

**MaineDOT
Informational Public Meeting #2**

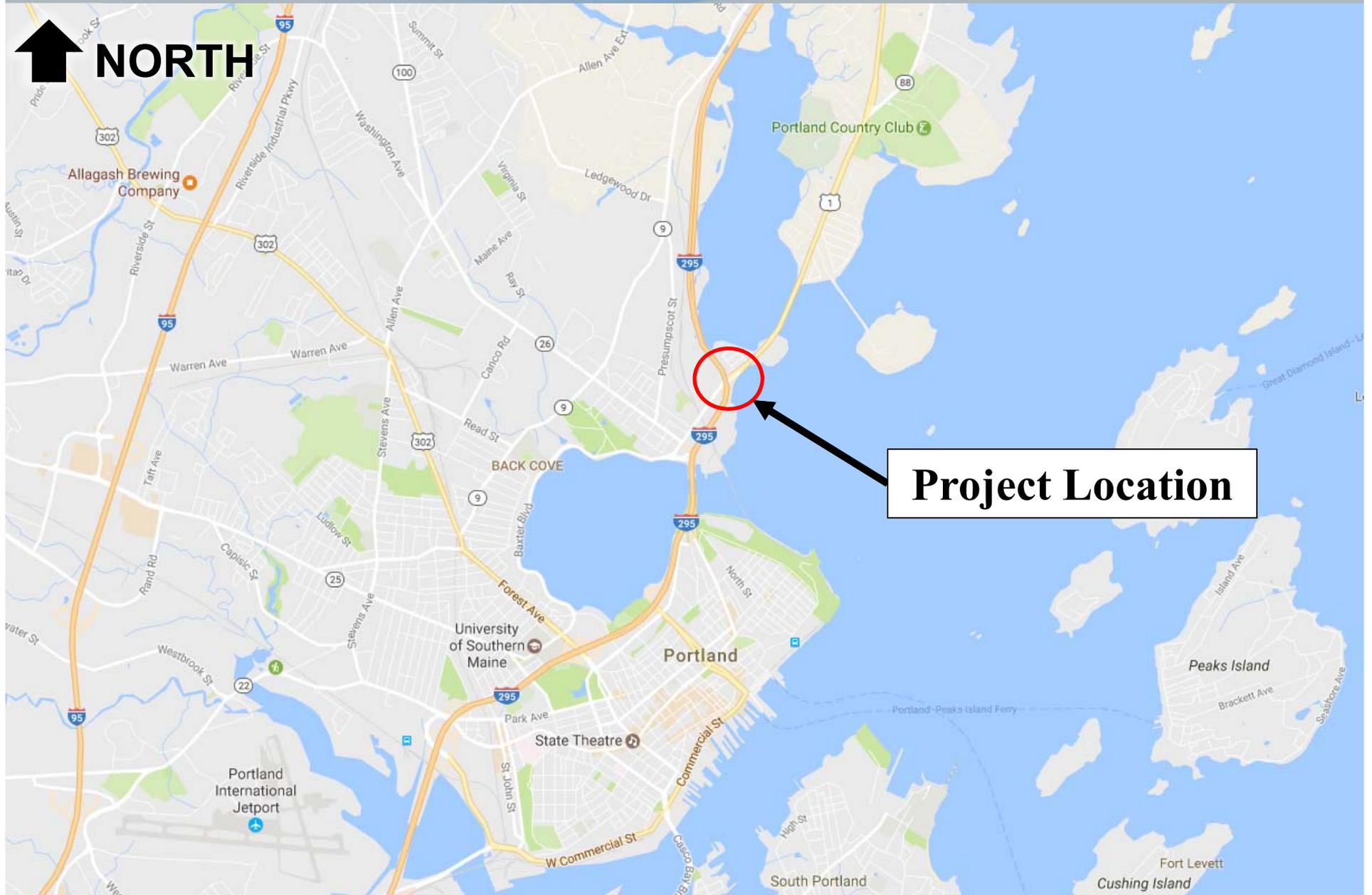
**Portland – WIN 21745.00
I-295 over Veranda Street
Bridge Replacement Project**

April 24, 2018

Agenda

- Introductions
- Purpose & Need
- Existing Conditions
- Alternatives Analysis
 - Background
 - Initial Roadway Concepts
 - Preferred Alternative
 - Project Schedule/Next Steps
- Open Forum / Discussion

Project Location



Project Location



Existing Conditions

- Date Bridge Constructed: 1961 (Age = 57 years)
- Existing Condition Ratings :
 - Deck Condition: 4 - Poor
 - Superstructure Condition: 5 - Fair
 - Substructure Condition: 6 - Satisfactory
- Bridge is structurally deficient

Existing Conditions

- Date Bridge Constructed: 1961 (Age = 57 years)
- Existing Condition Ratings :
 - Deck Condition: 4 - Poor
 - Superstructure Condition: 5 - Fair
 - Substructure Condition: 6 - Satisfactory
- Bridge is structurally deficient
- **Conclusion: Major Work Necessary**

Existing Conditions



Existing Conditions



Veranda Street Looking Toward Falmouth

Existing Conditions



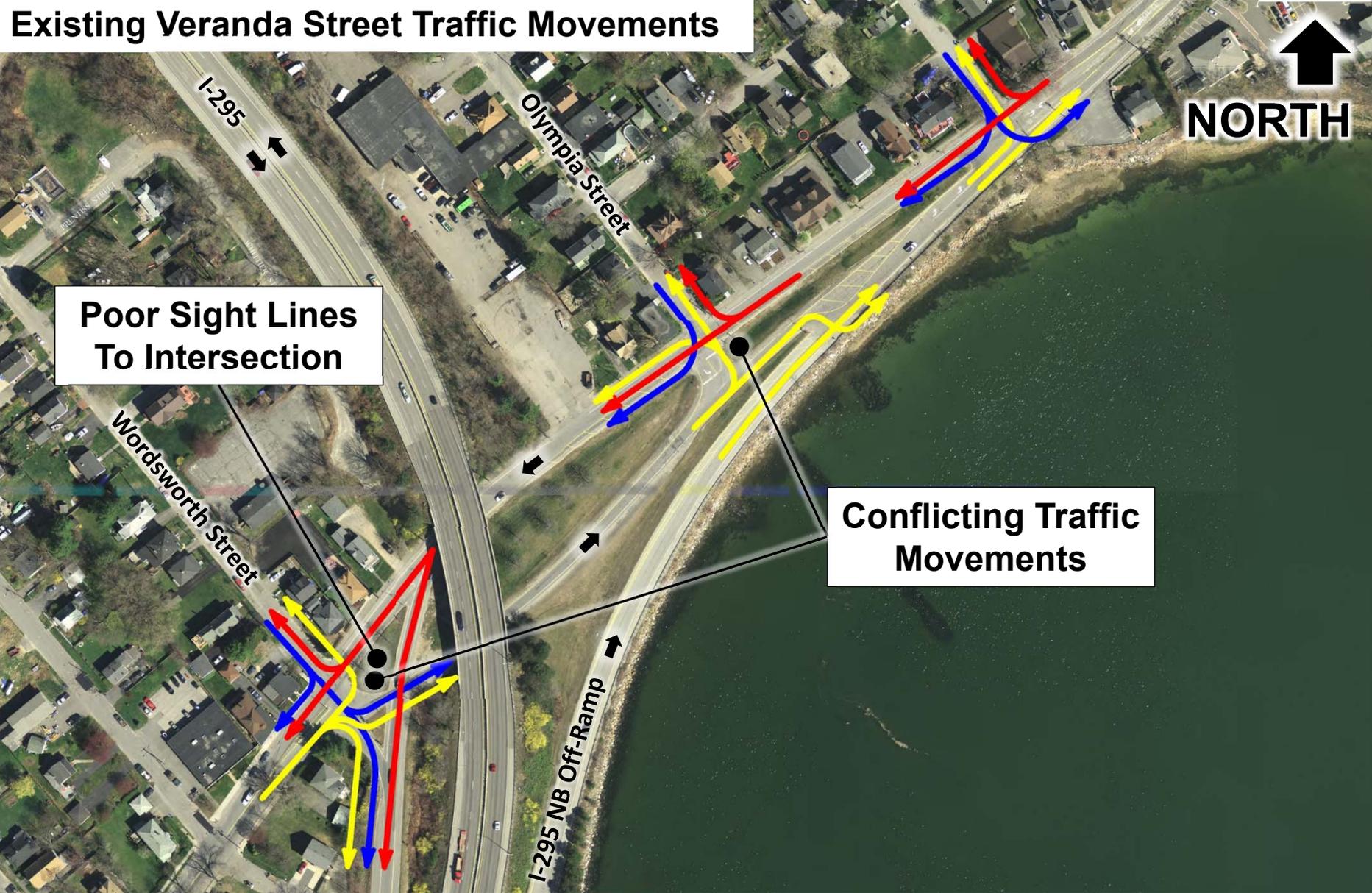
Veranda Street Looking Toward Falmouth

Existing Conditions

- Traffic & roadway data (I-295):
 - Roadway Classification: Interstate Roadway
 - Average Daily Traffic: 51,000
 - Posted Speed Limit: 50 MPH
- Traffic & roadway data (Veranda Street):
 - Roadway Classification: Major Collector
 - Average Daily Traffic: 13,800
 - Posted Speed Limit: 35 MPH
- Conflicting movements on Veranda Street

