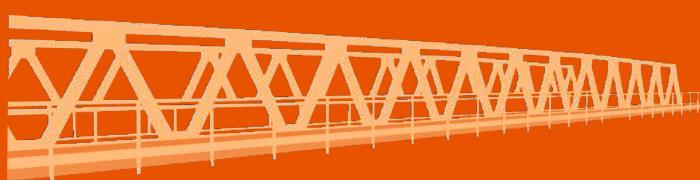




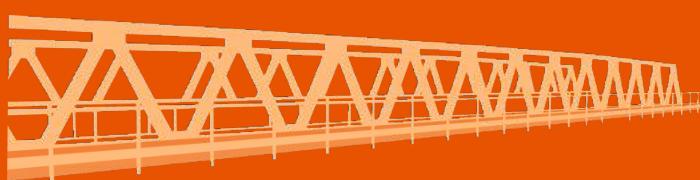
# **Irondequoit Bay Outlet Bridge Alternatives Analysis Study**

**January 11, 2018**



# Agenda

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

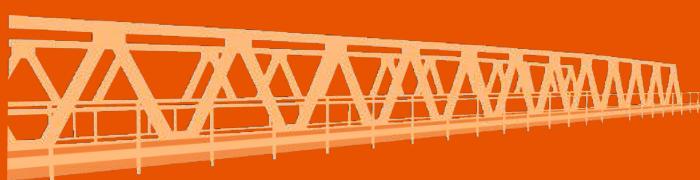


## Study Purpose:

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.

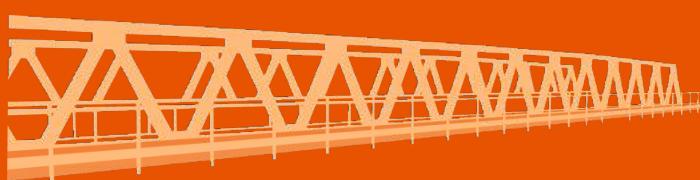




## Study Tasks:

- 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

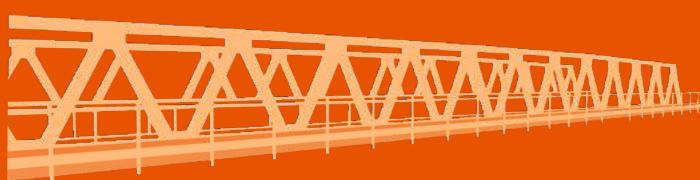




# **Alternative Evaluation Criteria:** established by the steering committee during the meeting on January 26, 2017.

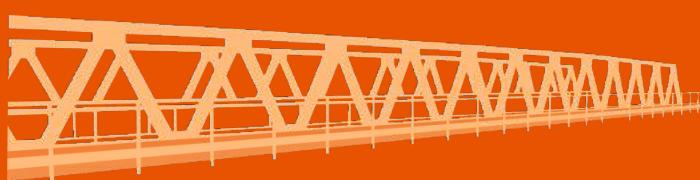
- Cost
- Property Impacts
- Economic Impacts
- Environmental Impacts
- Emergency Access
- Improved Year Round Access
- Aesthetic Impacts
- Operation and Maintenance Costs
- Improved Non-Motorist Access
- Impacts on Highway User Costs
- Construction Impacts





# Alternative Evaluation Criteria: ranked in order from highest priority to least priority by steering committee, public meeting participants, online survey.

Alternatives Analysis Criteria	Steering Committee	Public Meeting	On-Line Survey	Average	Overall Rank
<b>Aesthetic Impacts</b>	7	5	8	6.67	7
<b>Construction Impacts</b>	11	7	11	9.67	11
<b>Economic Impacts</b>	3	9	3	5.00	5
<b>Emergency Access</b>	5	3	2	3.33	2
<b>Environmental Impacts</b>	4	4	4	4.00	3
<b>Impacts on Highway User Costs</b>	10	11	5	8.67	10
<b>Improved Access for Non-Motorized Users</b>	9	10	6	8.33	9
<b>Improved Year Round Access</b>	6	1	1	2.67	1
<b>Operation &amp; Maintenance Costs</b>	8	8	7	7.67	8
<b>Project Costs</b>	1	6	9	5.33	6
<b>Impacts to Properties</b>	2	2	10	4.67	4



