Irondequoit Bay Outlet Bridge Alternatives Analysis Study

April 12, 2017

Study Team:

- Town of Irondequoit
- Fisher Associates
  - HDR
  - Ravi Engineering
- Steering Committee

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Steering Committee:

- Town of Irondequoit
- Town of Webster
- Business Owners
- Seabreeze District
- Assemblyman Joe Morelle's office
- Senator Rich Funke's office
- Senator Chuck Schumer's office
- Monroe County Legislature
- USCG
- NYSDOT
- NYSDEC
- NYS Parks
- MCDOT
- GTC
- MC Planning

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Agenda:

- Introductions
- Study Purpose
- Results of Existing Conditions Research
  - Jurisdictional Ownership
  - Structural Conditions
  - Environmental Screenings
  - Traffic Data
  - Land Use/Business Assessment
- Evaluation Criteria Process
- Next Steps and Schedule
- Public Involvement Breakout Stations

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.

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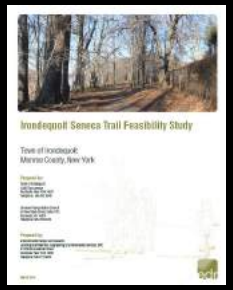
Study Tasks:

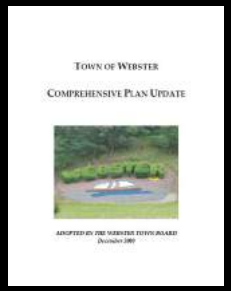
- Project Initiation
- Existing Conditions Analysis
  - Public Information Meeting
- Development of Alternatives
- Assessment of Feasibility and Cost Analysis
- Present Draft Recommendations
  - Public Information Meeting
- Complete Report

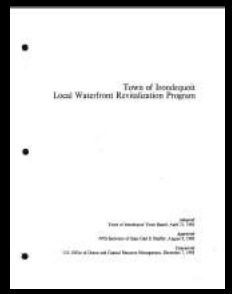
Existing Conditions:

Review of previous plans, designs, reports and documents relating to the Irondequoit Bay Outlet

- NYSDOT Route 104 Ramp Plans – 1967 as-builts
- County and NYSDOT Traffic Records
- Regional Travel Demand Model (TDM)
- Seneca Trail Feasibility Study - 2014
- Comprehensive Plans (Irondequoit, Webster)
- LWRP