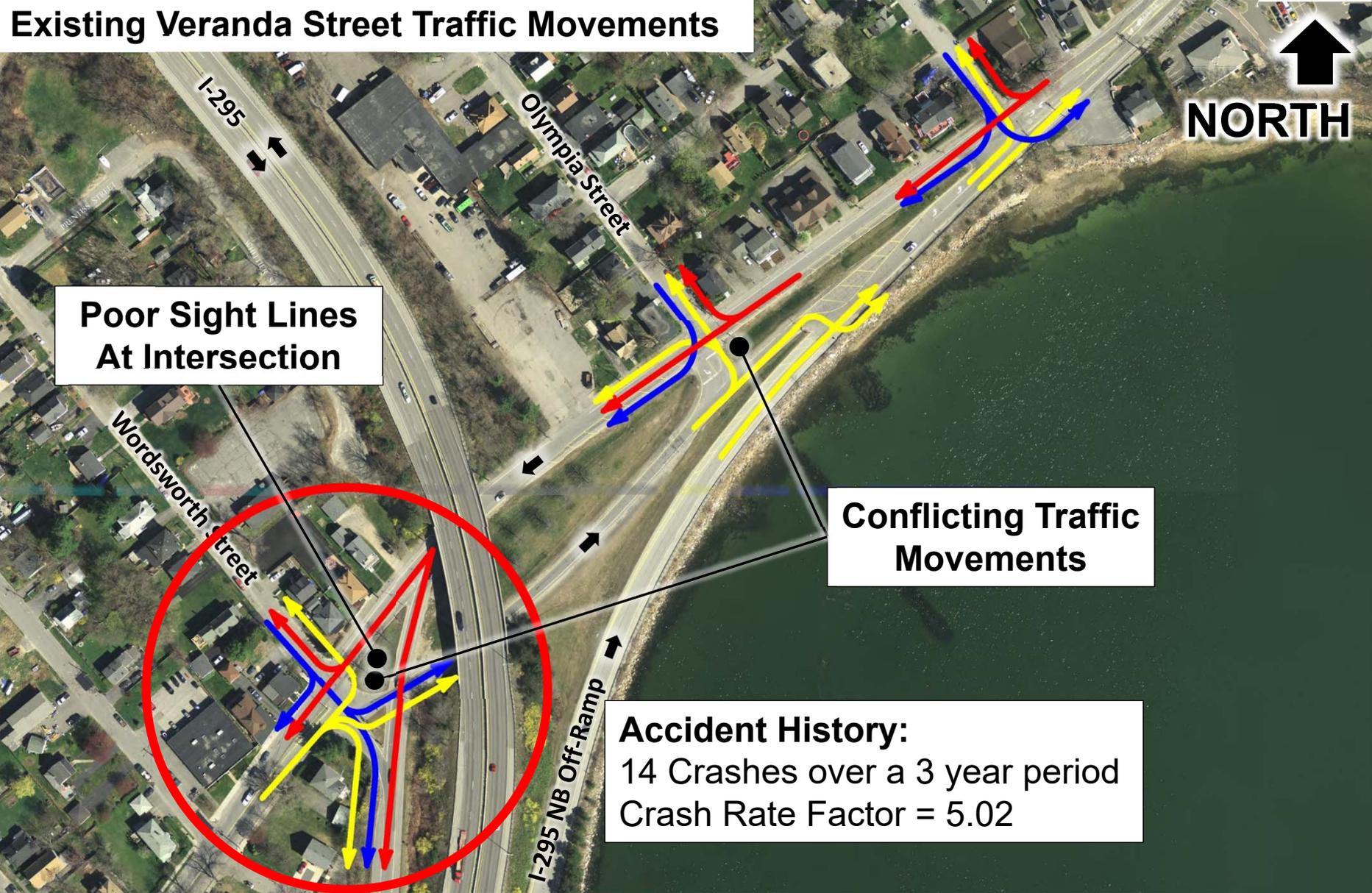
Existing Conditions

Existing Veranda Street Traffic Movements



Existing Conditions

Existing Veranda Street Traffic Movements



Initial Conceptual Evaluation

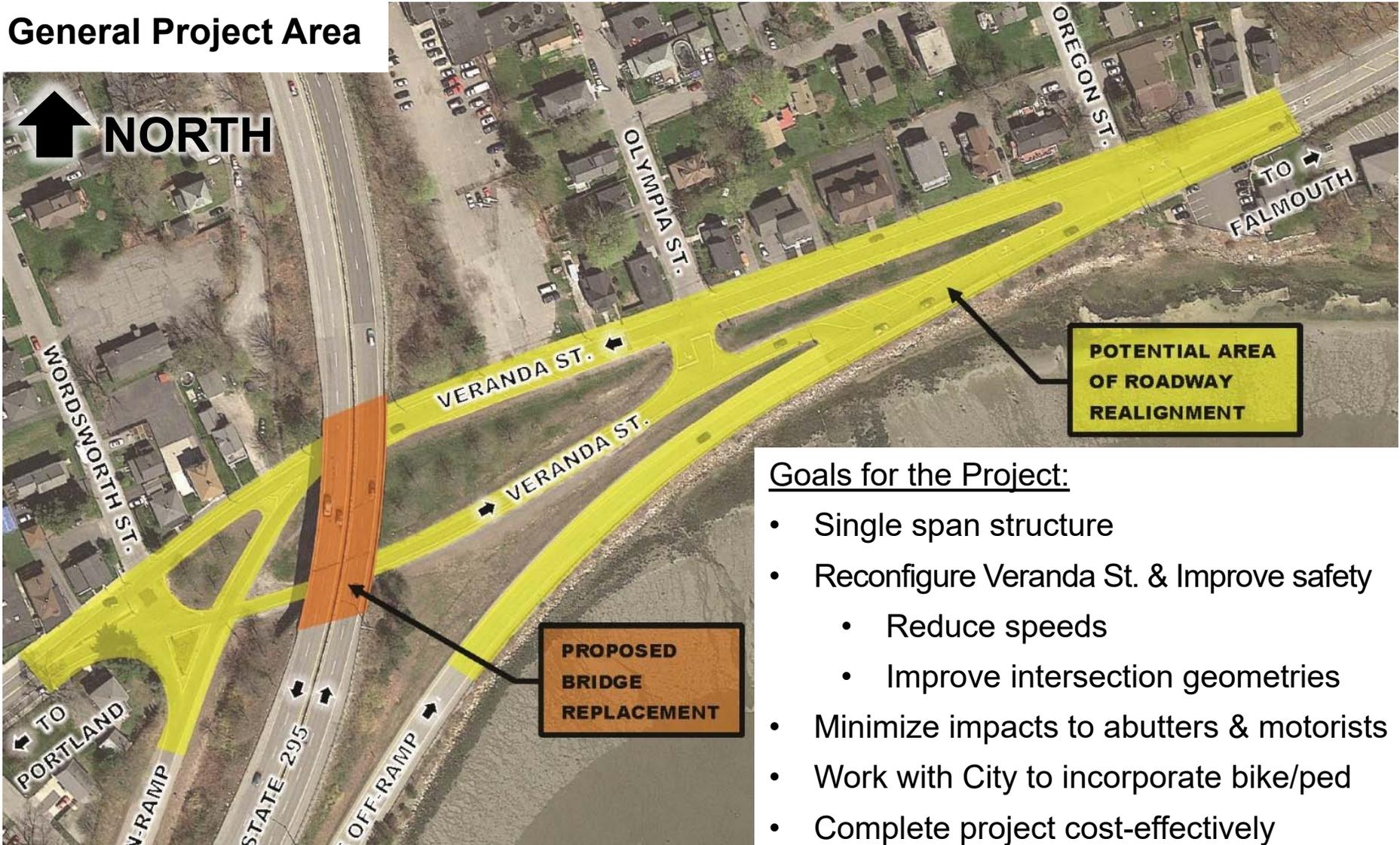
- Conceptual Evaluation of Repair Options (2011-2012):
 - This limited evaluation assessed, at a conceptual level, repair strategies for the I-295 over Veranda St. Bridge
 - Rehabilitation & replacement evaluated
 - Considered traffic volumes & constructability
 - Conclusions:
 - Traffic control significantly drives constructability & cost
 - Replacement preferred option
 - Provides opportunity to improve Veranda St. geometry
 - Allows for construction of a much shorter bridge
 - A more detailed analysis was needed

Detailed Alternatives Analysis

- A detailed alternatives analysis started in summer 2016
 - Goals:
 - Identify a preferred bridge and roadway configuration
 - Develop construction approach – Conventional or Accelerated?
- Alternative analysis considered:
 - Proposed configurations for Veranda Street and I-295
 - Proposed bridge span length and location
 - Traffic management during construction
 - Construction strategies to reduce schedule & impact
- MaineDOT's policy for noise wall installation was reviewed based on public comment and input

