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Indirect and Cumulative Impacts

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Acronyms/Abbreviations

ADA.....	American with Disabilities Act
AASHTO.....	American Association of State Highway and Transportation Officials
CEQ.....	Council on Environmental Quality
EIS.....	Environmental Impact Statement
GBNRTC.....	Greater Buffalo-Niagara Regional Transportation Council
NEPA.....	National Environmental Policy Act
SEQRA.....	State Environmental Quality Review Act
TOD.....	transit-oriented development

20 Indirect and Cumulative Impacts

This chapter presents the results of the analysis of indirect and cumulative effects associated with the Proposed Action. The analysis was performed in accordance with the State Environmental Quality Review Act (SEQRA) and the Council on Environmental Quality (CEQ) regulations that implement the National Environmental Policy Act of 1969 (NEPA).

20.1 REGULATORY CONTEXT

SEQRA regulations require the consideration of a proposed action's potential to result in cumulative impacts (6 NYCRR 617.9(b)(5)(a)) and secondary or indirect impacts (6 NYCRR 617.9(b)(5)(d)).

CEQ regulations implementing NEPA, set forth in 40 CFR Parts 1500–1508, require federal agencies to consider the potential for indirect and cumulative impacts from a proposed action. As defined in the regulations, indirect impacts are those that are “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 and water and other natural systems, including ecosystems” (40 CFR § 1508.8(b)). By comparison, direct effects are “caused by the action and occur at the same time and place” (40 CFR § 1508.8(a)). Indirect effects can occur in any of the analysis areas evaluated in an Environmental Impact Statement (EIS), such as changes in land use, economic vitality, neighborhood character, traffic congestion, air quality, noise, vibration, and water and natural resources.

Cumulative impacts (effects) result from the incremental consequences of an action when added to other past, present, and reasonably foreseeable future actions (40 CFR § 1508.7). The CEQ regulations state, “cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” The direct effects of an individual action could be negligible, but could contribute to a measurable environmental impact when considered cumulatively with other past, present, and/or future projects.

20.2 METHODOLOGY

The analysis in this chapter is intended to be consistent with NEPA and SEQRA requirements and the following guidance:¹

- *Considering Cumulative Effects under the National Environmental Policy Act*, CEQ Executive Office of the President, 1997
- “Guidance on the Consideration of Past Actions in Cumulative Effects Analysis”, CEQ, 2005
- *Assessing Indirect Effects and Cumulative Impacts Under NEPA*, American Association of State Highway and Transportation Officials (AASHTO), August 2016

The basic steps for the indirect effects analysis include the following:

- Identify, as the study area, the geographic area that would benefit from the mobility improvements and increased accessibility (i.e., faster travel times and/or a more convenient commute) provided by a proposed action.
- Assess the project’s potential to induce growth in the study area.
- Evaluate the potential environmental impacts that would result from induced growth.
- Identify measures to mitigate or minimize the potential environmental impacts (if required).

The basics steps for the cumulative impacts analysis include the following:

- Identify the study area to be considered for the cumulative impacts analysis.
- Summarize potential effects of a proposed action (direct and indirect effects) on sensitive resources in the study area.
- List other past, present, and reasonably foreseeable actions and their effects on the sensitive resources in the study area.
- Review the current health of each resource in terms of the past and present actions and identify and assess any current trends and future projects, including a proposed action, that when combined could affect the sensitive resources in the study area.
- Identify measures to mitigate or minimize potential environmental impacts (if required).

¹ The Proposed Action will be the subject of a future application by Niagara Frontier Metro System, Inc. (Metro) for federal funds administered through the Federal Transit Administration or other federal sources to cover a portion of the Proposed Action’s capital costs. Therefore, this Draft Environmental Impact Statement is intended to be compliant with the substantive environmental review requirements of the National Environmental Policy Act of 1969 (NEPA) (42 U.S. Code § 4321 et seq.) and implementing regulations of the Council on Environmental Quality 40 CFR Parts 1500–1508), the Federal Highway Administration/Federal Transportation Authority (23 CFR Part 771), and applicable federal rules, regulations, and executive orders.

