection could be higher for that option. The signal-controlled intersection with the Roundabout Option would form a queue of idling vehicles during the red-phase of the traffic signal. Idling of vehicles and their subsequent acceleration when the signal turns green would produce higher emissions compared to free flowing traffic through the roundabout.

A greenhouse gas emission analysis also was prepared in accordance with NYSDOT guidance (NYSDOT 2003b) (see **Section 4.4.16 Energy Demand and Greenhouse Gas Emissions** below). Greenhouse gas emissions and total energy consumption were obtained from the MOVES2010b model for the Air Quality Study Area for the No Build Alternative and the Build Alternative.

The Build Alternative results in lower mesoscale, MSAT, and greenhouse gas emissions and lower energy consumption in comparison to the No Build Alternative. The microscale analysis for PM2.5 and PM10 shows the Build Alternative results in lower ambient concentrations in comparison to the No Build Alternative.

4.4.15.1. Background Air Quality

In accordance with the Clean Air Act Amendments (CAAA), the USEPA has designated National Ambient Air Quality Standards (NAAQS) for seven criteria air pollutants: sulfur dioxide (SO_2), particulate matter less than or equal to 10 micrometers in diameter (PM_{10}), particulate matter less than or equal to 2.5 micrometers in diameter ($PM_{2.5}$), carbon monoxide (CO), ozone, nitrogen dioxide (NO_2), and lead. As part of its statewide ambient air monitoring system, NYSDEC operates monitoring stations that measure ambient air concentrations of these pollutants in Erie County (including Amherst and Buffalo) and in Niagara County (including Niagara Falls). The NYSDEC prepares an annual monitoring plan that describes the rationale for the placement of sampling sites and selection of pollutants for ambient monitoring and changes that are made to the monitoring network. Pollutants for which local monitoring stations have a long history of demonstrating compliance with the NAAQS may be removed from the monitoring network plan. For new NAAQS, the monitoring network will be adjusted to provide measurements for comparison to new standards. For example, monitoring for lead was discontinued at the end of 2004 and monitoring for PM_{10} is no longer performed in Western New York (NYSDEC Region 9), as long-term data have demonstrated compliance with the NAAQS. In addition to the annual network plan, the NYSDEC also produces a report of ambient monitoring data. Monitoring data from the NYSDEC

2012 ambient monitoring network as reported on the USEPA Air Data database are shown in **Table 4-7** (EPA 2013b).

Table 4-7 – Criteria Air Pollutant Summary (2012 Data)

Pollutant	Air Monitoring Station	Averaging Time	Monitored Concentration[1]	NAAQS
Sulfur dioxide	Tonawanda (192 Brookside Terrace West)	Primary 1-hour	26 ppb	75 ppb
		Secondary 3-Hour	34 ppb	500 ppm(4)
Inhalable particulates (PM_{10})(8)	None in NYSDEC Region 9	Primary and Secondary 24-Hour	No monitoring sites in NYSDEC Region 9	150 µg/m^3 (3)
Fine inhalable particulates ($PM_{2.5}$)	Buffalo (185 Dingens)	Primary Annual	9.4 µg/m^3	12 µg/m^3 (5)
		24-Hour 98th Percentile	23 µg/m^3	35 µg/m^3 (6)
Carbon monoxide	Buffalo (185 Dingens)	8-Hour (running average, 2nd highest)	1.1 ppm	9 ppm(4)
		1-Hour (2nd highest)	1.6 ppm	35 ppm(4)
Ozone	Amherst (Audubon Golf Course)	8-Hour	0.073 (3 yr avg) 0.079 (2012) 0.068 (2011) 0.072 (2010)	0.075 ppm(7)
Nitrogen dioxide	Amherst Buffalo	1-hour	32 ppb (Audubon) 46 ppb (Dingens)	100 ppb(2)
Lead	None in NYSDEC Region 9	Rolling 3-month average	No monitoring sites in NYSDEC Region 9	0.15 µg/m^3

Source: USEPA AirData monitor values database, available at: http://www.epa.gov/airdata/
Data for SO2 3-hour comes from "New York State Ambient Air Quality Data Report for 2012". Link to web page source is: http://www.dec.ny.gov/docs/air_pdf/2012airqualrpt.pdf

Notes:
[1] Monitored concentration shown is value for calendar year 2012. For some pollutants (NO_2 1-hour, ozone 8-hour, $PM_{2.5}$ annual and 24-hour and SO_2 1-hour) additional years are included to determine 3 year average to determine NAAQS compliance.
[2] 98th percentile averaged over 3 years .
[3] Not to be exceeded more than once per year on average over 3 years.
[4] Not to be exceeded more than once per year.
[5] Average of last 3 years annual means not to exceed standard.
[6] Standard is compared to average of 98th percentile for last 3 years.
[7] Standard compared to 4th highest daily 8-hour average concentration measured during the last 3 years.
[8] There are no NYSDEC monitoring sites for PM10 due the WNY region's long-term compliance with the NAAQS.

A focused sampling study in the neighborhood around the Plaza and Front Park is being performed by the NYSDEC in two phases. The goal of the sampling program is to characterize local air quality by comparing "upwind" and "downwind" data prior to prospective renovations of the Plaza. The first phase (before prospective renovations being performed by others) began on September 14, 2012 and ended on March 26, 2013. The second phase (after renovations) will be conducted at an as yet undetermined date. A complete description of the sampling study methodology and sampling results from the first phase of sampling can be found on the NYSDEC website (NYSDEC 2013c).

Other ambient monitoring studies have been conducted in previous years in the Project air quality study area. PM_{10} and $PM_{2.5}$ concentration data in the Project Area were gathered for a previous study in the same vicinity as the NYSDEC sampling program. The study included a short duration sampling program that was performed over a six-week period late in 2001 and during a second six-week sampling program in early 2002. A comparison of the upwind and downwind sampling data from the study showed that ambient levels of PM_{10} and $PM_{2.5}$ in the vicinity of the Plaza is highly influenced by non-Plaza emission sources but lower than the NAAQS. Additional ambient air monitoring studies in the Project area have been conducted by various research scientists over the last 10 years by Clarkson University and the University at Buffalo. Appendix B of the NYSDEC Peace Bridge Study Report discusses the other monitoring studies (NYSDEC 2013c).

4.4.15.2. Air Quality Methodology Summary

The air quality analysis considers the year of estimated completion known as the ETC year, and two additional analysis years: ETC+10 years and ETC+20 years. The multiple year emission analysis is performed in order to determine the "critical year", that is, the year in which the highest emissions occur. For this Project, the ETC year is 2015, ETC+10 is 2025 and ETC+10 is 2035.

4.4.15.2.1. *Motor Vehicle Emission Simulator (MOVES) Model – Version 2010b*

The USEPA MOVES2010b model is the required mobile source emission factor model for all mobile source analyses. MOVES2010b calculates emission related parameters such as total mass emissions and emission rate (e.g. grams/vehicle-mile or grams/hour) for a wide variety of spatial and time scales. MOVES2010b has the capability to determine the emission inventory and emission factors at the project-level for a specific group of roadway segments or links. At the project-level, MOVES2010b requires site-specific input data for traffic volume and vehicle type rather than use of national default data. By using site-specific data, the emission results reflect the site-specific traffic characteristics for the Project.

MOVES provides emission and activity data that are used in emission inventory development for the mesoscale, MSAT, greenhouse gas and energy analyses described in later sections. MOVES also provides emission and activity data for development of the emission factors used in the microscale analysis. The methodology discussed here describes the implementation of MOVES to produce the basic data used in the mesoscale, MSAT, greenhouse gas and energy and microscale analyses.

Implementation of MOVES2010b project-specific analysis is described in detail in **Appendix C – Air Quality Analysis**. MOVES2010b data inputs include specification of geographic boundary of the Project, fuel characteristics specific to Erie County, information regarding the emission inspection/maintenance program specific for Erie County, age distribution for each vehicle type (e.g., passenger car, heavy truck, etc.) and meteorological data. Project-specific data inputs included the volume of vehicles per hour classified by two vehicle types (cars and heavy duty trucks) on each road link in the Project Air Quality Study Area. In addition, for each road link, data for the length of the link, grade (slope) of the link, and the average speed for traffic on the link were input to MOVES2010b.

Seasonal (winter, spring, summer, fall) variation in meteorological conditions and fuel specification, and time of day (morning peak, mid-day, evening peak and overnight) variation in meteorology and traffic volume can affect the production of vehicle emissions in the Study Area. To characterize these variations, multiple MOVES runs were performed, with results summed to produce daily and annual emissions for development of the emission inventory.

The procedure for developing the emission inventories for the mesoscale, MSAT, and greenhouse gas analyses and for determining annual energy use consists of processing the basic MOVES2010b output in a series of calculation steps. Peak hour emissions for both the No Build Alternative and Build Alternative were calculated using MOVES2010b for each meteorological season (i.e., winter, spring, summer and fall) and, within each season, for four daily time periods (AM traffic volume peak, midday traffic volume, PM traffic volume peak and overnight traffic volume). Seasons are defined as follows: winter (December, January and February); spring (March, April and May); summer (June, July, and August); and fall (September, October and November). The daily time periods are defined as: AM peak (6am to 9am); midday (10am to 3pm); PM peak (4pm to 7pm); and overnight (8pm to 5am). Emissions for each peak hour were assumed to occur throughout the time interval containing the peak hour. Daily emission totals were formed by summing the emissions from the four daily time periods. From the daily emission totals, annual emissions were then calculated.

The combination of season and time of day analysis was performed for three analysis years: the estimated time of (Project) completion (ETC) year of 2015; the ETC+10 year of 2025; and the ETC+20 year of 2035. The combination of seasons (4) with time of day (4) and three analysis years (2015, 2025, and 2035) results in 48 MOVES runs for the No Build Alternative and 48 MOVES runs for the Build Alternative. A total of 96 MOVES runs were performed.

The individual seasonal/time of day MOVES runs were also analyzed to determine the analysis year/season/time of day that produces the peak hourly emissions to aide in determining the critical year for the microscale analysis.

The individual seasonal/time of day MOVES runs were also analyzed to determine the analysis year/season/time of day that produces the peak hourly emissions to aide in determining the critical year for the microscale analysis.

Vehicle related PM_{10} and $PM_{2.5}$ emissions consist of exhaust, brake wear, tire wear and dust generated by vehicle travel on paved and/or unpaved roadways. USEPA guidance states that re-entrained road dust be considered in PM microscale (hot-spot) analyses only if USEPA has found that dust emissions are a significant contributor in a nonattainment or maintenance area (USEPA 2010a). Since the Project is in an air quality area designated as attainment with the PM_{10} and $PM_{2.5}$ NAAQS, re-entrained road dust cannot be a significant contributor to a nonattainment situation. In addition, the Project consists of removal of Baird Drive, which removes a potential source of paved road dust that is relatively close to residences fronting on Front Park. Other roadways affected by the Project include the reconfiguration of the intersection of Porter Avenue/4th Avenue, which will not add new lane miles and will not be a new potential road dust source in the Project Area. The addition of Ramps D and PN will offset the loss of lane miles due to removal of Baird Drive and add a potential source of paved road dust away from residential areas.

Since the Project will result in an overall reduction in paved lane miles and an increase in the distance between potential road dust sources and nearby residences, PM emissions due to paved road dust re-entrainment have not been further considered in the microscale PM analysis.

4.4.15.2.2. *Mesoscale Analysis*

The Air Quality Study Area roadways carry local traffic and traffic from the regional road/highway (mesoscale) network to and from the Peace Bridge Plaza. The Project will allow for direct access to northbound I-190 from the Plaza via new Ramp D, and allow for direct access to the Plaza entrance ramp from Porter Avenue via new Ramp PN. These two new access ramps will allow for the removal of Baird Drive through Front Park. Traffic patterns on the local and arterial streets within the Air Quality Study Area would be affected by these changes and some localized changes in traffic volume on some streets are expected. The Project is not designed to increase overall traffic volume within the Air Quality Study Area because it is not a capacity enhancement project.

NYSDOT Guidance requires that a mesoscale emission analysis be performed for the No Build Alternative and Build Alternative. The mesoscale analysis provides a comparison of the overall project-level emissions from roadways associated with or affected by each alternative. The emission inventory analysis was performed using MOVES2010b in emission inventory mode. **Section 4.4.15.2.1** discusses the basic MOVES methodology.

Free flow (moving) traffic-related emissions are included in the mesoscale analysis.

The mesoscale analysis, because it provides total emissions for ETC, ETC+10 and ETC+20, serves to define the critical year to be used in the Microscale Analysis. The critical analysis year is defined as the year that is most likely to generate the highest annual emissions of each pollutant for each alternative. Three specific time horizons are used to determine the critical year: ETC (2015), ETC + 10 years (2025) and ETC + 20 years (2035).

4.4.15.2.3. *Microscale Analysis*

The NYSDOT's *The Environmental Manual* (TEM) and USEPA guidance "Using MOVES in Project-Level Carbon Monoxide Analyses" and "Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas" prescribe procedures for conducting CO and PM_{10}/$PM_{2.5}$ microscale air quality analyses. A microscale analysis consists of performing dispersion modeling of traffic related air pollutant emissions for intersections determined to be of concern due to traffic volume changes or proximity of sensitive receptors. The microscale analysis is limited to the Project Air Quality Study Area and must be performed for the No Build Alternative and Build Alternative.

NYSDOT TEM guidance specifies that the microscale analysis needs to be conducted only for the critical analysis year for projects located in areas designated as being in attainment or unclassified. Therefore, the microscale air quality analyses for the No Build Alternative and the Build Alternative were performed only for the critical analysis year, since the Project is located in an area that is designated as in attainment for CO and PM_{10} and is unclassified for $PM_{2.5}$. Based on emission inventory mode runs of MOVES2010b described in **Section 4.4.15.2.1**, year 2015 (the ETC year) is the critical analysis year for CO, PM_{10}, and $PM_{2.5}$ analyses.

Dispersion modeling of traffic related air pollutants is performed using the USEPA CAL3QHC and CAL3QHCR models. The CAL3QHC model is a screening version of the model that uses "worst case" meteorological data. The CAL3QHCR model is the refined version of the model since it uses hourly meteorological data specific to the study location. CAL3QHC may produce conservatively high affect results due to the use of "worst case" conditions; if this occurs, USEPA modeling guidance prescribes the additional step of applying the CAL3QHCR model to provide more realistic model predictions.

Prior to performing detailed dispersion modeling on a localized basis for CO for the Air Quality Study Area, the NYSDOT TEM procedures for determining if a CO microscale analysis is necessary were followed. These procedures include evaluating specific criteria in determining the need for a detailed air quality analysis. The initial screening step is a level-of-service (LOS) analysis taken from the traffic study. Intersections and roadways affected by the Build Alternative are assigned a letter designation of A through F to designate their LOS in the ETC, ETC+10 and ETC+20 time horizons. Intersections with a LOS of A, B or C for the Build Alternative are not subject to further analysis. Intersections with LOS D, E, or F are additionally screened by capture criteria and volume threshold. Intersections that fail all screening tests are subject to a microscale analysis. Any intersections in the Air Quality Study Area requiring a CO microscale analysis are then subject to a dispersion analysis using CAL3QHC. A refined microscale air quality analysis (Level II) using CAL3QHCR is performed for those intersections failing the CAL3QHC analysis.

To address concerns expressed during public scoping meetings and in public comments about particulate matter air quality in the Project Study Area, the No Build Alternative and the Build Alternative were subjected to a Level II dispersion modeling microscale analysis for PM_{10} and $PM_{2.5}$. Consideration of

screening criteria to determine if particulate matter hot-spot analyses were required was not applied. Input data was processed using the USEPA CAL3QHCR transportation air quality dispersion model to produce projections of ambient PM_{10}, and $PM_{2.5}$ concentrations using five years of hourly meteorological data.

Additional input data for the microscale modeling analysis included depiction of the road network and receiver locations; these are represented within the air model using a coordinate system. Roadways are broken into segments (links) that are assigned data describing the specific conditions of travel on that link. Traffic idling at signalized intersections is characterized using queue links that contain local data for signal cycle length, red light time, and traffic volume approaching the intersection. This allows for accurate reproduction of the distance and traffic relationships between road segments and receiver locations and traffic patterns within the model.

4.4.15.2.4. *Mobile Source Air Toxics*

A quantitative analysis to determine annual emissions of mobile source air toxics (MSAT's) emitted from vehicles in the Air Quality Study Area was conducted. Annual MSAT emissions for the No Build Alternative and the Build Alternative were determined in accordance with the FHWA's "Interim Guidance Update on Air Toxic Analysis in NEPA Documents" (FHWA 2012). The seven priorities MSAT's are: acrolein, benzene, 1,3-butadiene, diesel particulate matter/diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene and polycyclic organic matter (POM). POM consists of 30 individual pollutants in gaseous and particle form.

MSAT annual emissions were determined using the MOVES2010b model run in emission inventory mode, described in **Section 4.4.15.2.1**. MOVES2010b is based on in-use vehicle data, including millions of emissions measurements from light duty vehicles. MOVES2010b also accounts for the effects that vehicle speed and temperature have on PM emissions estimates (FHWA 2012).

For the No Build Alternative and the Build Alternative, the amount of MSAT's emitted would be proportional to the vehicle miles traveled (VMT) and delay time (e.g., amount of idling or slow speed operation). Other variables that might affect MSAT emissions, such as vehicle fleet mix, are assumed to be the same for each alternative.

4.4.15.2.5. *Construction Particulate Matter*

Emissions will occur during construction from operation of non-road construction vehicles and equipment and from dust generated during removal of Baird Drive and Project construction activities. Per the NYSDOT and USEPA guidance, emissions from construction-related activities are considered temporary and not required to be included in the PM hotspot analysis (NYSDOT 2001, USEPA 2010). For this type of analysis, the EPA has found that annual construction expenditure is a reasonable representation of construction equipment activity. Construction equipment activity results in fuel combustion and emissions.

4.4.15.3. Air Quality Analysis Results

4.4.15.3.1. *Mesoscale and Regional Emissions Analysis*

The mesoscale analysis provides an estimate of total annual emissions of criteria pollutants from vehicle activity on all roadways in the Air Quality Study Area. Annual emissions were obtained from MOVES runs performed as described in **Section 4.4.15.2**. Annual emissions for ETC (2015), ETC+10 (2025) and ETC+20 (2035) and the difference in annual mesoscale emissions between the No Build Alternative and the Build Alternative are shown in **Table 4-8**.

Comparing 2015, 2025 and 2035 traffic-related emissions in the Air Quality Study Area, a downward trend is seen for the No Build Alternative and the Build Alternative. The decrease is most likely due to improvements in vehicle emission control technology and fleet turnover. In 2015, 2025 and 2035, the emissions from the Build Alternative are lower for all pollutants compared to the No Build Alternative. The lower emissions for the Build Alternative compared to the No Build Alternative are likely the result of the Project's design, which improves traffic flow efficiency within the Study Area in later years as described in the Traffic Study (see **Appendix B – Traffic Study**).

Table 4-8 – Mesoscale Emissions from Roadways in the Study Area

Alternatives	Emissions (tons per year)				
	Carbon Monoxide	Nitrogen Dioxide	Volatile Organic Compounds	PM_{10}	$PM_{2.5}$
2015					
No Build	1,502	396	130	25	24
Build	1,434	373	124	23.3	22.2
Build – No Build	-68	-23	-6	-2	-1
2025					
No Build	491	193	49	18.0	16.9
Build	483	187	48	17.8	16.7
Build – No Build	-8	-6	-1	-0.2	-0.2
2035					
No Build	216	88	13	15.7	14.7
Build	155	61	9.0	11.1	10.4
Build – No Build	-61	-27	-4	-4.6	-4.3

4.4.15.3.2. *Microscale Air Quality Analysis*

Particulate Matter (PM_{10} and $PM_{2.5}$)

Microscale air quality particulate matter modeling results are shown in **Table 4-9** for PM_{10} and **Table 4-10** for $PM_{2.5}$. Results from the modeling show that ambient air quality concentrations are in compliance with the NAAQS. In critical year 2015 the annual $PM_{2.5}$ is projected to be 1.69 µg/m^3 and no build is 1.68 µg/m^3, and the NAAQS is 12 µg/m^3.

For the dispersion modeling analysis, the critical year (2015) worst case hourly emission rates from MOVES2010b runs were used in the dispersion model CAL3QHCR. These worst case hourly rates were conservatively assumed to apply to each hour of each day in the year. Five years (1997 to 2001) of hourly meteorological data were used in the CAL3QHCR runs. This data set is the same five year data set used in the modeling analysis for the previous project DEIS. This data set was used in this analysis because it contains two years (2000 and 2001) of local surface meteorological observations from the Great Lakes Research Station located approximately 0.25 miles west of Front Park. The closest meteorological station other than this one is located at the Buffalo International Airport, located in Cheektowaga, approximately 15 miles east of this Project's Air Quality Study Area.

Table 4-9 – PM_{10} Modeled Concentrations for the Build Alternative and the No Build Alternative in the Critical Year 2015

Meteorological Data Year	24 Hour Averaging Period
	Highest Modeled Concentration at a receptor within the Study Area (µg/m^3)
Year 1 Build	6.69
Year 1 No Build	6.44
Year 2 Build	7.67
Year 2 No Build	7.40
Year 3 Build	7.14
Year 3 No Build	6.91
Year 4 Build	12.4
Year 4 No Build	12.0
Year 5 Build	9.86
Year 5 No Build	9.52

Notes:

1. PM_{10} concentrations do not include background concentrations. As discussed in **Section 4.4.15.1.**, PM_{10} is not monitored in NYSDEC Region 9.
2. Annual NAAQS for PM_{10} has been revoked by EPA. Existing 24-hour NAAQS is 150 µg/m^3.

Predicted ambient concentrations shown in **Table 4-9** are well below the NAAQS of 150 µg/m^3 for the 24-hour time period. The concentration values shown do not include a background value because ambient monitoring for PM_{10} in Western New York ceased several years ago. Multiple years of monitoring activity have previously showed that regional PM_{10} concentrations were substantially less than the NAAQS and repeatedly demonstrated compliance with the NAAQS.

The modeled differences between the ambient concentrations predicted for the No Build Alternative and the Build Alternative shown in **Table 4-9** are negligible. Concentration differences range from 0.2 µg/m^3 to 0.4 µg/m^3.

Similar to the PM_{10} modeling results, predicted ambient concentrations for $PM_{2.5}$, as shown in **Table 4-10,** are well below the respective NAAQS. The 24-hour NAAQS for $PM_{2.5}$ of 35 µg/m^3 is a statistical value based on the 3-year average of the 98th percentile value of 24-hour concentrations. The annual primary NAAQS for $PM_{2.5}$ of 12 µg/m^3 is a statistical value based on the annual mean averaged over 3 years.

Background concentration of $PM_{2.5}$ for the Air Quality Study Area, as provided by the recently completed NYSDEC sampling study is not of sufficient duration to form a background value that meets the statistical requirements for use in comparison to the NAAQS. However, the monitoring station at the NYSDEC Dingens Street site in Buffalo is used to represent a regional $PM_{2.5}$ background concentration.

Table 4-10 – $PM_{2.5}$ Modeled Concentrations for the Build Alternative and the No Build Alternative in the Critical Year 2015

Meteorological Data Year	24-Hour Averaging Period	Annual
	Highest Modeled Concentration at a receptor within the Study Area (µg/m^3)	Highest Modeled Concentration at a receptor within the Study Area (µg/m^3)
Year 1 Build	3.50	1.28
Year 1 No Build	3.21	1.24
Year 2 Build	3.08	1.36
Year 2 No Build	3.40	1.32
Year 3 Build	2.99	1.31
Year 3 No Build	3.21	1.30
Year 4 Build	5.55	1.55
Year 4 No Build	5.89	1.53
Year 5 Build	4.73	1.69
Year 5 No Build	5.27	1.68

Notes:
1. $PM_{2.5}$ concentrations shown do not include background concentration.
2. Annual NAAQS for $PM_{2.5}$ is 12 ug/m3; 24-hour NAAQS for $PM_{2.5}$ is 35 ug/m3 based on a 3-year average of the 98th percentile (4th highest 24-hour concentration)

The determination of compliance for the Build Alternative modeled concentrations for $PM_{2.5}$ was performed following USEPA guidance (USEPA 2010a). For the Build Alternative, the first tier analysis option from the USEPA guidance was used. The highest 24-hour concentration values from each year of modeling were averaged together and added to the 3-year average 98th percentile 24-hour background concentration and rounded to the nearest 1 µg/m^3. The average of the highest modeled concentrations is 4 µg/m^3. Adding this value to the background value of 23 µg/m^3, shown in **Table 4-7**, results in a total concentration of 27 µg/m^3 compared to the NAAQS of 35 µg/m^3. The annual mean modeling results averaged over 3 years is 1.5 µg/m^3 (using years 3, 4 and 5 to form the average). Adding this value to the annual background value of 9.4 µg/m^3 shown in **Table 4-7** results in a total annual concentration of 10.9 µg/m^3 compared to the annual NAAQS of 12 µg/m^3.

The differences between the 24-hour ambient concentrations predicted for the No Build Alternative and the Build Alternative shown in **Table 4-10** are small. Concentration differences range from 0.2 µg/m^3 to 0.5 µg/m^3 indicating that there is essentially no difference in the air quality for $PM_{2.5}$ between the two alternatives.

The receiver location showing the maximum concentration is along northbound I-190 near Porter Avenue. **Figures 4-12** and **4-13** present contours illustrating $PM_{2.5}$ concentrations in the Air Quality Study Area resulting from the Build Alternative and the No Build Alternative, respectively. These figures demonstrate the pattern of lowest concentration in residential areas, with higher concentrations along the I-190 corridor and decreases in concentrations as distance from major roadways increases.

Data used to depict the ambient concentrations on **Figures 4-12** and **4-13** are based on the results of modeling and consider only the roadway sources in the immediate Air Quality Study Area. The data does not depict the actual concentration to which a person would be exposed because they do not include the background pollutant levels from multiple sources outside of the Air Quality Study Area.

