



Burke BO 1447(31)

Alternatives Presentation Meeting

Town Highway 31 – Bridge #35 over the West Branch of Passumpsic River

April 2, 2018

Introductions

Carolyn Carlson, P.E.

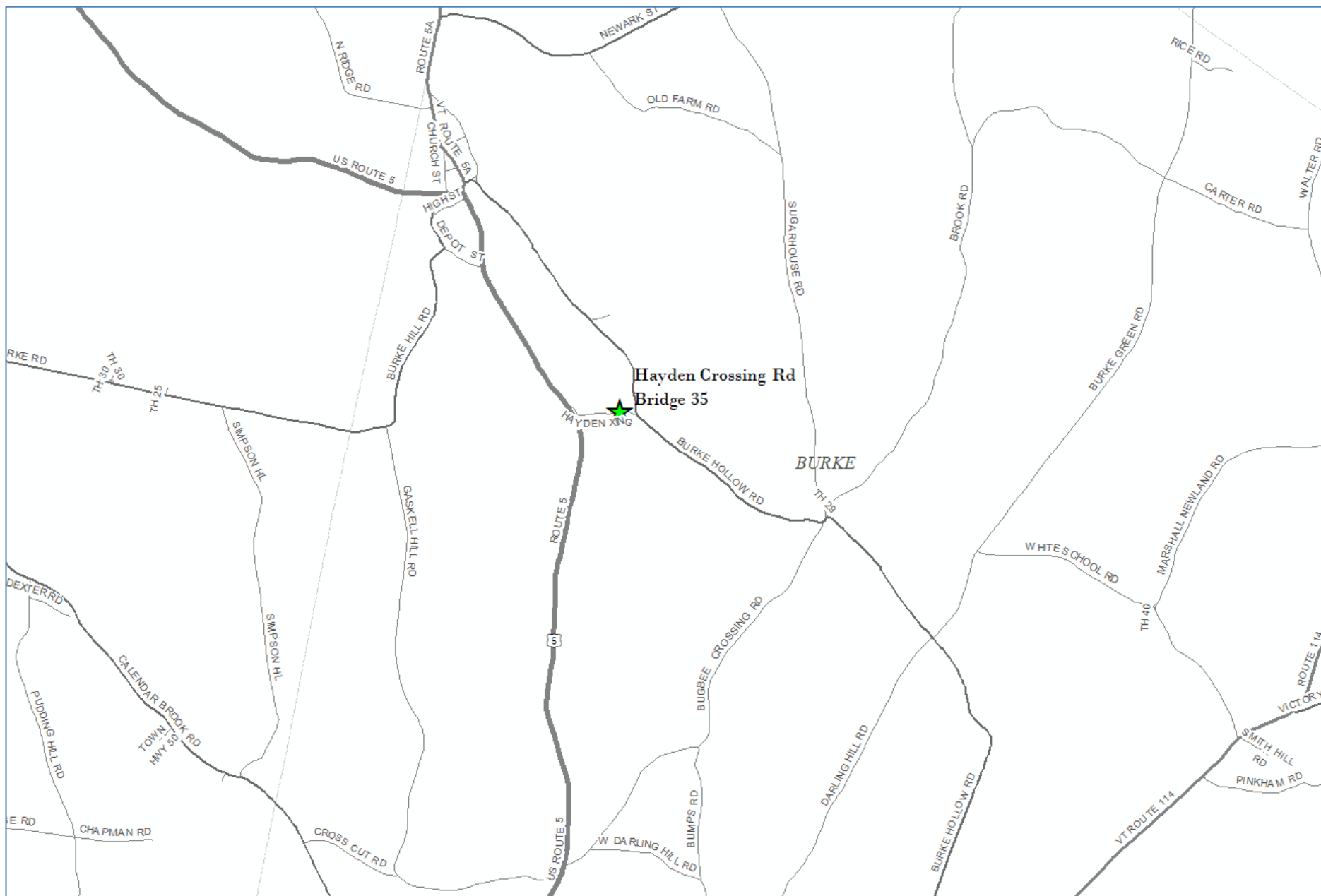
VTrans Design Project Manager

Laura Stone, P.E.