20.2.1 Indirect Effects Study Area

The indirect effects study area is the portion of the corridor that could be affected by development induced by the construction and operation of the Proposed Action. The Proposed Action would connect many of the region's largest employment, institutional, shopping, and entertainment centers, including the following:

- Downtown Buffalo
- Buffalo Niagara Medical Campus
- University at Buffalo campuses
- Attractions in and around Canalside (e.g., KeyBank Center and Harborcenter)
- Colleges (i.e., Canisius College, Medaille College, and Erie Community College City Campus)
- Theatre District
- Important retail locations such as the Boulevard Mall
- Suburban office locations such as the Audubon Office Park

The Greater Buffalo-Niagara Regional Transportation Council (GBNRTC) recently completed a transit-oriented development (TOD) study along the Proposed Action corridor, which identified a strong potential for TOD growth in existing and proposed station areas, and a commitment to revamp land use development patterns to support light rail transit (GBNRTC report).² Since a 1/2-mile radius around transit stations is the generally accepted distance for TOD growth potential, the study area for indirect impacts is defined by this distance for the proposed stations of the Metro Rail line and a one-quarter-mile radius on either side of the Proposed Action alignment outside of proposed station areas. The same study area is used for most of the other evaluations in this Draft Environmental Impact Statement.

20.2.2 Cumulative Effects Study Area

Resources of interest for the cumulative effects analysis include those resources that would be directly affected by the Proposed Action, that would be affected by potential indirect development, that are particularly susceptible to cumulative effects, and that could experience impacts from one or more other projects over time in addition to the incremental effects of the Proposed Action.

Since the Proposed Action has no potential to affect environmental resources that extend outside the direct effects study area, the study area for the assessment of cumulative effects is the same as the study area for indirect effects (i.e., the area potentially affected by development that could be induced by the construction and operation of the Proposed Action).

² *Comprehensive Transit-Oriented Development Planning, Final Report, GBNRTC, August 2018.*

20.3 INDIRECT EFFECTS ASSESSMENT

20.3.1 Socioeconomics and Induced Growth

Market demand, local planning, land availability, transit accessibility, and TOD policies are factors that affect the amount, location, and type of growth in an area. Chapter 2, “Land Use, Zoning, and Community Character” describes the planned and programmed projects that will be completed by 2040 in the study area independent of the Proposed Action.

The Proposed Action could encourage residential and commercial growth in the indirect effects study area by providing improved transit access to the area. The Proposed Action would introduce public transportation service to several new areas and could encourage transit ridership along corridors that currently do not have a public transit option. More public transit users would have access to these areas, and therefore, residential and commercial activity could increase. Based on the findings of the GBNRTC report, future development indirectly resulting from the Proposed Action is expected to add approximately 8.4 million square feet of commercial and residential space throughout the study area.

While the supply of available vacant, underutilized, and/or redevelopment parcels in the study area could accommodate the projected household and employment growth expected to occur through 2040,³ development induced by the Proposed Action would depend on revising zoning and land use policies in Amherst and Tonawanda and eliminating development constraints such as sanitary and storm sewer capacity issues. Assuming the land use and infrastructure requirements would be met, TOD could occur, resulting in new growth.

In the new station areas where TOD would occur, the pattern of land use would be oriented toward the proposed station and localized pedestrian and vehicular traffic patterns would change. The Proposed Action includes infrastructure improvements at proposed station locations, particularly for pedestrians using the stations and areas adjacent to the stations. In the established station areas in Buffalo, induced development could change the intensity of development or the timing of proposed development due to improved transit access, but would be unlikely to have substantial effects on land use patterns, because land use and parcel development would be consistent with approved zoning in those areas.

