NEW YORK STATE DEPARTMENT OF TRANSPORTATION

Plausibility Review for Removal of the Buffalo Skyway

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Introduction

The Buffalo Skyway is an important component of the Buffalo metropolitan area transportation network, serving commuters, tourists and commerce for more than 50 years. The elevated, 5,800-foot-long viaduct consists of 52 spans and carries NY Route 5 over the Buffalo River. It is used by more than 40,000 vehicles per day, including 4,350 trucks. The Skyway provides a critical connection to regional interstates and Canada to the north.

New York State Department of Transportation (NYSDOT) Commissioner Joan McDonald in 2012 directed that a plausibility review be undertaken to assess the reasonableness and practicality of advancing studies to evaluate removing the Skyway. This review provides a preliminary assessment of the potential impacts of Skyway removal and accounts for the maintenance and preservation work that would be required on the Skyway during the next 25 years, at which point it will have achieved its full design service life.

The Skyway removal considered in this plausibility review extends beyond the physical removal of the viaduct. It also considers the removal of the NY Route 5 complex from its intersection with Church Street to the vicinity of Ohio Street, including the removal of the associated interchange ramps at the north and south termini and points in between.

The review identified five primary issues that would have a significant influence on the plausibility of removing the Buffalo Skyway: economic development, mobility and traffic safety, cost, schedule, and the environment.

These factors are being considered in the larger context of transportation funding challenges nationwide. While maintenance and construction costs continue to increase, federal funding has been static since 2009. New York State has some of the oldest infrastructure in the nation and the needs exceed funding. NYSDOT's "preservation first" strategy focuses on maintaining the State system in good condition by using limited resources on maintenance and rehabilitation, instead of new construction. Ensuring that appropriate investments are made at the right time in the lifecycle of an asset is the most prudent use of available resources.

Economic Development

Removing the Skyway has been advanced as a concept that would enhance the economic potential of the waterfront. However, the Skyway is not a "stand-alone" asset and must be viewed in the context of travel mobility and economic development across Western New York. By providing an important transportation connection to interstate highways and the downtown core, the Skyway supports mobility and economic growth throughout the region, including business initiatives at the former Bethlehem Steel site in Lackawanna, the Lake Erie waterfront and downtown Buffalo.

Main employers in Buffalo who rely on the Skyway daily include Ford Motor Company, General Mills, Welded Tube USA, Inc., Cobey, Inc., Arcelelor Mittal, Republic Steel, Morgan Services, Inc., Power Drives Inc., Niagara LaSalle Corp., Team Freight Inc., Lactalis American Group, Sonwil Distribution, and Zehnder Rittling Corp.

There has been a significant amount of development in the area surrounding the Skyway in recent years. The Rail Relocation Project was recently completed at the former Bethlehem Steel site in Lackawanna, which opened up approximately 300 acres of land for development and new

investment. FedEx Corp. is considering building a distribution center of more than 300,000 square feet on a 50.1-acre property near the intersection of Route 5 and Bayview Road in the town of Hamburg. The facility could employ more than 500 people after full build-out. Alita USA Holdings Inc., a Dubai-based company, is developing a 350,000-square-foot steelmaking plant in the Tifft Street area of South Buffalo. The plant is scheduled to open in 2015. Nova Steel Inc. from Quebec, Canada, is scouting sites in the Southtowns for a 20-acre production and distribution center.

Nearby, Buffalo Lakeside Commerce Park is a newly developed "smart growth" urban commerce park on reclaimed waterfront land along the Buffalo Outer Harbor. The park advertises multi-modal transportation opportunities and excellent access to the interstate. This premier brownfield redevelopment site is now home to a 300,000 square foot Sonwil Distribution warehouse, a 90,000 square foot Cobey, Inc. facility and a 270,000 square foot CertainTeed Corp. facility. Additional companies south of Buffalo Lakeside Commerce Park, in the Steelawanna and New Village Business Parks, include HazMat Environmental Group, Inc., One Commerce Drive Properties Inc., KOB Properties LLC, Crown Atlantic Company LLC, Sampa Belting North America LLC, Punto Franco Ltd, Safety-Kleen Systems Inc., Fredco Management LLC, Quikrete Companies and G.K. Commerce Drive LLC. New businesses such as Welded Tube USA Inc. have opened, and other brownfield sites are being redeveloped in the area. A transfer of land to Empire State Development Corporation is planned to further the development of lands along the Outer Harbor.

Many manufacturing and logistics businesses have located along the Skyway/Route 5 corridor due to its direct connection with I-190 and Canada. The loss of a direct connection to the I-190 would have economic impacts on all commercial businesses located in South Buffalo and the Southtowns.

In addition, Canalside development is proceeding along the Inner Harbor. Most of the development there will likely be completed in the timeframe before the Skyway could be removed.

It is important to note that removal of the Skyway would not make the land occupied by the Skyway immediately available for development. Issues such as land rights would need to be addressed. Public land rights would need to be sold or transferred out of transportation purposes before the land made available by removal of the Skyway could be utilized. The sale or transfer of public rights must be done through a public process for payment of market value for private uses in order to comply with State and Federal laws, rules and regulations. In order to enable lender financing for development, public land rights would need to be transferred to private entities.

The total land area encumbered by the Skyway is approximately 28.6 acres, including 1.5 acres that are under water. This results in 27.1 acres of usable area, which consists of various parcels within four different zoning classifications, including Downtown Opportunity, Institutional/Light Industrial, General Manufacturing and Heavy Industrial. This represents the approximate developable land area should the Skyway be removed.

There are also secondary land parcels along Route 5, just south of the Skyway, which would be impacted by Skyway removal if the proposed Buffalo Harbor Bridge is not built. Since this

economic development analysis assumes a new Buffalo Harbor Bridge will be built, these parcels are not included. Building a new bridge would utilize some Skyway land and would require additional land acquisitions as well.

The project to construct a Buffalo Harbor Bridge is being advanced by the Erie Canal Harbor Development Corporation (ECHDC) under an agreement with the City of Buffalo. Joint lead agencies are: NYSDOT, Federal Highway Administration, and ECHDC. The project proposes to build a bridge over the Buffalo River at one of two alternative locations being studied. The alternative locations are Main Street, adjacent to HSBC Arena, and Erie Street, down river from the Naval Park. A Draft Environmental Impact Statement (DEIS) is being prepared and is expected to be published for review and comment later this year. A National Environmental Policy Act Record of Decision is expected in 2015. Estimated project costs range from $125 million to $150 million.

Some land south of the Skyway footprint could become partially available, since a new Buffalo Harbor Bridge would likely tie into Fuhrmann Boulevard. This land would be developable to some extent, although some new local roads may be necessary to provide adequate access. It is estimated that approximately 27.7 acres south of the Skyway footprint would become available with Skyway removal.

The various features and characteristics of the land parcels under the Skyway were considered for their location, size, shape and zoning. Many of the Skyway parcels would be too linear by themselves to be maximally developed and would require assemblage in order to provide usable width, depth, access or some combination. Much of the corridor ranges between only 70 and 80 feet wide, posing an obstacle for optimal development without assemblage. Some of the land area would best be assembled by reconfiguring city parcels and streets along with private parcels to create greater utility in the resultant parcel.

A strong example of the need to create new parcels by assembling them is evident in the area nearest the prime waterfront section, which includes Commercial Street, Marine Drive, Maiden Lane, Lloyd, Hanover and West Perry streets. The city streets and Skyway parcels currently create a patchwork of separate small parcels unable to support any larger development. The most desirable parcel that could generate private investment interest would be the northernmost area. It has more than 200 feet of frontage on Church Street and, although it tapers toward the rear, it has enough depth to support a variety of potential improvements. All other parcels possess characteristics that would hinder their market appeal for independent development due to location, size, shape, or zoning, as well as possible Skyway and adjacent parcel brownfield contamination.

There are areas that may be desirable for both public and private use, but would likely need to be transferred to multiple entities for various uses. This would include areas of varied or joint ownership that may need to be assembled with adjoining land to realize the highest and best use. The southernmost area, which is outside the actual Skyway footprint, represents land believed to be less desirable due to industrial zoning and proximity to current industrial uses and other vacant land. The land values of these parcels would not be sufficiently enhanced to create immediate, significant market demand.

Another impact from Skyway removal would be the need to revoke eight to ten Use and Occupancy Permits issued by NYSDOT to the City of Buffalo, Erie Canal Harbor Development Corporation and Niagara Frontier Transportation Authority. All of the fee-bearing permits are with the City of Buffalo for parking. Other non fee-bearing permits are for a park, streets and streetscapes, Canalside skating rink, and an access driveway. Revoking these permits would have varying effects on parking lot operators, public recreation and mobility. In addition, long-term parking patrons would need to seek parking elsewhere, at least during Skyway removal activities.

A cost/benefit analysis would be necessary to evaluate the real economic potential of lands made available by removal of the Skyway. Traffic mitigation costs resulting from the removal would be considerable, and Southtown business and commuter costs, delays and inconveniences could more than offset any potential downtown development gains.

It is also critically important to maintain the existing positive momentum of the development climate. Raising the uncertainty of how Skyway removal would take place could have the unintended consequence of impeding development efforts. Businesses desire relative stability in site selection. Serious discussion of Skyway removal may add uncertainty to any developer seeking sites south of the downtown Buffalo area that need northern transportation links. In addition, public land rights issues would need to be addressed to encourage and fully maximize the economic development of the waterfront, as several of the parcels are owned or used jointly by more than one governmental entity.

Mobility and Traffic Safety

The Buffalo Skyway carries more than 40,000 vehicles per day, with a significant number of vehicles traveling on the Skyway during peak morning and afternoon commute hours. The morning peak period is defined as between 6 a.m. and 9 a.m., with peak hour traffic between 7 a.m. and 8 a.m. The afternoon peak period is defined as between 3 p.m. and 6 p.m., with peak hour traffic between 4 p.m. and 5 p.m.

Approximately 11 percent of Skyway traffic is heavy commercial vehicles, a total of 4,350 heavy vehicles that cross the Skyway each day. Of particular concern is the fact that there are 216 heavy vehicles northbound in the morning peak hour and 175 heavy vehicles southbound in the afternoon peak hour. Additional concern is that 70 tractor-trailers are observed to cross the Skyway each hour from 8 a.m. to 6 p.m., which is more than one tractor-trailer per minute. Due to geography and land use, there are few alternatives for traffic to cross the Buffalo River.

