

# Lake Erie Commerce Center

## Traffic Analysis

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### ***LOCATION:***

East of NYS Route 5 at Bayview Road  
Town of Hamburg  
Erie County, New York

### ***PREPARED BY:***

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## **I. Introduction**

The project area, formerly known as the Lake Erie Industrial Park and now known as Lake Erie Commerce Center, was the subject of a previous SEQR review that included the preparation of a Generic Environmental Impact Statement (GEIS). The SEQR process for this project was completed in 1999 and included the completion of a Traffic Impact Study (TIS), which was conducted in 1994. As part of the development of the Supplemental Draft Generic Environmental Impact Statement (SDGEIS) for the Lake Erie Commerce Center, a Traffic Analysis was conducted to provide an update to the TIS completed as part of the original GEIS.

This traffic analysis assesses existing traffic operations on the street network in the vicinity of the project and evaluates potential traffic impacts that could result from build out of the Lake Erie Commerce Center.

## **II. Project Location and Description**

The proposed action involves an application from the Hamburg New York Land Development Company for the approval of Pre-Permitted Site Designation for approximately 131 acres of land situated at the intersection of NYS Route 5 and Bayview Road, in the Town of Hamburg, Erie County, New York. The project site consists of approximately 131 acres of land located on the north and south sides of Bayview Road, immediately east of NYS Route 5. The subject property is bisected by Bayview Road, with approximately 70 acres situated south of this roadway and the remaining 61+/- acres located to the north. The project site is comprised primarily of open lands, with areas of brush and woodlands, and a few small areas of wetlands. With the exception of one single-family residential dwelling, there are no structures exist on the site

## **III. Existing Transportation System**

### ***Roadways***

Lake Shore Road (NYS Route 5) is the principal arterial that provides north-south access through the project area, linking the area with the City of Buffalo and the City of Lackawanna to the north and the Town of Evans to the south. Milestrip Road (NYS Route 179) and Big Tree Road (US Route 20A) provide primary access to/ from the east. Camp Road (NYS Route 75) also ties into Lake Shore Road from the southeast.

Lake Shore Road (NYS Route 5) is a six-lane divided highway between St. Francis Drive (NYS Route 75) and NYS Route 179 (Mile Strip Expressway) and is classified as a Principle Arterial. The posted speed limit is 55 mph and the Average Annual Daily Traffic (AADT) is 40,925 vehicles.

Bayview Road is a two-lane road classified as a Collector east of NYS Route 5. The posted speed limit is 35 mph and the AADT is 2,050 vehicles. West of Route 5, Bayview Road is a two-lane local street between NYS Route 5 and Hoover Road. There is a left turn lane for southbound NYS Route 5 traffic turning left onto eastbound Bayview Road. Where Bayview Road crosses NYS Route 5, a “no left turn” sign prohibits left turns from northbound NYS Route 5 to westbound Bayview Road.

St. Francis Drive Extension (NYS Route 75) is a four-lane roadway between Camp Road and NYS Route 5 and is classified as a Principle Arterial. The posted speed limit is 45 mph and the AADT is 18,300 vehicles.

Big Tree Road is a two-lane roadway between St. Francis Drive and Bayview Road and is classified as a Minor Arterial. The posted speed limit is 45 mph and the AADT is 6,250 vehicles.

Mile Strip Expressway (NYS Route 179) is a four-lane highway classified as an Expressway. The posted speed limit is 55 mph and the AADT is 20,210 vehicles.

### ***Public Transit***

The Town of Hamburg is serviced by five Metro Bus routes. The Express Route #74 Hamburg and Express Route #76 Lotus Bay are the only routes that provide service in the vicinity of the Lake Erie Commerce Center, offering stops at the Athol Springs Park & Ride. This facility serves as an automobile/ transit transfer point for commuters in the Hamburg area. The NFTA has expanded and upgraded the facility at Athol Springs to accommodate more passengers and provide more efficient service. This facility is located just off NYS Route 5 on the access road that connects Big Tree Road to the St. Francis traffic circle (just south of the project site).