Jurisdictional Information

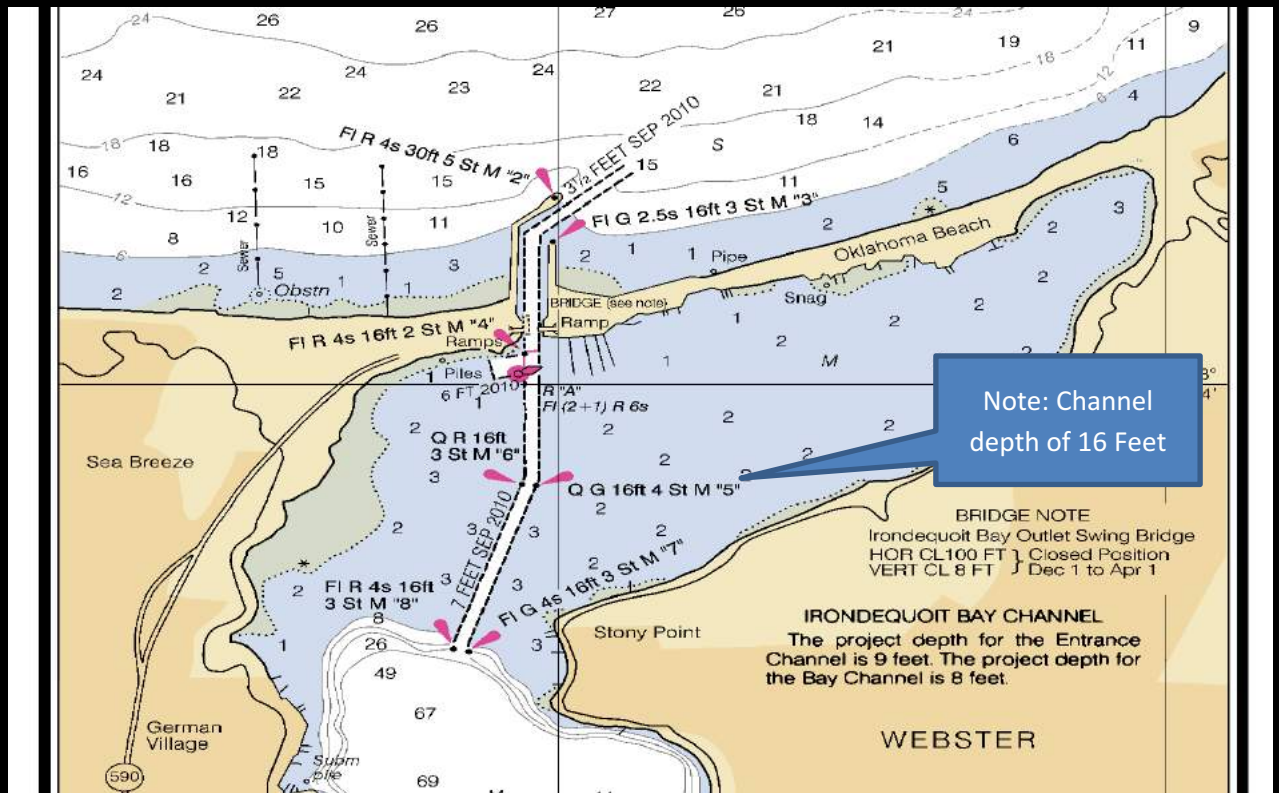
Current Physical and Natural Conditions

Structural Conditions:

- The existing outlet bridge was constructed in 1998.
- Provides two travel lanes and two sidewalks crossing the outlet channel to Irondequoit Bay.
- The bridge is seasonally operated.
- It is open to roadway traffic from November 1 through April 1. The remainder of the year, it is swung open to allow unrestricted marine traffic and is positioned along the west side of the outlet.
- The inside width between trusses is 24 ft and there is a 5 ft sidewalk on each side of the bridge (outside the trusses).
- The navigation clearance with the bridge in the closed position is 4 ft.

Current Physical Conditions

Navigation Study: Access to Irondequoit Bay from Lake Ontario is through a channel which has 100 feet of horizontal clearance and 16 feet of authorized water depth. The water depth has been reported anecdotally as 12 feet by local mariners.



Current Physical Conditions

Vessel Survey: Review of the local mariners was performed

Vessel Type	Estimated Number	Beam (feet)	Draft (feet)	Height from waterline (feet)
Motor boat 10 to 30 feet in length	1400	8	3	10
Motor Boat over 35 feet in length	25		6	25
Sail Boat under 30 feet	340		6	33
Sail Boat over 30 feet	25	15	10 – 12	45
Work Barges		40	3 to 12	0 to 15
Emergency Service vessels		12	5	10