Detailed Alternatives Analysis

General Project Area

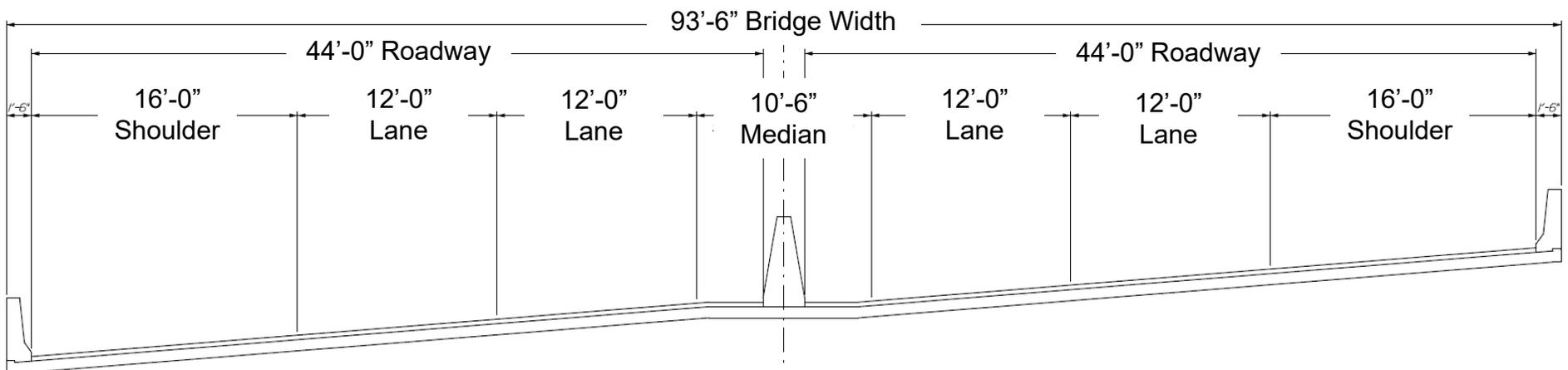


Goals for the Project:

- Single span structure
- Reconfigure Veranda St. & Improve safety
 - Reduce speeds
 - Improve intersection geometries
- Minimize impacts to abutters & motorists
- Work with City to incorporate bike/ped
- Complete project cost-effectively

Detailed Alternatives Analysis

- Improvements along I-295
 - Existing bridge will be widened by approximately 25.5 feet to:
 - More closely match approach roadway width
 - Accommodate future bridge work
 - Existing concrete median barrier will be replaced (~1.5 miles)



Proposed Bridge Typical Section

Detailed Alternatives Analysis

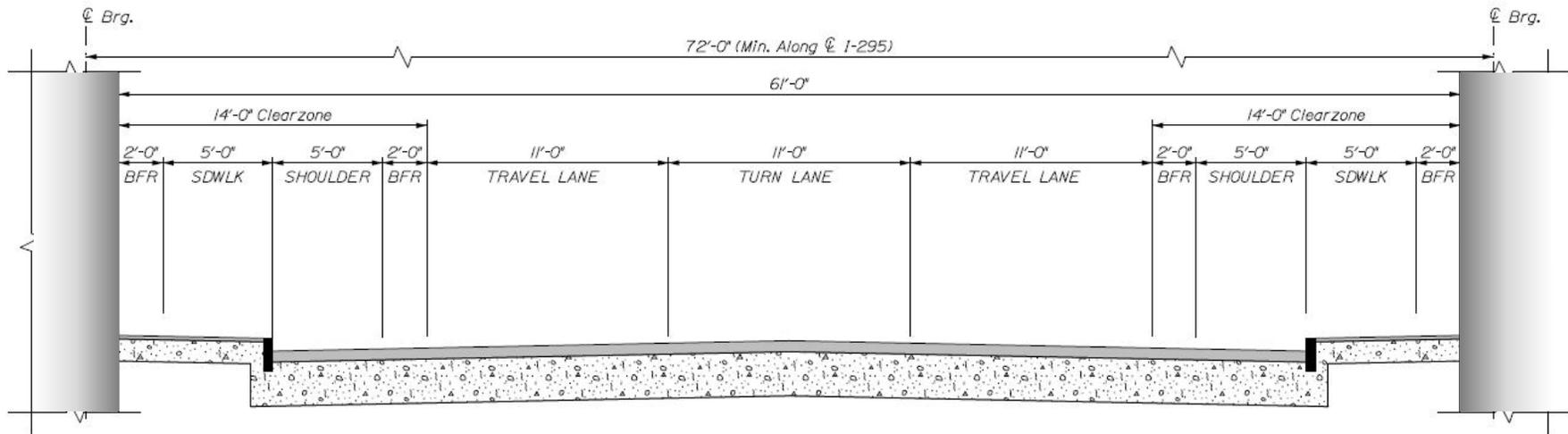
- Improvements along I-295
 - Reviewed MaineDOT noise wall policy. This policy allows for additional funding for noise wall construction on projects that:
 - Increase highway capacity (e.g. add lanes or ramps), or
 - Involve the construction of a new highway, or
 - Significantly realign an existing highway
 - Based on the above this project does not qualify for noise wall funding.
 - The installation of a noise wall will need to be evaluated, prioritized, and funded as a separate MaineDOT project.
 - The bridge will be designed to allow for the installation of a noise wall in the future if needed.

Detailed Alternatives Analysis

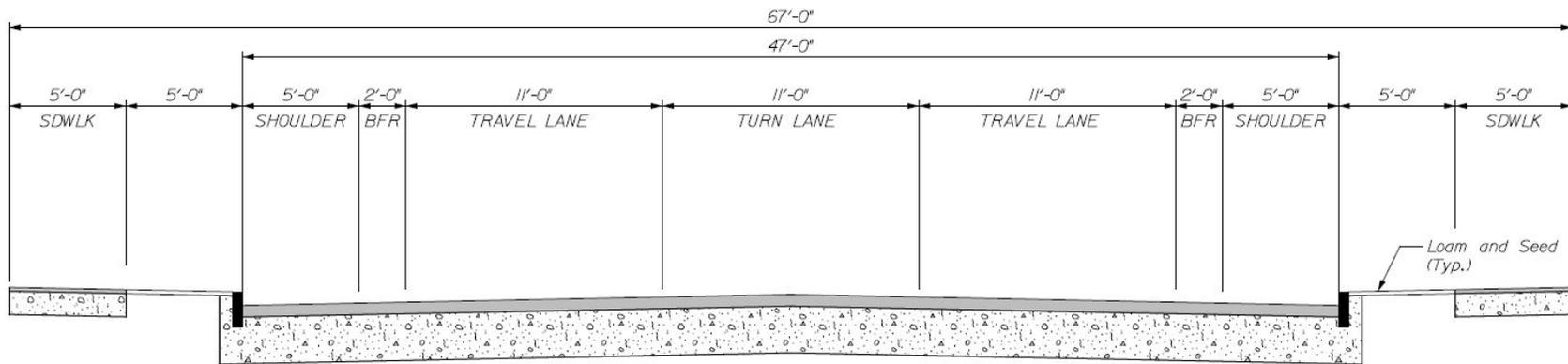
- Improvements along Veranda Street
 - Existing grassed median will be eliminated
 - Conflicting traffic movements will be eliminated
 - Improved accommodations for bicyclists and pedestrians will be provided
 - Two typical sections for Veranda Street were developed to accommodate these goals

Detailed Alternatives Analysis

- Improvements along Veranda Street



Veranda Street Typical Section Beneath Bridge



Veranda Street Typical Section Beneath Bridge

Detailed Alternatives Analysis

- Improvements along Veranda Street
 - Multiple roadway reconfigurations were developed:
 - Three intersection configurations east of I-295
 - Four intersection configurations west of I-295
 - A total of 12 options were developed & evaluated
 - All but three were eliminated through initial screening. The remaining options were presented at Public Meeting No. 1
 - Additional evaluation and development was completed following the meeting

Veranda Street Alternatives

Alternative No. 1

- Significantly simplifies roadway
- Increases green space
- Provides bike/ped accommodation
- Tee intersection at both ramps
- Off-ramp intersection near bridge
- Intersections are fairly close together



Veranda Street Alternatives

Alternative No. 2

- Significantly simplifies roadway
- Increases green space
- Provides bike/ped accommodation
- Tee intersection at both ramps
- Off-ramp intersection at entrance to 3G's tire & auto
- Improves intersection separation



Veranda Street Alternatives

Alternative No. 3

- Significantly simplifies roadway
- Increases green space
- Provides bike/ped accommodation
- Tee intersection at on-ramp only
- Off ramp intersection at Olympia St.



