Irondequoit Bay Outlet Bridge Alternatives Analysis Study

January 11, 2018
Agenda

• Recap feasibility study process
• Present evaluation criteria
• Present alternatives for year-round access
• Present final scoring
• Question and answer session
Study Purpose:

The purpose of the study is to explore options to provide year-round access across the Bay Outlet, creating a better regional transportation system for all modes of travel. The feasibility study will provide a mechanism to assess whether any reasonable design solutions are available to provide year-round access to all travelers, including vehicles, boats, bikes and pedestrians while preserving the Irondequoit Bay’s ability to serve as a Safe Harbor.

⭐️ Only the feasibility study has been funded at this time. No funding has been obtained for design and construction of a follow on project.
Study Tasks:

- Project Initiation
- Existing Conditions Analysis
  - Public Information Meeting
- Development of Alternatives
  - Identify impacts & costs
  - Public Information Meeting
- Alternative Ranking based on Evaluation Criteria
- Present Ranking Results
  - Public Information Meeting
- Complete Draft Report
Alternative Evaluation Criteria: established by the steering committee during the meeting on January 26, 2017.

- Cost
- Property Impacts
- Economic Impacts
- Environmental Impacts
- Emergency Access
- Improved Year Round Access
- Aesthetic Impacts
- Operation and Maintenance Costs
- Improved Non-Motorist Access
- Impacts on Highway User Costs
- Construction Impacts
**Alternative Evaluation Criteria:** ranked in order from highest priority to least priority by steering committee, public meeting participants, online survey.

<table>
<thead>
<tr>
<th>Alternatives Analysis Criteria</th>
<th>Steering Committee</th>
<th>Public Meeting</th>
<th>On-Line Survey</th>
<th>Average</th>
<th>Overall Rank</th>
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<td>Improved Access for Non-Motorized Users</td>
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</table>
Alternative Evaluation Criteria:

Final prioritized ranking is based on all input received.

1. Improved Year Round Access
2. Emergency Access
3. Environmental Impacts
4. Property Impacts
5. Economic Impacts
6. Cost
7. Aesthetic Impacts
8. Operation and Maintenance Costs
9. Improved Non-Motorized Access
10. Impacts on Highway User Costs
11. Construction Impacts
Development of Alternatives

- Null Alternative (no change)
- Rehabilitation of existing bridge for year round operation
- Fixed Bridge at existing location (Girder)
- Fixed Bridge at existing location (Truss)
- Extension of the ramps at Irondequoit Bay Bridge
- Tunnel at existing location
- Movable Bridge at existing location (Rolling Lift)
- Route 104 to Ridge Road connection
- Ferry
Alternatives Eliminated

- Null Alternative (no change/maintain existing bridge)
- Rehabilitation of existing bridge for year round operation
  - Fixed bridge at existing location (Girder)
  - Fixed bridge at existing location (Truss)
- Route 104 to Sea Breeze Drive Connection
- Tunnel at existing location
- Moveable bridge at existing location (Rolling Lift)
- Route 104 to Ridge Road Connection
- Ferry
Alternatives for Further Consideration

A - Null Alternative (no change)
B - Rehabilitation of existing bridge for year round operation
C - Route 104 to Sea Breeze Drive Connection
D - Moveable bridge at existing location (Rolling Lift)
E - Route 104 to Ridge Road Connection
Null Alternative (no change)

- No change from existing conditions
- No improvement to year round access or emergency access
- Environmental considerations are unchanged
Retrofit Moveable Bridge at Existing Location
Retrofit Moveable Bridge at Existing Location

• Year round access is provided for all modes of travel
• Moderate environmental impacts related to construction activities
• Partial acquisition impacts to 5 properties
• Potential for improved economic impacts
• Increase operation and maintenance costs
• Minimal aesthetic changes
• Noise Analysis Considerations
• Floodplain Considerations
New Moveable Bridge at Existing Location
New Moveable Bridge at Existing Location

