



Putney STP DECK (38) Alternatives Presentation Meeting

US Route 5 – Bridge #15 over Sacketts Brook

February 24, 2016



Introductions

Jennifer Fitch, P.E.

VTrans Scoping Project Manager

Jonathan Griffin, P.E.

VTrans Scoping Engineer

Rob Young, P.E.

VTrans Design Project Manager

Kyle Obenauer

Historic Preservation Specialist

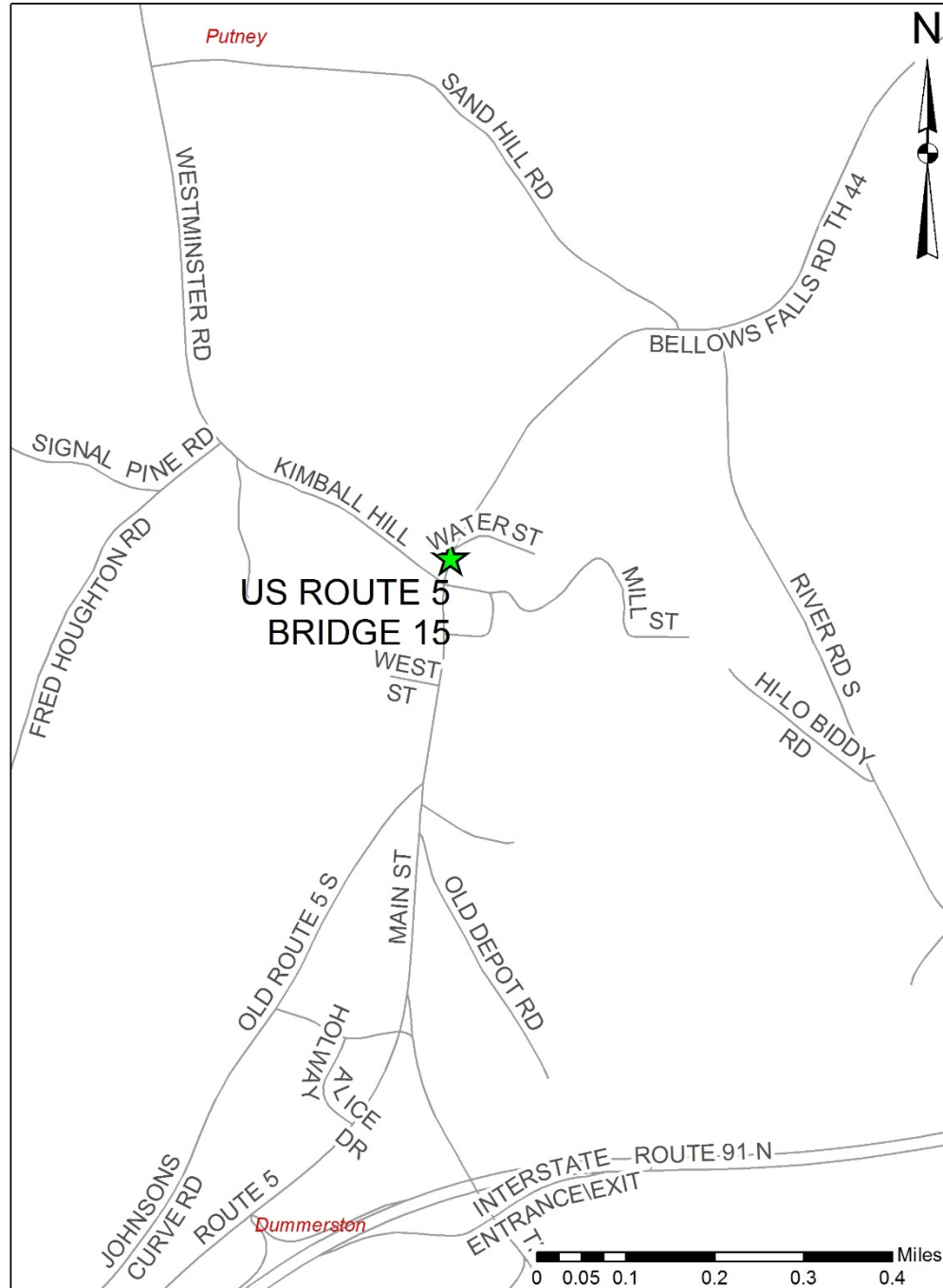


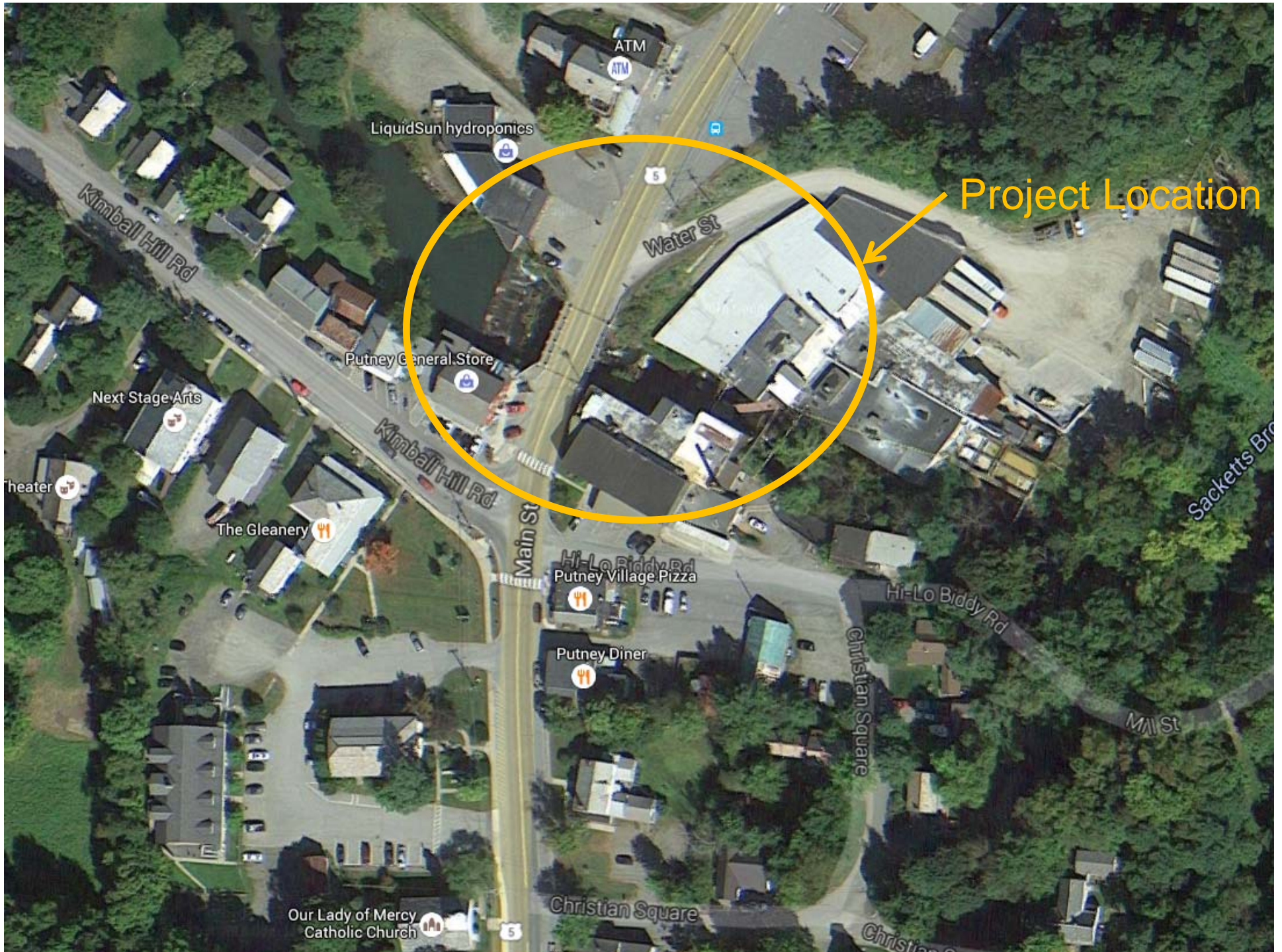
Purpose of Meeting

- Provide an understanding of our approach to the project
- Provide an overview of project constraints
- Discuss alternatives that were considered
- Discuss our recommended alternative
- Provide an opportunity to ask questions and voice concerns



Location Map



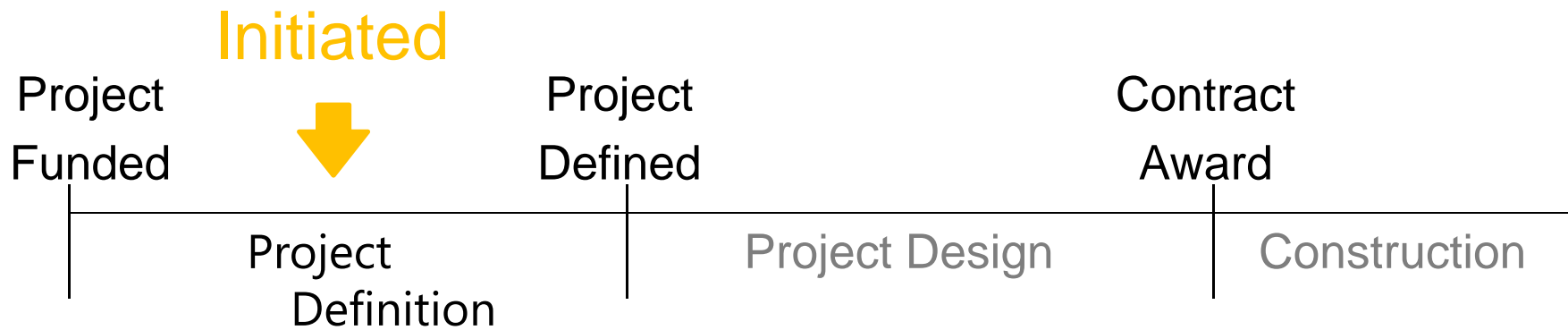


Meeting Overview

- VTrans Project Development Process
- Project Overview
 - Existing Conditions
 - Alternatives Considered
 - Recommended Alternative
- Maintenance of Traffic
- Schedule
- Summary
- Next Steps
- Questions



VTrans Project Development Process



- Identify resources & constraints
- Evaluate alternatives
- Public participation
- Build Consensus

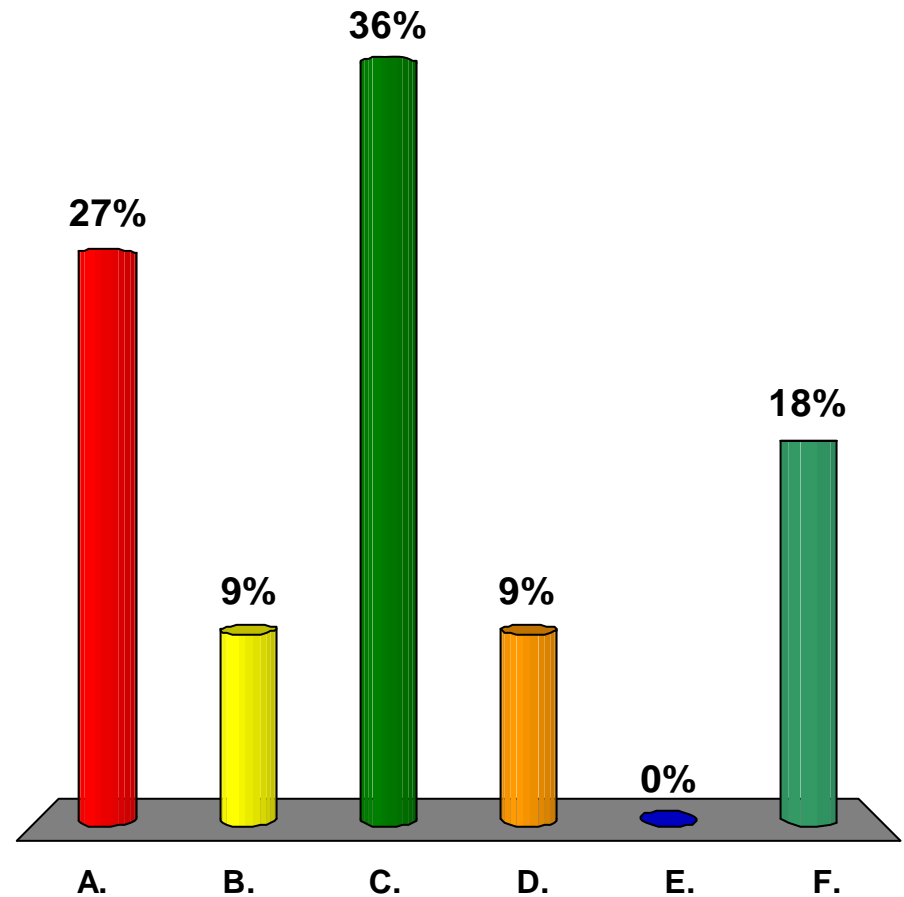
- Quantify areas of impact
- Environmental permits
- Develop plans, estimate and specifications
- Right-of-Way process if necessary