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Current Physical Conditions

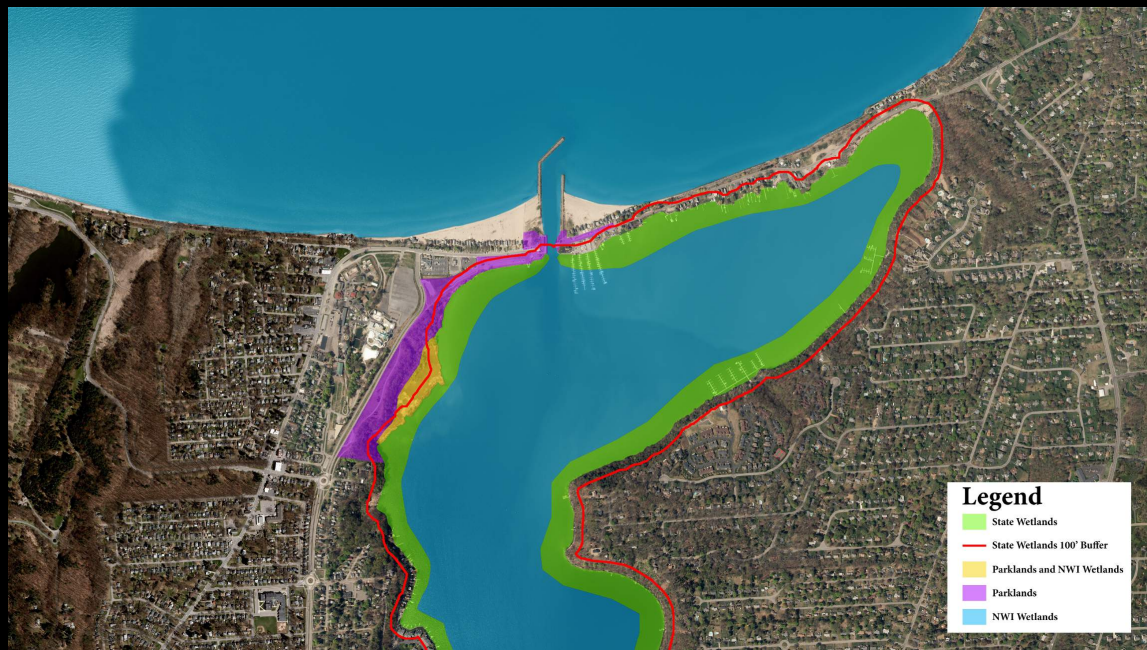
Vessel Survey: Review of the local mariners was performed

- Discussions with marina owners
- Count of the slips within the Bay
- ~90% of the vessels berthed within the Bay are recreational craft from 10 -30’ long; Some larger craft up to 50’ long
- The bay is also home to sailing vessels in 15-30’ range.
- Based upon a count of slips, the bay can accommodate approximately 1800 small craft.

50’ – 100%, 40’ – 95%, 20’ to 30’ – 80%, 10’ – 75%

Environmental Screening and Regulatory Compliance

- Endangered Species
- Hazardous Waste Sites
- Ground / Surface Water
- Wetlands
- Cultural Resources
- Parkland



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Environmental Screening and Regulatory Compliance

- Endangered Species – Northern Long-Eared Bat, Bald Eagle
  - (Both current location and Route 104 ramp alternatives)
- Hazardous Waste Sites – Spill Sites and Hazardous Waste Sites Within Study Areas Would Require Subsurface Investigations
  - (Both current location and Route 104 ramp alternatives)
- Ground Water – Sole Source Aquifer – No
  Primary Aquifer – Yes but most likely no impact
  - (Both current location and Route 104 ramp alternatives)

Environmental Screening and Regulatory Compliance

- Surface Water – Lake Ontario and Irondequoit Bay
  NYSDEC Class A Water Bodies
  (Current location alternative consideration)
- Wetlands – Within 100 Foot Check Zone NYSDEC Wetlands
  Near Federal Mapped and Regulated Wetland
  - (Both current location and Route 104 ramp alternatives)
- Cultural Resources – No Historic, Possible Archeological
  - (Both current location and Route 104 ramp alternatives)
- Parkland – Irondequoit Bay State Marine Park – Section 4f Evaluation

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Environmental Screening: Permitting

- US Army Corps:
  - Section 404 Clean Waters Act
  - Pre-Construction Notification Nationwide Permit 14
  - Section 10 of the Rivers and Harbors Act of 1899
- US Coast Guard
  - Section 9 of the Rivers and Harbors Act of 1899
- Executive Orders
  - EO 11990 Protection of Wetlands
  - EO 11988 Floodplains
- NYS Department of State
  - Coastal Zone Consistency Certification Statement