### ***Railroad***

The CSX and Norfolk Southern Railroads operate rail lines for the commercial transport of freight, which traverse the western portion of the Town in a northeast-southwest orientation. CSX operates three sets of tracts that run parallel to and approximately ½ mile inland from NYS Route 5. Norfolk Southern operates a single track that runs just east of and parallel to the CSX tracks. Bayview Road crosses the railroad tracks with an at-grade crossing.

### ***Pedestrian/ Bicycle***

There are no sidewalks on any of the adjacent roadways and pedestrian and bicycle facilities are limited. There is a sidewalk that was recently constructed along the northbound lanes of NYS Route 5 north of the project site, but no pedestrian access to the site is provided.

The Hamburg Local Waterfront Revitalization Program (LWRP) calls for the expansion of pedestrian and bicycle opportunities along a tourist route that runs along NYS Route 5 and Bayview Road.

#### **IV. Summary of Lake Erie Industrial Park GEIS Traffic Impact Study**

With the development of the Lake Erie Industrial Park GEIS TIS in 1994, various scenarios were developed to evaluate potential impacts from alternative development phasing of the project.

In order to evaluate the impact that the development of the industrial park would have on nearby intersections, manual turning movement counts were conducted in 1992 for the AM, midday, and PM peak hours. The following intersections were counted and then modeled in the original TIS to evaluate existing 1992 traffic operations, 1994 conditions (including 1992 conditions + Ravenwood Park North traffic + Phase I traffic), 1997 conditions (including 1992 conditions + normal growth to 1997 + Ravenwood Park North traffic + Phase I and II traffic), and 2002 conditions (including 1992 conditions + normal growth to 2002 + Ravenwood Park North traffic + Phase I, II, and III traffic):

1. NYS Route 5/ Bayview Road (Phase I only)
2. NYS Route 5/ Proposed Site Road (Phases II and III only)
3. NYS Route 5/ NY Route 179 Traffic Circle
4. NYS Route 5/ Old Big Tree Road/ Hoover Road
5. St. Francis Traffic Circle
6. St. Francis Drive/ Old Big Tree Road
7. St. Francis Drive/ Camp Road
8. Old Big Tree Road/ Lakeshore Road Extension
9. Big Tree Road/ Propose Site Road (Phase III only)

#### **Existing Conditions**

The results of the traffic modeling output of the original TIS indicate that under the 1992 existing conditions, all intersection approaches operate at a LOS D or better, except for the following:

1. Eastbound Bayview Road to northbound NYS Route 5 operates at a LOS E during the AM peak hour.
2. Eastbound and westbound Bayview Road to southbound NYS Route 5 operate at a LOS E during the PM peak hour.

## **Phase I**

Phase I development consists of two buildings of 50,000 to 60,000 square feet each to be located on the north side of Bayview Road between the power lines and NYS Route 5. Each building was assumed to have a single driveway to Bayview Road. Two scenarios were developed for this phase. For each scenario, the intersection of NYS Route 5 and Bayview Road would remain as it presently exists.

### **Scenario 1**

Scenario 1 under Phase I assumes that Bayview Road would remain open and would not contain a cul-de-sac at the railroad tracks. The results of the traffic modeling output for Phase I, Scenario 1 indicate that all intersection approaches operate at a acceptable LOS E or better, except for the following:

1. Eastbound Bayview Road through movement at the northbound NYS Route 5 lanes operates at a LOS F during the AM peak hour.
2. The analysis indicates that improvements to the intersection under Phase I do not appear to be justified because existing problems at the intersection are related to safety and not capacity.

### **Scenario 2**

Scenario 2 under Phase I assumes that Bayview Road would contain a cul-de-sac on either side of the railroad tracks. The results of the traffic modeling output for Phase I, Scenario 2 indicate that all intersection approaches operate at a LOS E or better.

A capacity and safety analysis of the intersection of NYS Route 5 and Bayview Road, assuming completion of Phase I, suggests that closure of Bayview Road at the railroad tracks would result in significantly better conditions at the NYS Route 5/ Bayview Road intersection than would occur if Bayview Road remained open.