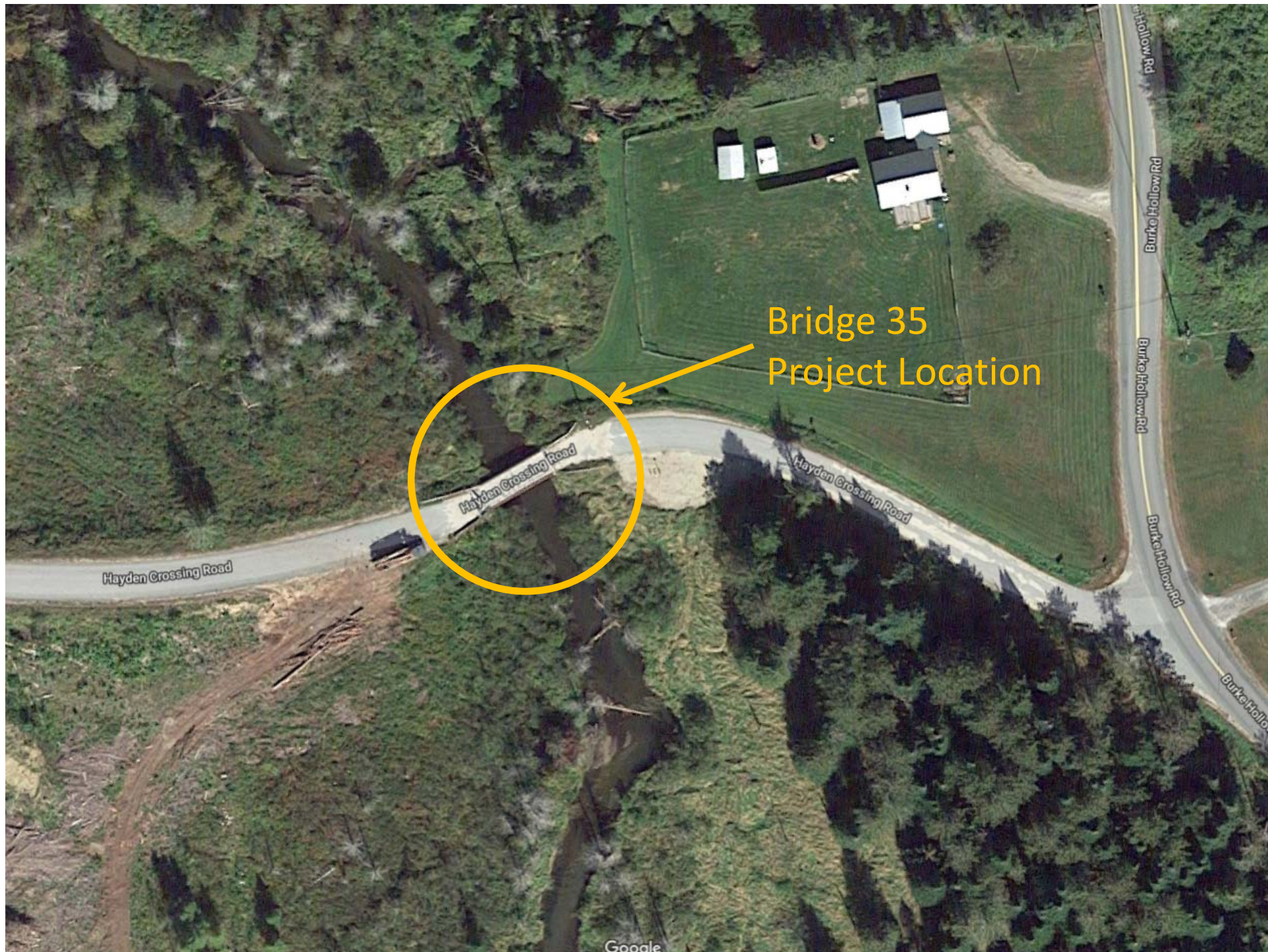
VTrans Scoping Engineer

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



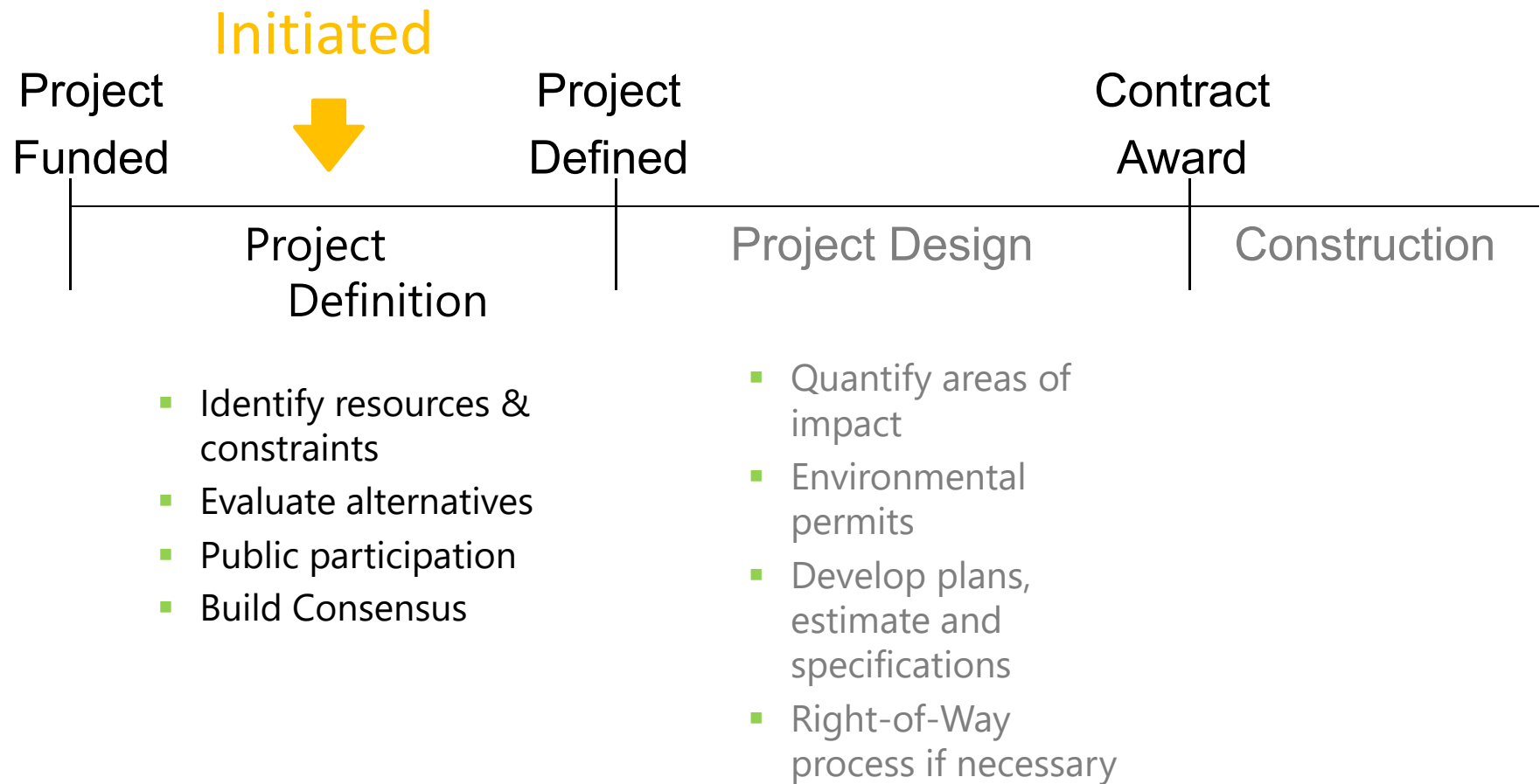
Location Map



Meeting Overview

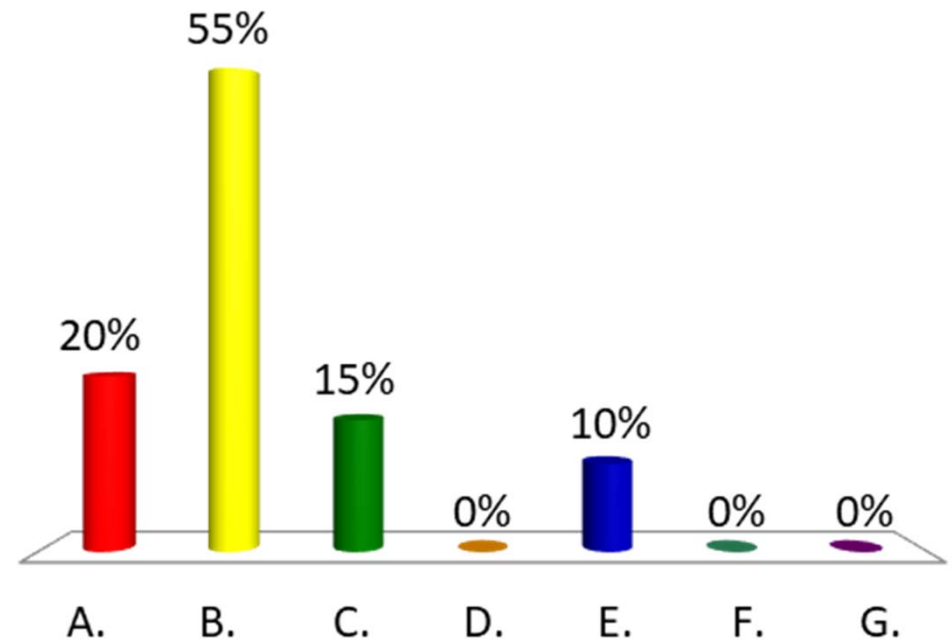
- VTrans Project Development Process
- Project Overview
 - Existing Conditions
 - Alternatives Considered
 - Recommended Alternative
- Maintenance of Traffic
- Schedule
- Summary
- Next Steps
- Questions

VTrans Project Development Process



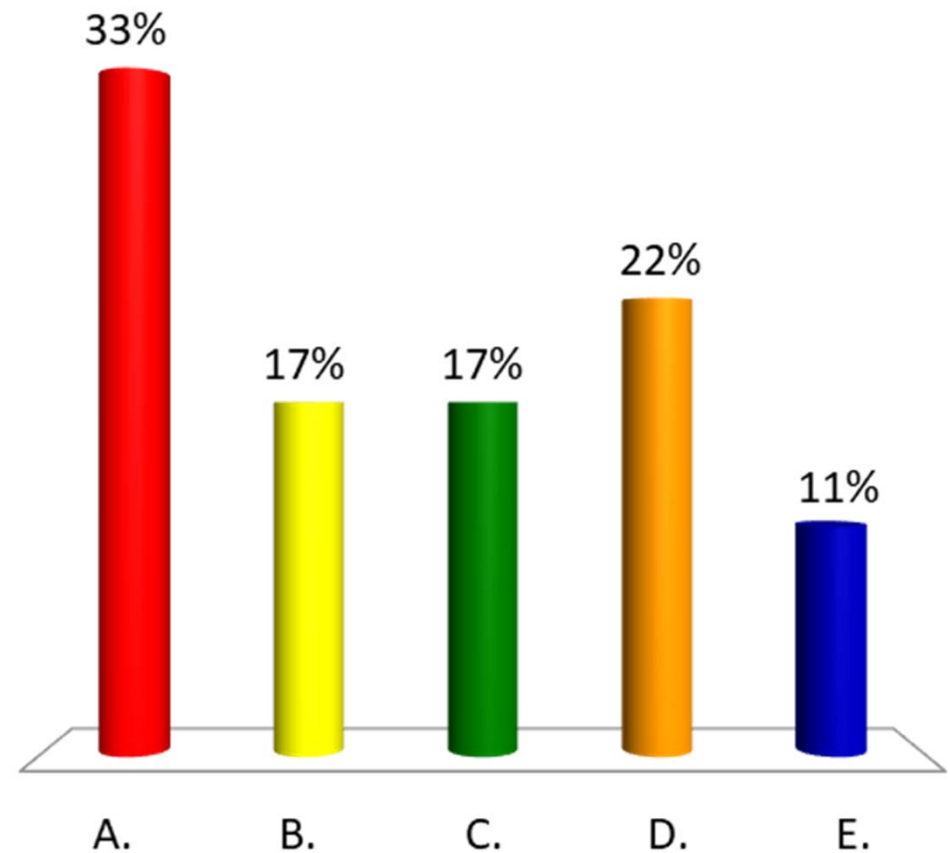
Who are you representing?

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



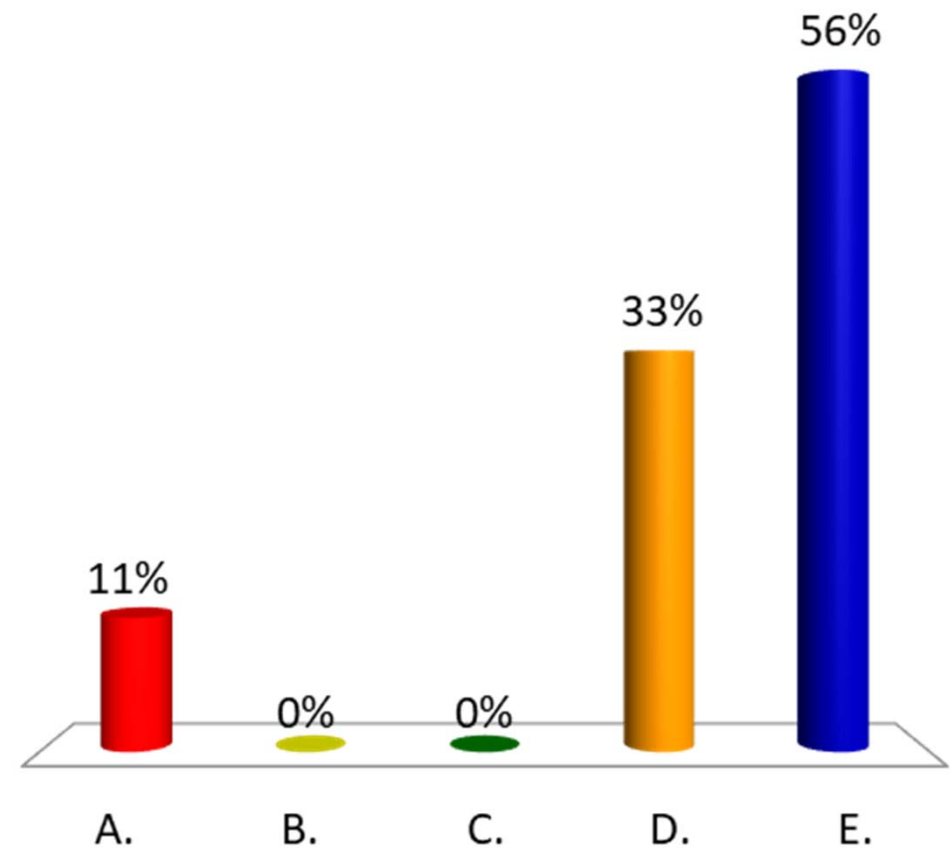
Prior to closure, how often did you use this segment of Hayden Crossing Road?