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Environmental Screening: Permitting

- NYS Department of Environmental Conservation:
  - Article 34 Coastal Erosion Hazard Area Permit
  - Article 24 Freshwater Wetlands Permit
  - Section 401 Water Quality Certification
  - State Pollution Discharge Elimination System (SPDES) General Permit
- NYS Office of Parks Recreation and Historic Preservation:
  - Section 4(f) evaluation

Environmental Screening:

- State Wetland Mapped Boundary (requires delineation to confirm)
- Landward Extent of the State Wetland Check Zone
- Federal Wetland Mapped Boundary (requires delineation to confirm)
- NYSDEC Primary Aquifer Boundary
- NYS Parklands
- NYSDEC Superfund Sites (Hazardous Waste Sites)

Environmental Screening:

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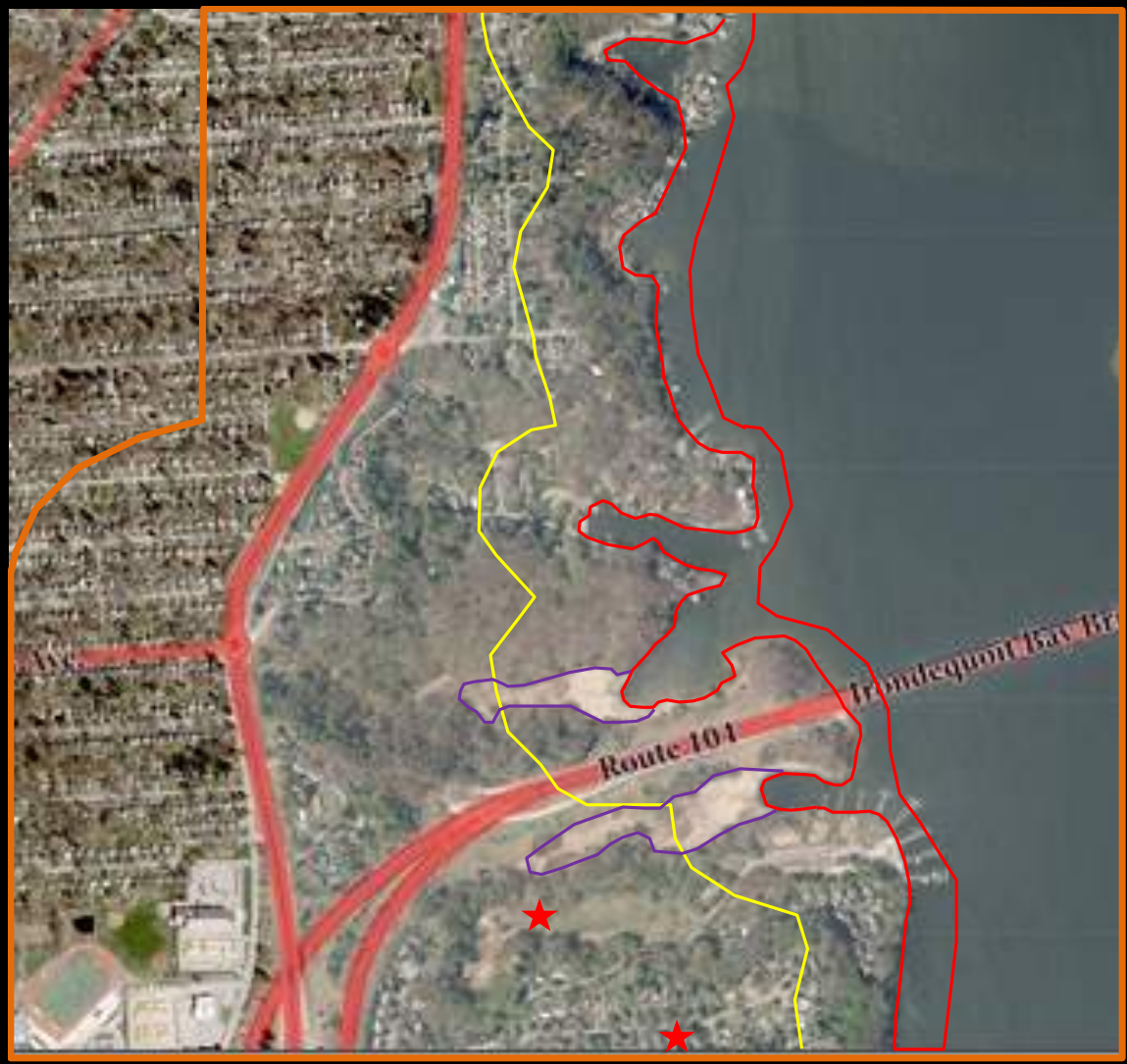