Figure 4-12 – Build Alternative Modeled Maximum 24-Hour PM $_{2.5}$ Concentrations

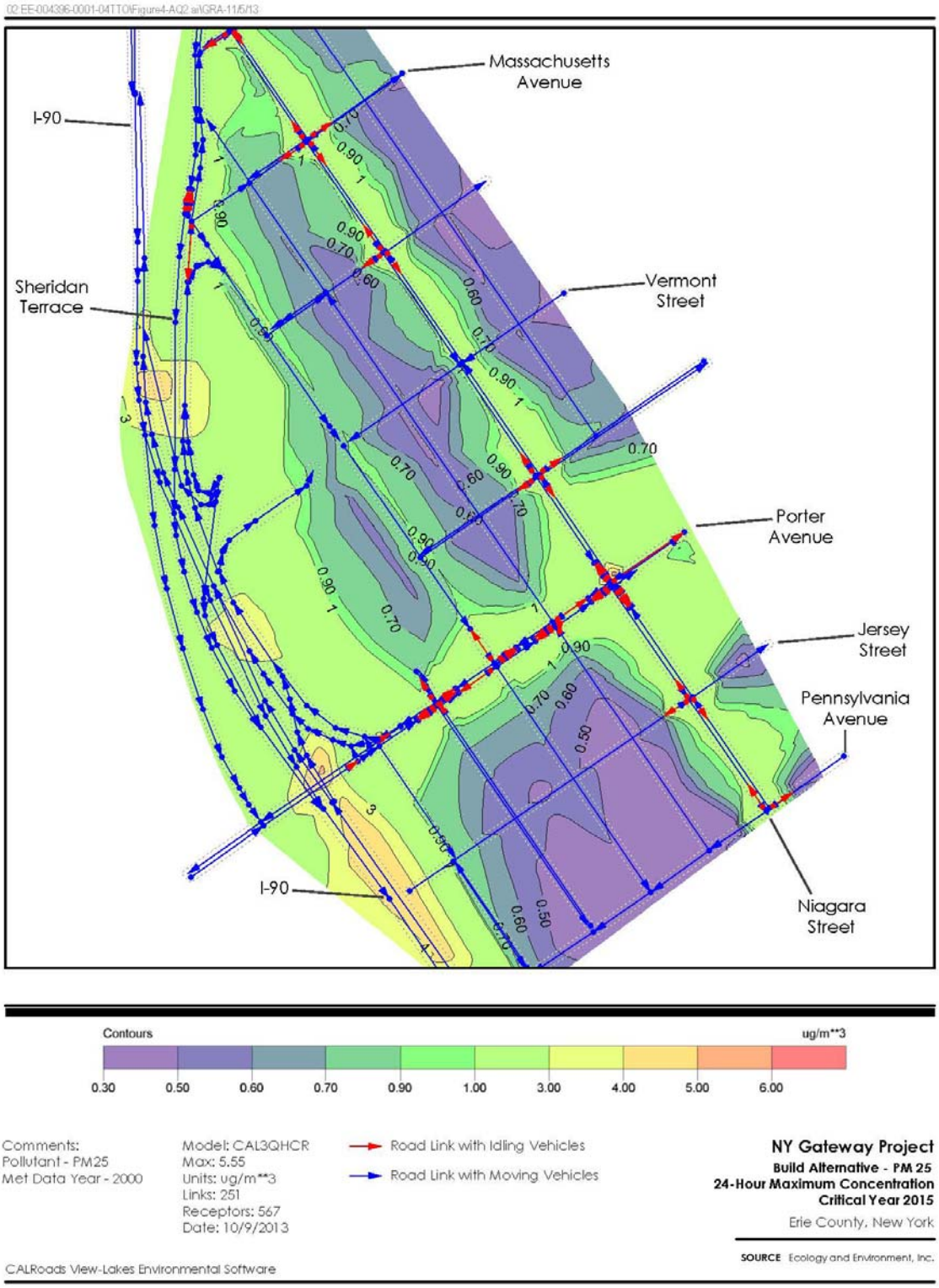
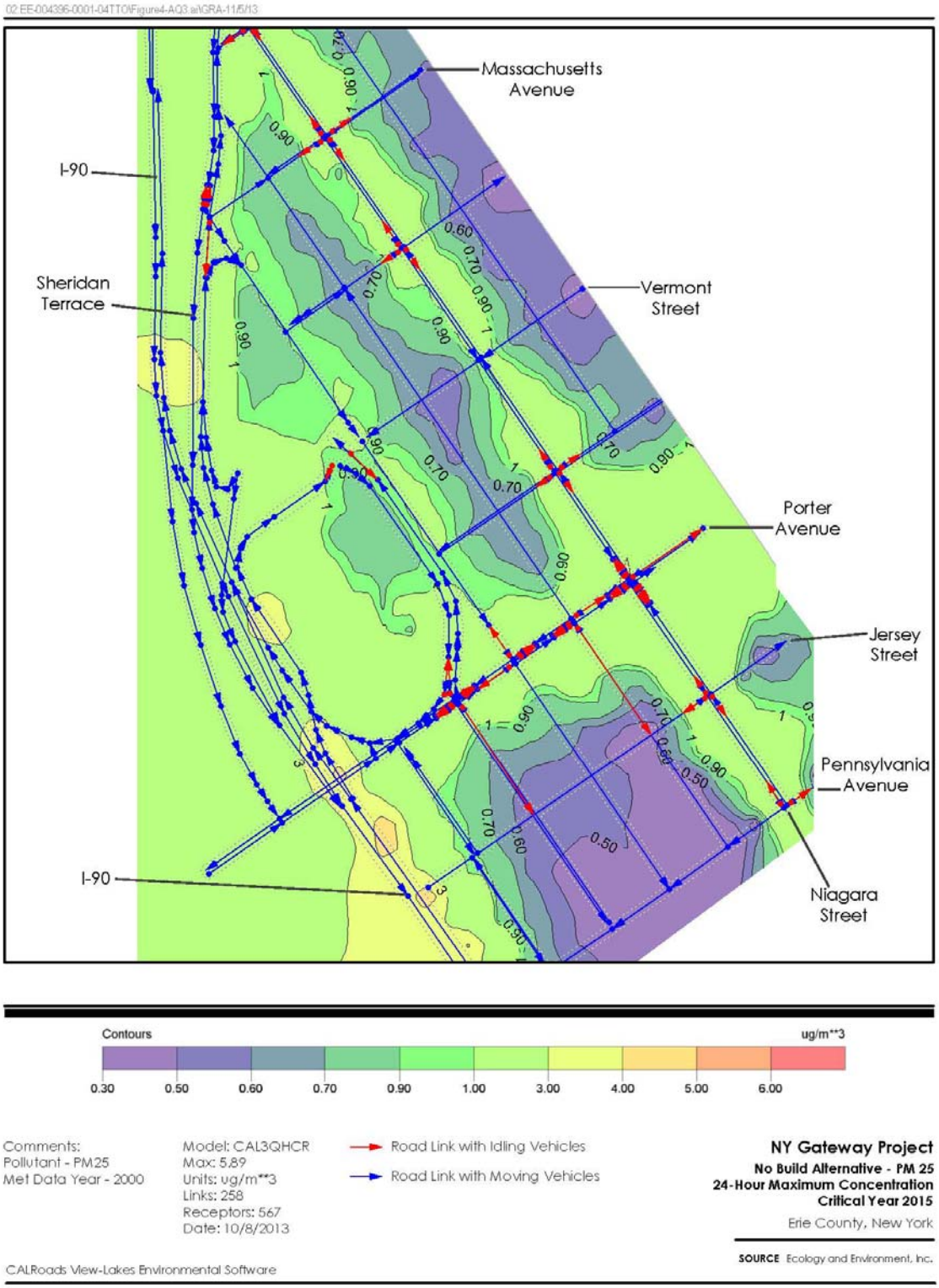


Figure 4-13 – No Build Alternative Modeled Maximum 24-Hour PM $_{2.5}$ Concentrations



Carbon Monoxide

The potential for carbon monoxide hot spots for the Build Alternative were evaluated based on the methodology discussed in **Section 4.4.15.2.3**. Predicted Level of Service (LOS) ratings for Air Quality Study Area intersections (see **Appendix B – Traffic Study**) were used to initially screen intersections to determine if a more detailed analysis is required. **Table 4-11** summarizes the Build Alternative with Signalized Intersection Option LOS analysis for years 2015, 2025, and 2035 from the traffic study for key intersections in the Porter Avenue corridor. These intersections are directly affected by the Build Alternative traffic pattern changes. The LOS analysis includes the application of traffic flow control measures to alleviate effects associated with the Build Alternative. These measures include: installation of a traffic signal at Porter Avenue and Ramps P and PN; modification of traffic signal phasing and/or timing along Porter Avenue at intersections with Niagara Street, Busti Avenue and Lakeview Avenue; and optimization of traffic signal offsets along Porter Avenue.

The LOS for intersections shown in **Table 4-11** are LOS A, B, C, or D. Except for the weekday PM peak hour in 2025 and 2035, the intersections in Table 4-12 meets the screening criteria exempting them from further analysis for carbon monoxide hot-spots. Additional LOS results for intersections in the Project Area are presented in **Appendix B - Traffic Study**. These intersections exhibit LOS ratings of A or B. Therefore, no further CO hot spot analysis is required for the Project.

The Porter Avenue/Niagara Street intersection for the weekday PM peak hour was further evaluated using capture criteria screening as prescribed in the NYSDOT TEM and described in **Section 4.4.15.2.3**. The criteria include:

1) A 10% or more reduction in the source-receptor distance;
2) A 10% or more increase in traffic volume on affected roadways for 2015, 2025 or 2035;
3) A 10% or more increase in vehicle emissions for 2015, 2025 or 2035;
4) Any increase in the number of queue lanes for 2015, 2025 or 2035; and
5) A 20% reduction in speed, when Build Alternative estimated average speed is 30 mph or less.

For the Porter Avenue/Niagara Street intersection for the weekday PM peak hour, the result of evaluating the intersection against the capture criteria screening are as follows:

1) There are no intersection widening or configuration changes that are part of the Build Alternative that will reduce the source-receptor distance; therefore there will not be a 10% or more reduction in source-receptor distance compared to the No Build Alternative.
2) An analysis of traffic volume changes during the weekday PM peak hour for 2015, 2025 and 2035 shows there is no difference between the Build Alternative and No Build Alternative total traffic volume through the intersection. The analysis summed the through, right turn and left turn movements from all four entry points into the intersection. Therefore, there will not be a 10% or more increase in traffic volume compared to the No Build Alternative.

3) Corresponding to the traffic volume analysis, an analysis of the emissions for the intersection indicates that there will not be a 10% or more increase in vehicle emissions for 2015, 2025 and 2035 when comparing the Build Alternative to the No Build Alternative.
4) The number of queue lanes will not increase in 2015, 2025 or 2035; and
5) There will not be a speed reduction for the Build Alternative when compared to the No Build Alternative.

Therefore, the Porter Avenue/Niagara Street weekday PM peak hour intersection condition does not require a CO hot spot analysis for the Project.

Table 4-11 – Level of Service for Porter Avenue Intersections in the Project Area

Intersection	Weekday AM Peak Hour			Weekday PM Peak Hour		
	2015	2025	2035	2015	2025	2035
Porter/Niagara St	B	B	B	C	D	D
Porter/Columbus Pkwy/7th Avenue	B	B	B	B	B	B
Porter/Busti	A	A	A	A	A	A
Porter/Lakeview/Front Park	B	B	B	A	A	A
Porter/Ramps P & PN	B	C	C	B	B	B

Notes:
1. The Build Alternative in this analysis reflects only the Signalized Intersection Option, which results in the worst case air quality condition for this alternative.
2. Additional LOS analysis results for intersections in the Air Quality Study Area are shown in the traffic study report.

4.4.15.3.3. *Mobile Source Air Toxics Analysis*

Table 4-12 reveals the annual emissions as determined by the MOVES2010b model of the seven MSATs for the No Build Alternative and the Build Alternative **(**see **Section 4.4.15.2.4)**. The estimated difference in MSAT annual emissions between the No Build Alternative and the Build Alternative in each year shows no difference or only slight differences between the alternatives. Therefore, there is no appreciable difference in overall MSAT emissions when comparing the Build Alternative to the No Build Alternative. In addition, emissions in future years for both alternatives (e.g., in 2025 and 2035) are predicted by MOVES to be lower than 2015 emissions as a result of the USEPA's national mobile source control programs and anticipated changes in vehicle technology. FHWA analyzed future national MSAT emission trends using MOVES2010b for the period 2010 to 2050. FHWA assumed an estimated VMT growth of 102 percent during this period and found that national MSAT annual emissions would be lowered by 83% (FHWA 2012). **Table 4-12** shows the overall downward trend in MSAT emissions within the Air Quality Study Area over the analyzed time period.

Table 4-12 – Annual MSAT Emissions

Alternative	MSAT Pollutant Emissions						
	Acrolein	Benzene	1,3-Butadiene	Diesel PM	Formaldehyde	Naphthalene	Polycyclic Organic Matter
	Ton	Ton	Ton	Ton	Ton	Grams	Ton
2015							
No Build	0.26	4.97	0.67	24.0	3.88	0.00	0.07
Build	0.24	4.76	0.64	23.3	3.67	0.00	0.07
Build – No Build	-0.02	0.21	0.03	-0.70	-0.21	0.00	-0.01
2025							
No Build	0.12	1.47	0.24	17.9	1.83	0.00	0.06
Build	0.12	1.44	0.24	17.8	1.76	0.00	0.06
Build – No Build	0.00	-0.03	0.00	-0.10	-0.07	0.00	0.00
2035							
No Build	0.06	0.27	0.05	15.7	0.99	0.00	0.05
Build	0.04	0.19	0.03	11.1	0.69	0.00	0.05
Build – No Build	-0.02	-0.08	-0.02	-4.6	-0.30	0.00	0.00

Specific design characteristics of the Build Alternative (e.g., eliminating Baird Drive, constructing Ramp D from the Plaza to northbound I-190 and constructing Ramp PN from Porter Avenue to the Plaza entrance ramp) result in a decrease in VMT on local arterial streets near residences located along Busti Avenue. Localized changes in MSAT emissions are likely the result of these VMT changes and would lead to localized reductions in ambient concentrations of MSAT's under the Build Alternative as compared to the No Build Alternative.

For the Build Alternative, the removal of Baird Drive and associated re-routing of traffic exiting the Plaza by way of Baird Drive and onto the new Ramp D provides for a greater buffer distance separating that portion of the Plaza-related traffic from residential areas. MSATs emitted from these vehicles would be further from the residential areas compared to the No Build Alternative. The increase in separation distance would decrease the potential effect of MSAT emissions on residential areas since these areas would no longer be immediately adjacent to traffic exiting the Plaza.

4.4.15.3.4. *Construction Particulate Matter Analysis*

Emissions will occur during construction from operation of non-road construction vehicles and equipment and from dust generated during removal of Baird Drive and construction of Ramps PN and D. Per the NYSDOT and USEPA guidance, emissions from construction-related activities are considered temporary and not required to be included in the PM hotspot analysis (NYSDOT 2001, USEPA 2010).

Typical Environmental Performance Commitments (EPC's) in construction contracts to minimize potential localized air quality effects during construction would be implemented, including the following:

- Use ultra-low sulfur diesel fuel in off-road construction equipment with engine horsepower (HP) rating of 60 HP and above;
- Limit unnecessary idling times on diesel powered engines to three minutes;
- Locate diesel powered exhausts aware from fresh air intakes;
- Control dust related to the construction site through a Soil Erosion Sediment Control Plan that includes:
    a) spraying of suppressing agents on dust pile (non-hazardous, biodegradable);
    b) containment of fugitive dust; or
    c) adjustments for meteorological conditions, as appropriate.

Further detailed in **Appendix C – Air Quality Analysis**.

4.4.16. Energy and Greenhouse Gas Emissions

4.4.16.1. Energy Analysis

The energy analysis includes a comparison of the direct and indirect energy consumption associated with the No Build and the Build Alternative.

Direct energy consumption is defined as the energy capacity of fuel combusted in vehicles using the roadways in the Project Study Area. The estimated annual direct energy consumption for each alternative was calculated with the MOVES model. Energy consumption was calculated in the same MOVES model run used to calculate criteria air pollutant, MSAT, and Greenhouse Gas (GHG) emissions. A description of the MOVES model runs is included in the Air Quality section (**Section 4.4.15**).

Indirect energy consumption is defined as the energy capacity of fuel combusted in equipment used to construct and maintain the roadways affected by the Project. Annualized indirect energy consumption due to Project construction and annual indirect energy consumption due to roadway maintenance for each alternative was estimated using approaches outlined in NYSDOT's *Draft Energy Analysis Guidelines for Project-Level Analysis* (NYSDOT 2003a). Input data for the analysis included cost of construction and price trend data for 2014 from the NYSDOT guidance. Annualized construction energy consumption was estimated by dividing total construction energy consumption by a project horizon of 20 years. For roadway maintenance energy calculation, a lane-mile value was used for the No Build and Build Alternatives of 3.5 and 3 miles, respectively. These distance values consider the roads and/or ramps that vehicles use to enter the Plaza from Porter Avenue and to exit the Plaza to access northbound I-190 via the new Ramp D.

Effects

A comparison of the estimated annual direct and indirect energy consumption for both the No Build and Build Alternatives is presented in **Table 4-13**. Detailed calculation estimates of energy consumption are provided in **Appendix C – Air Quality Analysis**.

Table 4-13 – Annual Energy Consumption

Alternative	Direct Energy Consumption (MMBtu/yr)	Indirect Energy Consumption (MMBtu/yr)		Total Energy Consumption (MMBtu/yr)	Total Energy Consumption Relative to No Build Alternative (MMBtu/yr)
		Construction[1]	Maintenance		
No Build Alternative	3,423,160	0	622	3,428,782	-
Build Alternative	3,361,500	17,793	533	3,379,826	-48,956 (-1.4%)

[1] Total construction energy consumption annualized over a period of 20 years.

The analysis indicates that long-term annual total energy consumption would be reduced by 1.4% with the Build Alternative, as compared to the No Build Alternative. The total energy consumption rate includes the contribution from vehicles operating on the roadways following construction (direct energy consumption) and from construction activities and roadway maintenance (indirect energy consumption). The reduction in energy consumption likely reflects the effect of the more direct access to northbound I-190 under the Build Alternative. The direct access from the Plaza to northbound I-190 via Ramp D reduces vehicle miles travelled compared to the No Build Alternative for vehicles exiting the Plaza to northbound I-190; under the No Build Alternative, vehicles exiting the Plaza take a less direct, hence longer, route to reach northbound I-190 by having to travel through Front Park on Baird Drive to Porter Avenue to the northbound I-190 entrance Ramp P.

4.4.16.2. Greenhouse Gas Emissions Analysis

The burning of fossil fuels in vehicles and non-road equipment would produce GHG emissions, primarily carbon dioxide equivalent (CO_2e). The GHG emissions analysis includes a comparison of the direct and indirect GHG emissions associated with the No Build and the Build Alternative.

Direct GHG emissions are generated from the long-term fuel combustion in vehicles using the roadways in the Project Area. The annual GHG emissions for each alternative were estimated with the MOVES model. GHG emissions were calculated in the same MOVES model runs used to calculate criteria air pollutant emissions and energy consumption. A description of the MOVES model runs is included the Air Quality section (**Section 4.4.15**).

Indirect GHG emissions are generated from fuel combustion in equipment used to construct and maintain the roadways affected by the Project. Annualized GHG emissions associated with project construction and annual GHG emissions associated with road maintenance for each alternative were calculated following the procedures in NYSDOT's *Draft Greenhouse Gases (CO_2) Emissions Estimate Guidelines for Project-Level Analysis* (NYSDOT 2003b). Following these procedures, indirect GHG emissions are estimated based on the indirect energy consumption calculated for construction and roadway maintenance described in **Section 4.4.16.1**.

Effects

A comparison of the estimated annual direct and indirect GHG emissions for each alternative is presented in **Table 4-14**. Detailed calculation estimates of GHG emissions are provided in **Appendix C – Air Quality Analysis**.

Table 4-14 – Annual Greenhouse Gas Emissions

Alternative	Direct GHG Emissions (tons CO_2e/yr)	Indirect GHG Emissions[1] (tons CO_2e/yr)	Total GHG Emissions (tons CO_2e /yr)	Total GHG Emissions Relative to No Build Alternative (tons CO_2e /yr)
No Build Alternative	288,322	50	288,372	-
Build Alternative	283,099	1,576	284,675	-3,697 (-1.3%)

[1] Indirect emissions from construction and long-term maintenance. Emissions from construction annualized over a period of 20 years.

The analysis indicates that long-term annual GHG emissions would be reduced by 1.3% with the Build Alternative as compared to the No Build Alternative. The total GHG emissions include the contribution from vehicles operating on the roadways following construction (direct GHG emissions) and from construction activities and roadway maintenance (indirect GHG emissions). As with annual energy consumption, the reduction in GHG emissions is associated with the more efficient traffic pattern associated with vehicles exiting the Plaza to northbound I-190.

4.4.17. Noise

4.4.17.1. Introduction

This Project meets the definition of a Type I project under 23 CFR 772.5(h). Therefore, a noise impact analysis was conducted following NYSDOT's *The Environmental Manual* (TEM) Section 4.4.17 (NYSDOT 2010). **Appendix D – Noise Study** details the measuring and modeling methodology employed to confirm existing and determine future Project-related noise levels within the Study Area. This analysis was conducted for noise due to both the Project's construction and operation. The feasibility and reasonableness of potential measures to abate the identified potential operational and construction noise impacts were evaluated for the Build Alternative.

Noise is defined as any unwanted sound. Sound is defined as any pressure variation that the human ear can detect and is often measured and described in terms of its overall energy, taking all frequencies into account. Because the human ear can detect such a wide range of sound pressures, sound pressure is converted to sound pressure level (SPL), which is measured in units called decibels (dB). The decibel is a relative measure of the sound pressure with respect to a standardized reference quantity. Decibels are most often reported using the A-weighted network (dBA). This weight scale allows sound level meters to simulate the frequency sensitivity of the human hearing mechanism. Using this weighting, measured sound levels are noted as dBA. The SPL that humans experience typically varies from moment to moment and therefore is described in terms of the continuous equivalent sound level or L_{EQ}. L_{EQ} is the preferred method to describe sound levels that vary over time. L_{EQ} represents the continuous equivalent

sound level derived by averaging the sound energy fluctuations that naturally occur over the period of time of interest. This methodology results in a single decibel value that takes into account the total sound energy over that period of time. Higher noise levels have a greater effect on the continuous equivalent sound levels than do lower noise levels.

4.4.17.2. Noise Modeling Methodology

The Traffic Noise Model (TNM) version 2.5, which was developed by the FHWA, was used for conducting noise modeling. The TNM predicts noise levels based on vehicles traveling on roadways and assesses noise impacts at the identified receivers. The model has the ability to simulate complex geographic settings and calculate noise abatement resulting from noise barriers or other attenuating conditions. In general, the difference between acceptable modeling results and actual measured conditions should not exceed 3 dBA. The differences between the modeling results and the actual measured conditions were all within the 3 dBA limit, indicating good correlation between the actual measurements and the modeling results.

Existing noise levels, as well as for the year 2045, for the No Build Alternative and Build Alternative were predicted by developing TNM models. The design of the Build Alternative was modeled for two options at the Porter Avenue intersection at 4th Street. The Build Alternative with Signalized Intersection Option includes a traditional intersection where traffic flow is controlled by traffic signals and the traffic generally has to stop and start depending on the signals. The Build Alternative with Roundabout Option is a non-signalized roundabout intersection where traffic flow is not subjected to a predetermined stop-and-go by signals, but is a more free-flowing process governed by the volume of traffic entering and exiting the roundabout. Both options were modeled because traffic that has to stop and then accelerate from the stop at a signalized intersection generally results in higher noise levels than traffic that is continuing to move or flow along the same roadway and not subjected to controlled stopping and starting by a traffic signal.

The computer models were developed by overlaying the existing roadways and roadway design changes on a base map of the area. Traffic speeds were recorded at several locations and combined with Project traffic data for the noisiest traffic hour. The current afternoon noisiest hour traffic volume data were entered into the model and used to predict the existing noise levels emanating from traffic on local roadways. The year 2045 noisiest hour border crossing traffic volumes in both an eastbound and westbound direction were used to predict L_{EQ} noise levels for the No Build Alternative and the Build Alternative with either option on Porter Avenue.

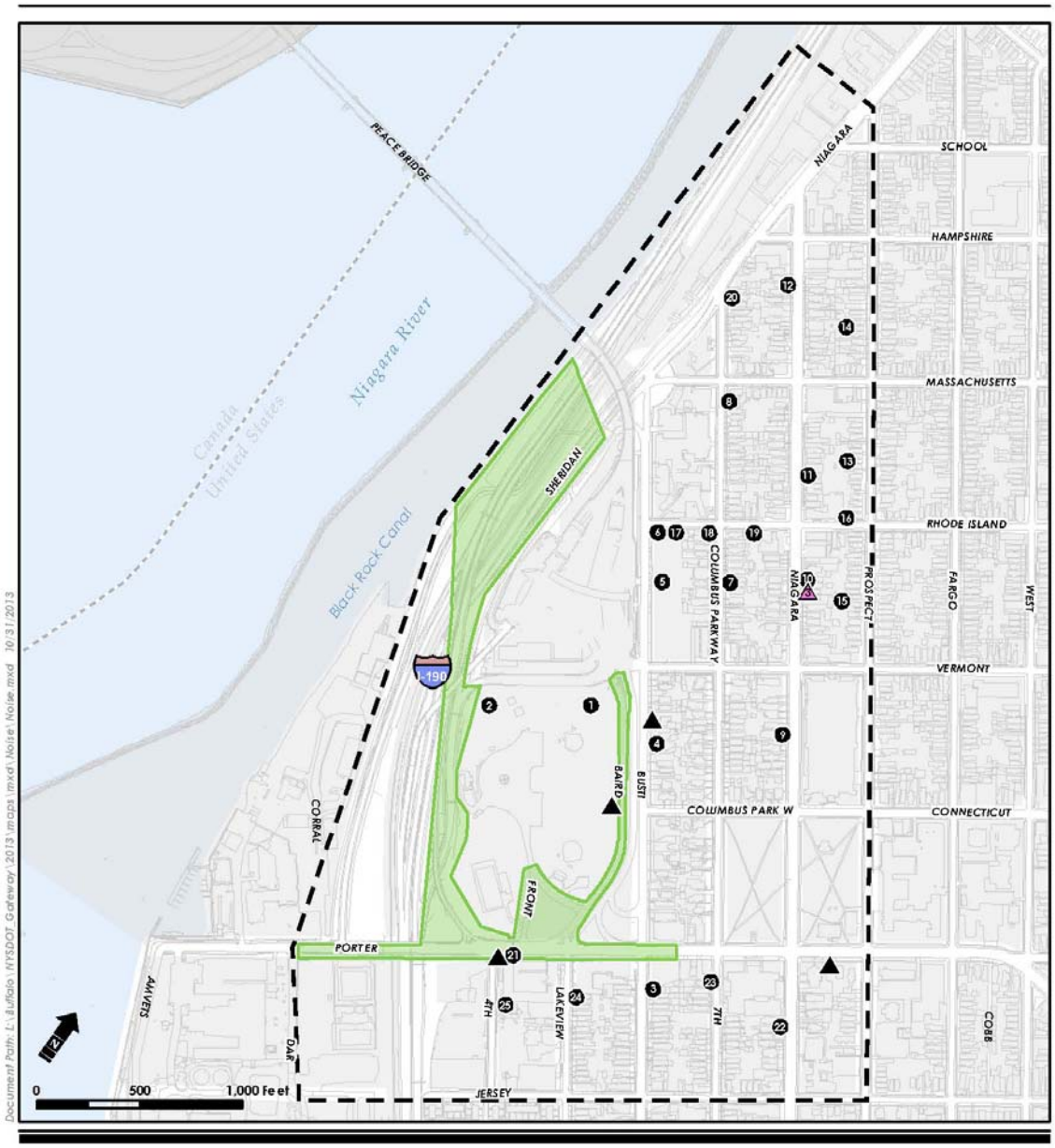
4.4.17.3. Existing Noise Level Measurements

Short-term measurements of existing noise were taken to obtain sound level data during the hour of the day in which worst-case traffic levels can be expected (evening rush-hour period, 1500 to 1900 hours). These existing noise measurements were obtained at exterior areas of frequent human use at five locations within the Study Area, including residences, parks, and commercial areas (see **Figure 4-14**). The results are summarized in **Table 4-15**. Existing noise levels ranged from 62 to 68 dBA.