• Year round access is provided for all modes of travel
• Moderate environmental impacts related to construction activities
• Partial acquisition impacts to 5 properties
• Potential for improved economic impacts
• Increase operation and maintenance costs
• Minimal aesthetic changes
• Noise Analysis Considerations
• Floodplain Considerations
Moveable Bridge at Existing Location (Rolling Lift)
Moveable Bridge (bridge operation cycle)

• Lower safety gates and signals change to red – 90 seconds
• Open bridge span – 90 seconds
• Marine traffic passage (5 mph) – 120 seconds
• Close bridge span – 90 seconds
• Open gates and signals to green – 30 seconds

• Total opening time approximately 7 minutes
Current Traffic Conditions:
2010 ADT
Open for Cars

Source: GTC Regional Travel Demand Model Estimates
Current Traffic Conditions:
2010 ADT Closed for Cars

Source: GTC Regional Travel Demand Model Estimates
Moveable Bridge (off-peak vehicle queue weekend)

Vehicle queue clears in approximately 1.0 minute

Westbound queue 610 feet

Eastbound queue 570 feet

Insert MB photos
Moveable Bridge (off-peak vehicle queue week day)

- Westbound queue clears in approximately 1 minute
- Eastbound queue 650 feet
- Westbound queue 700 feet
Moveable Bridge (peak vehicle queue weekend)

Vehicle queue clears in approximately 1.5 minutes

Westbound queue 1,200 feet

Eastbound queue 1,100 feet
Moveable Bridge (peak vehicle queue week day)

Vehicle queue clears in approximately 2 minutes

Westbound queue 1,400 feet

Eastbound queue 1,400 feet
Route 104 to Sea Breeze Drive Connection

- Limited to 5% grade
- 75 feet of elevation difference
- Bridges required for Titus Ave Extension
- Property acquisitions
  - (17 parcels)
- Pedestrians and bicyclists not accommodated on Bay Bridge
- Traffic operations
  - 8600 AADT NB
  - 3500 AADT NB and SB Ramps
  - Midblock intersection

500 Vehicles Per Hour Southbound Ramp
1,200 Vehicles Per Hour Northbound
Route 104 to Ridge Road Connection
Route 104 to Ridge Road Connection
Webster to Irondequoit
Route 104 to Ridge Road Connection
Irondequoit to Webster
Route 104 to Ridge Road Connection

- Limited to 5% grade
- Bridge replacements required for Route 590
- Pedestrians and bicyclists not accommodated on Bay Bridge
- No property acquisitions
- Minimal environmental impacts
- Travel Demand Model indicates most access improvements are for access to southern portions of Irondequoit, does not achieve desired connectivity between northern Webster and northern Irondequoit
## Construction Cost Summary

<table>
<thead>
<tr>
<th></th>
<th>Null Alternative</th>
<th>Moveable Rehabilite Existing Bridge</th>
<th>Route 104 to Sea Breeze Drive Connection</th>
<th>Moveable New Rolling Lift Bridge</th>
<th>Route 104 to Ridge Road Connection</th>
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</thead>
<tbody>
<tr>
<td><strong>Construction Costs</strong></td>
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<td>$16,000,000</td>
<td>$29,800,000</td>
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<td><strong>Major Rehabilitation Costs</strong></td>
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<td><strong>Project Development Costs</strong></td>
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<td><strong>Total Project Costs</strong></td>
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<td>$28,260,000</td>
<td>$41,790,000</td>
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Only the feasibility study has been funded at this time. No funding has been established for a follow on construction project.
### Alternative Evaluation Criteria and Scoring:

<table>
<thead>
<tr>
<th>Alternatives</th>
<th>Improved Year Round Access</th>
<th>Emergency Access</th>
<th>Environmental Impact</th>
<th>Impacts to Properties</th>
<th>Economic Impacts</th>
<th>Project Costs</th>
<th>Aesthetics Impacts</th>
<th>Operation &amp; Maintenance Costs</th>
<th>Impacts on Highway User Costs</th>
<th>Improved Access for Non-Motorized Users</th>
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Next Steps:

- Finalize Draft Final Report
- Distribute for public review and comment
- Hard copies – will be at Webster and Irondequoit Town Halls and libraries
- Electronic copy – will be available on Town of Irondequoit website
Questions and Answers