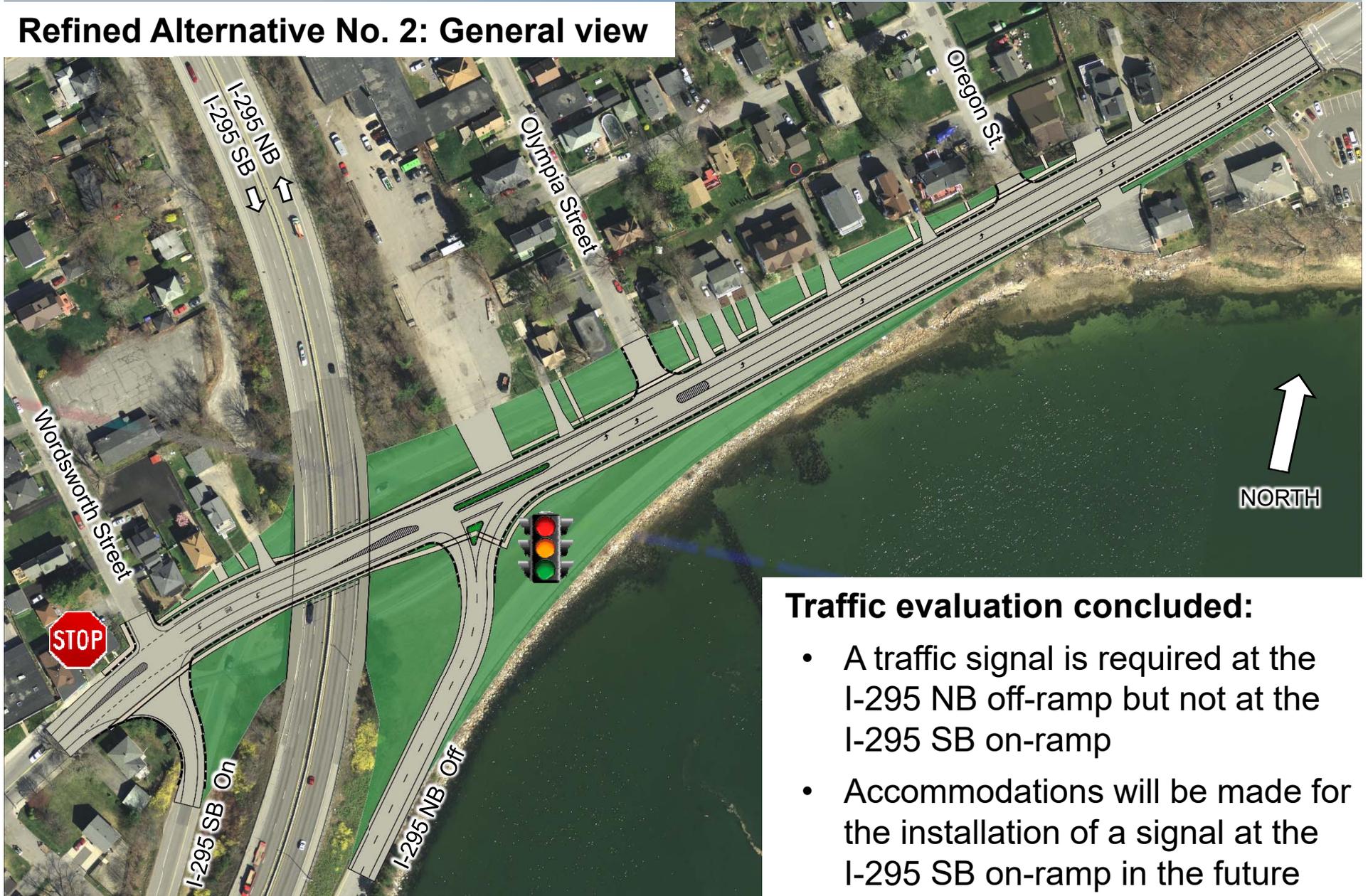
Veranda Street Alternatives

- Roadway Configuration
 - Alternative No. 2 selected
 - Positive public feedback
 - Good separation between intersections
 - Provides favorable intersection geometry
 - Proceeded to refine roadway geometry and traffic analysis



Preferred Veranda Street Alternative

Refined Alternative No. 2: General view



Traffic evaluation concluded:

- A traffic signal is required at the I-295 NB off-ramp but not at the I-295 SB on-ramp
- Accommodations will be made for the installation of a signal at the I-295 SB on-ramp in the future

Preferred Veranda Street Alternative

Refined Alternative No. 2: Bridge and Intersection Detail



Bridge Evaluation & Assessment

- Proposed Bridge:
 - Single span, 72 foot-long structure
 - New bridge opening will roughly coincide with center span of existing bridge
- Two Construction Options Evaluated:
 - Conventional Construction with temporary bridge
 - ABC with short closure of I-295 and Veranda Street

Bridge Evaluation & Assessment

- Conventional Construction
 - Requires temporary roadway & bridge east of highway
 - Median crossovers required
 - Estimated duration of 4 construction seasons
 - Season 1 – Build temporary roadway & bridge
 - Season 2 – Change traffic pattern, replace SB structure
 - Season 3 – Change traffic pattern, replace NB structure
 - Season 4 – Remove temporary roadway & bridge
 - Difficult access & staging requirements

Bridge Evaluation & Assessment

- Accelerated Bridge Construction (ABC)
 - Replacement using lateral slide techniques
 - Construct the lower portion of the new abutments below the existing bridge
 - Construct the upper portion of the new bridge on temporary supports east of the highway
 - Close the roadway, demo the existing bridge, and slide the new bridge into place
 - I-295 NB & SB closed simultaneously for up to a weekend
 - Veranda Street will be closed for up to a week
 - One and a half construction seasons required