Table 4-15 – Existing Noise Measurement Results

Receiver	Receiver Location	Measured Results (dBA)
1	Baird Drive along Front Park opposite Columbus Parkway	65
2	707 Busti Avenue	62
3	811 Niagara Street	67
4	291 Porter Avenue	63
5	111 Porter Avenue, Peace Bridge Apartments	68

Figure 4-14 – Noise Study Area



NY Gateway Connections Project
Figure D-1 Noise Study Area
Erie County, New York

Noise Study Area
Project Area
Noise Measurement Location
Representative Noise Receiver Location

SOURCE Ecology and Environment, Inc.

U.S. Department of Transportation
Federal Highway Administration

New York State
Department of Transportation

4.4.17.4. Impact Analysis

4.4.17.4.1. *Operational Noise Impact Analysis*

The FHWA has established Noise Abatement Criteria (NAC) for different types of land use and human activities. **Table 4-16** presents the NAC for various land use designations promulgated in 23 CFR, Part 772. The Project falls within the requirements for Activity Categories B, C and E. The NAC for the land use types for this Project are an exterior L_{EQ} of 67 dBA for Categories B and C, and an exterior L_{EQ} of 72 dBA for Category E. FHWA and NYSDOT guidance specifies that when determining and abating traffic noise impacts, primary consideration is to be given to exterior areas.

Predicted noise levels at 25 representative receiver locations within the Study Area (see **Figure 4-14**), as well as corresponding noise levels for the existing condition, the No Build Alternative in 2045, and the Build Alternative with both Porter Avenue options in 2045 are summarized in **Table 4-17**. This table identifies the predicted changes in noise level compared with the existing conditions. The FHWA and NYSDOT have established two criteria to determine when a traffic noise impact exists:

- The predicted noise level at the exterior approaches, equals, or exceeds the NAC listed in Table 4-N3. The NYSDOT has defined “approach” to be 1 dBA less than the NAC. Thus, an impact will occur when the predicted future noise level is 66 dBA or greater for Activity Categories B and C and 71 dBA or greater for Category E.
- The predicted traffic noise level substantially exceeds the existing noise levels. The NYSDOT has defined “substantially” as an increase of 6 dBA or more.

Table 4-16 – Noise Abatement Criteria

Activity Category	$L_{EQ}(H)$[1]	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need, and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[2]	67 (Exterior)	Residential
C[2]	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios
E[2]	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.
F	--	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing
G	--	Undeveloped lands that are not permitted

Source: FWHA, Highway Traffic Noise: Analysis and Abatement Guidance, December 2011.
[1] Hourly A-Weighted Sound Level - decibels (dBA).
[2] Includes undeveloped lands permitted for this activity category

Table 4-17 – Noise Modeling Results

Receptor	Receptor Location	Existing Noise Levels (dBA)	Year 2045 No Build Alternative Noise Levels (dBA)	Difference Between Current Year and 2045 – No Build Alternative (dBA)	Predicted Year 2045 Build Alternative with Signalized Intersection Levels (dBA)	Difference Between Current Year and 2045 Build Alternative with Signalized Intersection (dBA)	Predicted Year 2045 Build Alternative with Roundabout Noise Levels (dBA)	Difference Between Current Year and 2045 Build Alternative with Roundabout (dBA)
1	Front Park area - tennis courts	64	66	2	65	1	65	1
2	Front Park Area - Northwest	66	67	1	68	2	68	2
3	573 Busti Avenue	60	60	0	61	1	61	1
4	696 Busti Avenue	62	63	1	63	1	63	1
5	783 Busti Avenue	58	59	1	59	1	59	1
6	796 Busti Avenue	59	60	1	61	2	61	2
7	854 Columbus Parkway	57	58	1	58	1	58	1
8	870 Columbus Parkway	60	61	1	62	2	62	2
9	744 Niagara Street	65	65	0	66	1	66	1
10	817 Niagara Street	65	66	1	66	1	66	1
11	867 Niagara Street	65	66	1	66	1	66	1
12	930 Niagara Street	63	64	1	64	1	64	1
13	Backyard – Prospect Avenue between Massachusetts Avenue & Rhode Island Street	55	56	1	56	1	56	1

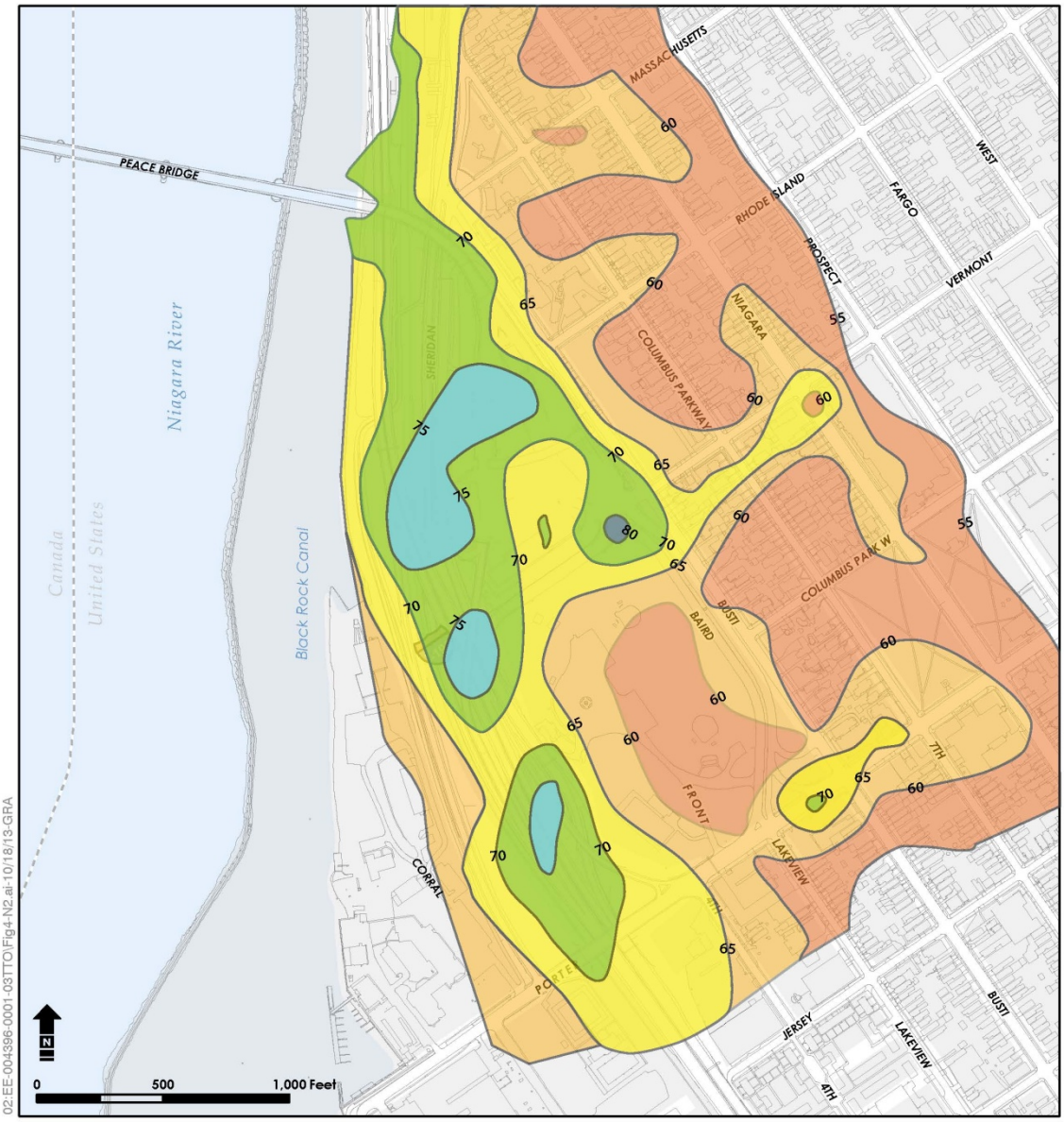
Receptor	Receptor Location	Existing Noise Levels (dBA)	Year 2045 No Build Alternative Noise Levels (dBA)	Difference Between Current Year and 2045 – No Build Alternative (dBA)	Predicted Year 2045 Build Alternative with Signalized Intersection Levels (dBA)	Difference Between Current Year and 2045 Build Alternative with Signalized Intersection (dBA)	Predicted Year 2045 Build Alternative with Roundabout Noise Levels (dBA)	Difference Between Current Year and 2045 Build Alternative with Roundabout (dBA)
14	Backyard – Prospect Avenue between Massachusetts Avenue & Hampshire Avenue	55	56	1	56	1	56	1
15	Backyard – Prospect Avenue between Rhode Island Street and Vermont Street	56	56	0	56	0	56	1
16	89 Massachusetts Avenue	58	59	1	59	1	59	1
17	27 Rhode Island Street	59	60	1	60	1	60	1
18	30 Rhode Island Street	59	60	1	60	1	60	1
19	54 Rhode Island Street	60	61	1	61	1	61	1
20	915 7th Street	63	64	1	64	1	64	1
21	111 Porter Avenue – Peace Bridge Apartments	68	69	1	69	1	69	1
22	620 Niagara Street	65	66	1	66	1	66	1
23	586 7th Street	60	60	0	59	-1	59	-1
24	122 Lakeview Avenue	59	61	2	58	-1	58	-1
25	621 4th Street	63	63	0	60	-3	60	-3

Figures 4-15 and **4-16** were developed from the noise levels predicted by the TNM model. These figures illustrate the anticipated noise level contours throughout the Study Area as a result of the different traffic patterns associated with the two Build Alternative options (i.e., with the signalized intersection or with the roundabout) in the year 2045.

The modeling reveals that noise levels within the Study Area will increase slightly regardless of which Build Alternative option is chosen. This increase is directly related to a predicted increase in traffic volumes throughout the Study Area between the years 2010 and 2045 (see **Appendix B – Traffic Study**). All predicted increases in noise levels are 2 dBA or less. The predicted noise level changes vary depending on the location of the receiver, variation in traffic volume at the receiver, and the traffic pattern. A change of 3 dBA is the threshold of change detectable by the average person; therefore, the change in noise predicted for the Project will be barely, if at all, perceptible to the receiver. Shaded areas in **Table 4-17** identify those receiver locations where the predicted noise levels for the two Build Alternative options exceed 66 dBA (i.e., 1 dBA less than the NAC of 67 dBA for Activity Category B and C).

The modeled existing noise levels ranged from 55 to 68 dBA. The predicted noise levels at the identified receiver for the year 2045 under the No Build Alternative range from 56 to 69 dBA. In all cases, the predicted noise levels either remain the same or rise between 1 dBA and 2 dBA. No receiver locations showed any decrease in noise levels under the No Build Alternative. The expected increase of traffic passing through the border crossing and traveling on some local city streets is the main reason for the rise in noise levels over time. Six of the 25 receiver locations are predicted to experience increased noise levels that equal or exceed 66 dBA under the No Build Alternative. Two of the six representative locations (Nos. 2 and 21) already have existing noise levels of 66 to 68 dBA. In each case, these two locations would experience an increase in 1 dBA over the time period 2013 to 2045. Three of the six receiver locations (Nos. 10, 11, and 22) are located in areas along Niagara Street, encompass approximately 44 dwellings and have current noise levels of 65 dBA. All three of these locations would experience a noise level rise of 1 dBA over the modeled time period. The last of the six receiver locations (No. 10) lies within Front Park, at the tennis courts along the Park's northern boundary. The model predicts that this location would experience a 2 dBA rise in noise level under the No Build Alternative, a direct result of increased traffic through the border crossing. All of these increases are below the level normally perceptible to the typical persons hearing. The remaining 19 receiver locations would experience noise levels of between 56 and 65 dBA in the year 2045.

Figure 4-15 – Noise Contours, Build Alternative With Signalized Intersection Option



NY Gateway Connections Project
Noise Study Area
Erie County, New York

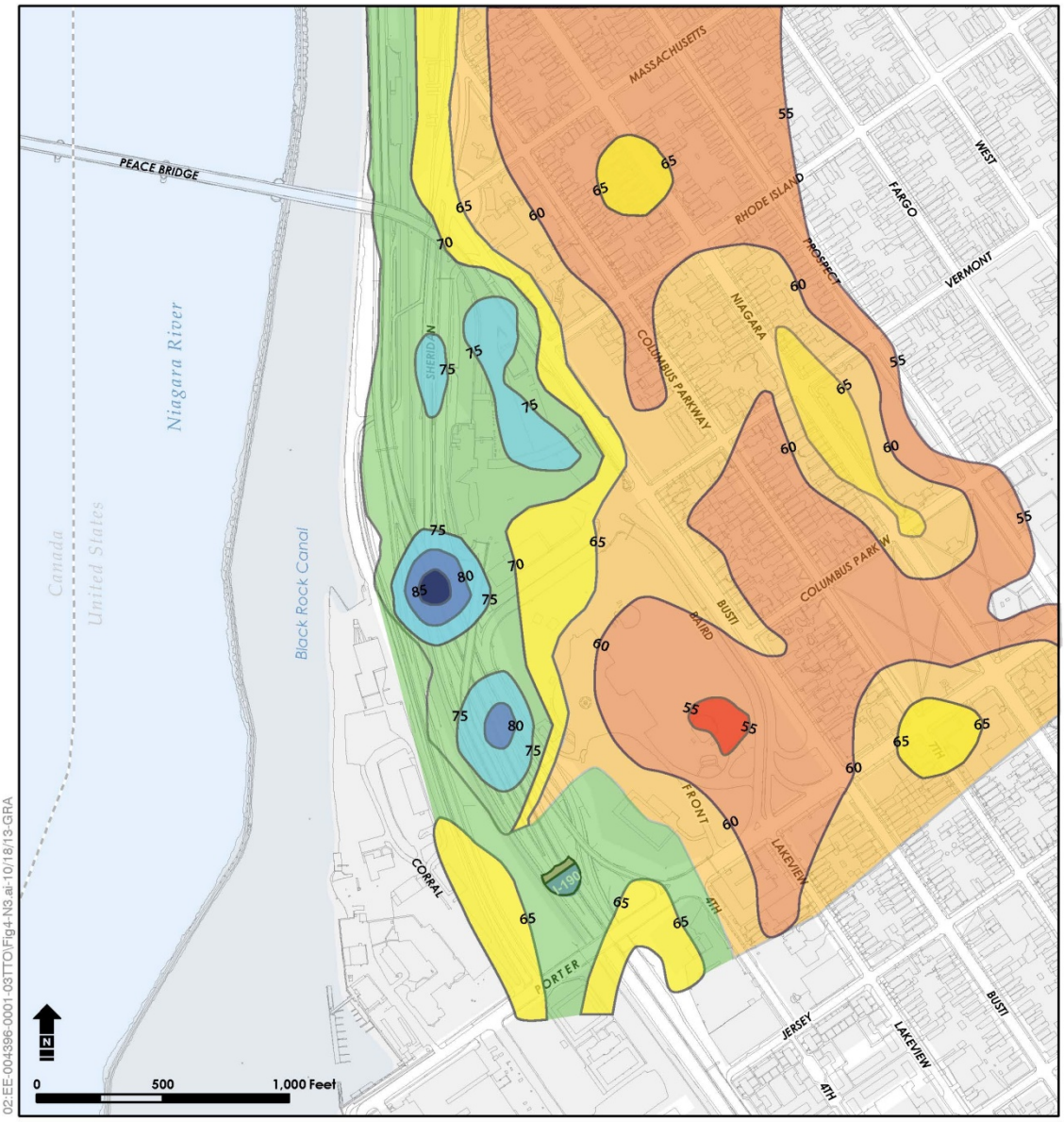
Existing Noise Contours

SOURCE Ecology and Environment, Inc.

U.S. Department of Transportation
Federal Highway Administration

New York State
Department of Transportation

Figure 4-16 – Noise Contours, Build Alternative With Roundabout Option



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NY Gateway Connections Project
Noise Study Area
Erie County, New York

Noise Contours-Build Alternative - 2045

SOURCE Ecology and Environment, Inc.

The Build Alternative with Signalized Intersection Option would result in changes in traffic patterns entering and exiting the border crossing and increased traffic volumes on specific local city streets such as Niagara Street and Porter Avenue. The TNM model predicted noise levels under this option ranges from 56 to 69 dBA. Six of the representative receiver locations would experience noise levels equal to or in excess of 66 dBA by the year 2045, which would constitute a traffic noise impact per Federal regulation and NYSDOT Noise Policy. These increases are tied to the changes in the traffic pattern of vehicles entering the Plaza via Ramp PN and traffic entering the local area via Ramp C to Niagara Street south. Two of the six receiver locations (Nos. 2 and 21) have existing noise levels of 66 and 68 dBA, respectively. The TNM model predicts that noise receiver location No. 2 would experience a rise of 2 dBA by the year 2045, whereas noise receiver location No. 21 would experience a rise of 1 dBA over the same time period. Each of these two locations would experience the same or similar noise level increases as predicted for the No Build Alternative. Four receiver locations along Niagara Street (Nos. 9, 10, 11, and 22) would experience a 1 dBA rise in noise level from 65 to 66 dBA under the Build Alternative with Signalized Intersection Option. These increases are tied to the changes in the traffic pattern of vehicles entering the Plaza via Ramp PN and traffic entering the local area via Ramp C to Niagara Street south. Even though the changes in traffic patterns to and from the Plaza would result in some minor increases in noise levels (e.g., 1 to 2 dBA), these predicted increases are lower than what is normally perceivable by the typical person (3 dBA or greater). The Build Alternative with Signalized Intersection Option would lead to a reduction of noise levels of up to 3 dBA below the existing level at three receivers (Nos. 23, 24, and 25). These receivers are located in the residential area immediately south of Porter Avenue and are the result of a change in traffic pattern and volume along Porter Avenue.

As with the Build Alternative with Signalized Intersection Option, the Build Alternative with Roundabout Option would result in the same changes in traffic patterns entering and exiting the border crossing and increased traffic volumes on specific local city streets such as Niagara Street and Porter Avenue. The same six receiver locations as identified for the Build Alternative with Signalized Intersection Option would experience noise levels equal to or in excess of 66 dBA with the Build Alternative with Roundabout Option; these noise levels would constitute a traffic noise impact per Federal regulation and NYSDOT Noise Policy. These increases are tied to the same changes in the traffic pattern as described for the Build Alternative with Signalized Intersection Option. Even though the changes in traffic patterns to and from the Plaza would result in some minor increases in noise levels (e.g., 1 to 2 dBA), these predicted increases are lower than what is normally perceivable by the typical person (3 dBA or greater). Like the Build Alternative with Signalized Intersection Option, the Build Alternative with Roundabout Option would lead to a reduction of noise levels of up to 3 dBA below the existing level at three receivers (Nos. 23, 24, and 25). These receivers are located in the residential area immediately south of Porter Avenue and are the result of a change in traffic pattern and volume along Porter Avenue.

4.4.17.4.2. *Operational Noise Abatement*

According to Section 4.4.18 of *The Environmental Manual* (TEM) (NYSDOT 2010), entitled "*Noise Analysis Policy and Procedures*," noise abatement measures must be both feasible and reasonable to be recommended. To be deemed feasible, the measure must be able to be built and provide a minimum 5 dBA reduction to the majority of the impacted receivers. To be deemed reasonable, the measure must meet a cost index and provide the majority of the benefited receivers[1] with a 7 dBA noise reduction. The viewpoints of the benefited receivers must also be considered.

The following noise abatement measures were considered:

- Traffic management measures, such as traffic control devices, signs that prohibit certain vehicle types, time use restrictions for certain vehicles, and modified speed limits;
- Alteration of horizontal and vertical alignments;
- Acquisition of property rights for construction of noise barriers;
- Construction of noise barriers within the highway right-of-way;
- Noise insulation of publicly-owned school buildings that are off the highway right-of-way in connection with a NYSDOT construction project undertaken with Federal-aid; and
- Acquisition of real property to serve as a buffer zone.

Speed restrictions are not a reasonable choice because many of the roads associated with the Project are on/off ramps to I-190 and a reduction in the speeds in these zones would be unsafe. In addition, posted speeds on I-190 (55 mph) and the surrounding local roadway system (30 mph) are within established guidelines for these types of roads, and lowering them is not considered to be a practical solution.

It is neither feasible nor desirable to prohibit trucks from the Plaza. Placing time restrictions on truck traffic would not provide the substantial noise reduction required for its implementation.

The use of signal coordination at selected intersections to reduce the amount of stop-and-go traffic was reviewed. Stop-and-go traffic usually produces higher noise levels than traffic that maintains a constant speed. Since the majority of traffic traveling through the noise Study Area is located on non-signalized roadways, signal coordination would not provide the substantial noise reduction required for its implementation.

The horizontal and/or vertical alignments of the Plaza and its connecting highway system are established to meet the transportation needs, physical and operational constraints, and design standards established for safety and efficiency in order to meet the Project's purpose and need. Modifying these alignments

[1] A benefited receiver is the recipient of an abatement measure that receives a noise reduction at or above the minimum threshold of 5 dBA.

would not be possible without negatively impacting the communities and businesses and the Project's purpose, need, and stated objectives.

The use of noise barriers was studied as a means to reduce noise levels in the impacted area of the Build Alternative, assuming either Porter Avenue option. To be effective, a noise barrier should be continuous along the length of the roadway in order to block the line of sight from all receivers to the noise source. Breaks in a noise barrier caused by driveways and/or cross streets would render the barrier ineffective.

Appendix B – Noise Study provides an analysis of potential noise barriers. Given the mixed residential and commercial character along Niagara Street, breaks in a noise barrier caused by driveways and/or cross streets would render the barrier ineffective. In each case, it was determined that noise barriers would not provide the required noise reduction for the impacted noise receivers nearby. This analysis illustrated that a primary noise source for the majority of this neighborhood is the traffic moving along local city streets, such that a noise barrier constructed along new ramps would not provide the necessary abatement. Therefore, the construction of noise barriers was determined not to be a reasonable means of noise abatement for the Build Alternative.

Providing insulation to schools for noise reduction is not considered necessary for this Project as no public schools would be impacted by either option of the Build Alternative.

Buffer zones are defined as undeveloped, open spaces that border a highway. Buffer zones are created when a transportation agency purchases land or development rights, in addition to the normal right-of-way, so that future dwellings cannot be constructed close to the highway. This prevents the possibility of constructing dwellings that would otherwise have an excessive noise level from nearby highway traffic. Acquisition of additional property to serve as a buffer zone is often reasonable for undeveloped property. However, the acquisition of additional property would be neither a practical nor a cost-effective method of noise abatement for this Project because the Study Area is already located within a densely developed urban area.

For the reasons discussed above, none of the noise abatement measures evaluated are feasible or reasonable for the residences that are impacted by this Project.

4.4.17.5. Construction Noise

4.4.17.5.1. *Construction Noise Impact Analysis*

The Build Alternative, regardless of which Porter Avenue option is selected, would result in short-term construction noise impacts on the nearby residences and park area. The levels of impact will vary widely, depending on the construction activities undertaken and the anticipated duration of the construction period. The parameters that determine the nature and magnitude of construction noise impacts include the type, age, and condition of construction equipment; operation cycles; the number of pieces of construction equipment being run simultaneously; the distance between the construction activities and

receivers; and the location of haul routes with respect to receivers. Many of these parameters will not be defined until final design plans and specifications have been prepared.

Typical noise levels associated with construction equipment range from 77 dBA for a dump truck to 101 dBA for a pile driver at a distance of 50 feet from the source.

To evaluate potential noise impacts as a result of the construction of the Build Alternative, the Roadway Construction Noise Model (RCNM) developed by the FHWA was employed. The baseline noise levels for the selected receivers close to the construction area were entered into the RCNM along with the approximate distance from the center of the construction area to the receivers. The construction equipment, utilization percentage, and expected maximum sound level (L_{max}) values listed in **Table 4-18** were selected within the model. **Table 4-19** presents the resulting noise levels for the selected receivers.

Table 4-18 – Construction Equipment

Equipment Description	Usage (%)	L_{max} (dBA)
Auger Drill Rig	20	84
Backhoe	40	78
Dozer	40	82
Compactor (ground)	20	83
Concrete Mixer Truck	40	79
Crane	16	81
Dump Truck	40	77
Generator	50	81
Grader	40	85
Jackhammer	20	89
Paver	50	77
Pile Driver	20	101
Rock Drill	20	81

Table 4-19 – Construction Noise Levels

Receiver	Calculated (dBA)	
	L_{max}	L_{eq}
Removal of Baird Road		
Front Park NE	71	70
Front Park NW	65	64
Front Park Center	73	72
696 Busti Avenue	74	73
783 Busti Avenue	62	61
612 Busti	67	66
111 Porter	62	61
Northbound I-90 Ramp Construction		
Front Park NE	80	74
Front Park NW	84	78
Front Park Center	78	72
696 Busti	75	69
783 Busti	76	70
612 Busti	71	65
111 Porter	71	65

The Build Alternative, regardless of which Porter Avenue option is selected, would result in short-term construction noise annoyance during the construction period when activities are at peak levels and/or nearest to receivers; however, based on the model results, no severe impacts are expected.

