Irondequoit Bay Outlet Bridge Alternatives Analysis Study

October 3, 2017

Study Team:

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

Agenda

- Project purpose
- Study Tasks
- Development of Alternatives
- Next steps
- 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.

Study Tasks:

- Project Initiation
- Existing Conditions Analysis
  - Public Information Meeting
- Development of Alternatives 
  - Identify impacts & costs
- Alternative Ranking based on Evaluation Criteria
- Present Ranking Results
  - Public Information Meeting
- Complete Report

Project Tasks Completed:

- Steering Committee meetings
- Public information meeting (April 2017)
- Business owner meetings
- Online surveys
- Collected and evaluated traffic data
- Vessel survey interviews with marina operators
- Identified concept alternatives

Concept Alternatives

- Null Alternative
- Rehabilitation of existing bridge for year round operation
- Fixed bridge at existing location (Girder)
- Fixed bridge at existing location (Truss)
- Tunnel at existing location
- Moveable bridge at existing location (Rolling Lift)
- Extension of the ramps at Irondequoit Bay Bridge
- Route 104 to Ridge Road connection
- Ferry

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Alternatives Eliminated

- Null Alternative
- Rehabilitation of existing bridge for year round operation
- Fixed bridge at existing location (Girder)
- Fixed bridge at existing location (Truss)
- Tunnel at existing location
- Moveable bridge at existing location
- Route 104 to Sea Breeze Drive Connection
- Route 104 to Ridge Road Connection
- Ferry