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



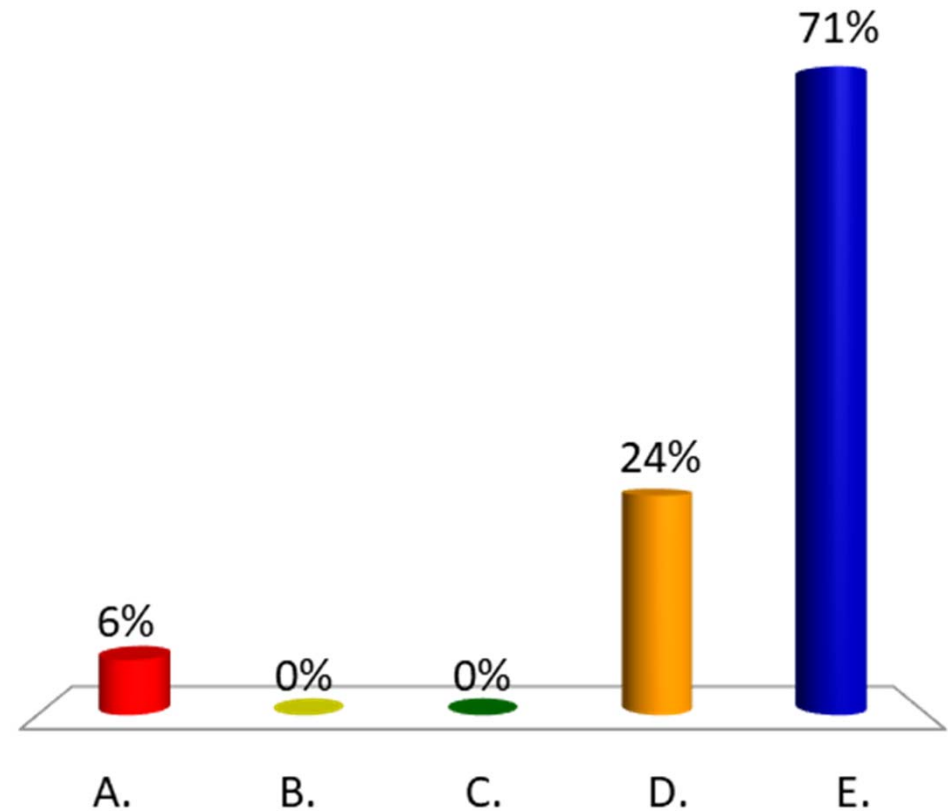
How often did you walk over the bridge?

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



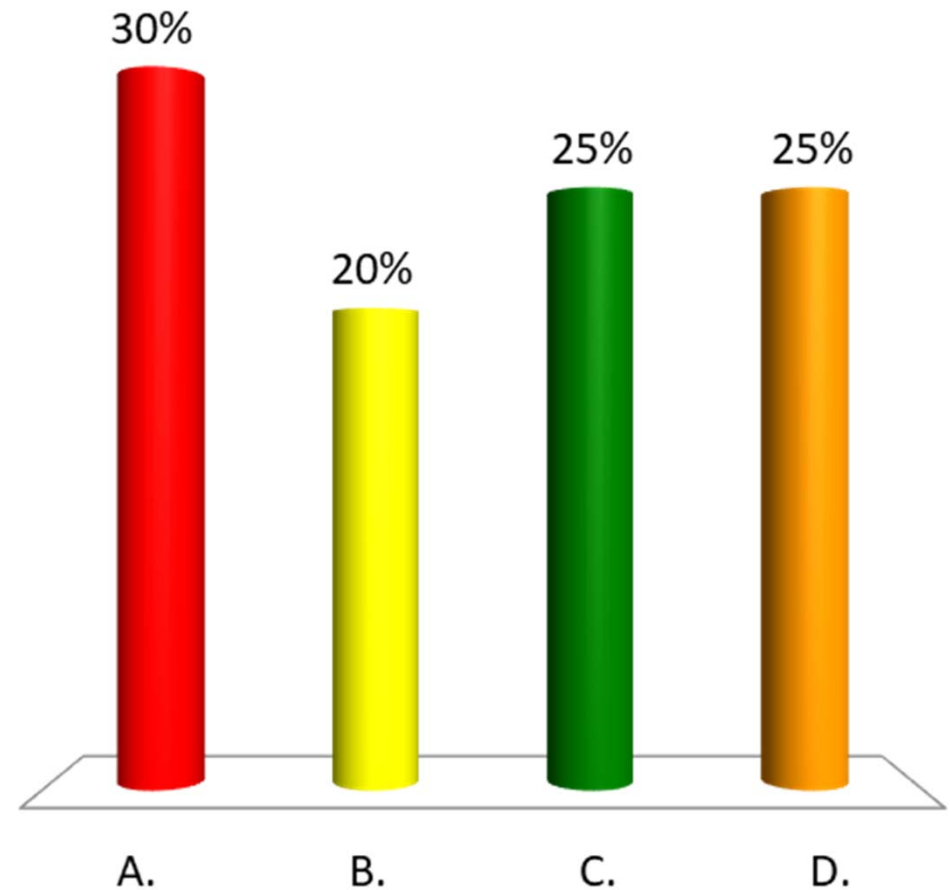
How often did you bike over the bridge?

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



What is your reason for attending this meeting?

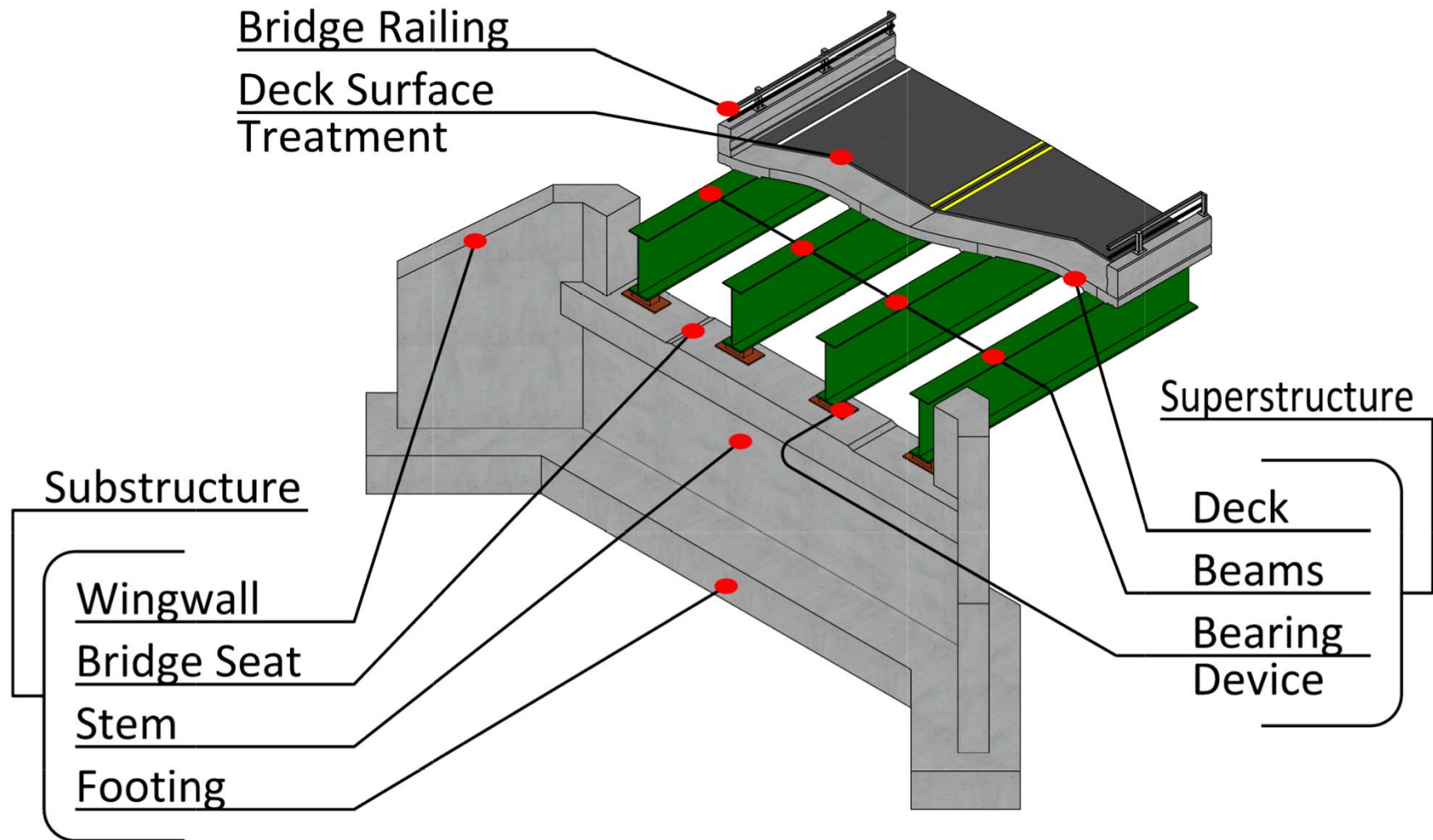
- A. Specific Concern
- B. General Interest
- C. Live in Close Vicinity
- D. Other