4.4.17.5.2. *Construction Noise Abatement*

Abatement of temporary construction noise typically includes measures to control noise at the source, control noise at the site, and/or increase community awareness of the construction activities. Construction noise abatement measures that will be applied when feasible and practical include, but are not limited to, the following:

- Provide temporary noise barriers;
- Provide partial enclosures for stationary equipment such as compressors;
- Keep the public informed of upcoming operations;
- Provide a compliant and resolution mechanism;
- Configure operations to minimize use of backup alarms;
- Use ambient sensitive backup alarms;
- Limit work to daylight hours; and Limit “tailgate banging.”

4.4.18. Asbestos

Existing Conditions

Asbestos-containing material (ACM) may be present in buildings, structures, and/or utilities that would be disturbed during construction and demolition activities associated with a project. When disturbed, ACM could become friable and airborne. To protect the public from exposure to airborne asbestos fibers, all ACM must be removed before the rehabilitation/demolition of buildings and structures and disturbance of utilities.

Effects

No Build Alternative

The No Build Alternative would not result in disturbance of potential ACM; therefore, it would have no effect on ACM.

Build Alternative

Structures. No existing buildings would be renovated or demolished as part of this Project. This Project entails the removal and reconstruction of part of the Shoreline Trail (Riverwalk) elevated walkway over the CSX railroad line and the reconstruction of the Porter Avenue Bridge over I-190 and the CSX rail line. Asbestos may have been used in the construction of the elevated portion of the Shoreline Trail and the Porter Avenue Bridge (BIN 5512560). Upon development of the Project's final designs and prior to any demolition activities, Asbestos Sampling Plans for the existing walkway structure and the Porter Avenue Bridge would be prepared and sampling would be conducted to determine whether ACM is present. Asbestos may also have been used in the construction of the elevated portion of the Shoreline Trail, Porter Avenue Bridge, and ramps within the project area. Upon development of the Project's final designed and prior to any demolition activities, Asbestos Sampling Plans for the existing walkway structure, Porter Avenue Bridge, and any ramps to be modified (unless previously sampled) would be prepared and sampling would be conducted to determine whether and ACM is present.

Utilities. Records indicate that some utilities are located within the Project Area. Although no known ACM exists in conjunction with these utilities, the presence of ACM is possible due to the age of the utilities. Upon development of the Project's final designs and prior to the commencement of any construction activities associated with this Project, an Asbestos Sampling Plan for the utilities would be prepared and a survey conducted to determine whether ACM is present. Any suspect materials confirmed to be ACM would be removed and disposed of in accordance with all applicable state and federal regulations.

If ACM is found during preconstruction surveys, abatement measures would be conducted prior to construction; therefore, no effects are anticipated.

4.4.19. Hazardous Waste and Contaminated Materials

Existing Conditions

A screening for sites that could potentially contain hazardous waste or contaminated materials was conducted in accordance with the procedures recommended in NYSDOT's *The Environmental Manual* Section 4.4 (NYSDOT 2007), and *Hazardous Waste Assessments* (NYSDOT 1999). The screening consisted of a thorough record search to investigate previous activities and potential sites within the Study Area, a review of government databases and records, a field inspection, limited site investigations and interviews with local residents, employees, government personnel, and other knowledgeable individuals. Sources of information included but were not limited to:

- Investigation of Previous Activities and Site Use;
- United States Geological Survey (USGS) and NYSDOT Topographic Maps;
- Historic maps (i.e., Sanborn, Underwriters, and Fire Insurance Maps);
- Aerial photographs (1927, 1939, 1951,1960, 1970, 1971, 1978, 1981, 1990, 1994, 2002, 2005, 2008, 2011, and 2013);
- City Directories (Polk directories from 1931, 1934, 1940, 1946, 1951-1952, 1955, 1960, 1965, 1969-1970, 1975, 1980, 1985, 1990, 1996, and 2001; Vernon Directories from 1973, 1976, 1982, 1988, and 1989);
- Federal databases (i.e., National Priorities List [NPL], Comprehensive Environmental Response, Compensation, and Liability Information System [CERCLIS], and Resource Conservation and Recovery Act [RCRA] information); and
- New York State databases (i.e., Inactive Hazardous Waste Disposal Sites List, Underground Storage Tank Database, and Chemical Bulk Storage Underground Storage Tank (UST) Database).

The initial records search was performed in 2003 as part of a previous study. This search was updated in June 2013 to identify past and current land uses of potential concern within the Study Area that may have previously been overlooked or have become known since the initial search. Specific uses and activities of potential concern include but are not limited to municipal, commercial, and industrial landfills; local auto body/repair shops and gas stations; commercial establishments that may have engaged in activities involving the use of chemicals (e.g., dry cleaners, photography shops) or had underground storage tanks; and industrial facilities such as chemical plants, foundries, junk/scrap yards, paint shops, and machine shops. Thirteen areas or sites of environmental concern are located in the neighborhood encompassed by the Study Area. All 13 sites were identified and reported in the previous study (PBA 2007); no additional areas or sites of environmental concern were identified during the June 2013 search. Eight of the 13 sites are located along Niagara Street in the Massachusetts Avenue/ Hampshire Street area, at sufficient distance from the Project Area such that they pose no threat to the Project. Five of the 13 sites, designated as Sites A - E lie either within or immediately adjacent to the Project Area (see **Table 4-20 and Figure 4-17**). These five areas or sites of environmental concern include three individual sites (Sites B, C and D) located in the area now occupied by the Plaza. These sites may have been contaminated by past on-site activities. The fourth site, the CSX railroad right-of-way (Site E), is likely contaminated by past rail operations. The last site (Site A), a site of undefined size and shape, is shown as encompassing the West Side neighborhood as a whole, including the Project Area. In the past, fill of unknown origin was placed in various undocumented locations within the West Side neighborhood on and around the Plaza to bring the Plaza, Front Park, and the general surrounding area up to its current elevation. The composition of the suspect fill is unknown.

Table 4-20 – Sites of Environmental Concern

Site	Address/Location	Property Name	Reason for Concern
A	Fill Material throughout Project Area	Various	Apparent sporadic use of industrial waste as fill within the Study Area
B	Garage Under Bridge Head	Peace Bridge Authority	Oil stains on soil and cement
C	Annex/Warehouse Garage	Peace Bridge Authority	Floor drains, hydraulic lift, oil/water separator
D	USTs behind Annex Building	Peace Bridge Authority	Soil sampling indicated petroleum contamination
E	Railroad Tracks	New York Central Railroad	Railroad ties, soil contamination

Figure 4-17 – Sites of Environmental Concern

NY Gateway Connections Project
Hazardous Waste and Contaminated Materials Sites
Erie County, New York

General Study Area
Hazardous Waste and Contaminated Materials Sites
A Site A is not indicated, as it incorporates the entire area

SOURCE Aerial: NYS office of Cybersecurity, March 2011

U.S. Department of Transportation
Federal Highway Administration

New York State
Department of Transportation

Effects

No Build Alternative

The No Build Alternative would not affect any hazardous waste sites located within the Project Area.

Build Alternative

The undetermined location of fill material (Site A) and the CSX (Site E) railroad right-of-way (Site E) would require some consideration during final design of the Project.

As construction activities get underway, it would be necessary to determine whether or not the specific construction sites contain hazardous or contaminated materials. If hazardous or contaminated materials are identified, a remediation program would be developed in consultation with NYSDEC, as required under New York State's Environmental Remediation Program (6 NYCRR Part 375). The remedial program would be designed to ensure that contaminated materials are properly managed and disposed of.

Options for handling excavated soils in some areas of the Project Area may include processing under a specific NYSDEC beneficial use determination (BUD), disposal at a NYSDEC-permitted landfill, reuse at the site of origin as sub-base material, or on-site treatment. A BUD identifies options for handling soils that are determined unsuitable for use as clean fill due to the presence of contaminants. BUD options include recycling or reusing petroleum-contaminated soil in a manufacturing process, such as an approved hot-mix asphalt batching plant or a cold-mix asphalt plant.

To complying with NYSDEC requirements, a contingency plan would be prepared to address procedures to be followed if contaminated materials are encountered during construction (e.g., fill handling, sampling, dust suppression, health/safety). An environmental monitor also may be required to be present or available to be called to any site if signs of possible contamination are discovered, such as waste-like fill materials, petroleum odors, visible staining of soil, or sheen on groundwater or site runoff. These measures would allow for the protection of on-site workers, collection of any necessary samples, and separation of contaminated soil from non-contaminated soil. Ambient air would be monitored for the protection of on-site workers, and soil screening would be performed through visual observations and use of a photo-ionization detector (PID) or similar instrument.

A Community Air Monitoring Plan (CAMP) may be considered, depending on the level of effect being experienced. The decision to implement such a plan would be made by NYSDOT in consultation with NYSDEC. This plan would likely include downwind perimeter monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at construction sites identified as containing contaminated materials. Implementation of a CAMP, combined with standard dust-suppression activities, would provide a measure of protection for the downwind residents and on-site workers not directly involved in soil excavation, handling, or demolition. In addition, a CAMP helps to ensure that construction activities do not spread contamination off-site through the air.

4.5. Construction Effects

Construction effects have been discussed in the individual resource areas. The following paragraphs summarize these effects. Construction of the proposed new Ramps D and PN and modification of Ramp A would involve the use of conventional construction methods and products, and the removal of Baird Drive would involve the use of standard demolition methods. The reconstruction of the Porter Avenue Bridge would require planning to ensure continued pedestrian and traffic access to City's water treatment plant, LaSalle Park, the West Side Rowing Club and other facilities on the west side of the I-190. The types of effects relating to demolition and construction activities are well known and would be mitigated through adherence to best practices and the project-specific Environmental Performance Commitments (EPCs) to be developed by the design/build subcontractor in consultation with NYSDOT during final design phase of this Project. The effects of construction would be relatively short term in nature.

During construction, traffic volume within the Project Area would temporarily increase due to the presence of heavy construction equipment, other construction-related vehicles, and the personal vehicles of the workers. These short-term construction effects are discussed in several sections of this chapter as they relate to specific topics: air quality, noise, energy, water quality, and hazardous materials. General traffic patterns would be maintained throughout the area during the construction period. However, some localized short-term delays may be incurred, and it is likely that minor rerouting of established traffic patterns would be necessary on some local streets and the northbound I-190. Roadway and ramp construction activities would be scheduled to minimize effects on traffic. Peak traffic periods would be considered when developing construction schedules.

Nuisance effects such as noise, dust, and vibration would occur temporarily during the construction period. These effects would be mitigated through proper equipment maintenance, work hour restrictions, monitoring, and construction management, adherence to state and local ordinances, and contract-specific EPCs. EPCs are intended to eliminate or minimize the adverse effects resulting from construction activities. As indicated in the air quality analysis discussion (see **Section 4.4.15**), EPCs designed to reduce air emissions have been established that call for the use of bio-fuels and low-sulfur fuels, improved engine efficiencies, prohibitions against letting heavy equipment idle for long periods of time, and other restrictions, all of which would result in reduced air emissions and better overall air quality in the Project Area during construction.

Construction noise is generated by heavy equipment operations (e.g., excavation, grading, and paving) that occur during the work day. It is temporary in nature, limited to the construction period of the Project, and varies greatly, depending on the actual activities taking place. NYSDOT activities are not subject to local noise ordinances; however, NYSDOT will make reasonable effort to comply with the provisions of the City of Buffalo's ordinances. Construction noise abatement measures such as the use of properly designed and well-maintained mufflers in internal combustion engines, engine enclosures, and intake silencers would be implemented to minimize and reduce potential noise concerns relating to construction activities (see **Section 4.4.17.5.2**).

All appropriate permits/permit coverage for construction activities would be obtained prior to commencement of work. Refer to **Section 4.8, Anticipated Permits and Approvals**, for a list of all required permits.

As with all construction projects that entail the disturbance of surface soils, construction of the Build Alternative would require the use of erosion and sediment control measures to mitigate potential erosion effects and control dust. Prior to the start of construction activities, a project-specific SWPPP would be prepared. The use of standard sediment and erosion control measures would effectively prevent potential soil erosion from affecting adjacent land and water resources. A dust control plan would be prepared and implemented for the construction of the Project.

The construction of the Build Alternative would reduce the overall impervious surface in the Project Area. Additionally, a closed stormwater management system will be incorporated into the final design. The project-specific SWPPP would be completed during final design in accordance with the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-10-001), and the requirements of NYSDOT's Standard Specifications for Soil Erosion and Sediment Control (NYSDOT 2009). The SWPPP would detail the site-specific methods that would be implemented to control or reduce the rate of stormwater runoff, reduce potential erosion of exposed soil, and minimize potential flooding Engineering controls such as diversion ditches, vegetative swales, and retention/detention ponds/systems would be designed into the Project, as well as consideration of green stormwater management technology.

The staging of equipment, materials, and supplies for construction of the Build Alternative, along with contractor access to the work sites and maintenance operations, would affect the neighborhoods and established traffic patterns adjacent to the Project Area. Visitor and employee parking would be closely coordinated with the City to ensure that the construction activities do not interfere with the ability of the public to visit the area and use the facilities during the construction period. No disruptions of public services would occur during the construction period. Maintaining clear and complete communications with the public regarding lane closures and construction sequencing would mitigate potential disruptions of these services. A public awareness and information program would be instituted to keep nearby residents and users of the border crossing informed as to the planned activities.

Construction of the Build Alternative would have positive, although temporary, economic effects on the local and regional economies (see **Section 4.3.1**). Construction would necessitate employing both skilled tradesmen and unskilled laborers and generate a demand for products and services from construction-related vendors.

In summary, no long-term, construction-related effects are anticipated for the Build Alternative.

4.6. Indirect and Secondary Effects

Indirect effects are those caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air, water, and other natural systems, including ecosystems. (40 CFR § 1508.8)

The purpose of the Project is to reduce the use of the local streets by interstate traffic and provide access to the existing Plaza at its current location. The primary objectives of the project are to address the need for direct access from the Plaza to the northbound lanes of Interstate 190, to redirect through traffic from Front Park, to remove Baird Drive, and replace the Porter Avenue Bridge over I-190 and the CXS Railroad. The need for the improved access is documented in detail in **Chapter 2**. A number of direct environmental benefits would occur as a result of this Project, as documented in this chapter. The Project has the potential to bring about several indirect effects.

The Council on Environmental Quality (CEQ) identifies three potential categories of significant indirect effects stemming from a project's affect-causing activities (CEQ 1997):

1) **Encroachment alteration effects.** Encroachment-alteration effects are those that alter the behavior and functioning of the physical environment related to a project's design features. They are indirect because they can be separated from a project in time and distance. Potential encroachment-alteration effects from this Project include:
    - Indirect effects on historic character, historic properties, and recreational resources; and
    - Indirect effects on air quality and noise levels.

2) **Access-alteration effects**. Access-alteration effects are changes in traffic patterns and accessibility attributable to the design of a project that can influence the location of commercial and residential growth in a project area. Potential access-alteration effects from this Project include:
    - Effects on regional air quality due to changes in established traffic patterns that move truck traffic away from residential areas; and
    - The effect on traffic and infrastructure of supporting highways and roadways.

3) **Induced growth-related effects.** Induced growth-related effects are attributable to induced growth itself. This Project's indirect effects identified as induced growth-related effects include land use, community character, and socioeconomic effects of the potential economic benefits and growth-inducing aspects of the project.

Each of the potential indirect effects is discussed below within three broad categories: Transportation Effects, Socioeconomic Effects, and Environmental Effects.

4.6.1. Indirect Transportation Effects

Changes to the traffic patterns leading to and from the Plaza would be focused on the southeast corner of the Plaza, leading to a restriction in the U.S. inbound traffic's ability to make use of nearby commercial establishments, particularly along Niagara Street and Porter Avenue. This would lead to negligible local economic effects.

The existing roadway network and traffic pattern consisting of I-190 and its connection with local city streets in Buffalo is well established. The possible elimination of commercial traffic access to the local city streets from the Plaza may require some local businesses to consider rerouting of U.S.-bound truck traffic to nearby facilities, particularly those industries that practice just-in-time delivery of goods in order to reduce on-site inventory storage. The rerouting of U.S.-bound truck traffic from the Plaza directly onto northbound or southbound I-190 and away from current local city streets may affect travel costs and time.

As mentioned previously, the elimination of inbound and outbound traffic through Front Park via Baird Drive would increase access to the park and improve the safety of the residents and visitors to the park. With increased access and improved safety, it is likely that this park may experience greater use by nearby residents, and the city may experience an increase in requests for use of the park for a wide variety of recreational, social, and entertainment activities.

4.6.2. Indirect Socioeconomic Effects

The Project has the potential to indirectly affect social conditions, including land use, community character, and the local economy, by spurring growth that would not otherwise occur with the No Build Alternative.

Land Use, Planning, and Zoning. The Project's consistency with the City's direction and goals for the West Side were addressed as part of the review of the applicable comprehensive plans, zoning ordinances, and community plans. The Project would support the City of Buffalo's desire to develop an international gateway and a focused, attractive entry into the city via Niagara Street as stated in its *Queen City Hub Plan* (COB 2003). The existing zoning mix of residential, Porter-Busti Special Zoning District, commercial, and light manufacturing within the West Side community lends itself to a future strengthening of the local community's economic development as envisioned in the City's Comprehensive Plan (COB 2006).

Social Effects. A potential indirect effect of the Project would be an increase in overall traffic volume on Niagara Street, particularly between the area of Massachusetts Avenue and Porter Avenue. Cross-border traffic heading to D'Youville College and other locations in the immediate area of the crossing that used Baird Drive will be directed to Ramp C (Sheridan Terrace) and may then turn eastward on Massachusetts Avenue to Niagara Street. However, the Project's traffic analysis demonstrates that the level of service (LOS) of the current traffic network, particularly along Niagara Street, is capable of

handling additional traffic volume. Therefore, it is unlikely that increased traffic volume would create safety or mobility problems for motorists or pedestrians in this area.

It is concluded in **Appendix D – Noise Study** and **Section 4.4.17**, that the increase in traffic volume along Niagara Street would have no perceptible effect on local noise levels as any increase in noise levels would be below 3 dBA. It is not anticipated that the noise level increase would affect people's enjoyment of the residences along and immediately adjacent to Niagara Street or be a danger to human health or safety. The decrease in traffic volume on the residential streets would enhance the overall residential/urban character of the West Side neighborhood.

As revealed in **Appendix C – Air Quality Analysis** and **Section 4.4.15**, the change in traffic patterns resulting from this Project would not affect overall the air quality of the West Side neighborhoods. This Project would not result in an increase in the cross-border traffic volume. The Project would lead to a change in the local traffic pattern removing traffic from Front Park and moving it to the west away from the nearby residential neighborhood. Air quality modeling of the corresponding cross-border traffic reveals that the levels of traffic emissions would not change and that the emissions from the cross-border traffic would not result in any exceedance of NAAQS.

Economic Conditions. As described above in **Section 4.3**, the Project would have positive, short-term effects on the local and regional economies during the construction period. Following construction, the Project would have negligible effects on the overall economic environment of the region. Existing highway-related businesses would benefit from the operational and functional improvements that would result in more efficient traffic access to and from the Plaza.

A potential indirect economic effect of the Project would be the redevelopment of Niagara Street. Niagara Street was once envisioned as the thoroughfare between downtown Buffalo and points north along the Niagara River. Development of industry and the decline of the overall neighborhoods within the area have led to an overall decline in the attractiveness of Niagara Street. The Project, as designed, offers cross-border inbound traffic the option of choosing Ramps B, C, or D depending on their destinations within the City. Rerouted traffic via southbound Niagara Street would support the City's efforts to upgrade and develop Niagara Street as a gateway to the city as was once envisioned. This gateway could present visitors with a positive first impression of the city and ultimately may spur further development and economic revitalization of the West Side neighborhoods and businesses that are not located directly along this major thoroughfare.

4.6.3. Indirect Environmental Effects

Potential indirect environmental effects include effects on historic and recreational resources, air quality, and noise.

Historic Character. The Section 106 process conducted for this Project identified 18 contributing resources within the National Register eligible Prospect Hill Historic District (PHHD), and two contributing

properties to the National Register-listed Olmsted Parks and Parkways Thematic Resource in Buffalo—Front Park and Porter Avenue. FHWA, with concurrence from SHPO, has determined that the Project would have no adverse effect on these properties. Overall, the Project's effect on these historic properties would be beneficial, although there would be limited, short-term indirect effects during construction of the new ramps to and from the Plaza and the removal of Baird Drive from Front Park. The Section 106 process confirmed that these potential indirect effects of noise and traffic would not diminish the integrity of the setting of historic properties within the Project Area.

Frederick Law Olmsted designed the nation's oldest coordinated system of public parks and parkways for the City of Buffalo in 1868. An indirect effect of this Project would be the enhancement of the historic character of Front Park resulting from the removal of Baird Drive, a mid-20th century addition that introduced through traffic and currently bisects the historic Parade / Play Ground, an important landscape space within Front Park. The Project would enhance the historic relationship between Front Park and the adjacent residential neighborhood, including properties within the Prospect Hill Historic District, by removing the visual intrusion of vehicular traffic from the viewshed and improving connectivity through the restoration of pedestrian paths providing direct access to the park from Busti Avenue. The Project would encourage residents of Buffalo and visitors to the area to make more use of the recreational facilities of Front Park by improving access to the Park.

Porter Avenue, a former city street that was upgraded by Olmsted to a width of 100 feet and lined with elms, connected Front Park with other elements of the Olmsted Parks and Parkway system. The proposed multi-use path along the south side of Porter Avenue is consistent with the historic function of Olmsted's circulation system, enhancing the historic character of Porter Avenue as an element of the City's park system. The planned improvements to Porter Avenue would allow for easier access to the waterfront and LaSalle Park. As with Front Park, improvement in access to the waterfront may lead to increased use of these facilities.

Recreation. The Project would return approximately 1.8 acres of land to Front Park as the result of the removal of Baird Drive and its adjacent paved sidewalk. The Project may encourage the City of Buffalo to move forward with plans to convert Porter Avenue into a tree-lined boulevard as once envisioned by Fredrick Olmsted. These improvements, combined with the improved sidewalks and bicycle lane on Porter Avenue, would encourage increased pedestrian and bicycle traffic between Front Park and LaSalle Park and the waterfront.

Air Quality. The indirect effects on air quality would be beneficial and localized. The lower vehicular emissions entering the nearby residential areas would result from improved efficiency of access and egress from the Plaza and rerouting of traffic away from the residential areas adjacent to the Project Area (see **Appendix C – Air Quality Analysis** and **Section 4.4.15**).

Noise. Traffic entering or exiting the Plaza would be funneled onto the major thoroughfares and away from the local residential streets. The reduction in traffic volume on the local West Side neighborhood streets would lead to a reduction in traffic-related noise throughout the residential area; thereby

enhancing the neighborhood environment and increasing resident's enjoyment of the local area (see **Appendix D – Noise Study** and **Section 4.4.17**).

4.7. Cumulative Effects

This section identifies the social, economic, and environmental resources that are important with regard to potential cumulative effects. A Cumulative Effects Analysis was performed in compliance with Federal regulations, which require that the cumulative effects of a project be examined along with the direct and indirect effects of a project (40 CFR 1508.25(c)).

The CEQ defines cumulative effects as an "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions (40 CFR 1508.7)." As the term implies, cumulative effects are a summation of the effects that can result from individually minor, but collectively significant, actions taken or that are likely to take place over a period of time. Cumulative effects may include the effects of natural processes and events, depending on the specific resource in question. Accordingly, there may be different cumulative effects on different environmental resources.

The goals of this Cumulative Effects Analysis are to identify the following:

- The geographic area of potential effects associated with the Project;
- Other actions—past, present, proposed, and reasonably foreseeable—that have or are expected to have effects in the same area;
- The effects or expected effects from these other actions; and
- The overall effect that can be expected if the individual effects are allowed to accumulate.

The following paragraphs discuss the methodology used to complete this Cumulative Effects Analysis, the geographic scope or boundary of the Project, and the time frame considered for the analysis.

4.7.1. Methodology

This Cumulative Effects Analysis was developed in accordance with guidance published by the CEQ, "Considering Cumulative Effects under the National Environmental Policy Act" (CEQ 1997) and the USEPA (USEPA 1999). The analysis follows the 11-step process identified in the CEQ Guidance for conducting a Cumulative Effects Analysis (see **Table 4-21**).

Table 4-21 – Steps in the Cumulative Effects Analysis (CEQ Handbook [1997])

Component	CEA Steps
Scoping	1. Identify the significant cumulative issues associated with the Preferred Alternative and define the assessment goals 2. Establish the geographic scope for the analysis 3. Establish the time frame for the analysis 4. Identify other actions affecting the resources, ecosystems, and human communities of concern
Describing the Affected Environment	5. Characterize the resources, ecosystems, and human communities identified in scoping (steps 1 through 4) in terms of their response to change and capacity to withstand stresses 6. Characterize the stresses affecting these resources, ecosystems, and human communities and their relation to regulatory thresholds 7. Define a baseline condition for the resources, ecosystems, and human communities
Determining the Environmental Consequences	8. Identify the important cause-and-effect relationships between human activities and resources, ecosystems, and human communities 9. Determine the magnitude and significance of cumulative effects 10. Modify or add alternatives to avoid, minimize, or mitigate significant cumulative effects 11. Monitor the cumulative effects of the selected alternative and adapt management

As part of this effort, conceptual Environmental Performance Criteria have been identified and discussed in some of the individual sections in **Chapter 4**. Further development of the identified EPCs and the development of additional EPCs would be carried forth during the Project's final design phase. The EPCs would be included as part of the Project's construction contracts, and it would be the contractor's responsibility to implement the EPCs during project construction to mitigate or minimize adverse effects on the environment.

The geographic scope of this CEA is defined for three resource categories—social, economic, and environmental—each of which could be potentially affected by the Project in various ways. The scope of the examination varies between the three categories, as well as within each category depending on the scale of the individual resource or system being examined (e.g., traffic patterns and accessibility, established business districts, or general ecology and wildlife). While the actual geographic boundary of the study areas for each resource category examined varies somewhat, the established boundaries of the Study Area are shown on **Figure 4-2**. If the analysis required changes the Study Area limits, they are discussed below.