Development induced by the Proposed Action would have economic benefits as a result of the predicted increase in study area jobs, housing, and affordable transportation. These benefits would apply to area residents, including environmental justice populations. The 8.4 million square feet of development that could result from the Proposed Action would be worth an assessed valuation of about \$1.7 billion, adding approximately \$61.5 million in property tax revenues to Buffalo and Amherst. Induced retail development could add about \$8.7 million in additional sales tax revenue for the State of New York and \$10.3 million in additional sales tax revenue for Erie County. Existing and future residents who work within the Metro Rail service territory would benefit from the opportunity to use a faster, more convenient transportation option.

³ *Comprehensive Transit-Oriented Development Planning, Final Report, GBNRTC, August 2018. Page 8.*

Some studies on the effect of transit on property values have indicated the potential for increases in real estate values for property in close proximity to transit stations.⁴ While existing homeowners would reap benefits from increased property values, renters could experience higher rents, which could present a burden for some households, most notably for environmental justice populations. Business owners, including those in environmental justice communities, could benefit from increased foot traffic in walkable TOD communities, but development pressure and associated increased rents could result in business displacement and could change the neighborhood character within the study area.

20.3.2 Construction

Construction of the Proposed Action would result in temporary beneficial and adverse indirect effects during the construction period. In addition to the beneficial, direct socioeconomic effects related to construction labor and production of necessary services and materials, the Proposed Action's construction would also result in indirect economic activity. Because earnings from the Proposed Action's direct expenditures would be spent throughout the regional economy by construction workers and companies that supply the Proposed Action with materials, a ripple or multiplier effect would occur. This effect would include local secondary expenditures made by construction workers who frequent local businesses for dining and other goods and services, as well as similar secondary expenditures made by suppliers of materials and equipment for the Proposed Action.

In addition, the Proposed Action's indirect effects include greenhouse gas emissions associated with the production of the materials that would be used during construction. However, the production of these materials and energy consumption associated with these indirect effects would be temporary in nature and estimated as not substantive.⁵

20.4 CUMULATIVE IMPACTS ASSESSMENT

The assessment of a proposed action's potential cumulative impacts considers incremental project-related impacts together with the impacts of other past, present, and reasonably foreseeable future actions. A list of such actions was developed through research and consultation with municipal and county planning officials within the study area jurisdictions.

The study area is composed of established, developed neighborhoods of the region. Past development has occurred in accordance with existing zoning designations, and the area is predominantly medium-density residential with varying densities of commercial development. Therefore, present and reasonably foreseeable future actions are considered in this analysis. The assessment of cumulative impacts with the identified No Action condition transportation and land development projects is contained within each technical analysis of this Draft EIS and summarized in this section.

⁴ See, for example: "The ARC Effect: How Better Transit Boosts Home Values and Local Economies", Regional Plan Association, July 2010 found at: <http://library.rpa.org/pdf/RPA-The-ARC-Effect.pdf> (accessed 12/19/2019); "Capturing the Value of Transit" prepared by the Center for Transit-Oriented Development for FTA, November 2008 found at: <http://www.reconnectingamerica.org/assets/Uploads/ctodvalcapture110508v2.pdf> (accessed 12/19/2019); and "Public Transportation Boosts Property Values", National Association of Realtors, 2014 found at: <https://www.nar.realtor/articles/public-transportation-boosts-property-values> (accessed 12/19/2019).

⁵ See Chapter 16, "Air Quality" and Chapter 17, "Energy."