# 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



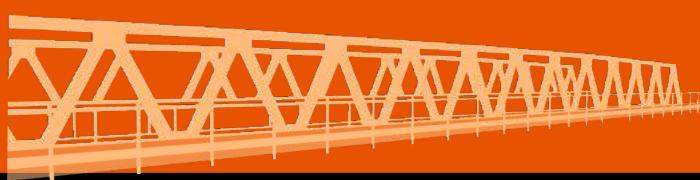
## Alternatives Eliminated

- 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

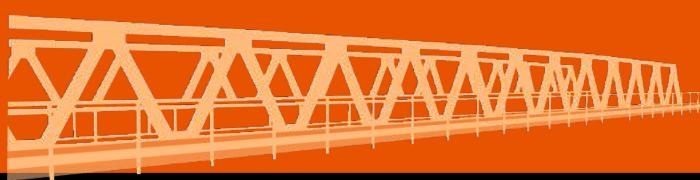




## Retrofit Moveable Bridge at Existing Location

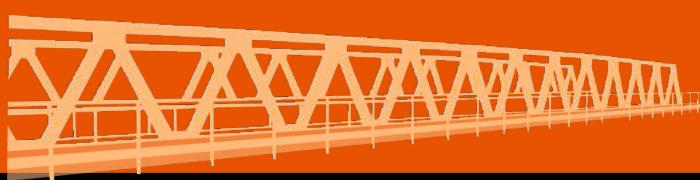
- Year round access is provided for all modes of travel
- Moderate environmental impacts related to construction activities
- Partial acquisition impacts to 5 properties
- Potential for improved economic impacts
- Increase operation and maintenance costs
- Minimal aesthetic changes
- Noise Analysis Considerations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





## New Moveable Bridge at Existing Location





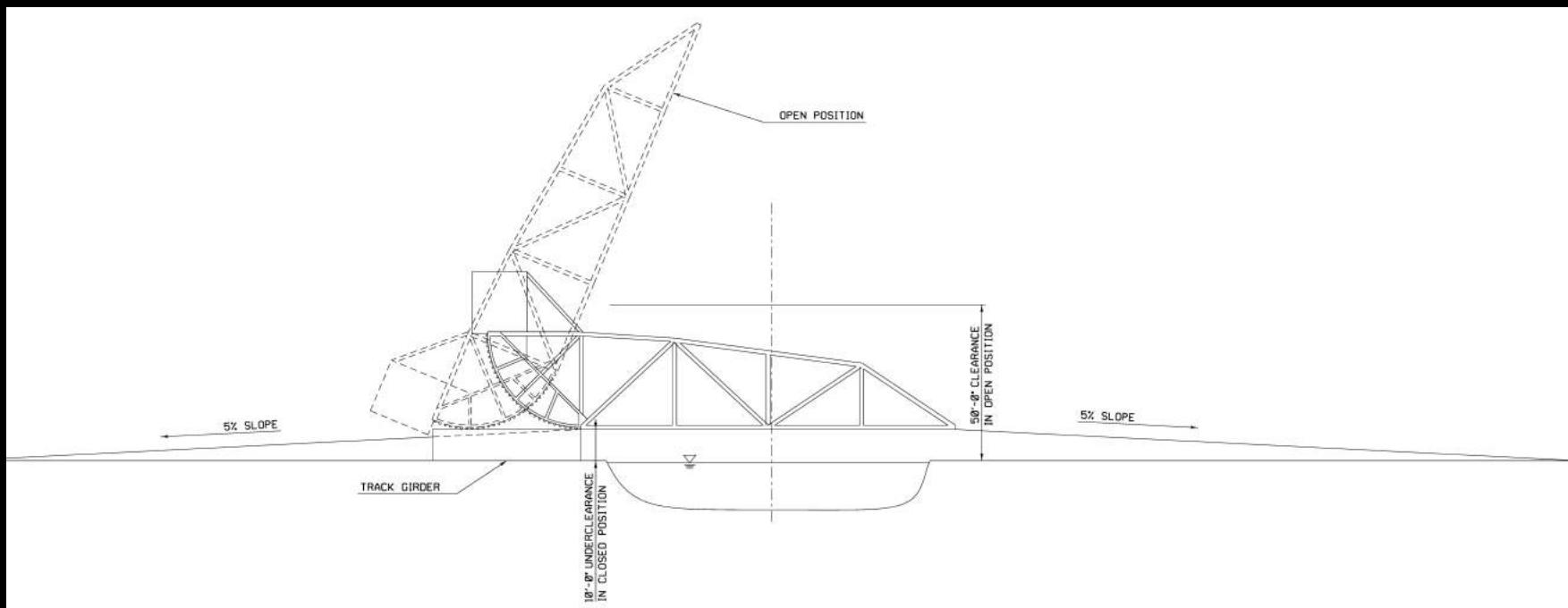
## New Moveable Bridge at Existing Location