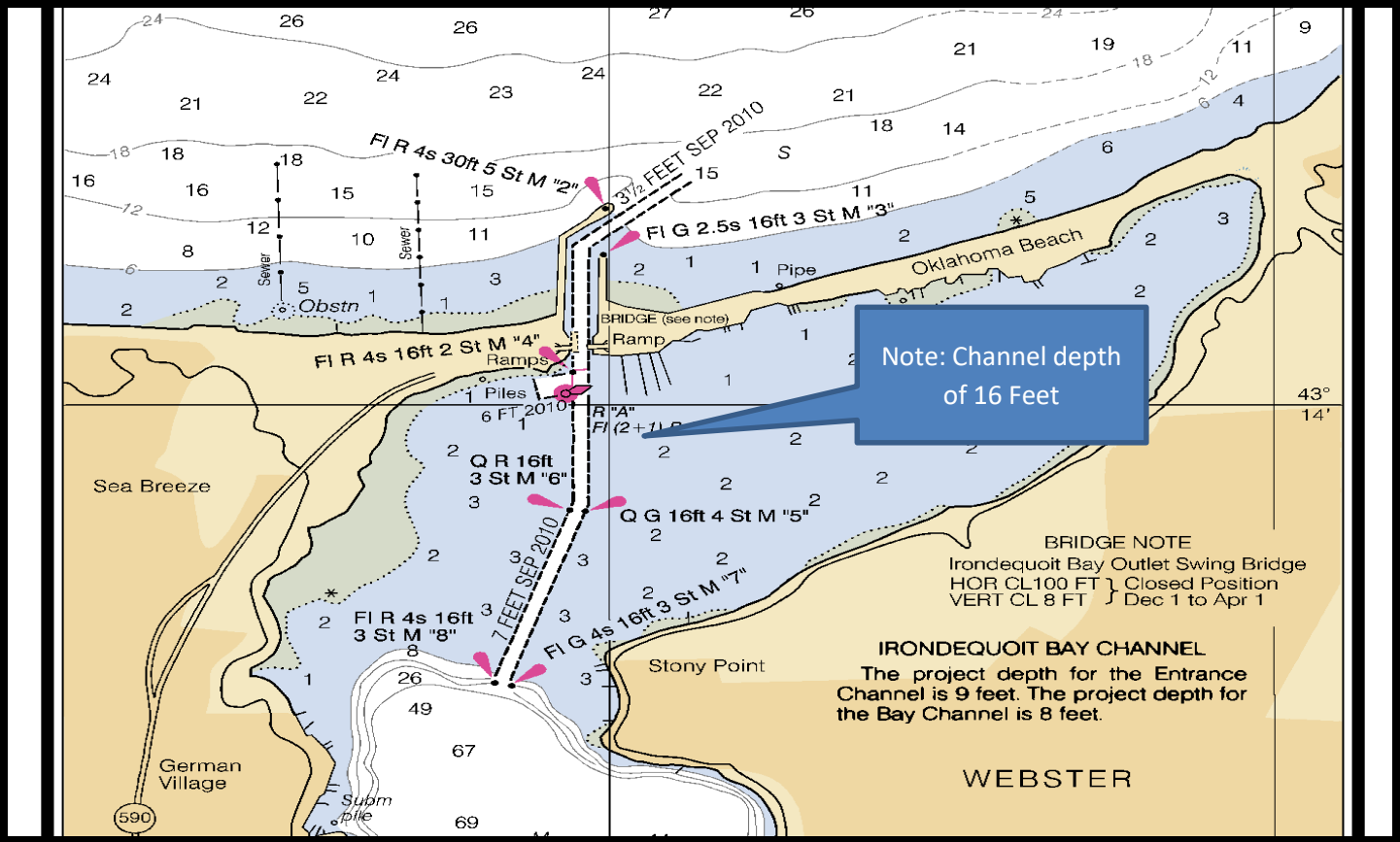
Alternatives for Further Consideration

- Null Alternative
- Rehabilitation of existing bridge for year round operation
- Moveable bridge at existing location (Rolling Lift)
- Route 104 to Sea Breeze Drive Connection
- Route 104 to Ridge Road Connection

Jurisdictional Information

Current Physical Conditions

- Channel has a horizontal clearance of 100 feet and is 12-16 feet deep.



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:

- 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)

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Current Traffic Conditions:

2010 ADT

Open for Cars

Source: GTC Regional Travel Demand Model Estimates

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2010 ADT

Closed for Cars

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Development of Alternatives:

- Environmental impacts & considerations
- Traffic and safety evaluation
- Property impacts
- Required mitigation
- Economic impacts
- Steering Committee, Stakeholder & Public Input

Moveable Bridge at Existing Location (Retrofit)

- Installation of traffic gates (150 feet each end)
- Potential vertical clearance increase of 4 to 5 foot – bridge under clearance at 9 to 10 feet
- Type of Bridge
  - Swing (retrofit existing)

Moveable Bridge at Existing Location (Retrofit)

Moveable Bridge at Existing Location (Rolling Lift)

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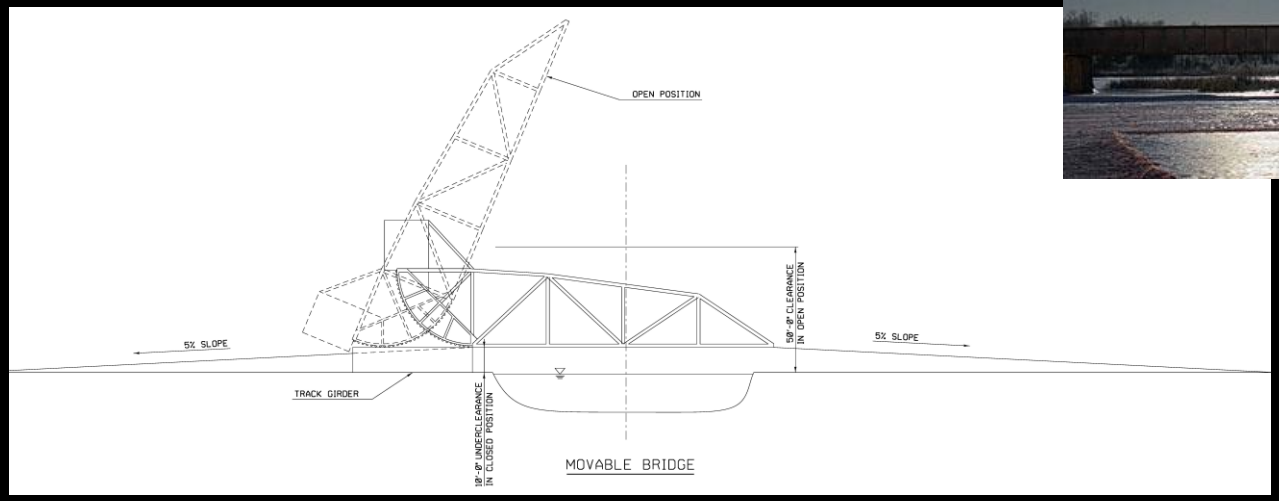

Moveable Bridge at Existing Location (Rolling Lift)