In accordance with relevant guidance, the starting point for the analysis of cumulative impacts is an understanding of the types of resources that are present near a proposed action, where incremental project-related direct and indirect effects could result in cumulative impacts with one or more other projects over time. Key resources for the cumulative effects analysis for the Proposed Action are based on the results of the analyses presented in this document and include the following:

- Community character and socioeconomic conditions
- Ground disturbance activities related to water and natural resources

The construction schedule of the Proposed Action assumes a full build out by 2040. Given that the Proposed Action analysis accounted for reasonably foreseeable projects in the study area, the assessment includes the cumulative effect of the Proposed Action and the following projects (see Figure 2-6 in Chapter 2, “Land Use, Zoning, and Community Character”, project numbers correspond to figure) within that timeframe:

1. Northtown Plaza Redevelopment near Eggert Road and Bailey Avenue
2. Student Housing (221 units) at 1185 Sweet Home Road
3. Hotel (127 units) at 1265 Sweet Home Road
4. Hotel at Amherst Northtown Center (105 rooms) at 1615 Amherst Manor Drive
5. Residential Apartments (12 units) at 4885 Chestnut Ridge Road
6. Student Housing (154 units) at 2915 N. Forest Road
7. Muir Woods Mixed Use Development near the Proposed Action’s I-990 station

Six of these projects are redevelopment of previously occupied land. Land uses proposed are similar to surrounding development and in accordance with existing zoning, including retail, restaurants, hotel, offices, residential (including student housing), and other commercial. Only one project, the Muir Woods Mixed Use Development,⁶ would be constructed on a vacant parcel. The parcel is wooded and would require vegetation/tree clearing activities.

Two roadway improvement projects have also been identified in the study area:

- John James Audubon Parkway Bridge over Ellicott Creek
- North Forest Road in Amherst between Route 263 (Millersport Highway) and Dodge Road

In addition to these specific developments, the Town of Amherst has proposed the designation of the Amherst Boulevard Central District. This is a result of the town’s comprehensive planning effort and is tied to other planning within the region through extensive stakeholder engagement by Amherst. Engagement included coordination with adjacent towns and the University at Buffalo. The goal of the Amherst Boulevard Central District is to encourage denser mixed uses within a specific area of Amherst, which overlaps the Proposed Action’s study area.⁷ Per the Draft Generic Environmental Impact Statement for the Amherst Boulevard Central District, the growth potential for the 20-year

⁶ The Muir Woods Development project would be a multi-phased development, conceptually designed for mixed use. Development would proceed as the market demands.

⁷ The Amherst Boulevard Central District is the subject of a Draft Generic Environmental Impact Statement, which evaluated the potential impact of implementing zoning changes associated with the district (November 2019) found at: http://www.amherst.ny.us/pdf/planning/geis/191111_draft_geis.pdf (accessed 12/19/2019).

planning period assumes 5,000 housing units, 1,900,000 square feet of commercial retail, and 1,100,000 square feet of commercial office.

20.4.1 Community Character and Socioeconomics Conditions

The development of the Proposed Action would improve accessibility to public transit for planned developments. These developments are considered as part of the anticipated growth of the area, because they are consistent with existing planning and zoning approved by the various jurisdictions in the study area.

The Proposed Action would have a cumulative effect on the evolution of the community's character and economic growth of the area, adding more pedestrians and public transit-focused users into the area. This, in conjunction with the Amherst Boulevard Central District, could further increase pedestrian and bicycle traffic, increasing the usage of pedestrian walkways and sidewalks. The improvements proposed as part of the Proposed Action would improve the already poor pedestrian and bicycling conditions (e.g., long crossing distances, push-button signal deficiencies, incomplete network of sidewalks, lack of shoulders).⁸ The Proposed Action would include multi-use paths (with wheelchair accessibility), bicycle lanes, and median refuge areas for pedestrians. These connections would improve bicycle and pedestrian access to the light rail stations and promote connectivity between stations and trip origins and destinations. In addition, intersections along the corridor would be upgraded with Americans with Disabilities Act (ADA)-compliant ramps, and push buttons would be added to the crosswalks, thus improving walkability within the study area.

20.4.2 Water and Natural Resources

The potential cumulative effect of the Proposed Action on water and natural resources in the study area is expected to be minimal. Ground disturbance activities associated with the Proposed Action that would occur in proximity to water and natural resources mostly would be limited to the northern portion of the study area, and would be minimal as compared to those associated with the comparatively large, multi-phased Muir Woods Development and the John James Audubon Parkway Bridge development projects that may precede the Proposed Action or occur contemporaneously there. Any unavoidable impacts to water and natural resources associated with these projects and the Proposed Action would require mitigation as part of their respective permitting processes.