- Year round access is provided for all modes of travel
- Moderate environmental impacts related to construction activities
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- Potential for improved economic impacts
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- Noise Analysis Considerations
- Floodplain Considerations





# Moveable Bridge at Existing Location (Rolling Lift)





## **Moveable Bridge (bridge operation cycle)**

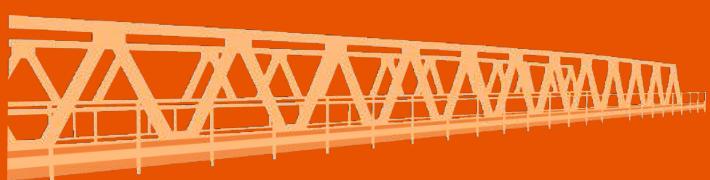
- Lower safety gates and signals change to red – 90 seconds
- Open bridge span – 90 seconds
- Marine traffic passage (5 mph) – 120 seconds
- Close bridge span – 90 seconds
- Open gates and signals to green – 30 seconds
  
- Total opening time approximately 7 minutes



# Current Traffic Conditions: 2010 ADT Open for Cars



Source: GTC Regional Travel Demand  
Model Estimates



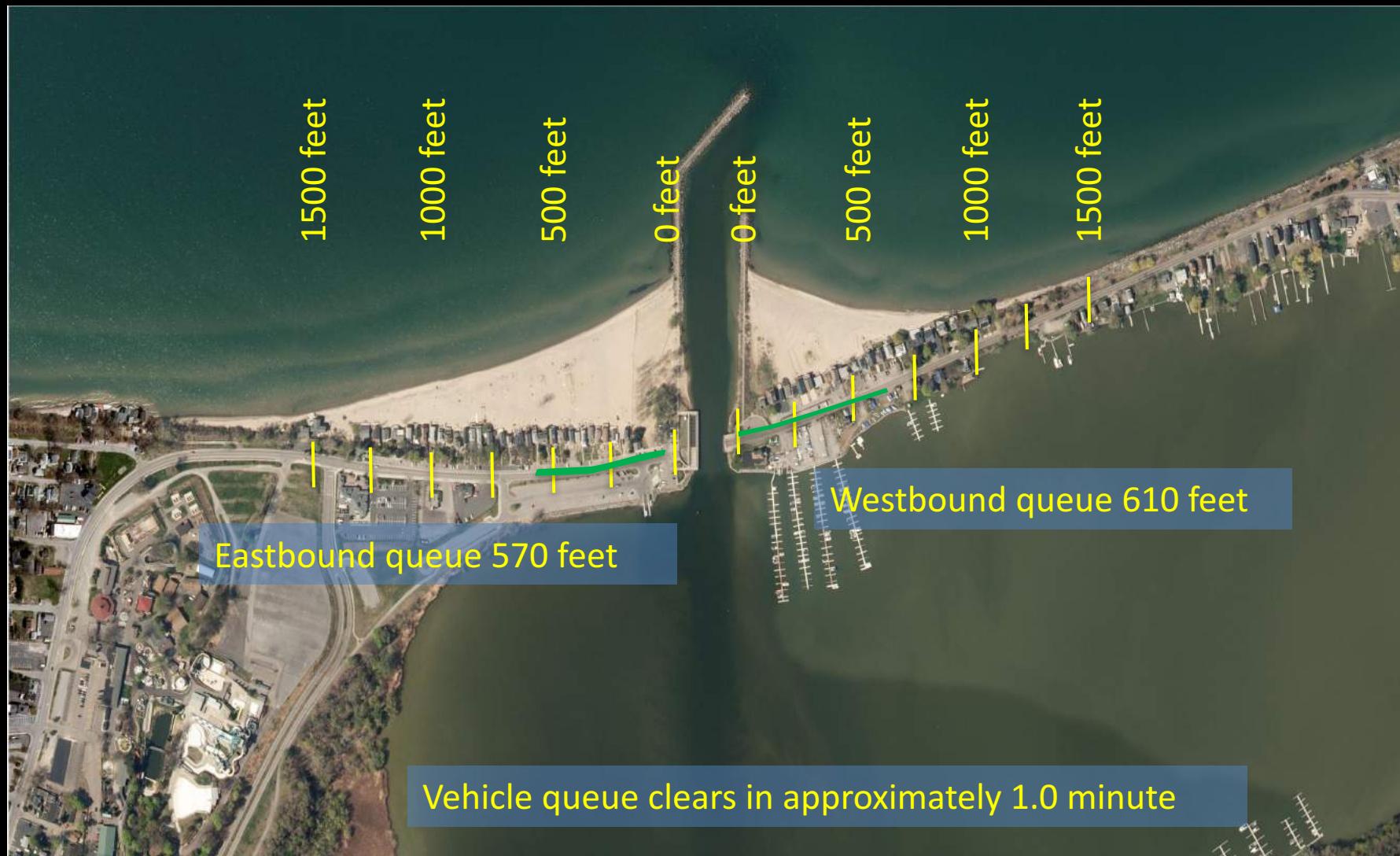
# Current Traffic Conditions: 2010 ADT Closed for Cars



