



Cavendish BO 1442(38)
Alternatives Presentation Meeting
Depot Street (TH 1) – Bridge #58 over Black River

May 11, 2015



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Introductions

Jennifer Fitch, P.E.

VTrans Scoping Project Manager

Laura Stone, P.E.

VTrans Scoping Engineer

Rob Young, P.E.

VTrans Design Project Manager



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

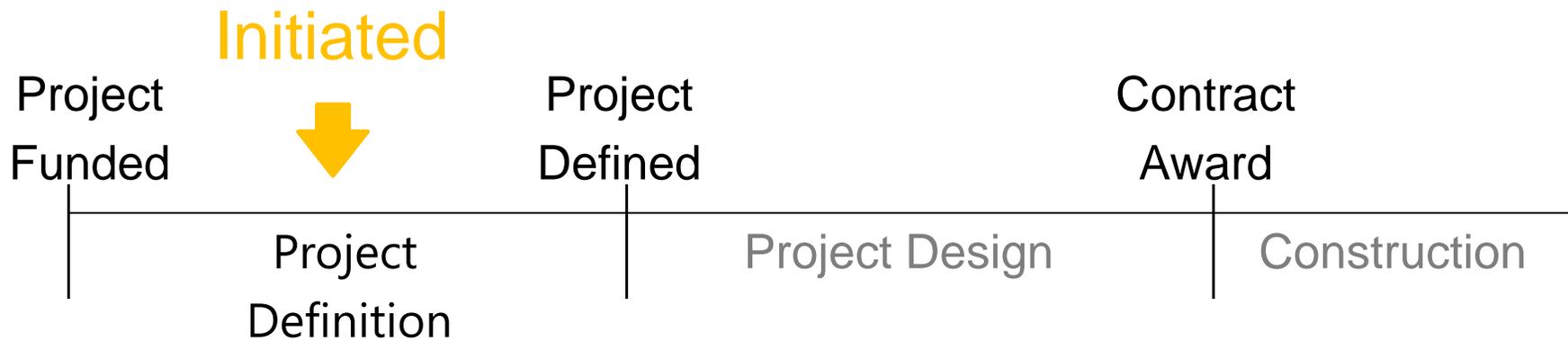


Meeting Overview

- 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

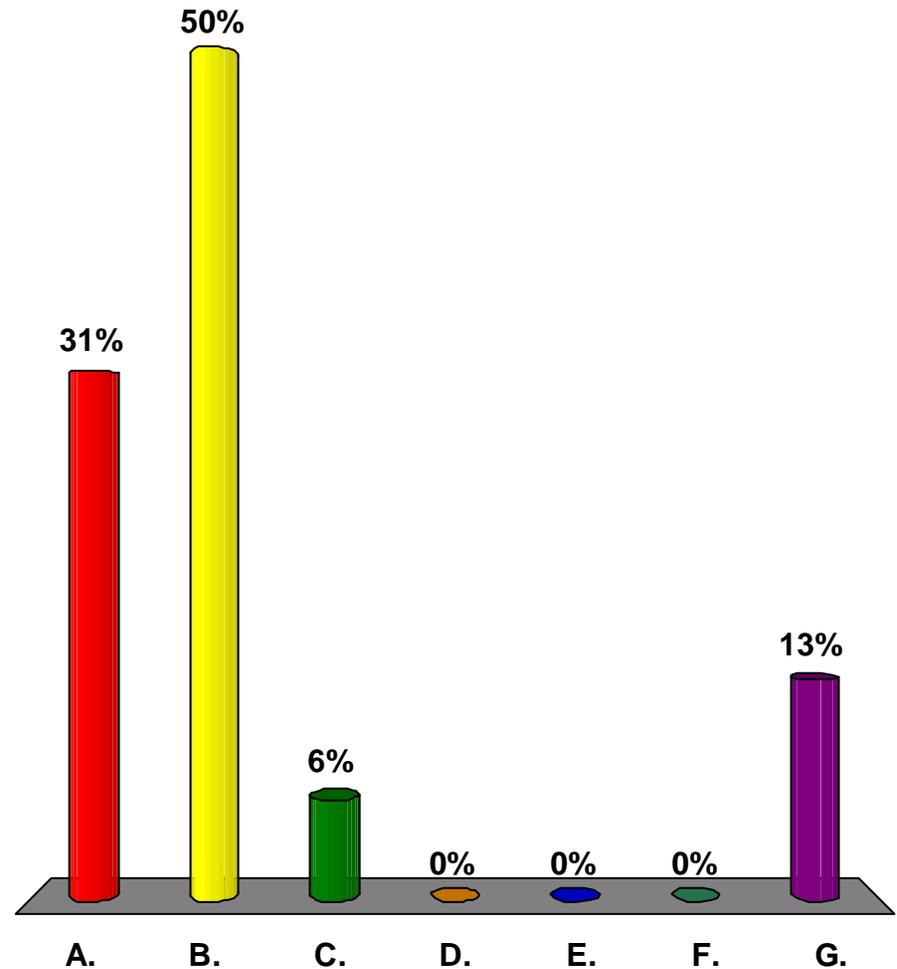
- Quantify areas of impact
- Environmental permits
- Develop plans, estimate and specifications
- Right-of-Way process (if needed)



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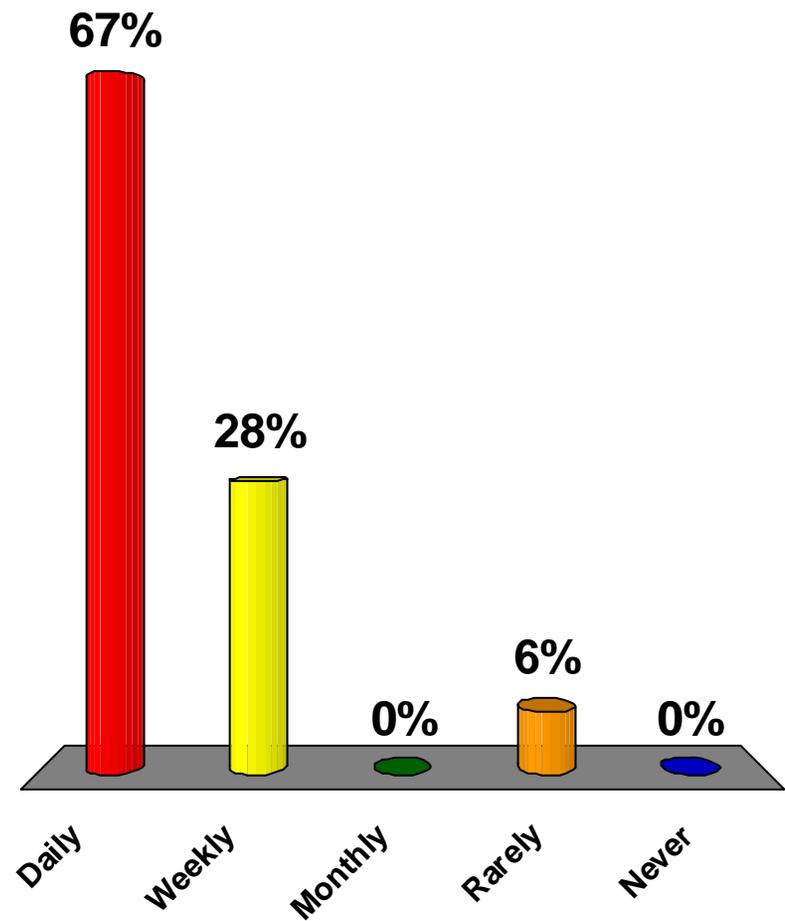
Who are you representing?

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



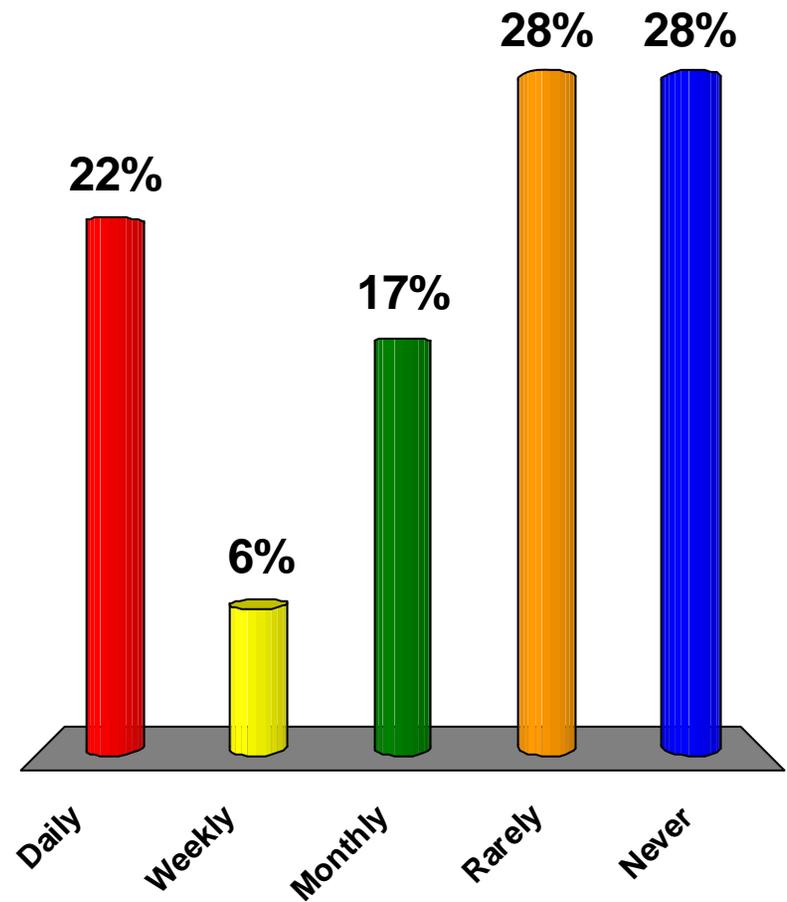
How often do you use this segment of Depot Street?