The heavy vehicles raise safety concerns for all alternatives studied which eliminate the Buffalo Skyway. It can be expected that most heavy vehicles would use the shortest available path if the Skyway was removed. Many of these heavy vehicles would likely divert to Ohio Street, Louisiana Street and Michigan Avenue in various alternatives. Traffic safety through these local streets and neighborhoods would be affected. For these reasons, there are several significant issues with the mobility and traffic safety for Skyway users. The ability to accommodate this traffic must be considered carefully and realistically, as a lack of adequate facilities could have negative impacts to the community and businesses throughout the corridor.

Traffic Analysis

The Greater Buffalo Niagara Regional Transportation Council (GBNRTC) traffic model was utilized to identify segments of the downtown transportation network that would receive redistributed traffic were the Skyway to be removed. The transportation network was then examined to determine appropriate infrastructure improvements to address the resulting traffic capacity needs and decreased mobility.

A total of twelve proposed highway infrastructure improvement locations were identified based on a planning assessment of plausible alternative transportation connections. The proposed locations and brief descriptions of work include:

Location 1: Route 5/I-190 Interchange

Construction of a new I-190 northbound on ramp from Pearl Street and new I-190 southbound off ramp to Pearl Street with pavement repairs on Lower Terrace, Upper Terrace, Seneca and Pearl streets. A portion of Perry Street would be reconstructed.

Location 2: Swan Street/Franklin Street Intersection

Construction of a roundabout at the intersection of Franklin and Swan streets, and pavement repairs on Swan, Franklin, Erie, Lower Terrace and Seneca streets.

Location 3: Route 5/Delaware Intersection

Pavement repairs on South Elmwood Avenue with limited widening. Pavement repairs on Church Street and Lower Terrace. Reconstruction on Delaware Avenue and the Lower Terrace and Church Street intersection.

Location 4: I-190/Swan Intersection

Pavement repairs on Swan Street. The section of Swan Street between Elm Street and Michigan Avenue would be restriped to accommodate two lanes of traffic eastbound and one lane of traffic westbound.

Location 5: Seneca Street

Reconstruction of Seneca Street, from Michigan Avenue to Oak Street, including widening to accommodate three lanes of two-way traffic where there is currently one-way traffic.

Location 6: Cedar Street

Relocate Cedar Street between Seneca Street and Swan Street in order to align with Louisiana Street.

Location 7: I-190/Louisiana Interchange

Construction of I-190 northbound on-ramp from the Louisiana Street Bridge, widening of I-190 southbound off-ramp to Louisiana Street in order to accommodate two lanes, and reconstruction of Scott Street approach.

Location 8: Louisiana Street

Pavement reconstruction on Louisiana Street between Ohio Street and I-190 in order to provide for four, 11-foot through lanes.

Location 9: I-190 Southbound Scott Street Ramp
Construction of a ramp/connector from the I-190 southbound off-ramp to Elm Street, which would connect with Scott Street. Pavement repairs on Scott Street with a new traffic signal at the Scott Street/Michigan Avenue intersection.

Location 10: I-190 Southbound at Louisiana Merge Lane
Extension of the I-190 southbound on-ramp from Louisiana Street to provide a greater distance for safe merging. This would include widening of the bridge over Hamburg Street.

Location 11: South Park Avenue Rehabilitation
Reconstruction of South Park Avenue from Michigan Avenue to Elk Street with pavement repairs on South Park Avenue from Elk Street to Abbott Road.

Location 12: Main Street
Reconstruct Main Street between Exchange Street and Buffalo River in order to accommodate vehicular traffic. This work is planned under the final section of the Cars on Main Street project.

The central business district is currently served from the southerly direction by the Skyway, which carries Route 5 over the Buffalo River and the Buffalo Ship Canal. The most recent traffic count was done in October 2010 and showed that the Skyway carries 41,700 vehicles per day. This total includes approximately 3,900 vehicles for both the morning and afternoon peak hours. Traffic forecasting models were used to evaluate how existing traffic was expected to access the central business district and use the I-190 corridors if the Skyway were removed. The objective was to evaluate whether the existing street network, or a revised highway network including the 12 proposed infrastructure improvement locations, could satisfactorily serve the current vehicle demand. The following four scenarios were analyzed:

Scenarios Analyzed in Traffic Forecasting Models	
Scenario	**Description**
1	Skyway Removal with Existing Highway Network
1B	Skyway Removal with Proposed Highway Infrastructure Improvements
2	Skyway Removal with Existing Highway Network and Addition of New Buffalo Harbor Bridge
2B	Skyway Removal with Proposed Highway Infrastructure Improvements and Addition of New Buffalo Harbor Bridge

Using existing traffic volume data, traffic modeling for the four selected alternatives was prepared by the GBNRTC with input and review by NYSDOT staff. The modeling process was used to forecast how traffic using the Skyway corridor would divert if the Skyway were removed. This review did not examine future traffic volumes.

Two alternatives have been mentioned in past Skyway removal transportation discussions: the construction of a tunnel connecting the Buffalo Inner and Outer Harbors, and the construction of a new highway arterial street between Tifft and Seneca streets. These alternatives were not included in this traffic analysis for the following reasons:

Tunnel:
The Inner/Outer Harbor tunnel presents construction, operation and maintenance cost considerations as well as significant engineering challenges to maintain the same level of connectivity to I-190 that the Buffalo Skyway currently provides. This is primarily due to the conflict with the Amtrak rail line, which runs below grade through this corridor.

In simplest form, construction of a tunnel would route all northbound Route 5 traffic to a location proximate to where the current Skyway terminates near Church Street. No direct access to I-190 is available, other than routing all northbound traffic to I-190 via Church Street. Likewise, there is no simple connection to allow southbound Route 5 traffic coming from I-190 to access the tunnel. The cost of a tunnel is estimated to be approximately $350 million, and would require substantial annual operational costs. Due to the complexities regarding the geometric design of a tunnel, a tunnel would provide minimal improvement in accessibility between the downtown/I-190 corridor and the Outer Harbor. The high cost of a tunnel and its failure to provide meaningful operational improvements have eliminated it from further consideration in this review.

New Arterial:
Construction of a new, four-lane, at-grade arterial along vacant land from Tifft to Seneca streets would provide a bypass route for the Route 5 corridor. The arterial would have signalized intersections at Tifft Street, South Park Avenue, Elk and Seneca streets. This concept would have ramp connections to the elevated I-190 to and from Seneca Street, and would connect to the Route 5 corridor via Tifft Street near Rittling Boulevard. This concept was not included in the plausibility report as an alternative due to the following factors:

- The alignment originally planned for a proposed Tifft Street arterial is no longer feasible because of developments that have been built along the path of the proposed alignment near Tifft Street. In addition, a new development -- the Buffalo Riverbend project -- will be constructed on the remainder of the vacant land near South Park Avenue. While transportation infrastructure will be included in the site development, an arterial as envisioned in the Southtowns Connector EIS is no longer deemed feasible. No other corridor is available to bypass the Route 5 corridor and connect with I-190.
- The proposed Tifft Street arterial is expected to be able to carry as much as 22,000 vehicles per day at a level of service "D," defined as high-density traffic flow in which speed and freedom to maneuver are severely restricted and comfort and convenience have declined even though flow remains stable. This capacity value is based on the directional distribution noted in the Route 5 corridor. Currently, the Route 5 corridor handles 42,000 vehicles per day while the existing Tifft Street carries 11,000 vehicles per day. With the assumption that 7,000 of the existing Tifft Street vehicles would use the new arterial, only 15,000 diverted vehicles from the Route 5 corridor could use the new arterial.
- The speed limit on Route 5 is 55 mph. The arterial proposed would have a speed limit of 30 mph. The travel distance to the downtown core is approximately two miles greater via the proposed arterial than the Route 5 corridor leading to downtown. With several intersections along the path, this alternative would not present an attractive alternative for commuters diverted from the Route 5 corridor.
- Intersections along the proposed arterial would be severely impacted if a significant amount of Route 5 traffic is diverted to the proposed Tifft Street arterial. Looking at the current level of traffic on the area roads, the intersections at South Park Avenue, Elk and

Seneca streets and the Seneca Street ramp to I-190 northbound would likely need major improvements.

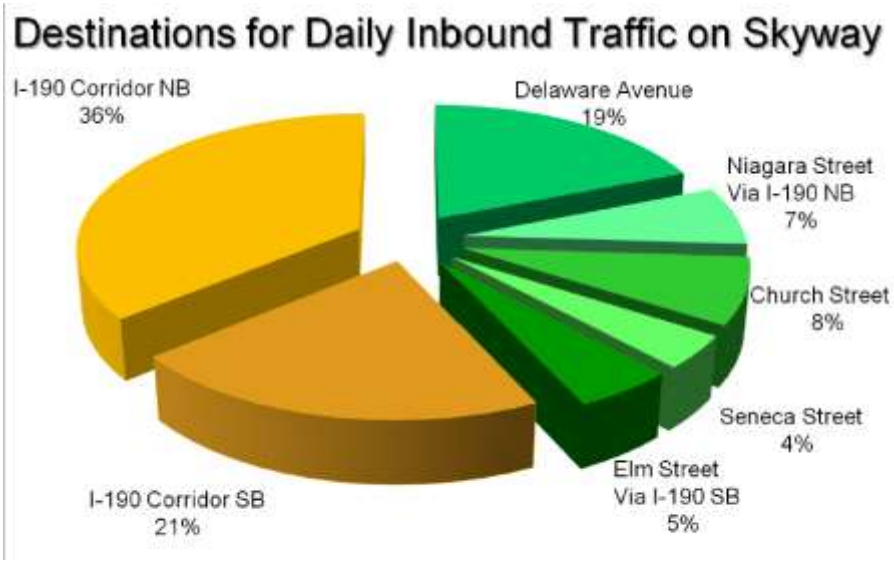
- The proposed arterial would likely be used by current Route 5 traffic to access I-190, thereby adding traffic to the I-190 northbound corridor, which already experiences a level of service "D" during peak hours.

Daily Travel Patterns

Traffic using the Skyway has a directional bias during peak commuter periods. During the morning peak hour, 76 percent of the traffic moves northward (inbound) towards the central business district, while 68 percent of the traffic moves southward (outbound) away from the central business district during the afternoon peak hour. The highest one-way directional total occurs during the morning peak hour (2,900 vehicles).

During the morning peak period from 6 a.m. to 9 a.m., 9,600 vehicles are using the Skyway complex, while 10,600 vehicles are using it during the peak afternoon period from 3 p.m. to 6 p.m. Therefore, approximately half of the daily traffic occurs during these two peak periods. Delays or incidents that occur during a peak hour tend to cause traffic delays that can extend throughout the entire three-hour peak periods.