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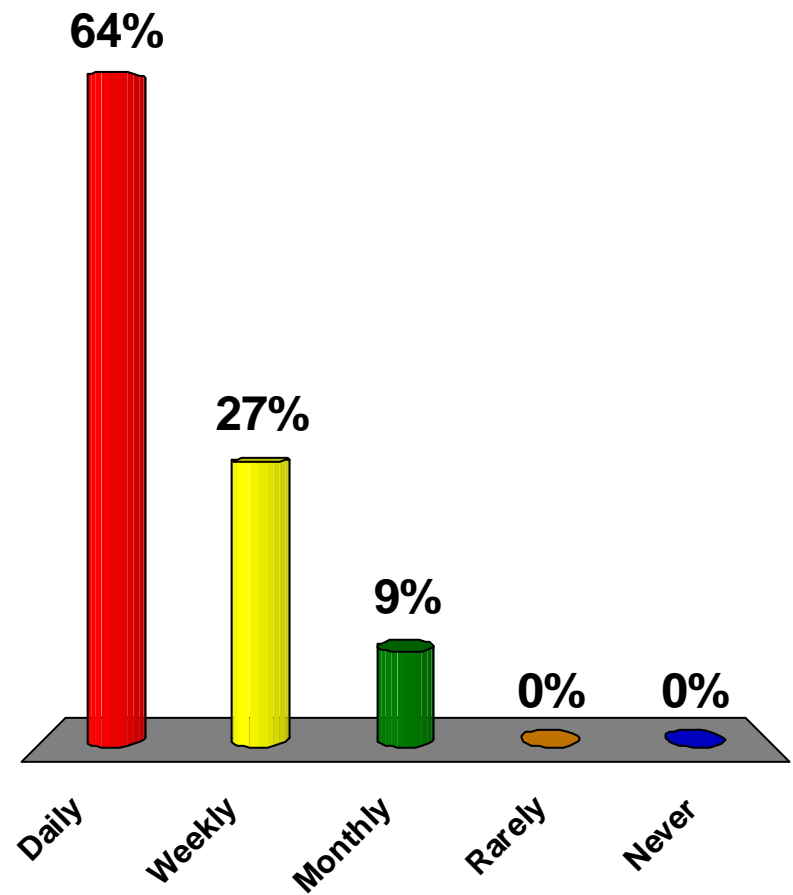
Who are you representing?

- A. Municipal Official
- B. Resident
- C. Local Business
- D. Independent Organization
- E. Emergency Services
- F. Other



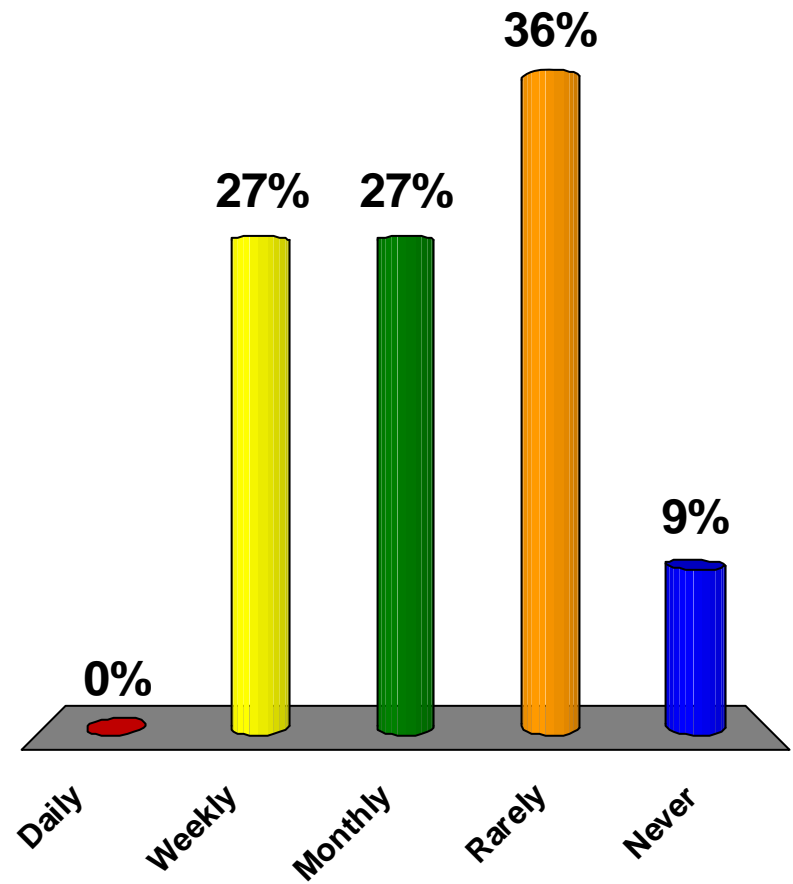
How often do you use this segment of US Route 5?

- A. Daily
- B. Weekly
- C. Monthly
- D. Rarely
- E. Never



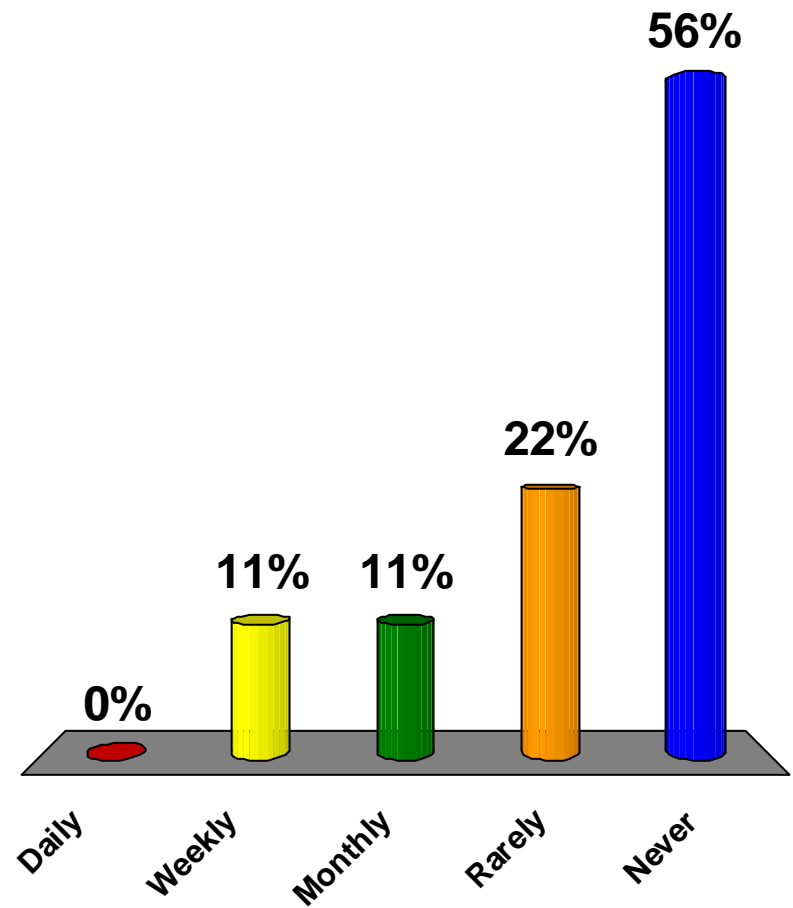
How often do you walk over the bridge?

- A. Daily
- B. Weekly
- C. Monthly
- D. Rarely
- E. Never



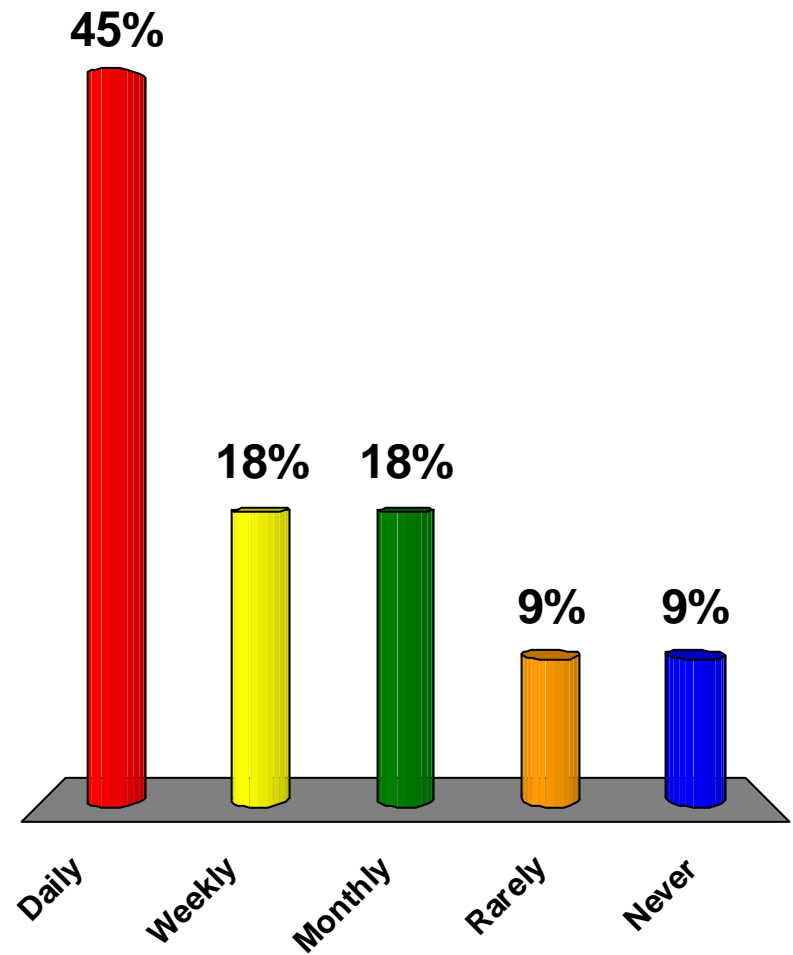
How often do you bike over the bridge?

- A. Daily
- B. Weekly
- C. Monthly
- D. Rarely
- E. Never



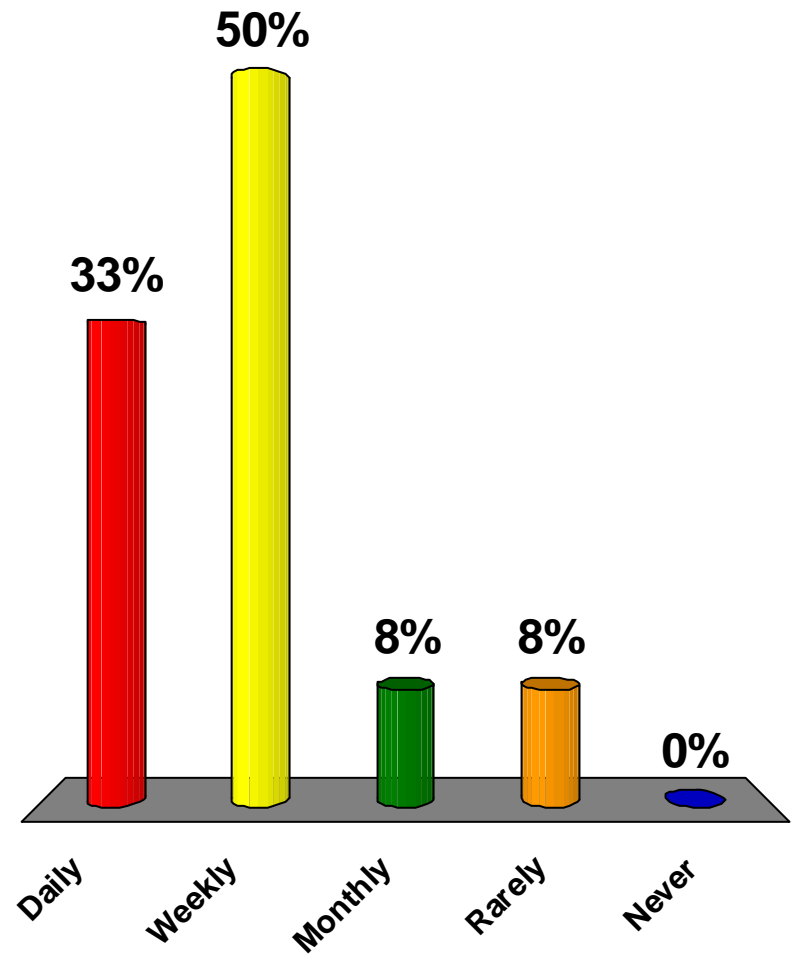
How often do you park on this segment of US Route 5?