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



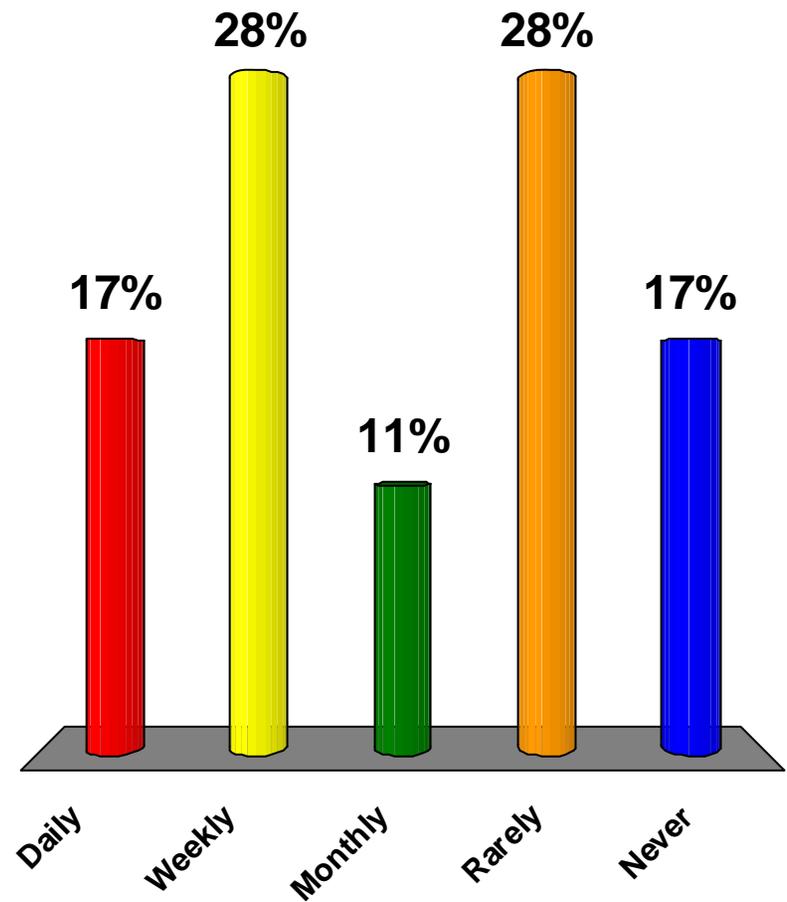
How often do you use this section of Black River for recreation?

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



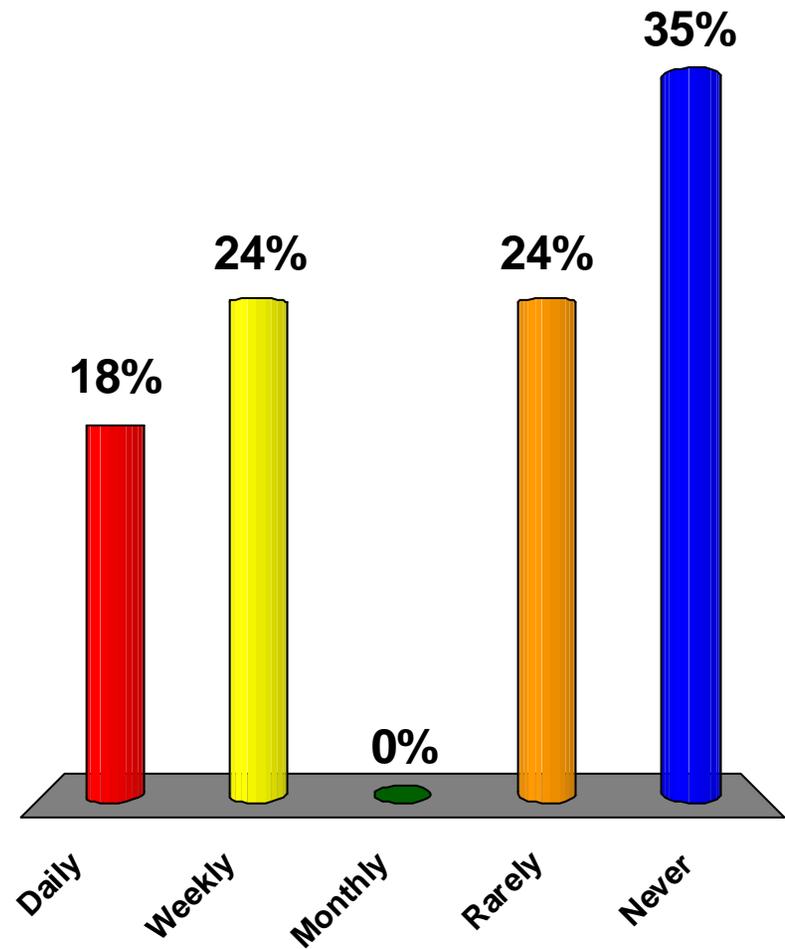
How often do you walk over the bridge?

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



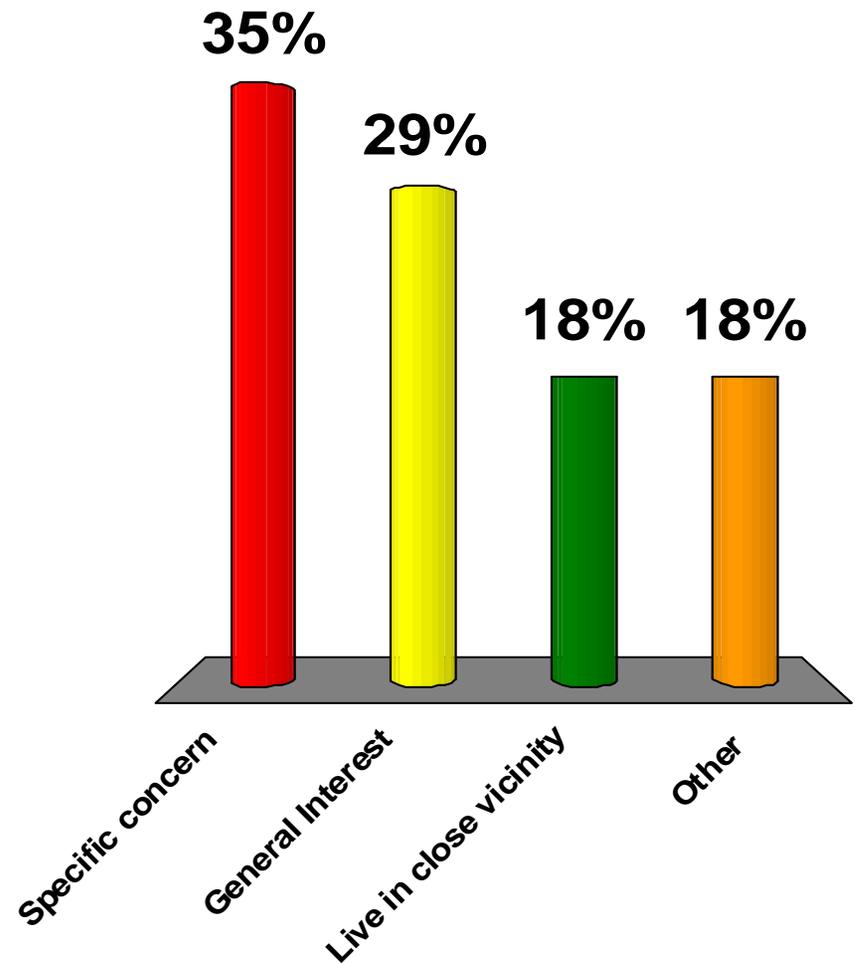
How often do you bike over the bridge?

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



What is your reason for attending this meeting?