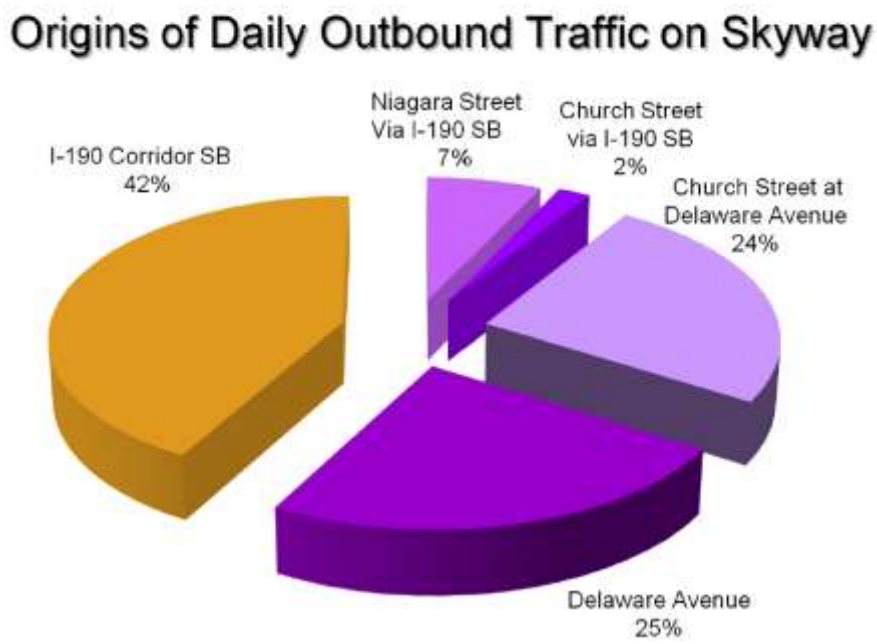
Vehicles using the Skyway northward (inbound) had the following daily destination travel patterns:



For inbound traffic, 31 percent of the Skyway traffic makes a direct connection to the central business district at the Delaware Avenue, Church Street and Seneca Street exit ramps. However, 12 percent of Skyway traffic accesses I-190 and then exits to the central business district at the Niagara Street or Elm Street exits. Thus, 43 percent of the daily inbound traffic on the Skyway is headed to the central business district, via the Delaware, Church, Seneca, Niagara or Elm Street ramps. Of the 57 percent of the traffic that is not destined to the central business district, 36 percent proceed northerly on I-190 towards the Peace Bridge and Route 198 (Scajaquada Expressway), and 21 percent proceed southerly on I-190 towards I-90.

Vehicles using the Skyway southward (outbound) had the following daily origination travel

patterns:



For the outbound traffic, 49 percent of the daily traffic using the Skyway originates from the central business district at the Delaware Avenue entrance ramp, while nine percent originates from the central business district at Niagara and Church Streets, and accesses the outbound Skyway from I-190. Thus, 58 percent of the daily outbound traffic on the Skyway originates from the central business district. The other 42 percent of traffic originates from the I-190 corridor north of the central business district. It was concluded from these travel patterns that at least half of the 41,700 vehicles using the Skyway each day are not destined to or from the central business district, but instead are accessing I-190 and are travelling away from downtown.

Morning Peak Hour/Peak Period Existing Conditions

The existing morning peak hour has northbound commuter traffic approaching the central business district predominantly using the Skyway and the I-190 northbound corridors with relatively small traffic volumes using other paths. The existing conditions are as follows:

Existing Morning Traffic Counts	
Roadway	**Morning Peak Hour Vehicles**
Route 5 Skyway NB	2,900
I-190 NB	3,510
Ohio Street NB	470
Louisiana Street NB	200
South Park Avenue NB	860
Michigan Street NB	330
Hopkins Street NB	390
Tifft Street EB	540

The existing Skyway corridor has a morning peak travel time of approximately 12 minutes from Route 179 (Milestrip Road) to the Church Street terminus. Thus, from the data above, 31percent of the morning peak hour traffic (2,900 vehicles) on the Skyway travelling to downtown has an average peak commute of 12 minutes. Further analyses of alternate routes reflect longer commute times.

Afternoon Peak Hour/Peak Period Existing Conditions

The existing afternoon peak hour has southbound commuter traffic leaving the central business district predominantly using the Skyway westbound and the I-190 southbound corridors with relatively small traffic volumes using other paths. The existing conditions are as follows:

Existing Afternoon Traffic Counts	
Roadway	**Afternoon Peak Hour Vehicles**
Route 5 Skyway WB	2,550
I-190 SB	4,900
Ohio Street SB	330
Louisiana Street SB	160
South Park Avenue SB	570
Michigan Street SB	370
Hopkins Street SB	490
Tifft Street WB	540

The existing Skyway corridor has afternoon peak travel time of approximately four minutes from Church Street terminus to Tifft Street. Thus, from the data above, Skyway carries 25 percent of the evening peak hour traffic travelling from downtown to southern destinations at an average peak commute of four minutes to Tifft Street. Further analyses of alternate routes reflect longer commute times.

Travel Time Paths

The report documents forecasted traffic conditions for the morning and afternoon peak hours for various scenarios and compares average travel time statistics for four scenario paths. If the route travelled varied from the exact path that was modeled, travel distance and times would be affected. These paths are identified as likely paths for vehicles were the Skyway to be removed. For comparison in the model network for the morning period, these paths all start at Route 5 at Milestrip Road and end at the intersection of Michigan and Seneca Streets. The existing path along the Route 5 corridor is 6.9 miles, and the other paths modeled are described below:

Existing Morning Travel Paths			
Path	**Description**	**Distance (Miles)**	**Existing Travel Time**
1	Ohio Street- Louisiana Street Corridor	6.9	15.2
2	Tifft Street – Hopkins Street Corridor	8.6	25.8
3	South Park Avenue Corridor	9.0	24.3
4	NYS Thruway I-90EB to I-190 NB	13.2	15.1

For the afternoon model network, Path 1, 2 and 3 start at the intersection of Michigan and Seneca Streets and end at Route 5 at Fuhrmann Boulevard, Tifft Street at Hopkins Street, and Tifft Street

at Southside Parkway respectively, while Path 4 consists of I-190 southbound from Skyway interchange to I-90 interchange.

Existing Afternoon Travel Paths			
Path	**Description**	**Distance (Miles)**	**Existing Travel Time**
1	Ohio Street- Louisiana Street Corridor	2.0	7.5
2	Tifft Street – Hopkins Street Corridor	2.8	9.6
3	South Park Avenue Corridor	3.7	12.3
4	I-190 SB corridor	4.9	5.0

The traffic modeling process also assigned traffic to alternate routes beyond these four identified paths. The report documents changes in traffic volumes on various routes with Skyway removal, as well as congestion points that could occur. The driving characteristics of these four paths are generally as follows:

Path 1: Route 5/Milestrip to Michigan/Seneca via Ohio-Louisiana Streets

This path routes traffic through the Town of Hamburg, City of Lackawanna, and City of Buffalo into the Buffalo downtown core via NY Route 5, Ohio Street, Louisiana Street, and Michigan/Seneca streets. The commuter would initially encounter a six-lane section on Route 5 in Hamburg, transitioning to a four-lane section in the City of Buffalo with highway characteristics ranging from expressway with limited access through a heavy industrial area that turns into a commercial/light industrial area with some residences. Ohio Street provides two lanes through a heavy industrial area. Louisiana Street offers two lanes, but with enough pavement width to accommodate four-lanes through a residential and light commercial area. Seneca Street brings travelers into the downtown core via a two-lane roadway (unmarked) with on-street parking.

Path 2: Route 5/Milestrip to Michigan/Seneca via Tifft-Hopkins Streets

This path routes traffic through the Town of Hamburg, City of Lackawanna, and City of Buffalo into the Buffalo downtown core via NY Route 5, Tifft Street, Hopkins Street, South Park Avenue and Michigan/Seneca streets. The commuter would initially encounter a six-lane section on Route 5 in Hamburg transitioning to a four-lane section in the City of Buffalo with highway characteristics ranging from expressway/limited access to heavy industrial to commercial/light industrial to residential. Tifft Street provides four lanes with bicycle lanes and on-street parking through a commercial/light industrial area. Hopkins Street offers two lanes on a truck route in a residential area with homes having a 10-15 foot setback from the curb. Pavement width could accommodate four narrow lanes of traffic if necessary. South Park Avenue provides four lanes through a light industrial/commercial/low income housing area of South Buffalo. Travelers then enter the commercial/light industrial/casino areas of Michigan Avenue/Seneca Street en route to the downtown core.

Path 3: Route 5/Milestrip to Michigan/Seneca via South Park Avenue

This path routes traffic through the Town of Hamburg, Village of Blasdell, City of Lackawanna, and City of Buffalo into the Buffalo downtown core via Route 5, Route 179, Route 62, South Park Avenue, and Michigan/Seneca streets. The commuter would initially encounter a six-lane section on Route 5 in Hamburg, and then a four-lane

expressway corridor with wide shoulders on Route 179 through industrial properties within the Village of Blasdell. Travelers then enter Route 62 through an area of apartment complexes/small commercial/residential with sidewalks, on-street parking and building setbacks approaching 20 feet. Traffic volumes are heavy near the intersection of US Route 62/NY Route 179, which is near I-90 Thruway access via Exit 56. Traffic becomes lighter in the Blasdell/Hamburg area away from the exit. Traffic becomes heavy again as commuters approach the City of Lackawanna core and the Our Lady of Victory/Father Baker area. South Park Avenue provides four lanes through a light industrial/commercial/low income housing area of South Buffalo. Travelers then enter the commercial/light industrial/casino areas of Michigan Avenue/Seneca Street en route to the downtown core. This area is two lanes with on-street parking and sidewalks.

Path 4: Route 5/Milestrip to Michigan/Seneca via I-90

This path routes traffic through the Town of Hamburg, Village of Blasdell, City of Lackawanna, Town of West Seneca, Town of Cheektowaga, and City of Buffalo into the Buffalo downtown core via Route 5, Route 179, I-90, I-190, and Seneca Street. The commuter would initially encounter a six-lane section on Route 5 in Hamburg, and then a four-lane expressway corridor with wide shoulders on Route 179 through industrial properties within the Village of Blasdell. Traffic would access the I-90 Interstate from Route 179 at Exit 56. This approach to the Thruway requires a dual left-turn lane to ease congestion. The Thruway toll booth area currently has six bays eastbound, but only two are staffed and two are EZ-PASS equipped. Drivers then merge from I-90 to I-190. These are major expressways having three lanes in each direction and the right-hand merge occurs in a congested area due to convergence of I-90/I-190/Route 400 traffic. The final leg has drivers exiting I-190 at the Elm Street Exit using a two-lane ramp and merging with traffic on Seneca/Swan Streets to enter the Buffalo downtown core.