- A. Daily
- B. Weekly
- C. Monthly
- D. Rarely
- E. Never



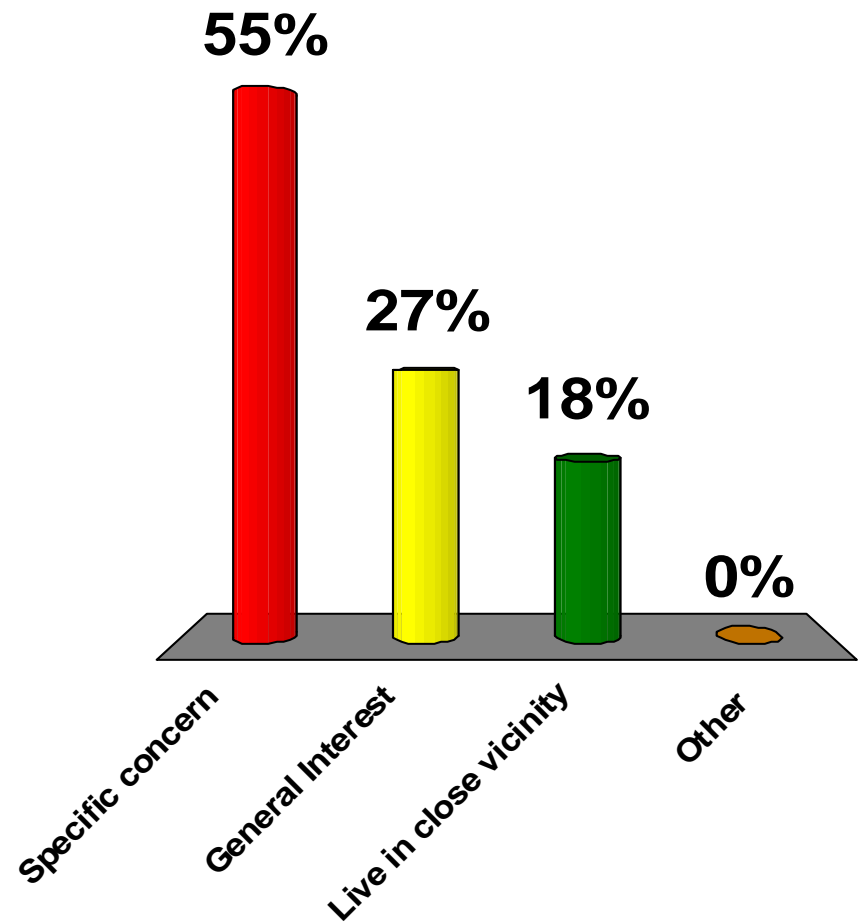
How often do you visit the shops on this segment of US Route 5?

- A. Daily
- B. Weekly
- C. Monthly
- D. Rarely
- E. Never



What is your reason for attending this meeting?

- A. Specific concern
- B. General Interest
- C. Live in close vicinity
- D. Other

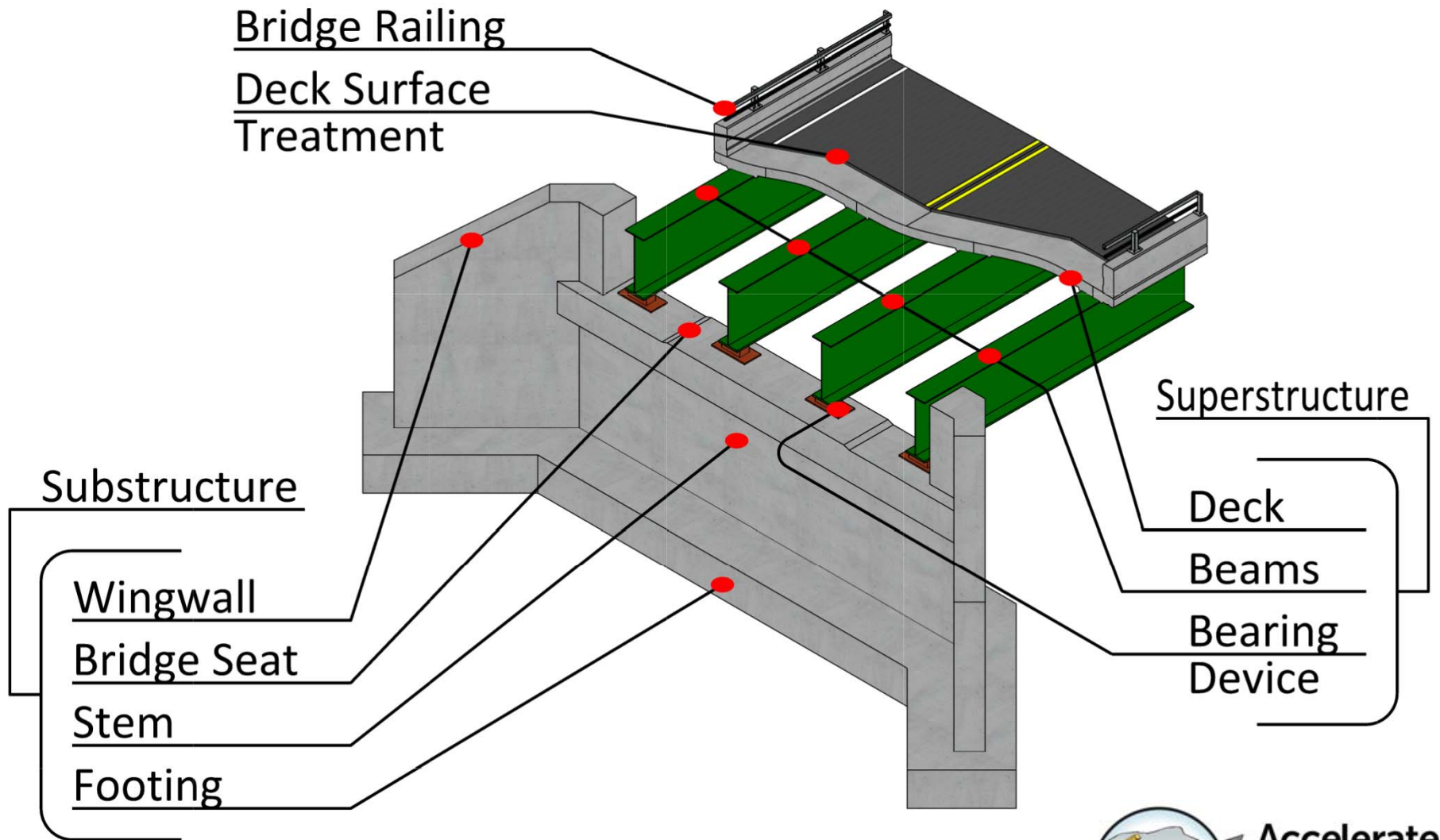


Project Overview

- Existing Conditions
- Alternatives Considered
- Recommended Alternative



Description of Terms Used



Looking South over Bridge



Existing Conditions – Bridge #15

- Roadway Classification – Major Collector (US Route 5)
- Bridge Type – 54' Long Rolled Steel Beam
- Constructed in 1954
- Ownership – State of Vermont

Existing Conditions – Bridge #15

- Concrete Deck has saturation and exposed reinforcing steel
- Non-Crash Tested Guardrail
- Northeast Wing Wall has moved

Cracks and Saturation of Deck



Existing Conditions - Bridge #15

- Deck Rating 5 (Fair)
- Superstructure Rating 7 (Good)
- Substructure Rating 7 (Good)

Looking at the Northeast Wing Wall



Existing Conditions – Bridge #15

- Existing Wing Wall displaced out of its original position 7"
- Northeast Approach railing is mounted on the Wing Wall

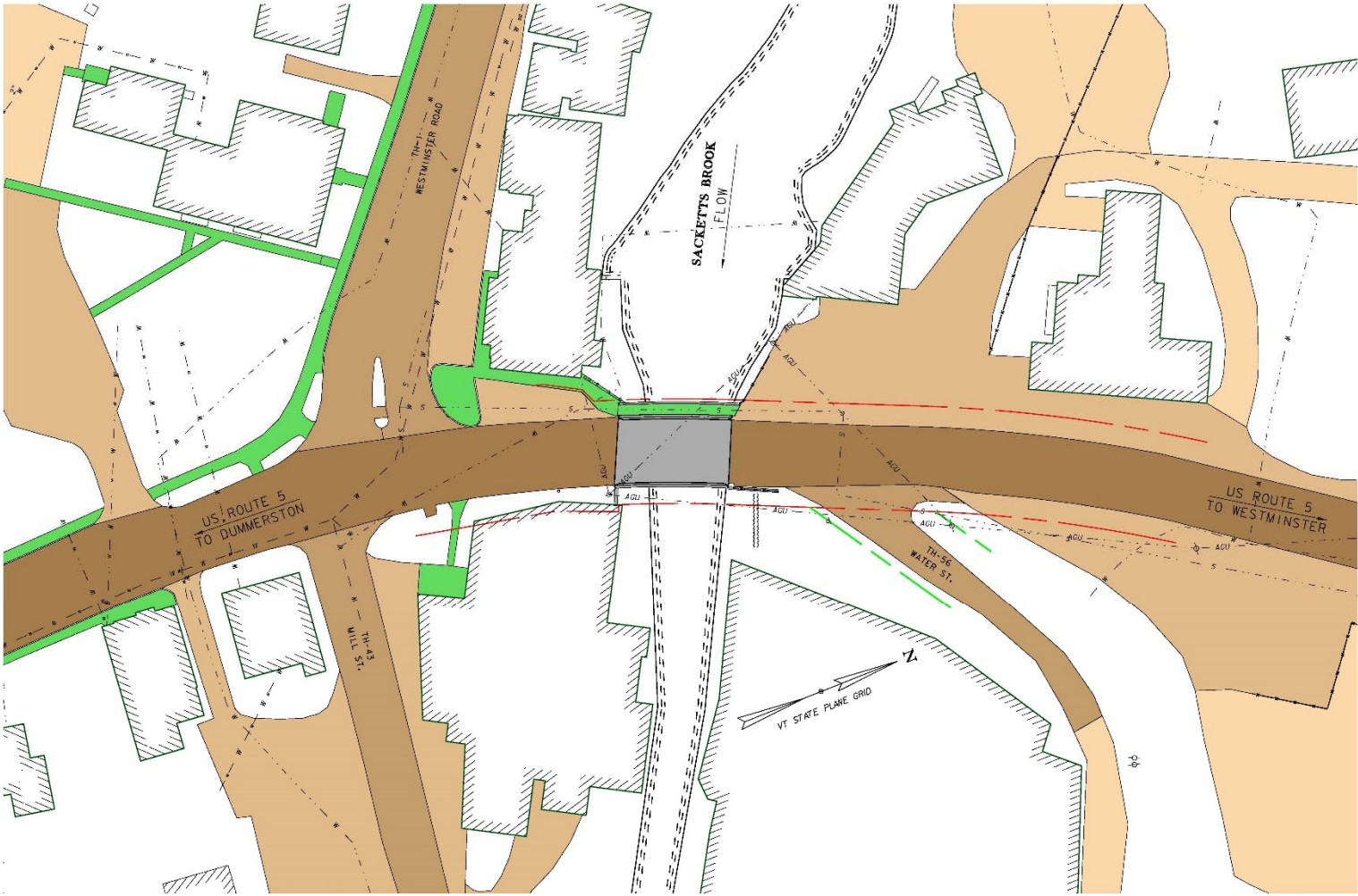
Resource Constraints



Existing Conditions - Bridge #15

- Historic Bridge – ornamental concrete metal railings

Existing Conditions



Design Criteria and Considerations

- ADT of 3,000
- DHV of 440
- % Trucks: 3.6
- Design Speed of 30 mph
- Historic bridge
- Extensive underground utilities to work around
- Access to local businesses throughout construction



Alternatives Considered – Bridge #15

- No Action

- Ruled out Given Additional maintenance required within 10 years

- Deck Patching

- Least-up front cost
- Wing Wall Repair
- Ruled out Given the Short Design Life: Additional maintenance required within 15 years.