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

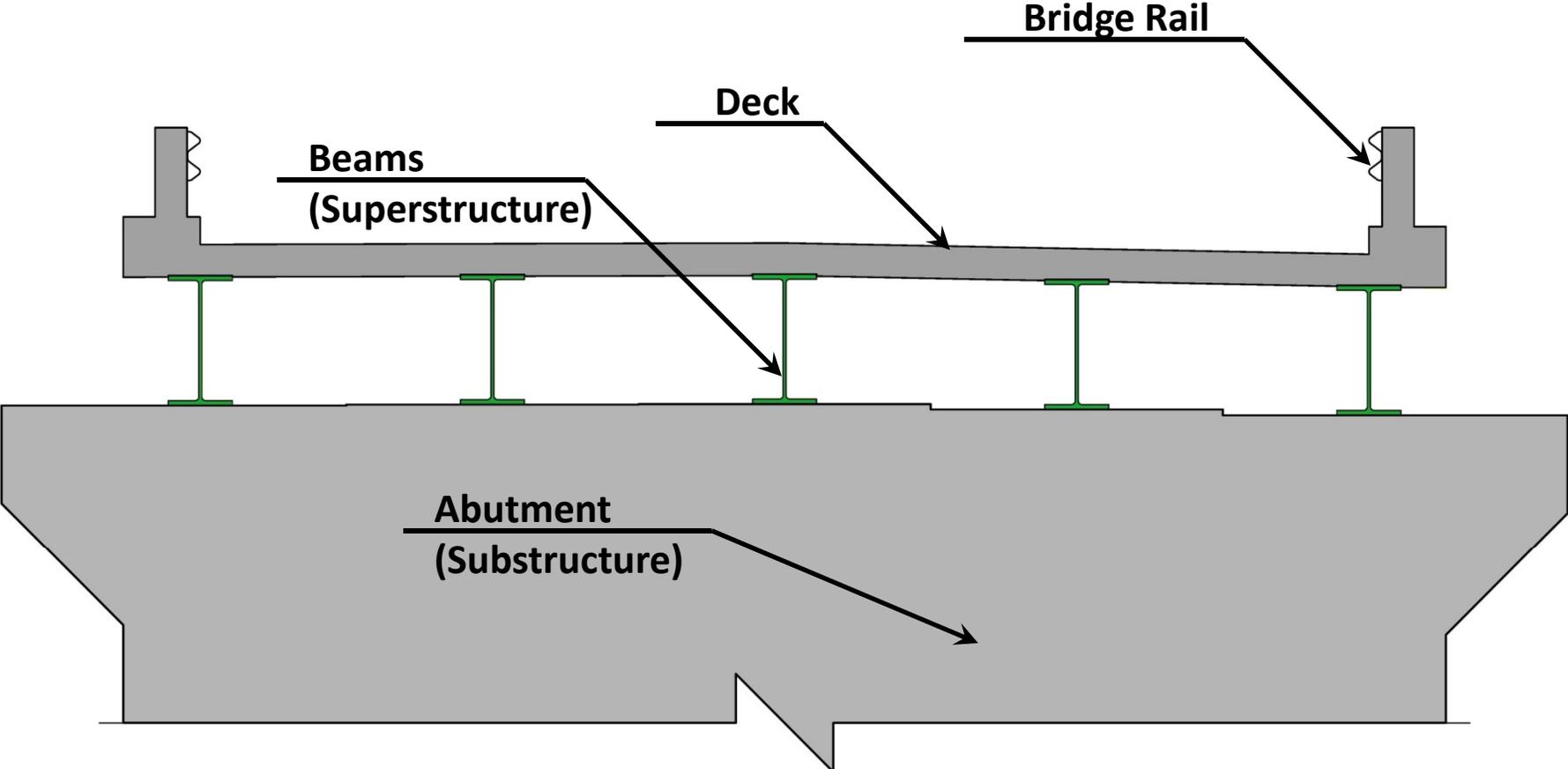


Project Overview

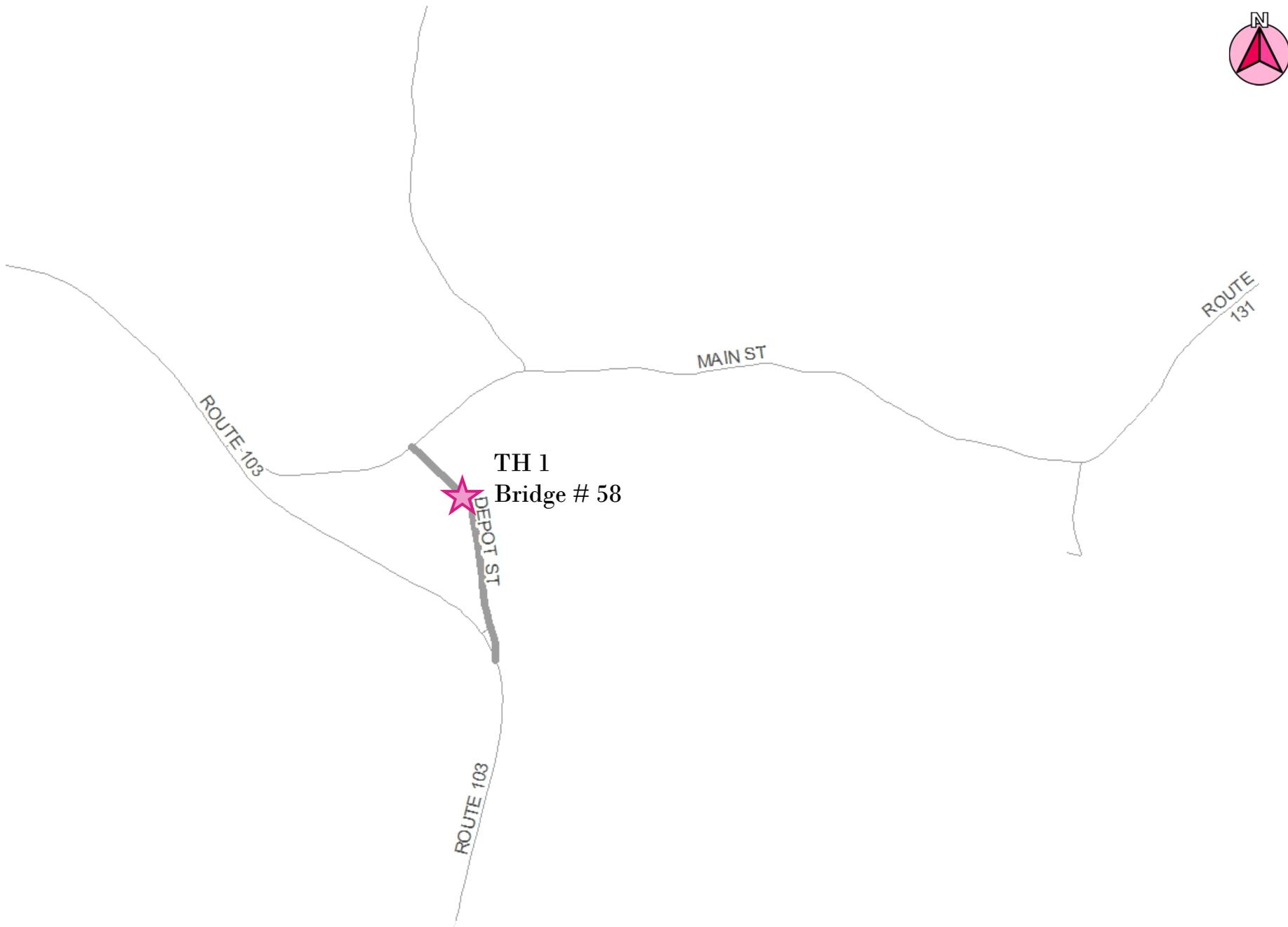
- Existing Conditions
- Alternatives Considered
- Recommended Alternative



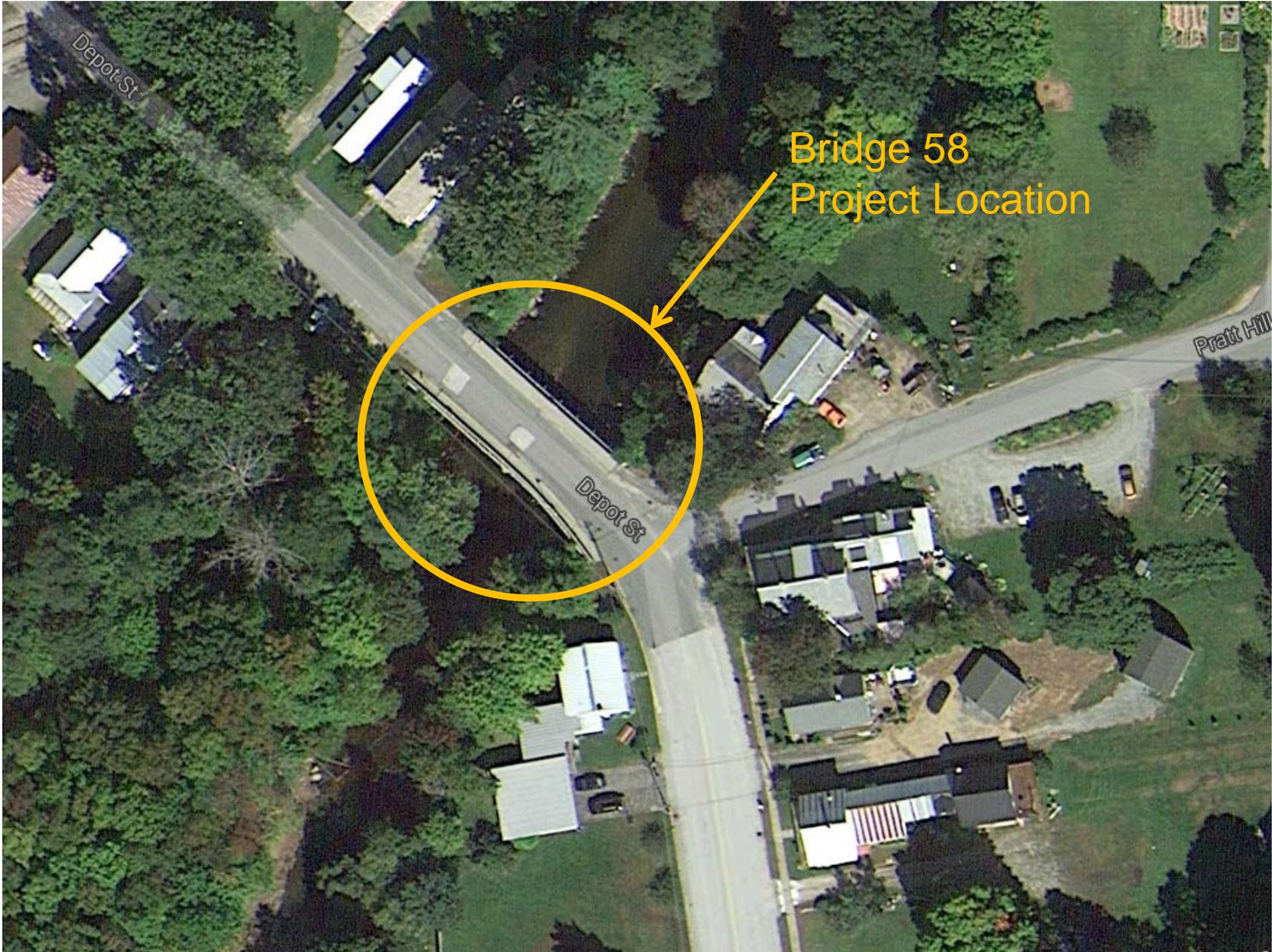
Description of Terms Used



Cross Section of Bridge



Location Map



Bridge 58
Project Location

Depot St

Depot St

Pratt Hill



Existing Conditions – Bridge #58

- Roadway Classification – Local Road (Class 2 TH)
- Bridge Type – 87' long, 2-Span Concrete T-Beam Bridge
- Constructed in 1940
- Ownership – Town of Cavendish

Existing Conditions – Bridge #58

- All bridge components are in poor condition. There have been pop-outs in the past, and future deck pop-outs are possible at any time.
- The bridge approach is on a substandard sharp horizontal curve.
- Bridge railing is substandard.