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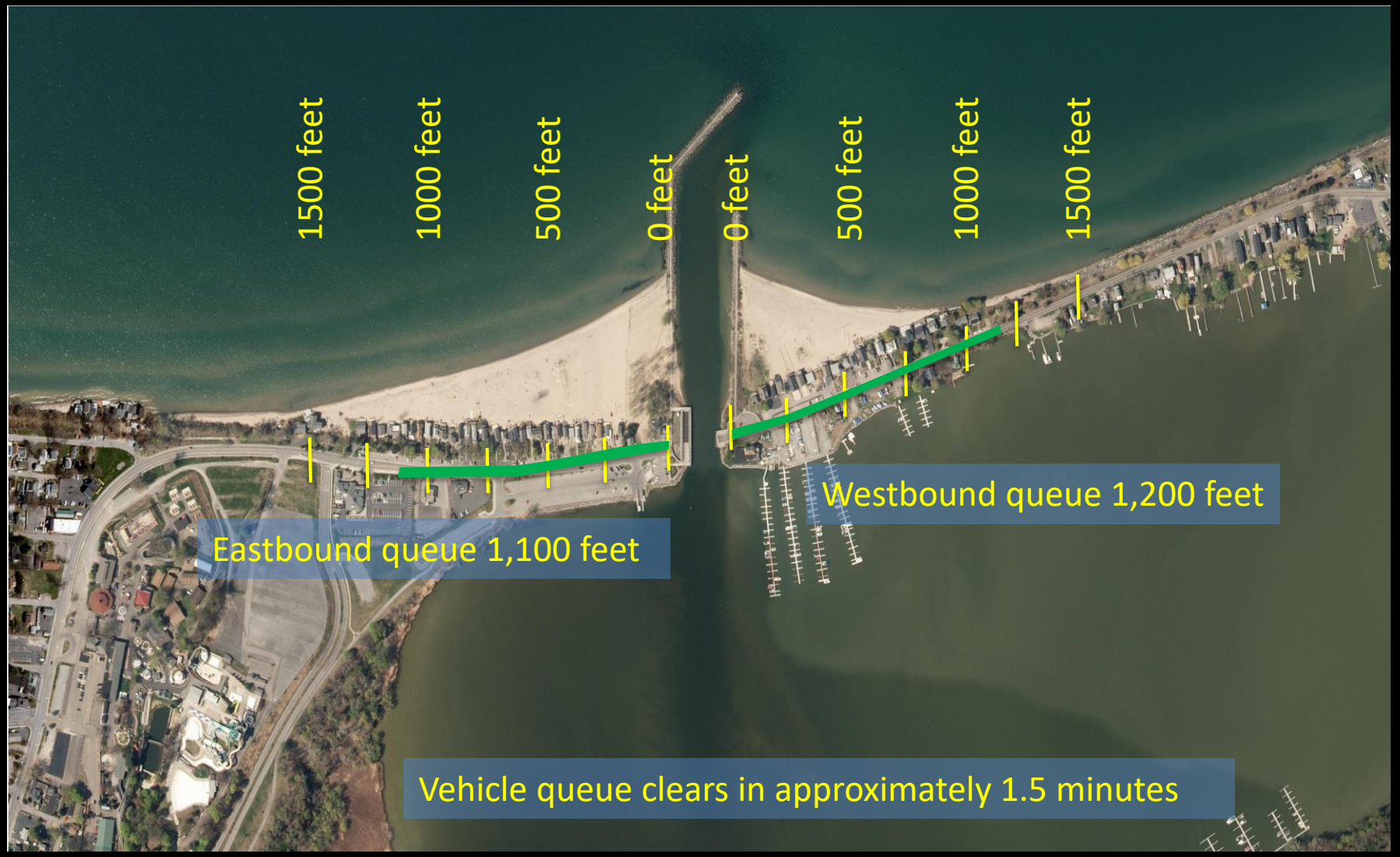
Moveable Bridge (bridge operation cycle)

- 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

Moveable Bridge (vehicle queue weekend)