Project Overview

- Existing Conditions
- Alternatives Considered
- Recommended Alternative

Description of Terms Used



Looking West over Bridge



Existing Conditions – Bridge #35

- Roadway Classification – Local Road (Class 3 TH)
- Bridge Type – 42' Span Rolled Thru Beam Bridge
- Ownership – Town of Burke
- Constructed in 1919, reconstructed in 1951

08.30.2017

Failed Superstructure



Existing Conditions - Bridge #35

- Deck Rating 5 (Fair)
- Superstructure Rating **0 (Failed)**
- Substructure Rating 6 (Satisfactory)

08.30.2017

Looking East over Bridge



Existing Conditions - Bridge #35

- Bridge is too narrow (one lane bridge)
- Bridge railing does not meet standard
- Substandard curve at approach

08.30.2017

Substructure – Eastern Abutment



Existing Conditions - Bridge #35

- Laid up stone abutments with concrete cap

08.30.2017

Hydraulics and Environmental Resources

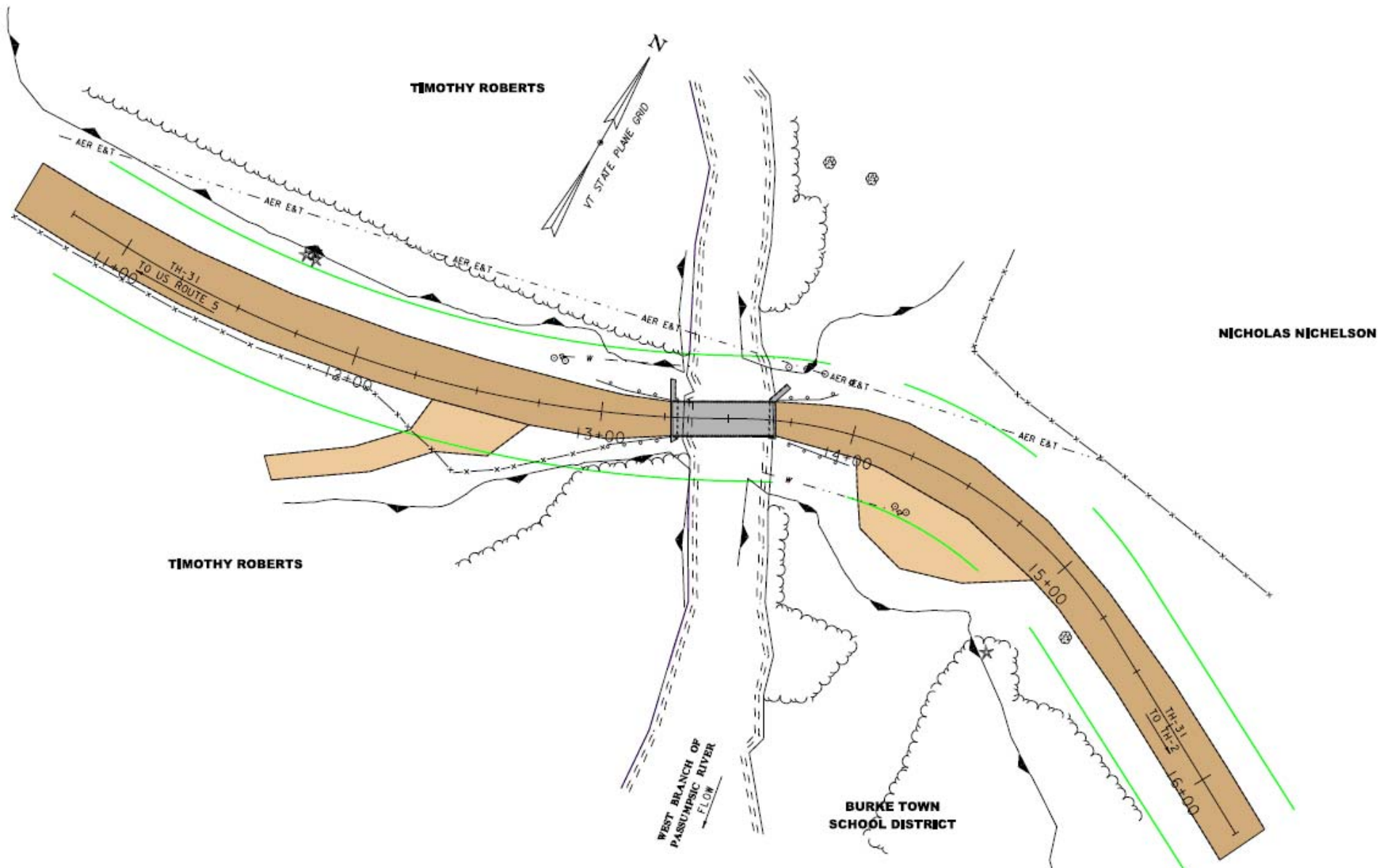


Existing Conditions - Bridge #35

- Wetlands in all 4 quadrants
- Northern Long Eared Bat habitat
- Meets bank full width requirements
- Within a flood zone, overtops at Q_{25}