Current Traffic Conditions: Historical Counts

Bridge Closed to Cars

Bridge Open to Cars

First Year After Swing Bridge

Original Bridge Removed

Source	Date	Location	Volume
NYSDOT	Oct 2013	West of Bay Road	947
MCDOT	Dec 17, 2014	West of IBOB	4558
MCDOT	Dec 6, 2014	West of IBOB	4785
MCDOT	Dec 2, 2014	West of IBOB	5008
MCDOT	Mar 11, 2000	West of IBOB	5489
MCDOT	Mar 7, 2000	West of IBOB	6126
MCDOT	Dec 6, 1999	West of IBOB	5301
MCDOT	Dec 5, 1999	West of IBOB	6371
MCDOT	Dec 4, 1999	West of IBOB	5764
MCDOT	Mar 14, 1999	West of IBOB	5031
MCDOT	Mar 13, 1999	West of IBOB	5673
MCDOT	Mar 11, 1999	West of IBOB	5125
MCDOT	Aug 1, 1985	West of Bay Road	1611
MCDOT	Aug 1, 1984	West of Bay Road	9817
MCDOT	June 1, 1981	West of Bay Road	9561

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Current Traffic Conditions:

2010 ADT

Open for Cars

Source: GTC Regional Travel Demand Model Estimates

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Current Traffic Conditions:

2010 ADT

Closed for Cars

Source: GTC Regional Travel Demand Model Estimates

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Land Use and Business Assessment

- Impact of seasonal closure on area businesses
  - Water-adjacent business uses in Irondequoit are largely summer-focused
    - Loss of access reduces customer base
    - Seasonal nature of businesses creates difficulty comparing winter and summer conditions
  - Businesses along Culver Road may see reduction in sales due to change in traffic pattern between bridge opening and closure
- Economic development potential and expected impacts will vary by bridge alternative

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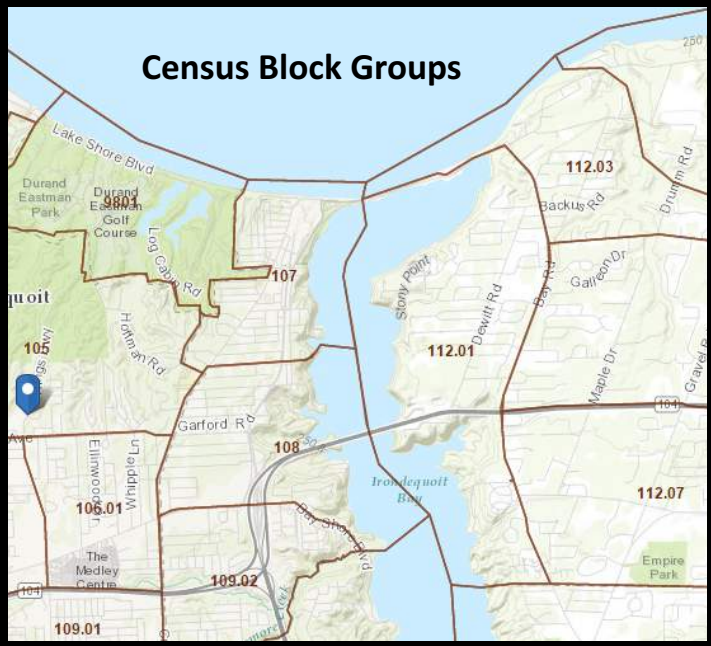
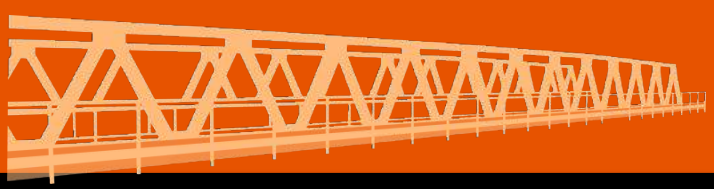
Economic Analysis