- Deck Replacement

- Wing Wall Repair
- New Crash tested Railing



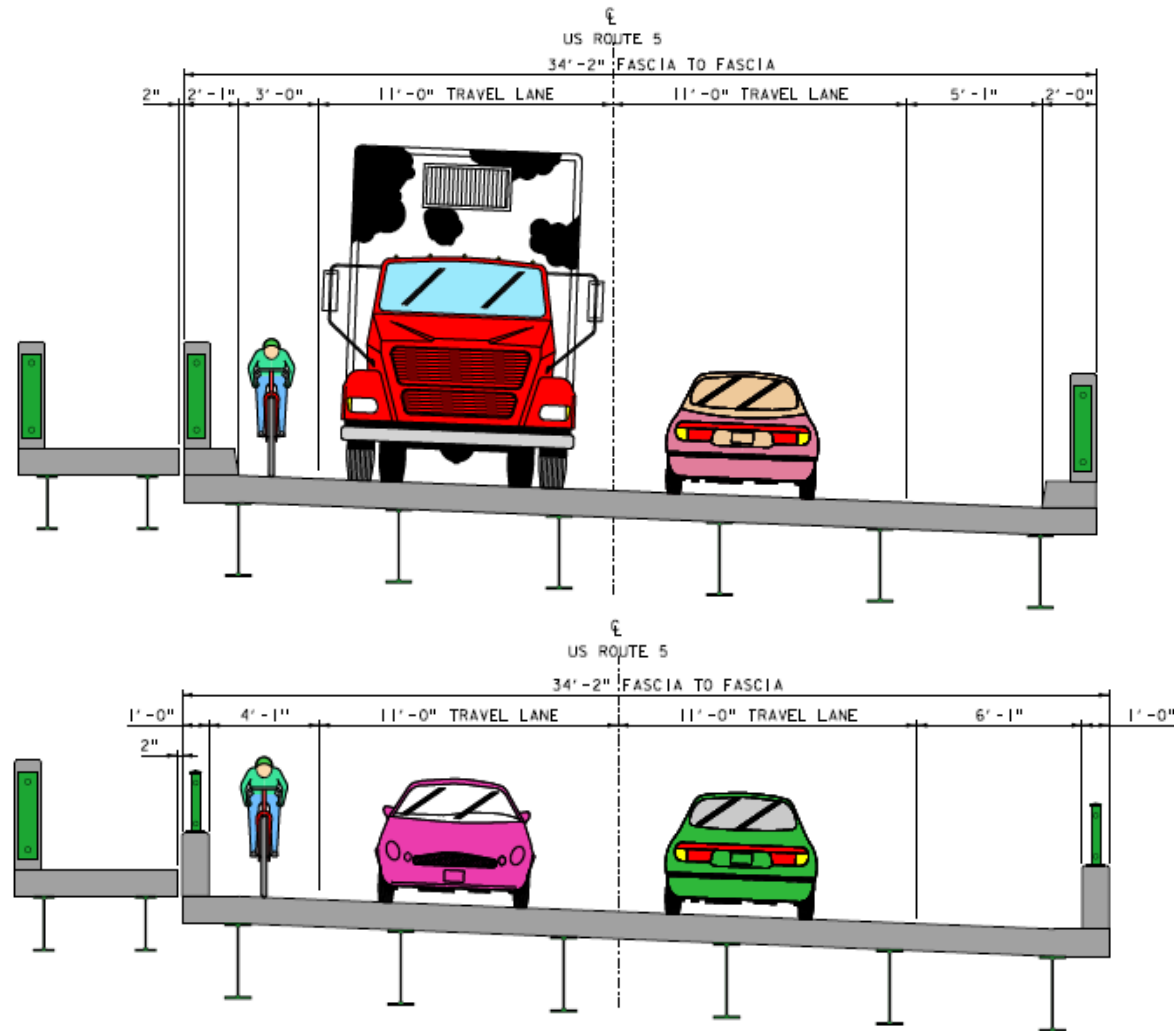
Recommended Alternative - Bridge #15

- Deck Replacement
 - Replace Cast in place deck with full depth precast panels
 - Maintain existing bridge width and lane configuration
 - Historic railing



Proposed Typical Section

- Maintain existing Bridge width



What Will the New Bridge Look Like?



Railing Example - Bridge #15

- Tenney Bridge Rail

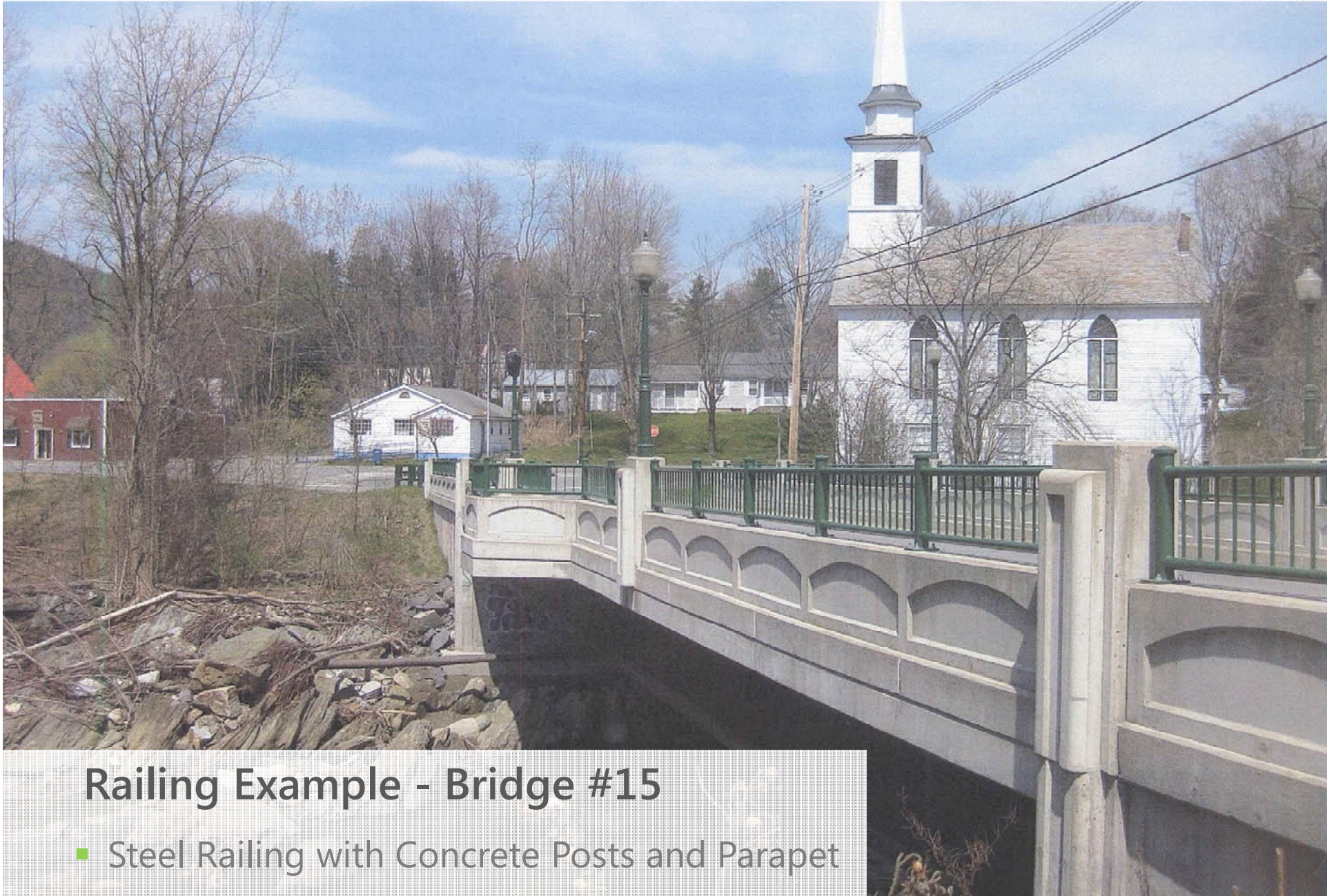
What Will the New Bridge Look Like?



Railing Example - Bridge #15

- Steel Concrete Combination Railing

What Will the New Bridge Look Like?



Railing Example - Bridge #15

- Steel Railing with Concrete Posts and Parapet

The New Bridge Rail



Railing Example - Bridge #15

2013/11/14

Which bridge railing do you prefer?

A.



B.



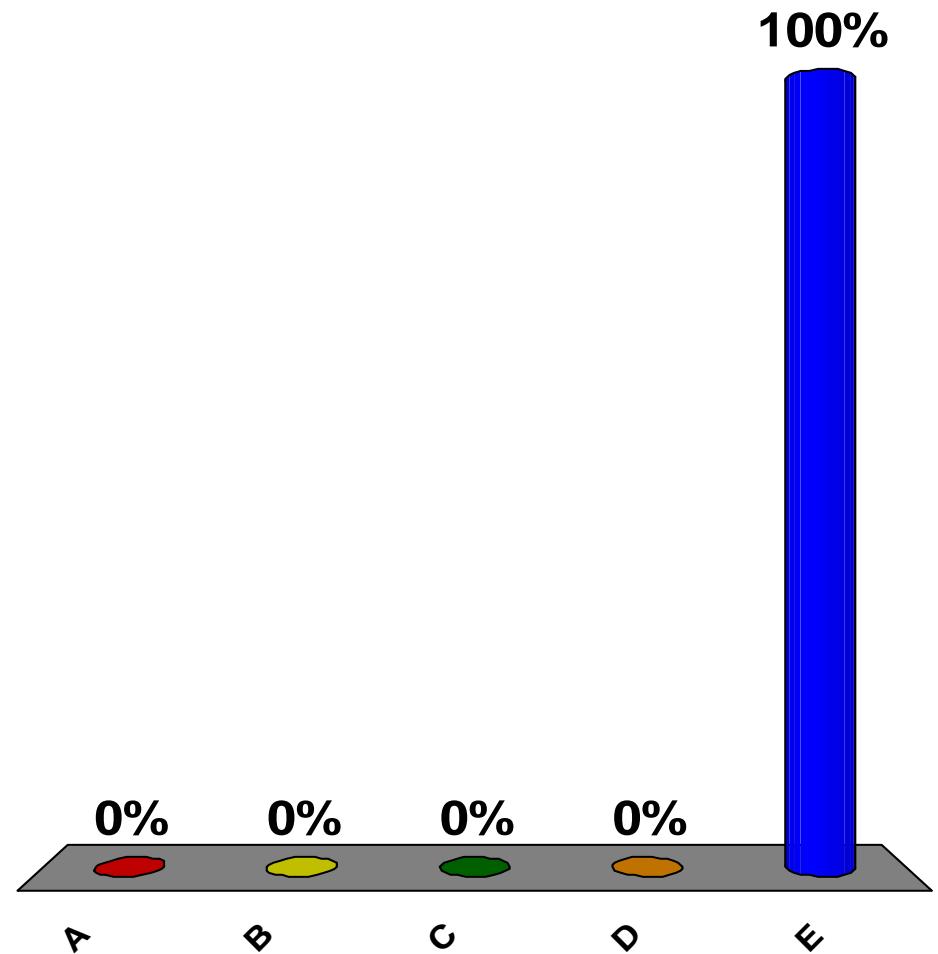
C.



D.



E.



