Westminster BF 0126(13)
Alternatives Presentation Meeting

FAS Route 126 – Bridge #5 over Saxtons River

May 22, 2019

06/14/20

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Introductions

Laura Stone, P.E.

VTrans Scoping Engineer

Gary Sweeny, P.E.

VTrans Project Engineer

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Purpose of Meeting

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

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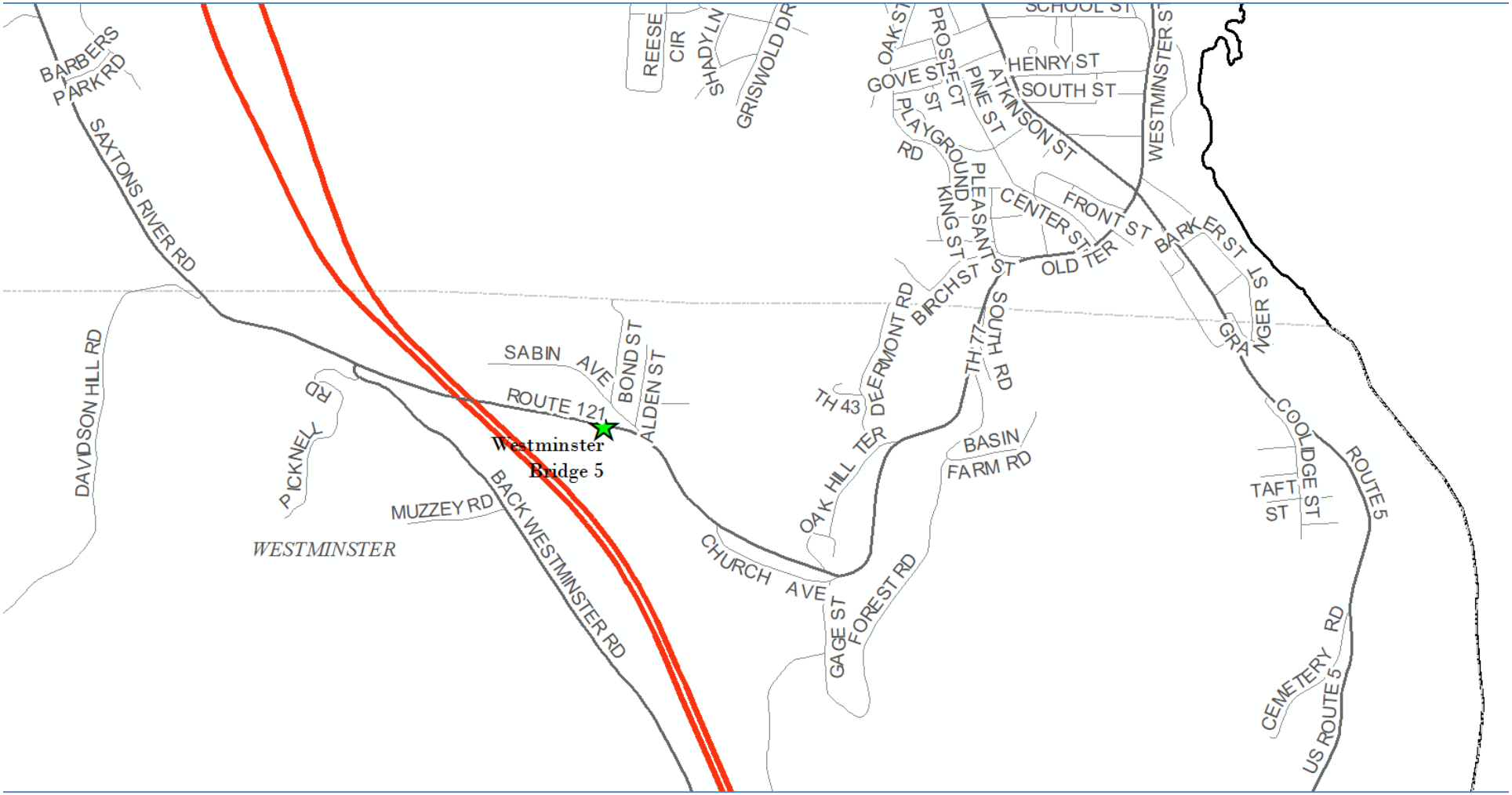

Location Map


Sabin Ave
Bond St
Saxtons River
Alden St
Clark St
Sabin Ave
121
91
Bridge 5
Project Location
Cooperman Company
Back Westminster Rd
Bazin Brothers Trucking

Meeting Overview

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

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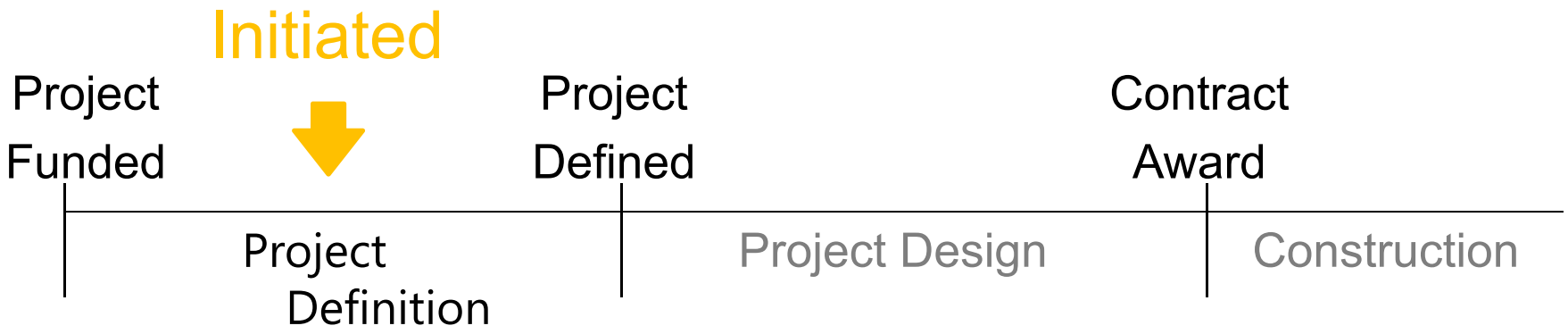
VTrans Project Development Process



- 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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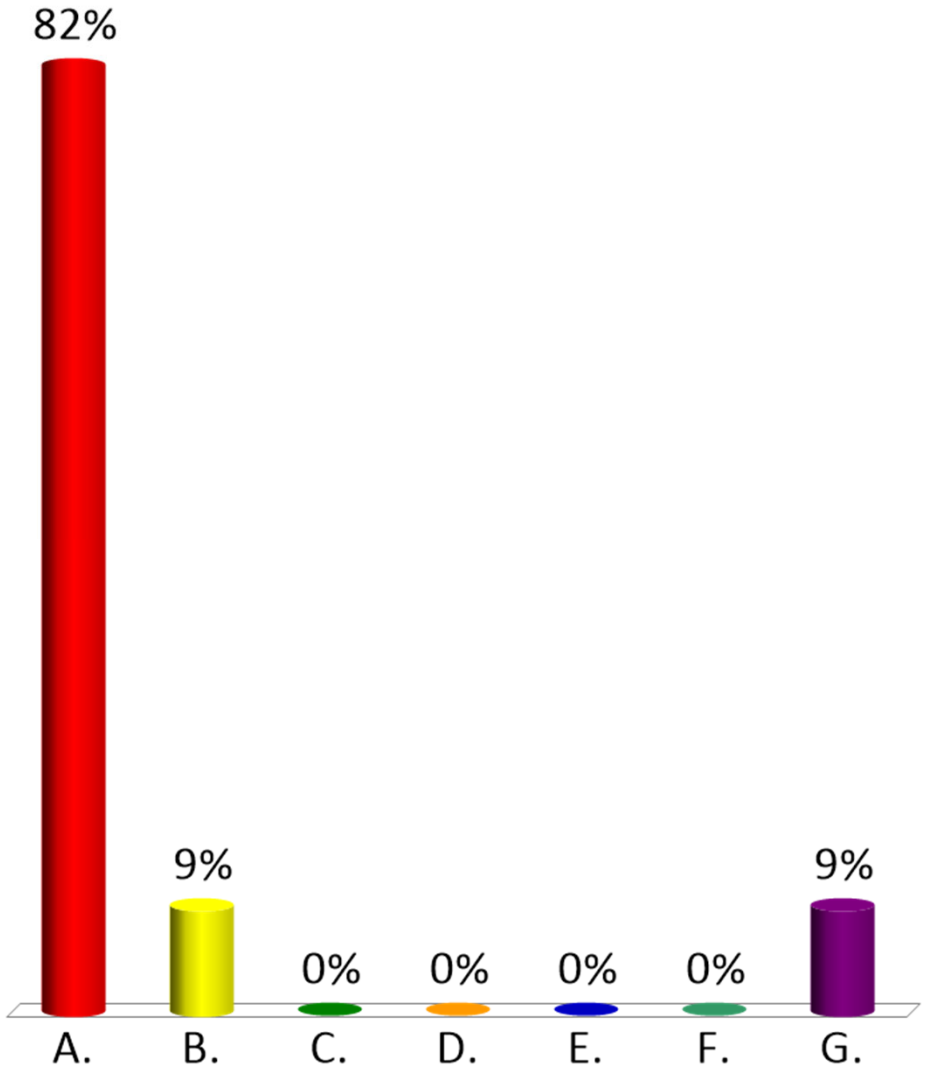
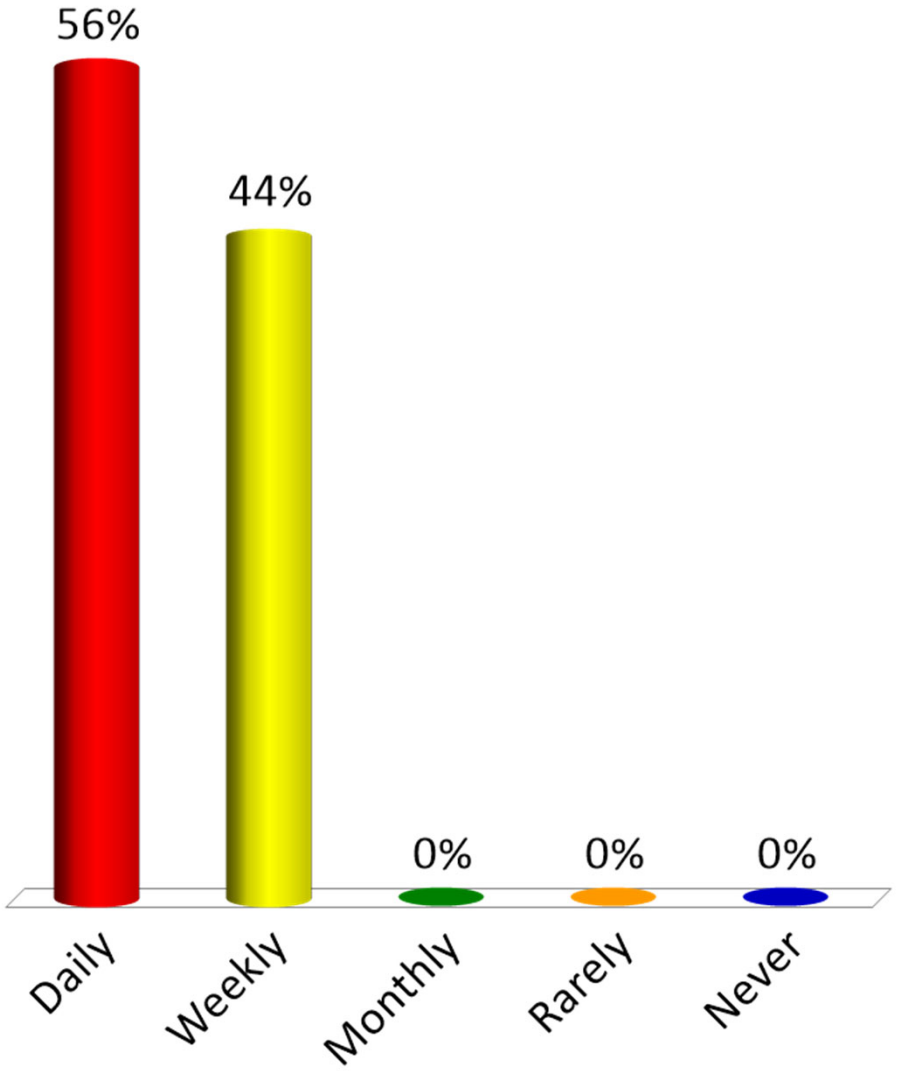
Who are you representing?