Source: GTC Regional Travel Demand  
Model Estimates

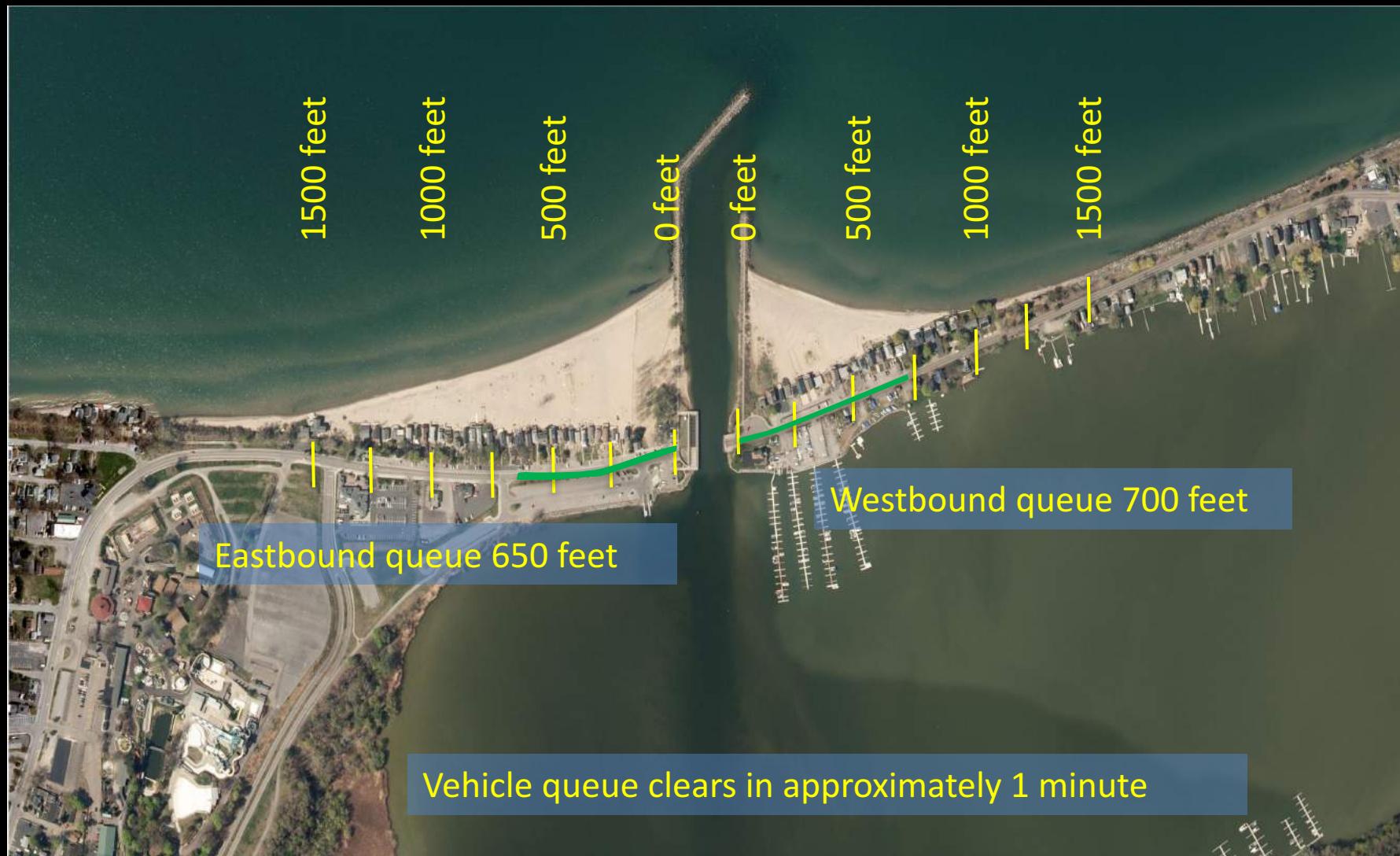


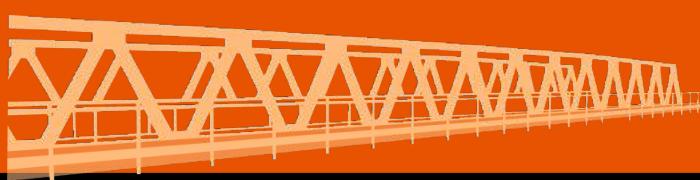
## Moveable Bridge (off-peak vehicle queue weekend)