4.7.2. Social Concerns

Affected Populations/Local Planning/Community Cohesion. The study area for the demographic analysis was increased to match the study area selected for the air quality analysis, as that area was determined to represent the maximum extent to which potential effects from this Project would extend; thereby ensuring adequate coverage of the population diversity within the nearby neighborhoods (see **Figures 4-4** and **4-5**).

Changes to Travel Patterns or Accessibility. The study area for traffic effects for this Project (see **Appendix B - Traffic Analysis**) was enlarged to ensure the inclusion of the various traffic patterns used by interstate traffic utilizing the border crossing. This study area included the Plaza and its approach ramps, as well as I-190 and its interchanges leading to and from the Plaza (northbound exit Ramp N8 to Niagara Street; southbound exit Ramp N9 to Peace Bridge/Porter Avenue). Local arterials include Niagara Street (from Jersey Street to School Street); Porter Avenue (from Dar Drive to Prospect Avenue); Busti Avenue (Jersey Street to Niagara Street); Seventh Street (Porter Avenue to Niagara Avenue); Baird Drive; and the east-west cross streets (Hampshire Street and Massachusetts Avenue) between Niagara Street and Prospect Avenue (see **Figure 4-2**).

Effects on School Districts, Recreation Areas, Churches, and Businesses/Effects on Police, Fire Protection, and Ambulance Access/Effects on Highway Safety, Traffic Safety, and Overall Public Safety and Health. U.S. Census Year 2010 data for Erie County, the City of Buffalo, Census Tract 70 (which encompasses the Study Area), and census block group data from census tracts adjacent to Census Tract 70 were used to determine effects on these resources.

4.7.3. Economic Concerns

Effects on Regional and Local Economies and Existing Highway-Related Businesses. The Buffalo-Niagara Falls Metropolitan Statistical Area (MSA) is the cumulative effect study area for these resources.

Established Business Districts Effects. The City of Buffalo's West Side Planning Community (WSPC) was selected as the boundary for examining the cumulative effects related to these resources.

4.7.4. Environmental Concerns

Surface Waters and Wetlands/Water Quality. The Study Area does not include any surface waters and wetlands, nor would the Project effect water quality. Therefore, these resources were not evaluated as part of the CEA.

General Ecology and Wildlife. The Study Area defines the boundary for evaluating the Project's potential effects on general ecology, including both terrestrial and aquatic resources. The Study Area is a densely

populated urban area with no aquatic habitat. The Project would result in no permanent adverse effects on the general ecology of the area. Therefore, this resource area was not evaluated as part of the CEA.
Historical and Cultural Resources. The FHWA and NYSDOT determined the APE in consultation with the SHPO, based potential direct, indirect, and cumulative effects associated with the Build Alternative. The APE established the geographic scope of analysis for the identification of historic properties and assessment of effects on those properties (see **Figure 4-8**).

Parks and Recreational Facilities. The Project Area was evaluated for potential cumulative effects related to this resource.

Visual Resources. The Visual Impact Assessment Project Area identified in **Section 4.4.13** was evaluated for potential cumulative effects related to this resource.

Air and Noise. In consultation with the NYSDOT and the USEPA, the Air Quality Study Area was expanded one block to the east and one block to the south beyond the established Project Study Area to ensure that the analysis encompassed the maximum extent to which changes in traffic-related air pollutant emissions (e.g., $PM_{2.5}$, PM10, Mobile Source Air Toxics, and Criteria Pollutants) may extend into the West Side community during construction and operation of the Project's revised traffic patterns (see **Figure 4-11**).

The Noise Study Area was not modified from that shown as the Project Study Area (see **Figure 4-14**).

4.7.5. Time Frame

The time frame used in this analysis relates to the past, present, and future actions as defined below:

Past. The Peace Bridge and Plaza were first constructed in 1925-1927 on land that was once a military installation (Fort Porter) and have affected the West Side neighborhood ever since. Since this Project represents improved access to and from the Plaza and not the smaller, pre-1960s Plaza (before the Plaza was expanded to accommodate traffic to and from I-190), the year 1959 was selected to represent the past. As the border crossing traffic continued to increase into the 1970s, additional improvements (e.g., Ramps A and B) were needed to facilitate the flow of traffic to and from I-190 directly to the Plaza. At that time, the Plaza was expanded slightly southward, further encroaching upon the northern edge of Front Park. While these improvements did aid in reducing the overall effect of traffic on the West Side residential neighborhood and efforts were made to route the traffic away from the residential areas, traffic continued to build to the point where traffic backups frequently resulted in commercial vehicles being staged on the local streets adjacent to the Plaza (i.e., Busti Avenue) as they awaited their turn to proceed through the Plaza and into Canada.

Present. The year 2013 defines the present time frame used in this analysis.

Future. The future time frame to determine reasonably forecasted actions is 2045, which is the furthest date used in the analysis of direct effects for the Project. Reasonably foreseeable actions include those that have been officially announced or funded.
The total time frame for this CEA extends over a period of 86 years, from 1959 to 2045.

4.7.6. Other Non-Project Actions

There are several ongoing or planned improvements to the Project Study Area between now and 2045, including the Niagara Street Gateway project, development of the D'Youville College Athletic Field on Porter Avenue, enhancements to Front Park, widening of the existing U.S. approach at the Peace Bridge, remodeling and expansion of the existing Peace Bridge Commercial Inspection Building, and a pilot project to facilitate pre-inspection of U.S.-bound trucks in Canada. These and other non-Project actions were considered during project planning and development (see **Appendix G – Project Planning and Development – U.S. Plaza of the Peace Bridge**), taken into account in the cumulative effects analysis, and are discussed in the paragraphs below.

While this project is completely independent of other projects or proposals, it is recognized that other studies and projects are being pursued at this time to achieve other purposes. The following list represents all projects that are currently funded or about to be funded and are associated with the U.S. Plaza. (Note: This list of projects is current as of September 2013).

Buffalo Olmsted Parks Conservancy Master Plan. The BPOC finalized a Master Plan in spring 2008 for the City's Olmsted-designed parks system (BOPC 2008). The plan identifies and prioritizes major park initiatives in an effort to restore and manage the Park and Parkway System. The recommendations contained in the Plan are important in determining future actions within the Project Area, specifically within Front Park. The future development goals identified for Front Park include reconnecting it with the waterfront and its adjacent neighborhoods and increasing community use of the park and its facilities. Specific recommendations, as identified in the Plan, include creating or restoring perimeter buffers, restoring park facilities, and restoring or creating park connections (i.e., restore the historic main park entrance at Porter and Busti Avenues). Development and scheduling of these plans is dependent on funding from the City of Buffalo and the acquisition of funding through the various activities of the BPOC.

City of Buffalo Master/Comprehensive/Land Use Plans. Numerous city land use plans were reviewed to identify any current projects or future development within the Project Area. This review included the *Queen City in the 21st Century: Buffalo's Comprehensive Plan; The Queen City Hub: A Regional Action Plan for Downtown Buffalo* (COB 2003), and the *City of Buffalo Local Waterfront Redevelopment Plan* (LWRP) (COB 2007). These plans provide a vision for future land use, development, urban design, capital investment, and related activities. The LWRP focuses specifically on land use decisions in defined waterfront areas. However, these plans do not detail any specific foreseeable actions within the Project Area.

D'Youville College Future Plans. In 2009, the college constructed a six-story, 93,000-square-foot academic building at the corner of Fargo and Connecticut Avenues. Long-term plans, which are not publicly available, call for expansion of the campus within the West Side neighborhood, including developing student housing along Fargo Avenue and expanding parking facilities north of Porter Avenue. The schedule for these developments has not been released.

Niagara River Greenway Plan, Niagara River Greenway Commission (Niagara Greenway Commission, 2007). This comprehensive plan, finalized on April 4, 2007, provides a framework for development along the Niagara River from Lake Ontario to Lake Erie. The Plan is sponsored by the Niagara River Greenway Commission, established by New York State legislation and the Office of Parks, Recreation and Historic Preservation, to protect and promote the Niagara River, protect open space and public access, and promote development, including development of a greenway of parks, waterfront trails, tourism, and public access. Each year a variety of improvement and development projects are brought forth and presented to the Commission by sponsors requesting support. The Commission decides the merits of each project presented based upon how it relates to the overall stated goals and objectives of the Niagara River Greenway Plan.

Niagara Street Gateway Project, City of Buffalo. The Niagara Street Gateway Project, which is included in the Greater Buffalo Niagara Regional Transportation Council (GBNRTC) 2011-2015 Transportation Improvement Program, was updated in 2013. This project would create a north-south boulevard along Niagara Street. This gateway will eventually extend from downtown Buffalo at Niagara Square to the intersection of Niagara and Ontario Streets in North Buffalo. The first part of the project (Niagara Square to Porter Avenue) is scheduled for 2013-2014 and would transform the existing, heavily developed urban street into a boulevard that includes a landscaped, redesigned thoroughfare guiding visitors and citizens into downtown Buffalo. The Niagara Street project also includes improvements designed to provide pedestrians, bicyclists, and drivers with safer travel along the route. Construction letting is scheduled for the summer of 2013.

Improvements north of Porter Avenue to Ontario Street are currently in the planning and design phase.

Episcopal Church Home Property. This property is located along the entire block of Busti Avenue from Massachusetts to Rhode Island Streets. It has been vacant for more than seven years. The property had in excess of $16 million in liens and composition agreements, was in City of Buffalo tax foreclosure, and was in City of Buffalo Housing Court due to numerous violations. Consistent with the core mission of the Urban Development Corporation doing business as Empire State Development (ESD), the property was acquired on June 28, 2013. Currently, ESD has a construction and operations manager who is maintaining the property while developing an alternatives analysis and estimates, State Environmental Quality Review (SEQR) documentation, structural stability and remediation studies, and a stabilization and potential demolition plan. The intent of these studies is to prepare the property for future re-development as shovel-ready, but not to actually undertake redevelopment. The redevelopment may consist of a buffer area between the neighborhood and the existing Plaza, or it may include limited Plaza expansion and/or reconfiguration or other related development. Any redevelopment will be subject to an

appropriate environmental review process. No time frame has yet to be officially determined for the future development of this property.

U.S. Peace Bridge Plaza Expansion, Peace Bridge Authority. A Memorandum of Understanding between the United States and Canada, signed in June 2013, authorized the Peace Bridge Authority to undertake several specific independent actions to improve the flow of traffic through the border crossing. None of the actions listed below are dependent upon the Project being assessed in this document, nor does the Project restrict the consideration of any of the listed actions, or any alternatives to these actions nor do these actions or potential actions affect the design, capacity or configuration of the Project.

1) Bridge widening along the throat area between the U.S. Plaza and the Peace Bridge - This PBA project will allow for better separation of truck and automobile traffic by adding a 500-foot by 60-foot structural addition to the U.S.-bound approach to the U.S. Plaza. A wider approach will provide for better commercial traffic management on the U.S. Plaza, and a longer 2-lane car approach, allowing cars with NEXUS better access to the booths. In addition, the re-decking of the Peace Bridge is anticipated in approximately 3 to 5 years and due to the swift current in the Niagara River, barge access is very limited, if at all possible. The expanded deck area will provide for some immediately adjacent staging area for the bridge re-decking. The first phase of the bridge widening construction, consisting of utility relocations and foundations, was funded in June, and work began in July 2013. This phase is scheduled to be complete in November 2013. The superstructure work is in final design and is anticipated to be under construction early in 2014 and completed by the end of 2014.

2) Renovations of the PBA Customs Warehouse – This PBA project will involve remodeling the existing 1960s building to meet post 9/11 security requirements, to increase energy efficiency, and providing a small addition to the existing building. A construction manager was hired in April 2013, and actual construction contracts are anticipated to begin in early 2014.

3) Truck Pre-Inspection Pilot Study - President Barack Obama and Canadian Prime Minister Stephen Harper agreed to take steps to speed the flow of goods and people across the border while enhancing security and harmonizing regulation, by signing the Obama-Harper accord on December 7, 2011. One of the provisions of the Obama-Harper accord was the development of a "proof of concept" pilot project to establish long-term commercial pre-inspection (primary customs inspection) in Canada. Two locations were chosen: Blaine, WA, which is a land crossing, and Buffalo, NY at the Peace Bridge. Blaine was to be the first pilot to run six months prior to the commencement of the Buffalo pilot. Blaine started their pilot on June 17, 2013, and Buffalo is expected to start in mid-December 2013. The pilots are to run from 12 to 18 months, allowing implementation issues to be resolved before there is permanent and wide-scale application. This study will be overseen by U.S. Customs & Border Protection (CBP).

4) Comprehensive Traffic Study on the U.S. Plaza – This traffic study for the U.S. Plaza could also be referred to as a Plaza Operational Optimization Plan that will require the collaboration of the PBA, NYSDOT, NYSTA, and CBP in identifying improvements to the traffic patterns on the existing footprint for two scenarios: (i) all pre-inspection moves to Canada or (ii) no pre-inspection moves to Canada. It will also use the traffic model developed for inspection processes to evaluate the two scenarios with a remodeled/minor-expanded Plaza. The PBA currently has an outstanding Request for Proposals (RFP) for procuring an engineering consultant, and the current schedule anticipates consultant selection by October, 2013. Concurrently, the Ministry of Transportation Ontario has completed origin/destination surveys of both commercial and passenger traffic and will use those to develop a comprehensive report that is also expected to be completed in early 2014. These two studies will then be used to establish potential feasible alternatives to begin a new plaza planning process and environmental review process. Consideration of any expansion or redesign of the existing U.S. Plaza cannot begin until these two studies are complete. The evaluation of feasible alternatives is expected to begin in October 2014, with a year-long schedule and anticipated design-build process to begin in October 2015.

5) Redecking of the Existing Peace Bridge – While the Peace Bridge is well maintained, it is an 87-year-old structure with its original deck. Plans are underway by PBA to start the design on the re-decking of the bridge, including the necessary structural steel repairs in January 2014. The PBA is anticipating a design-bid-build contract and expects to let this contract in late 2015. It is estimated that the re-decking project will take three years to complete. The design phase is included in the Board-adopted capital plan. The Board awarded a financial consulting contract in September 2013. There is an outstanding RFP for a traffic and revenue forecasting consultant that will be awarded in October 2014. Following the engagement of a financial consultant, the PBA will proceed with RFPs for bond counsel and bond underwriter. It is expected that the PBA will go to the financial markets with a re-marketing of existing short-term bonds and additional bonds in May 2014.

None of the above-listed programmed projects or activities is dependent upon the NY Gateway Connections Project being completed before they can proceed; nor does the NY Gateway Connections Project restrict the consideration of any of the options considered part of the listed programmed initiatives. In addition, the NY Gateway Connections Project is not dependent upon any of the above-listed programmed projects or activities to be completed before it can proceed or be completed by the fall of 2015.

4.7.7. Cumulative Effects Analysis

This section presents a cumulative effects analysis based upon the identified effects on the various social, economic, and environmental resources within the Study Area and the surrounding geographic area. If one of the above identified projects did not result in a direct or indirect effect, then no further analysis of potential cumulative effects was necessary. Several projects in the area, including the

Niagara Greenway Plan, Niagara Street Gateway Project, and the restoration of Front Park and Porter Avenue, would contribute to cumulative effects and were evaluated as such. Other as yet unidentified or identified but unfunded projects are very likely to occur as efforts to revitalize the West Side community continue unless limiting factors such as land availability, zoning, environmental constraints, etc. become more restrictive. As projects are completed within the West Side, they will contribute both positively and negatively to the overall cumulative effect on the local environment and quality of life of current and future residents. Each project needs to be judged both on its own merits and how it will affect the community cumulatively.

4.7.7.1. Social Consequences

Changes to Travel Patterns or Accessibility. As described previously in this DEIS, the road infrastructure in the Study Area consists of a combination of local roadways, local commercial strips, historic boulevards, and high-speed, high-volume highways, all of which are used to access or exit the Plaza.

Past. The New York State Thruway Authority (NYSTA) has had a profound effect on the traffic patterns of the West Side. In 1971, NYSTA constructed Ramp B, allowing Plaza traffic to directly enter southbound I-190, thereby reducing the amount of eastbound bridge traffic traveling on nearby residential streets. In 1991, NYSTA constructed the ramp connecting northbound I-190 traffic directly to the Plaza in an attempt to further reduce bridge traffic on neighborhood streets. Unfortunately, the subsequent overall rise in cross-border traffic has negated the benefits of these improvements. Since 2000, NYSTA has rehabilitated or reconstructed segments of I-190 adjacent to the Plaza and eliminated the toll barriers at both the Black Rock and City Line Toll Plazas. Traffic is up 29% and 27% percent at the former toll barrier locations since their demolition (GBNRTC 20010). The City of Buffalo has completed interim improvements along Busti Avenue and Baird Drive to take advantage of the recent Plaza improvements.

Present. The layout of the Plaza and connecting roadways contributes to undesirable circulation patterns. The present connecting roadway configuration, in combination with less-than-desirable Plaza circulation patterns, creates numerous problems for drivers, including conflict points and poor decision sight distances, requires the at-grade crossing of inbound and outbound traffic, and the use of local streets to access the regional transportation system. The Plaza lacks direct connectivity to the northbound I-190 and from the southbound I-190. Holidays, major sporting events, and periods of high security alert often result in larger than normal volumes of cross-border traffic, which leads to restricted traffic flow, delays, and occasional vehicle queues that extend from the ramps leading to the Plaza onto the adjacent highway system and residential streets.

Future. Under the Project, roadways leading to and from the Plaza would be reconfigured. The action would affect local travel patterns by altering current traffic patterns and instituting new traffic patterns designed to reduce traffic on local residential streets. In addition to the changes made by the Project, changes made by other non-project-related actions as described above would likely affect local travel patterns or access. These projects, in combination with streetscape improvements to Porter Avenue between Niagara Street and Symphony Circle, improvements to Niagara Street, and the improvements

made to the main entrance to Front Park along Porter Avenue, would improve the overall character of the West Side neighborhood. The reduction in use of neighborhood streets by traffic in and immediately adjacent to the Plaza would help to ease the concerns of local residents about potential air pollution and lead to improved access to Front Park and the waterfront.

It is likely that one or more of the projects identified above may be constructed during the same time frame as the Project. The cumulative effects of these projects on air quality, noise levels, and other environmental concerns would be negligible given the spatial distribution and diversity of the identified future projects within the West Side and the demand for best practices when performing construction activities,. However, some short-term, minor effects could result from the rerouting of traffic.

In summary, the local community would not experience negative cumulative (social, traffic-related, etc.) effects from the Build Alternative and other non-project actions.

4.7.7.2. Economic Consequences

Effects on Established Business Districts. Within the Study Area, Niagara Street is the primary local business district and has been identified by the City of Buffalo as the local transportation 'Gateway' to downtown Buffalo. The Niagara Street corridor and surrounding area contain many locally owned small businesses, public health centers, and office space, and an industrial zone is located to the north of the Project Area.

Past. Over the past several decades, most of the local business districts in the city, including the Niagara Street area, have suffered due to the decline in city population and trends towards large-scale, suburban retail operations.

Present. Approximately 20 businesses are located in the immediate vicinity of the Project Area (i.e., Niagara Street south of the intersection with Busti Avenue to Porter Avenue, and Porter Avenue west to I-190 overpass). The vast majority of these businesses are located on Niagara Street. These include several small, neighborhood retail and service businesses that have developed to cater more to neighborhood residents and students of the nearby D'Youville College. Some businesses (e.g, the gas station at the corner of Porter Avenue and Columbus Parkway) do derive some of their business from cross-border traffic.

Future. With implementation of the Project, cumulative, short-term, positive effects on the local and regional economies would occur as all the projects discussed above are constructed. Short-term effects include the direct spending associated with the construction payroll and supply/materials contracts, both in the immediate area of the Project in the region as a whole.

Construction-related effects in the form of detours and increased truck traffic, noise, and dust resulting from construction activities associated with the Niagara Street Gateway Project, expansion of the Plaza, and this Project may result in both short-term negative and positive effects, as well as long-term positive

effects on local businesses by affecting access to established traffic routes through the Study Area. Improvements to the traffic pattern along Niagara Street and the alterations in traffic patterns resulting from this Project may lead to long-term increased visibility of some establishments and increased spending within the local businesses (e.g., food shops, gas stations).

Over the long-term operational period, the restoration of Front Park, the expansion of D'Youville College's athletic facilities along 4th Street south of Porter, and the establishment of recreational facilities such as the Niagara River Greenway trail will all contribute to the increases in the desirability to visit and use the area's parks and waterfront. The increased use will lead to a positive cumulative effect on commercial establishments and increased opportunities for local businesses.

4.7.7.3. Environmental Consequences

Historical and Cultural Resources. The analysis for this Project focused on the APE, as defined in **Sections 4.4.11.1** and **4.4.11.2** above. Historic properties within the APE are Front Park and Porter Avenue, both NRE-listed properties, and 18 individual contributing resources on Busti Avenue and Vermont Street within the Prospect Hill Historic District, a National Register eligible property which extends outside the APE (see **Section 4.4.11**).

No known archaeological sites were identified within the Project's APE (Montague and Perrelli 2013).

Past. The neighborhood has experienced a decline in recent years, as well as the loss of some historic properties on Busti Avenue between Vermont Street and Rhode Island Street, outside the APE for this Project. Front Park retains only a portion of its original character, as substantial changes and additions took place within the park during the twentieth century.

Present. As previously discussed, in 2008 the BOPC finalized a 20-year Management and Restoration Plan for the Buffalo's Olmsted-designed park system. Under this plan, the BOPC has taken on the responsibility for continuing development, management, and restoration of all Olmsted-inspired parks within the city. Funding for this plan will come from the City, grants, and other fund-raising activities of the BOPC. The plan identifies and prioritizes major park initiatives in an effort to restore and manage Buffalo's parks and parkway system.

Future. The Project would result in the removal of Baird Drive within Front Park and thus provide an opportunity for the BOPC to continue its work in landscaping and redeveloping the Park consistent with its historic character and intended design. While the historic setting would not change for individual neighborhood properties, the Project strengthens the ties with the historic properties and provides increased and safer access between the Prospect Hill Historic District, Front Park, and the waterfront to the west.

The Project would not involve the removal of any historic buildings or structures that would contribute to the recent loss of historic properties in the neighborhood, or disrupt the intact streetscape within the Prospect Hill Historic District on Busti Avenue.

Other non-project actions in the Study Area include the Niagara Street Gateway Project and the future Porter Avenue Rehabilitation and Streetscape Project. These projects will complement one another and help to facilitate access to the waterfront along the Niagara River and maintain its historic character and significance.

This Project, in combination with other foreseeable developments in the Study Area, would have no adverse cumulative effect on the historic and cultural resources in the area.

Parks and Recreational Facilities. The West Side contains numerous parks and other recreational facilities, including Front Park, Prospect and Columbus Parks, LaSalle Park, and Pat Sole Park.

Past. Beginning in 2004, the BOPC took over management of the City's Olmsted Park System and has been conducting a number of restoration and rehabilitation projects, including several within Front Park. In recent years, the City of Buffalo has spent over $3.3 million for interim improvement to Front Park, including the restoration of Moore Drive to park land, landscaping improvements, and construction of a recreational trail. Much of this money was provided as a gift from the PBA.

Present. The park system in Buffalo remains in relatively good condition as a result of the contribution of the BOPC and the City's agreement with Erie County to maintain the non-Olmsted-related parks. The BOPC finalized its 20-year Management and Restoration Plan with the City in May 2008 and has managed the City's Olmsted Parks since then.

Future. The establishment of new local traffic patterns associated with this Project, combined with the removal of Baird Drive, would greatly benefit pedestrian access to Front Park from the West Side neighborhood and improve the opportunities for greater use of the Park. In the coming years, the BOPC plans on creating/restoring perimeter buffers, restoring park facilities, and restoring or creating park connections with the objective of increasing the public's desire to use these facilities.

In combination with other foreseeable recreational developments in the Project Area, the added recreational opportunities presented by the Project would have an overall positive cumulative effect on parks and recreational facilities in the West Side neighborhood.

Table 4-22 summarizes the direct, indirect, and cumulative effects on the various social, economic, and environmental resources in the Study Area.

Table 4-22 – Summary of Direct, Indirect and Cumulative Effects

EIS Resource Section	Direct Effects of Project	Potential Indirect Effects of Project	Potential Cumulative Effects
Social Consequences			
Socioeconomic Demographic Analysis	This Project and other development projects located within the West Side are designed to lead to a revitalization of the West Side of Buffalo.	Revitalization of the West Side may lead to improved opportunities for the lower income and minority residents of the area.	None
Land Use	This Project and other identified projects would not lead to changes in the existing general land use pattern currently found within the West Side.	N/A	None
Zoning Regulation	No changes in zoning patterns are foreseen.	N/A	None
Local Planning	None	N/A	None
Community Cohesion	No adverse effects	N/A	None
Changes to Travel Patterns or Accessibility	The Project would have a minor effect on local travel patterns due to the realignment of local streets or traffic direction both during construction and operation. Changes in traffic patterns accessing to and from the Plaza would decrease traffic volume on neighborhood residential streets. The Project may result in a slight increase in traffic along Niagara Street within the Study Area.	Decreases in traffic volume on residential streets would provide a safer environment for pedestrians to walk within the neighborhood, less traffic for other drivers on the narrower residential streets within the Study Area, and safer and easier access to Front Park and the nearby waterfront.	Increased accessibility by pedestrian and vehicular traffic to community facilities, businesses, etc. located within the West Side by residents' and visitors. Improved, safer access to Front Park, other park and recreational facilities, and the adjacent waterfront by residents and visitors. Negligible change in air quality and no effect due to noise levels along Niagara Street. Safer access to proposed athletic fields along 4th Street by D'Youville College students, visitors, and West Side residents.

