

Niagara Gorge Corridor

***Robert Moses Parkway Removal
Main Street to Findlay Drive
Niagara Falls, NY***

Design Report/ Environmental Assessment

Appendix I - Air Quality Study

PIN 5761.90

July 2016

In cooperation with:

**New York State Department of Transportation
New York Power Authority
USA Niagara Development Corporation
The City of Niagara Falls, NY**

**NIAGARA GORGE CORRIDOR,
ROBERT MOSES PARKWAY REMOVAL PROJECT:
MAIN STREET TO FINDLAY DRIVE
NIAGARA FALLS, NIAGARA COUNTY, NEW YORK**

AIR QUALITY STUDY

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- Attachment A:** Location Maps
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I. INTRODUCTION

The proposed project is located in the City of Niagara Falls, Niagara County, New York, as shown in the regional and site location maps in Attachment A. The project area covered in this air quality study includes approximately 2.0 miles of Robert Moses Parkway (RMP) beginning at Main Street near the Rainbow Bridge, and terminating at Findlay Drive at the southern limit of DeVeaux Woods State Park. This air quality study uses the New York State Department of Transportation (NYSDOT) Environmental Procedures Manual (EPM) Chapter 1.1, Section 9 to determine if detailed air quality analysis is required.

II. PROJECT DESCRIPTION

Niagara County is currently in attainment with the National Ambient Air Quality Standards (NAAQS). The Build Alternative for this project entails proposed improvements to the Niagara Gorge Corridor (NGC) between Main Street and Findlay Drive. These improvements are focused on the complete removal of the existing Robert Moses Parkway within that segment, including both the two-lane limited-access roadway currently in operation and the previous two-lane limited-access roadway currently operating as a pedestrian and bicycle facility. It is anticipated that most of the vehicular traffic using the existing roadway would utilize Main Street at the southern end and a reconstructed Third Street / Whirlpool Street, which would intersect with Findlay Drive at the northern end, and then extended northward a short distance to transition back with the existing RMP.

At the southern end of the project, primary access from Main Street to the Discovery Center would be provided via an extended First Street, while access to the new Parks Police Station would be via Whirlpool Street and Walnut Street. Access to the City's Pump Station would be via a rerouted Service Drive connecting to Third Street. These improvements allow for an open pedestrian greenspace between the Aquarium and the Discovery Center. Reconstruction of Third and Whirlpool Streets is proposed to include new pavement to accommodate two 12'-wide travel lanes with on-street parking at certain locations, as well as new curbing, sidewalks, landscaping and signage. Several locations along Whirlpool Street would be enhanced to include gateway features to highlight entrances into the new greenspace made available by the removal of the RMP. At the proposed intersection with Findlay Drive, a stop sign on Findlay Drive would be provided at the point where it meets the extended Whirlpool Street as a T-intersection.

Other improvements proposed as part of the Build Alternative include: a new multi-modal trail designed to provide uninterrupted pedestrian and bicycle access to all greenway attractions; reconstructed parking and other improvements related to overlooks at several locations along the Gorge Rim; and native landscape restoration in all areas where existing pavement is to be removed.

III. CO MICROSCALE AIR QUALITY ANALYSIS

The Carbon Monoxide (CO) microscale air quality analysis is based on the Air Quality - Project Environmental Guidelines, Chapter 1.1 of the EPM published by the NYSDOT in January 2001 and updated in December 2012. The need for the CO microscale analysis was determined using the screening procedures outlined in the EPM. The microscale screening process is a three part

procedure. As the Build Alternative traffic patterns for this project will mimic Build Alternative 3 traffic as presented in the *Niagara Gorge Corridor Project Final Scoping Report*¹ (*Final Scoping Report*), the microscale screening for this project was completed using the results of the Build Alternative 3 traffic analysis.

A. Step 1: Level of Service Screening

Step One is a Level of Service (LOS) screening. If any intersection or roadway within the project area experiences a LOS D, E, or F, for ETC, ETC+10, or ETC+20 for the Build Alternative, the screening process of that intersection continues on to Step Two. If all intersections are found to have a LOS of C or better, the screening process ends.

Level of Service analysis of the project area was conducted for the Build Alternative. For this project, the intersection of Findlay Drive and Lewiston Road is anticipated to experience a LOS D for the Build Alternative.