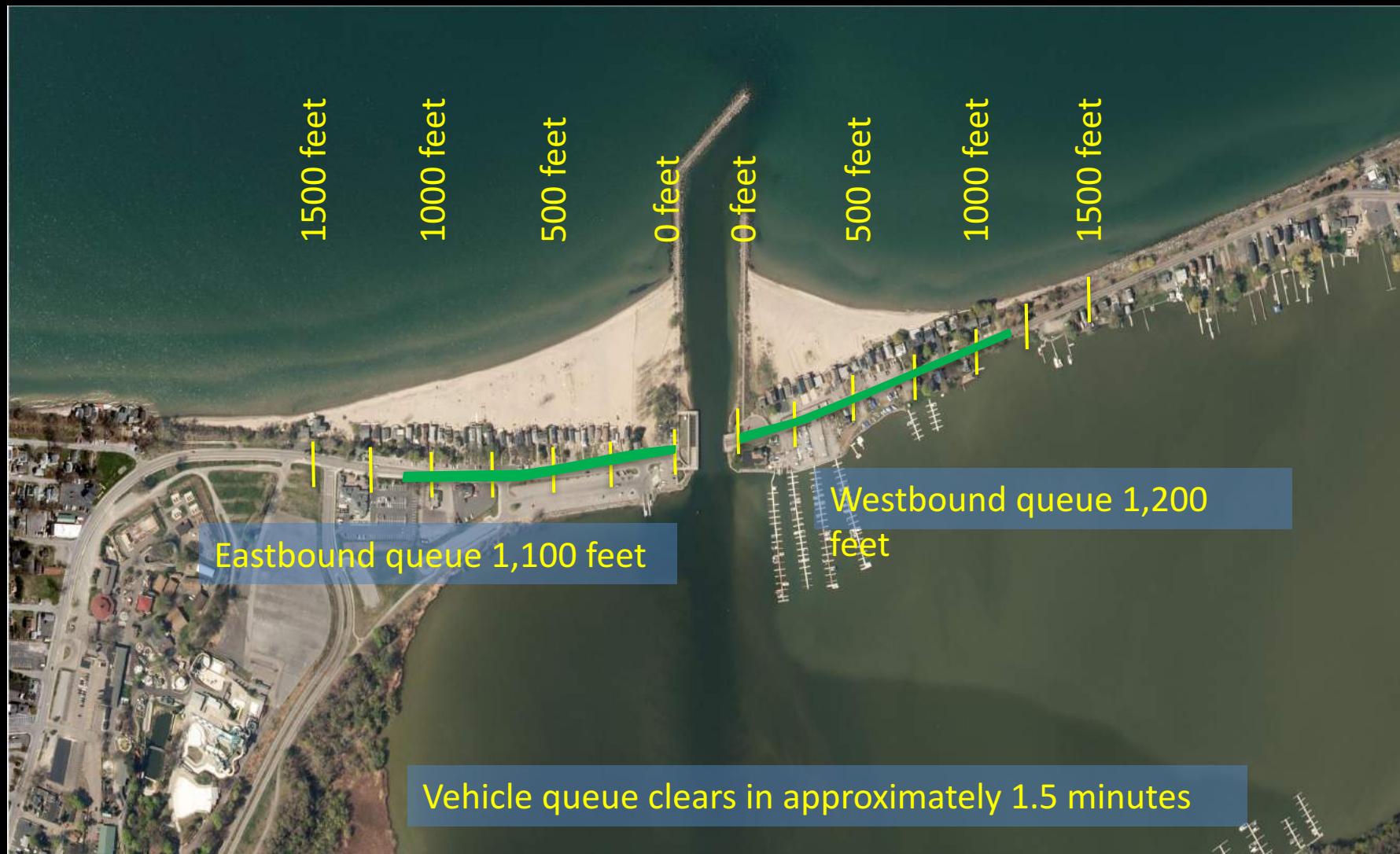


# Moveable Bridge (off-peak vehicle queue week day)