EIS Resource Section	Direct Effects of Project	Potential Indirect Effects of Project	Potential Cumulative Effects
Effects on School Districts, Recreational Areas, Churches, or Businesses	The Project would have a beneficial effect with the removal of Baird Drive and the return of green space to Front Park. There would be no effects on schools or religious institutions.	Redesign of Niagara Street and rerouting of traffic may lead to improved access to local businesses on Niagara Street. Improved access to commercial properties along Niagara Street may result in increased business opportunities.	Proposed improvements for pedestrians and bicyclists along Porter Avenue would lead to increased usage of Front Park, LaSalle Park, and other recreational facilities along the waterfront.
Effects on Police, Fire Protection, and Ambulance Access	The Project would have no effect as traffic access to the West Side neighborhood would be maintained during construction and operation of the Project. Response times would not be altered.	N/A	None
Effects on Highway Safety, Traffic Safety, and Overall Public Safety and Health	The elimination of traffic entering and exiting the Plaza via adjacent residential streets and through Front Park would increase the safety of residents and visitors to the area. The Project would reduce traffic-related air emissions near the neighborhood.	The Project may result in a minor increase in traffic volume along Niagara Street within the Project Area. This may result in a negligible increase in air emissions and noise levels. These increases would not result in the exceedance of any state or federal air quality or noise standards or guidelines.	Improvements to Niagara Street and a reduction in the use of local streets for interstate traffic would improve the safety of pedestrians and bicyclists in the area.
General Social Group Benefited or Harmed	None	N/A	None
Economic Consequences			
Effect on Regional and Local Economies	The Project would have a short-term positive effect on the local and regional economies during the construction period.	None	None
Effects on Existing Highway-related Businesses	During the short-term construction period, there may be both minor negative disruptions and positive benefits to existing highway-related businesses.	Improved border crossing efficiency has potential to increase opportunities for highway-related businesses.	None

EIS Resource Section	Direct Effects of Project	Potential Indirect Effects of Project	Potential Cumulative Effects
Effects on Established Business Districts	Local businesses would be affected by construction traffic, but there could be an increase in local spending during the construction period.	The negligible increase in traffic volume may improve opportunities for businesses on Niagara Street and Porter Avenue.	Supports the City of Buffalo's long-range plan to develop Niagara Street as a gateway into the city and improve opportunities for development of commercial establishments along Niagara Street.
Environmental Consequences			
Surface Water/Wetlands			
Surface Water	None	N/A	None
Wetlands	None	N/A	None
Coastal Zones	None	N/A	None
Navigable Waters	None	N/A	None
Wild, Scenic, and Recreational Rivers	N/A	N/A	None
Floodplains	N/A	N/A	None
Water Quality	None	N/A	None
General Ecology and Wildlife			
Critical Environmental Areas	None	N/A	None
Fish and Wildlife	None	N/A	None
Forest Preserve Lands	None	N/A	None
Endangered or Threatened Species	None	N/A	None
Invasive Species	None	N/A	None

EIS Resource Section	Direct Effects of Project	Potential Indirect Effects of Project	Potential Cumulative Effects
Historical and Cultural Resources			
Historical and Cultural Resources	The Project would provide beneficial effects for Front Park and would improvements to a section of Porter Avenue, consistent with the historic use of these properties as contributing features of the Olmsted park System that is listed in the national Register of Historic Places. The Project would have no adverse effect on nearby individual historic resources or the Prospect Hill Historic District.	N/A	No potential effect on Olmsted Park Restoration Plans.
Visual Resources	The Project would result in some positive visual improvements, including the removal of Baird Drive in Front Park and the creation of additional green space.	N/A	None
Parks and Recreational Facilities	The Project would have a positive effect on Front Park through the reunification of the Park and the improved access to it.	N/A	No potential effect on Niagara Greenway and Olmsted Park development and restoration plans.
Farmland Assessment	None	N/A	None
Air, Noise, and Energy			
Air	Short-term Effects: Emissions from construction vehicles would occur on a short-term basis. Dust levels may increase slightly during road demolition and construction, but the increase would be short term and limited in area. Long-term Effects: Improved movement of interstate vehicles and relocation away from nearby residential neighborhoods would reduce emissions from cross-border traffic entering adjacent	The Project would not result in an overall increase in traffic volume. Redirection of traffic flows would lessen traffic movement near residential areas.	No change in local air quality. Negligible change in noise along Niagara Street.

EIS Resource Section	Direct Effects of Project	Potential Indirect Effects of Project	Potential Cumulative Effects
	residential areas.		
Noise	Short-term Effects: The Project would result in short-term construction noise effects on the nearby residences and park areas during construction activities. Long-term Effects: Based on the modeling, noise levels are not anticipated to substantially change.	The Project could result in a negligible increase in traffic volume on Niagara Street; however, it would not have a substantial effect on noise levels in the immediate Project Area.	No perceptible change in noise levels within the Study Area.
Energy	Short-term Effects: Construction of the Project would result in the consumption of energy that is not recoverable. Long-term Effects: Overall, improved access to and from the Plaza and initiation of free-flow of Canada-bound traffic through the Plaza would reduce energy usage.	None	None
Greenhouse Gases	Short-term Effects: Construction of the Project would result in a temporary consumption of energy and production of greenhouse gases that is unavoidable. Long-term Effects: Overall, improved access to and from the Plaza and initiation of free-flow of traffic through the Plaza would lead to a reduction in greenhouse gases.	None	None
Contaminated Materials Assessment	None	None	None

Notes:
Short-term Effect - Effects caused during the construction and/or initial operation of the Build Alternative.
Long-term Effect - Effects caused by the Build Alternative after the action has been completed and/or after the action is in full and complete operation.

4.8. Other NEPA and SEQRA Considerations

Pursuant to Environmental Conservation Law (ECL) Article 6, this Project is compliant with the New York State Smart Growth Public Infrastructure Policy Act. To the extent practicable, the Project has met the relevant criteria as described in ELC Section 6-0107. The NYSDOT Smart Growth Screening Tool was used to assess the Project's consistency and alignment with relevant Smart Growth Criteria, and is available upon request.

Specifically, the Project:

- would result in the improvement to existing infrastructure that would move traffic flows to and from the Plaza away from the existing residential neighborhoods and local city streets and onto existing highways and roads. This would result in strengthening the existing community by reducing traffic, noise and air/greenhouse gas emissions in these neighborhoods.
- would improve access to the waterfront and adjacent recreational opportunities the waterfront provides. The project would not directly or indirectly affect any future downtown or municipal center revitalization.
- is located within the City of Buffalo's established waterfront revitalization area and is consistent with draft revitalization plans that have been previously prepared.
- would be constructed within established, existing transportation corridors; thereby minimizing disturbance to the preserved habitats and environmental resources of the inner city. This project would not have any adverse effects on local historic resources. In addition, the project would enhance recreational resources by eliminating Baird Drive that currently transects a portion of Front Park and restoring the area to green space. All stormwater from impervious surfaces would be directed into the existing containment system, resulting in no effect to the quality of local surface and groundwater. There are no wetlands, agricultural lands or streams located within the Project Area.
- includes the development of a pathway along the south side of Porter Avenue that would permit safer pedestrian and bicycle traffic between Front Park and LaSalle Park and the Niagara River waterfront. The project also includes an improved signalized intersection at the new vehicular entrance to Front Park which would allow pedestrians and bicyclists to cross Porter Avenue and access the new pathway.
- will continue to include coordination with local and regional agencies as a key aspect of the design process. In addition, the project has considered and is consistent with established local planning initiatives such as the Niagara Greenway and the planned development of Buffalo's municipal Olmsted design park system.
- The Project would support sustainability by improving existing transportation infrastructure without compromising needs and opportunities of future generations.

4.9. Anticipated Permits, Approval, and Coordination

The list of anticipated permits, approval, and coordination is included in **Table 4-23**. For a summary of the current see **Appendix J – Project Coordination Plan**. The Plan will be updated accordingly as agency coordination progresses for the Project.

Table 4-23 – Anticipated List of Permits and Approvals

Agency	Permit Title (Legislation Empowering Authority)	Status
New York State Department of Environmental Conservation (NYSDEC)	State Pollutant Discharge Elimination System (SPDES) General Permit (GP-0-10-001) for Stormwater Discharges from Construction Activities	Submit NOI and MS4 acceptance to NYSDEC within 5 days prior to construction
New York State Parks, Recreation and Historic Preservation	Section 106 National Historic Preservation Act concurrence	Submit Section 106 Effect Finding for concurrence prior to DEIS

4.10. Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity

With regard to the Project, short-term effects on and uses of the environment refer to the immediate economic and physical effects of the construction process and short-term changes in traffic. The short-term economic effects are largely beneficial. The work force would be drawn primarily from the local metropolitan/western New York area. Salary income generated from the Project would flow into the local and regional economies through the purchases of goods and services, resulting in a multiplier effect to stimulate wages. Businesses from outside the area that would provide goods and services for the Project would also benefit.

The short-term physical effects caused by the Project would be disruptive to the established traffic patterns. Construction activities may result in the rerouting of traffic, increased noise and dust levels, and localized traffic delays on streets that are typically free-flowing. These effects would be short-term in nature, variable, and localized, depending on the particular work being conducted and the time of the activity. Project construction would require the movement of workers, equipment, and materials throughout the Study Area.

Construction activities would be scheduled to minimize these effects to the extent practicable. Improvements in construction techniques and the equipment used would result in reduced noise and air

pollution in and around the Study Area. All construction activities would be conducted within the time and spatial limits prescribed by the necessary permits, and an Erosion and Sediment Control Plan would be developed and approved to control anticipated construction-related pollutants.

Modern construction equipment is provided with mufflers, and the hours of operation would be limited to minimize noise effects on the neighborhood residents. Detailed staging plans and traffic management plans would be developed with the City to ensure the orderly movement of works and the delivery of goods and services to the work site in a manner that maintains the normal flow of neighborhood traffic to the extent practicable.

On a regional level, the long-term effects of the Project would be positive. Specifically, the enhanced flow of traffic across the border would have a profound effect on the future movement of goods and services by reducing peak-hour delays and reducing transportation costs to manufacturers, suppliers, and purchasers of the products. Local tourism would benefit by being able to draw potential customers from a wider regional and national base.

4.11. Any Irreversible and Irretrievable Commitments of Resources Involved in the Project

The labor required for construction of the **Project** would be an irretrievable commitment of this resource. Use of the labor would not have an adverse effect upon continued availability of these resources. The regional pool of necessary skills is sufficient to meet the Project's needs without any disruption in development activities.

Other resources that would not be retrievable would be the physical materials used to construct the Project. These include raw materials such as aggregate used to make cement and asphalt, steel needed to make rebar and steel structures, oil to make asphalt, and fill material. These are finite resources; however, they are not currently in short supply.

Excavated soil and fill material not required for construction of this Project would be transported to approved storage and disposal sites. The region has adequate capacity to accommodate soils and fill materials removed from this construction site.

The energy used to build the Project and keep it operating would not be retrievable. Energy consumed includes the gasoline used by cars to drive on the roadways and vehicles used to maintain the roadways, electricity used to keep street lights lit, and the energy (in the form of fuel, oil, and electricity, etc.) needed for construction. If built, the improved access to and from the Plaza and the reduction in congestion due to the current stop-and-go traffic flows would result in a modest reduction in overall energy consumption levels.

The improved transportation system would require the commitment of these resources. Residents in the immediate area and region would benefit from the improved quality of the transportation system. The benefits would consist of improved access and safety, savings in time, and greater availability of neighborhood services. These benefits would outweigh the commitment of resources.

4.12. Adverse Environmental Effects that cannot be Avoided or Adequately Mitigated

There would be no adverse environmental effects that cannot be avoided or adequately mitigated.

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CHAPTER 5 – COMPARISON OF ALTERNATIVES

5.1. Introduction

This chapter provides a summary of the positive and adverse effects of the action.

5.2. Discussion

5.2.1. No Build Alternative

The No Build Alternative is defined as the continued maintenance of existing facilities. It serves as a benchmark against which the proposed action is compared.

The No Build Alternative would not meet the project needs presented in **Section 1.2**, nor would it address the Project Objectives presented in **Section 1.2**.

5.2.2. Build Alternative

The Build Alternative includes construction of a new ramp (Ramp D), providing direct access from the Plaza to northbound I-190. It would also include a new ramp (Ramp PN) from Porter Avenue to the existing I-190 northbound exit-ramp (Ramp N/Ramp A) to the Plaza.

A full description of all the elements included in the Build Alternative is included in **Section 3.2.1**.

5.2.2. (a) Project Purpose and Objectives Discussion

The Build Alternative would fulfill the project purpose in **Section 1.2** and meet all project objectives in **Section 1.2**.

5.2.2. (b) Effects Resulting From the Action

The construction of the new ramps will allow the removal of Baird Drive and conversion of the existing roadbed and adjacent sidewalks into 1.8 acres of additional green space within Front Park. With the removal of Baird Drive, and the additional 2.7 acres of isolated green space lying between Busti Avenue and Baird Drive, a total of 4.5 acres would be reconnected to the greater park area.

The Build Alternative would also:

- Reduce the need to use local streets as part of the international and regional highway transportation system.
- Eliminate the signalized, at-grade intersection at Baird Drive and Ramp A.
- Remove 10 existing non-standard highway features.
- Provide a shared-use pathway along Porter Avenue to improve safety and connectivity between Front Park, LaSalle Park, and the local neighborhood.
- Provide an improved Shoreline Trail (Riverwalk) connection to the riverfront.
- Porter Avenue – the re-alignment of traffic pattern and modification for a shared-use path along the south side of Porter Avenue to provide improved safer access between Front Park and LaSalle Park and the waterfront, consistent with its historic use.

The Build Alternative would result in a *de minimis* use of three 4(f) resources, including:

- Front Park - the direct beneficial effects to Front Park through the removal of Baird Drive and return of right-of-way to green space and the direct beneficial effects through the relocation of the vehicular entrance into Front.

- Shoreline Trail (Riverwalk) - the temporary restriction of use or minor rerouting of the trail during construction, and full and unrestricted use of the relocated pathway following construction of the new bridge over the railroad right-of-way and I-190.

Other effects are included in **Table 5-1** below and are discussed in more detail in **Chapters 4 and 6**.

5.3. Cost, Benefit, and Impact Comparison

Table 5-1 includes a summary of costs, and selected benefits and effects of the Build Alternative with reference to additional information contained in the DEIS. This is intended to be a brief summary of representative information provided elsewhere in the document and is not intended to be comprehensive.

Table 5-1 - Summary of Costs, Benefits, and Effects

	DR/FEIS/4(f) Reference Section	Build Alternative (2045)
Are the Project Objectives Met?		
1. Addresses the need for direct access from the Plaza to the northbound lanes of Interstate 190	1.2.	Yes
2. Redirects through traffic from Front Park	1.2.	Yes
3. Removes Baird Drive.	1.2.	Yes
4. Replace the Porter Avenue Bridge over I-190	1.2.	Yes
Are any Enhancement Opportunities Attained?		
Returning of green space to Front Park	6.5.1	1.8 acres (Baird Dr Removal) 2.7 acres (isolated green space between Busti Ave and Baird Dr)
Improved pedestrian and bicyclist access and safety along Porter Avenue between Front Park, LaSalle Park, and the local neighborhood	3.3.2.	Yes
Improved connections and user experience along the Shoreline Trail (Riverwalk)	3.3.2.	Yes
Removal of the traffic signal at the Baird Drive / Ramp A intersection	3.2.1.	Yes
Costs (2013 $U.S. millions)		
Construction Cost	Table 3-1	$27,850,000
ROW Costs	Table 3-1	$641,000
Total Cost 2013 $	Table 3-1	$28.5 M
Quantitative Benefits		
Transportation		
Traffic Volumes through Front Park (vehicles per hour (vph), unless otherwise noted)	Appendix B	Removed – No Traffic
Reduction in Interstate Traffic (vph) along: - Porter Avenue Westbound with Construction of Ramp D	Appendix B	96, including 11 trucks (AM) 84, including 9 trucks (PM)
Reduction in Interstate Traffic (vph) along: - Porter Avenue Eastbound with Construction of Ramp PN	Appendix B	93, including 19 trucks (AM) 162, including 6 trucks (PM)
Peak-Hour Network Delay (vehicle hours)	Not Applicable	Roundabout Option: 546 (AM), 1,389 (PM) Signalized Option: 553 (AM), 1,415 (PM)

	DR/FEIS/4(f) Reference Section	Build Alternative (2045)
Mainline Level of Service	Appendix B	typically LOS D – LOS E
Intersection Levels of Service in Plaza Area (i.e., Number of Intersections with LOS A, B, C, etc.)	Appendix B	Roundabout Option: 5 LOS A, 1 LOS C (AM) 5 LOS A, 1 LOS D (PM) Signalized Option: 2 LOS A,3 LOS B,1 LOS C (AM) 4 LOS A,1 LOS B,1 LOS D (PM)
Non-Standard Features	3.3.3.2. (1)	11[1]
Non-Conforming Geometric Features	3.3.3.2. (2)	7
Social, Economic & Environmental Impacts		
Noise Receptors Impacted	4.4.17.4.	No Perceptible Change [2]
Community Cohesion	4.2.2.	Improved
Air Quality Impacts	4.4.15.	Negligible Change [3]
Microscale	4.4.15.3.2.	
PM_{10} (24-hr max)	4.4.15.3.2.	None
$PM_{2.5}$ (24-hr max/annual max)	4.4.15.3.2.	None
Mesoscale	4.4.15.3.1.	None
Section 4(f) Use	6.5	De Minimus
Visual Impacts	Appendix I	Small Positive [4]
Construction Impacts	4.4.17.5.	Will be Mitigated
Right-of-Way Acquisitions [5]	3.3.3.1.	0.89 AC (Fee) 0.41 AC (PE) 7.74 AC (TE)

Note:

1. Non-Standard Features – nineteen existing, nine retained and two new.
2. No receptor would experience a noise level increase of greater than 2 dBa over the existing noise level, which is barely perceptible by the typical person.
3. In 2025 and 2035, mesoscale emissions from the Build Alternative would be lower for all pollutants compared to the No Build Alternative. PM_{10} and $PM_{2.5}$ concentrations for the Build Alternative would be below the National Ambient Air Quality Standards. Greenhouse gas operational emissions would decrease in comparison to the No Build Alternative.
4. Improved view from residences on Busti Avenue due to removal of Baird Drive through Front Park.
5. Right-of-way Acquisitions are classified as Full Acquisitions (Fee), Permanent Easement (PE), and Temporary Easement (TE).
6. The No-Build Alternative serves as a baseline only.

5.4. Comparison of Intersection Options

Table 5.2 provides a brief comparison of the advantages/disadvantages between the two options being considered for the traffic control for the intersection of Porter Avenue and Ramps P and PN.

Table 5-2 – Comparison of Intersection Options

Option	Roundabout	Traffic Signal
Advantages	1) Close to free-flow operation 2) Minimal queuing on westbound Porter Avenue 3) More aesthetically pleasing/could serve as a gateway 4) Calms traffic 5) Reduces injury and severity of accidents 6) Lower delays 7) Lower Operation & Maintenance costs 8) Lower emissions	1) Would provide protected turning phases for the eastbound left turns to Ramps P and PN and for the westbound right turn to Ramp P 2) Would stop vehicles, ensuring gaps in traffic/non-gridlock conditions (could be used to help control traffic during overflow and oversize vehicle counter-flow operations) 3) May experience lower numbers of accidents 4) May require less ROW 5) Allows coordination of traffic flow along a corridor 6) Not as difficult for oversized trucks to negotiate 7) Can be timed to optimize traffic flow
Disadvantages	1) All approaches would be yield-controlled 2) Could experience higher numbers of accidents 3) May require more ROW 4) Does not allow coordination of traffic flow along a corridor 5) Could be difficult for oversized trucks to negotiate 6) Traffic volumes are not balanced at the intersection, so disproportionate delays may be caused to the major traffic flows	1) Vehicles would have to stop 2) Traffic signal timings would have to be monitored (i.e., cycle lengths, splits, offset optimized) to minimize queuing 3) Not aesthetically pleasing 4) Drivers may try to “beat the light” 5) Would have higher injury and severity of accidents 6) Higher delays 7) Higher Operation & Maintenance costs 8) Higher emissions

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CHAPTER 6 – SECTION 4(f) EVALUATION

6.1. Regulatory Setting

Section 4(f) (49 United States Code [U.S.C.] 303) of the Department of Transportation Act of 1966 applies to publicly owned parks, recreation areas, and wildlife and waterfowl refuges and publicly or privately owned significant historic properties. The requirements of Section 4(f) apply only to agencies within the U.S. Department of Transportation (USDOT) such as the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA). Section 4(f) requires that special effort should be made to preserve the natural beauty of the countryside and public parks and recreation lands, wildlife and waterfowl refuges, and archaeological and historic sites (sites listed on or determined to be eligible for listing on the National Register of Historic Places [NRHP]), and that measures should be undertaken to maintain or enhance the natural beauty of lands crossed by transportation activities or facilities. Section 4(f) prohibits FHWA from approving the use of any Section 4(f) resource for a transportation project, except under the following conditions:

1. there is no feasible and prudent alternative that would avoid the use of the Section 4(f) resource, and
2. the project includes all possible planning to minimize harm to that property (23 CFR 774.3(a)).

Section 6009 of the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), enacted in 2005, amended Section 4(f) legislation at both Title 49 U.S.C Section 303 and Title 23 U.S.C. Section 138 to simplify the process and approval of projects that have only *de minimis* impacts on lands impacted by Section 4(f). Under these provisions, once FHWA determines that a transportation use of Section 4(f) property results in a *de minimis* impact, an analysis of avoidance alternatives is not required and the Section 4(f) evaluation process is complete.

This chapter has been developed consistent with these and other changes in the revised Section 4(f) regulations.

In response to SAFETEA-LU, both FHWA and the FTA proposed comprehensive changes to their Section 4(f) regulations. The new regulations are codified at 23 Code of Federal Regulations (CFR) 774. The new regulations incorporate the *de minimis* use requirements and include a new definition of “all possible planning to minimize harm” as well as a list of factors to consider in determining which alternatives minimize overall harm. This chapter has been developed consistent with these and other changes in the revised Section 4(f) regulations.

This Section 4(f) analysis:

- Determines the applicability of Section 4(f) to parks and recreation areas within the Study Area for the NY Gateway Connections Improvement Project to the US Peace Bridge Plaza (Project);
- Determines the applicability of Section 4(f) to historic sites identified through the Section 106 process for the Project;
- Assesses use of identified Section 4(f) properties under the Build alternative; and
- Presents supporting documentation for FHWA to make a Section 4(f) approval.

This chapter also summarizes coordination with the officials with jurisdiction for Section 4(f) resources, including the New York State Historic Preservation Office (SHPO), the City of Buffalo, and the New York State Thruway.

6.2. Purpose and Need

The purpose of this Project is to reduce the use of the local streets by interstate traffic and provide access to the existing U.S. Peace Bridge Plaza (Plaza) at its current location (see **Chapter 2** of this Draft Environmental Impact Statement (DEIS)).

The primary need for this Project is to address the limited direct access between the Plaza and Interstate 190 (I-190). Existing direct access is limited and requires regional and international traffic to use the local street system. This limited access adds additional commercial traffic to the local streets, which were originally designed to only meet the needs of local traffic. An additional need was identified to address the structurally deficient Porter Avenue Bridge over I-190. A detailed discussion on the needs for this Project is provided in **Chapter 2**.

The Project objectives are to:

1. Address the need for direct access from the Plaza to the northbound lanes of Interstate 190,
2. To redirect through traffic from Front Park, and
3. To remove Baird Drive
4. To replace the Porter Avenue Bridge over I-190

6.3. Proposed Action

Chapter 3 of this DEIS provides details on the scoping process, the identification and development of potential alternatives, and the assessment of the Build Alternative carried forward into the EIS process.
Chapter 7 of this DEIS provides details on the coordination with Federal, State, and local governmental agencies, the general public, and other interested parties aimed at ensuring that the Section 4(f) evaluation process met the statutory requirements.

6.3.1. Development of Alternatives

Development of alternatives for this Project was limited by the configuration and location of the existing roadways connecting the Plaza to the local city streets and I-190. It was impossible to shift existing and planned ramp alignments without adversely affecting a nearby ramp or I-190. Design of the Build Alternative was also restricted by the existence of Front Park and densely populated west side neighborhood which includes the Prospect Hill Historic District. Within this limited Project Area only one other alternative was carried forward for environmental analysis. **Chapter 3** of this DEIS describes the efforts made in developing the Build Alternative and the coordination with Federal, State, and local governmental agencies in determining the design brought forward that meets the stated purpose and need of this Project. To satisfy this Project's objectives, a reasonable build alternative has been developed that includes a new ramp (Ramp D) to northbound I-190, provides direct access from the Plaza to northbound I-190, includes a new ramp (Ramp PN) from Porter Avenue to the existing I-190 northbound exit-ramp (Ramp N/Ramp A) that leads to the Plaza, and allows for the removal of Baird Drive from Front Park. The following section describes the Project Alternatives brought forward.

6.3.2. Project Alternatives

This Project includes two alternatives, a Null or No Build Alternative and a Build Alternative. A brief description of the two alternatives is found below. A detailed description of the two alternatives is provided in **Chapter 3** of this DEIS.

No Build Alternative

The No Build Alternative maintains the existing traffic patterns to and from the Plaza; does not provide for improvements or easier access from the Plaza to northbound I-190; and does not divert traffic from passing through Front Park and permit the removal of Baird Drive. The use of local city streets by interstate traffic remains the same.

Build Alternative

As described in **Chapter 3**, the Build Alternative consists of three actions:

1. A new ramp (Ramp D) would be constructed from the Plaza that directly intersects with northbound I-190. This new ramp would be located between the existing Ramp B, which connects the Plaza directly to southbound I-190, and Ramp C, which carries traffic from the Plaza via Sheridan Terrace and connects to the local network of City of Buffalo streets.
2. A new ramp (Ramp PN) would be constructed from Porter Avenue and connecting to Ramp A (the access ramp from northbound I-190 to the Plaza), as well as minor alignment changes to Ramp A to better facilitate the flow of traffic onto the Plaza.
3. Baird Drive, which carries traffic between Porter Avenue and the Plaza, would be removed from Front Park with the right-of-way being returned to green space. The existing traffic signals at either end of Baird Drive would be removed. As part of the Front Park portion of this Project, the

existing vehicular entrance to Front Park would be relocated slightly to the east and would be located at the existing intersection of Baird Drive and Porter Avenue.

6.4. Identification of Section 4(f) Resources

FHWA is responsible for determining which properties qualify as Section 4(f) resource(s). This discussion is presented below for publicly owned parks, recreation areas and refuges, followed by historic sites.

6.4.1. Publicly Owned Parks, Recreation Areas and Refuges

Public lands that might qualify for protection under Section 4(f) regulations as parks, recreation areas, and wildlife and waterfowl refuges are identified as part of the National Environmental Policy Act (NEPA) process. Section 4(f) requires the consideration of parks and recreational areas of national, state, or local significance that are both publicly owned and open to the public. Within the context of Section 4(f), the land must be officially designated as park or recreation area by a Federal, State or local agency, and the official with jurisdiction over the land has determined that its primary purpose is a park or recreation area. For public parks and recreation areas, the official with jurisdiction is the agency that owns or administers the property. A publicly owned park or recreation area must also be a significant resource for Section 4(f) to apply, though it is presumed to be significant unless the official with jurisdiction concludes the entire property is not significant.