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



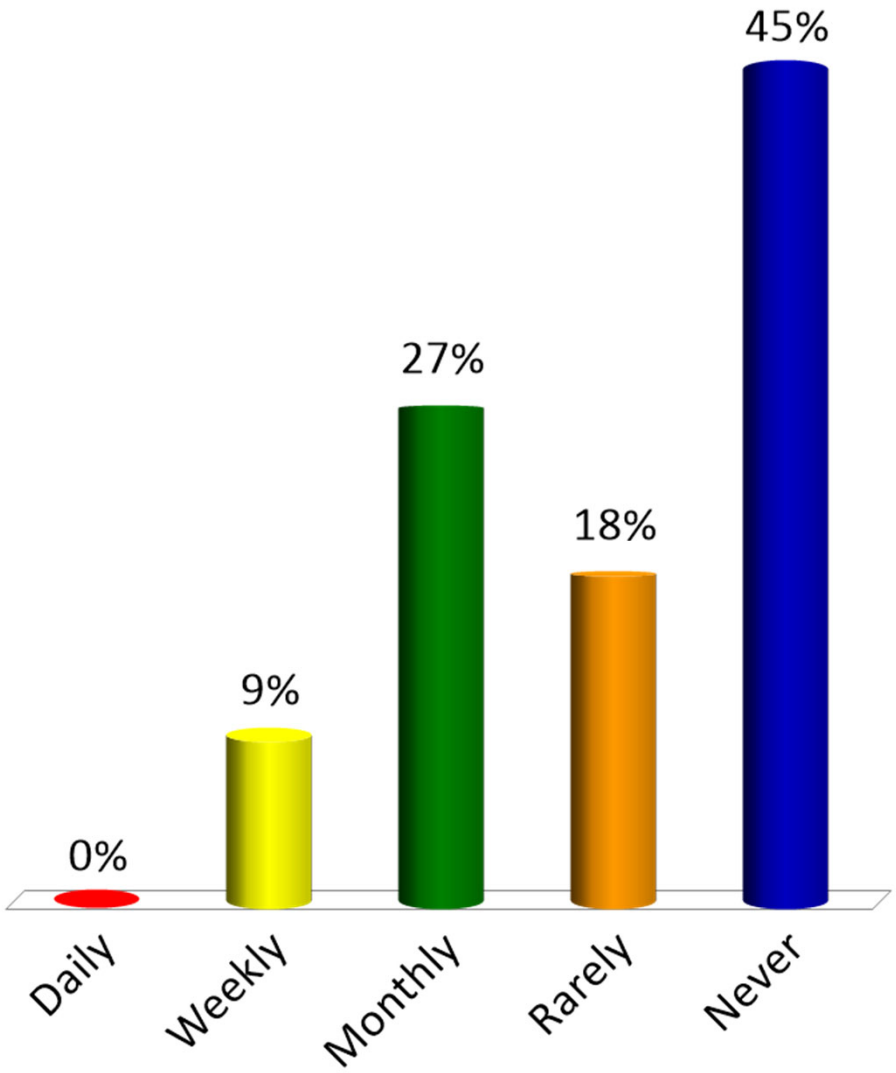
How often do you use this segment of State Numbered Route 121?

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



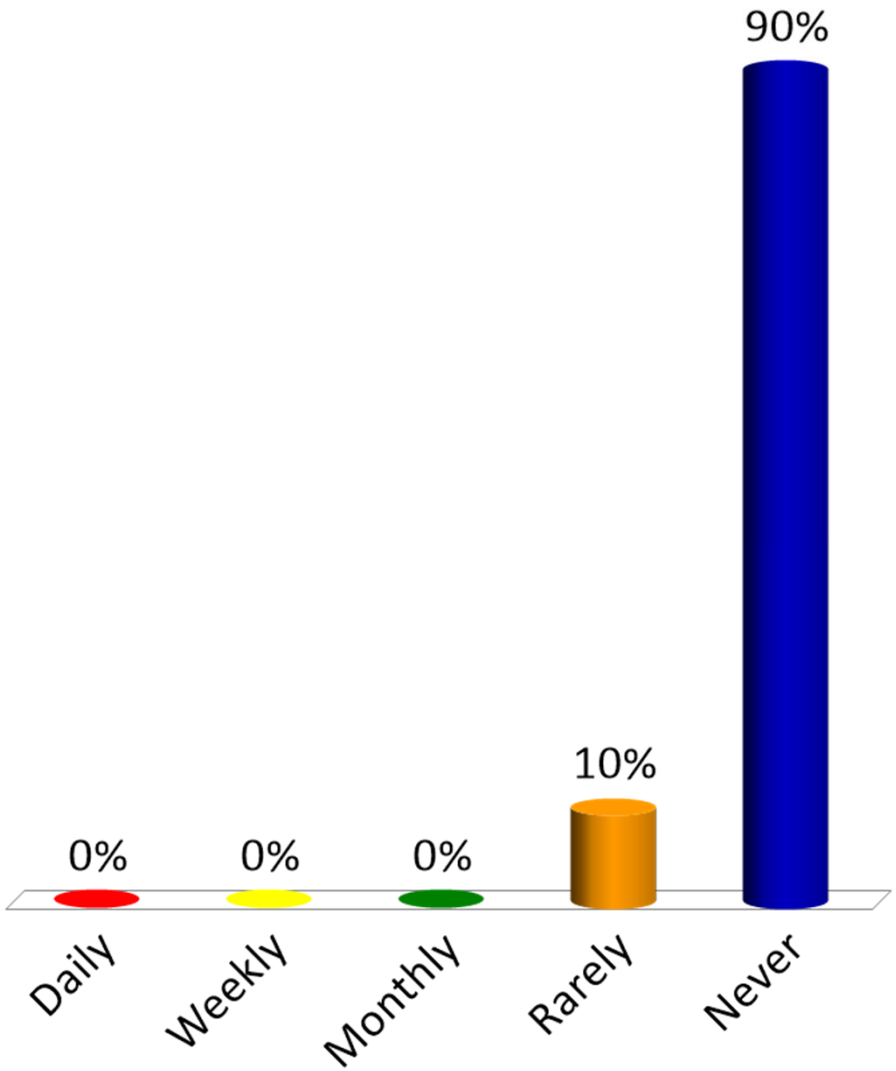
How often do you walk over the bridge?

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



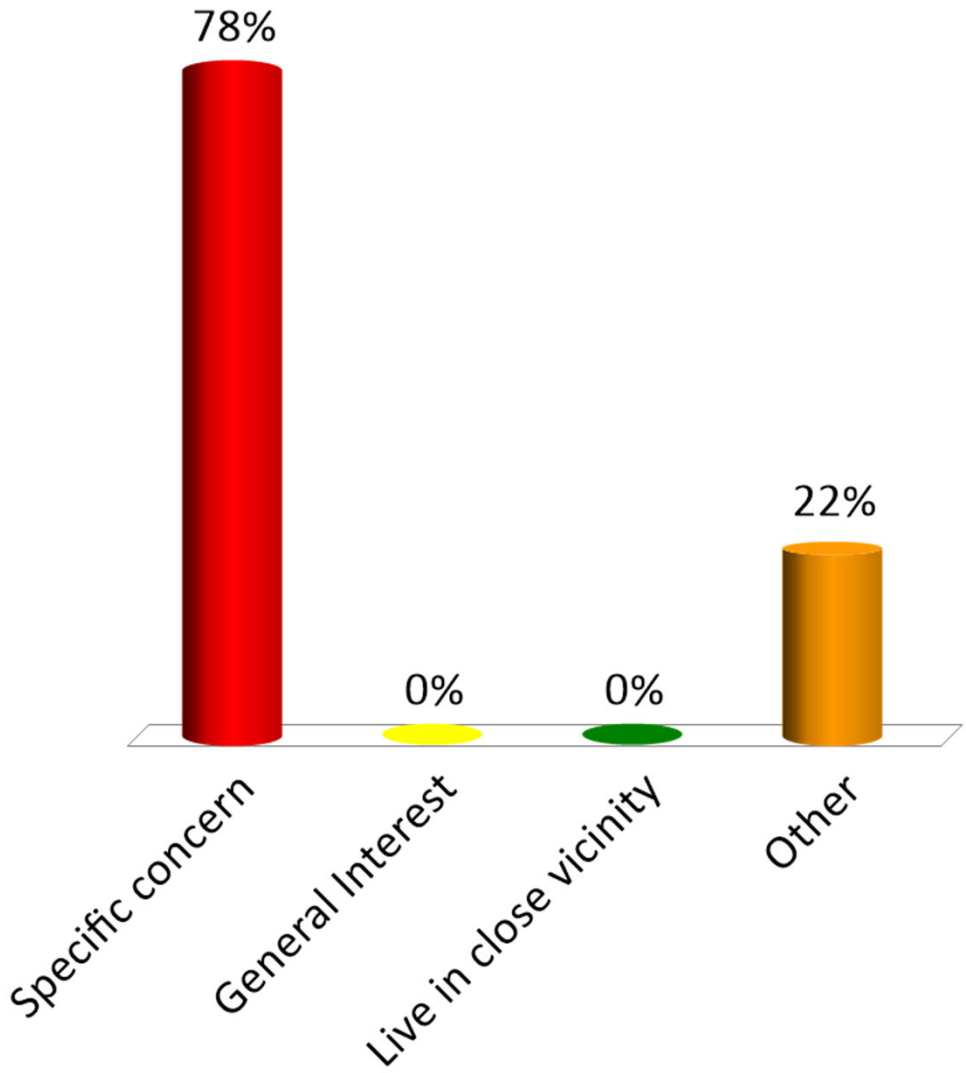
How often do you bike over the bridge?