08.30.2017

Existing Conditions



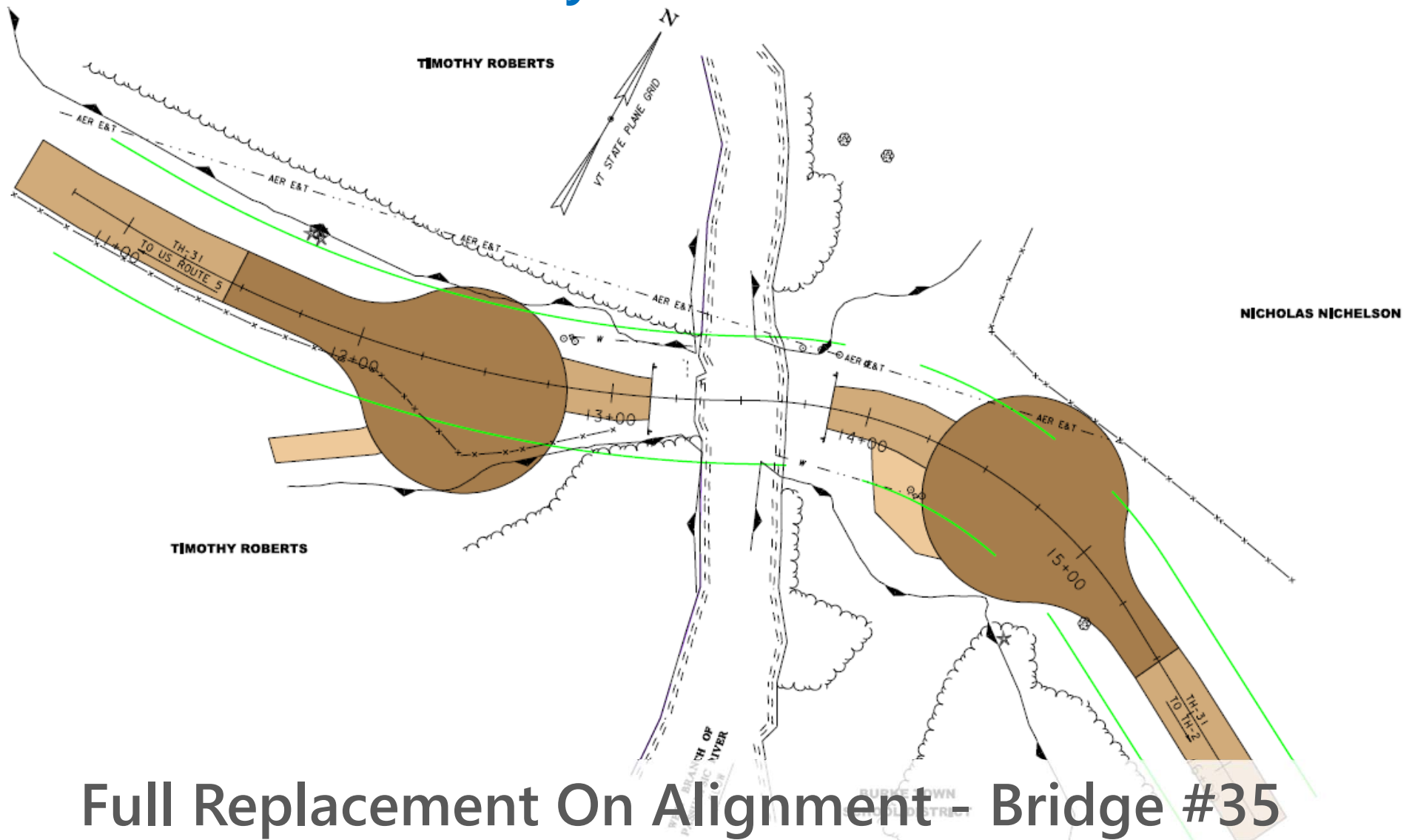
Design Criteria and Considerations

- ADT of 430
- DHV of 80
- % Trucks: 9.7
- Design Speed of 25 mph (not posted)
- FEMA floodplain and floodway regulations for backwater

Alternatives Considered – Bridge #35

- Disinvestment
 - Truck turn arounds would be constructed as needed
- Disinvestment with a pedestrian bridge
 - All future maintenance to pedestrian bridge would not be eligible under the TH bridge program
- Superstructure Replacement
 - Structural deficiencies would be addressed
 - Remains a one lane bridge – Substandard width for one lane bridge
 - Substandard approach curves
 - 40 year design life
- Full Bridge Replacement ON Alignment
 - Widen to meet the minimum standard for width
 - Substandard approach curves
 - 75 year design life
- Full Bridge Replacement OFF alignment
 - Widen to meet the minimum standard for width
 - High impacts to surrounding wetlands
 - 75 year design life

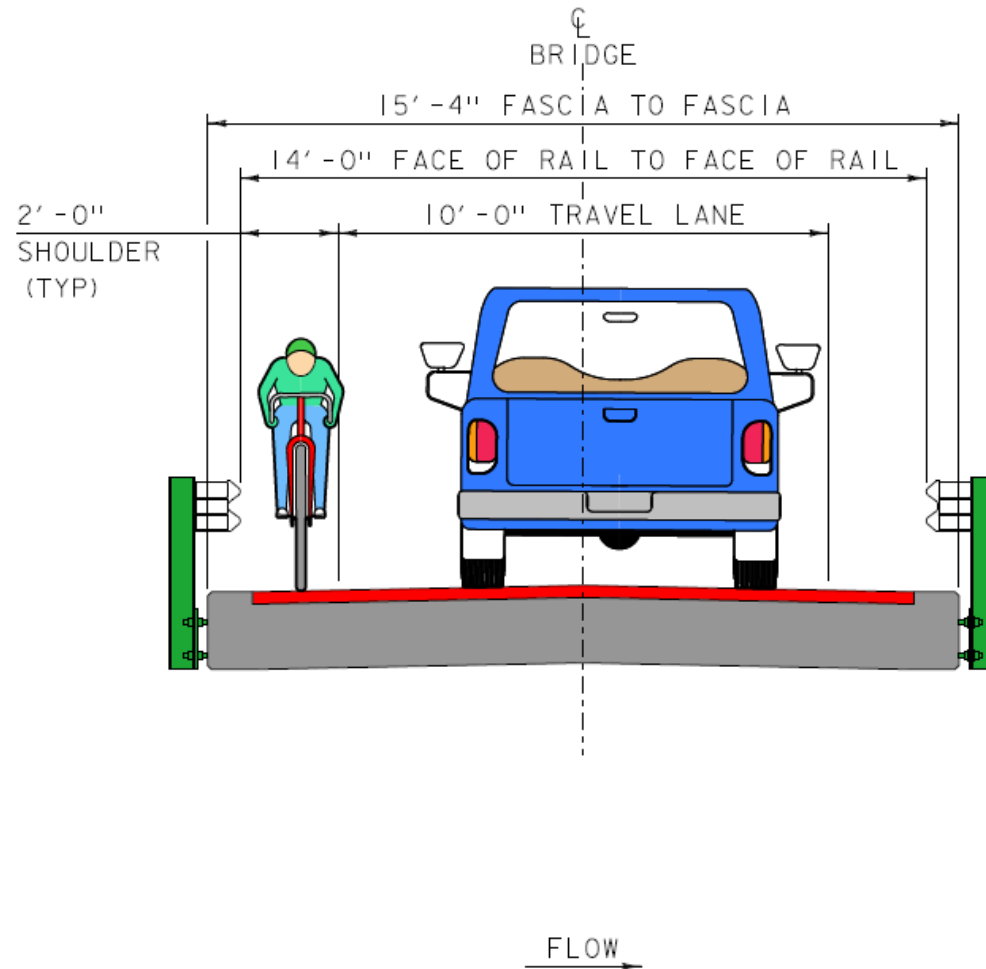
Disinvestment Layout



Full Replacement On Alignment – Bridge #35

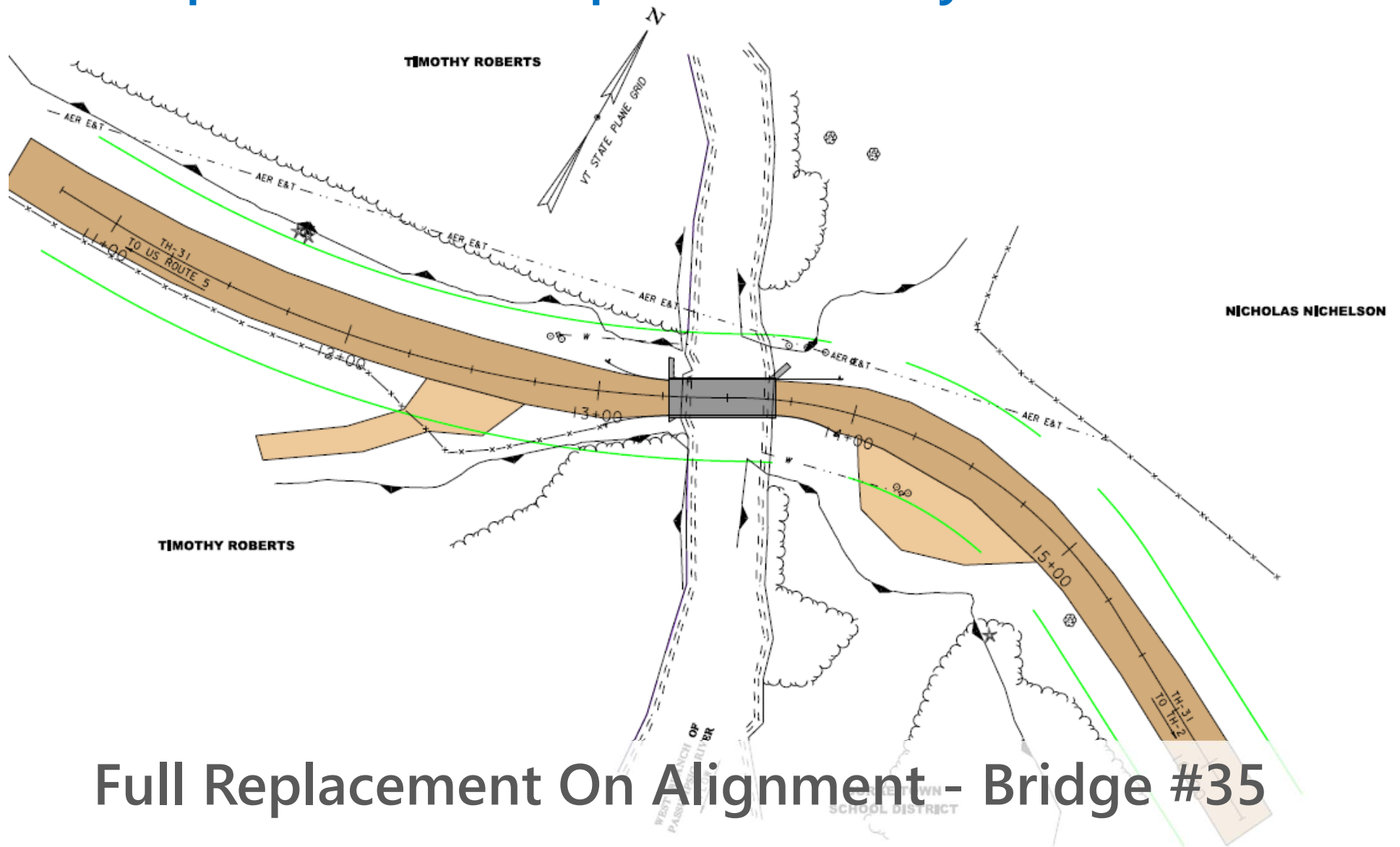
- Option for turnarounds or pedestrian bridge