## **Phase II**

During Phase II development, the remaining land north of Bayview Road would be developed (415,769 square feet), and the following assumptions regarding road access were made:

1. A cul-de-sac at the western end of Bayview Road would cut off access to NYS Route 5.
2. A new internal road would be constructed to intersect with the remaining section of Bayview Road and extend north and west to intersect with NYS Route 5.

Phase II scenarios for the proposed development and road modifications.

### **Scenario 1**

Scenario 1 of Phase II assumes that the new internal road would form a "T" intersection with NYS Route 5; the existing NYS Route 5/ Hoover Road intersection remains open;

the section of Bayview Road west of NYS Route 5 would remain as would the intersection with NYS Route 5; and the small section of Bayview Road between the NYS Route 5 directional roadways would be removed. The results of the traffic modeling output for Phase II, Scenario 1 indicate that all intersection approaches operate at an acceptable LOS E or better, except for the following:

1. Left turns from the Site Road to southbound NYS Route 5 operate at a LOS F during the AM and PM peak hour.
2. Southbound NYS Route 5 left turn at the Site Road operates at a LOS F during the AM peak hour.
3. Left turns from Hoover Road to northbound NYS Route 5 operate at a LOS F during the AM and PM peak hour.

### **Scenario 2**

Scenario 2 of Phase II assumes that the new internal road would form a four-way intersection with NYS Route 5 and Hoover Road, with the west leg of that intersection forming a new connecting roadway between NYS Route 5 and Hoover Road; the existing NYS Route 5/ Hoover Road intersection would be eliminated and Hoover Road would contain a cul-de-sac at the north end; the intersection of NYS Route 5 and the section of Bayview Road west of NYS Route 5 would be removed and Bayview Road would contain a cul-de-sac on the western side of NYS Route 5. The results of the traffic modeling output for Phase II, Scenario 2 indicate that all intersection approaches operate at an acceptable LOS E or better, except for the following:

1. Left turns from the Site Road to southbound NYS Route 5 operate at a LOS F during the AM and PM peak hour.
2. Southbound NYS Route 5 left turn at the Site Road operates at a LOS F during the AM peak hour.

### **Scenario 3**

Scenario 3 under Phase II assumes that Bayview Road will remain open and will not contain a cul-de-sac at the railroad tracks; the new internal road would form a four-way intersection with NYS Route 5 and a new roadway connection between NYS Route 5 and Hoover Road; the existing NYS Route 5/ Hoover Road intersection would remain open; and the section of Bayview Road west of NYS Route 5 would contain a cul-de-sac at NYS Route 5. The results of the traffic modeling output for Phase II, Scenario 3 indicate that all intersection approaches operate at an acceptable LOS E or better, except for the following:

1. Left turns from the Site Road to southbound NYS Route 5 operate at a LOS F during the AM and PM peak hour.
2. Southbound NYS Route 5 left turn at the Site Road operates at a LOS F during the AM peak hour.

3. Left turns from Hoover Road to northbound NYS Route 5 operate at a LOS F during the AM and PM peak hour.
4. Right turns from the Site Road to northbound NYS Route 5 operate at a LOS F during the AM peak hour.

### **Phase III**

Phase III development will occur on lands south of Bayview Road (451,717 square feet), and includes the following assumptions:

1. Extending the north-south internal roadway from Bayview Road south to Big Tree Road.
2. The traffic circle at St. Francis Drive/ Lake Shore Road Extension/ Big Tree Road would be eliminated and replaced by a conventional intersection.
3. The northbound lanes of St. Francis Drive Extension (a 700-foot section north of the traffic circle) would be relocated to run directly adjacent to the existing southbound lanes. The road presently used for the northbound lanes would be utilized as a service roadway to an existing trucking company.
4. Two alternative modifications to Big Tree Road were examined:
  - The section of Big Tree Road east of the traffic circle would be retained. The intersection of St. Francis Drive/ Big Tree Road/ Lake Shore Road would be a four-way intersection. Old Big Tree Road between NYS Route 5 and Big Tree Road would become a local access road for residential purposes, as well as for other development. Regular traffic flow would generally use Big Tree Road rather than Old Big Tree Road.
  - The section of Big Tree Road east of the traffic circle would be removed. The intersection of St. Francis Drive and Lake Shore Road would become a “T” intersection. The existing sections of Big Tree Road, both east and west of St. Francis Drive would become the primary east-west route to take advantage of the existing traffic signal at Big Tree Road and St. Francis Drive, to use the straighter road alignment on Old Big Tree Road, and to avoid the complicated geometry of the existing intersection of NYS Route 5/ Lake Shore Road/ Old Big Tree Road.
5. Lake Shore Road west of the traffic circle would be reconfigured to the east to improve the intersection of Old Big Tree Road and Lake Shore Road just east of NYS Route 5.
6. The entrance to the Lake Erie Commerce Center at Big Tree Road would be as far west of the railroad overpass as practical to maximize the sight distance for vehicles entering Big Tree Road.
7. The existing business on NYS Route 5 would have a driveway to the new internal roadway.