Truck Volumes

On a daily basis, an estimated 4,350 trucks use the Skyway, which represents approximately 11 percent of the total daily traffic. On an hourly basis from 9 a.m. to 4 p.m., there is an average of 300 trucks using the Skyway, 70 of those trucks being double-unit tractor trailers. The peak hour truck data has 230 trucks inbound (eastward) in the morning and 180 trucks outbound (westward) in the afternoon. Of the trucks that cross the Skyway, 92 percent are making a connection to or from the I-190 expressway and are not heading to the central business district. Therefore, removal of the Skyway would likely result in more truck volumes on city streets accessing I-190 at various interchanges. Trucks could also choose to access the I-190 corridor via the I-90 corridor via Route 179, located at the southern end of the Skyway corridor.

Scenario 1: Skyway Removal with Existing Highway Network

To develop this scenario, a cutline report was developed. It compared total vehicles crossing a set of geographic points before and after Skyway removal. This was done to check the accuracy of the model assigned traffic in the post-Skyway removal scenario. The report analyzes two cutlines in the Skyway corridor. The cutlines show approximately a five percent decrease in total traffic volumes and average daily traffic in the morning and afternoon periods. This means that most of the traffic would be diverting to other routes within the nearby networks as expected.

This scenario was analyzed in the traffic model and the results show a diversion in traffic throughout the highway network away from the Skyway corridor.

Morning Peak Hour

The model predicts a greater than 50 percent increase in morning peak hour traffic on Michigan Avenue, Ohio Street, Louisiana Street, South Park Avenue and McKinley Parkway. While some of these streets do not carry large existing volumes, the change in traffic is significant, and would have adverse impacts to these corridors.

The model estimates that I-190 would experience a 7 percent to 17 percent increase in traffic as the sections of the corridor approach the central business district. This corridor often experiences stop and go traffic flow with existing conditions and these percentage increases are therefore of significant concern.

The travel times on the four primary paths to the central business district would increase significantly with removal of the Skyway in Scenario 1:

Scenario 1 Morning Peak Hour Travel Times				
Path	**Description**	**Current Travel Time (min)**	**Revised Travel Time (min)**	**Increase (min/vehicle)**
1	Ohio Street- Louisiana Street Corridor	15	47	32
2	Tifft Street – Hopkins Street Corridor	25	37	12
3	South Park Corridor	25	32	7
4	NYS Thruway I-90EB to I-190 NB	15	15	0

The existing Skyway corridor has a travel time of 12 minutes for northbound vehicles to the central business district in the morning peak. The travel times estimated above for these four primary paths show that there would be extensive travel time delays on Path 1 and Path 2. The increase in time would be greater for the existing users of the Skyway who currently experience a 12 minute daily commute.

Traffic on the Route 5 corridor approaching Ohio Street is in queue (stop and go conditions) for a distance of 1.9 miles back to Ridge Road until approximately 9:15 a.m. each day. The South Park Avenue corridor would experience lengthy traffic back-ups each day between Elk Street and Southside Parkway. Land use along South Park Avenue is mostly commercial/residential mix, with on street parking. The added traffic due to Skyway removal would deteriorate the operating conditions.

Scenario 1 Morning Peak Hour Traffic Conditions		
Level of Service	**General Operating Conditions**	
A	Free Flow	Traffic flows at or above the posted speed limit and motorists have complete mobility between lanes
B	Reasonably Free Flow	Level of service A speeds are maintained but maneuverability within the traffic stream is slightly

		restricted
C	Stable Flow	Ability to maneuver through lanes is noticeably restricted and lane changes require more driver awareness
D	Approaching Unstable Flow	Speeds slightly decrease as traffic volume slightly increase and the freedom to maneuver within the traffic stream is much more limited and driver comfort levels decrease
E	Unstable Flow	Flow becomes irregular and speed varies rapidly because there are virtually no usable gaps to maneuver in the traffic stream and speeds rarely reach the posted speed limit
F	Forced or Breakdown Flow	Every vehicle moves in lockstep with the vehicle in front of it, with frequent slowing, therefore travel time cannot be predicted with generally more demand than required capacity

The most significant linear level of service changes that would be expected to occur as a result of Skyway removal with the existing highway network scenario are highlighted below:

Scenario 1 Morning Peak Hour Level of Service		
Roadway	**Existing AM LEVEL OF SERVICE**	**Revised AM LEVEL OF SERVICE**
Ohio Street: Route 5/Fuhrmann to Louisiana Street	**B**	**E**
Route 5: Ridge Road to Ohio Street	**D**	**F**
Michigan Avenue: Ohio Street to Seneca Street	A	C
McKinley Parkway: Tifft Street to Southside Parkway	A	C
I-190: I-90 to Smith Street	**C**	**D**
South Park Avenue: Hopkins Street to Smith Street	A	C

The most significant intersection level of service and delay changes that would be expected to occur as a result of Skyway removal with the existing highway network scenario are highlighted below:

Scenario 1 Morning Peak Hour Delays		
Intersections	**AM LEVEL OF SERVICE Change**	**Delay Change (seconds/vehicle)**
Ohio Street at Ganson Street	**B to F**	**12 to 178, or 2.9 minutes**
Ohio Street at Louisiana Street	**B to F**	**14 to 255, or 4.25 minutes**
Michigan Avenue at South Park Avenue	**B to F**	**14 to 92, or 1.5 minutes**
Michigan Avenue at Perry Street	**B to D**	**12 to 68**
Michigan Avenue at Scott Street	B to C	11 to 39

Tifft Street at Hopkins Street	**C to D**	**24 to 43**
Hopkins Street at South Park Avenue	B to C	11 to 28

In summary, with Scenario 1 (Skyway removal with existing highway network), there are many locations that would develop significant traffic congestion in the morning peak hour and peak period. As a result, travelers would experience extensive delays. Travel times during the morning peak hour on the Route 5 corridor would increase from 15 minutes to between 32-47 minutes. Commuter traffic delays for travel to and through the central business district would be extreme and would likely be unacceptable to the highway users.

Afternoon Peak Hours

The traffic simulation model could not be successfully run for the entire three hour afternoon peak period of 3 p.m. to 6 p.m. The traffic congestion level on the road network along the alternate paths became so high as to cause a complete gridlock condition at approximately 5 p.m. Individual intersections and roadway segments are therefore not analyzed for this scenario during the afternoon hours.

Scenario 1B: Skyway Removal with Proposed Highway Infrastructure Improvements

The existing highway network was reviewed to determine opportunities for highway improvements that would enhance highway access to and from the central business district, as well as to and from the I-190 corridor. The objective was to identify travel route options to satisfactorily address the traffic delays noted in Scenario 1. Twelve proposed highway infrastructure improvement locations were modeled as one group to determine their usefulness in meeting the traffic needs in this corridor. The preliminary proposals appear to have a positive benefit on access to and from the central business district.

Morning Peak Hour

Scenario 1B was analyzed in the traffic model with the noted group of proposed highway infrastructure improvements. The results show similar diversions in traffic throughout the highway network as observed in Scenario 1. A major change is that northbound traffic to the central business district would now favor a widened, four-lane Louisiana Street, with a new ramp connection to the northbound I-190, which would yield lower traffic volumes on northbound Ohio Street and Michigan Avenue.

The traffic model predicts a greater than 50 percent increase in the morning peak hour traffic on northbound Ohio, Michigan and Louisiana streets, South Park Avenue and McKinley Parkway. The change in traffic would be significant, and would have impacts to those corridors. The traffic model estimates that I-190 would experience little to no increase in traffic in the segments further away from the central business district. The model estimates a 38 percent increase in traffic in the I-190 northbound section from Louisiana Street to Elm Street. This increase would be caused by the new ramp entrance at Louisiana Street northbound. The new ramp is attracting 800 vehicles in the morning peak hours. As the next I-190 off ramp at Elm Street is only 1,500 feet to the west, this section of I-190 northbound needs to be studied closely for weaving maneuvers.

The travel times on the four primary paths to the central business district would increase significantly with removal of the Skyway with proposed highway infrastructure improvements in Scenario 1B:

Scenario 1B Morning Peak Hour Travel Times				
Path	**Description**	**Current Travel Time (min)**	**Revised Travel Time (min)**	**Increase (min/vehicle)**
1	Ohio Street- Louisiana Street Corridor	15	53	38
2	Tifft Street – Hopkins Street Corridor	25	41	16
3	South Park Corridor	25	28	3
4	NYS Thruway I-90EB to I-190 NB	15	15	0

The existing Skyway corridor had a travel time of 12 minutes for northbound vehicles to the central business district in the morning peak. The travel times estimated for these four primary paths show that there would be extensive travel time delays on Path 1 and Path 2. The increase in time would be worse for the existing users of the Skyway, who currently experience a 12 minute daily commute. The travel times improve for the South Park corridor, but worsen for the Ohio-Louisiana and Tifft-Hopkins corridors under Scenario 1B compared to Scenario 1. The network modifications proposed in this scenario are drawing traffic to Ohio-Louisiana based on installation of the new I-190 entrance ramp on Louisiana Street and the widening of Louisiana Street to four lanes.

Traffic on the Route 5 corridor approaching Ohio Street is in queue for a distance of 1.9 miles back to Ridge Road throughout the morning peak hours. Traffic on South Park Avenue experiences stop and go conditions as well. As noted in Scenario 1, South Park Avenue has commercial/residential land uses with on street parking. Added traffic on this route would impact operating conditions.

The model also showed significant back-up on the new I-190 southbound off ramp to Pearl Street. The new I-90 southbound off ramps onto Michigan Avenue and Louisiana appear to operate satisfactorily.