Superstructure Replacement Typical Section



SUPERSTRUCTURE REPLACEMENT TYPICAL SECTION

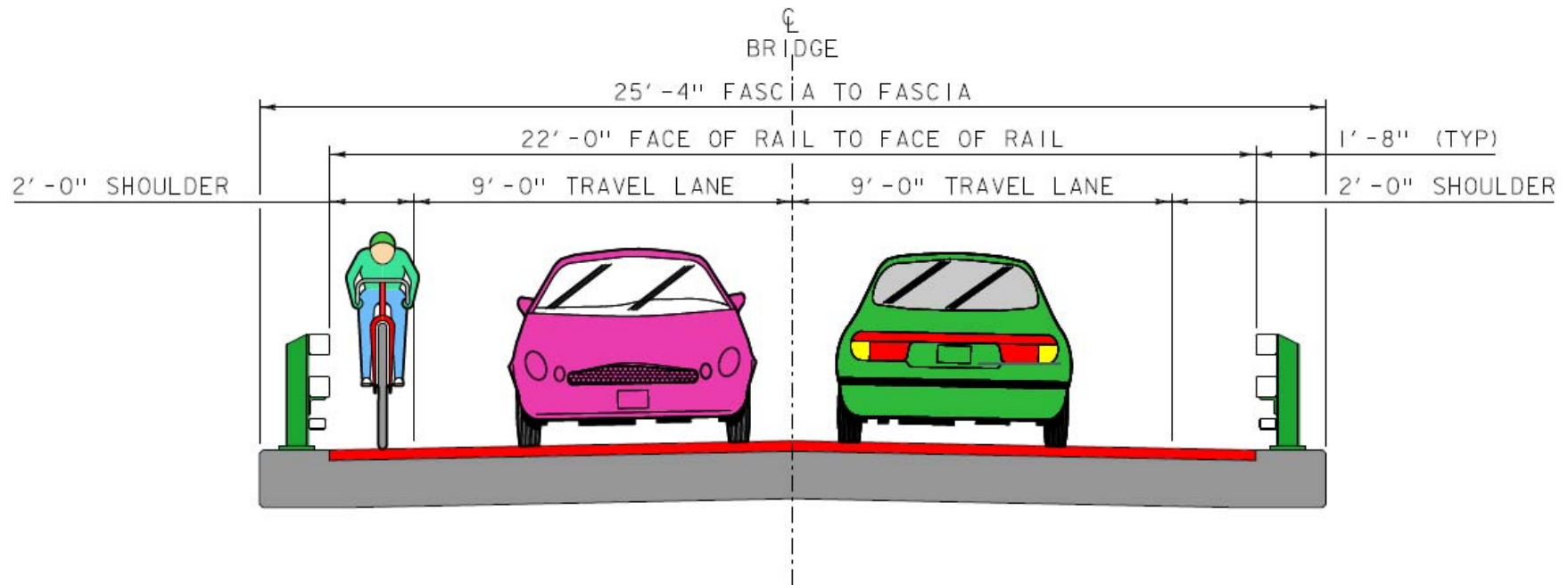
Superstructure Replacement Layout



Full Replacement On Alignment - Bridge #35

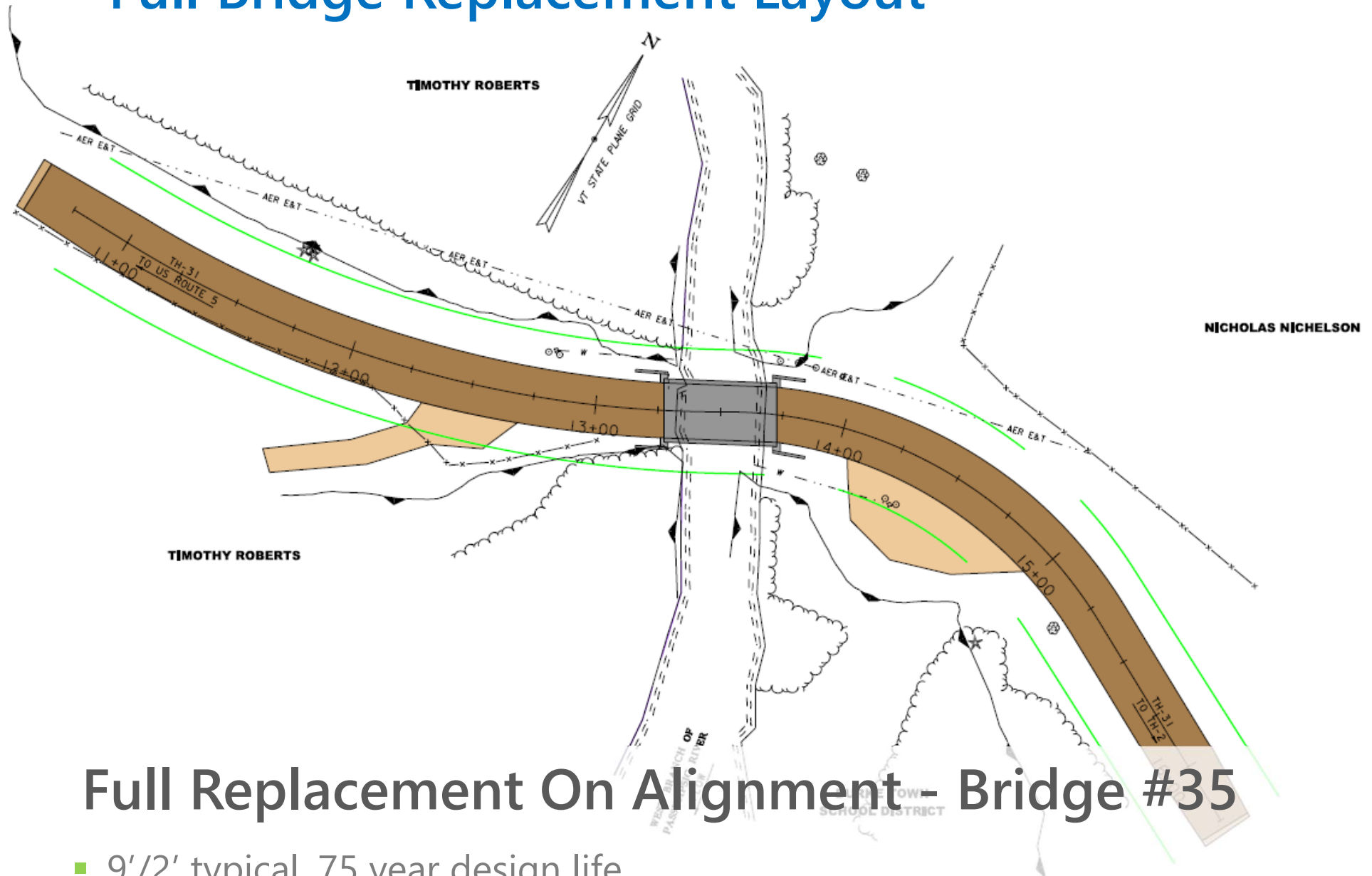
- One Lane Bridge, 40 year design life

Full Bridge Replacement Typical Section



FULL BRIDGE REPLACEMENT TYPICAL SECTION

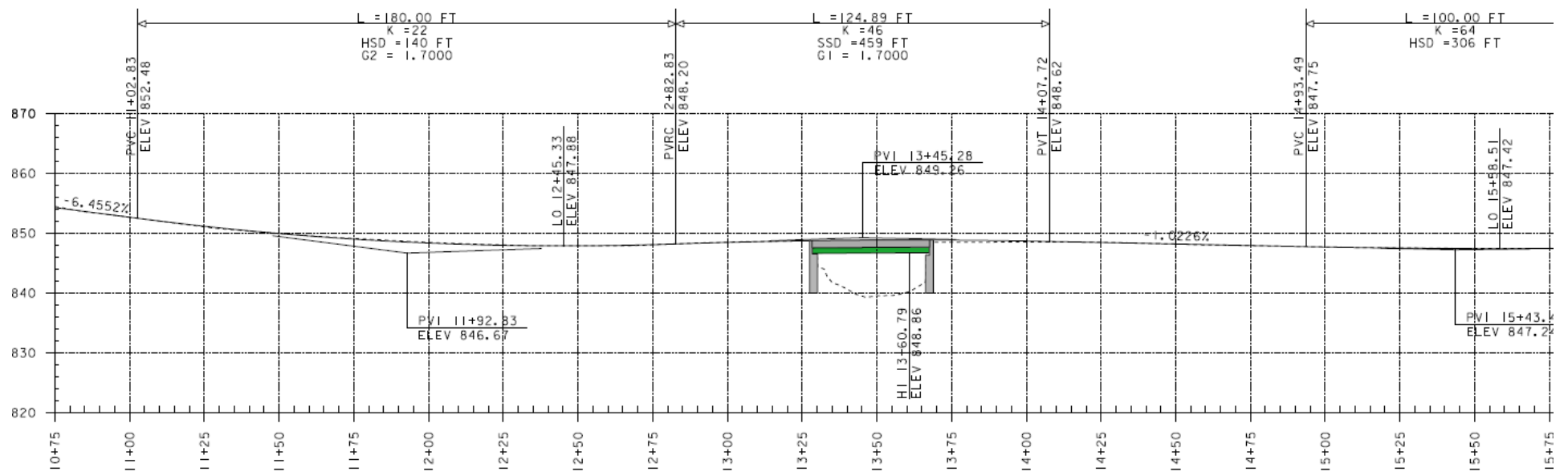
Full Bridge Replacement Layout



Full Replacement On Alignment - Bridge #35

- 9' 1/2' typical, 75 year design life

Profile



BURKE TH-31 EXISTING PROFILE

Recommended Alternative - Bridge #35

- Permanent Bridge Closure (Disinvestment)
 - Most cost effective solution
 - Future maintenance needs eliminated
 - Existing bridge would be removed
 - Turn-arounds can be constructed
 - Requires Right-of-Way
 - Requires environmental permits
 - Construction Year: 2021