Maintenance of Traffic Options Considered

- Short Term Road Closure w/ Offsite Detour
 - Signed by State
 - Passenger car/pedestrian route: 1.8 miles end-to-end
 - Regional truck detour route: 22.3 miles end-to-end
- Phased Construction
 - 1-way alternating vehicular traffic maintained by phasing
- Temporary Bridge
 - Not considered due to site constraints

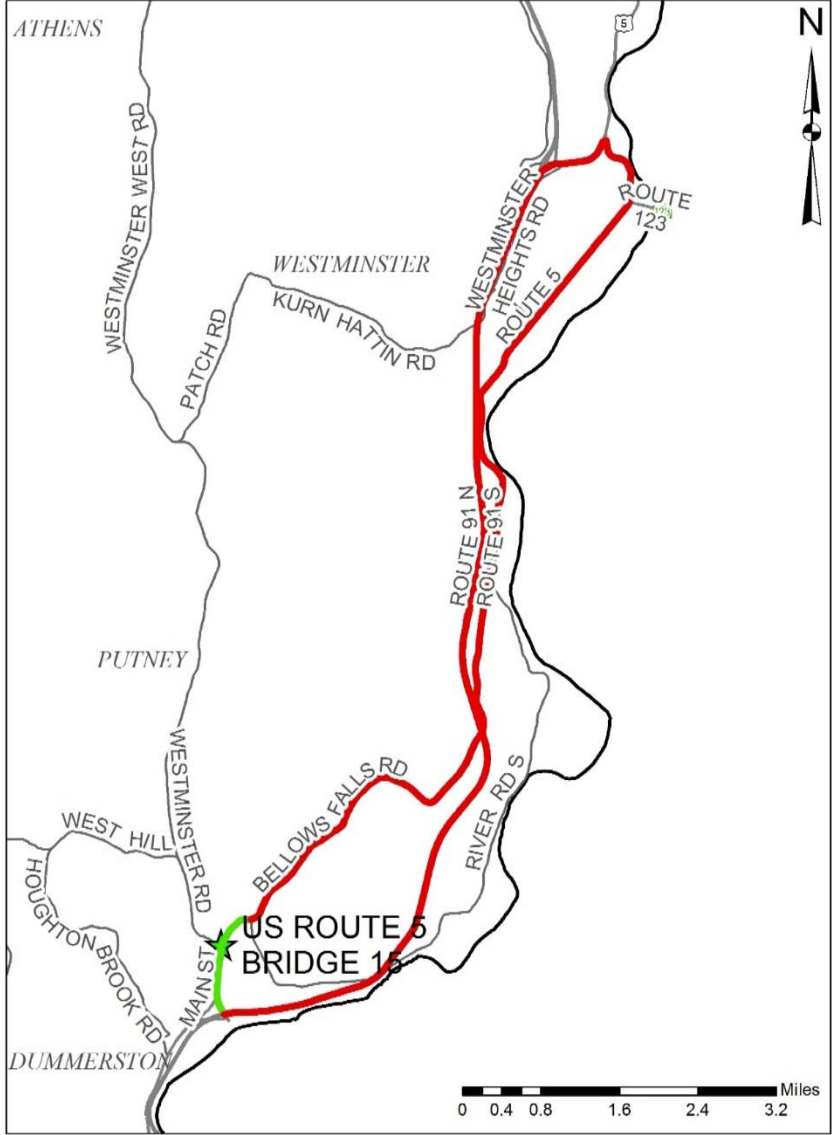




Road Closure

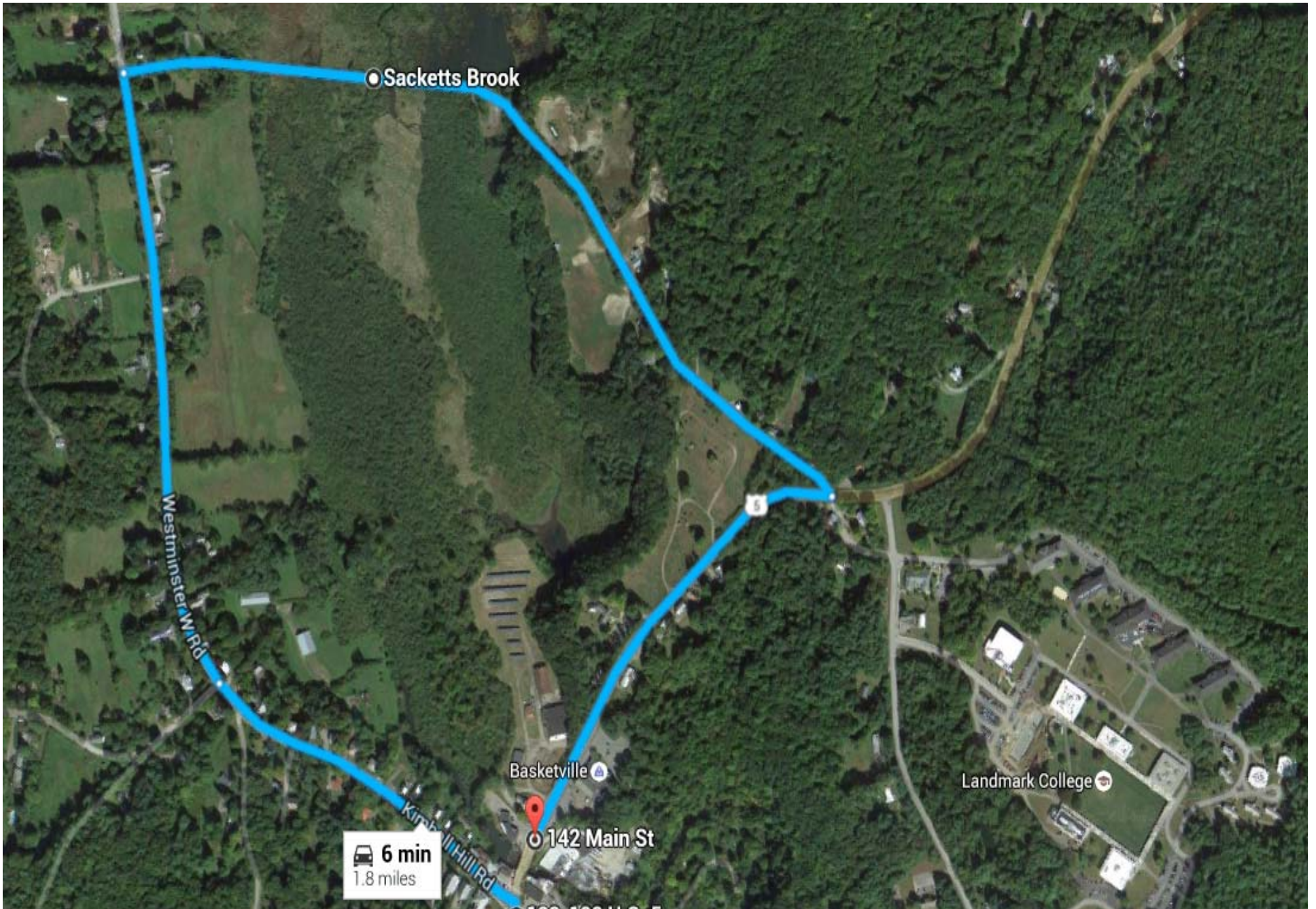
- Approx. 10 day bridge closure
- Detour route signed by State
- Shortest passenger car route available: 1.8 miles end-to-end

Regional Detour Route



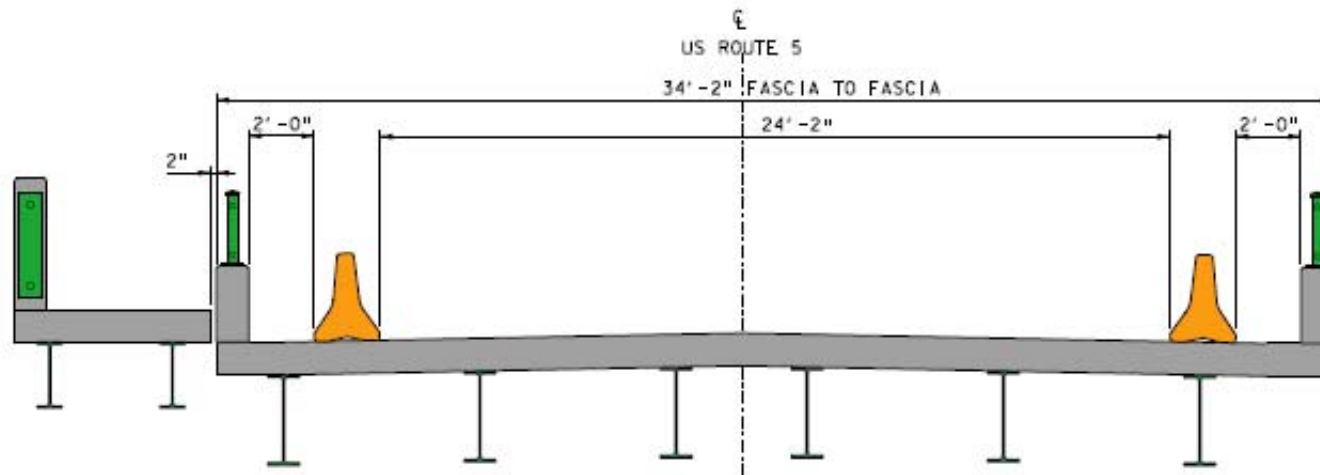
- Through Route: 0.8 Miles
- Detour Route: 22.3 Miles
- Added Miles: 21.5 Miles
- Added time: Approx. 27 minutes





Potential Local Bypass Route

Maintenance of Traffic: Post Closure



Deck Replacement following Closure

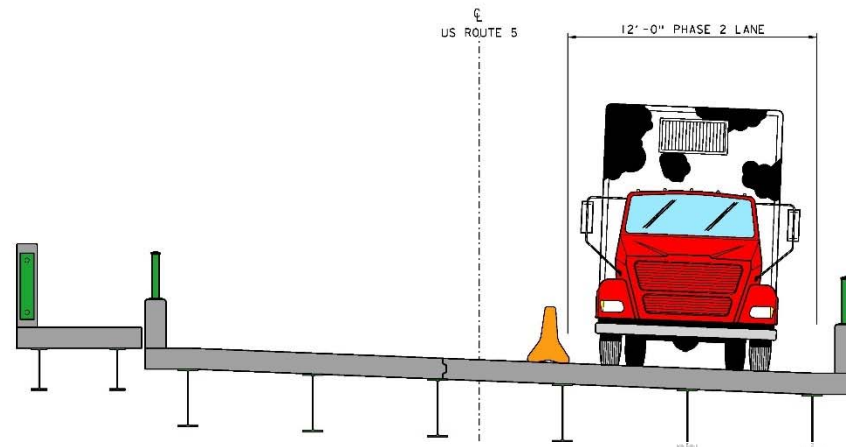
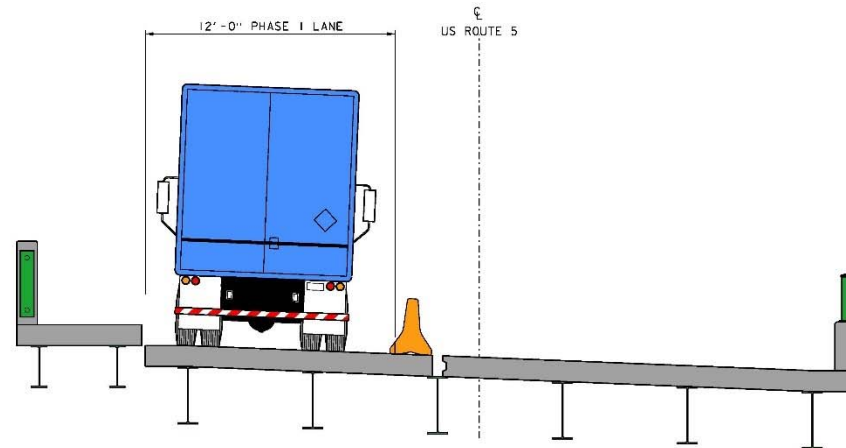
- Limited pedestrian access during construction of Concrete Railing



Phased Construction – Option 1

- Alternating 1 way traffic
- Bridge closed to pedestrians – offsite pedestrian detour for construction season