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

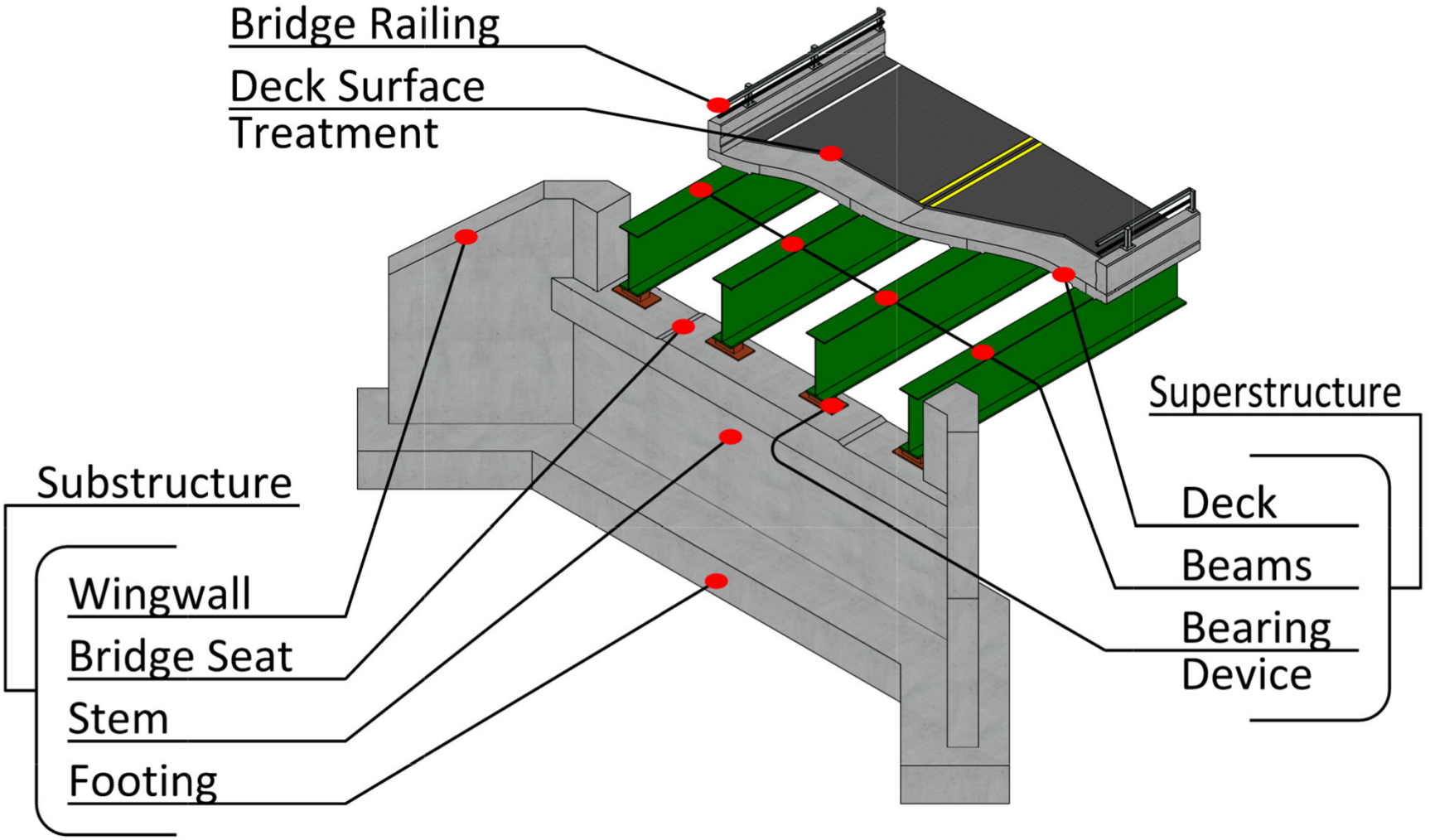


What is your reason for attending this meeting?

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



Description of Terms Used



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Looking West over Bridge

Existing Conditions – Bridge #5

06/14/2016

- Roadway Classification – Major Collector (Class 2 TH/FAS Route)
- Bridge Type – 222’ long 3-Span Riveted Two Girder Bridge (Fracture Critical)
- Ownership – Town of Westminster
- Constructed in 1940
- Narrow Bridge Width (11’/1.2’ typical)

Existing Conditions – Bridge #5

- Bridge deck is showing signs of progressive deterioration
- Bridge joints are in poor condition
- The steel was painted in 2012, but there are localized areas of paint failure
- Minor section loss and rusting in localized areas of the steel
- Substandard Width
  - 11′/1.2′ Typical does not meet 11′/3′ standard

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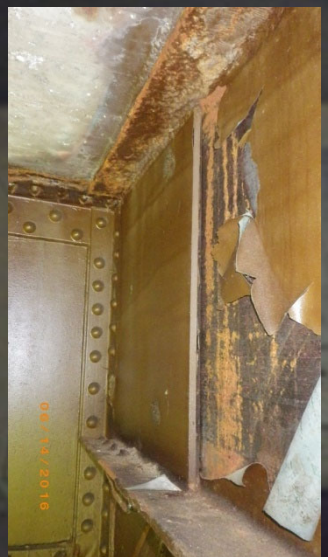
Deck Deterioration

Existing Conditions - Bridge #5

- Deck Rating 5 (Fair)
- Superstructure Rating 5 (Fair)
- Substructure Rating 6 (Satisfactory)