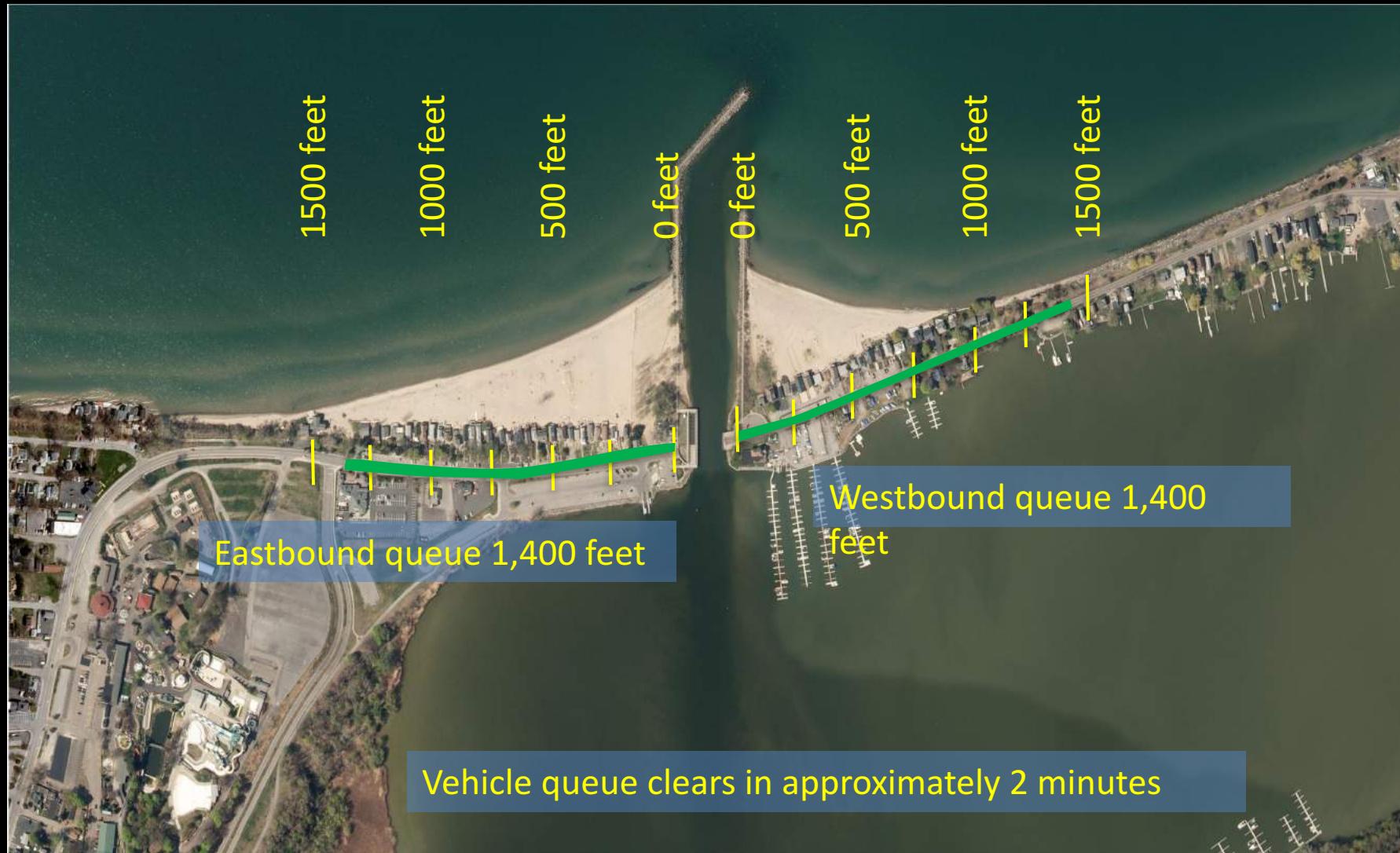


## Moveable Bridge (peak vehicle queue weekend)