Rapid deterioration with significant exposed rebar in all components



Existing Conditions - Bridge #58

- Deck Rating 4 (Poor)
- Superstructure Rating 4 (Poor)
- Substructure Rating 4 (Poor)
- Channel Rating 6 (Satisfactory)

Looking South over the bridge



Existing Conditions - Bridge #58

- Non crash tested bridge railing
- Substandard Horizontal Alignment
- Sidewalks on both sides of the bridge

Resource Constraints



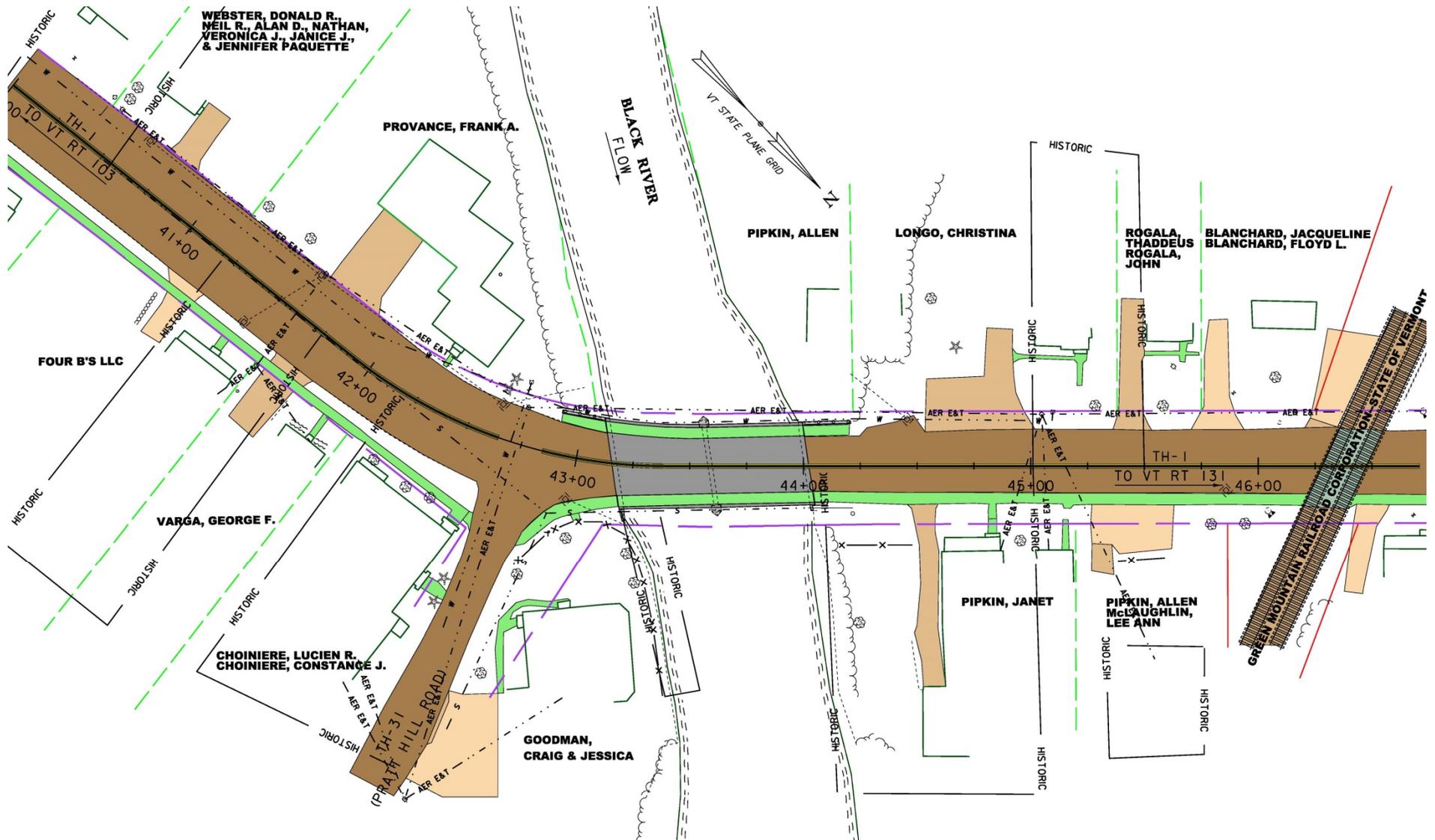
Existing Conditions - Bridge #58

- Utilities attached to bridge fascia
- Historic Resources
 - Bridge is not historic
 - Historic laid up stone walls
 - Bridge is within a historic district

Existing Conditions



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Design Criteria and Considerations

- ADT of 1,100
- DHV of 170
- % Trucks: 7.2
- Design Speed of 35 mph (curve warned for 25 mph)
- Railing that meets historic requirements
- Utilities attached to bridge



Alternatives Considered – Bridge #58

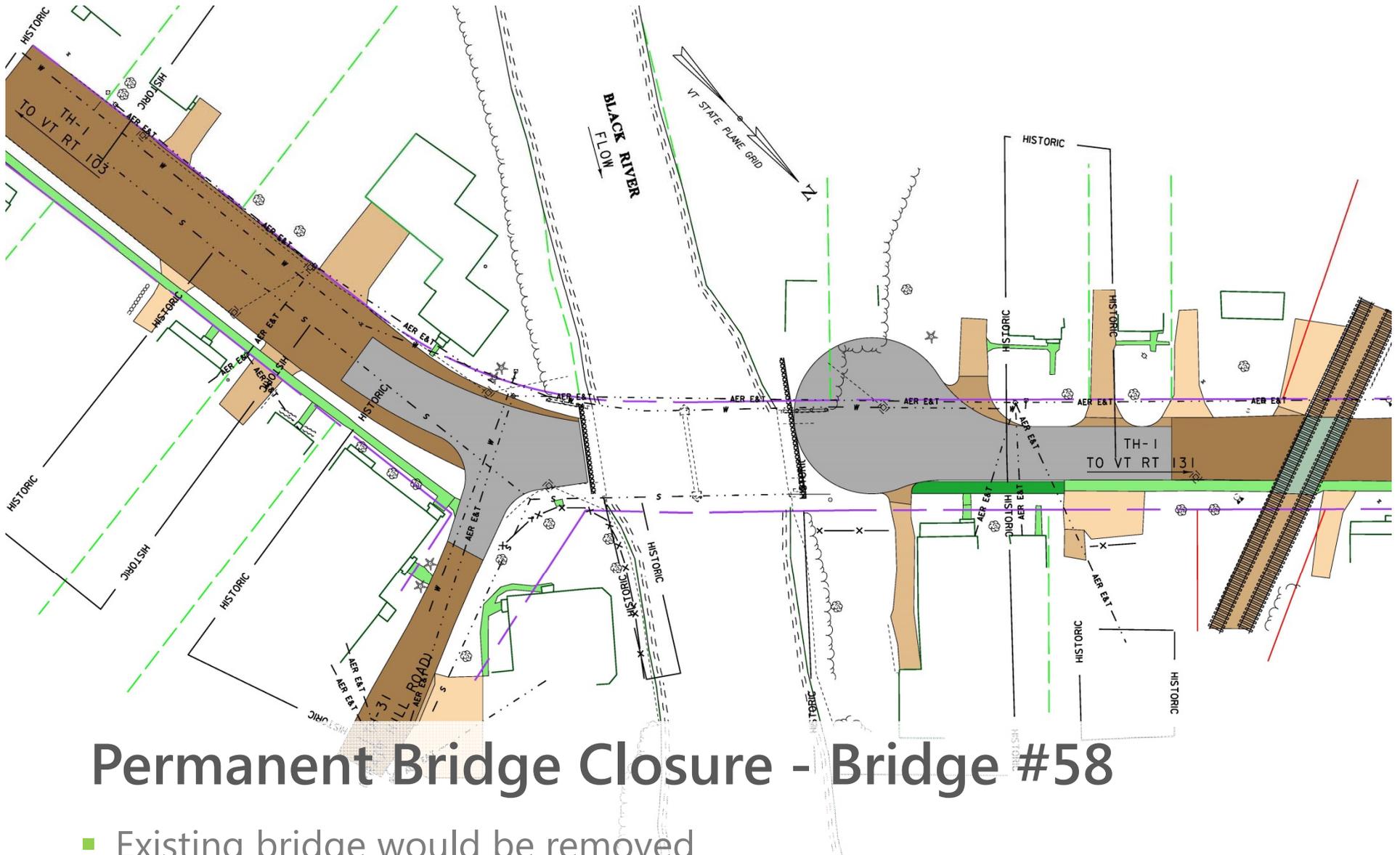
- No Action
 - Additional maintenance required within 10 years
- Permanent Road Closure
 - Remove existing bridge
 - Lowest cost solution
- Full Bridge Replacement
 - Longest design life
 - Substandard horizontal alignment to match existing