06/14/2016

Superstructure



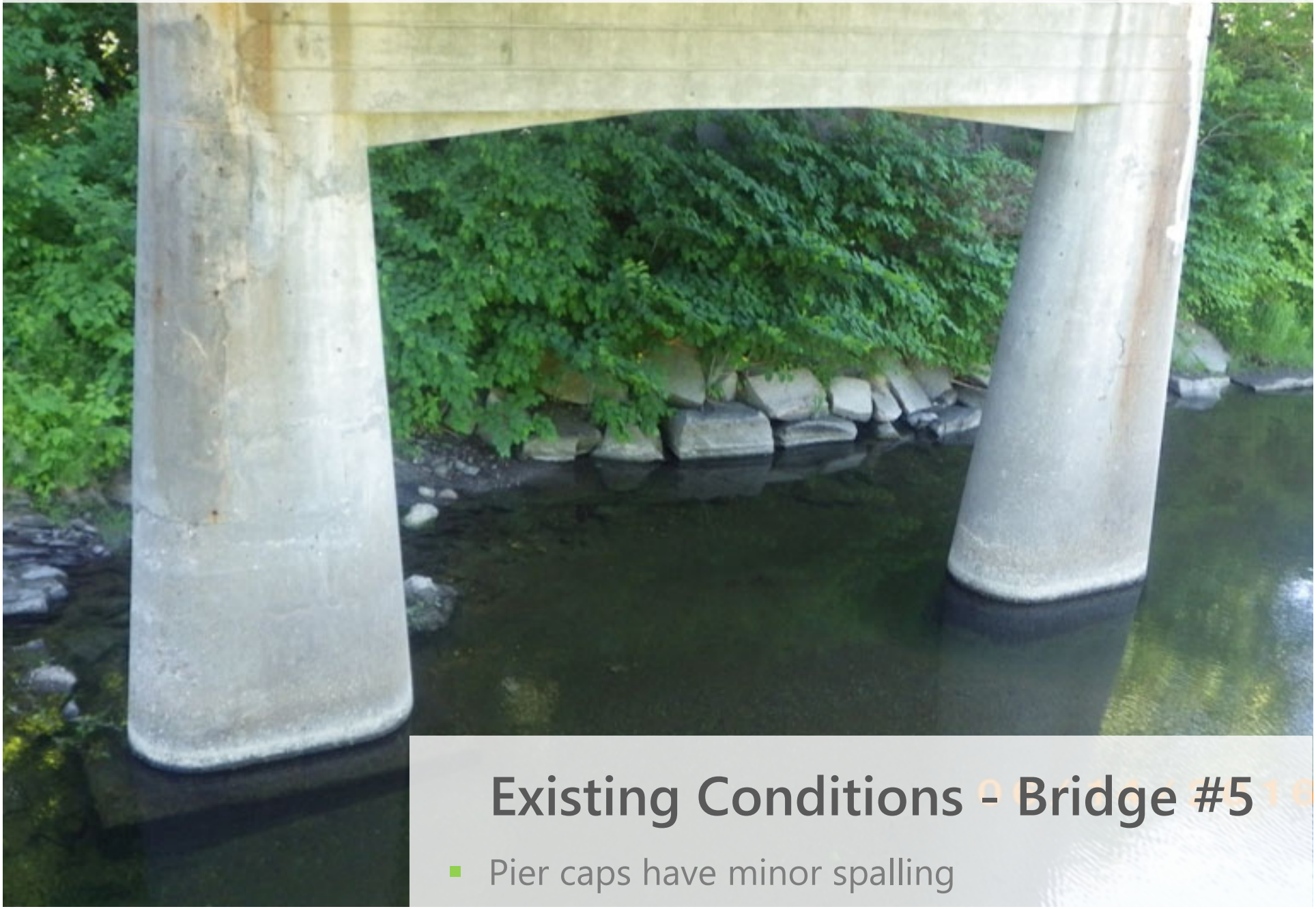
Existing Conditions - Bridge #5

- Localized Paint Failure
- Overall Fair Condition

Substructure

Existing Conditions - Bridge #5

- Satisfactory condition



Existing Conditions - Bridge #5

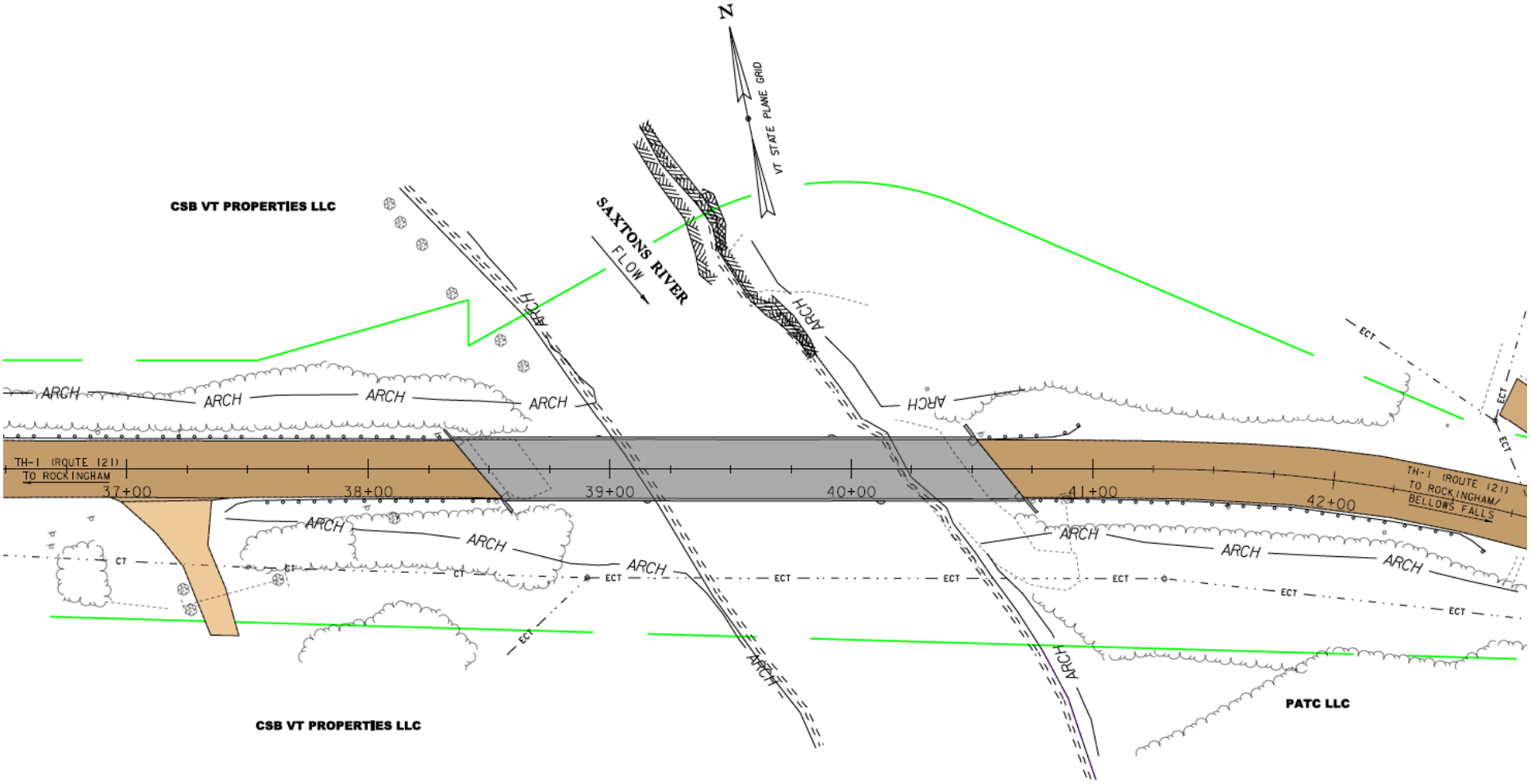
- Pier caps have minor spalling

Resources – Looking Downstream

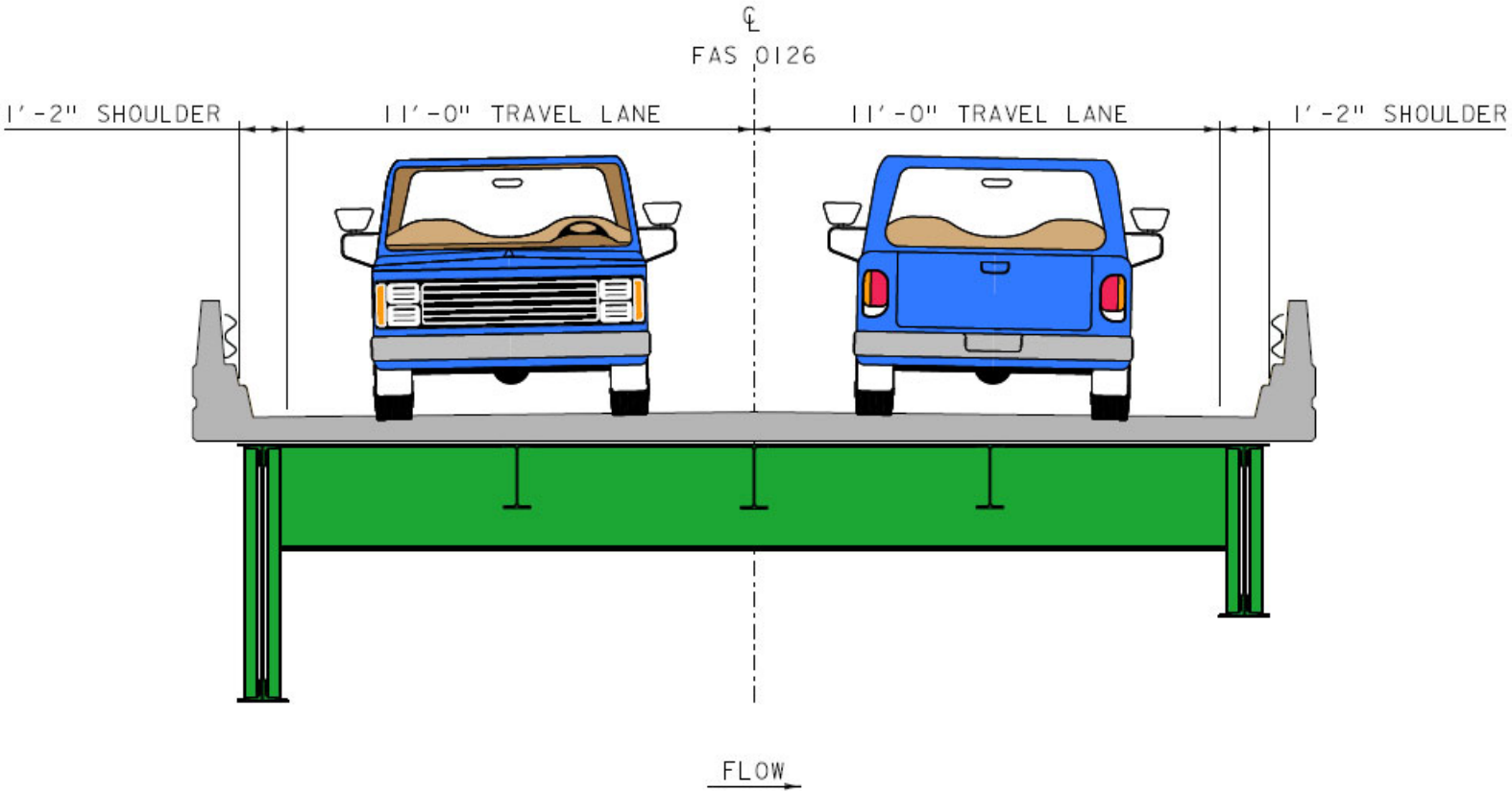
Existing Conditions - Bridge #5

- Archaeological sensitive areas surrounding bridge
- Northern Long Eared Bat Habitat
- Aerial Utilities
- Essential Fish Habitat
- Agricultural Soils

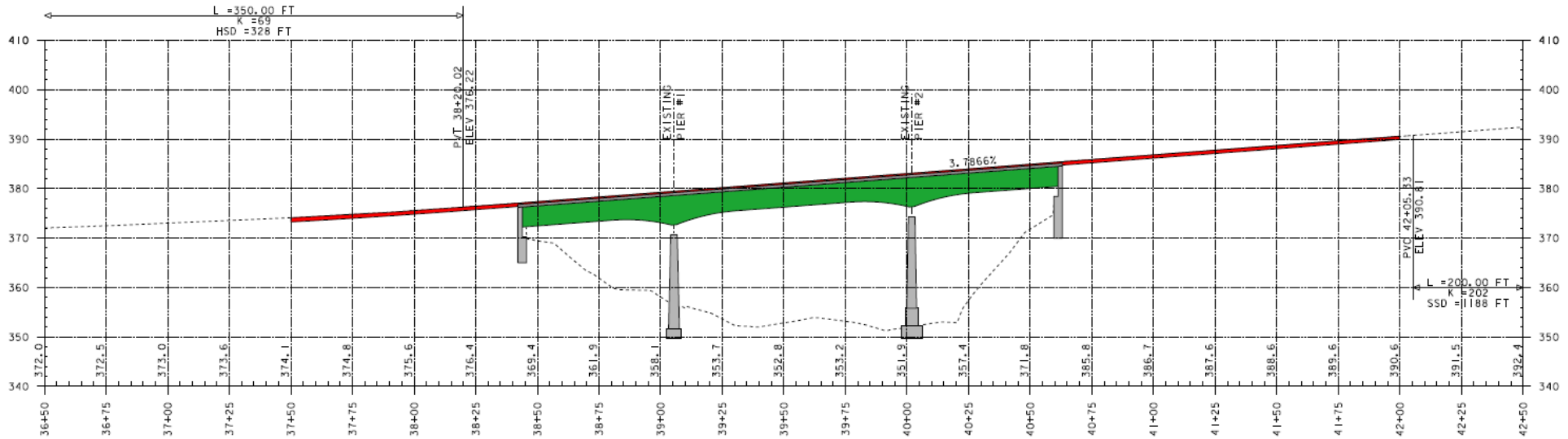
Existing Layout



Existing Typical Section



Existing Profile



FAS 0126 (ROUTE 121) PROFILE

Design Criteria and Considerations

- Average Daily Traffic of 3,000 vehicles/day
- Design Hourly Volume of 410 vehicles/hour
- % Trucks: 10.1
- Design Speed of 30 mph
- Aerial Utilities

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Alternatives Considered – Bridge #5

- No Action
- Minor Rehabilitation
- Deck Replacement
- Superstructure Replacement
- Full Bridge Replacement On Alignment