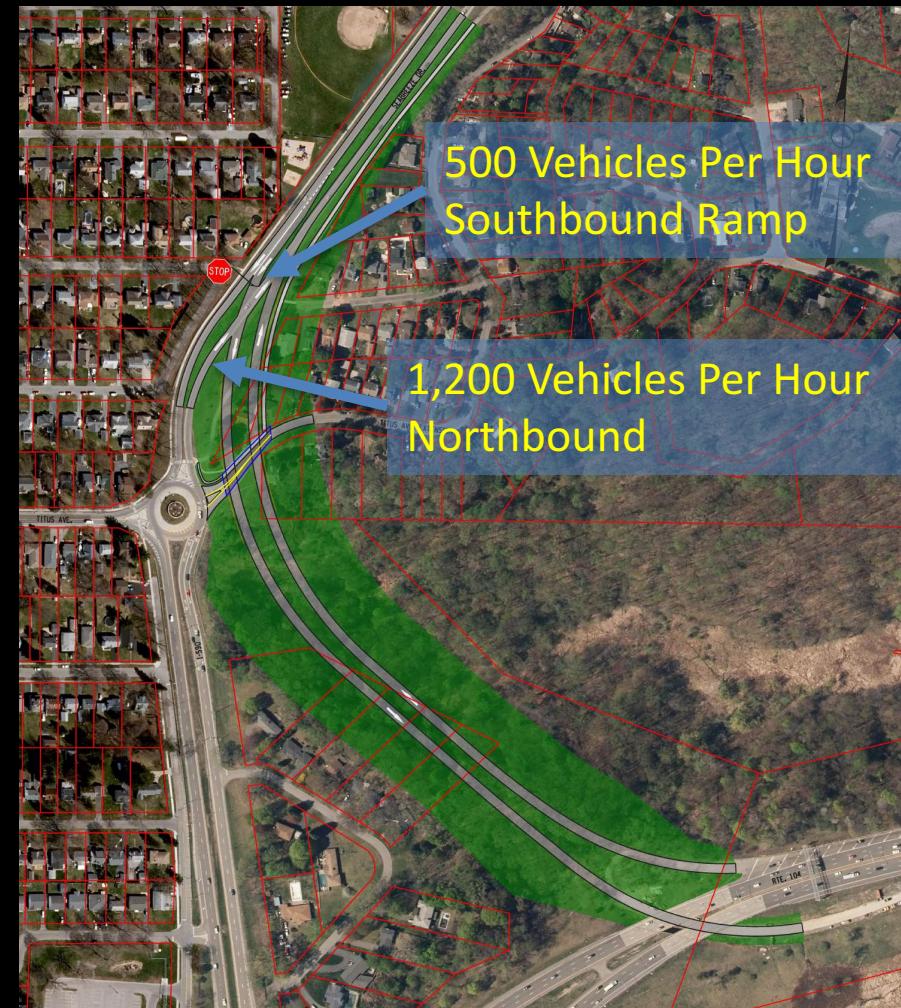
# Moveable Bridge (peak vehicle queue week day)