Alternative 1 Layout



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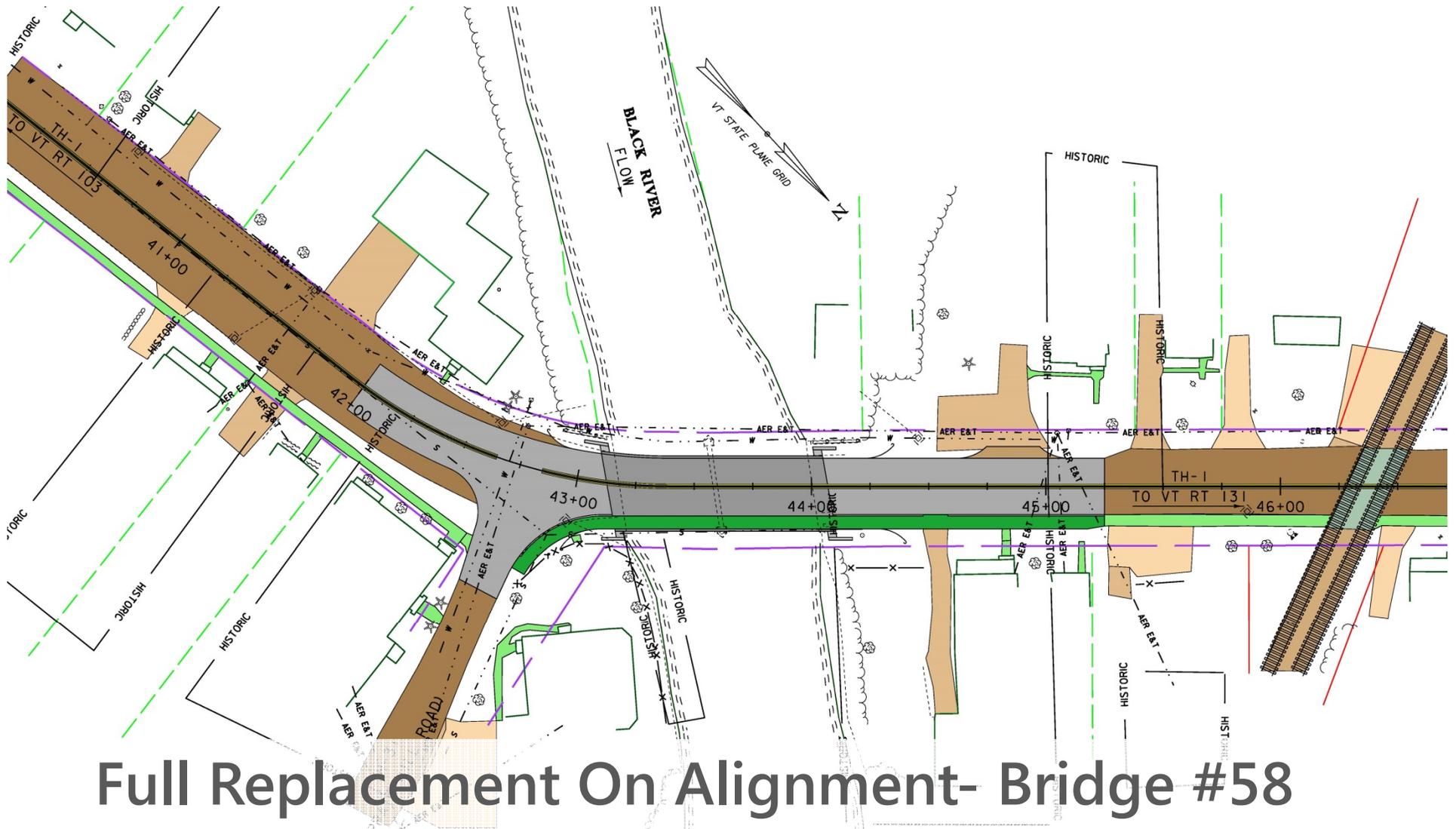
Permanent Bridge Closure - Bridge #58

- Existing bridge would be removed

Alternative 2 Layout



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Full Replacement On Alignment- Bridge #58

- Substandard Horizontal alignment - match existing

Recommended Alternative - Bridge #58

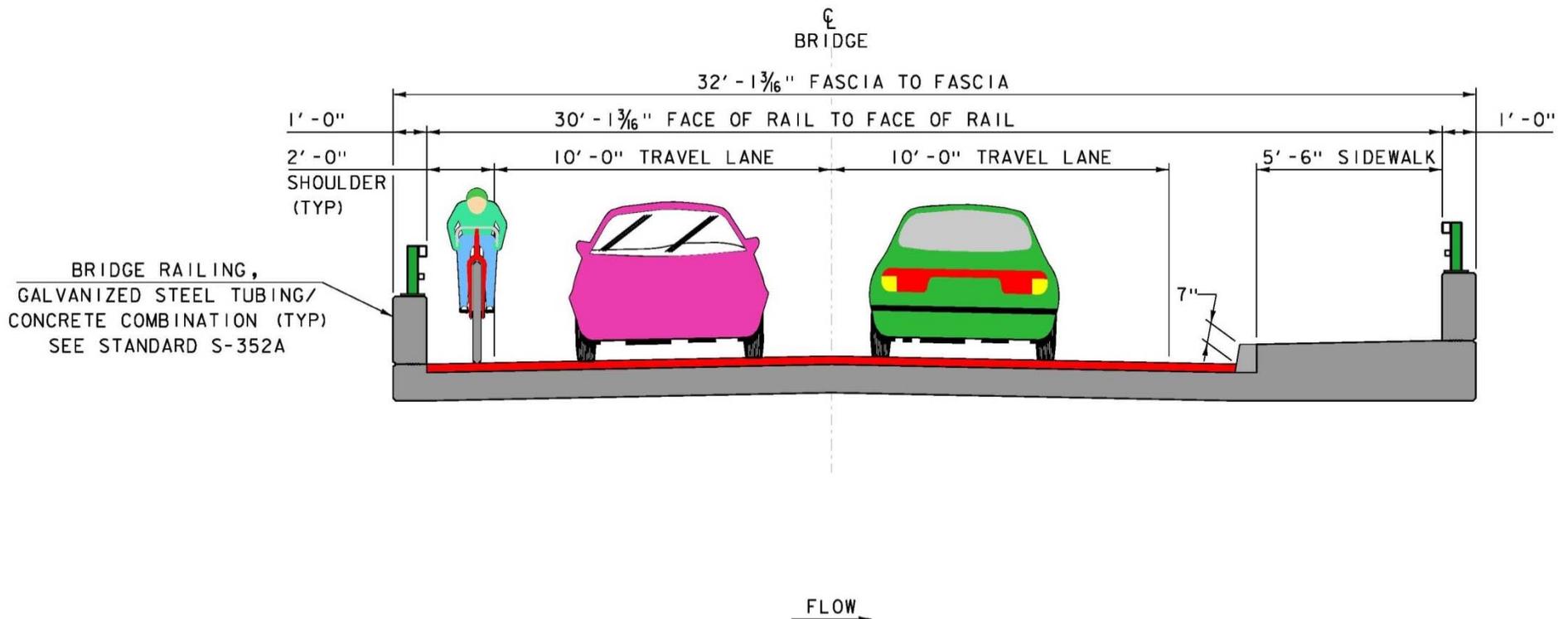
- Full Bridge Replacement
 - Maintain existing travel lane and shoulder widths
 - Exceeds the standard
 - Eliminate sidewalk on western side of bridge
 - No sidewalks on either end of the bridge on the western side
 - Substandard horizontal alignment
 - 80 year design life
 - Utility relocation needed
 - ROW needed



Proposed Typical Section



- Proposed Curb to Curb = 24' (Existing is 24')
- Proposed Fascia to Fascia = 32' (Existing is 36.5')



What Will the New Bridge Look Like?



Proposed Example - Bridge #58

- Steel/Concrete Combination Railing for historic requirements
- Sidewalk over bridge