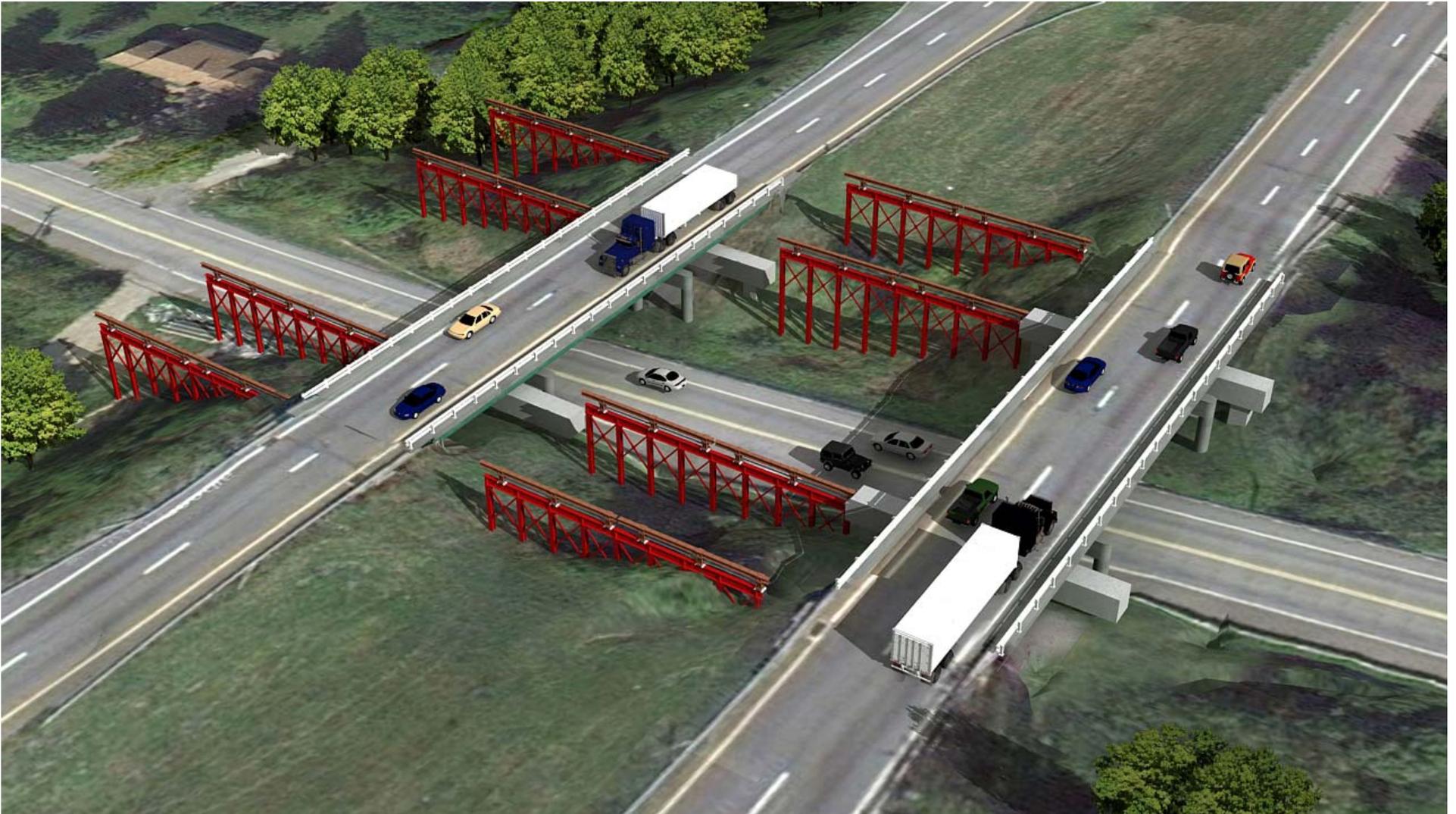
Bridge Evaluation & Assessment

Example Accelerated Construction Approach



Bridge Evaluation & Assessment

Example Accelerated Construction Approach



Bridge Evaluation & Assessment

Example Accelerated Construction Approach



Bridge Evaluation & Assessment

Example Accelerated Construction Approach



Bridge Evaluation & Assessment

Example Accelerated Construction Approach



Bridge Evaluation & Assessment