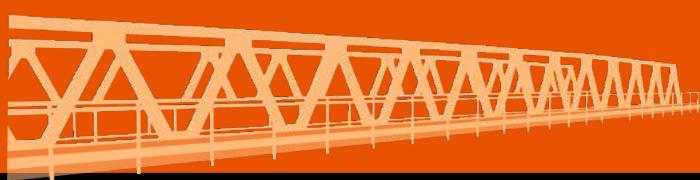




# Route 104 to Sea Breeze Drive Connection

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





# Route 104 to Ridge Road Connection





# Route 104 to Ridge Road Connection

## Webster to Irondequoit





# Route 104 to Ridge Road Connection

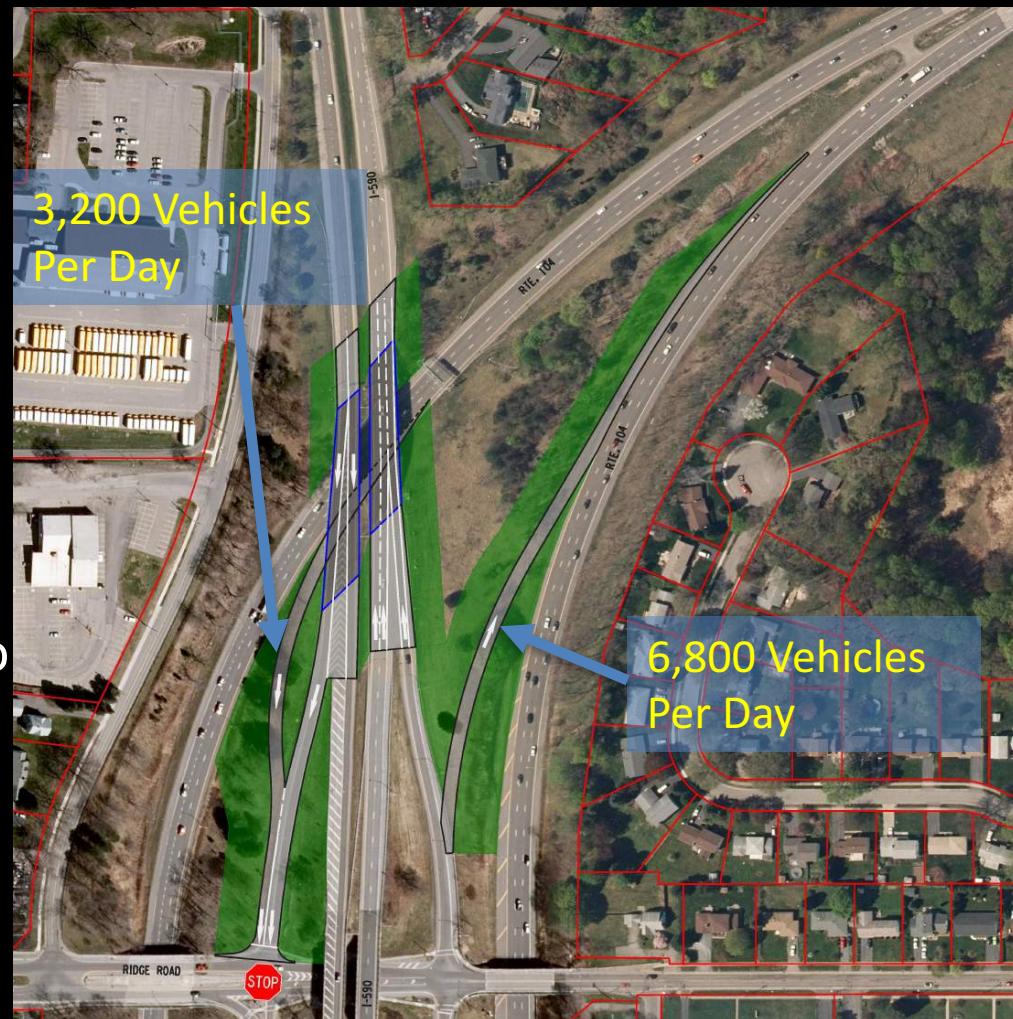
## Irondequoit to Webster

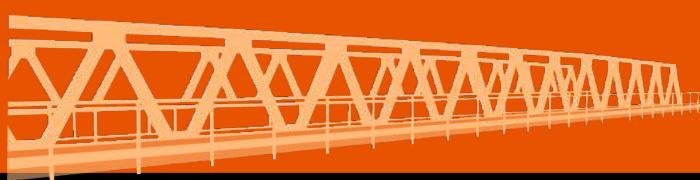




# Route 104 to Ridge Road Connection

- 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





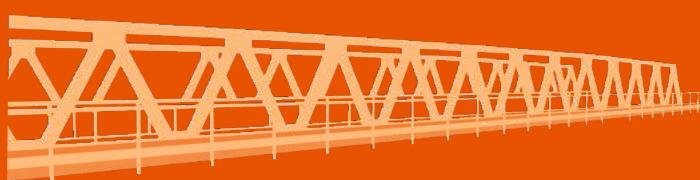
# Construction Cost Summary

	Null Alternative	Moveable Rehabilitate Existing Bridge	Route 104 to Sea Breeze Drive Connection	Moveable New Rolling Lift Bridge	Route 104 to Ridge Road Connection
Construction Costs	\$0	\$16,000,000	\$29,800,000	\$32,900,000	\$21,000,000
Routine Operations & Maintenance Costs	\$300,000	\$3,900,000	\$300,000	\$3,900,000	\$300,000
Major Rehabilitation Costs	\$2,700,000	\$3,300,000	\$1,300,000	\$2,800,000	\$1,300,000
ROW Acquisitions Costs	\$0	\$200,000	\$3,170,000	\$200,000	\$0
Project Development Costs	\$1,500,000	\$4,860,000	\$7,220,000	\$8,140,000	\$5,460,000
Total Project Costs	\$4,500,000	\$28,260,000	\$41,790,000	\$47,940,000	\$28,060,000

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:



## 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