The most significant linear level of service changes that would be expected to occur as a result of Skyway removal with proposed highway infrastructure improvements scenario are highlighted below:

Scenario 1B Morning Peak Hour Level of Service		
Roadway	**Existing AM LEVEL OF SERVICE**	**Revised AM LEVEL OF SERVICE**
Ohio Street: Route 5/Fuhrmann to Louisiana Street	**B**	**D**
Route 5: Ridge Road to Ohio Street	**D**	**F**
Michigan Avenue: Ohio Street to Seneca Street	A	A
McKinley Parkway: Tifft Street to Southside Parkway	A	B
I-190: I-90 to Smith Street	**C**	**D**
South Park Avenue: Hopkins Street to Smith Street	A	C

The most significant intersection level of service and delay changes that would be expected to occur as a result of Skyway removal with proposed highway infrastructure improvements scenario are highlighted below:

Scenario 1B Morning Peak Hour Delays		
Intersections	**AM LEVEL OF SERVICE Change**	**Delay Change (seconds/vehicle)**
Ohio Street at Ganson Street	**B to F**	**12 to 116, or 1.9 minutes**
Ohio Street at Louisiana Street	**B to F**	**14 to 156, or 2.6 minutes**
Michigan Avenue at South Park Avenue	B to B	12 to 18

In summary, even with significant highway network modifications in place, there would be extensive delays in the morning peak hour and peak period with the Skyway removed. Travel time on the Route 5 corridor increases from 15 minutes to between 28-53 minutes during the morning peak hour. The levels of queuing in the Route 5 corridor approaching the Ohio Street corridor are significant. Scenario 1B increases travel demand to Louisiana Street and as a result improves operating conditions on Ohio Street and Michigan Avenue as compared to Scenario 1. Commuter traffic delays for travel to and through the central business district remain similar to those in Scenario 1, and do not achieve an acceptable level.

Afternoon Peak Hour

The traffic simulation model could not be successfully run for the entire three hour afternoon peak period of 3 p.m. to 6 p.m. In spite of the infrastructure improvements added to the existing network, the traffic congestion level on the road network along the alternate paths became so high as to cause a complete gridlock condition at approximately 5 p.m. Individual intersections and roadway segments are therefore not analyzed for this scenario during the afternoon hours.

Scenario 2: Skyway Removal with Existing Highway Network and Addition of New Buffalo Harbor Bridge

To develop this scenario, a cutline report was developed to compare the total vehicles crossing a set of geographic points before and after Skyway removal. This was done to check the accuracy of the model assigned traffic in the post-Skyway removal scenario with the addition of the Buffalo Harbor Bridge, which is currently planned to carry one inbound and one outbound lane. The report analyzes two cutlines in the Skyway corridor, which show approximately a 3 percent to 7 percent decrease in total traffic volumes in the morning and afternoon periods, and a 4 percent to 6 percent decrease in average daily traffic as well. This shows that most of the traffic is diverting to other routes within the nearby network, as expected.

Morning Peak Hour

Scenario 2 was analyzed in the traffic model and the results show similar diversions in traffic throughout the highway network as observed in Scenario 1. The Buffalo Harbor Bridge attracts 810 northbound vehicles in the morning peak hour, which reduces the number of vehicles diverting to the other highway paths.

The traffic model predicts greater than 50 percent increases in morning peak hour traffic on northbound Ohio, Michigan and Louisiana streets, South Park Avenue, and McKinley Parkway. The change in traffic is significant and would have impacts to those corridors. The traffic model estimates that I-190 would experience little to no increase in traffic in the segments farther away from the central business district.

The travel times on the four primary paths to the central business district have increased significantly with the removal of the Skyway in Scenario 2:

Scenario 2 Morning Peak Hour Travel Times				
Path	**Description**	**Current Travel Time (min)**	**Revised Travel Time (min)**	**Increase (min/vehicle)**
1	Ohio Street – Louisiana Street Corridor	15	25	10
2	Tifft Street – Hopkins Street Corridor	25	31	6
3	South Park Corridor	25	30	5
4	NYS Thruway I-90EB to I-190 NB	15	15	0

The existing Skyway corridor has a travel time of 12 minutes for northbound vehicles to the central business district in the morning peak. The travel times estimated for these four primary paths show less delay than Scenarios 1 and 1B. The improved times are due to that fact that the new Buffalo Harbor Bridge is attracting more than 1,060 vehicles in the morning peak hour, thus improving conditions on the other paths. There would still be increases in travel time for the existing users of the Skyway who currently experience a 12-minute daily commute.

Traffic on the Route 5 corridor approaching Ohio Street is in queue for a distance of one mile back to Tifft Street throughout the morning peak hours. South Park Avenue is observed to operate with stop and go conditions in the vicinity of Bailey Avenue, Abbott Road and Hopkins Street intersections; however, the congestion is less severe than in scenarios 1 and 1B.

The most significant linear level of service changes that would be expected to occur as a result of Skyway removal with the existing highway network and the addition of the Buffalo Harbor Bridge scenario are highlighted below:

Scenario 2 Morning Peak Hour Level of Service		
Roadway	**Existing AM LEVEL OF SERVICE**	**Revised AM LEVEL OF SERVICE**
Ohio Street: Route 5/Fuhrmann to Louisiana Street	**B**	**D**
Route 5: Ridge Road to Ohio Street	**D**	**F**
Michigan Avenue: Ohio Street to Seneca Street	A	C
McKinley Parkway: Tifft Street to Southside Parkway	A	C
I-190: I-90 to Smith Street	C	C
South Park Avenue: Hopkins Street to Smith Street	A	B

The most significant intersection level of service and delay changes, which would be expected to occur as a result of Skyway Removal with Existing Highway Network and the Addition of the Buffalo Harbor Bridge scenario are highlighted below:

Scenario 2 Morning Peak Hour Delays		
Intersections	**AM LEVEL OF SERVICE Change**	**Delay Change (seconds/vehicle)**
Ohio Street at Ganson Street	**B to F**	**12 to 127, or 2.1 minutes**
Ohio Street at Louisiana Street	**B to F**	**14 to 220, or 3.6 minutes**
Michigan Avenue at South Park Avenue	B to C	14 to 20
Michigan Avenue at Perry Street	**B to D**	**11 to 52**
Michigan Avenue at Scott Street	B to C	11 to 21

In summary, there would be extensive delays in the morning peak hour and peak period with Scenario 2, with travel times increasing on the Route 5 corridor from 15 minutes to between 25-31 minutes. The level of queuing in the Route 5 corridor approaching the Ohio Street corridor is significant. Commuter traffic delays for travel to and through the central business district would be less severe than in Scenarios 1 and 1B, but still not at an acceptable level. The linear levels of service for the Route 5 and Ohio Street intersections remain serious traffic concerns.

Afternoon Peak Hour

Scenario 2 was analyzed in the traffic model and the results show similar diversions in traffic throughout the highway network as observed in Scenario 1. The Buffalo Harbor Bridge attracts 810 vehicles in the afternoon peak hour, which would reduce the number of vehicles diverting to the other highway paths.

The traffic model predicts greater than 50 percent increases in afternoon peak hour traffic on southbound Ohio and Louisiana Streets, South Park Avenue, and Seneca Street. The change in traffic is significant, and would have impacts to those corridors. The traffic model estimates that I-190 southbound would experience an approximately 25 percent increase in traffic in the corridor leading up to I-90.

The travel times on the four primary paths from the central business district would increase with the removal of the Skyway in Scenario 2:

Scenario 2 Afternoon Peak Hour Travel Times				
Path	**Description**	**Existing Travel Time (min)**	**Revised Travel Time (min)**	**Increase (min/Vehicle)**
1	Ohio Street- Louisiana Street Corridor	8	10	2
2	Tifft Street – Hopkins Street Corridor	10	12	2
3	South Park Avenue	12	21	9

	Corridor			
4	I-190 SB corridor	5	6	1

The existing Skyway corridor had a travel time of four minutes for southbound vehicles from the central business district to Route 5 at Tifft Street in the afternoon peak. The travel times estimated for these four primary paths show less delay than Scenarios 1 and 1B. The improved times are due to that fact that the new Buffalo Harbor Bridge is attracting more than 800 vehicles in the afternoon peak hour, thereby improving conditions on the other paths. There would still be increases in travel time for the existing users of the Skyway who currently experience a four minute daily commute from the central business district to Tifft Street at Route 5.

Traffic on the Ohio Street corridor approaching Route 5 is in queue for a distance of one mile from Fuhrmann Boulevard back to South Street throughout the afternoon peak hours. Also, queuing on South Park Avenue is observed to extend up to Southside Parkway. However, the congestion is less severe than in scenarios 1 and 1B.

The most significant linear level of service changes that would be expected to occur as a result of Skyway Removal with Existing Highway Network and the Addition of the Buffalo Harbor Bridge scenario are highlighted below:

Scenario 2 Afternoon Peak Hour Level of Service		
Roadway	**Existing PM LEVEL OF SERVICE**	**Revised PM LEVEL OF SERVICE**
Ohio St: Michigan St to Fuhrmann Boulevard	D	**E**
South Park Ave: Michigan to Tifft Street	C	**E**
Louisiana Street	B	**D**
I-190 SB: Elm St to I-90	D	**E**

The most significant intersection level of service and delay changes that are expected to occur as a result of the Skyway Removal with Existing Highway Network and the Addition of the Buffalo Harbor Bridge scenario during the afternoon peak hour are similar to the changes observed in the morning peak hour.

In summary, there would be extensive delays in the afternoon peak hour and peak period with Scenario 2. The level of queuing in the Ohio Street corridor and the South Park corridor would be significant. Commuter traffic delays for travel from and through the central business district would be less severe than in Scenarios 1 and 1B, but still not at an acceptable level.

Scenario 2B: Skyway Removal with Proposed Highway Infrastructure Improvements and Addition of New Buffalo Harbor Bridge

As noted in Scenario 1B, the existing highway network was reviewed to determine opportunities for highway improvements that would improve highway access to and from the central business district, as well as to and from the I-190 corridor. The 12 proposed highway infrastructure improvement locations were modeled as one group to determine their usefulness to meet the traffic needs in this corridor. These improvements are preliminary and were a first cut at network

modifications that appear to have a positive benefit on access to and through the central business district.

Morning Peak Hour

Removal of the Skyway with proposed highway infrastructure improvements and the addition of a new Buffalo Harbor Bridge were analyzed in the traffic model. The results show similar diversions in traffic on the southern and eastern portion of the network as in Scenario 2, however, the model indicates increased traffic on Louisiana Street and the new Buffalo Harbor Bridge as compared with Scenario 2. The I-90/I-190 corridor exhibits similar diversions as in Scenario 2, except for the I-190 segment near downtown where the diversion is greater in the northbound direction. A major noteworthy change is that northbound traffic now favors a widened four-lane Louisiana Street which has a new northbound ramp connection to the I-190 that yields lower northbound traffic volumes on Ohio Street and Michigan Avenue.

The traffic model predicts greater than 50 percent increases in the morning peak hour traffic on northbound Ohio and Michigan streets, Louisiana Street, South Park Avenue, and McKinley Parkway. The change in traffic is significant and would have impacts to those corridors. The traffic model estimates that I-190 would experience little to no increase in traffic in the routes farther away from downtown. The model estimates an 18 percent increase in traffic in the I-190 northbound section from Louisiana Street to Elm Street. This increase is caused by the new ramp entrance at Louisiana Street northbound, which attracts 700 vehicles in the morning peak hour. The weave characteristics in this section will need to be studied closely.