Maintenance of Traffic Options Considered

- Bridge has been closed since 2013 – makes sense to keep it closed through construction
 - By closing the bridge to traffic during construction, the local share is reduced by 50%

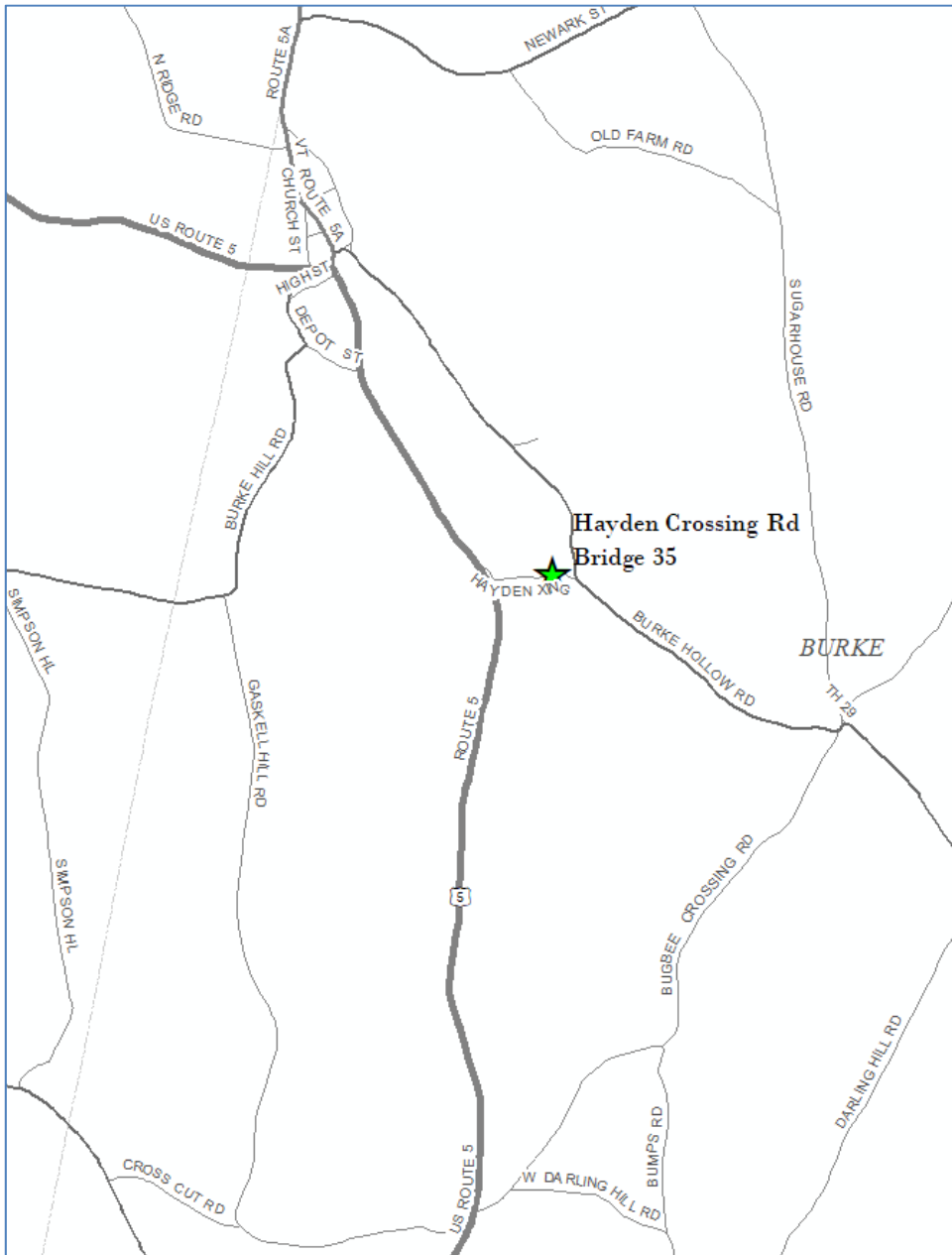
A photograph of a road closure. In the center, a white rectangular sign with a black border and the words "ROAD CLOSED" in large, bold, black capital letters is mounted on a white post. The sign is flanked by two horizontal white barriers with red diagonal stripes. Below the sign, a concrete barrier runs across the road. In the background, there are green trees and a clear blue sky.

**ROAD
CLOSED**

Road Closure

- Detour signed by Town
- Road Closed since 2013
- 2.6 miles end-to-end

Traffic Control – Local Detour



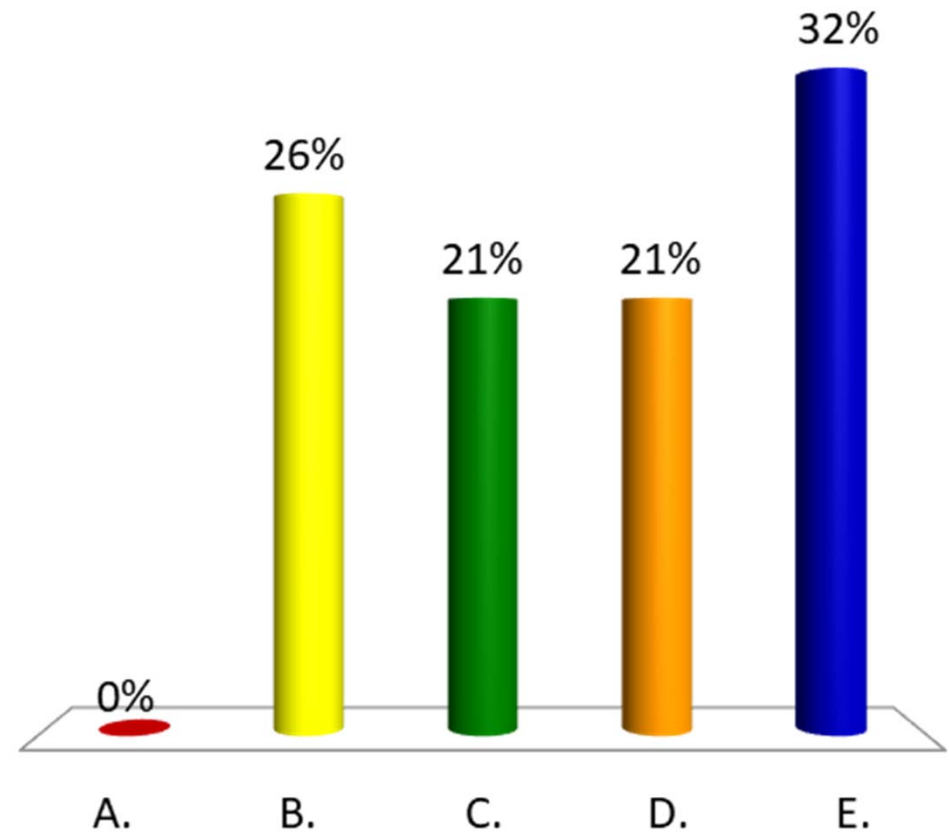
- The shortest local detour route, has an End-to-End distance of 2.6 miles

Alternatives Matrix

Burke BO 1447(31)	Alt 1a	Alt 1b	Alt 2	Alt 3	Alt 4
	Permanent Bridge Closure		Superstructure Replacement	Full Bridge Replacement ON Alignment	Full Bridge Replacement OFF Alignment
	No Pedestrian Bridge	Pedestrian Bridge			
		Offsite Detour			
Total Project Costs (Including E & C)	\$221,056	\$434,279	\$573,593	\$1,146,146	\$1,541,683
TOWN SHARE	\$5,530	\$21,720	\$14,340	\$57,310	\$77,090
Town %	2.5%	5%	2.5%	5%	5%
Project Development Duration	2 years	2 years	2 years	2 years	4 years
Construction Duration	2 months	3 months	4 months	6 months	8 months
Closure Duration (If Applicable)	N/A				
Typical Section - Bridge (feet)	N/A	5' wide pedestrian bridge	2-10-2 (one-lane bridge)	2-9-9-2	2-9-9-2
Geometric Design Criteria		Substandard horizontal curve			Meets all geometric standards
Alignment Change		No			Horizontal Alignment Moved Downstream
Hydraulics	Improved				
Utility	No Change				Relocation
ROW Acquisition	Yes		No		Yes
Design Life	N/A		40 Years	75 Years	75 Years