Maintenance of Traffic Options Considered

- Road Closure with Offsite Detour
- Temporary Bridge





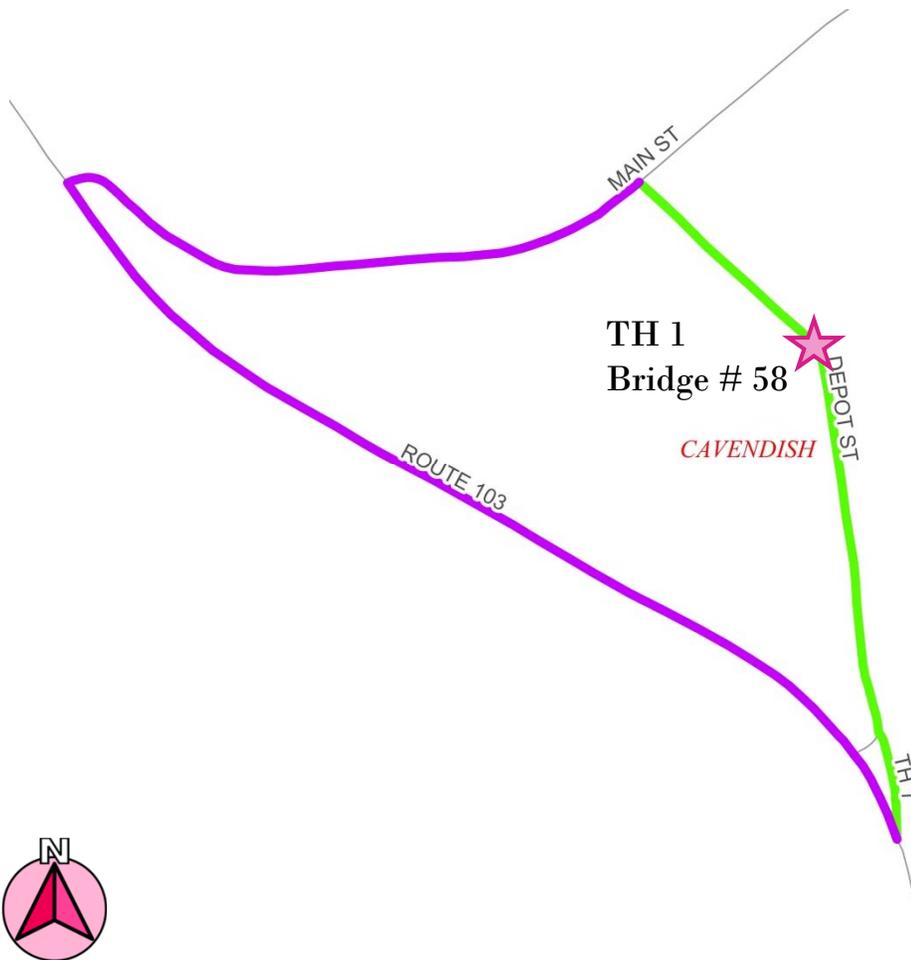
Road Closure

- 10 week closure
- Detour signed by town
- 1.7 miles end-to-end

Shortest Possible Detour Route

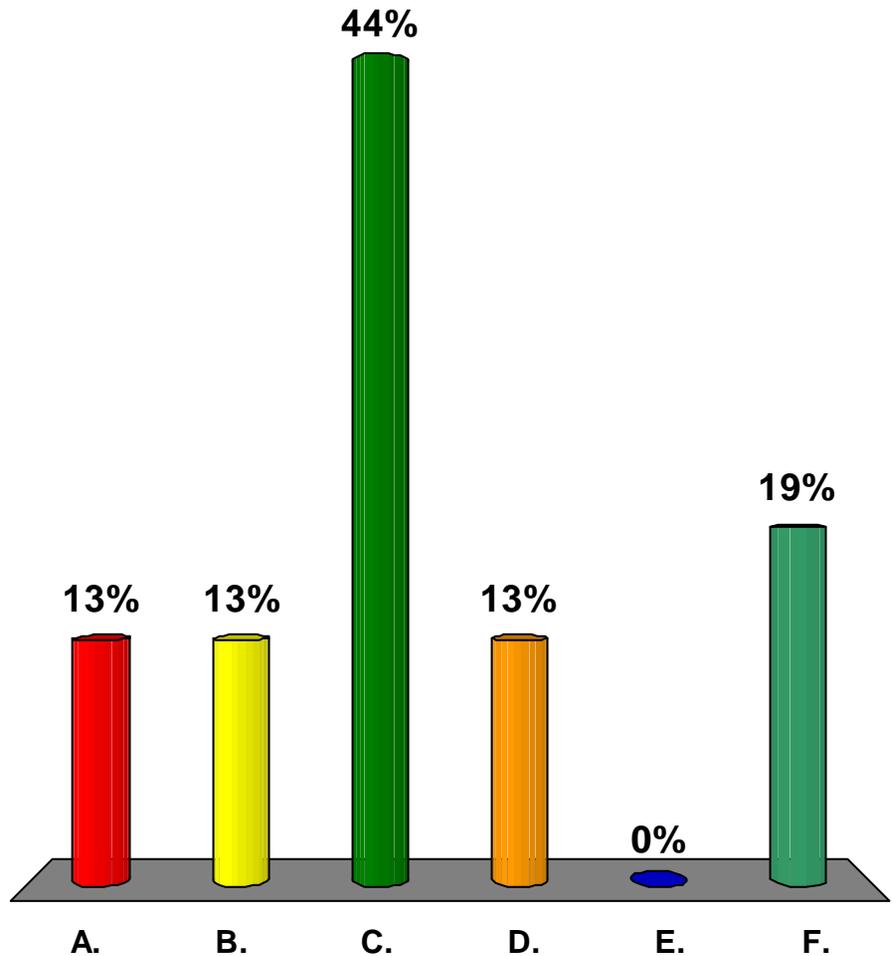
- Depot Street, to VT Route 131, and VT Route 103 (Main Street), back to Depot Street

- Through Route: 0.5 Miles
- Detour Route: 1.2 Miles
- Added Miles: 0.7 Miles
- End-to-End: 1.7 Mile



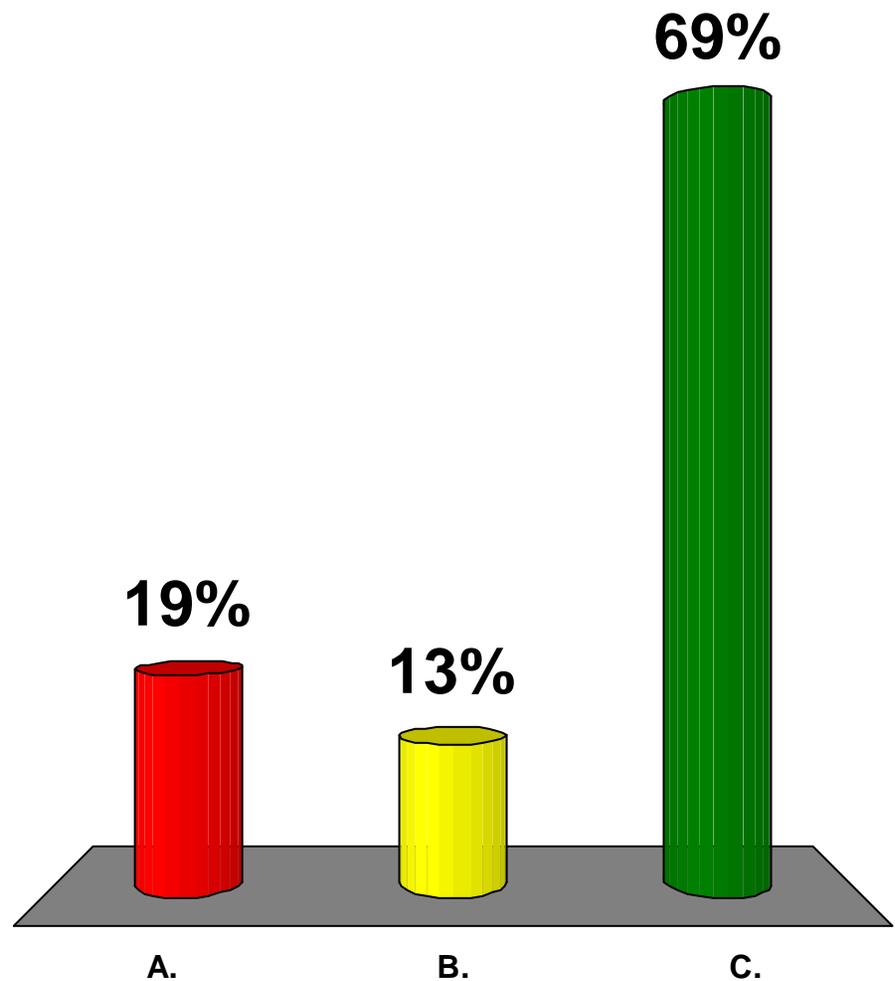
What would be the maximum acceptable length of closure for Bridge #58?

- A. 6 weeks
- B. 8 weeks
- C. 10 weeks
- D. 12 weeks
- E. 16 weeks
- F. 20 weeks



How concerned are you about detouring pedestrians?

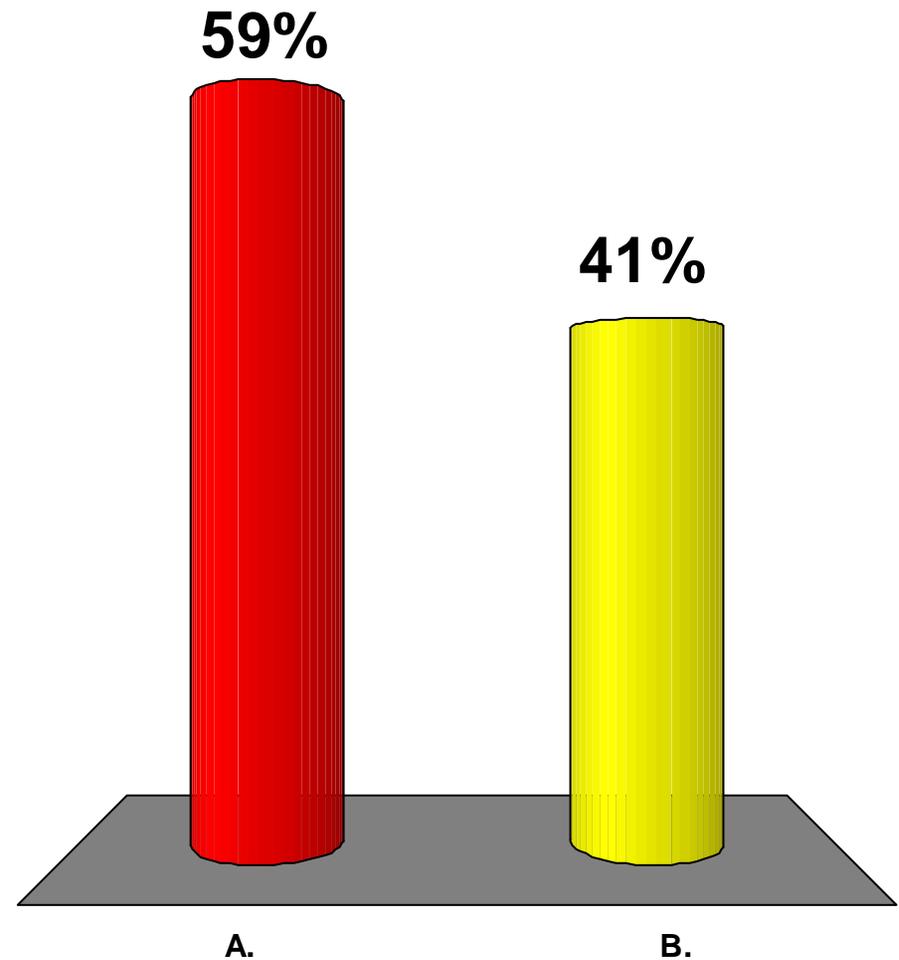
- A. Not concerned
- B. A little concerned
- C. Extremely concerned



Do you think a signed pedestrian detour is needed?