- Impact of seasonal closure on residents/tourists
  - Forced change in travel patterns
  - Bicycle/pedestrian access along waterfront
  - General connection between neighboring towns that are close for only part of the year
  - Increased emergency response time
  - Impacts to the boating community

Analytical Approach

- Review study area Census demographic and employment data
  - Population
  - Travel patterns
  - Employment
  - Work commute
  - Spending habits
  - Local sales
- Determine relative size of impacted market area
- Evaluate magnitude of existing impacts of summer bridge closure
  - Differences between summer and winter accounting for seasonal differences





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Next Steps Economic Evaluation

- Utilize traffic data in combination with Census data to quantify seasonal variation and business impacts
- Quantify user-related impacts of seasonal bridge closure
  - Travel time costs, including emergency response
  - Loss of bike/ped connectivity
  - Environmental impacts of roadway diversion
  - Safety impacts of changing travel patterns
- Apply methodology to the bridge alternatives to assess differences between alternatives
  - Water-adjacent business uses in area are largely summer-focused; loss of access reduces customer base

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Evaluation Criteria: establishes a process that…

- Is systematic
- Objective
- Defendable
- Utilizes a prioritized matrix
- Is developed in collaboration with the Steering Committee and the public

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Alternatives Evaluation:

- Environmental considerations
- Existing conditions, traffic evaluation, property impacts, economic impacts
- Steering Committee, Stakeholder & Public Input
- Evaluation Criteria

Development of Alternatives

- Three alternatives with variations
  - Fixed Bridge at existing location
  - Movable Bridge at existing location
  - Extension of the ramps at Irondequoit Bay Bridge

Fixed Bridge at Existing Location

Under Clearance	Bridge Depth 100 ft span	Roadway Elev. Above Existing	Approach Length (5%)	Total Bridge Length
20	10	30	600	1300 (blue)
30	10	40	800	1700 (orange)
40	10	50	1000	2100 (purple)

Movable Bridge at Existing Location

- Installation of traffic gates (150 feet each end)
- Potential vertical clearance increase to pass more vessels with bridge in place
- Type of Bridge
  - Swing (use existing)
  - Twin leaf bascule
  - Towerless vertical lift