The travel times on the four primary paths to the central business district would increase significantly with the Removal of the Skyway with Proposed Highway Infrastructure Improvements and the Addition of the Buffalo Harbor Bridge in Scenario 2B:

Scenario 2B Morning Peak Hour Travel Times				
Path	**Description**	**Current Travel Time (min)**	**Revised Travel Time (min)**	**Increase (min/vehicle)**
1	Ohio Street-Louisiana Street Corridor	15	33	18
2	Tifft Street – Hopkins Street Corridor	25	32	7
3	South Park Corridor	25	26	1
4	NYS Thruway I-90 EB to I-190 NB	15	15	0

The existing Skyway corridor had a travel time of 12 minutes for northbound vehicles to the central business district in the morning peak. All paths studied are worse than existing commute times. The travel times estimated for these four primary paths show increased delays as compared to Scenario 2. The added capacity on Louisiana Street causes more traffic to exit Route 5 at Ohio Street, however, Ohio Street remains capacity constrained with only one lane in each direction. This results in a greater travel time for Path 1. This scenario improves travel time for Path 3 compared with all other scenarios.

Traffic on the Route 5 corridor approaching Ohio Street is in queue for a distance of one mile back to Tifft Street throughout the morning peak hours. The model shows congestion on the new

I-190 southbound ramp onto Pearl Street, however, it is not as significant as in scenario 1B. The new I-190 southbound off ramps to Michigan Avenue and Louisiana Street operate satisfactorily.

The most significant linear level of service changes that would be expected to occur as a result of Skyway removal with proposed highway infrastructure improvements and addition of the Buffalo Harbor Bridge scenario are highlighted below:

Scenario 2B Morning Peak Hour Level of Service		
Roadway	**Existing AM LEVEL OF SERVICE**	**Revised AM LEVEL OF SERVICE**
Ohio Street: Route 5/Fuhrmann to Louisiana Street	B	C
Route 5: Ridge Road to Ohio Street	**D**	**F**
Michigan Avenue: Ohio Street to Seneca Street	A	A
McKinley Parkway: Tifft Street to Southside Parkway	A	C
I-190: I-90 to Smith Street	**C**	**D**
South Park Avenue: Hopkins Street to Smith Street	A	C

The most significant intersection level of service and delay changes that would be expected to occur as a result of Skyway removal with proposed highway infrastructure improvements and addition of the Buffalo Harbor Bridge scenario are highlighted below:

Scenario 2B Morning Peak Hour Delays		
Intersections	**AM LEVEL OF SERVICE Change**	**Delay Change (seconds/vehicle)**
Ohio Street at Ganson Street	**B to E**	**12 to 58**
Ohio Street at Louisiana Street	**B to F**	**14 to 88**
Michigan Avenue at South Park Avenue	B to B	14 to 17

In summary, there continue to be extensive delays in the morning peak hour and peak period with the Skyway removed even with proposed highway infrastructure improvements and addition of the Buffalo Harbor Bridge. Travel time increases from 15 minutes to between 26-33 minutes on the Route 5 corridor during the morning peak hour. The levels of queuing in the Skyway corridor approaching Ohio Street, Main Street from Scott Street to Exchange Street and Exchange Street from Main Street to Pearl Street are significant. Commuter traffic delays for travel to and through the central business district would be better than all the other scenarios, but not likely at an acceptable level for implementation.

Afternoon Peak Hour

Scenario 2B was analyzed in the traffic model and the results show similar diversions in traffic throughout the highway network as observed in Scenario 1B. The Buffalo Harbor Bridge attracts 780 vehicles in the afternoon peak hour which reduces the number of vehicles diverting to the other highway paths.

The traffic model predicts greater than 50 percent increases in afternoon peak hour traffic on southbound Ohio and Louisiana streets, South Park Avenue, and Seneca Street. The change in

traffic is significant and would have impacts to those corridors. The traffic model estimates that I-190 southbound would experience an approximately 25 percent increase in traffic in the corridor leading up to I-90.

The travel times on the four primary paths from the central business district would increase significantly with the removal of the Skyway in Scenario 2B:

Scenario 2B Afternoon Peak Hour Travel Times				
Path	**Description**	**Existing Travel Time (min)**	**Revised Travel Time (min)**	**Increase (min/Vehicle)**
1	Ohio Street- Louisiana Street Corridor	8	18	10
2	Tifft Street – Hopkins Street Corridor	10	12	2
3	South Park Avenue Corridor	12	22	10
4	I-190 SB corridor	5	6	1

The existing Skyway corridor had a travel time of four minutes for southbound vehicles from the central business district to Route 5 at Tifft Street in the afternoon peak. The travel times estimated for these four primary paths show less delay than Scenarios 1 and 1B. The improved times are due to that fact that the new Buffalo Harbor Bridge is attracting about 800 vehicles in the afternoon peak hour, thereby improving conditions on the other paths. There would still be significant increases in travel time for the existing users of the Skyway.

Traffic on the Ohio Street corridor approaching Route 5 is in queue for a distance of one mile from Fuhrmann Boulevard back to north of Louisiana Street throughout the evening peak hours. Also, queuing on South Park Avenue is observed to extend up to Southside Parkway. However, the congestion is less severe than in scenarios 1 and 1B.

The most significant linear level of service changes that would be expected to occur as a result of Skyway Removal with Existing Highway Network and the Addition of the Buffalo Harbor Bridge scenario are highlighted below:

Scenario 2B Afternoon Peak Hour Level of Service		
Roadway	**Existing PM LEVEL OF SERVICE**	**Revised PM LEVEL OF SERVICE**
Ohio St: Michigan St to Fuhrmann Boulevard	D	**F**
South park Ave: Michigan to Tifft Street	C	**E**
Louisiana Street	B	**F**
I-190 SB: Elm St to I-90	D	**E**

The most significant intersection level of service and delay changes that would be expected to occur as a result of the Skyway removal with existing highway network and the addition of the

Buffalo Harbor Bridge scenario during the afternoon peak hour are similar to the changes observed in the morning peak hour.

In summary, there would be extensive delays in the afternoon peak hour and peak period with Scenario 2B. The level of queuing in the Ohio Street corridor and the South Park corridor is significant. The Ohio-Louisiana Street corridor (Path 1) experiences greater travel time in this scenario compared to Scenario 2 due to the additional traffic diverting to Louisiana Street. Commuter traffic delays for travel from and through the central business district would be less severe than in Scenarios 1 and 1B, but still not at an acceptable level.

Evaluation of I-90/I-190 NYS Thruway Corridor as Alternate to Route 5 Skyway Corridor:
Review of the I-90 corridor between Route 400 and I-190 shows this segment to have 139,000 vehicles per day with four lanes in each direction. The morning peak hour (7 a.m. to 8 a.m.) has 6,700 vehicles travelling northerly with 1,700 vehicles per lane. Our analysis shows this existing condition to be level of service "D" based on lane density, which is approaching unstable traffic flow. Speeds would be slightly decreasing as traffic volume slightly increases. The freedom to maneuver within the traffic stream is much more limited, and driver comfort levels decrease. If an additional 700 vehicles divert from the Skyway corridor to I-90 eastbound in the morning peak hour, then I-90 will be at the threshold of level of service "E", which is unstable traffic flow. The four scenarios tested in detail in this review divert from 40 to 470 vehicles to this I-90 eastbound corridor during the morning peak hour which would result in I-90 approaching capacity conditions.

Upon our review of the four traffic modeling scenarios with the Skyway removed, a general observation is that less traffic appears to divert away from the Route 5 corridor and use the I-90/I-190 NYS Thruway corridors to access downtown Buffalo than expected. The above noted traffic modeling results show long queues of traffic remaining in bumper to bumper conditions on Route 5 northbound in the morning peak hour. A number of factors explain why more of this traffic is not diverting to the I-90/I-190 corridors:

- There are currently 2,877 vehicles using the Buffalo Skyway northbound in the morning peak hour. The traffic modeling shows approximately 60% (1,727) of all vehicles are staying on Route 5 northbound to access Ohio Street, and about 40% (1,150) of all vehicles are diverting from Route 5 northbound at various points south of Ohio Street (i.e. Milestrip Road, Ridge Road, Tifft Street). Traffic modeling shows an increase of 547 vehicles on I-90 eastbound during the morning peak hour. This is equal to almost half of the traffic that diverts south of Ohio Street, which appears reasonable.
- There are approximately 960 existing vehicles traveling on Route 5 northbound during the morning peak hour, exiting Route 5 at either Ridge Road, Tifft or Ohio streets, before Route 5 reaches the Skyway. With the Skyway removed, this traffic is not likely to divert to the I-90/I-190 corridors as their routing would be more circuitous. This traffic would likely stay in the Route 5 northbound corridor and add to the travel delays in the peak hours.
- The diversion route on I-90/ I-190 is 13.2 miles and therefore is almost twice as long as the existing Route 5 eastbound route which is 6.9 miles. This extra distance encourages vehicles to stay in the Route 5 northbound corridor.

- Traffic exiting Route 5 northbound at Milestrip Road or at points further south would have to travel through two toll booths on I-90 before accessing I-190 northbound

heading downtown. This additional delay and toll expense would encourage some vehicles to stay on Route 5 eastbound.

Subsequent to the four scenarios (1, 1B, 2, 2B) detailed in the above review, three additional modeling alternatives were developed through the GBNRTC traffic models for further analysis. The three supplemental alternatives included:

Evaluation of Skyway Removal with High Speed EZ Pass:
This alternative tested the sensitivity for diversion of traffic from Route 5 Skyway corridor to I-90/I-190 corridor as related to the delay occurring at existing toll barriers. High speed toll facilities were simulated on the I-90 at the Hamburg, Milestrip and Lackawanna toll barriers. Inclusion of these barriers would remove the travel delay currently simulated in the traffic model, which may be a contributing factor to some vehicles not diverting away from the Route 5 corridor in previous four scenarios. The morning peak hour model results for this scenario indicated that the I-90 eastbound/I-190 northbound corridor would carry an additional 700 vehicles if both the Skyway were removed and a high speed EZ Pass system were in place, a net increase of approximately 200 more vehicles to this corridor due to high speed EZ Pass as compared with prior scenarios. This shift in traffic would not remove the anticipated congestion in the Route 5 corridor on Ohio Street and South Park Avenue.

The afternoon peak hour model results indicate that the I-190 southbound corridor would carry approximately 500 additional vehicles if the Skyway were removed with the addition of the high speed EZ Pass system. This level of traffic diversion would not remove the anticipated congestion in the Route 5 corridor on Ohio Street and South Park Avenue. The afternoon model also indicated congested travel on the I-190 southbound interchange with I-90 westbound.