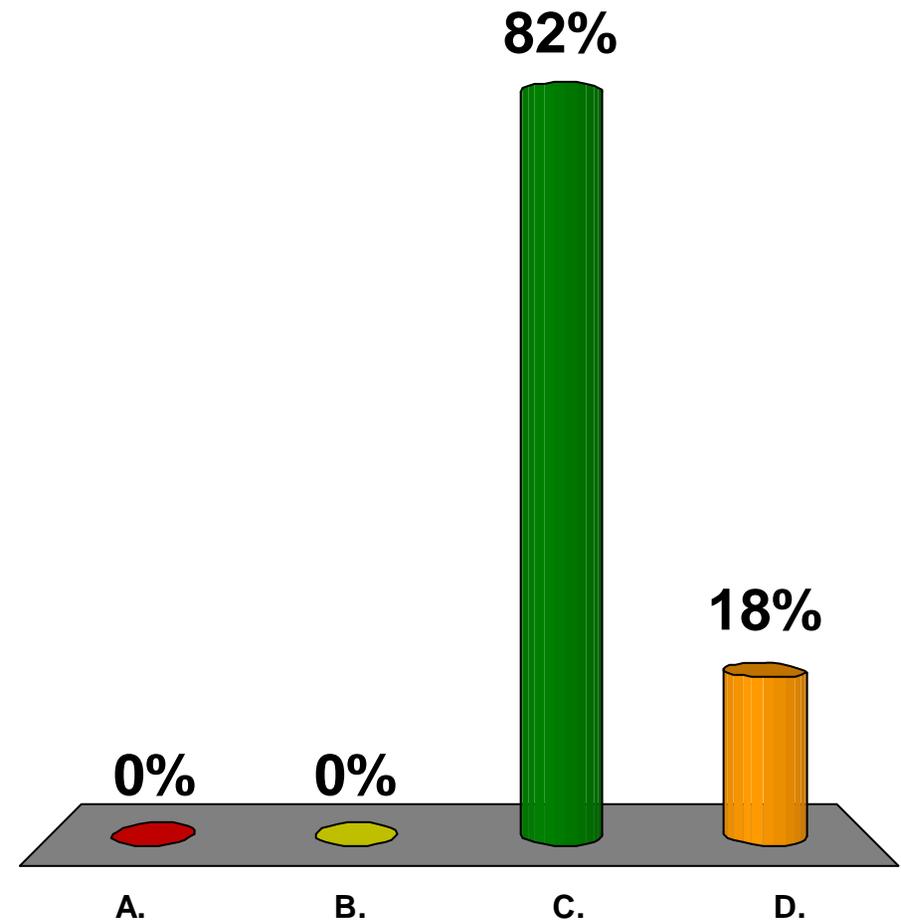
A. Yes

B. No



What aspect about the pedestrian detour are you concerned about?

- A. Distance
- B. Duration
- C. Safety
- D. Not concerned





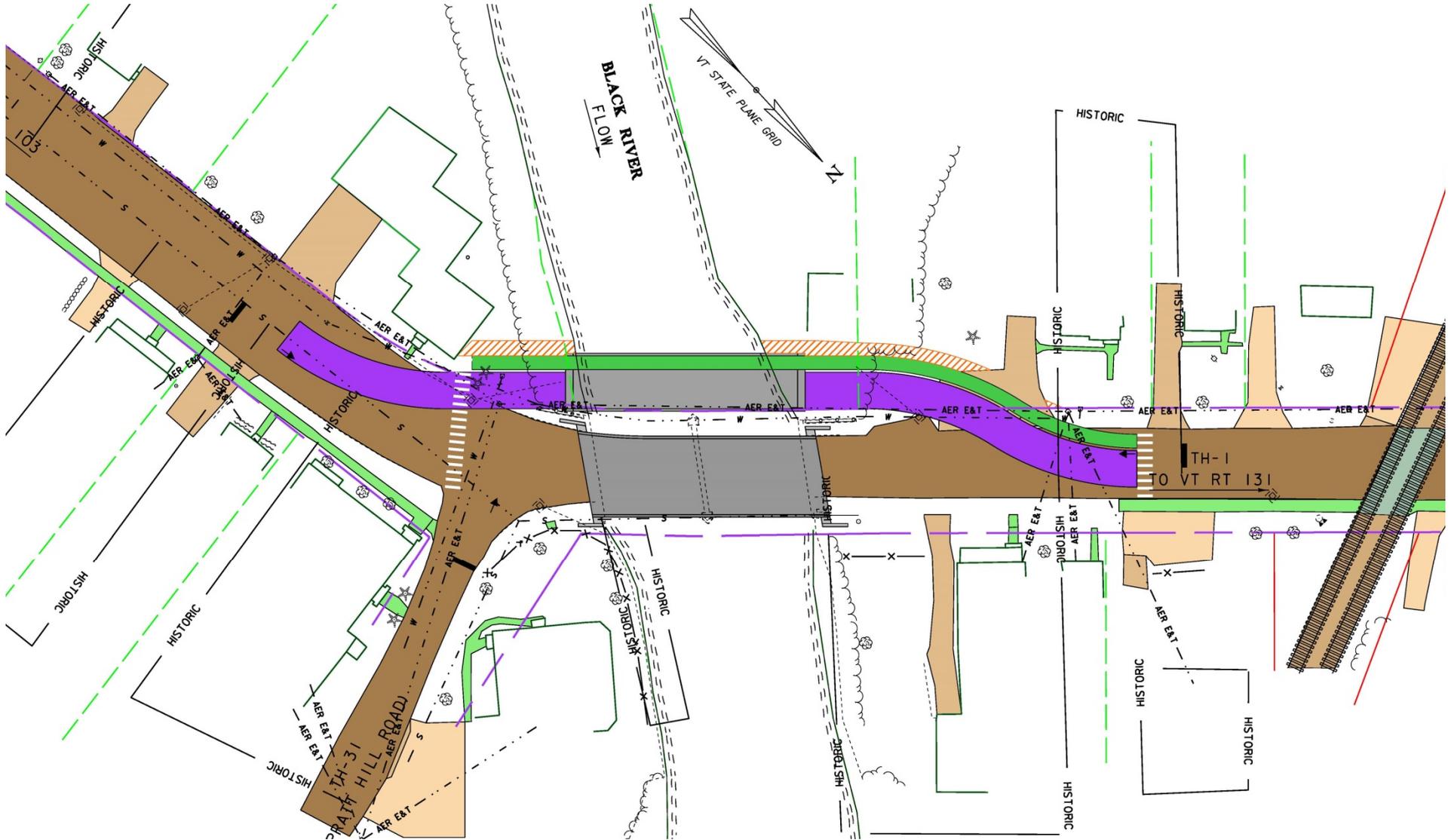
Temporary Bridge

- One Lane Temporary Bridge with Traffic Signal and Pedestrian Accommodations
- ROW needed
- Within 5 feet of house in southwest quadrant

Temporary Bridge Layout



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Recommended Scope

- Full Bridge Replacement with Traffic Maintained on Offsite Detour
 - Approximately 10 week proposed closure
 - Local detour to be chosen and signed by the Town of Cavendish
 - Matches current horizontal curve
 - Vertical curve raised 3 inches to improve hydraulics
 - Construction – Summer 2018 or 2019



Alternatives Matrix

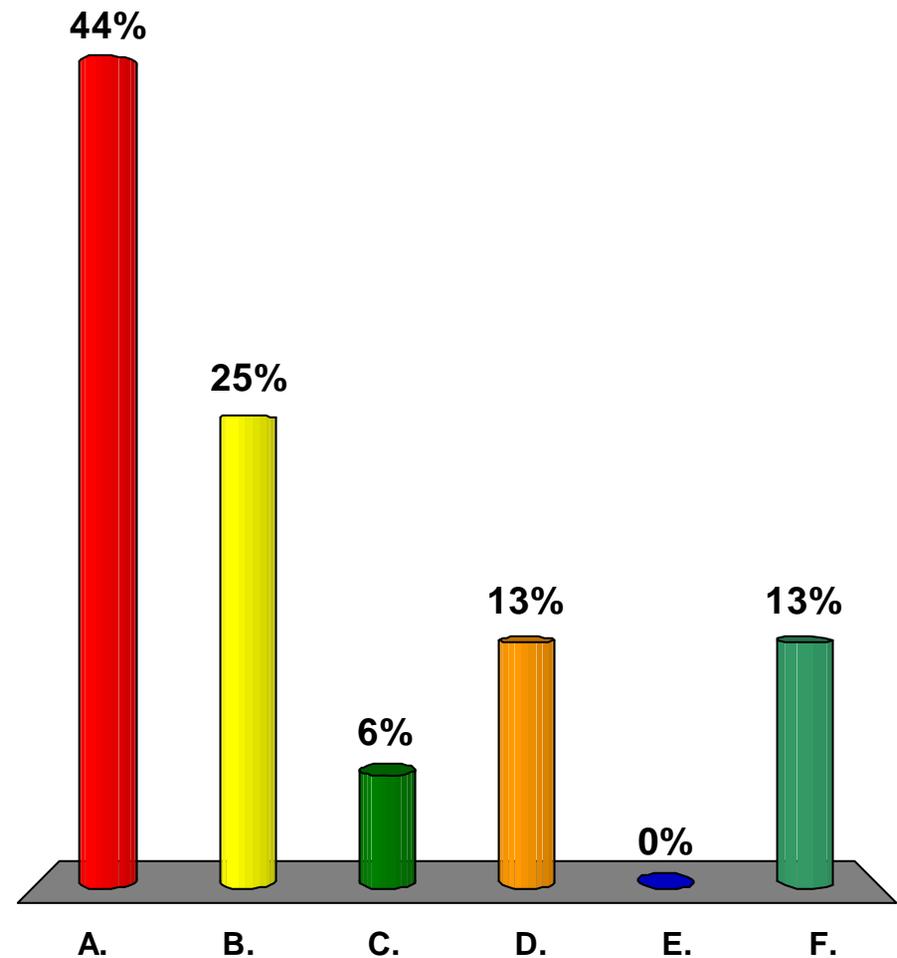
Recommended



	Alt 1	Alt 2	
Cavendish BO 1442(38)	Permanent Bridge Closure	Full Bridge Replacement	
		a. Offsite Detour	b. Temporary Bridge
Total Project Costs (Including engineering and contingencies)	\$502,200	\$2,695,050	\$3,060,750
Town Share	\$12,560 (2.5%)	\$134,750 (5%)	\$306,075 (10%)
Project Development Duration	2 years	2 years	4 years
Construction Duration	2 months	8 months	18 months
Closure Duration (If Applicable)	∞	10 weeks	N/A
Geometric Design Criteria	Substandard horizontal curve	Substandard horizontal curve	Substandard horizontal curve
Alignment Change	No	Vertical Raised 3 inches for hydraulics	Vertical Raised 3 inches for hydraulics
Utility	Relocation	Relocation	Relocation
ROW Acquisition	Yes	Yes	Yes
Design Life	∞	80 Years	80 Years