Example Accelerated Construction Approach



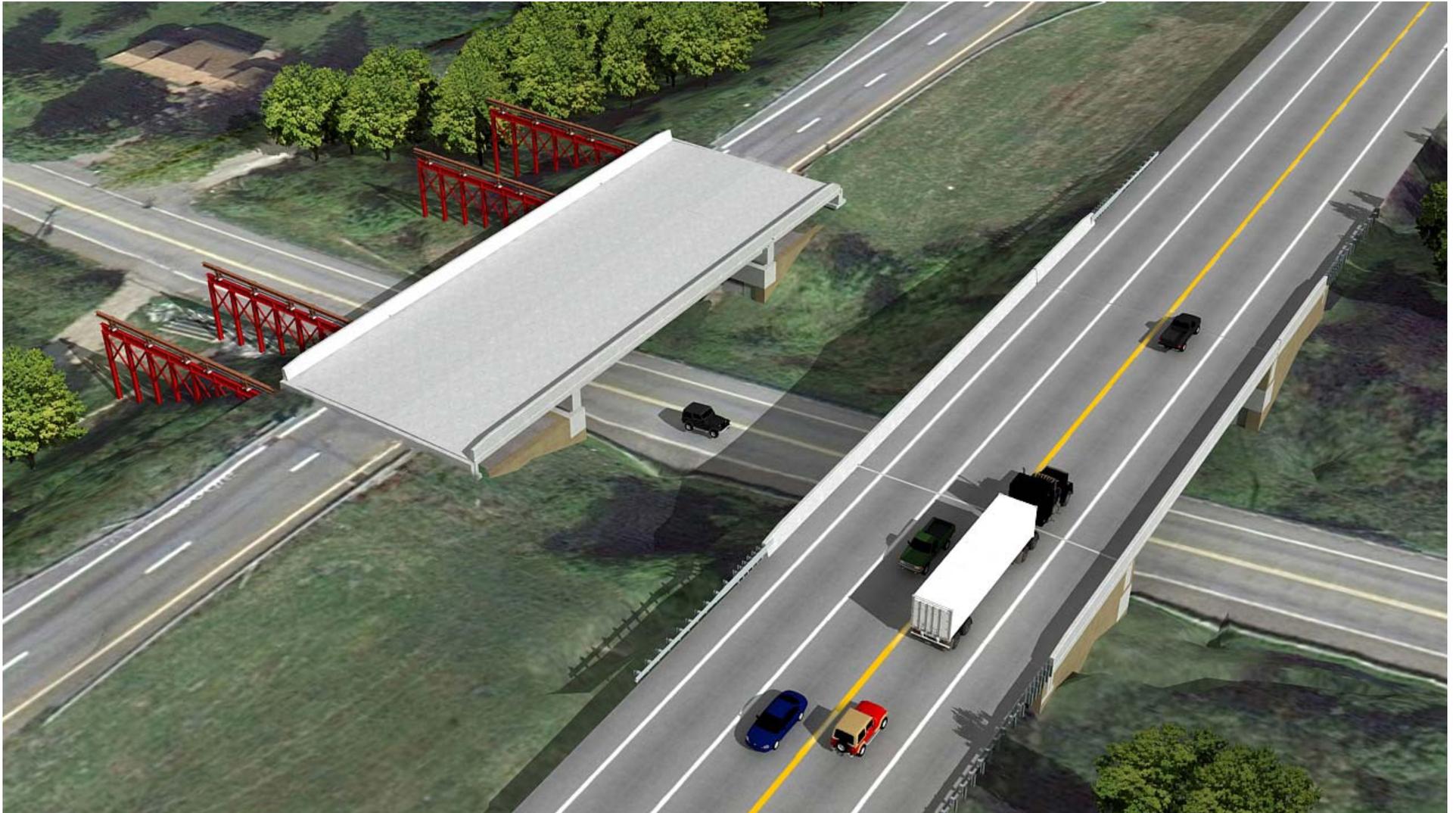
Bridge Evaluation & Assessment

Example Accelerated Construction Approach



Bridge Evaluation & Assessment

Example Accelerated Construction Approach



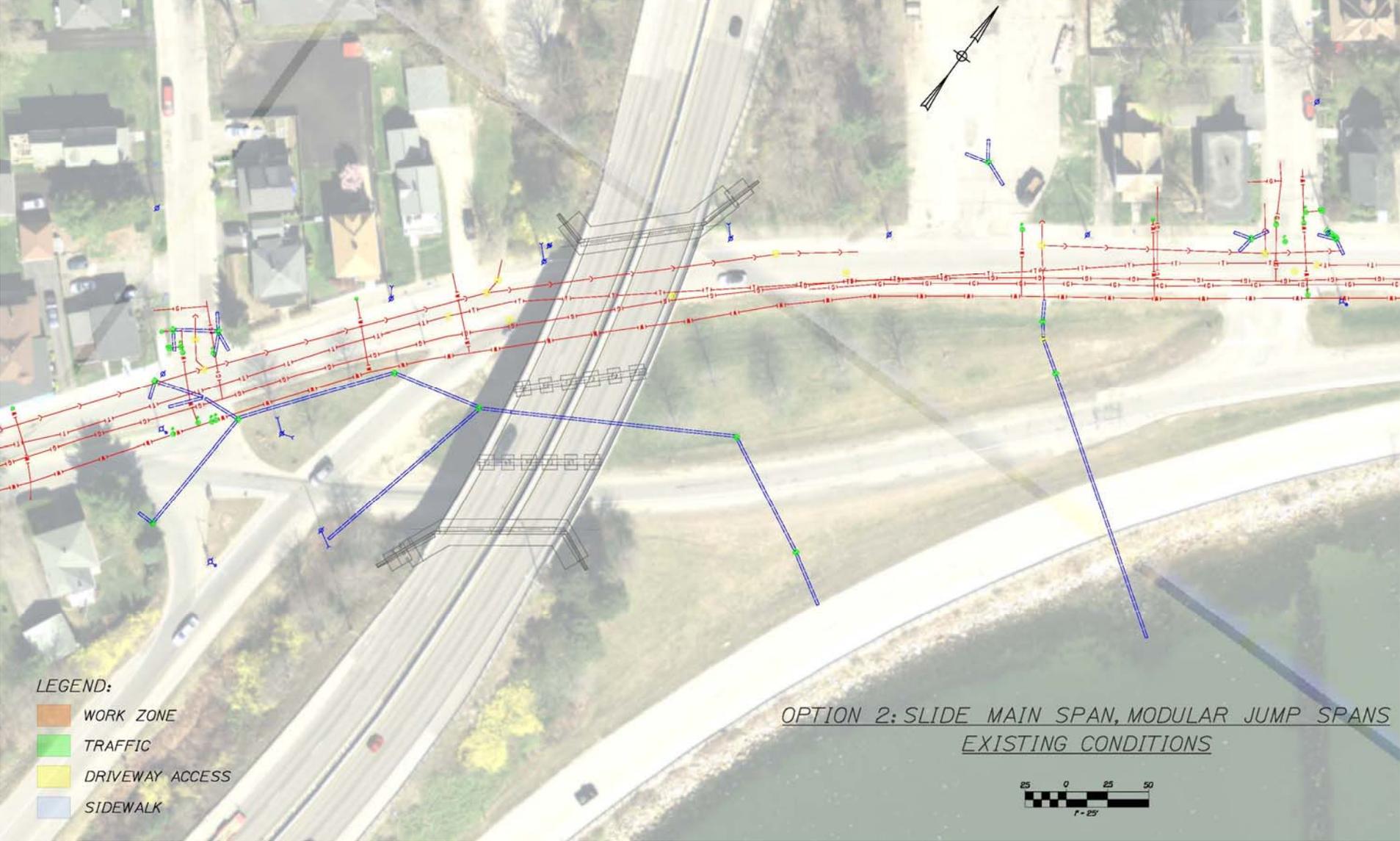
Bridge Evaluation & Assessment

Example Accelerated Construction Approach



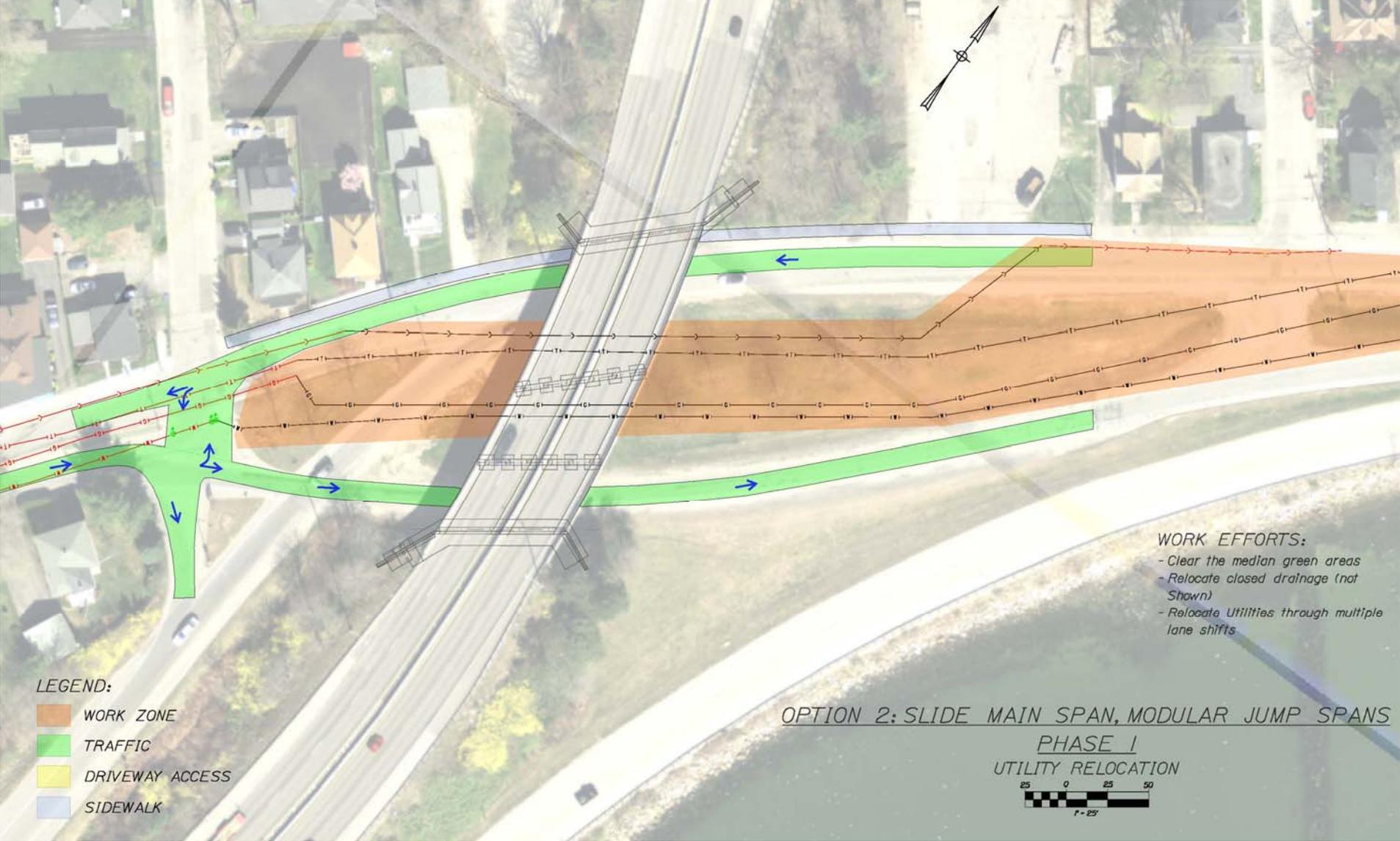
Conceptual Construction Phasing

Existing Conditions (Utilities Highlighted)