The results of the traffic modeling output for Phase III indicate that all intersection approaches operate at an acceptable LOS D or better, except for the following:

1. Left turns from the Site Road to southbound NYS Route 5 operate at a LOS E during the AM peak hour.
2. Left and right turns from Hoover Road to NYS Route 5 operate at a LOS E during the AM and PM peak hour.

## **V. Sensitivity Analysis**

When performing a traffic analysis for a GEIS where specific users and site access locations are not yet known, the worst case scenario is used to determine the worst possible impact that the full build out of the project site could have on the transportation system. With a GEIS, it is helpful to conduct a sensitivity analysis, which essentially indicates the build threshold the site can handle before traffic operations begin to fail and transportation improvements are needed in order to mitigate the impacts of the project and maintain acceptable traffic operations. It is possible that supplemental traffic analyses can be conducted when build thresholds are reached to reaffirm existing traffic operations and determine if transportation improvements are still necessary or when development is proposed that will generate traffic greater than or less than what was evaluated in the TIS.

Using a sensitivity analysis, development of the Lake Erie Commerce Center that can occur before the outlined transportation improvements will be required include construction as identified in Phase I development of the original TIS. This includes two buildings of 50,000 – 60,000 square feet each along Bayview Road with single driveway access to Bayview Road. Since traffic operations are impacted by trip generation and not the size of buildings, development that could occur before transportation improvements will be required would equate to any combination of buildings/ uses that generate a total of 100 trips during either the AM or PM peak hour.

## **VI. Conclusion**

One building has already been constructed – a 10,000 square foot Woodlawn Autoworkers Federal Credit Union. Using the ITE Trip Generation Manual, 8<sup>th</sup> Edition, the trip generation from this building is estimated to be approximately 20 vehicles during the PM peak hour and isn't in operation during the AM peak hour of the adjacent roadways.

Since one building has already been constructed within the Lake Erie Commerce Center generating approximately 20 trips during the PM Peak hour, it would be assumed that any remaining development within the project site will only be permitted to generate additional 80 or so trips during the PM Peak hour before LOS degradation occurs at nearby intersections. However, compared to the manual turning movement counts conducted for the original TIS, the 2011 traffic counts of adjacent roadways reported by the NYSDOT and GBNRTC show that traffic volumes on adjacent streets (NYS Route 5, Bayview Road, Big

Tree Road, and St. Francis Drive Extension) have actually decreased a total of 10-15% over the last 20 years. This would suggest that even with the traffic generated by the credit union, traffic volumes on adjacent roadways in 2011 are less than that observed in 1992. This means that additional development within the Lake Erie Commerce Center (in addition to the credit union) that generates traffic no greater than 100 trips in a peak hour would likely not result in any degradation to the LOS of nearby intersections. Therefore, in addition to the existing Woodlawn Autoworkers Federal Credit Union, additional development that could occur within the Lake Erie Commerce Center before the outlined phased transportation improvements will be required would equate to any combination of buildings/ uses located on Bayview Road, with single access to Bayview Road only, that generate a total of 100 trips during either the AM or PM peak hour.

Any development occurring within Lake Erie Commerce Center that would generate traffic in excess of 100 AM or PM peak hour trips would either need to mitigate traffic impacts according to the phased transportation improvements identified in the original TIS and summarized in this document or a new traffic impact study would need to be conducted to determine whether conditions have changed to warrant alternative mitigation measures.