B. Step 2: Capture Screening Criteria

Step Two involves capture criteria screening. The intersections and roadways not passing Step One are screened to determine if there is a 10% reduction in source-receptor distance, 10% increase in traffic volume on affected roadways, 10% increase in vehicle emissions factors over the No Build Alternative, any increase in the number of queued lanes, or a 20% reduction in speed. If any of these criteria are met, the screening process continues on to Step Three.

The intersection of Findlay Drive / Lewiston Road would experience a 10% increase in traffic volume on Lewiston Road south approach and was therefore carried on to Step Three.

C. Step 3: Volume Threshold Screening

Step Three is a volume threshold screening. This step uses project specific speeds to determine the volume threshold for the intersection or roadway. The volume threshold is the volume below which a violation of the National Ambient Air Quality Standards (NAAQS) for carbon monoxide is extremely unlikely. None of the intersections for this project were found to exceed the volume threshold during 2040 peak hour volumes.

A microscale air quality analysis is not necessary since this project will not increase traffic volumes, reduce source-receptor distances, or change other existing conditions to such a degree as to jeopardize attainment of the National Ambient Air Quality Standards.

IV. MESOSCALE AIR QUALITY ANALYSIS

Some transportation projects may have a significant effect on traffic conditions over a large area. Such large projects would warrant consideration of regional air quality impacts of the project. The five pollutants of concern are Carbon Monoxide (CO), Nitrogen Oxides (NOx),

¹ New York State Office of Parks, Recreation and Historic Preservation, *Niagara Gorge Corridor Project Final Scoping Report - PIN 5757.91.121*, (October 2013).

Volatile Organic Compounds (VOCs), particulate matter under 2.5 micrometers (PM_{2.5}), and particulate matter under 10 micrometers (PM₁₀). CO is a colorless, odorless, tasteless gas formed in large part by incomplete combustion of fuel. NO_x is a collective term for all compounds of nitrogen and oxygen. VOCs come from vehicle exhaust, paint thinners, solvents and other petroleum-based products. A number of exhaust VOCs are also toxic, with the potential to cause cancer. Ground level ozone (O₃), the primary component of smog, is formed by the reaction of NO_x and VOCs with heat and sunlight. Particulate matter includes airborne particles such as dust, dirt, soot, smoke, and liquid droplets directly emitted into the air.

Chapter 1.1 of the EPM outlines the criteria for projects requiring a mesoscale air quality analysis. These criteria identify projects that would have significant impact on emissions on a regional level. The project will divert traffic from the existing Robert Moses Parkway to other existing roads in the area, including Whirlpool Street and Main Street. While individual road segments will experience an increase of vehicles during the peak hour, the Build Alternative regional vehicle miles travelled (VMT) will be reduced by 0.81% as shown in Attachment B.

This project is located within an attainment area and the Build Alternative will not result in significantly different vehicle miles traveled. Therefore, this project does not require a quantitative mesoscale air quality analysis.

V. CONSTRUCTION AIR QUALITY

Particulate matter includes airborne particles such as dust, dirt, soot, smoke, and liquid droplets directly emitted into the air by sources such as factories, power plants, cars, construction activity, fires and natural windblown dust. Non-road emissions result from a variety of sources including vehicles and equipment associated with transportation construction projects.

Any temporary increase in particulate matter emission levels resulting from construction activities is self-correcting once the project is completed. However, projects with traffic detours in place for extended periods of time may warrant the modeling of carbon monoxide or particulate matter impacts from construction. The EPM states that the need for modeling of construction emissions is based on the same criteria for determining the need for an air quality analysis. If the project is expected to have traffic diversions lasting 2 years or more at any one location, and meets the criteria for an air quality analysis, an analysis of the detour conditions should be performed.

The anticipated construction detours for this project are expected to last less than 2 years at any given location. Therefore, an air quality analysis of construction impacts is not necessary. During construction, airborne particulates can be controlled through wetting of soil surfaces and covering of trucks and other dust sources. These requirements will be included as part of the specifications of the construction contract.