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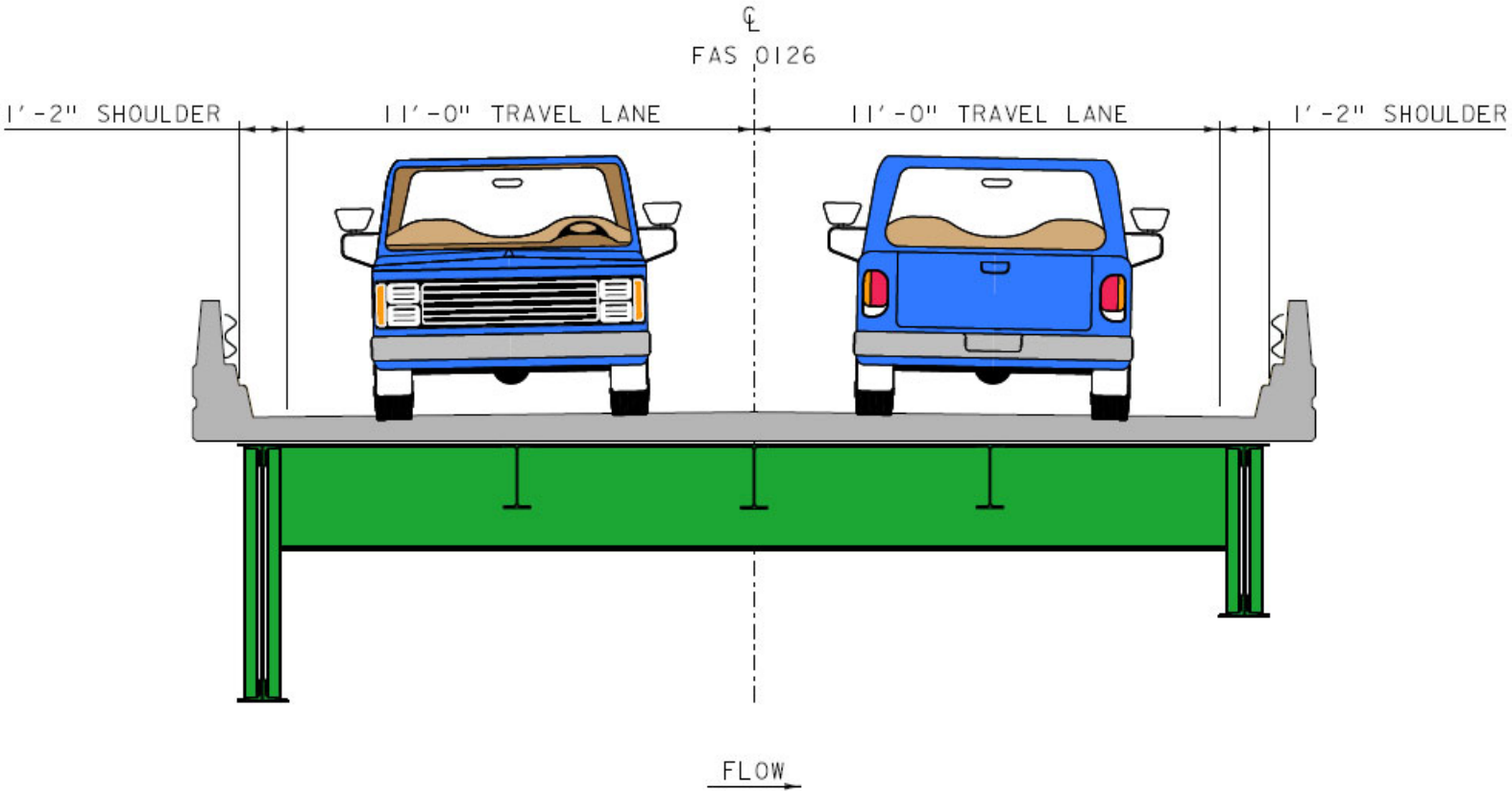
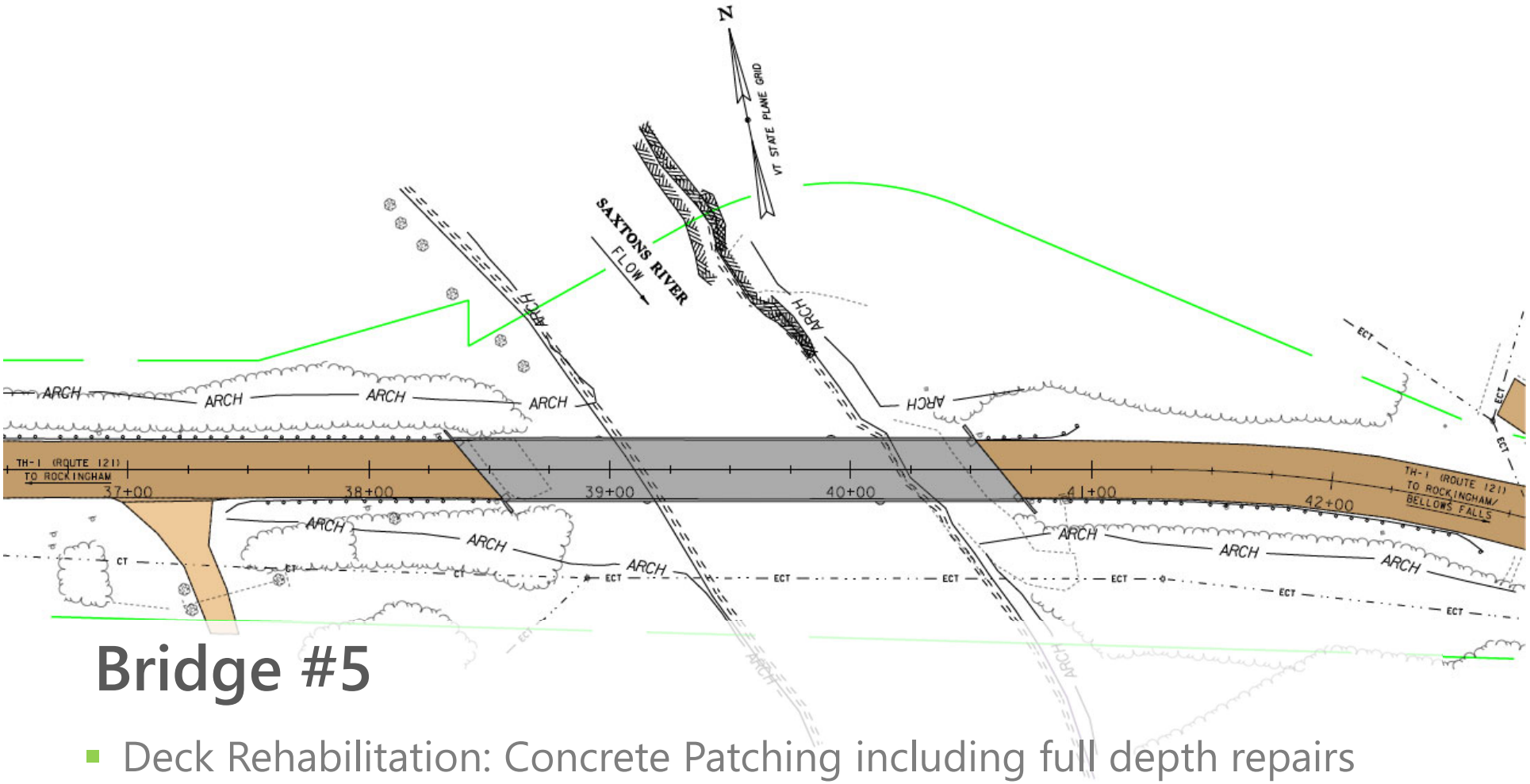
Alternative 1: Rehabilitation Typical Section



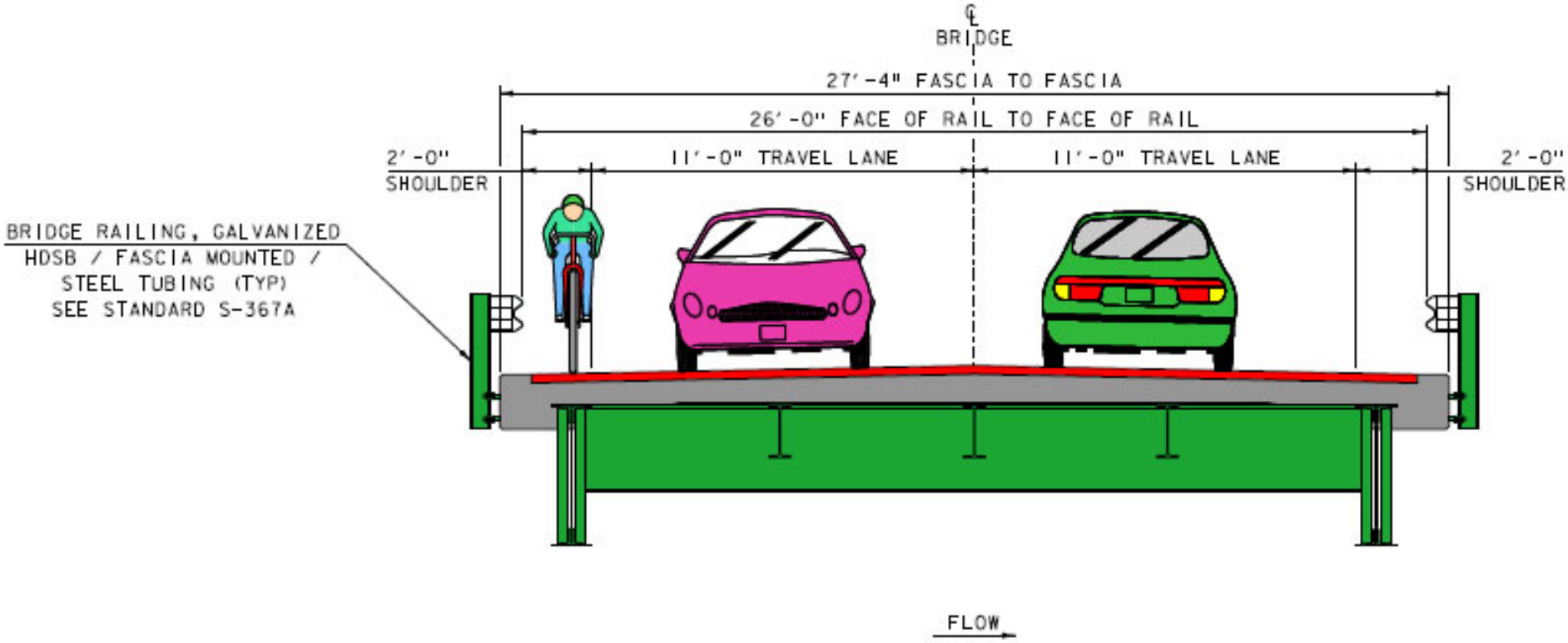
Alternative 1: Deck Rehabilitation Layout



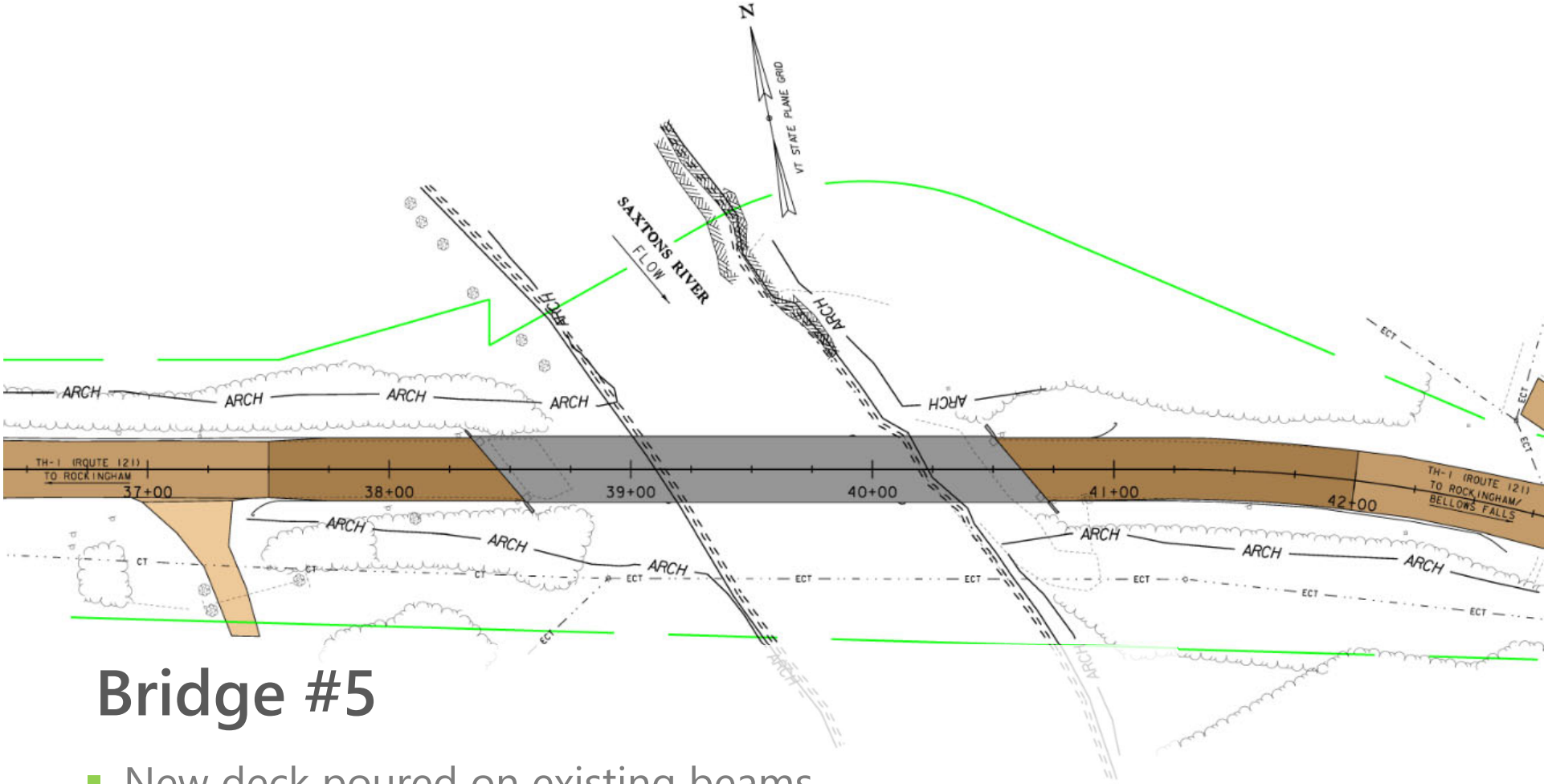
Bridge #5

- Deck Rehabilitation: Concrete Patching including full depth repairs
- New Bridge Joints and Membrane and Pave
- 1.2’-11’-11’-1.2’ Typical
- 20 year design life