20.4.2.1 Water Resources

No substantial adverse cumulative effects to surface waters, groundwater, and floodplains are anticipated as a result of the Proposed Action.

As noted above, the Proposed Action could be constructed simultaneously with other development projects on vacant or underused land within the study area. The Proposed Action and other nearby projects would affect a federal wetland area near the proposed I-990 station. The Proposed Action's effect on this wetland would be minimized through design and any wetland or surface water connectivity with surrounding resources would be preserved. The Proposed Action's design will be accounted for in the Muir Woods Development (station construction and associated impacts) and would consider the previous impact and mitigation put forth in the Muir Woods Development. See

⁸ New York State Department of Transportation. Transportation Project Report. Pedestrian Safety Corridor Evaluation. Niagara Falls Boulevard. Towns of Amherst and Tonawanda, Erie County. June 2019.

Chapter 11, “Water Resources” for a description of the impacts and mitigation of the Muir Woods Development, as reported in the Statement of Findings for the development project. It is expected that the mitigation for the Muir Woods Development will account for the combined impacts to wetland and surface water from the two projects; however, if the Proposed Action’s independent effect cannot be avoided, the impacts to wetlands and/or surface water would be mitigated.⁹

As described in Chapter 11, “Water Resources”, stormwater Best Management Practices (BMP) such as infiltration and detention basins, dry swales, and hydrodynamic stormwater treatment units would be incorporated into the Proposed Action. These BMPs, along with additional green infrastructure practices that would be chosen during the final stage of design, would result in water quality and peak flow reductions, and thus, would offset discharges from the additional impervious surfaces that would be created by the Proposed Action.

20.4.2.2 Natural Resources

The Proposed Action and other development projects would involve construction on vacant, unimproved land within the study area. The development projects would not be constructed in areas of concern for ecological communities nor would they be expected to result in substantial adverse impacts on wildlife, including federally- and state-listed species. In addition, most wildlife in the study area is limited to urban-adapted, disturbance-tolerant generalist species. Therefore, it is anticipated that the Proposed Action and these other development projects would not result in an adverse cumulative effect to general ecology and wildlife resources.

20.5 SUMMARY

The indirect effects associated with the Proposed Action would be induced development and the indirect consequences associated with construction activities. Future development indirectly resulting from the Proposed Action is expected to add approximately 8.4 million square feet of commercial and residential space throughout the study area. Development induced by the Proposed Action would depend on revising zoning and land use policies in Amherst and Tonawanda and eliminating development constraints such as sanitary and storm sewer capacity. Assuming the land use and infrastructure requirements would be met, TOD could occur, resulting in new growth. The Proposed Action would also result in beneficial, direct socioeconomic effects related to the indirect economic activity of construction labor and the production of necessary services and materials.

The Proposed Action would have a cumulative effect on the evolution of the community’s character and economic growth of the area, adding more pedestrians and public transit-focused users into the area. The Proposed Action, in conjunction with the Amherst Boulevard Central District, could further increase pedestrian and bicycle traffic, increasing the usage of pedestrian walkways and sidewalks. Ground disturbing activities of other development at the northern portion of the study area would be in addition to the effects of the Proposed Action. If the Proposed Action’s independent effect cannot be avoided, the impacts to wetlands and/or surface water would be mitigated. BMPs and green infrastructure practices would result in water quality and peak flow reductions, and thus, would offset discharges from the additional impervious surfaces that would be created by the Proposed Action.

⁹ If wetland or other mitigation is required, the mitigation strategy would be identified during preliminary and final designs. The mitigation strategy would likely be in the form of an in-lieu fee arrangement with U.S. Army Corps of Engineers or other improvements (including streambed restoration, habitat connectivity, floodplain enhancements, and riparian corridor enhancements).