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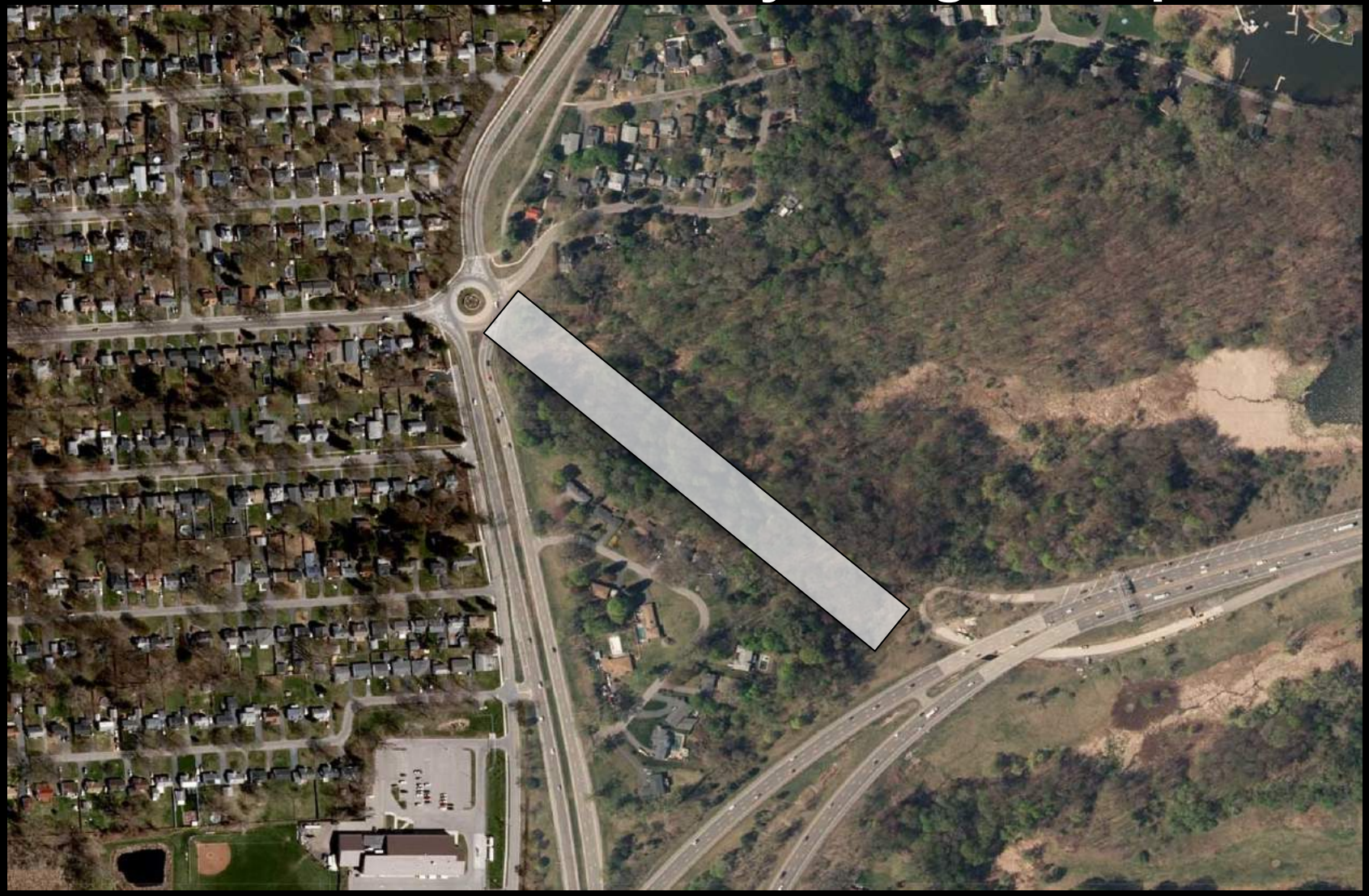
Extension of Irondequoit Bay Bridge Ramps