Alternative 2 & 3: Deck/Superstructure Replacement Typical Section



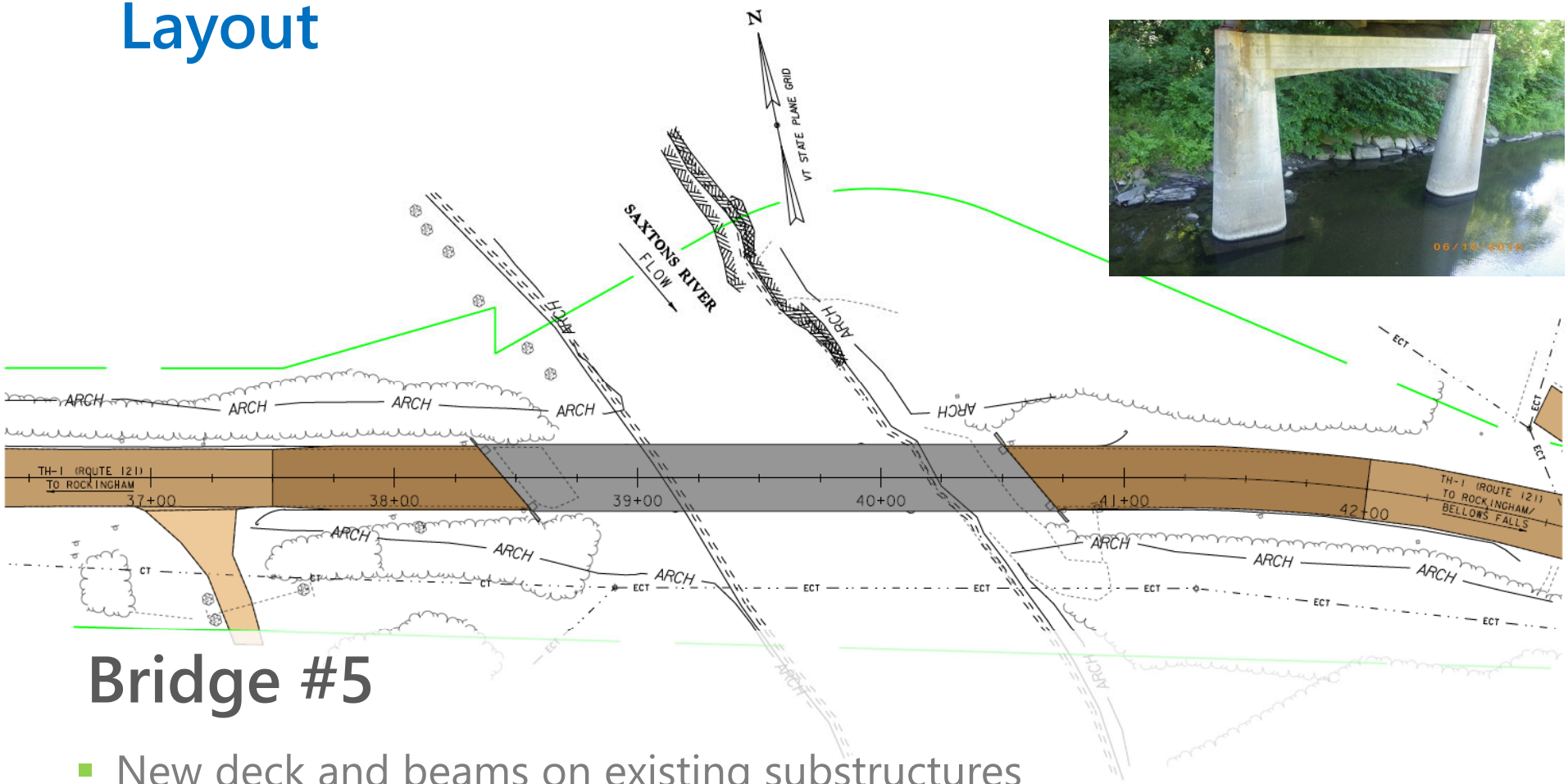
Alternative 2: Deck Replacement Layout



Bridge #5

- New deck poured on existing beams
- Substructure concrete would be patched as needed
- 2′-11′-11′-2′ Typical
- 30 year design life

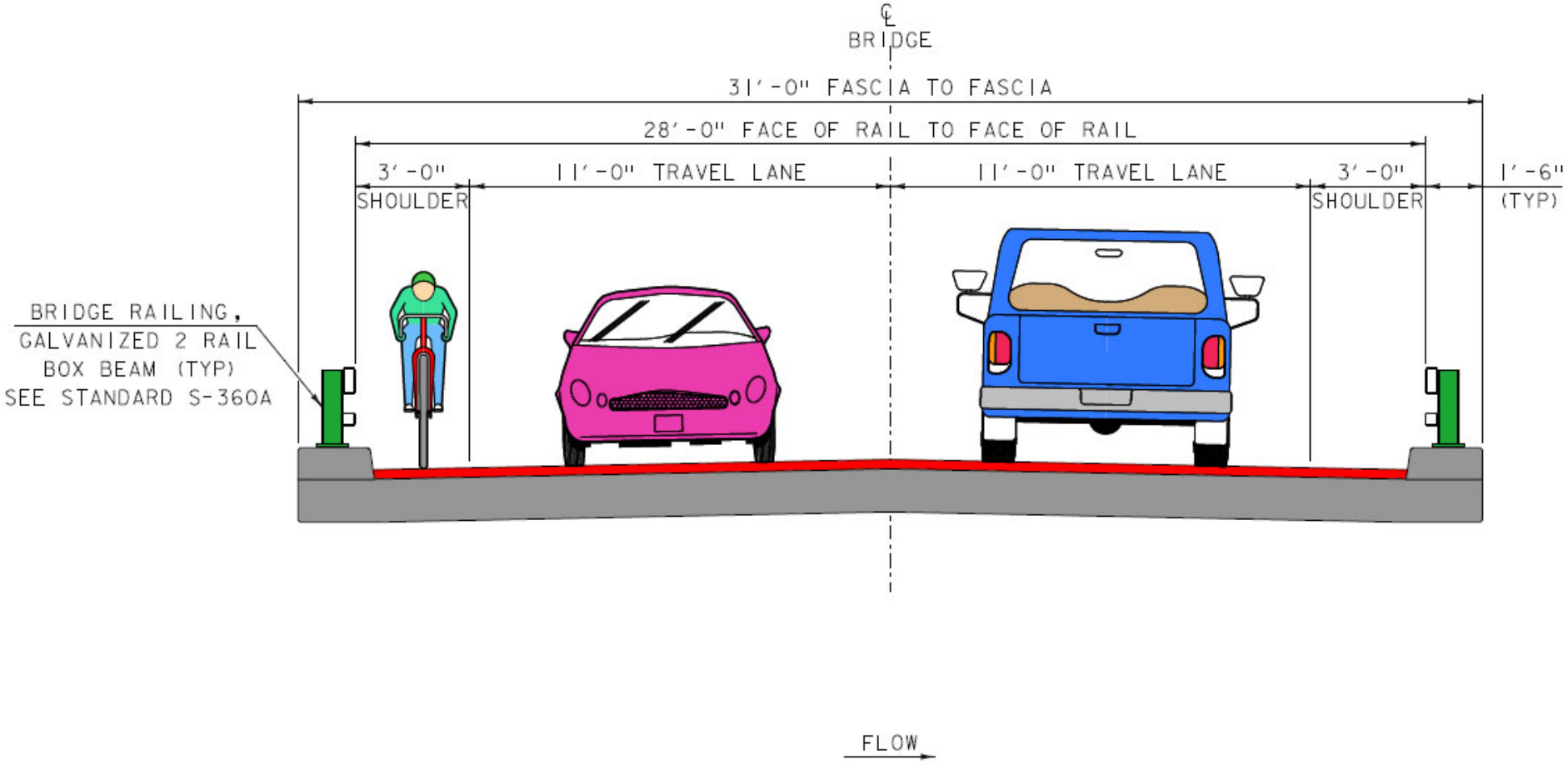
Alternative 3: Superstructure Replacement Layout



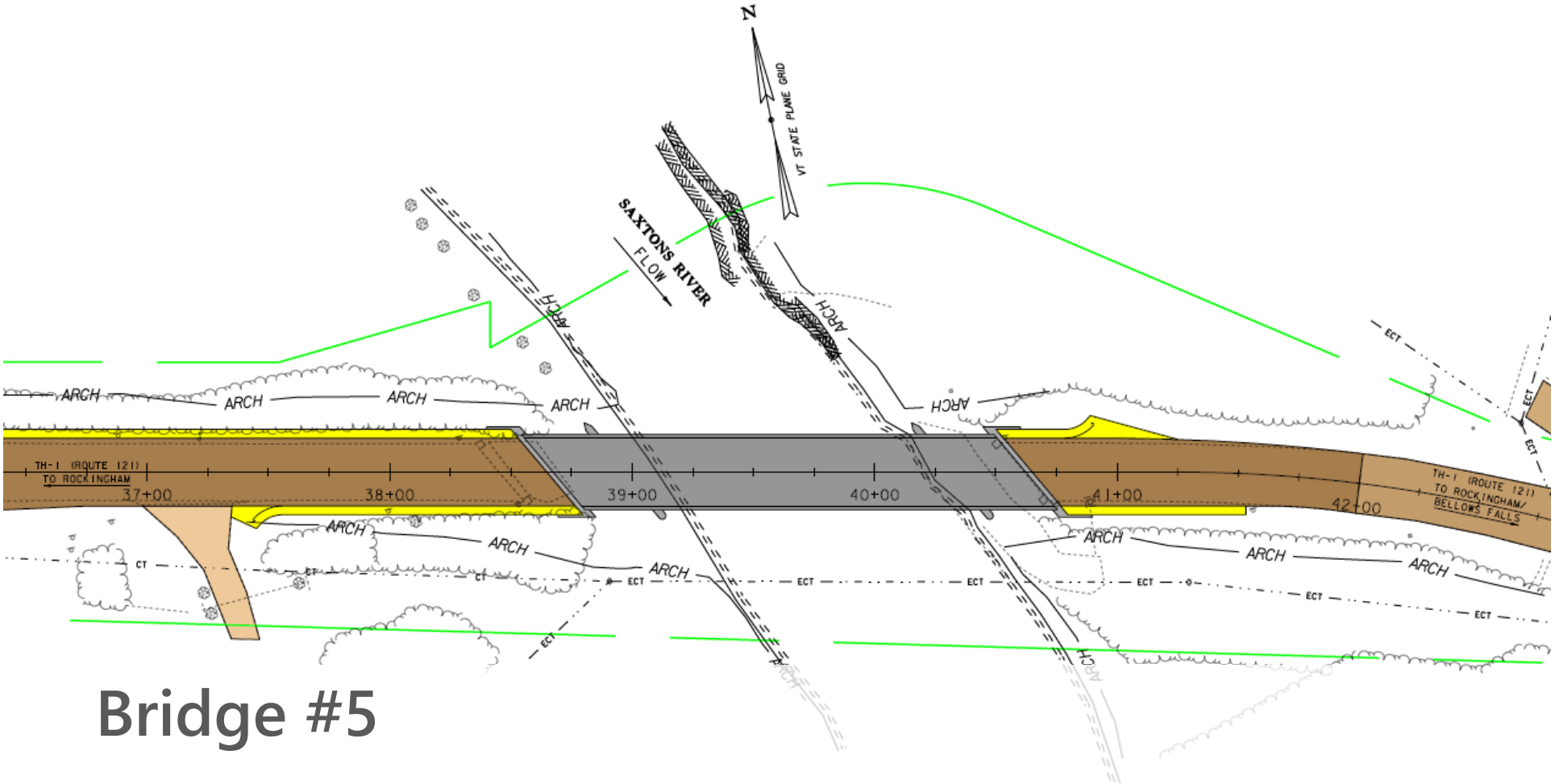
Bridge #5

- New deck and beams on existing substructures
- Significant pier modifications to accommodate a conventional steel beam bridge
- 2’-11’-11’-2’ Typical
- 40 year design life