VI. PROJECT LEVEL CONFORMITY

Under the requirements of the Clean Air Act Amendments of 1990 (CAAA90), the impact of certain transportation projects on air quality must be studied to determine if they conform to the

purpose of the State Implementation Plan which is the attainment of the NAAQS. The transportation conformity regulation, "Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Funded, Developed or Approved Under Title 23 U.S.C. or the Federal Transit Act" (40 CFR Parts 6, 51 and 93), is used for conformity determinations.

As of July 20, 2013, Niagara County is in attainment with all current NAAQS. Therefore, this project is not subject to project level conformity requirements. The project is listed in the Greater Buffalo-Niagara Regional Transportation Council (GBNRTC) 2014-2018 Transportation Improvement Plan (TIP). As a result of the Niagara County attainment status, the GBNRTC was not required to make a transportation conformity determination under the new 2008 8-Hour Ozone NAAQS.

VII. SUMMARY

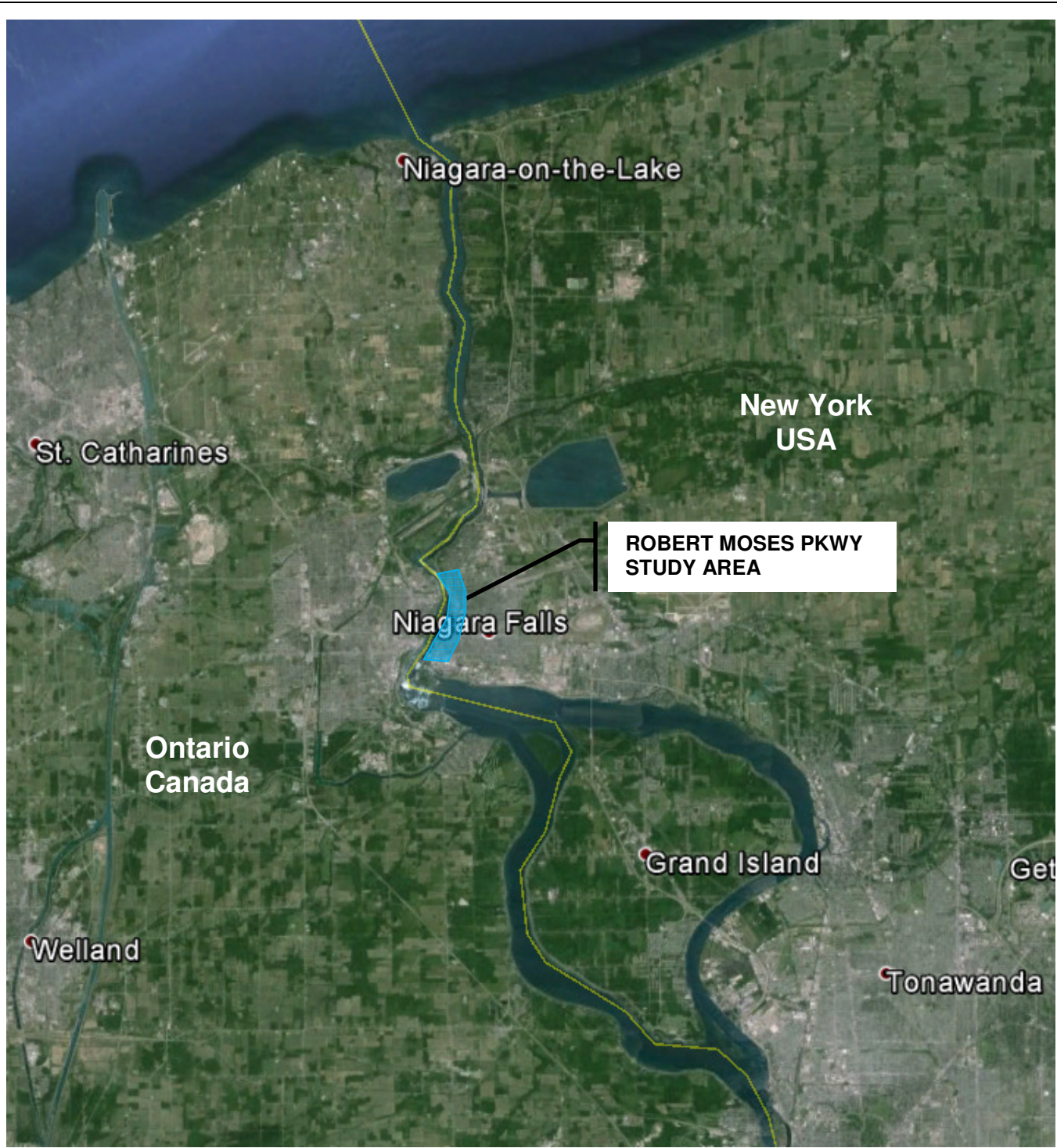
The air quality analysis has followed the methodology as described in NYSDOT's Air Quality Chapter in the EPM. The need for both microscale and mesoscale analyses was screened using these guidelines.