Maintenance of Traffic: Phasing



Deck Replacement in Two Phases

- No pedestrian access during phased construction

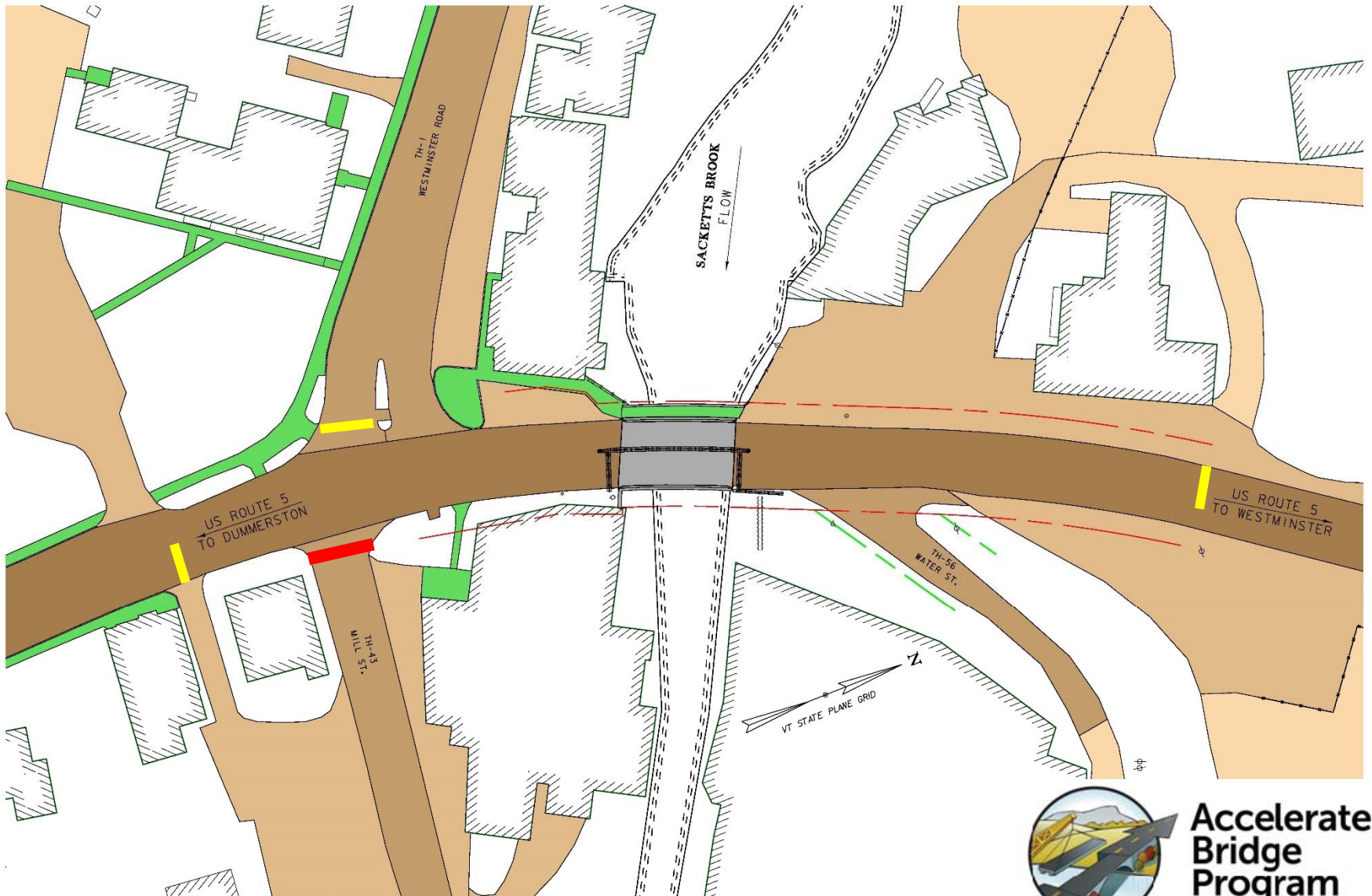
Maintenance of Traffic: Phasing



Deck Replacement in Two Phases

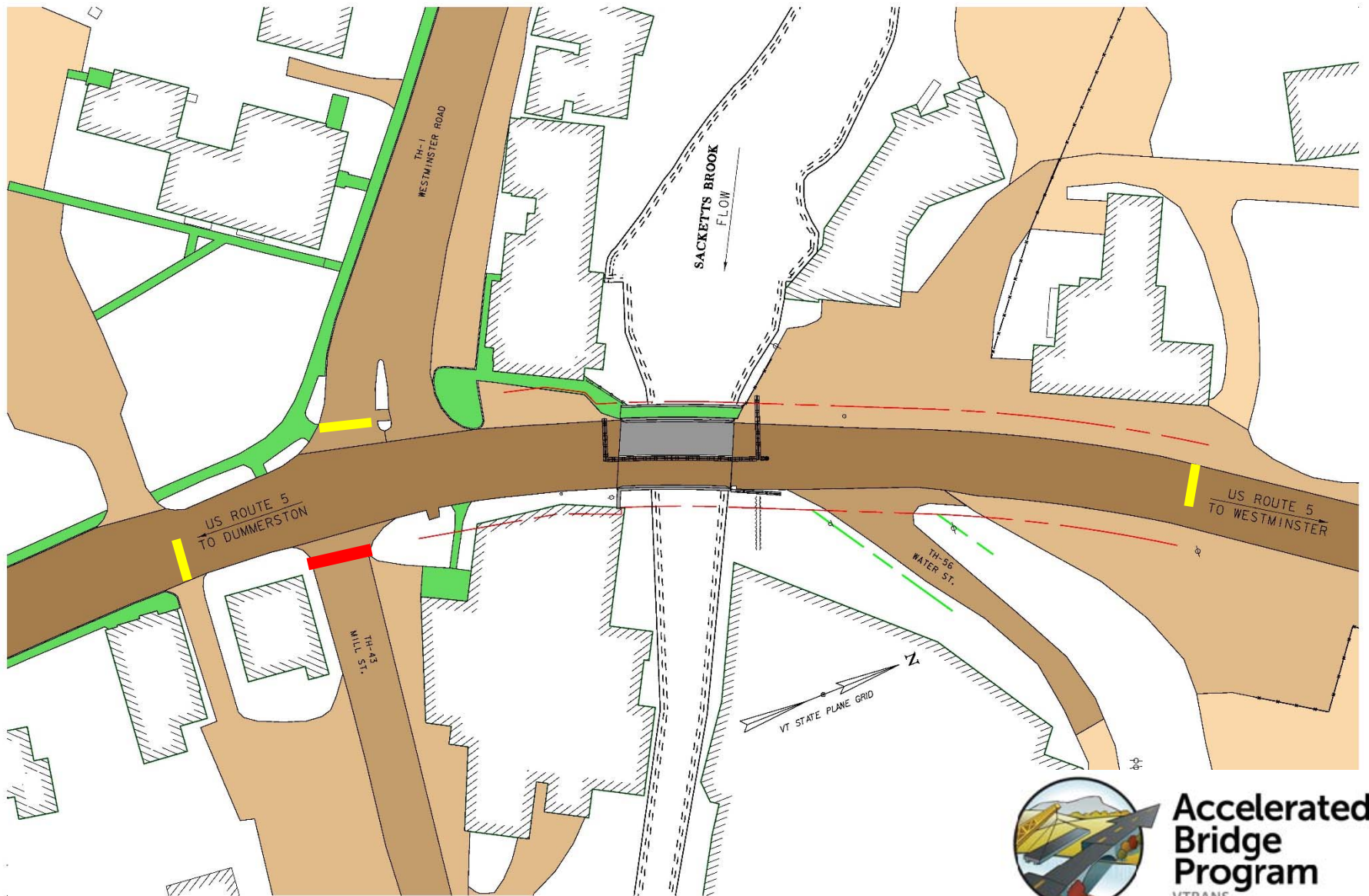
- Recommend Closing Hi-Lo Biddy Rd if phased

Option 1 Phased Construction - Phase 1



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Option 1 Phased Construction - Phase 2



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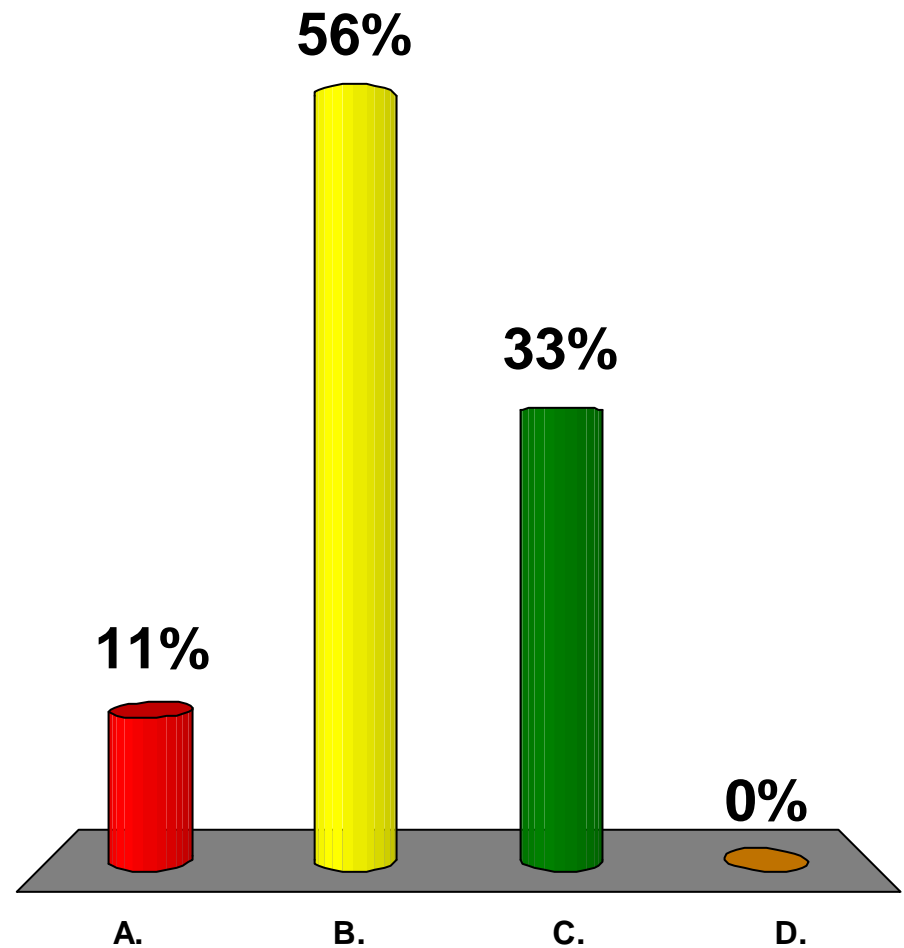
Recommended Maintenance of Traffic - Bridge #15

- Short Term Road Closure
 - Allowable two week alternating one way traffic prior to the closure
 - 10 day closure
 - Two way, two lane traffic following construction



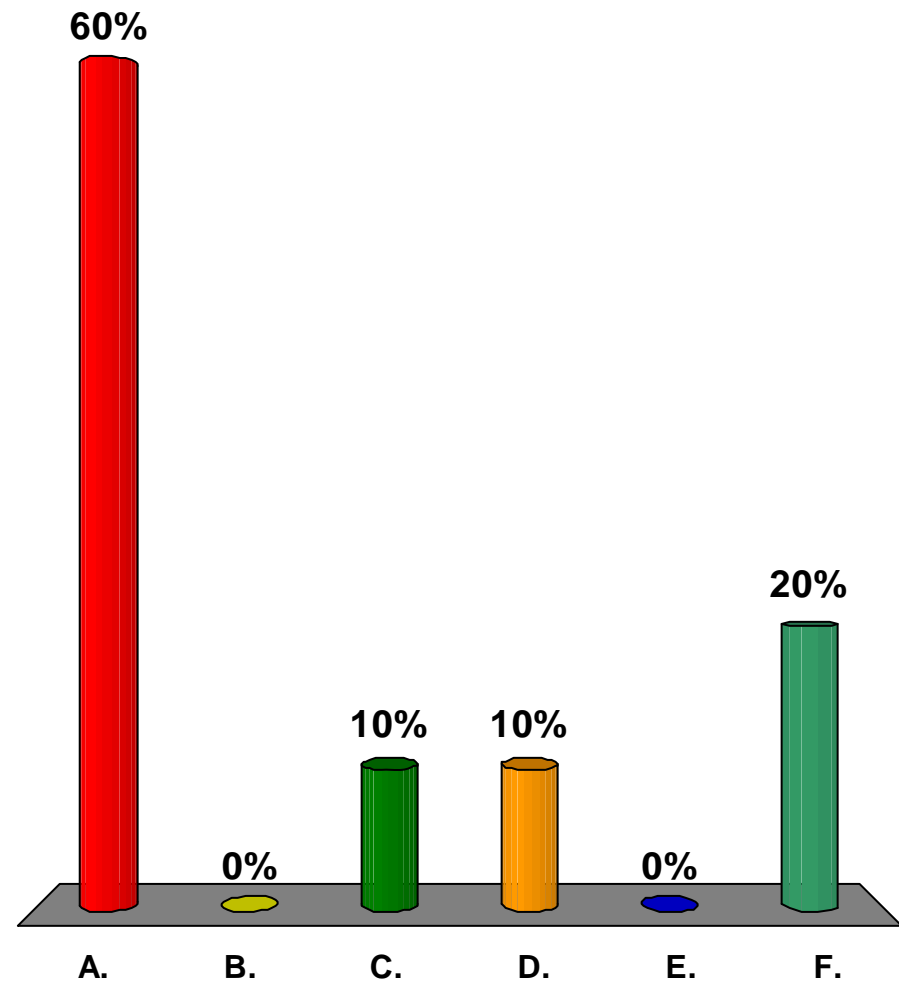
What would be the maximum acceptable length of closure for Bridge #15?