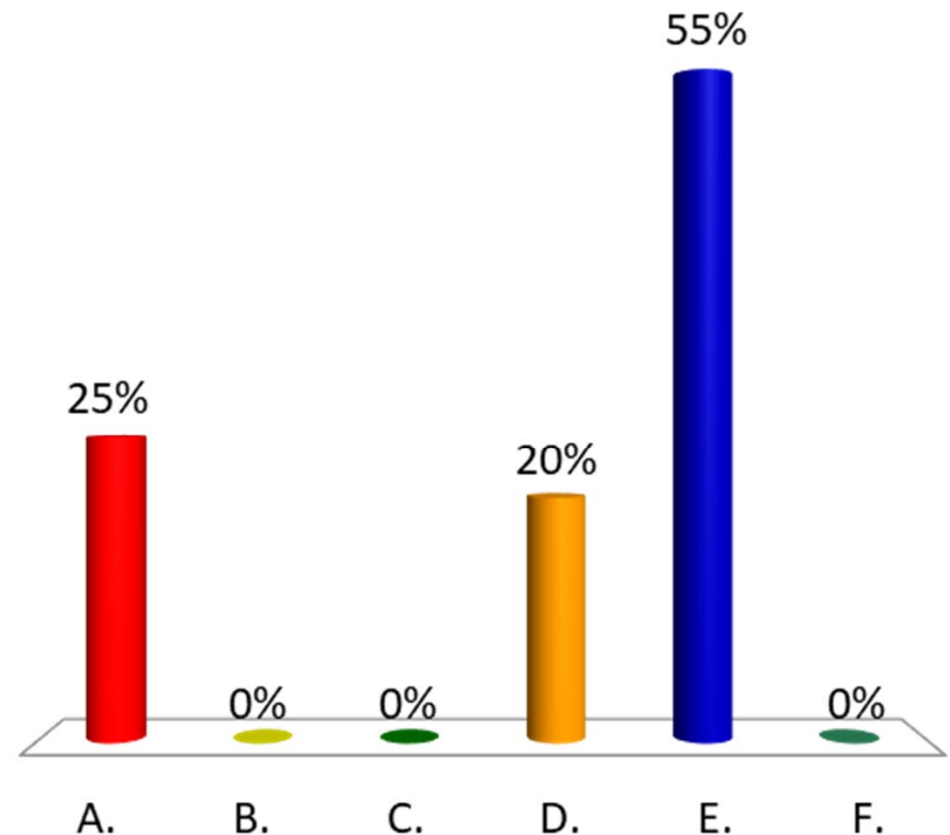
Which would you be most concerned about?

- A. Bridge Aesthetics
- B. Environmental Impacts
- C. Recreational Impacts
- D. Other
- E. Not Really Concerned



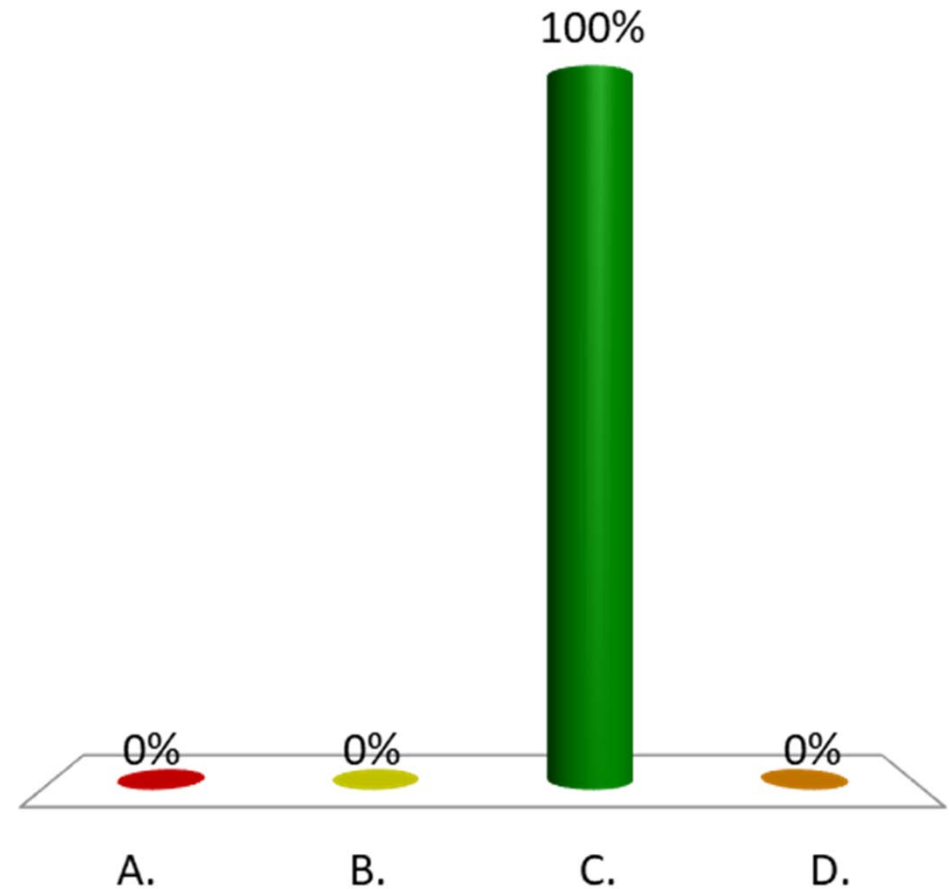
Which design aspect is the most important to you?

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



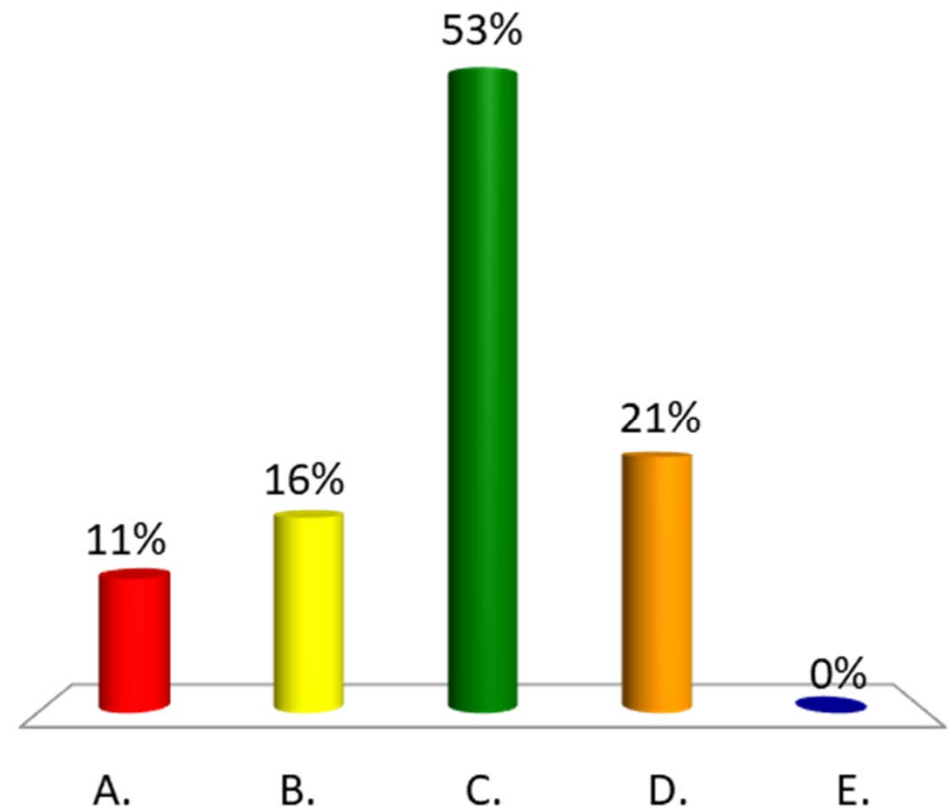
Did you find this presentation to be?

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



Which Alternative do you support?

- A. Disinvestment
- B. Disinvestment with a pedestrian bridge
- C. Superstructure Replacement
- D. Full Bridge Replacement ON Alignment
- E. Full Bridge Replacement OFF Alignment



Next Steps – Bridge #35

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
 - Process local agreements
 - Right-of-Way process
 - Updates on project plans and estimates at each submittal

For more information:

- <https://outside.vermont.gov/agency/vtrans/external/Projects/Structures/12J610>



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Questions and Comments

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