All parks and recreation areas within the Project's Study Area are well known and are owned by the City of Buffalo. Four parks are located within the Study Area (see **Figure 6-1**). They are Front Park, Columbus Park, and Prospect Park, all along the north side of Porter Avenue, and Pat Sole Park located at the intersection of Busti Avenue and Massachusetts Avenue. In addition, there are two traffic islands along the extension of Busti Avenue at the intersections with Hampshire Street and School Street that are considered as green space by the City of Buffalo, but are not actually designated as parks or recreational facilities. The only park affected by this Project is Front Park, within which Baird Drive is currently located. This Project also would necessitate the relocation of the Shoreline Trail (formerly named Riverwalk) from its current location as it crosses over the railroad right-of-way and under I-190 to a location slightly further to the north toward the Peace Bridge, thus allowing for the placement of the new Ramp D. The movement of the Shoreline Trail will require the construction of a new pedestrian/bicycle bridge over both the CSX rail line right-of-way and I-190 along with a new pathway along the shoreline of the Black Rock Canal to a point where the Trail will reconnect with the existing walkway just west of the Trail's existing tunnel under I-190.

Section 4(f) was determined to apply to the Shoreline Trail and Front Park. The Project would not involve the potential use of any other parks identified in the Study Area.

Figure 6-1 – Section 4(f) Resources

Direct APE
Project APE
Prospect Hill Historic District
Olmsted Park Historic Thematic Resource
Shoreline Trail
Proposed New Alignment of Shoreline Trail
National Register Resources

NY Gateway Connections Improvement Project to the U.S. Peace Bridge Plaza
Section 4(f) Historic and Recreational Resources Area of Potential Effect (APE)
Erie County, New York

SOURCE Ecology and Environment, Inc. August 9, 2013

U.S. Department of Transportation
Federal Highway Administration

New York State Department of Transportation

6.4.2. Significant Historic Sites

Section 4(f) historic sites are identified through the consultation process established under Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulation, 36 CFR Part 800: *Protection of Historic Properties*. Buildings, structures, objects and architectural districts listed in, or determined eligible for listing in the National Register of Historic Places are considered Section 4(f) properties. The results of the Section 106 Process are documented in **Section 4.4.11** of this DEIS.

Front Park and Porter Avenue are listed in the National Register of Historic Places (NRHP) under Olmsted Parks and Parkways Thematic Resources, as contributing resources of the NRHP-listed Delaware Park-Front Park System (90NR01217). As an existing transportation facility listed in the National Register of Historic Places, Porter Avenue qualifies as an exception to the requirement for Section 4(f) approval since proposed work under the Build Alternative "will not adversely affect the historic qualities of the facility" associated with its eligibility for the National Register, and the SHPO has concurred with this conclusion as a result of consultation under Section 106 (23 CFR 774.13(a)(1)(2)).

The eastern edge of the APE incorporates 18 historic residential properties, one on Vermont Street and 17 on Busti Avenue, all of which contribute to the Prospect Hill Historic District that extends eastward of APE towards Niagara Street. Specific details concerning these resources are provided in **Section 4.4.11** of this DEIS. A list of the Section 4(f) resources within the APE is provided in **Table 6-1**, and their locations are depicted on **Figure 6-1**.

Archaeological resources are protected by Section 4(f) as historic sites under certain conditions. 23 CFR 774.11(f) states that Section 4(f) applies to all archaeological sites on or eligible for inclusion on the NRHP, including those discovered during construction. Section 4(f) does not apply if FHWA, after consultation with the SHPO and/or Tribal Historic Preservation Officer (THPO), determines that the archaeological resource is important chiefly because of what can be learned by data recovery and has minimal value for preservation in place" (23 CFR 774.13(b)(1)).

No known archaeological sites are recorded within the Project's APE. Archaeologically sensitive areas within the APE would be subject to archaeological monitoring during construction, based on the implementation of an approved monitoring plan including a protocol for consultation with the SHPO, and other Consulting Parties as appropriate, in the event that archaeological resources are encountered.

Table 6-1 – Section 4(f) Resources Within the Project Area

Resource Identification	Description of Resource	NRHP Criteria
HISTORIC SITES / PARKS		
Front Park	Front Park, owned by the City of Buffalo, once known as "The Front," is a contributing resource in the Olmsted Parks and Parkways Thematic Resources. Front Park is bounded by the Peace Bridge Plaza to the north, Busti Avenue to the east, Porter Avenue to the south, and Interstate 190 (I-190) to the west. The Plaza, encompassing an area once occupied by Fort Porter, forms the northern edge of the original Front Park. Front Park currently covers over 21.31 acres of useable land, with an additional 1.42 acres being occupied by Baird Drive, which provides ingress to and egress from the Plaza from Porter Avenue. The main entrance to Front Park is located off Porter Avenue, between Baird Drive and the northbound I-190 on-ramp. The park is utilized for passive and active recreational purposes.	NRHP listed in 1982, Criteria A and C
NON-HISTORIC PUBLIC LAND AND RECREATIONAL AREAS		
Shoreline Trail (Riverwalk)	The Shoreline Trail, part of the Buffalo and Erie County Greenway System, stretches from downtown Buffalo to Tonawanda. The Shoreline Trail is a paved multi-use trail that begins on Marine Drive at the Buffalo Naval Park in downtown Buffalo, passes through LaSalle Park and Front Park as it winds northward parallel to the Niagara River, and terminates on Main Street in the City of Tonawanda. The trail is City-owned in Buffalo, and County-owned in Tonawanda. The section of the trail in the vicinity of the Project extends approximately 300 feet across the I-190 and railroad corridor just south of the Peace Bridge and runs northward along Busti Avenue just northwest of the Peace Bridge Plaza. This trail section is permitted by the NYS Thruway Authority and maintained by the City and County. The Shoreline Trail is used by pedestrians, joggers, cyclists and in-line skaters. FHWA has determined that the Shoreline Trail is a Section 4(f) property based upon its value as a recreational resource.	N.A.
HISTORIC DISTRICT		
Prospect Hill Historic District	The Prospect Hill Historic District (PHHD) contains a total of 71 historic properties, 18 of which are included within the Project's indirect APE. Seventeen of the 18 properties are located along Busti Avenue between Porter Avenue and Vermont Street (609 to 721 with the exception of 641 and 685). One additional residential property within the Project's APE is located at 11 Vermont Street. The PHHD was determined eligible for listing in the NRHP in 2008. The historic district is significant because of its concentration of architectural styles popular during the period of significance between ca. 1880 and 1955, depicting residential growth and development in the City of Buffalo adjacent to Olmsted's Front Park and Columbus and Prospect Parks (Montague and Perrelli 2013).	Historic District determined eligible, Criteria A and C

6.5. Uses of Section 4(f) Resources

This section evaluates the potential for a "Use" of the Section 4(f) resources by the Project. For each Section 4(f) resource, this chapter makes one of the following findings:

- Use: not *de minimis*,
- *De minimis* use, or
- No Use.

In 23 CFR 774.17, the FHWA regulations define three types of "uses" of Section 4(f) resources: use, constructive use, or temporary occupancy.

- Use: not *de minimis* occurs:
    1. When the resource is permanently incorporated into a transportation facility, except as set forth in Section 774.11 and 774.13;
    2. When there is a temporary occupancy of the land that is adverse in terms of the statute's preservation purpose as determined by criteria in Section 774.13(d); or
    3. When there is a constructive use of Section 4(f) property as determined by the criteria in Section 774.15.
- Constructive Use is "when there is a constructive use of a Section 4(f) resource as determined by the criteria in 23 CFR 774.15." A constructive use occurs when there is no physical impact or use, but a project's proximity impacts (i.e. for example, noise or visual impacts) are "so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired." The regulations state that a substantial impairment occurs "only when the protected activities, features, or attributes of the resource are substantially diminished," according to 23 CFR 774.15(a). The FHWA regulations provide specific instructions and examples for determining whether a constructive use has occurred.
- Temporary occupancies of the property are so minimal as to not constitute a "Use" within the meaning of Section 4(f) (see 23 CFR 774.13(d)). Temporary occupancy is not a Section 4(f) use if the following criteria are met:
    1. The duration must be temporary.
    2. The scope of work must be minor.
    3. There must be neither anticipated permanent adverse physical impacts nor interference with the activities or purpose of the resource.
    4. The resource must be fully restored.
    5. There must be documented agreement between the appropriate federal, state, or local agencies having jurisdiction over the resource.

FHWA is responsible for determining whether a project would result in the "Use" of a Section 4(f) resource. This determination is made based on information developed during the NEPA process and considers input received from agencies with jurisdiction over the Section 4(f) resource.

If a project results in a use of a Section 4(f) resource, FHWA can approve that use by making a finding of *de minimis* use. "For parks, recreation areas, and wildlife and waterfowl refuges, a *de minimis* impact is one that will not adversely affect the features, attributes, or activities qualifying the property for protection under Section 4(f)" (23 CFR 774.17). In making this determination, FHWA must consider any avoidance, minimization, mitigation, or enhancement measures that have been incorporated into the project. If a finding of *de minimis* use is made for a Section 4(f) resource, the requirements of Section 4(f) are satisfied; an analysis of "feasible and prudent avoidance alternatives" is not required for *de minimis* use.

For parks, recreation areas, and refuges, FHWA's finding of *de minimis* use requires the concurrence of the authority with jurisdiction over the resource, after the public has been given an opportunity to comment. The public comment opportunity generally is provided as part of the comment period on the DEIS document.

For historic sites, FHWA's finding of *de minimis* use requires:

- The written concurrence of the SHPO with a Section 106 determination of "no adverse effect," and the concurrence of the Advisory Council on Historic Preservation (ACHP) if participating in Section 106 consultation; and
- The SHPO, and ACHP if participating, are informed of FHWA's intent to make a *de minimis* use finding based on their written concurrence with the "no adverse effect" determination.

A finding of "No Use" is made when an alternative *avoids any direct physical impact on a Section 4(f) property and there would be no constructive or temporary use*. For historic properties, this Section 4(f) finding of "No Use" generally corresponds to a finding of "no effect" or "no historic properties affected" for the Section 106 Process. However, it is possible that a project may adversely affect a historic property under Section 106, yet result in no Section 4(f) use if determined by FHWA that a project would not constitute a constructive use.

Through the Section 106 process, as documented in Section 4.4.11 of this DEIS, FHWA has made determinations of eligibility and effect for identified historic properties. In consultation with the City of Buffalo, SHPO and Section 106 Consulting Parties, FHWA has determined that the Project will have No Adverse Effect on Front Park, and No Effect on the Prospect Hill Historic District (FHWA 2013a FHWA 2013b, SHPO 2013, and City of Buffalo 2013). A copy of the eligibility and effect determinations, with supporting documentation, has been made available to Section 106 Consulting Parties and to the public as appended to this DEIS (see **Appendix H – Section 2**).

The discussion of use of Section 4(f) resources as it relates to the No Build Alternative and **the Build Alternative** is provided below.

<u>No Build Alternative</u>

The No Build Alternative would not result in the use of any Section 4(f) resources.

Build Alternative

The Build Alternative does not involve acquisition of any identified Section 4(f) properties. Further detail is provided for each resource below, and **Table 6-2** provides summary information related to FHWA's Effects Determination on the historic and recreational resources within the Project Area.

Table 6-2 – Summary of Analysis of Section 4(f) Use under the Build Alternative

Section 4(f) Resource	Section 106 Effect	Section 4(f) Use	Description of Use
Front Park	No Adverse Effect	***De minimis***	Direct beneficial effects through removal of Baird Drive and return of right-of-way to green space. Direct beneficial effects through the relocation of the vehicular entrance into Front Park.
Shoreline Trail (Riverwalk)	Not Applicable	***De minimis***	Temporary restriction of use or minor rerouting of the trail during construction and full and unrestricted use of relocated pathway following construction of new bridge over the railroad right-of-way and I-190.
Prospect Hill Historic District	No Adverse Effect	**No Use**	Alternative avoids any direct physical effect on a Section 4(f) property and there would be no constructive or temporary use.

6.5.1. Analysis of Use of Section 4(f) Resources

Section 4(f) resources addressed in this analysis are identified in Figure 6-1 and discussed in detail below. Section 4.4.11 of the DEIS provides additional information on the Section 106 process, resulting in the identification of the Prospect Hill Historic District as a Section 4(f) historic site.

Front Park

The Build Alternative would result in a Section 4(f) *de minimis* use of Front Park due to the realignment of the vehicular entrance from Porter Avenue. The realignment of the vehicular entrance into Front Park from its current location approximately 200 feet eastward tying into the existing intersection of Baird Drive and Porter Avenue would improve the safety conditions and ease of the flow of vehicles into and out of the Park. The standardization of the signalized intersection would facilitate improved safer access for pedestrian and non-motorized traffic between Front Park and LaSalle Park and the waterfront. Currently Baird Drive functions as the sole entrance to the Plaza for southbound I-190 traffic via the Porter Avenue Ramp N, as well as the primary access road to the Plaza for vehicles entering from local city streets. Baird Drive connects the Plaza with Porter Avenue to the south with signalized intersections at both ends. The 1.5-acre roadway and adjacent 0.3-acre cement sidewalk bisects the historic Parade/Play Ground, an important landscape space within the Park and currently interferes with neighborhood residents accessing the park from the adjacent neighborhood. Removal of Baird Drive would greatly facilitate public access to Front Park from the adjacent residential neighborhood and provide greater opportunities for the Park to be used for recreational activities held there, an improvement from existing conditions.

Compared to existing conditions, the realignment of the vehicular entrance into the Park coupled with the removal of Baird Drive and adjacent sidewalk would result in a net gain of 1.8 acres of green space within the Park. The 4.5 acres of isolated green space lying between Baird Drive and Busti Avenue would also be reconnected to the rest of Front Park. NYSDOT in coordination with FHWA determined that the proposed realignment of the park entrance constitutes a transportation use of Front Park that does not adversely affect the activities, features, or attributes of the Section 4(f) property (NYSDOT, 2013c). As a result of the Section 106 process, FHWA determined that the Build Alternative would have 'no adverse effect' on Front Park (FHWA 2013b).

The Shoreline Trail (Riverwalk)

The Build Alternative would result in a Section 4(f) *de minimis* use of the Shoreline Trail (Riverwalk). This alternative would not remove, or substantially impair access, use and function of the Shoreline Trail as a Section 4(f) resource. However, the route of the Shoreline Trail would be realigned such that it would cross the railroad right-of-way and I-190 to the north of the existing bridge over the railroad right-of-way, eliminate the need to cross I-190 via a tunnel, and connect with a new pathway along the shoreline of the Black Rock Canal before rejoining the existing pathway where it connects with the existing tunnel (see **Chapter 3** of this DEIS). During construction of the Build Alternative, access to a portion of the existing Shoreline Trail would be restricted for safety reasons, thereby temporarily disrupting or inconveniencing the flow of pedestrian and bicycle traffic along that small portion of the Shoreline Trail. Closures to the Shoreline Trails would be scheduled during off-peak and off-season timeframe in order to minimize disruption of access to trail during construction. Additionally during any temporary closures to the Shoreline Trail, users would be rerouted further south along Niagara Street and Busti Avenue and directed through Front Park and then westward along Porter Avenue for access to the waterfront, LaSalle Park, and the remaining portion of the Shoreline Trail. The permanent realignment of the Shoreline Trail's route through the Project Area is considered an improvement and contributes to the finding that the Project would result in a Section 4(f) *de minimis* use of this resource.

Prospect Hill Historic District (PHHD)

The Build Alternative does not involve the use of land from the Prospect Hill Historic District (PHHD), or any of its contributing resources. There would be no acquisition of land, no temporary occupancy of the historic property, and no negative proximity impacts under the Build Alternative. As documented in the Section 106 finding of 'no adverse effect' on the PHHD, indirect effects of proposed work in Front Park would enhance the historic setting by improving the viewshed.

6.6. Avoidance Alternatives

Use of Section 4(f) properties is limited to *de minimis* uses for Front Park and the Shoreline Trail (Riverwalk). "A *de minimis* impact determination … is a finding. It is not an evaluation of alternatives and no avoidance or feasible and prudent avoidance alternative analysis is required." A *de minimis* impact determination does not require the step of including all possible planning to minimize harm because avoidance, minimization, mitigation, or enhancement measures are included as part of the determination (FHWA, 2012).

6.7. Measures to Minimize Harm

The *de minimis* impact findings for Front Park and the Shoreline Trail take into account measures to minimize harm, including avoidance, minimization, and enhancement measures.

The following paragraphs summarize the efforts taken to avoid and minimize impacts to the Section 4(f) resources for this Project. **Chapter 3** of this DEIS details the development of the Build Alternative. **Chapter 7** details the extensive coordination efforts that have taken place and **Appendix H – Section 106 Documentation** details the efforts to identify, evaluate and avoid Section 4(f) resources that are historic properties. Based on input from the public, involved agencies, Consulting Parties, and the City of Buffalo, the following design modifications have been incorporated into the Build Alternative to ensure the avoidance and/or minimization of effects to the maximum extent possible, while still meeting the purpose and need of the Project:

- Proposed green space improvements to Front Park following the removal of Baird Drive would be consistent with and enhance the character of the setting within the Park. Further consultation with the City, the BOPC, and the SHPO would take place during final design to insure maintenance of the historic integrity of the Park and Porter Avenue and for consistency with the City's overall plans for future development of the Park.
- Maintaining the safe passage of users of the Shoreline Trail (Riverwalk) during construction of the Build Alternative would mitigate potential construction-related impacts. Appropriate warning signs and fencing would be installed or erected. NYSDOT has committed to maintaining the Shoreline Trail during construction. Following construction of the Build Alternative, the course of the Shoreline Trail would be modified from its current location to accommodate the new Ramp D configuration and location and improve the experience and safety of the trail's users.

Throughout this Project's scoping and evaluation process, no reasonable alternative have been identified that would avoid Section 4(f) resources entirely. Refinements to the Build Alternative, as presented in this DEIS, reflect the consideration of input from Federal and State agencies, Section 4(f) officials with jurisdiction, Section 106 Consulting Parties, and the general public. The consultation process has contributed to efforts to minimize harm as reflected in *de minimis* impact findings for Front Park and the Shoreline Trail.

6.8. Coordination

Coordination with the New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP) – SHPO has been underway since May 2013 as part of the Section 106 process (NYSDOT 2013a). The request for SHPO concurrence with the assessment of the Project's effects informed the SHPO of FHWA's intent to make a *de minimis* impact finding for Front Park and Porter Avenue based on the written concurrence of the SHPO with a "no adverse effect" determination for these properties under Section 106.

Coordination with the City of Buffalo and the NYS Thruway Authority has also occurred throughout this Project's development. NYSDOT has submitted notice to the City of Buffalo, as the official with jurisdiction over Front Park, informing the City of the intent of FHWA to make a *de minimis* impact finding, and to request the City's written concurrence that the Project would not adversely affect the activities, features, and attributes that qualify Front Park for protection under Section 4(f). NYSDOT submitted a notice to the New York State Thruway Authority (NYSTA), as the official with jurisdiction over the Shoreline Trail (Riverwalk), informing NYSTA of the intent of FHWA to make a *de minimis* impact finding (NYSDOT 2013b). NYSTA informed NYSDOT of its concurrence with FHWA's finding (NYSTA 2013). NYSDOT requested written concurrence from the City of Buffalo that the Project would not adversely affect the activities, features, and attributes that qualify the Shoreline Trail for protection under Section 4(f) (NYSDOT 2013c).

Table 6-3 lists key NYSDOT and FHWA correspondence with Section 4(f) officials with jurisdiction. Copies of the correspondence listed in **Table 6-3** are attached to the end of this Chapter. **Chapter 7** also provides additional discussions on the coordination efforts of the NYSDOT with the cooperating and participating agencies, the City of Buffalo, and other interested parties throughout the project development/design process.

Table 6-3 – Section 4(f) Agency Correspondence

Date	From	To	Subject
Sept. 3, 2013	NYSDOT	FHWA	Request concurrence that Porter Avenue bridge abutments are not eligible for listing on the NRHP and not a Section 4(f) historic site
Sept. 9, 2013	NYSDOT	City of Buffalo	Request the City's written concurrence with FHWA's intent to make a determination that the Project has a *de minimis* effect on Front Park
Sept. 9, 2013	NYSDOT	NYSTA	Request the NYSTA's written concurrence with FHWA's intent to make a determination that the Project has a *de minimis* effect on the Shoreline Trail (formerly Riverwalk)
Sept. 16, 2013	FHWA	NYSDOT	FHWA's concurrent that Porter Avenue bridge abutments are not eligible for listing on the NRHP and not a Section 4(f) historic site
Sept. 19, 2013	NYSTA	NYSDOT	NYSTA's written concurrence with FHWA's intent to make a determination that the Project has a *de minimis* effect on the Shoreline Trail (formerly Riverwalk)
Oct. 28, 2013	NYSDOT	SHPO	Section 106 effects finding for historic properties and notification of FHWA intent to make a *de minimis* impact finding under Section 4(f), based on SHPO concurrence with No Adverse Effect under Section 106
Nov. 8, 2013	City of Buffalo	NYSDOT	City of Buffalo's acknowledgement of the FHWA's intent to make a *de minimis* determination for Front Park
Nov. 12, 2013	FHWA	NYSDOT	No Adverse Effect determination under Section106 and *de minimis* impact determination for Front Park and Shoreline Trail

6.9. Bibliography

City of Buffalo, 2013. Letter dated November 8, 2013 from Steven Stepniak, City of Buffalo Commissioner of Public Works, Parks and Streets. Buffalo, NY, To Daniel Streett, NYSDOT, Albany, NY

Montague and Perrelli. 2013. *Update of Previously Identified Historic Properties and Archaeological Sensitivity, and Proposal for Archaeological Monitoring*, State University of New York at Buffalo (SUNY Buffalo), Department of Anthropology. July 2013.

New York State Department of Transportation (NYSDOT), 2013a. Letter dated June 19, 2013, From Daniel Hitt, NYSDOT, Albany, NY, to John A Bonafide, Technical Preservation Services Bureau, Division for Historic Preservation, NYSOPRHP, Peebles Island State Park, Waterford, NY.

_____, 2013b. Letter dated September 9, 2013, from Daniel Streett, Project Manager, to Michael Shamma, Acting Chief Engineer, New York State Thruway Authority, Albany, New York.

_____, 2013c. Letter dated September 9, 2013, from Daniel Streett, Project Manager, to Mayor Byron Brown, City of Buffalo, New York.

_____, 2013c. Letter dated October 28, 2013, from Daniel Hitt, NYSDOT to John Bonafidem SHPO.

_____, 2013d. Letter dated November 7, 2013, from Daniel Hitt, NYSDOT to Han Anker, FHWA, Albany, New York.

New York State Office of Parks Recreation and Historic Places - SHPO, 2013. Letter dated November 4, 2013, from John Bonafide, SHPO to Daniel Hitt, NYSDOT.

New York State Thruway Authority (NYSTA), 2013. Letter dated September 19, 2013 from Michael Shamma, Acting Chief Engineer, to Daniel Streett, Project Manager, NYSDOT, Albany, New York.

U.S. Department of Transportation, Federal Highway Administration (FHWA), 2012. Section 4(f) Policy Paper. FHWA Office of Planning, Environment, and Realty Project Development and Environmental Review, Washington, D.C., July 20, 2012.

FHWA, 2013a. Letter dated November 7, 2013 from Hans Anker to Daniel Hitt, NYSDOT of Finding Determination of effect needed.

_____, 2013b, Letter Dated November 8, 2013 from Michael Caravan to Daniel Streett, NYSDOT of Section 4(f) De Minimis Concurrence.

Shibley, Robert G. and Lynda H. Schneekloth, editors, 2008, *The Buffalo Olmsted Park System: Plan for the 21st Century*, Buffalo Olmsted Park Conservancy, Buffalo, New York, January 2008, page 54.

ATTACHMENTS

(Letters of Correspondence)

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Chronological Listing of Section 4(f) Correspondence

Date	From:		To:		Subject:
	Name	Agency	Name	Agency	
3-Sep-13	Daniel Hitt	NYSDOT	Hans Anker	FHWA	Request concurrence that Porter Avenue Bridge abutments are not eligible for listing on the NRHP and not a Section 4(f) historic site.
9-Sep-13	Daniel Streett	NYSDOT	Mayor Byron W. Brown	City of Buffalo	Request for written concurrence with FHWA's intent to make a determination of de minimus effect on Front Park
9-Sep-13	Daniel Streett	NYSDOT	Michael A. Shamma	NYS Thruway Authority	Request for written concurrence with FHWA's intent to make a determination of de minimis effect on the Shoreline Trail (formerly Riverwalk)
16-Sep-13	Hans Anker	FHWA	Daniel Hitt	NYSDOT	FHWA's concurrence that Porter Avenue Bridge abutments are not eligible for listing on the NRHP and not a Section 4(f) historic site.
19-Sep-13	Michael Shamma	NYSTA	Daniel Streett	NYSDOT	NYSTA's concurrence with FHWA's determination of a de minimis effects findings on the Shoreline Trail (formerly Riverwalk)
8-Nov-13	Steven Stepniak	City of Buffalo	Daniel Streett	NYSDOT	City of Buffalo's acknowledgement of the FHWA's intent to make a de minimis impact determination for Front Park
12-Nov-13	Hans Anker	FHWA	Daniel Streett	NYSDOT	FHWA's determination of 4(f) de minimus concurrence.

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STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
ALBANY, N.Y. 12232

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JOAN MCDONALD
COMMISSIONER

ANDREW M. CUOMO
GOVERNOR

September 3, 2013

Hans Anker, P.E.
Senior Area Engineer
Federal Highway Administration
Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 719
Albany, New York 12207

RE: NEW YORK GATEWAY CONNECTIONS IMPROVEMENT PROJECT TO THE US PEACE BRIDGE PLAZA
PIN 5760.80 / 13PR02859
CITY OF BUFFALO, ERIE COUNTY, NEW YORK
SECTION 106: DETERMINATION OF ELIGIBILITY – PORTER AVENUE BRIDGE ABUTMENTS

Dear Mr. Anker:

On August 27, 2013, the New York State Department of Transportation submitted an updated evaluation of National Register eligibility for the bridge carrying Porter Avenue over I-190 and CSX (BIN 5512560), to the New York State Historic Preservation Office (SHPO) and the Federal Highway Administration (FHWA). While the bridge was previously determined not eligible for the National Register, it was determined that further research was necessary to evaluate the potential for the masonry abutments to meet the criteria for National Register eligibility as historic structures.