The microscale screening process determined that the volume threshold would not be exceeded at any intersection or free flow traffic segment within the project during ETC, ETC+10, or ETC+20 peak hour volumes. The mesoscale screening process determined that the project will not have a significant impact on air quality emissions on a regional basis.

An air quality analysis is not necessary since this project will not increase traffic volumes, reduce source-receptor distances, or change other existing conditions to such a degree as to jeopardize attainment of the NAAQS.

Airborne particulates caused by construction, can be controlled through appropriate precautionary measures, commonly included in the standard specifications.

ATTACHMENT A
LOCATION MAP



AIR QUALITY STUDY
ROBERT MOSES PKWY REMOVAL PROJECT
NIAGARA FALLS, NY

FIGURE 1:
REGIONAL LOCATION
MAP

JUNE 2015



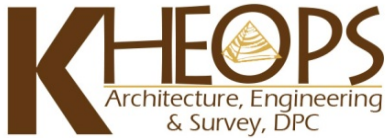
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NIAGARA FALLS, NY**

**FIGURE 2:
SITE LOCATION MAP**

JUNE 2015

ATTACHMENT B

MESOSCALE AIR QUALITY SCREENING



JOB TITLE Robert Moses Parkway North
 JOB NO. 14NY147
 CALCULATED BY GMW DATE 5/13/2015
 CHECKED BY _____ DATE _____

Mesoscale Air Quality Screening

Sheet No. 1 of 1

Roadway	Segment	Length [MI]	No Build		Build Alternative	
			2040 PM Vol.	VMT	2040 PM Vol.	VMT
Robert Moses Pkwy	Main St to Findlay Dr	1.91	307	586	0	0
	Findlay Dr to Lewiston Rd	1.54	428	659	348	536
	Lewiston Rd to Upper Mtn Rd	1.36	426	579	272	370
	Upper Mtn Rd to Ridge Rd	1.87	463	866	430	804
Main St	Rainbow Blvd to 3rd St	0.27	637	172	699	189
	3rd St to Pine Ave	0.24	485	116	547	131
	Pine Ave to Portage Rd	0.56	430	241	492	276
	Portage Rd to Lockport Rd	0.06	549	33	611	37
	Lockport Rd to Ontario Ave	0.42	457	192	519	218
	Ontario Ave to Findlay Dr	0.54	499	269	561	303
Whirpool St	3rd St to Ontario Ave	1.22	267	326	450	549
	Ontario Ave to Findlay Dr	0.55	147	81	330	182
Lewiston Rd	Findlay Dr to Colege Ave	0.43	481	207	499	215
	College Ave to RMP	0.85	371	315	389	331
	RMP to Hyde Park Blvd	0.32	368	118	460	147
	Hyde Park Blvd to Upper Mtn	1.07	1049	1122	1203	1287
	Upper Mtn Rd to Military Rd	0.65	1024	666	1057	687
	Military Rd to Creek Rd Ext	0.5	2156	1078	2189	1095
	Creek Rd Ext to Ridge Rd	0.59	1050	620	1083	639
Portage Rd	Buffalo Ave to 11th St	1.27	653	829	719	913
	11th St to Main St	0.19	218	41	218	41
11th St	Portage Rd to Lockport Rd	0.42	580	244	606	255
	Lockport Rd to Ontario Ave	0.26	574	149	600	156
Highland Ave	Ontario Ave to College Ave	0.94	462	434	488	459
	College Ave to Hyde Park Blvd	0.53	313	166	339	180
Hyde Park Blvd	Highland Ave to Lewiston Rd	0.47	570	268	632	297
TOTAL VMT			10378	10294		
% CHANGE VMT			N/A	-0.81%		