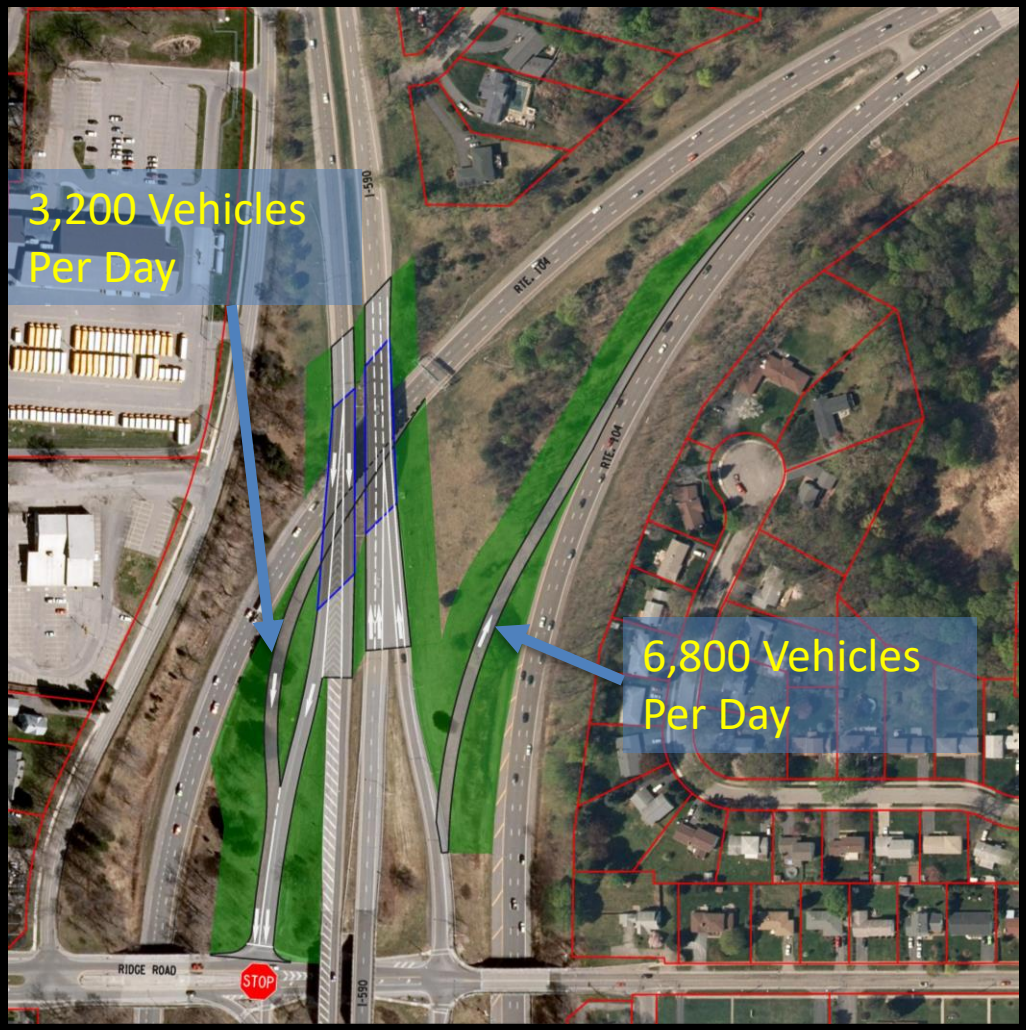
Moveable Bridge (vehicle queue week day)

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)
- Pedestrian and bicyclist accommodations limited
- Traffic operations
  - 8600 AADT NB
  - 3500 AADT NB and SB Ramps

Route 104 to Ridge Road Connection

- Limited to 5% grade
- Bridges replacements required for Route 590
- Pedestrian and bicyclist accommodations limited
- No property acquisitions



Life Cycle Cost Summary (75 Year Program)

	Null Alternative	Moveable Rehabilitate Existing Bridge	Moveable New Rolling Lift Bridge	Route 104 to Sea Breeze Drive Connection	Route 104 to Ridge Road Connection
Construction Cost	$0	$15,000,000	$31,900,000	$29,800,000	$21,000,000
Annual Operation and Maintenance Costs	$300,000	$3,900,000	$3,900,000	$300,000	$300,000
Expected Repair Costs (75 Years)	$2,700,000	$3,300,000	$2,800,000	$1,300,000	$1,300,000
Residuals Value	$100,000	$300,000	$250,000	$100,000	$100,000
Total Life Cycle Costs	$2,900,000	$21,900,000	$38,350,000	$31,300,000	$22,500,000