Alternative 4: Full Bridge Replacement Typical Section



Alternative 4: Full Bridge Replacement Layout



Bridge #5

- All new bridge components
- Widen to meet the minimum standard: 3’-11’-11’-3’ Typical
- 75 year design life

Proposed Profile

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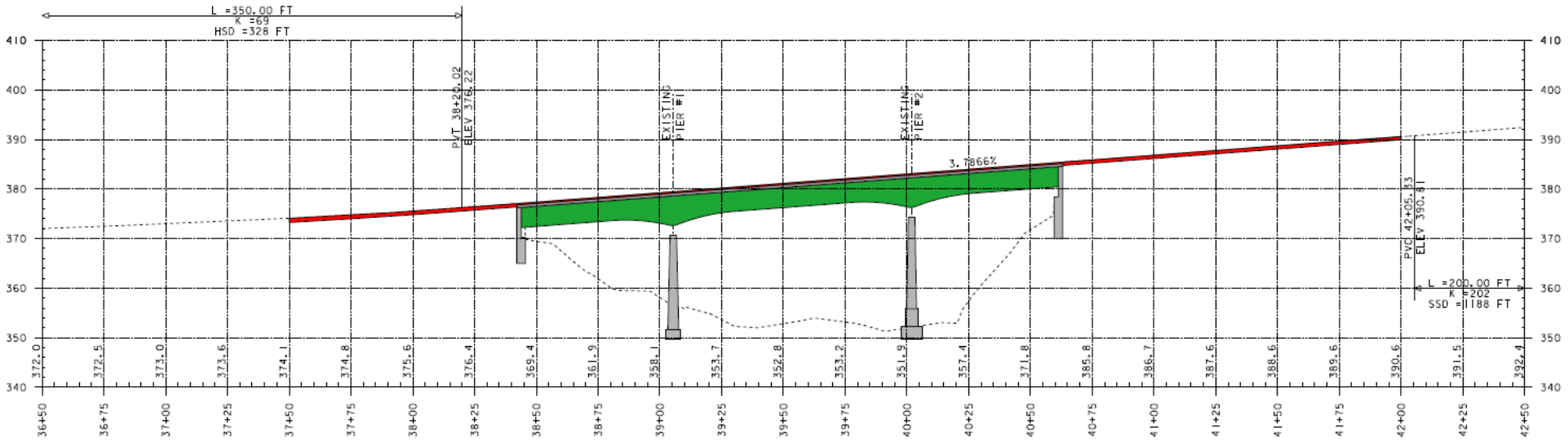

FAS 0126 (ROUTE 121) PROFILE

Recommended Alternative - Bridge #5

- Minor Rehabilitation
  - Deck Patching
  - Patch substructure concrete as needed
  - Membrane and pave
  - Replace the bridge joints
  - 11’/1.2’ typical
  - 20 year design life per VTrans Structural Concrete Engineer

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Maintenance of Traffic Options Considered

- Offsite Detour
- Phased Construction
  - Only an option for minor rehab
- Temporary Bridge

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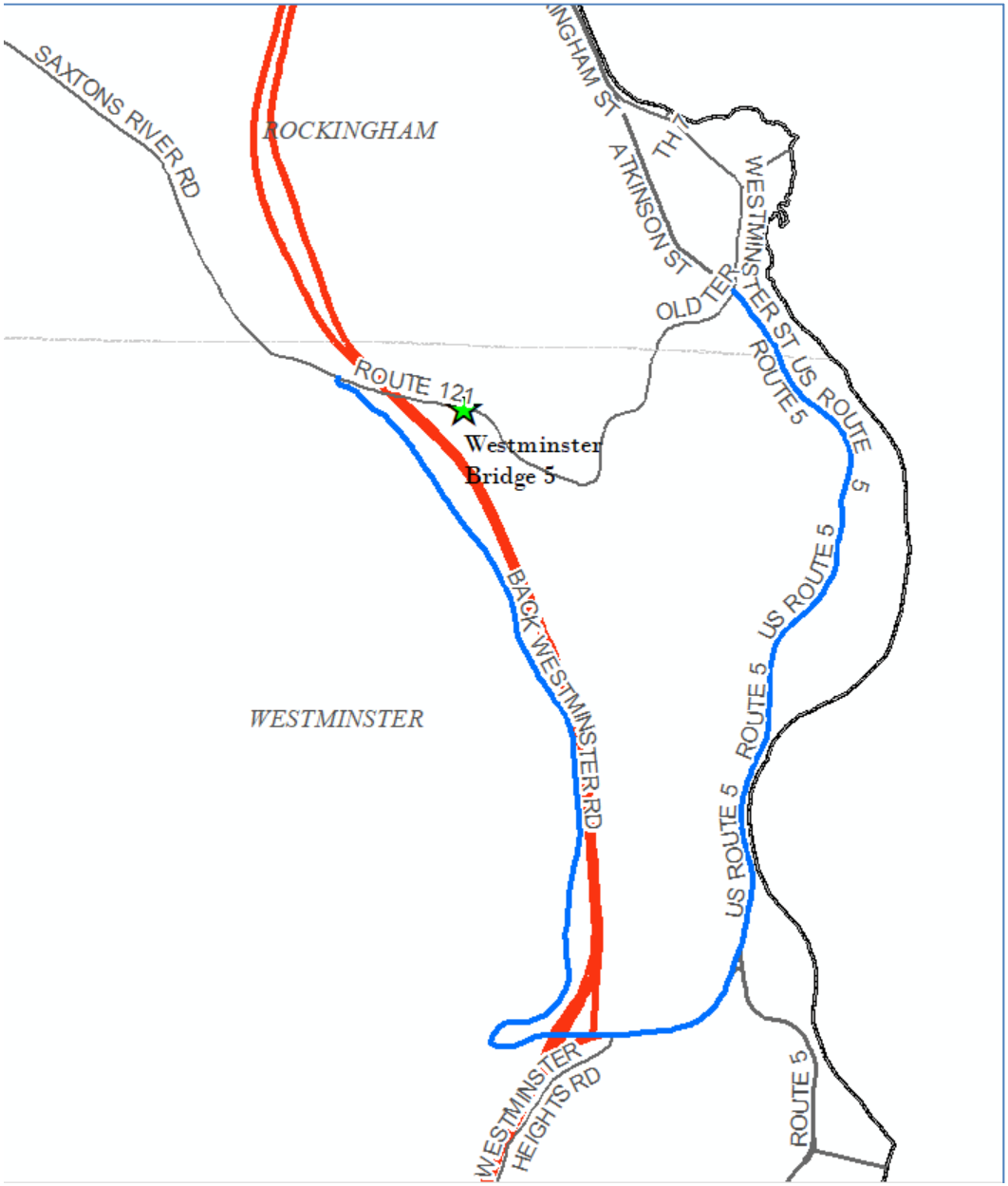
Road Closure

- Detour chosen and signed by Town
- Shortest route is 8.3 miles end-to-end
- 60 to 120 day closure depending on the scope