Evaluation of Skyway Removal with Various Highway and Ramp Improvements and Widening of I-90/I-190:
This alternative tested several highway network improvements including increased capacity on Ohio and Louisiana streets, South Park Avenue, the widening of I-90/I-190 and the construction of new ramps to see if significantly increasing the capacity in this corridor could attract traffic away from the congested Route 5 corridor. The I-90/I-190 corridor would be widened an additional lane in each direction, from Church Street (I-190) to Milestrip Road (I-90), a distance of approximately 12 miles. Increased usage on the I-90/I-190 corridor was observed as traffic volumes increased from 330 to 770 additional vehicles as compared with prior scenarios. However, the traffic on the Route 5/Ohio Street/Louisiana Street corridor and South Park Avenue declined only marginally in the range of from 40 to 140 vehicles during the morning peak hours in the direction towards the central business district.

Similar trends were observed in traffic volume changes in the outbound directions during the afternoon peak hour. The I-90/I-190 corridor would carry from 240 to 530 more vehicles than the base Skyway removed network. However, Ohio Street and Route 5 in the outbound direction would carry only 40 to 80 vehicles less during the afternoon peak hour, and South Park Avenue would carry only 100 less vehicles during the afternoon peak hour.

Evaluation of Skyway Removal with Various Highway and Ramp Improvements and Widening of I-90/I-190 with a New Buffalo Harbor Bridge:

This alternative tested all of the highway network improvements noted above with the addition of a new Buffalo Harbor Bridge. The traffic model results indicated an increase in traffic volumes on the I-90/I-190 corridor from 290 to 660 vehicles during the morning peak hour heading towards the central business district compared with previous scenarios. This increase in traffic is less than observed in the above scenario, as expected. The Route 5 corridor decreases by about 170 vehicles as compared to prior scenarios.

The increase in the afternoon peak hour traffic volumes on the I-90/I-190 outbound corridor would be 210 to 430 vehicles compared with prior scenarios. The Ohio Street southbound and Route 5 outbound direction traffic would decrease by only 60 to 150 vehicles during the afternoon peak hour.

All of the three subsequent alternatives tested above indicate that improving the capacity of the I-90/I-190 corridor, and the removal of the toll delay though High Speed EZ Pass, has resulted in significantly more traffic using the Interstate corridor than what it was carrying prior to widening. The model results also indicate that the decrease in traffic along the Route 5 waterfront corridor would be marginal. Thus, the waterfront corridor highway network would continue to show extensive operating delays through the peak periods on a daily basis as in the prior scenarios tested. The increase in capacity on the I-90/I-190 corridor is useful but it is attracting traffic currently using routes other than the waterfront corridor. The estimated cost to widen the I-90/I-190 corridor is $900 million. From a traffic modeling perspective, neither the high speed EZ Pass nor the widening solve the issue of congestion caused in the Route 5 corridor with Skyway removal, even with the construction of the new Buffalo Harbor Bridge.

Traffic Summary

The review of traffic issues resulted in the following findings:

- The Skyway serves as a heavy truck route with approximately 4,350 heavy commercial vehicles per day, which is 11 percent of the total daily traffic.
- Removal of the Skyway would result in the elimination of infrastructure that has 25 years of its full design service life remaining and is a major component of the urban core surface transportation system. It is clear that the Skyway cannot be removed without significant impacts to the existing transportation system.
- There is no viable transportation alternative for crossing traffic over the Buffalo River and proximate railroad tracks, especially for heavy commercial traffic. Skyway removal is expected to cause safety concerns on local city streets and neighborhoods due to diverted heavy vehicles. While the traffic modeling software does not differentiate between autos and heavy vehicles, it is expected that most heavy vehicles will divert to the shortest path option. It is therefore expected that Ohio Street, Louisiana Street and Michigan Avenue will have significant mobility and traffic safety impacts from heavy vehicles. More than one tractor-trailer crosses the Buffalo Skyway every minute between 8 a.m. and 6 p.m.
- Skyway removal would have adverse affects on truck-dependent area businesses, such as the newly developed Buffalo Lakeside Commerce Park on Buffalo's Outer Harbor. Many existing and planned manufacturing and logistics businesses located along the Skyway/Route 5 corridor due to its direct connection to the interstate and Canada. It is imperative that removal of the Skyway does not negatively impact the economic vitality or viability of existing or potential commercial or industrial areas of South Buffalo or the Southtowns.

- A critical issue is that the Skyway/Route 5 complex provides an interchange with an elevated interstate highway (I-190) through the Buffalo central business district in downtown Buffalo. This is a major transportation link that cannot be severed without a comprehensive plan to accommodate the redistribution of traffic. Skyway removal may require an alternative interchange at the current location of the Skyway/I-190 interchange, in the area where waterfront development is now most active. Further, the removal may necessitate significant and complex modifications to the other existing New York State Thruway interchanges in downtown Buffalo, including Elm/Oak and Church Streets, since travel patterns and volumes would be altered as a result of viaduct removal.
- The I-90/I-190 facility is nearing capacity as evidenced by the stop and go traffic conditions that occur frequently during peak travel hours. Therefore, I-90/I-190 is not a credible alternate route for any measurable amount of current Skyway traffic.
- Approximately 57 percent of traffic on the inbound Skyway exits to I-190 northbound and southbound, and travels to destinations beyond downtown rather than accessing the downtown corridor directly. This is the case during both peak and off-peak hours. Additional traffic studies would be required to determine motorists' ultimate destinations, but this information would be critical in determining how to best mitigate this traffic to minimize commuter delays and added costs.
- The likelihood and timing of construction of the proposed Buffalo Harbor Bridge ($125 - $150 million) remains uncertain. Even so, this bridge is not intended to be a major commuter or commercial route. This proposed project is in the preliminary design phase and a decision has not been made regarding where this facility would be built. This uncertainty about the bridge location creates another variable in determining where other mandated highway improvements would be needed.
- The Buffalo Harbor Bridge is intended to be a pedestrian-friendly facility and is not intended to be a truck route. The Environmental Impact Statement for that project may need to be revisited should the Skyway be removed to assess the potential for the new bridge to handle truck traffic.
- The 2008 Buffalo Skyway Management Study determined that Ohio Street would be unacceptably congested were the Skyway to be closed, assuming there were no other transportation infrastructure improvements. Even when Ohio Street is rebuilt, it will still operate as a two-lane, pedestrian-friendly section. This would not be a suitable alternate route for trucks. Ohio Street is meant to be a gateway and parkway-like setting and having it serve as a major commuter corridor is in conflict with that vision.
- The analysis of all Skyway removal scenarios, without both the various improvements in the downtown street system - including likely modified ramp interchanges for the I-190 and other surface street improvements - and a new Buffalo Harbor Bridge, resulted in traffic congestion and mobility issues that have significant and unacceptable negative impacts on the regional transportation network.

Cost

A major factor that will inform decisions about the future of the Skyway/Route 5 complex is the direct removal cost and the additional costs associated with infrastructure modifications that would be required in order to accommodate the diversion of traffic currently carried by the Skyway. The plausibility study examines both the costs associated with removing the Skyway and mitigating the changes in travel patterns, and the costs associated with maintaining the Skyway and undertaking necessary maintenance and capital improvements to the structure during the period when the bridge structure is still open to traffic.

Costs to remove the Skyway:

Removal of the Skyway would require significant network improvements to accommodate the traffic that would be diverted from the Route 5 corridor. The review of the cost issues associated with removal of the structure resulted in the following findings:

- The improvements that would be required on both the local street and state highway networks are estimated to cost upwards of $105 to $125 million.
- The cost to construct an additional lane both northbound and southbound on I-190 from Church Street to I-90 at the Buffalo River is estimated at $700.0 to $750.0 million
- The cost to widen I-90 from I-190 at the Buffalo River to Milestrip Road is estimated at $250.0 to $270.0 million.
- Individually, the cost to replace the existing 2 lane Ohio Street Lift Bridge with a 4-lane structure better suited to carry increased traffic is estimated at $56.0 to $64.0 million.
- The cost associated with construction of a new Buffalo Harbor Bridge which would provide a connection between Downtown Buffalo and the Outer Harbor and Fuhrman Boulevard is currently estimated at $125 to $150 million.

Summing the above-mentioned component costs, the total estimated cost to remove the Skyway and mitigate traffic is $1,256.0 to $1,384.0 million.

Costs to continue to operate the Skyway:

The cost of maintaining and eventually replacing the existing Buffalo Skyway has been re-evaluated by NYSDOT as part of the plausibility review. For the purpose of this study, all cost estimates are given in 2014 dollars.

- If the structure were to be removed prior to its full design service life, in a 5 to 10-year time frame, periodic maintenance work would still need to be done to keep the existing structure open to traffic. Based on recent experience with the structure, it can be estimated that the Skyway would require:
  - $100,000 of annual repairs in each of the next five years
  - $200,000 of annual repairs in years six through 10

The total cost to operate the Skyway for 10 years is estimated at $1.50 million.

- If the Skyway were operated for its full 25 year design service life, it would require annual repairs estimated to cost $300,000 in each of the years 10 through 25. This would raise the total maintenance repair cost to operate the Skyway for 25 more years by an additional $4.5 million to $6.0 million.
- In addition, if the Skyway is intended to achieve its full design service life, more extensive capital project work would need to be undertaken within 5 to 10-years including:
  - Structural deck rehabilitation estimated to cost $22 million – must be undertaken within 3 years.

- Repair of the concrete fascia estimated to cost $3 million-must be undertaken within 3 years.
- Painting of all structural steel estimated to cost $15 million- must be undertaken within 10 years.
- The total cost of capital improvements needed to realize the full design service life (25-years) of the Skyway would be $40 million.

- The total cost of all work needed to operate the Skyway for this 25 year period, including maintenance repairs ($6.0 million) and capital improvements ($40.0 million) would be $46.0 million.

Beyond 25-years, the Skyway will be 80-years old and will have achieved its design service life. At that time, it will be necessary to consider the condition of the structure, traffic patterns in the area and development of the region. These factors will indicate whether the existing structure should be rehabilitated, replaced by a new structure or removed.