Additional information on the structural history indicates the masonry abutments have undergone significant modification since their original construction as part of a bridge crossing the Erie Canal, ca. 1897. The abutments witnessed a period in the 1950s when the landscape surrounding the abandoned canal was undergoing transformation to accommodate 20th century transportation facilities. New construction for the NYS Thruway and relocation of the NY Central Railroad resulted in modifications to the built environment. This included a loss of physical features associated with the 19th century canal. As such, it is determined that the bridge abutments no longer retain historic integrity of design, setting, feeling, and association, and do not convey the historic character of the former 19th century canal crossing.

Based upon the provided information, the SHPO concurred with the updated evaluation by letter dated August 29, 2013.

We respectfully request FHWA concurrence with the updated determination of eligibility for the Porter Avenue Bridge as not eligible for listing in the National Register of Historic Places. In addition, we request FHWA concurrence that the bridge abutments are not considered a Section 4(f) 'historic site', as defined in 23 CFR Part 774.17.

Mr. Hans Anker, P.E.
September 3, 2013
Page 2

Please forward any questions or comments to my attention at Dan.Hitt@dot.ny.gov.

Sincerely,

DANIEL P. HITT, RLA
(Acting) Co-Director, Office of Environment

Enclosures: SHPO letter – August 29, 2013

cc: Robert Davies, FHWA
John Bonafide, OPRHP / SHPO
Brian Yates, OPRHP / SHPO
Carol Legard, ACHP
Daniel Streett, NYSDOT
Kimberly Lorenz, NYSDOT Region 5
Thomas Donohue, Parsons
James Griffis, E&E, Inc.

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
ALBANY, N.Y. 12232

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JOAN MCDONALD
COMMISSIONER

ANDREW M. CUOMO
GOVERNOR

September 9, 2013

Mayor Byron W. Brown
201 City Hall
Buffalo, NY 14202

Attention: Corporation Counsel Timothy A. Ball

RE: NEW YORK GATEWAY CONNECTIONS IMPROVEMENT PROJECT TO THE US PEACE BRIDGE PLAZA
PIN 5760.80
CITY OF BUFFALO, ERIE COUNTY, NEW YORK
SECTION 4(F) FINDING OF DE MINIMIS IMPACT – FRONT PARK

Dear Mayor Brown:

The New York State Department of Transportation (NYSDOT), in coordination with the Federal Highway Administration (FHWA), is progressing the *New York Gateway Connections Improvement Project to the U.S Peace Bridge Plaza (Project),* a federal-aid transportation project in the City of Buffalo. As part of the Project, NYSDOT is proposing the following work within Front Park:

- Removal of Baird Drive from Front Park, minor landscaping and pathway restoration
- Realignment of the park entrance driveway with Lakeview Avenue at a signalized intersection

Attached for your information are preliminary plans showing proposed work in Front Park.

As a publicly owned park, Front Park qualifies for protection under Section 4(f) of the U.S. Department of Transportation Act of 1966, implemented by the FHWA through its regulation, 23 CFR Part 774. The purpose of this letter is to inform the City of Buffalo, as the official with jurisdiction over Front Park, of the intent of FHWA to make a *de minimis* impact finding based on the City's written concurrence that the Project will not adversely affect the activities, features, and attributes that qualify Front Park for protection under Section 4(f).

Under the provisions of Section 6009(a) of the *Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users* (SAFETEA-LU), a *de minimis* impact finding includes the consideration of any avoidance, minimization, mitigation, or enhancement measures that are incorporated in a project. In other words, a *de minimis* impact finding is made on the basis of the net impact on the Section 4(f) property.

Mayor Byron W. Brown
September 9, 2013
Page 2

The Project includes the relocation of the Front Park entrance from Porter Avenue, aligning the new driveway entrance with the intersection of Lakeview Terrace. This will provide improved vehicular access and pedestrian safety, with crosswalks at a signalized intersection. Compared to existing conditions, the realigned driveway would add a minimum amount of new pavement within existing parkland (0.1 acres). When compared with the removal of existing park driveway and Baird Drive, this change would result in a net gain of 1.8 acres of existing pavement removed and returned to parkland. In coordination with FHWA, we have determined that the proposed realignment of the park entrance constitutes a transportation use of Front Park which does not adversely affect the activities, features, or attributes of the Section 4(f) property.

The NYSDOT respectfully requests the written concurrence of the City of Buffalo, as required for FHWA to make a *de minimis* impact determination. In your letter, please state the following:

> "The City of Buffalo concurs that the New York Gateway Connections Improvement Project to the US Peace Bridge Plaza will not adversely affect the activities, features, or attributes that qualify Front Park for protection under Section 4(f), and acknowledges FHWA's intent to make a *de minimis* impact determination for Front Park."

To maintain the current Project schedule, we would appreciate your response by September 20, 2013. Thank you for your cooperation and continued support on this Project. If you should have any questions or comments, please feel free to contact me at DANIEL.STREETT@DOT.NY.GOV or (518) 485-8227.

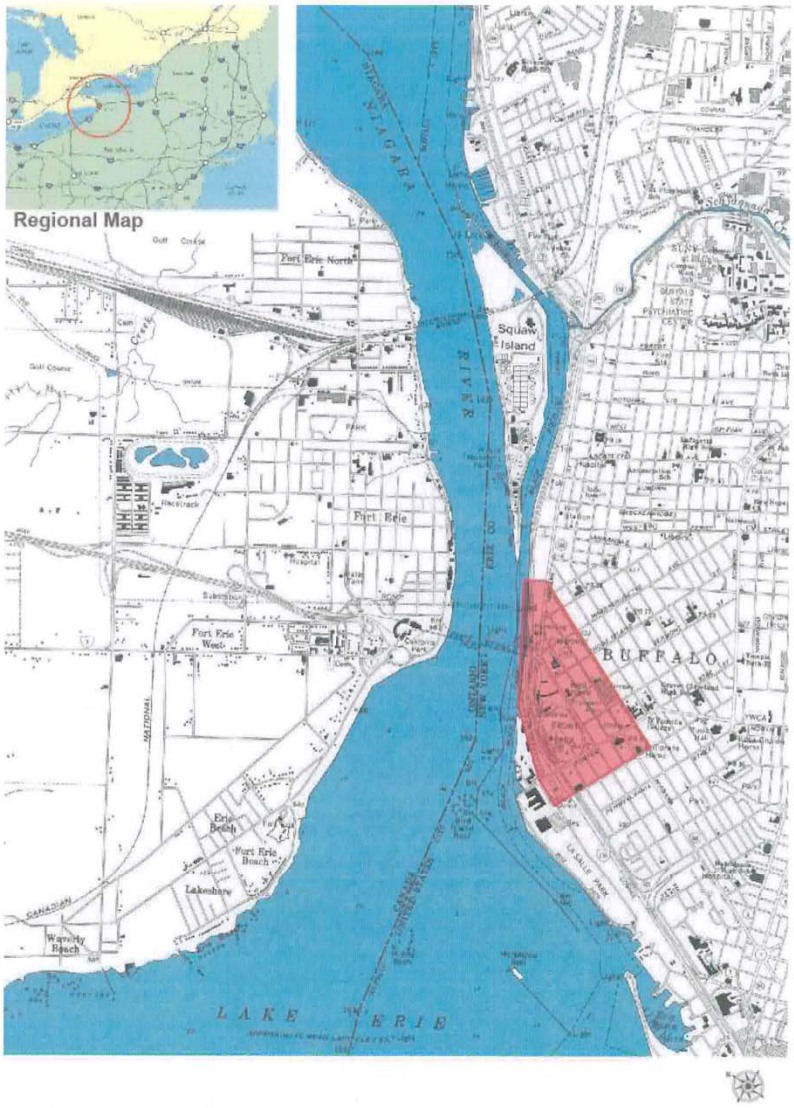
Sincerely,

DANIEL STREETT, P.E. & L.S.
NYSDOT Project Manager

Enclosures

cc: Robert Davies, FHWA
Hans Anker, FHWA
Steven Stepniak, City of Buffalo
Maria Lehman, NYSTA
Daniel Hitt, NYSDOT
Craig Mozrall, NYSDOT
Kimberly Lorenz, NYSDOT
Thomas Donohue, Parson
James Griffis, E&E, Inc.

Project Location – New York Gateway Connections Improvement Project to the US Peace Bridge Plaza



Porter Ave.
Busti Avenue
Lakeview Ave.
4th St.
LaSalle Park
N
Columbus Pkwy W
Front Park
CSX Railroad
Northbound
Southbound
Riverwalk
RAMP SD
RAMP PN
RAMP P
RAMP N
RAMP B
RAMP A
Vermont St.
Commercial Building
Rhode Island St.
US Peace Bridge Plaza
FIS Building
RAMP C
RAMP D
RAMP S
Pumping Station Access Driveway
Massachusetts Ave
190
Proposed Work Elements
1. New Ramp D to I-190 NB.
2. Removal of Baird Drive from Front Park. minor landscaping and pathway restoration. Relocation of the park entrance to Porter Avenue/ Lakeview Avenue intersection.
3. New Ramp PN connecting Porter Avenue to Ramp N.
4. Minor modifications of Ramps A, C, N and P.
5. New access from Porter Avenue to Ramps P & PN by either:
i. New signalized intersection, or
ii. New roundabout
6. Possible replacement of Porter Avenue Bridge over I-190 and CSX.
7. Possible relocation of Riverwalk (aka Shoreline Trail) over I-190 and CSX.
8. New sidewalk/bike pathway along south side of Porter Avenue.
Conceptual Plan - August 8, 2013
NY Gateway Connection Improvements to the US Peace Bridge Plaza

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
ALBANY, N.Y. 12232

WWW.DOT.NY.GOV

JOAN MCDONALD
COMMISSIONER

ANDREW M. CUOMO
GOVERNOR

September 9, 2013

Mr. Michael A. Shamma, P.E.
Acting Chief Engineer
New York State Thruway Authority
200 Southern Boulevard
P.O. Box 189
Albany, NY 12201-0189

RE: **NEW YORK GATEWAY CONNECTIONS IMPROVEMENT PROJECT TO THE US PEACE BRIDGE PLAZA**
PIN 5760.80
CITY OF BUFFALO, ERIE COUNTY, NEW YORK
SECTION 4(F) FINDING OF DE MINIMIS IMPACT - RIVERWALK (SHORELINE TRAIL)

Dear Mr. Shamma:

The New York State Department of Transportation (NYSDOT) is progressing PIN 5760.80, the *New York Gateway Connections Improvement Project to the U.S Peace Bridge Plaza*, a federal-aid transportation project in the City of Buffalo. As part of the Project, NYSDOT is considering the possible relocation of a section of the Riverwalk (Shoreline Trail) to the northwest of its current location, including a new crossing over I-190 (Niagara Expressway) and CSX Rail Road just south of the Peace Bridge. The proposed relocation of the Riverwalk, shown on the enclosed "Conceptual Plan" as number 7, would accommodate the construction of a proposed new Ramp D to provide direct access from the US Peace Bridge Plaza to I-190 northbound.

The Riverwalk is a publicly owned resource, located in the Interstate (I-190) right-of-way within the project limits. Based on its use as a recreational bicycle and pedestrian facility, the Federal Highway Administration (FHWA) has determined that the Riverwalk is a Section 4(f) resource, subject to Section 4(f) of the Department of Transportation Act of 1966 and the FHWA implementing regulation, 23 CFR Part 774. The purpose of this letter is to inform the New York State Thruway Authority, as the official with jurisdiction over the Riverwalk, of the intent of FHWA to make a *de minimis* impact finding based on the written concurrence of the Thruway Authority that the Project will not adversely affect the activities, features, and attributes that qualify the Riverwalk for protection under Section 4(f).

Under the provisions of Section 6009(a) of the *Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users* (SAFETEA-LU), a *de minimis* impact finding includes the consideration of any avoidance, minimization, mitigation, or enhancement measures that are incorporated in a project. In other words, a *de minimis* impact finding is made on the basis of the net impact on the Section 4(f) property.

Mr. Michael A. Shamma, P.E.
September 9, 2013
Page 2

The proposed realignment of the Riverwalk would cross the railroad right-of-way and I-190 to the north of the existing bridge over the railroad right-of-way, eliminating the need to cross I-190 via a tunnel, and connect with a new section of the pathway along the shoreline of the Black Rock Canal before rejoining the existing pathway where it connects with the existing tunnel. NYSDOT is committed to maintaining the Riverwalk during construction, with temporary restrictions or minor rerouting anticipated for safety reasons. Full and unrestricted use of the relocated pathway will resume following construction of the new bridge over I-190 and the CSX rail line. The permanent realignment of the Riverwalk through the Project Area will improve the safety and experience of its users by relocating a section of the route directly along the waterfront.

In coordination with FHWA, we have determined that the proposed realignment of the Riverwalk within the Project Area constitutes a transportation use of the Riverwalk which does not adversely affect the activities, features, or attributes of the Section 4(f) property. The NYSDOT respectfully requests the written concurrence of the Thruway Authority, as required for FHWA to make a *de minimis* impact determination. In your letter, please state the following:

> "The New York State Thruway Authority concurs that the New York Gateway Connections Improvement Project to the US Peace Bridge Plaza will not adversely affect the activities, features, or attributes that qualify the Riverwalk for protection under Section 4(f), and acknowledges FHWA's intent to make a *de minimis* impact determination for the Riverwalk.

To maintain the current Project schedule, we would appreciate your response by September 20, 2013. Thank you for your cooperation and continued support on this Project. If you should have any questions or comments, please feel free to contact me at DANIEL.STREETT@DOT.NY.GOV or (518) 485-8227.

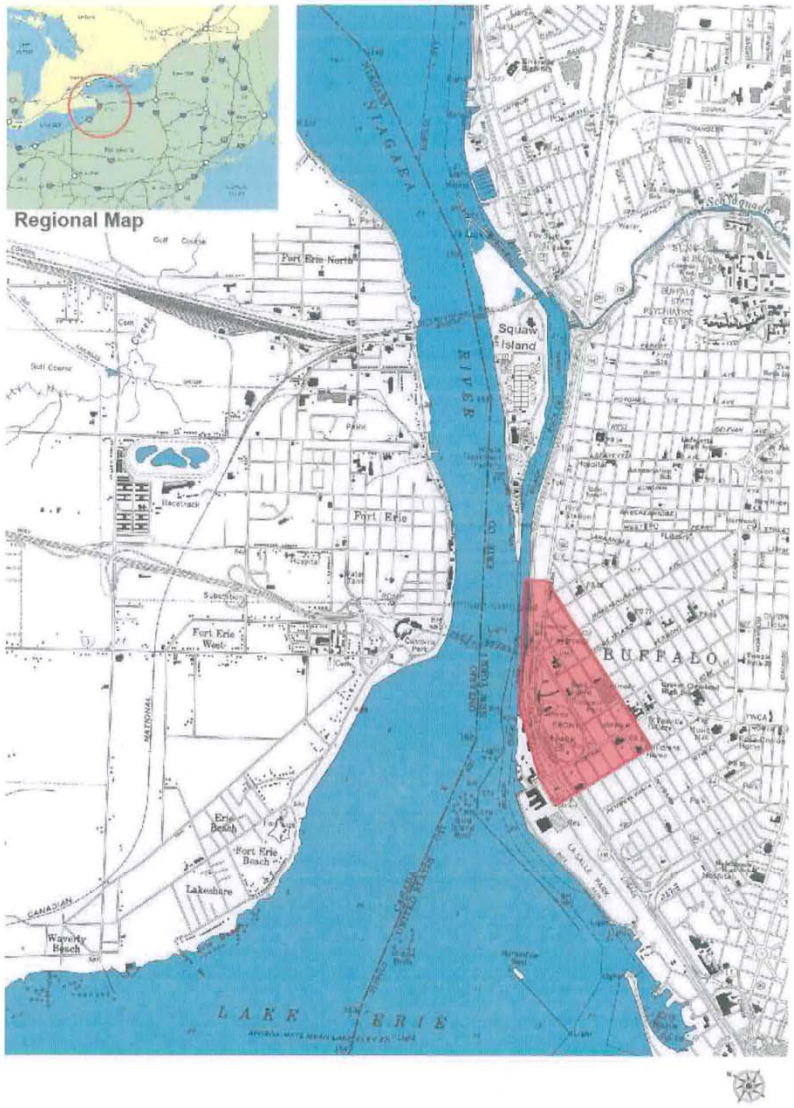
Sincerely,

DANIEL STREETT, P.E. & L.S.
NYSDOT Project Manager

Enclosures

cc: Mayor Byron W. Brown, City of Buffalo
Mr. Peter J. Merlo, City Engineer
Robert Davies, FHWA
Hans Anker, FHWA
Maria Lehman, NYSTA
Daniel Hitt, NYSDOT
Craig Mozrall, NYSDOT
Kimberly Lorenz, NYSDOT
Thomas Donohue, Parson
James Griffis, E&E, Inc.

Project Location – New York Gateway Connections Improvement Project to the US Peace Bridge Plaza



Porter Ave.
Busti Avenue
Lakeview Ave.
4th St.
LaSalle Park
Columbus Pkwy W
Front Park
CSX Railroad
Northbound
Southbound
Riverwalk
RAMP SD
RAMP PN
RAMP P
RAMP N
RAMP B
RAMP A
Columbus Parkway
Busti Avenue
Vermont St.
Commercial Building
US Peace Bridge Plaza
FIS Building
RAMP C
RAMP N
RAMP D
RAMP S
Pumping Station Access Driveway
Riverwalk
Rhode Island St.
Massachusetts Ave
190
Proposed Work Elements
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7. Possible relocation of Riverwalk (aka Shoreline Trail) over I-190 and CSX.
8. New sidewalk/bike pathway along south side of Porter Avenue.
Conceptual Plan - August 8, 2013
NY Gateway Connection Improvements to the US Peace Bridge Plaza

U.S. Department of Transportation
Federal Highway Administration

New York Division

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11A Clinton Avenue, Suite 719
Albany, NY 12207
518-431-4127
518-431-4121
NewYork.FHWA@dot.gov

September 16, 2013

In Reply Refer To:
HED-NY

Mr. Daniel Hitt
Acting Co-Director, Office of Environment
New York State Department of Transportation
50 Wolf Road, POD 4-1
Albany, NY 12232

Subject: PIN 5760.80 N.Y. Gateway Connections Improvement Project to the U.S. Peace Bridge Plaza, City of Buffalo, Erie County, Section 106–Determination of Eligibility

Dear Mr. Hitt:

We have reviewed your September 3 letter and SHPO concurrence letter dated August 29 regarding the determination of eligibility for the Porter Avenue Bridge Abutments on the subject project. For the reasons outlined, we concur with your determination that the Porter Avenue Bridge is not eligible for listing in the National Register of Historic Places. In addition, we concur that the bridge abutments are not a Section 4(f) 'historic site' as defined in 23 CFR Part 774.17.

If you have any questions, please contact me at (518) 431-8896.

Sincerely,

Hans Anker, P.E.
Senior Area Engineer

cc: John Bonafide, New York State Office of Parks, Recreation, and Historic Preservation
Carol Legard, ACHP
Daniel Street, NYSDOT
Kimberly Lorenz, NYSDOT Region 5

New York State Thruway Authority
New York State Canal Corporation

Howard P. Milstein
Chairman

200 Southern Boulevard, Post Office Box 189
Albany, New York 12201-0189
www.thruway.ny.gov
(518) 436-2700

Thomas J. Madison, Jr.
Executive Director

September 19, 2013

Daniel Streett, P.E. and L.S.
Project Manager
New York State Department of Transportation
50 Wolf Road
Albany, NY 12232

Dear Mr. Streett:

Thank you for your letter regarding the New York Gateway Connections Improvement Project to the US Peace Bridge Plaza.

The Authority has reviewed material provided related to the possible relocation of a section of the Riverwalk (Shoreline Trail) in order to accommodate the construction of a proposed new ramp to provide direct access from the US Peace Bridge Plaza to I-190 northbound.

Based on the information provided, the New York State Thruway Authority concurs that the New York Gateway Connections Improvement Project to the US Peace Bridge Plaza will not adversely affect the activities, features, or attributes that qualify the Riverwalk for protection under Section 4(f), and acknowledges the Federal Highway Administration's intent to make a *de minimis* impact determination for the Riverwalk.

The Authority looks forward to continuing to work with the NYS Department of Transportation on this important project and providing support as necessary.

Sincerely,

for Michael A. Shamma, P.E.

cc: Mayor Byron W. Brown, City of Buffalo
Mr. Peter J. Merlo, City Engineer
Robert Davies, FHWA
Hans Anker, FHWA
Maria Lehman, NYSTA
Daniel Hitt, NYSDOT
Craig Morzall, NYSDOT
Kimberly Lorenz, NYSDOT
Thomas Donohue, Parson
James Griffis, E&E, Inc
Thomas Pericak, NYSTA

DEPARTMENT OF ENGINEERING
MICHAEL A. SHAMMA, P.E., Acting Chief Engineer
Phone (518) 436-2810
Fax (518) 436-3060

CITY OF BUFFALO

DEPARTMENT OF
PUBLIC WORKS, PARKS & STREETS

BYRON W. BROWN
MAYOR

STEVEN J. STEPNIAK
COMMISSIONER

PETER J. MERLO, P.E.
CITY ENGINEER

November 8, 2013

Mr. Daniel Streett
Project Manager
NYSDOT Engineering Division
50 Wolf Road
FL 6 - AVE A - 6th ST - Room 6E41
Albany, New York 12232

Re: New York Gateway Connections Improvement Project To The US Peace Bridge Plaza
Pin 5760.80
City Of Buffalo, Erie County, New York
Section 4(F) Finding of *de minimis* Impact – Front Park

Dear Mr. Streett:

The City of Buffalo is in receipt of your letter dated September 9, 2013, regarding the New York Gateway Connections Improvement Project to the US Peace Bridge Plaza.

The City has reviewed materials provided related to proposed work in Front Park as part of the Project, including the removal of Baird Drive with minor landscaping and pathway restoration. The Project also proposes the relocation of the Front Park entrance, aligning the new driveway entrance on Porter Avenue with the intersection of Lakeview Terrace. This will provide improved vehicular access and pedestrian safety, with crosswalks at a signalized intersection.

Based on the information provided, the City of Buffalo concurs that the New York Gateway Connections Improvement Project to the US Peace Bridge Plaza will not adversely affect the activities, features, or attributes that qualify Front Park for protection under Section 4(f), and acknowledges FHWA's intent to make a *de minimis* impact determination for Front Park.

The City looks forward to continuing work with the NYS Department of Transportation on this project and providing support as needed.

Very truly yours

Steven Stepniak
Commissioner

65 NIAGARA SQUARE / 502 CITY HALL / BUFFALO, NY 14202-3373 / (716) 851-5636 / FAX: (716) 851-4201 / Email: sstepniak@city-buffalo.com

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U.S. Department of Transportation
Federal Highway Administration

New York Division

Leo W. O'Brien Federal Bldg.
Suite 719
Albany, NY 12207
518-431-4127
518-431-4121 (fax)
NewYork.fhwa@dot.gov

November 12, 2013

In Reply Refer To:
HED-NY

Mr. Daniel Streett
Chief Engineer's Office – 6th Floor
New York State Department of Transportation
50 Wolf Road, Room 6E41
Albany, NY 12232

Subject: PIN 5760.80
NY Gateway Connections Improvement Project to the US Peace Bridge Plaza
City of Buffalo, Erie County, New York
Section 4(f) De Minimis Determination – Front Park and Shoreline Trail

Dear Mr. Streett:

At the request of the New York State Department of Transportation (NYSDOT), we have reviewed submitted information for the NY Gateway Connections Improvement Project to the US Peace Bridge Plaza (Project), regarding the use of two Section 4(f) properties, Front Park and the Shoreline Trail.

Front Park
As a publicly owned park, Front Park qualifies for protection under Section 4(f) of the U.S. Department of Transportation Act of 1966, implemented by the FHWA through its regulation, 23 CFR Part 774. The Federal Highway Administration (FHWA) has determined that the proposed realignment of the park entrance constitutes a *de minimis* use of Front Park which does not adversely affect the activities, features, or attributes that qualify Front Park for protection under Section 4(f). In a letter dated November 8, the City of Buffalo, as the official with jurisdiction over the public park, concurred in writing, acknowledging the intent of FHWA to make a *de minimis* impact determination.

As a property listed in the National Register of Historic Places, Front Park also qualifies as a Section 4(f) 'historic site'. The proposed work in Front Park meets the *de minimis* impact criteria based on a *No Adverse Effect* determination under Section 106, in accordance with 36 CFR 800.5(a)(1). On November 4, the New York State Historic Preservation Office (SHPO) concurred with the *No Adverse Effect* in writing, acknowledging the intent of FHWA to make a Section 4(f) *de minimis* impact determination based on the Section 106 finding.

Shoreline Trail
FHWA has determined that the Shoreline Trail (aka Riverwalk), publicly-owned land opened to the public, qualifies as a Section 4(f) property based on its value as a recreational resource. The proposed relocation of a segment of the Shoreline Trail meets the Section 4(f) de minimis impact

criteria for parks, recreational areas, wildlife and waterfowl refuges. The proposed use of this resource will not will not adversely affect the features, attributes, or activities that qualify the Shoreline Trail for protection under Section 4(f). In a letter dated September 19, 2013, the NYS Thruway Authority concurred in writing, acknowledging the intent of FHWA to make a *de minimis* impact determination.

In addition, the public has been afforded the opportunity to comment on the effects of the project on these resources during a public scoping meeting on June 11, a public informational meeting on October 15, and will have an opportunity to comment during the 30 day public comment period for the Draft Environmental Impact Statement and Public Hearing on December 18.

In summary, FHWA determines that the proposed use of Section 4(f) properties for the subject project constitutes a *de minimis* impact on both Front Park and the Shoreline Trail, and the requirements of 23 CFR 774 have been satisfied.

If you have any questions or concerns, please contact me at 518-431-8896.

Sincerely,

Hans Anker, P.E.
Senior Area Engineer

cc:
John Bonafide, New York State Office of Parks, Recreation, and Historic Preservation
Carol Legard, ACHP
Daniel Street, NYSDOT
Mary Santangelo, NYSDOT
Kimberly Lorenz, NYSDOT Region 5