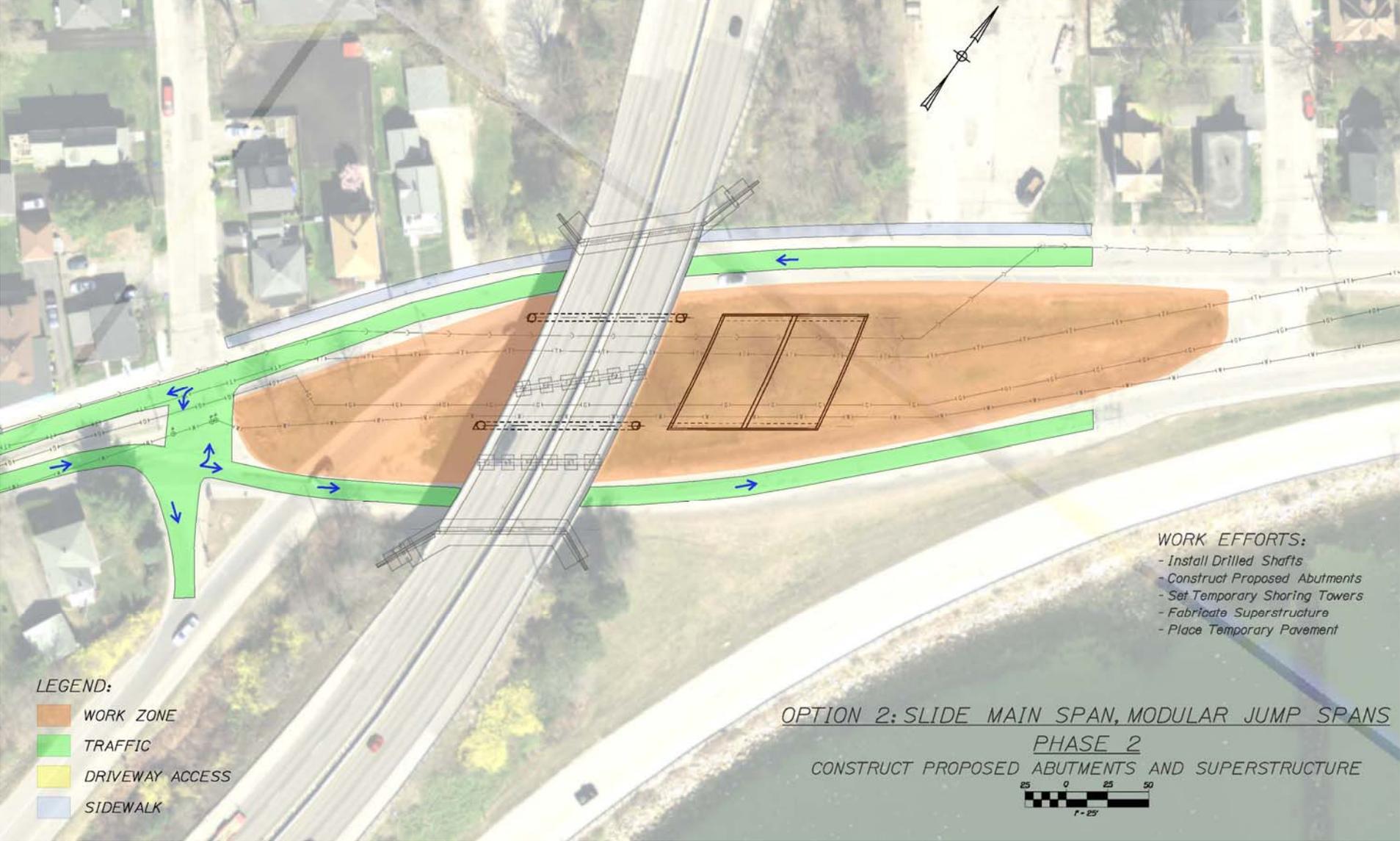
Conceptual Construction Phasing

Phase 1 – Utility Relocation



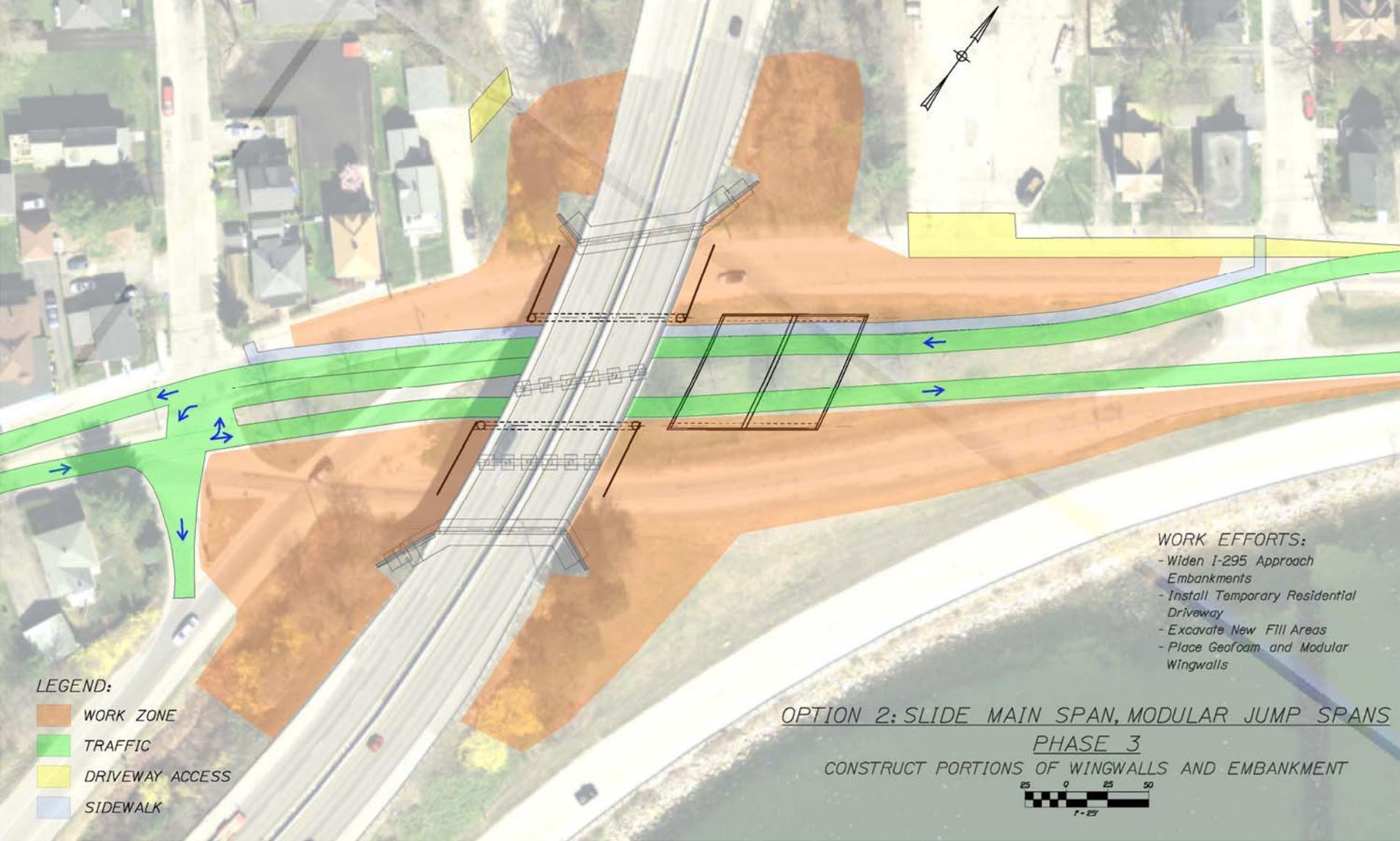
Conceptual Construction Phasing

Phase 2a – Superstructure & substructure construction



Conceptual Construction Phasing

Phase 2b – Retaining wall construction & fill placement



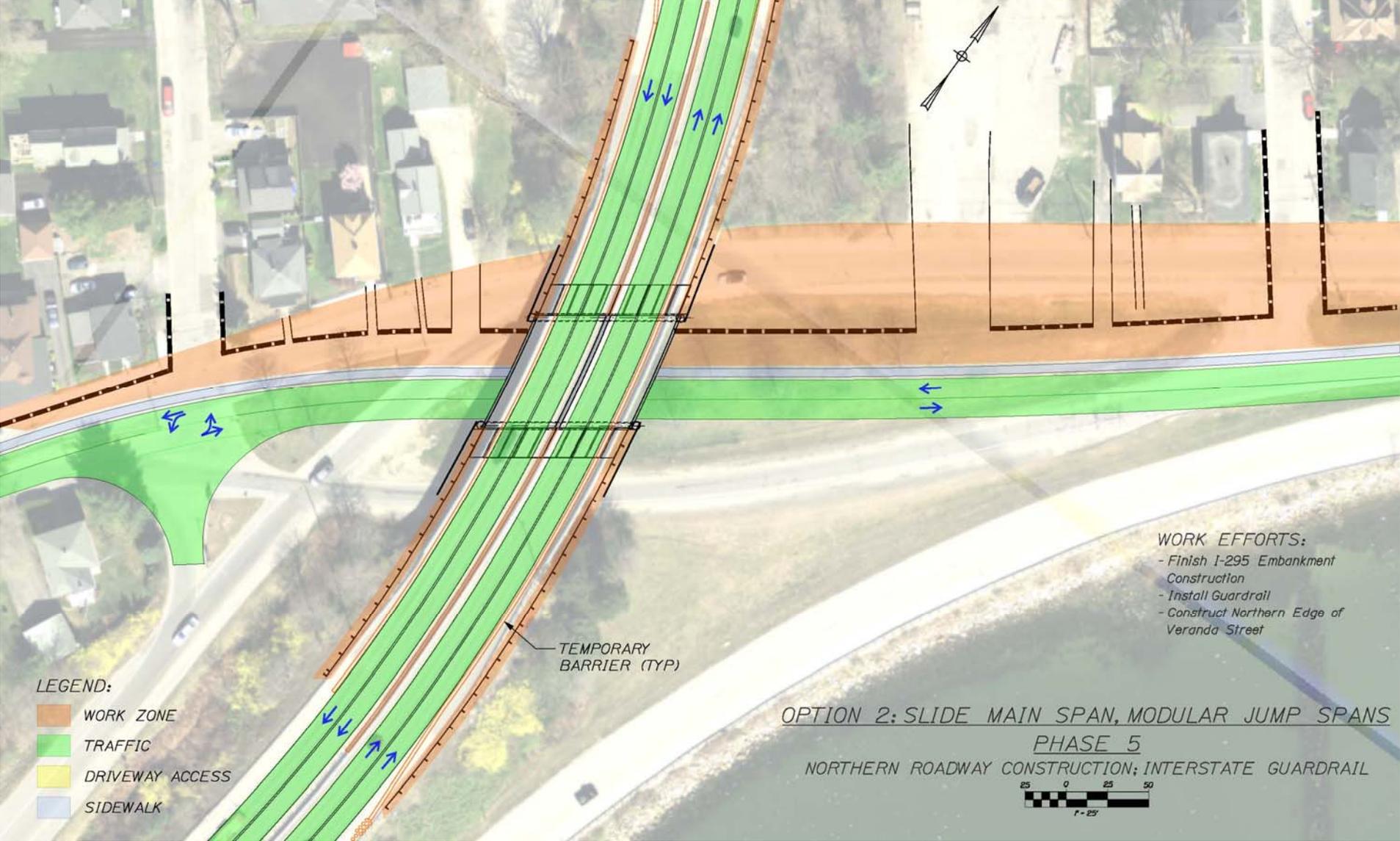
Conceptual Construction Phasing

Phase 3 – Lateral slide with roadway closure



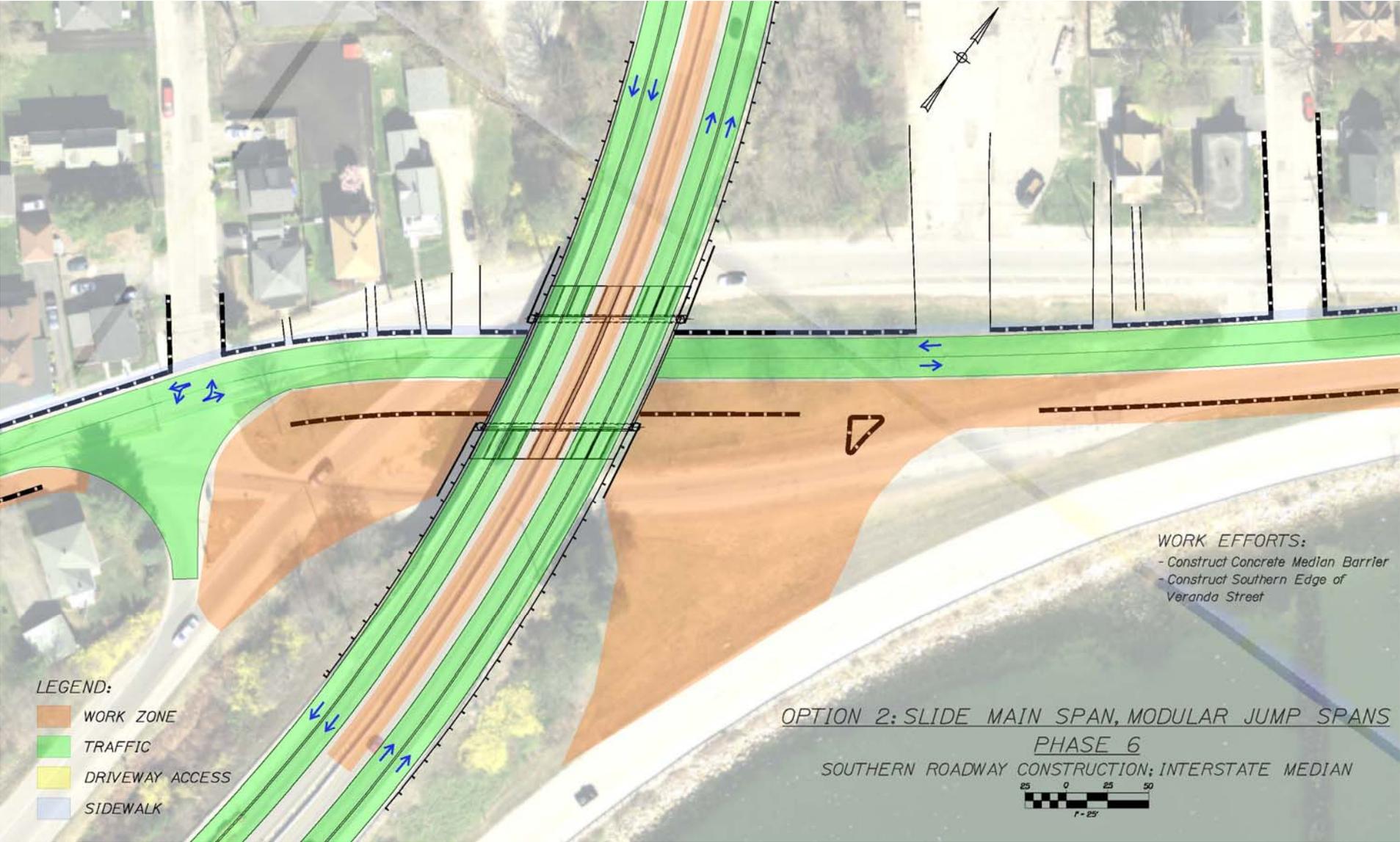
Conceptual Construction Phasing

Phase 4a – Roadway Improvements



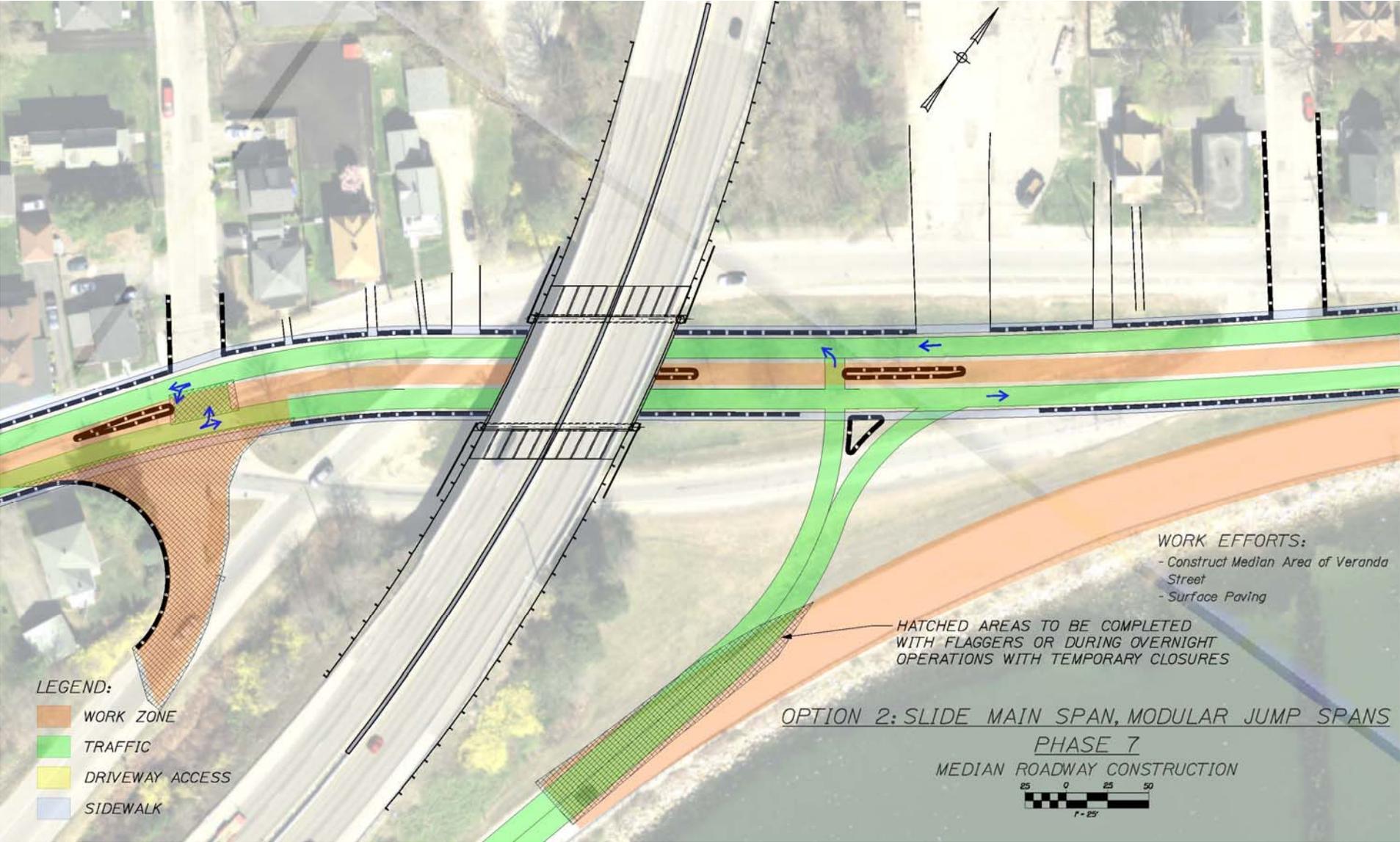
Conceptual Construction Phasing

Phase 4b – Roadway Improvements



Conceptual Construction Phasing

Phase 4c – Roadway Improvements



Estimated Project Costs

- Estimated Program Costs

PROGRAM COST	Accelerated Construction	Conventional Construction
Construction Cost	\$9.72 Million	\$10.19 Million