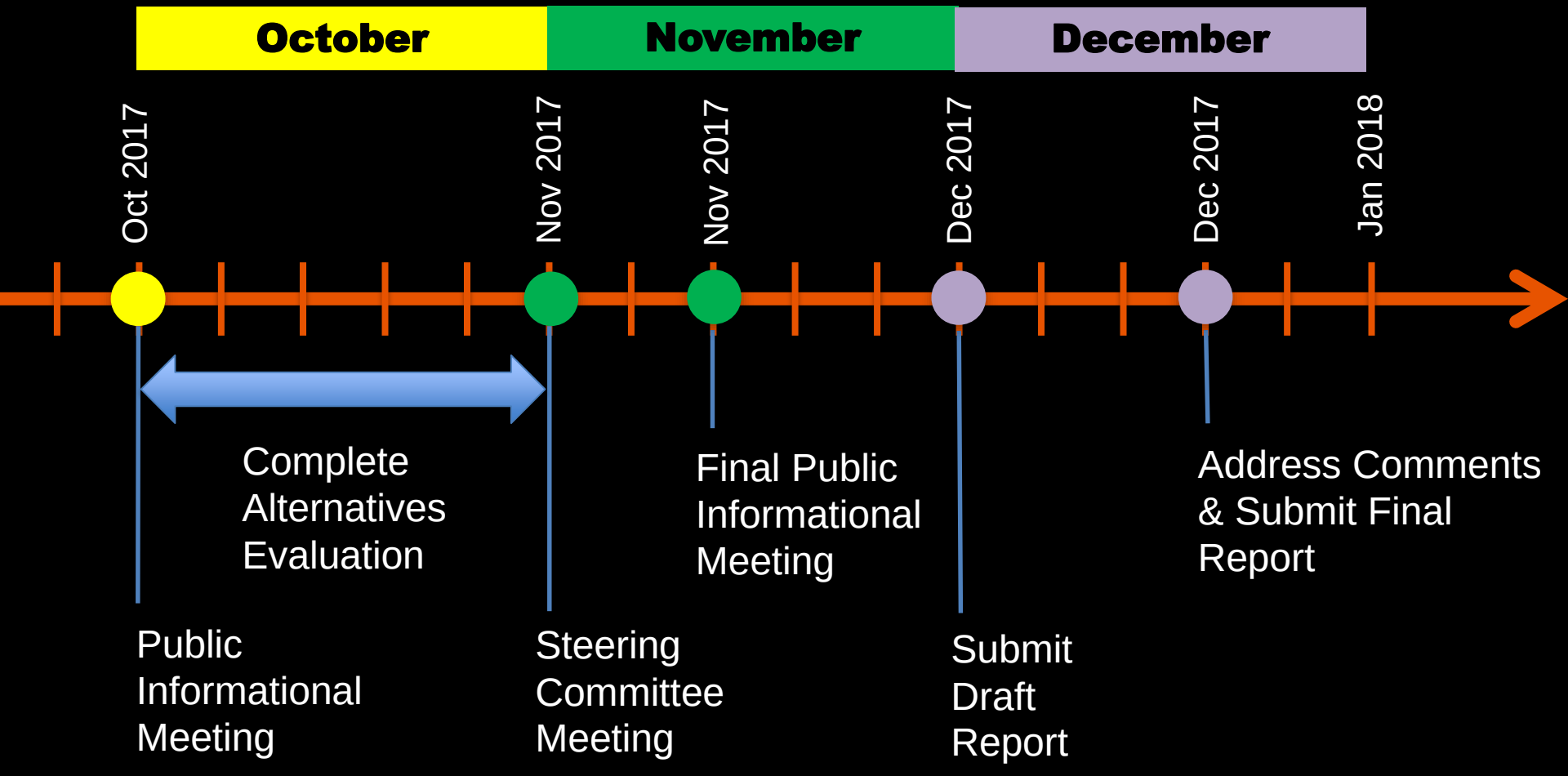
Alternative Evaluation Criteria:

- 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

Next Steps:

- Complete economic analysis
- Quantify environmental impacts
- Coordinate with agencies having jurisdiction
- Finalize alternative rankings
- Final Public Information Meeting
- Complete and submit final report

Schedule


October
November
December
Oct 2017
Nov 2017
Nov 2017
Dec 2017
Dec 2017
Jan 2018
Complete Alternatives Evaluation
Public Informational Meeting
Steering Committee Meeting
Final Public Informational Meeting
Submit Draft Report
Address Comments & Submit Final Report

Breakout Stations