A review and update of the costs included in the 2008 New York State Buffalo Skyway Management Study was undertaken as part of this plausibility review. The 2008 study examined strategies for the operation of the Skyway and estimated future costs that would have to be borne in order to keep the structure open to traffic. The study stated "When reviewing the Skyway Bridge Management Alternatives, the time frame for deck replacement has a major influence on the life cycle cost comparison of each alternative." The study predicted that deck rehabilitation or replacement would have to be done within five years or the deck would deteriorate to the point where it would be beyond repair**.** The actual deterioration of the deck has not been as significant as the 2008 report predicted, and deck rehabilitation is now planned for 2017, which is five years later than what was predicted in the 2008 study.

- The study predicted a cost of $21.7 million to remove the Skyway after only five additional years of service with no capital improvements made to the structure. The study did not examine or include the necessary and costly transportation improvements that would be required to accommodate the traffic diversion.
- The 2008 study predicted a total cost of $26.8 million to operate the Skyway for 20 years if a concrete deck overlay was done within the first five years of the 20 year period. The deck has not been rehabilitated in the time frame contemplated in 2008. However, the deck is showing signs that the overlay replacement must be completed in the next few years to avoid the need for full deck replacement. A deck overlay replacement project is estimated to cost approximately $25 million, including concrete fascia repairs. This would extend the life of the Skyway approximately five years beyond what was contemplated in the 2008 study, at approximately the same cost.
- To operate the Skyway for a period beyond 20 years, the 2008 study recommended a full structural deck replacement that would need to be completed within five years, either using traditional cast in place procedures or pre-cast panels. The estimated cost of this treatment, including painting was $58 million to $68 million. The updated cost estimate for a complete deck replacement using a cast in place option, and painting, is $60M.

- The added cost of maintaining local infrastructure that is accepting new traffic would need to be calculated. The maintenance responsibilities for these improvements would be shared across multiple agencies (NYSDOT, City of Buffalo, NYSTA, etc.), requiring extensive coordination during the preliminary and final design phases to completion.
- Should the Skyway be closed in 5 to 10-years, the total cost for maintenance work to operate the Skyway for ten more years would be $1.5 million.
- If the Skyway were to be operated for at least 25 years, the total cost of all work to operate the Skyway, including annual maintenance and capital work, would be approximately $46 million (deck overlay) to $66 million (deck replacement).

Schedule

The timing and phasing of Skyway removal and necessary transportation infrastructure improvements is crucial, as preservation and rehabilitation work will be required on the structure within the next 5 to 10-years. The team reviewed the likelihood of accomplishing necessary infrastructure work before the Skyway requires more than minor maintenance work.

- Skyway removal and the necessary traffic mitigation would likely be done under multiple construction contracts, and require significant time to complete. Each of the 12 proposed infrastructure improvement projects has been estimated with a construction duration ranging from 1 to 20-months each. The estimated durations do not include the time needed for preliminary design, final design or the time necessary for right of way tasks, nor does it account for reduced durations due to the logical combination of projects.
- Mandated highway improvements would have to be completed prior to demolition of the Skyway. A series of such projects would likely be in a 6 to 10-year order of magnitude.
- Required capital work on the Skyway could not be forestalled and would be at a higher cost due to worsened conditions if mandated highway improvement projects do not move forward soon.
- A project of this extent and magnitude would likely require the preparation of an Environmental Impact Statement, which would require significant time and resources to complete.

Environment

While proponents of the Skyway's removal highlight its potential social and environmental benefits from a land use development view, there could likely be numerous and serious environmental considerations associated with removal of the viaduct. The environmental issues considered the most likely to require technical analysis should the Skyway be removed include: historic and cultural resources, contaminated and hazardous materials, air quality (microscale analysis), noise, energy, environmental justice and visual resources. For example, given its long history as part of the first settled area of Buffalo, it is possible there would be significant cultural resource issues.

The environmental issues considered in this review relate solely to the removal of the Skyway bridge and its associated ramps. The review did not look at environmental issues involving the possible removal or modification of NY Route 5 along the Outer Harbor to the south, nor any highway infrastructure improvements or the construction of any new bridge or highway. As part of this environmental review for the plausibility study, it was assumed that the Skyway piers and

footers would be removed in their entirety and the current traffic would be rerouted onto local streets.

Historic and Cultural Resources

The Skyway itself (BIN 1001579) and two of its associated ramps (BINs 100157A, 100157B) may be considered a cultural resource. The Skyway, built in 1956, and the ramps could be eligible for the National Register due to their age and uniqueness. The Skyway has not been previously evaluated; therefore, a cultural resource survey would need to be conducted to confirm its eligibility for the National Register.

There are no architectural cultural resources located in the project corridor, or any historic structures beneath the Skyway. The northern portion of the Skyway itself is in view of several National Register of Historic Places listed properties (County Hall, Prudential Building) and most likely several other National Register eligible properties, so its removal would affect their viewsheds. As for archeological cultural resources, excavation of the existing Skyway piers would presumably only disturb soil that was previously disturbed when the piers were built. If, after consulting record plans, it was discovered that pier removal would result in the excavation of previously undisturbed soils (at least at depth), an archeological survey may be required. This area, though graded extensively with fill, has a rich history buried below the surface, as excavation of the nearby Commercial Slip indicated.

Contaminated and Hazardous Wastes

Based on the long industrial history of the area surrounding the Skyway, potential significant environmental clean-up issues likely exist. Contaminated materials are likely to be encountered at any location requiring extensive excavation under the footprint of the Skyway, as this area is largely historic fill.

One end leg of each of the piers on the north and south shore of Kelly Island sits on the bank, partially in the water, of the Buffalo River/City Ship Canal. The last (northern most) pier leaving the Outer Harbor also has one leg on the ship canal bank. All of these piers would require excavation of potentially contaminated (perhaps hazardous) sediments from around their base in the Buffalo River and City Ship Canal. If United States Environmental Protection Agency (USEPA) dredging of contaminated sediments were to occur from the river and canal before Skyway removal, as seems likely, there would remain pockets of contaminated sediments around the base of each of these piers (probably immobilized with matting placed by USEPA) since NYSDOT has established minimum approach distances to the pier bases for dredging. Removal of these sediments would have to be done to avoid dispersing contaminated sediments into the now remediated river channel. This material would most likely not be eligible for reuse under a Beneficial Use Determination. If Skyway removal seems likely, coordination with the USEPA during their remediation activities in the river and canal, could effect complete removal of the sediments around the Skyway pier bases prior to their removal and eliminate this problem.

Air Quality (Microscale Analysis)

Traffic conditions in the area would be affected by removal of the Skyway. Changes in the number of vehicles on the area's roadways and levels of congestion would result. Further analysis would be required to determine which intersections would be impacted by the

project and would require a microscale air quality analysis which would identify the potential air quality effects associated with these changes.

Noise

Removal of the Skyway is expected to be classified as a Noise Regulation Type I under 23 CFR 772. The project could result in the realignment of bridges, bridge approaches, ramps and adjacent roads closer to residential and commercial receptors. The proposed removal of the Skyway may be considered a substantial alteration of the vertical alignment, and -- depending on what facility is expected to carry the traffic following its removal -- it may also be considered a substantial alteration of the horizontal alignment. An extensive noise analysis is likely to be required if the Skyway were to be removed.

Energy

An energy assessment would be required since the removal of the Skyway would likely result in a shift in travel patterns and changes in vehicle operating speeds.

Environmental Justice

A review of 2010 census data indicates that the neighborhoods that would potentially be impacted by traffic diverted as a result of the Skyway removal have an above average number of households living below the poverty level, a higher concentration of minority populations, and a higher percentage of persons unemployed than the average for Erie County. Therefore, the neighborhoods potentially impacted by Skyway removal and the resulting re-routing of current traffic carried by the Skyway can be characterized as Environmental Justice communities and must be analyzed to determine if the proposed project would disproportionally impact minority and/or low-income populations.

Visual Resources

A visual assessment would be required since the removal of the Skyway would likely result in a substantial change in viewsheds from and to this area.

Anticipated environmental permits and approvals that would be required for the removal of the Skyway include Section 14.09/106 Concurrence, NYS Department of State Coastal Zone Consistency, Niagara River Greenway, United States Coast Guard Section 9, United States Army Corps of Engineers Section 10 and State Pollutant Discharge Elimination System Construction Permit.

Conclusion

This plausibility review assessing the reasonableness and practicality of advancing studies to evaluate the removal of the Skyway provides a preliminary assessment of the potential impacts of Skyway removal, considering economic development, mobility and traffic safety, cost, schedule, and the environment. Its intended purpose is as a broad-based tool to assess the need to conduct further detailed studies. An Environmental Impact Statement would be required to fully identify the economic benefits, and to determine the impacts of Skyway removal and the transportation infrastructure improvements and mitigation that may be necessary to address them.

The viability and value of economic development enabled by removal of the Skyway is considered to be relatively minor and inconsequential to the local economy. While some parcels,

particularly one at the northern terminus, may be large enough and located in a desirable area to suggest strong development potential, many are located in areas where active development is ongoing and where the availability of these parcels would not likely occur in a time frame to enhance or expand upon that development. Other parcels are located adjacent to land areas that are currently developable but have not experienced development interest. It is important to note that some areas immediately adjacent to the Skyway, such as Canalside and the Inner Harbor, are under active and aggressive development. It is possible that speculation on the availability of additional land becoming available through removal of the Skyway could have a slowing effect on this ongoing development.

The movement of people and goods is the principal impediment to removal of the Skyway. Route 5 is a critical commuter and logistics link in the regional transportation network. Removal of the Skyway without a viable alternative would result in significant social and economic negative impacts to both the traveling public and the businesses and industries that rely upon the Skyway and the direct connection it provides to the interstate system and Canada.

It's estimated that any viable alternative to the Skyway would cost hundreds of millions of dollars. Scenarios ranging from improvements to various local roads, a new movable bridge over the Buffalo River, and widening of the I-90 and I-190 have not produced acceptable results for accommodating traffic diverted from Route 5 if the Skyway were removed.

Due to the extent and cost of transportation system improvements that would be necessary under any viable plan to remove the Skyway, it is likely that these improvements would need to be phased over several years, and they would take several years to complete. These improvements would need to be in place prior to closure of Route 5 and the Skyway.

Due to the demonstrated importance of the Route 5 corridor, the high cost of any viable alternative, and the likely long-term process for Skyway removal, it may be necessary to consider the cost for capital work, including a new deck overlay within five years and the painting of the bridge superstructure within ten years, as unavoidable and necessary costs when assessing the long term existence of the Skyway.

The Skyway has a design service life of 25 more years, at which point it will have achieved its full design service life. Across New York State, transportation maintenance and construction costs continue to increase. Federal funding for transportation has been static since 2009. New York State has some of the oldest infrastructure in the nation and the needs exceed funding. Ensuring that appropriate investments are made at the right time in the lifecycle of an asset is the most prudent use of available resources.