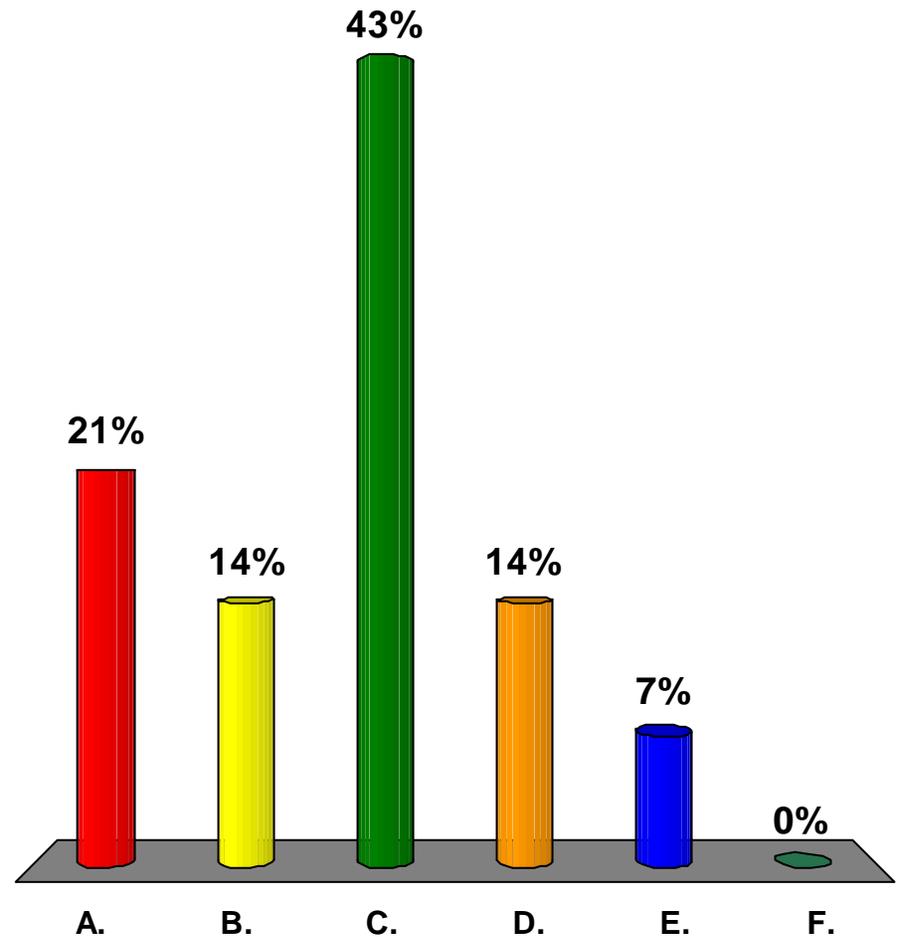
Which would you be most concerned about?

- A. Closure Duration
- B. Bridge Aesthetics
- C. Environmental Impacts
- D. Recreational Impacts
- E. Other
- F. Not really concerned



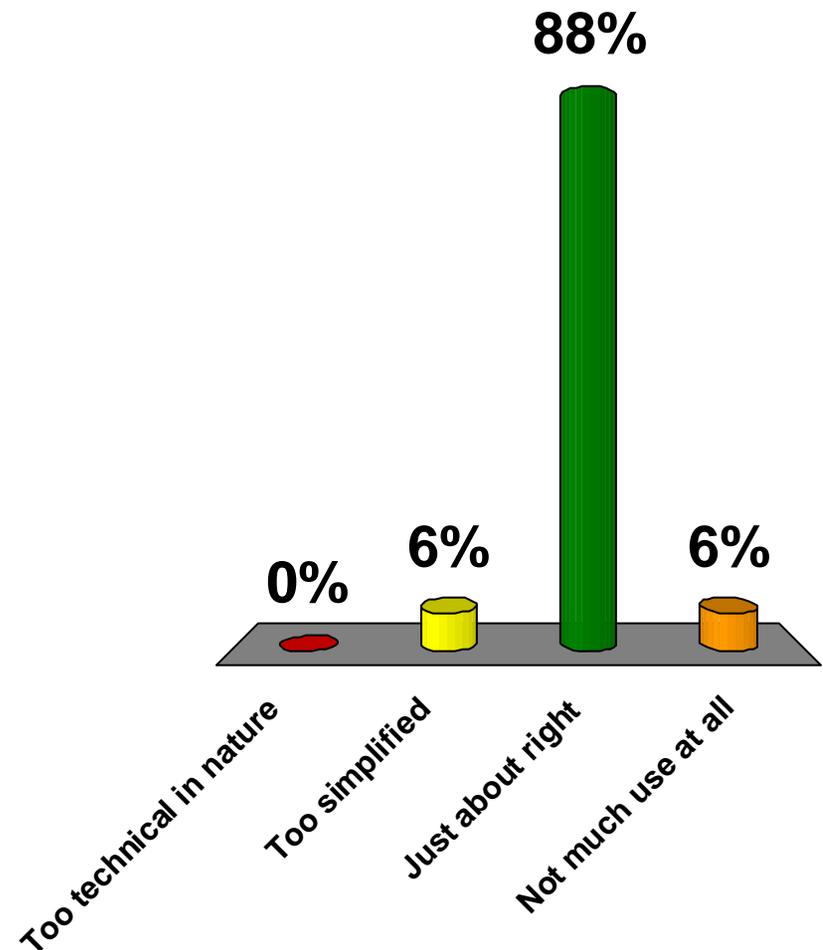
Which design aspect is the most important to you?

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



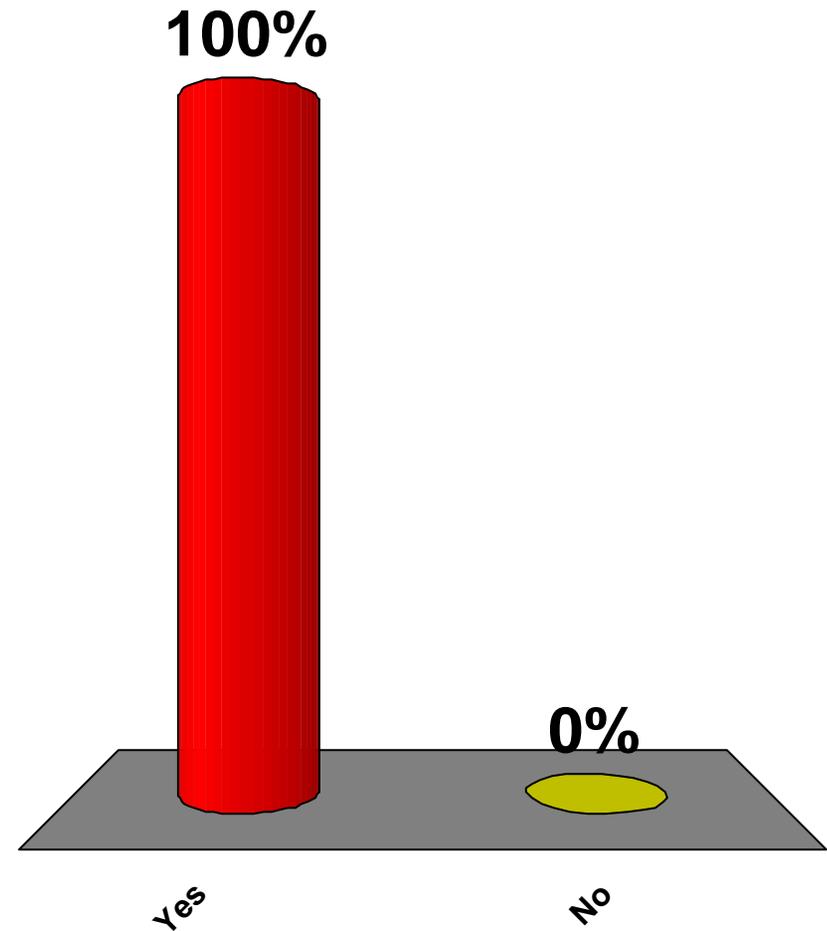
Did you find this presentation to be?

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



Do you find the recommended scope of work satisfactory?

- A. Yes
- B. No



Next Steps – Bridge #58

This is a list of a few important activities expected in the near future and is not a complete list of activities.

- ➔ Wait for Town response to recommendation on proposed project
 - Develop Conceptual plans and distribute for comment
 - Request a Public Information meeting
 - Process local agreements
 - Right-of-Way process (if needed)
 - Town is responsible for any chosen detour route



For more information:

- <https://outside.vermont.gov/agency/vtrans/external/Projects/Structures/13J302>



Cavendish BO 1442(38) Questions and Comments

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