- A. 7 Days
- B. 10 Days
- C. 14 Days
- D. 28 Days



Which time of year would be most acceptable for Bridge #15 to be closed?

- A. May
- B. June
- C. July
- D. August
- E. September
- F. Other



Alternatives Matrix

Recommended



	Alt 1	Alt 3			
Putney STP DECK (38)	No Action	Deck Replacement			
		Offsite Detour			
Total Project Costs (Including Engineering and Contingencies)	N/A	\$817,600			
Town Share	N/A	N/A			
Project Development Duration	N/A	2 years			
Construction Duration	N/A	2 months			
Closure Duration (If Applicable)	N/A	10 days			
Geometric Design Criteria	N/A	No Change			
Alignment Change	No	No			
Utilities	No Change	Relocation			
ROW Acquisition	N/A	Yes			
Design Life	<10 years	40+ years			

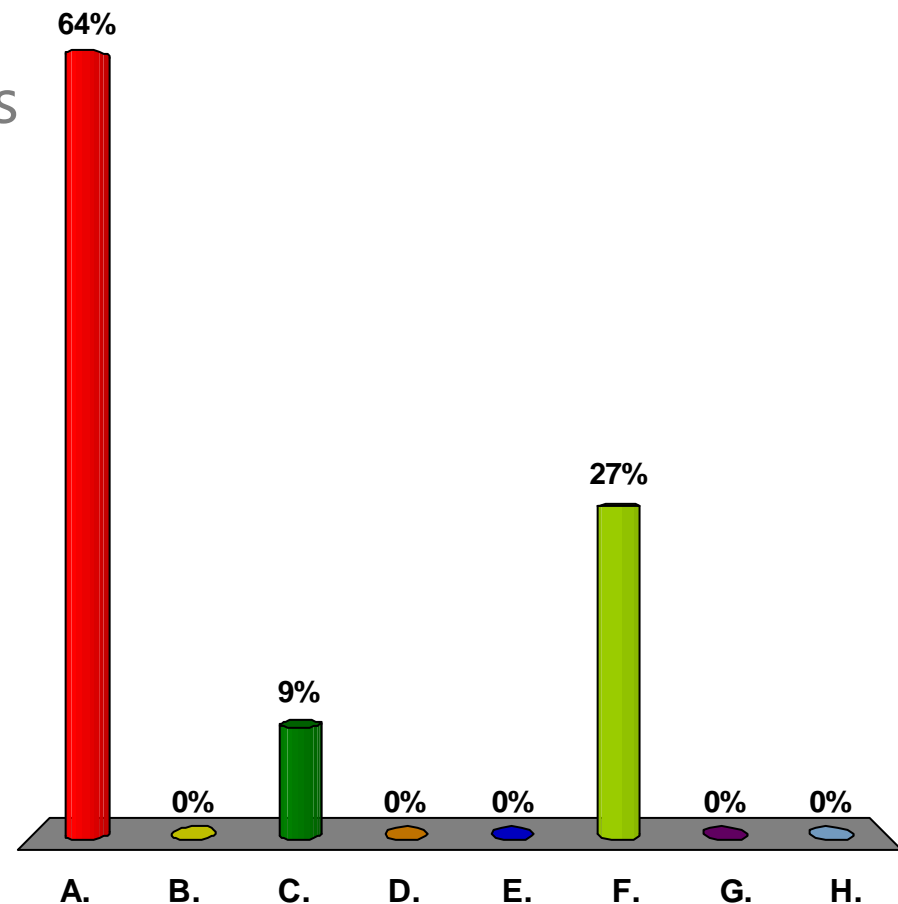
Recommended Alternative - Bridge #15

- Deck Replacement
 - Replace Cast in place deck with full depth precast panels
 - Maintain existing bridge width and lane configuration
 - Historic railing (Cast after the initial 10 day closure period)



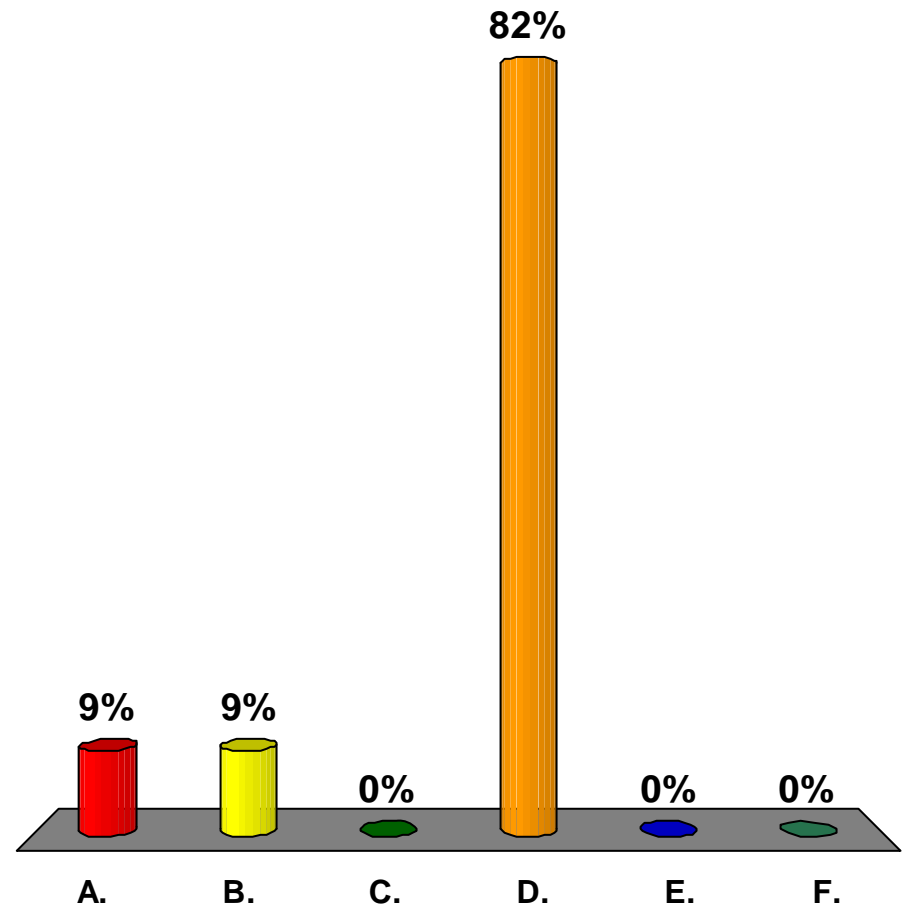
Which would you be most concerned about?

- A. Closure Duration
- B. Bridge Aesthetics
- C. Environmental Impacts
- D. Recreational Impacts
- E. Emergency Services
- F. Business Impacts
- G. Other
- H. Not really concerned



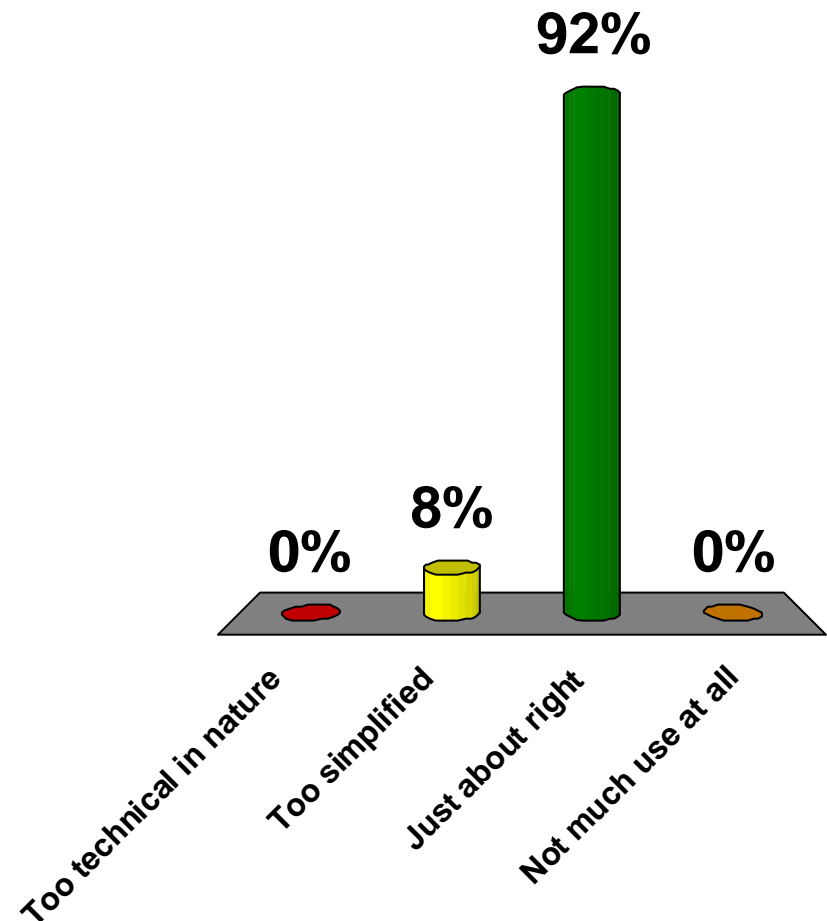
Which design aspect is the most important to you?

- A. Shoulder width/bicycle accommodations
- B. Aesthetics - Bridge Railing
- C. Construction year
- D. Construction Duration
- E. Cost
- F. Other



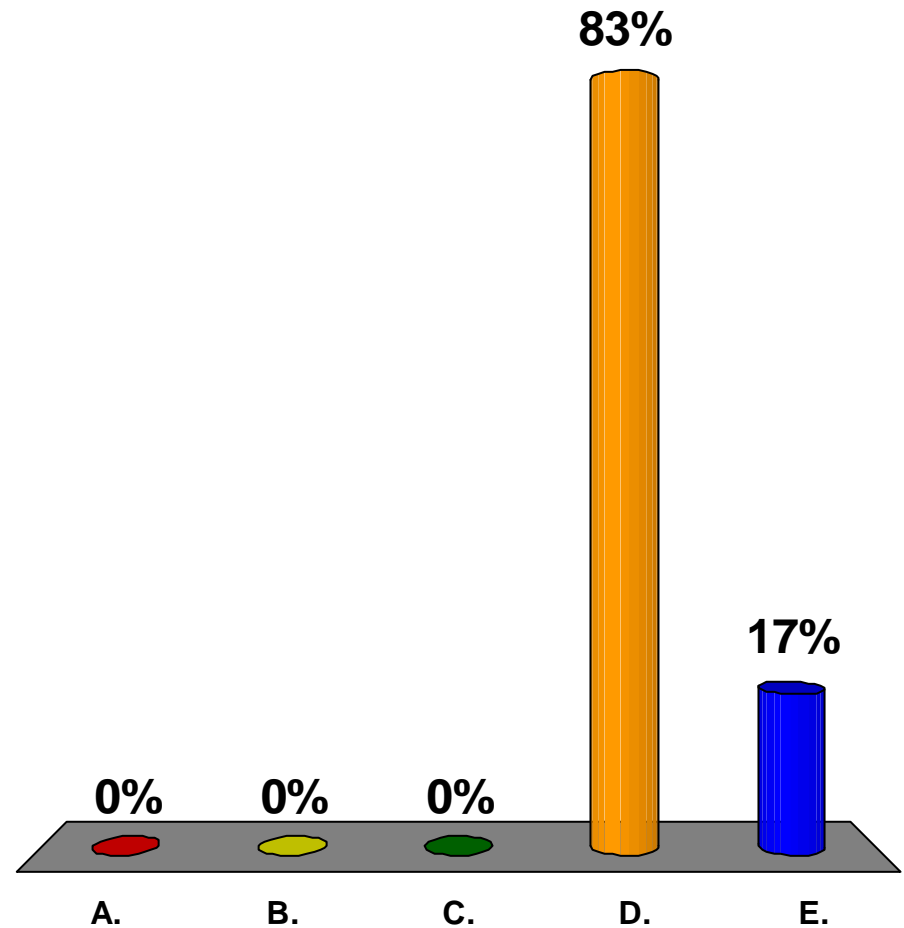
Did you find this presentation to be?