Assumed Incentive Payment	\$0.25 Million	\$0.10 Million
Preliminary Engineering	\$1.46 Million	\$1.02 Million
Construction Engineering	\$0.97 Million	\$1.22 Million
Total	\$12.40 Million	\$12.53 Million

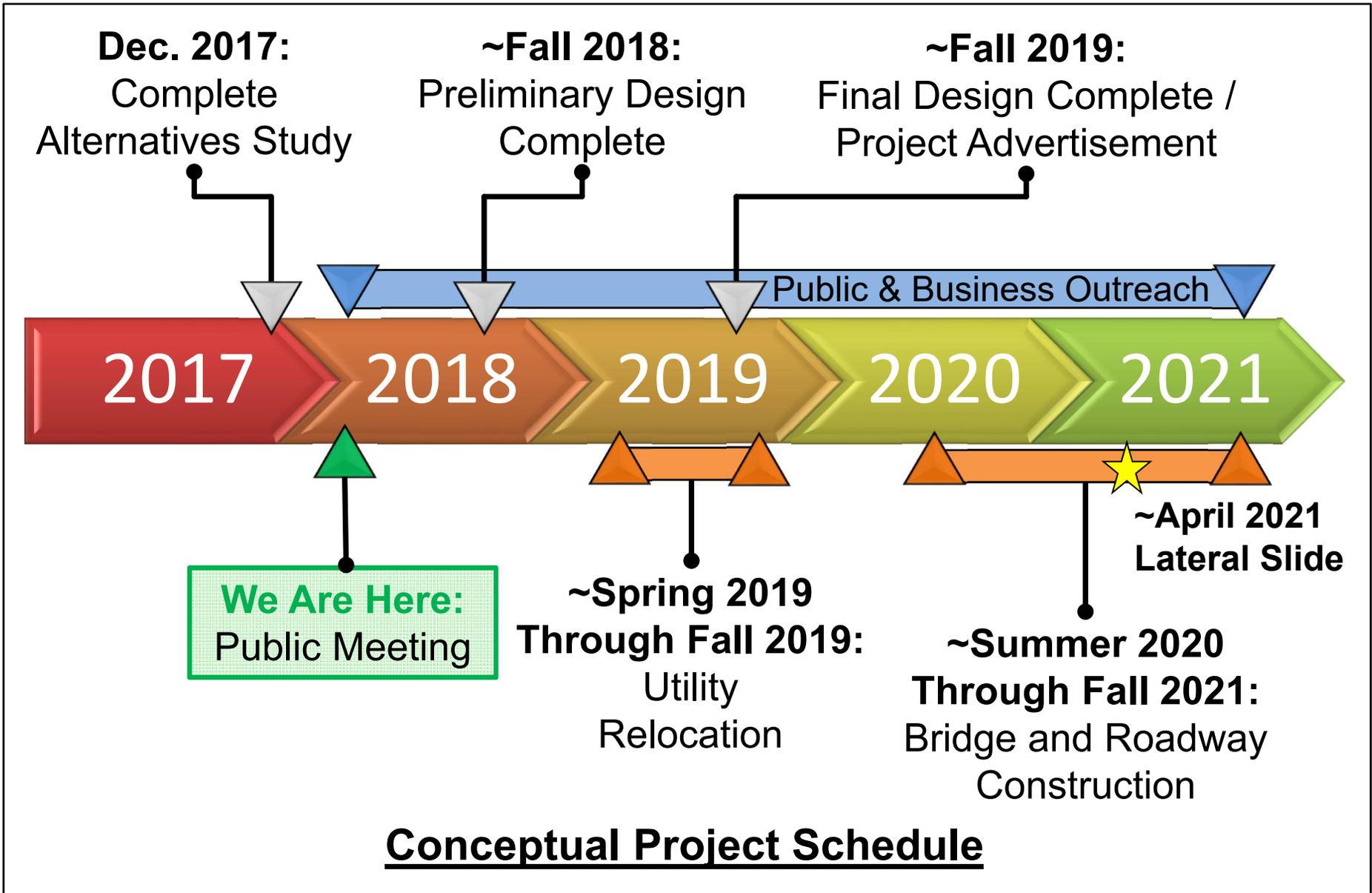
Estimated Project Costs

- Estimated Program Costs

PROGRAM COST	Accelerated Construction	Conventional Construction
Construction Cost	\$9.72 Million	\$10.19 Million
Assumed Incentive Payment	\$0.25 Million	\$0.10 Million
Preliminary Engineering	\$1.46 Million	\$1.02 Million
Construction Engineering	\$0.97 Million	\$1.22 Million
Total	\$12.40 Million	\$12.53 Million

**ABC Option
Recommended**

Conceptual Project Schedule & Next Steps



Conceptual Project Schedule

Questions/Discussion

QUESTIONS & GENERAL DISCUSSION



Open Forum Protocol:

- Raise your hand
- State your name
- Speak clearly

Next Steps:

- Advance project through design phases

Meeting Adjourned:

- Thank you!