Next Steps

- Finalize existing conditions research and complete economic analysis
- Develop concept alternatives for evaluation
- Apply evaluation criteria to the alternatives
- Prioritize Alternatives
- 2nd Public Meeting

http://www.irondequoit.org/all-news/330-i-b-o-b-feasibility-study

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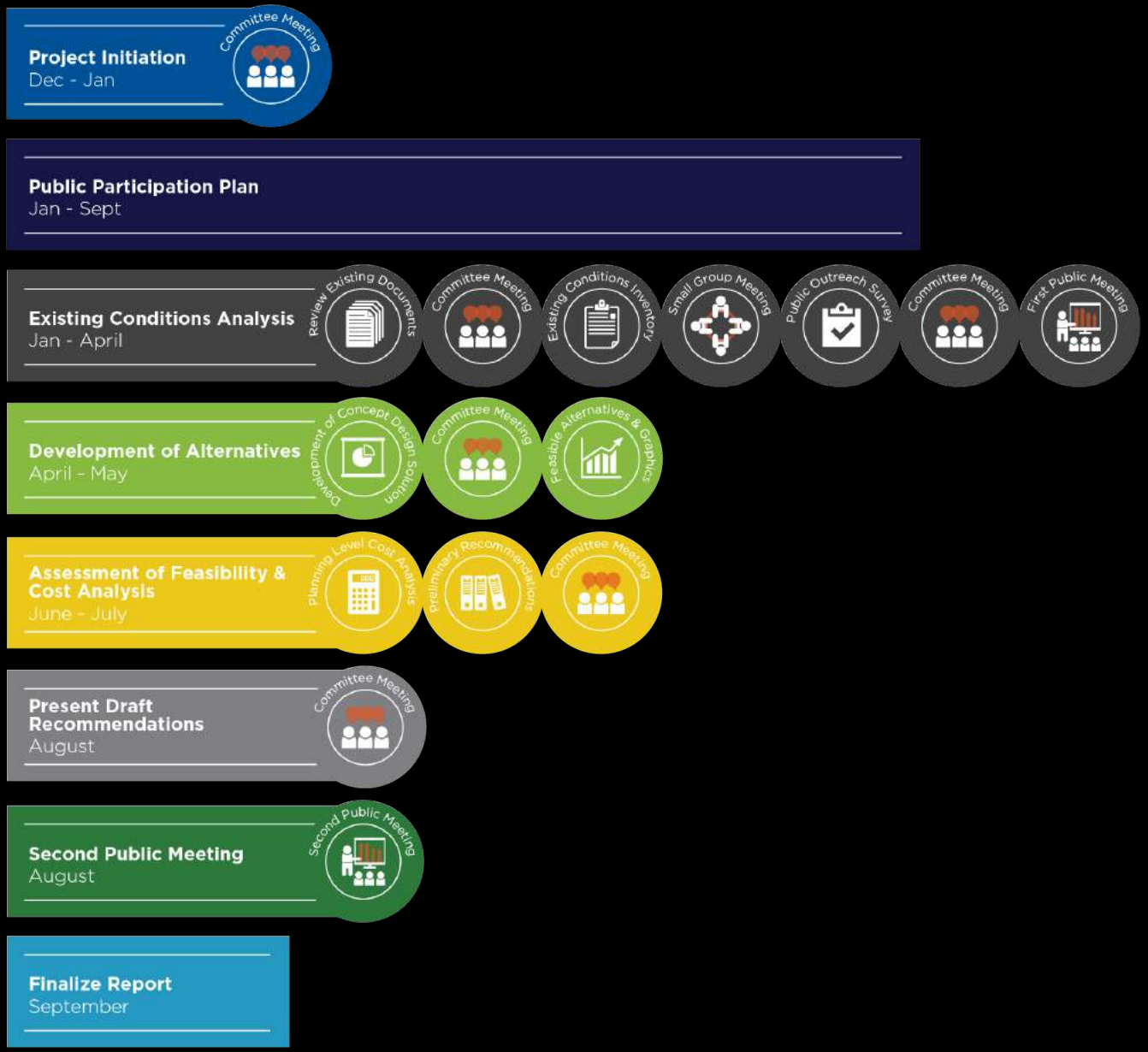
Schedule



Breakout Stations

- Comment Station
- Trip Location Station
- Evaluation Criteria Station
- Community “Where do you live?” Map
- Online Survey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Breakout Stations for Public Input