- A. Too technical in nature
- B. Too simplified
- C. Just about right
- D. Not much use at all



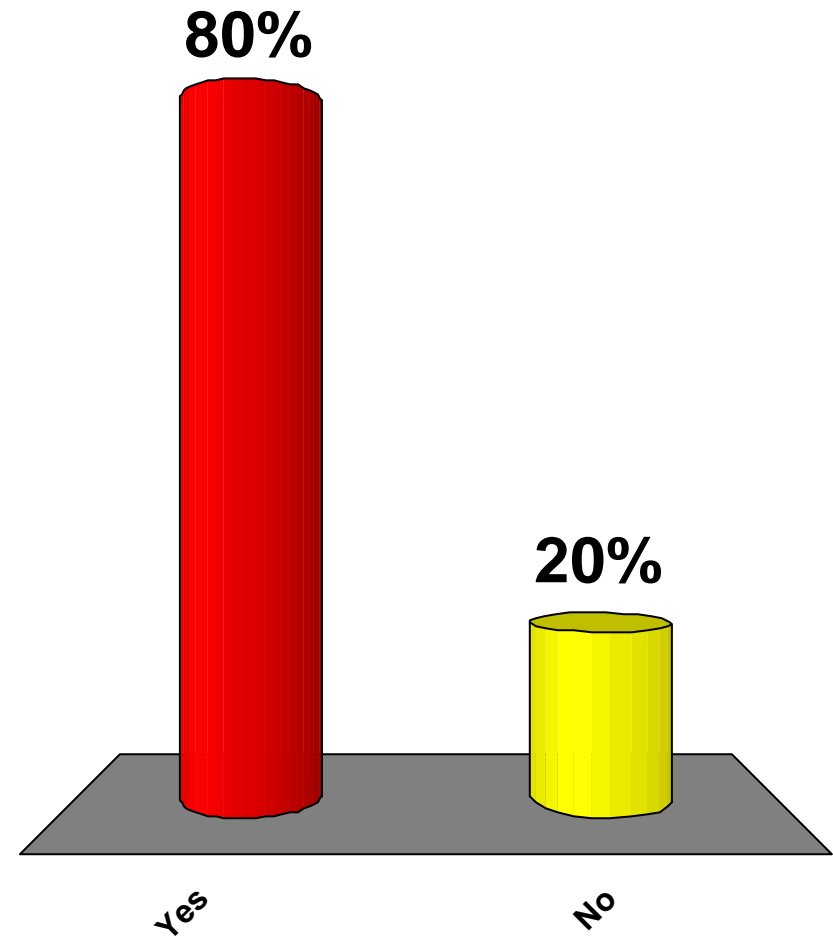
How did you Hear about this meeting?

- A. Brattleboro Reformer
- B. Front Porch Forum
- C. Iputney
- D. Town Representative
- E. Other



Do you find the recommended scope of work satisfactory?

- A. Yes
- B. No



For more information:

- <https://outside.vermont.gov/agency/vtrans/external/Projects/Structures/15b105>



Putney STP DECK (38) Questions & Comments

US Route 5 – Bridge #15 over Sacketts Brook

February 24, 2015



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Maintenance of Traffic: Closure



Trucks Entering Water St

- Requires use of private drive opposite Water St
- Requires coordination with proposed sidewalk project

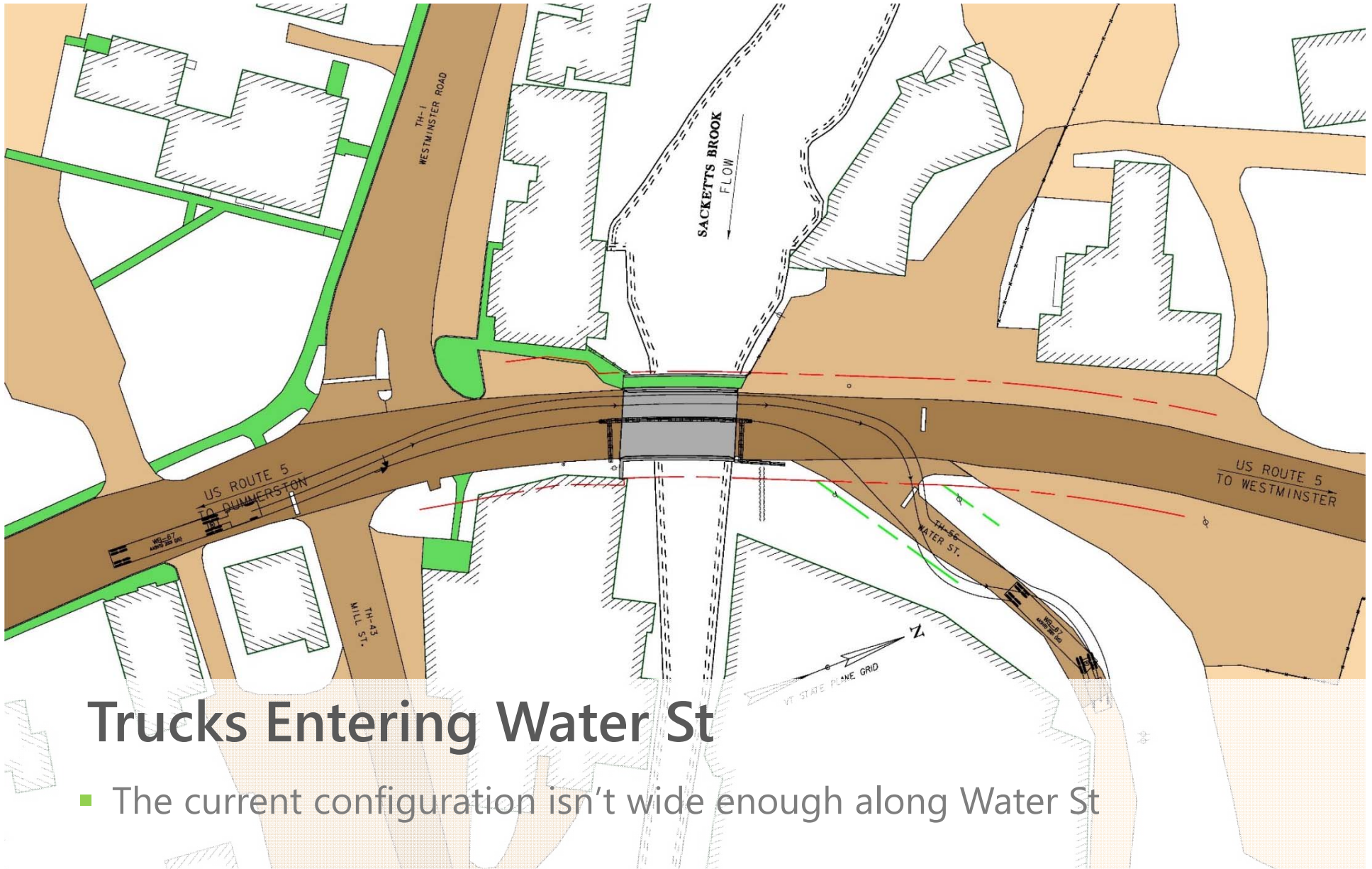
Maintenance of Traffic: Closure



Trucks Exiting Water St

- Requires use of private drive opposite Water St
- Rework Intersection of Water St and Route 5

Maintenance of Traffic: Phase 1



Trucks Entering Water St

- The current configuration isn't wide enough along Water St

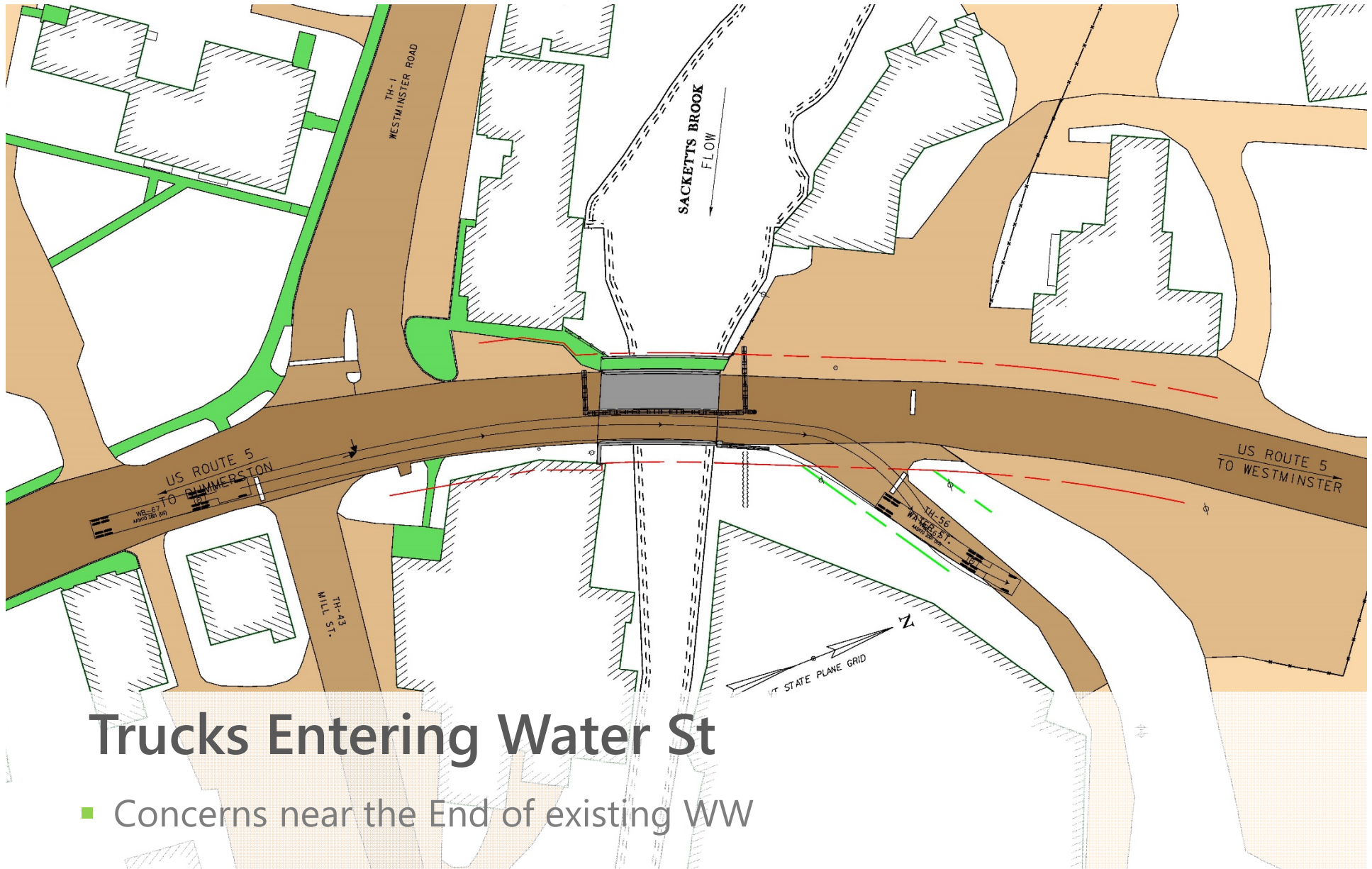
Maintenance of Traffic: Phase 1



Trucks Exiting Water St

- The current configuration causes conflicts with the concrete barrier on the structure.

Maintenance of Traffic: Phase 2



Trucks Entering Water St

- Concerns near the End of existing WW

Maintenance of Traffic: Phase 2



Trucks Exiting Water St

- Concerns near the End of existing WW