Traffic Control – Offsite Detour

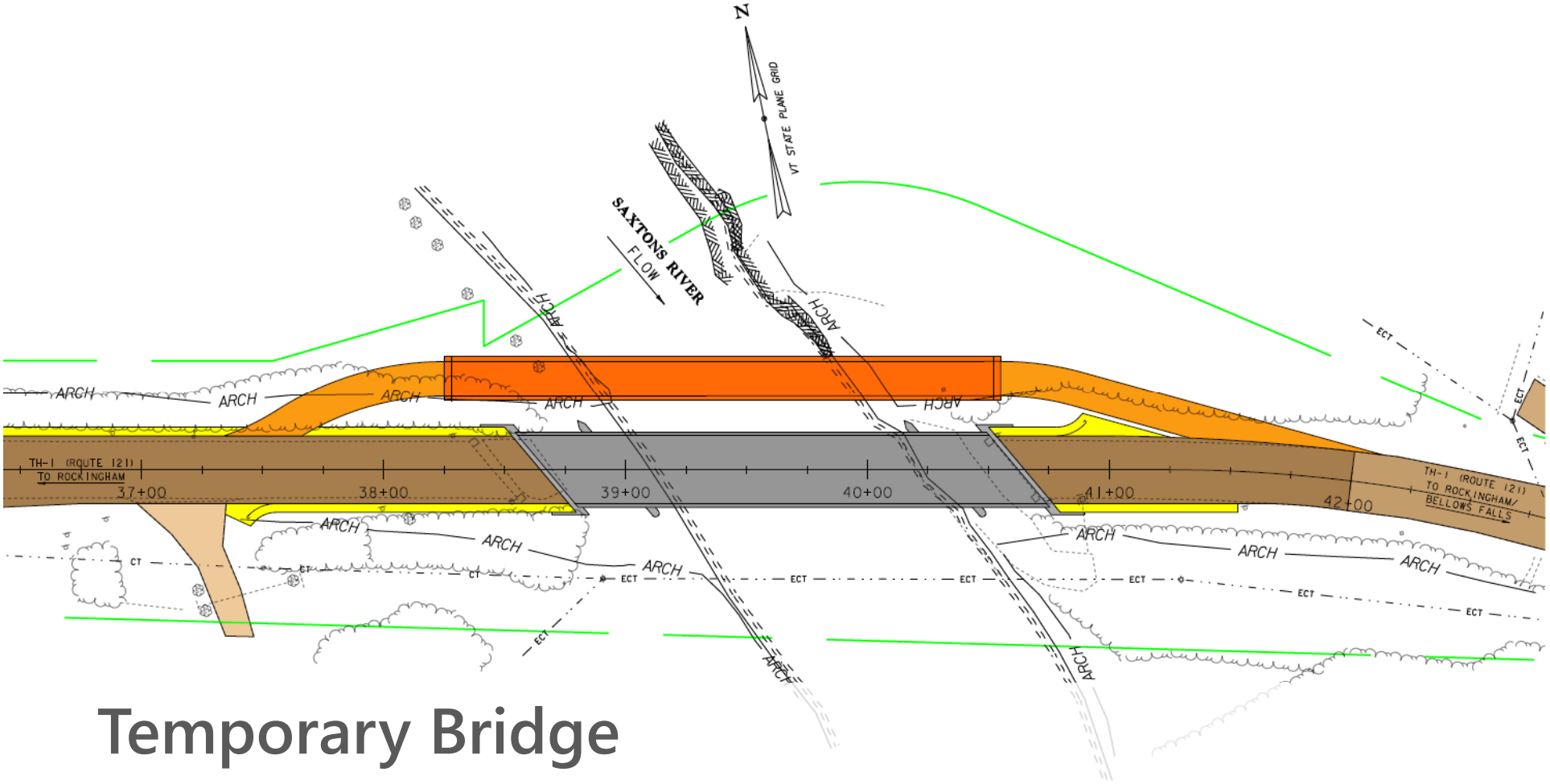


- The shortest local detour route, has an End-to-End distance of 8.3 miles

Temporary Bridge

- One Lane Temporary Bridge with Traffic Signal
- Upstream or Downstream

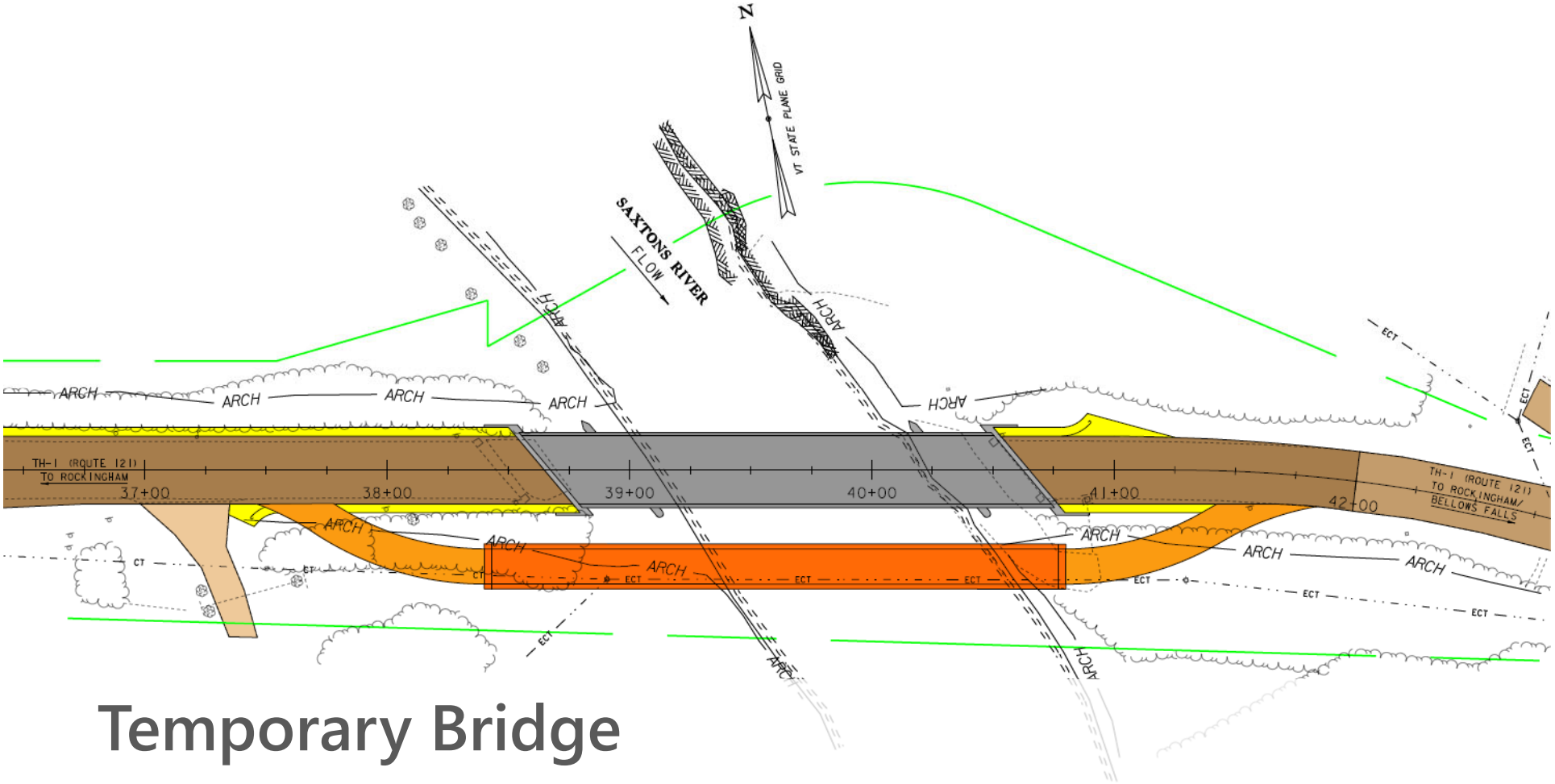
Upstream Temporary Bridge Layout



Temporary Bridge

- Upstream Temporary Bridge
- Not eligible for 50% reduction in funding per ACT 153
  - Town share increases from 2.5% to 5% for Rehabilitation Options
  - Town share increases from 5% to 10% for Full Bridge Replacement Options

Downstream Temporary Bridge Layout



Temporary Bridge

- Downstream Temporary Bridge
- Not eligible for 50% reduction in funding per ACT 153
  - Town share increases from 2.5% to 5% for Rehabilitation Options
  - Town share increases from 5% to 10% for Full Bridge Replacement Options

Recommended Scope

- Minor Rehabilitation with Traffic Maintained on an Offsite Detour
  - All deteriorated and loose concrete on the deck will be removed and repaired with a new layer of concrete
    - Full Depth patching expected in localized areas
  - Patch substructure concrete as needed
  - Replace Bridge Joints
  - Membrane and pave
  - 11’/1.2’ typical
  - 20 year design life
  - 60 day closure
  - No Right of Way
  - No Utility Relocation

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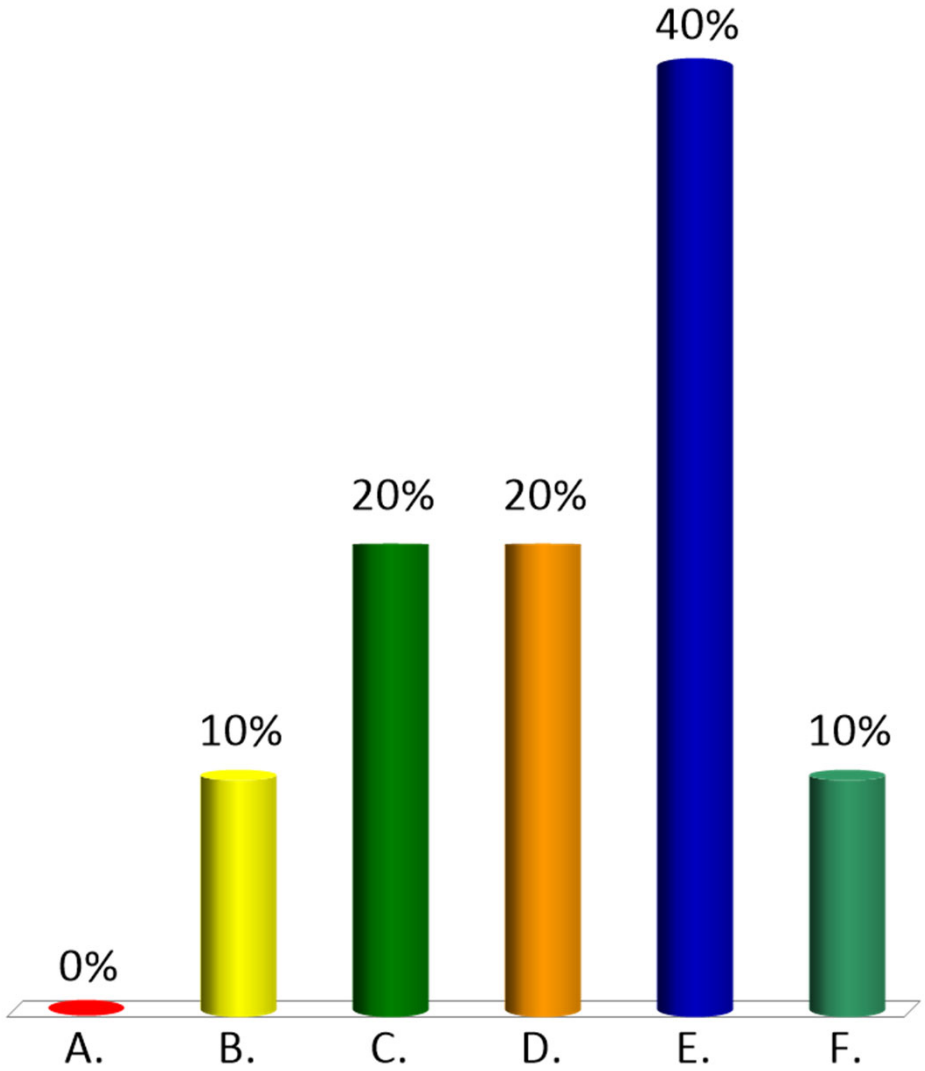
Alternatives Matrix

Westminster BF 0126(13)	Do Nothing	Alternative 1		Alternative 2		Alternative 3		Alternative 4	
		Minor Rehabilitation		Deck Replacement		Superstructure Replacement		Full Bridge Replacement	
		a. Offsite Detour	b. Phased Construction	a. Offsite Detour	b. Temporary Bridge	a. Offsite Detour	b. Temporary Bridge	a. Offsite Detour	b. Temporary Bridge
Total Project Costs	$0	$1,146,720	$1,590,600	$2,124,240	$3,323,460	$3,317,490	$4,231,370	$4,627,940	$6,372,590
Annualized Costs	$0	$57,340	$79,530	$70,810	$110,780	$82,940	$105,780	$61,710	$84,970
Town Share	$0	$28,670	$79,530	$53,110	$166,170	$82,940	$211,570	$231,400	$637,260
Town %	N/A	2.5%	5%	2.5%	5%	2.5%	5%	5%	10%
Project Development Duration	N/A	1 year	1 year	2 years	3 years	2 years	3 years	3 years	4 years
Construction Duration	N/A	2 months	2 months	3 months	18 months	3 months	18 months	6 months	18 months
Closure Duration (If Applicable)	N/A	60 days	N/A	60 days	N/A	60 days	N/A	120 days	N/A
Typical Section - Bridge (feet)	23.5	24	24	26	26	26	26	28	28
Geometric Design Criteria	Substandard Width	Substandard Width		Substandard Width		Substandard Width		Meets Minimum Criteria	
Utilities	No Change	No Change	No Change	No Change	Relocation	Relocation	Relocation	Relocation	Relocation
ROW Acquisition	No	No	No	No	No	No	No	No	No
Road Closure	No	Yes	No	Yes	No	Yes	No	Yes	No
Design Life	10 Years	20	20	30	30	40	40	75	75

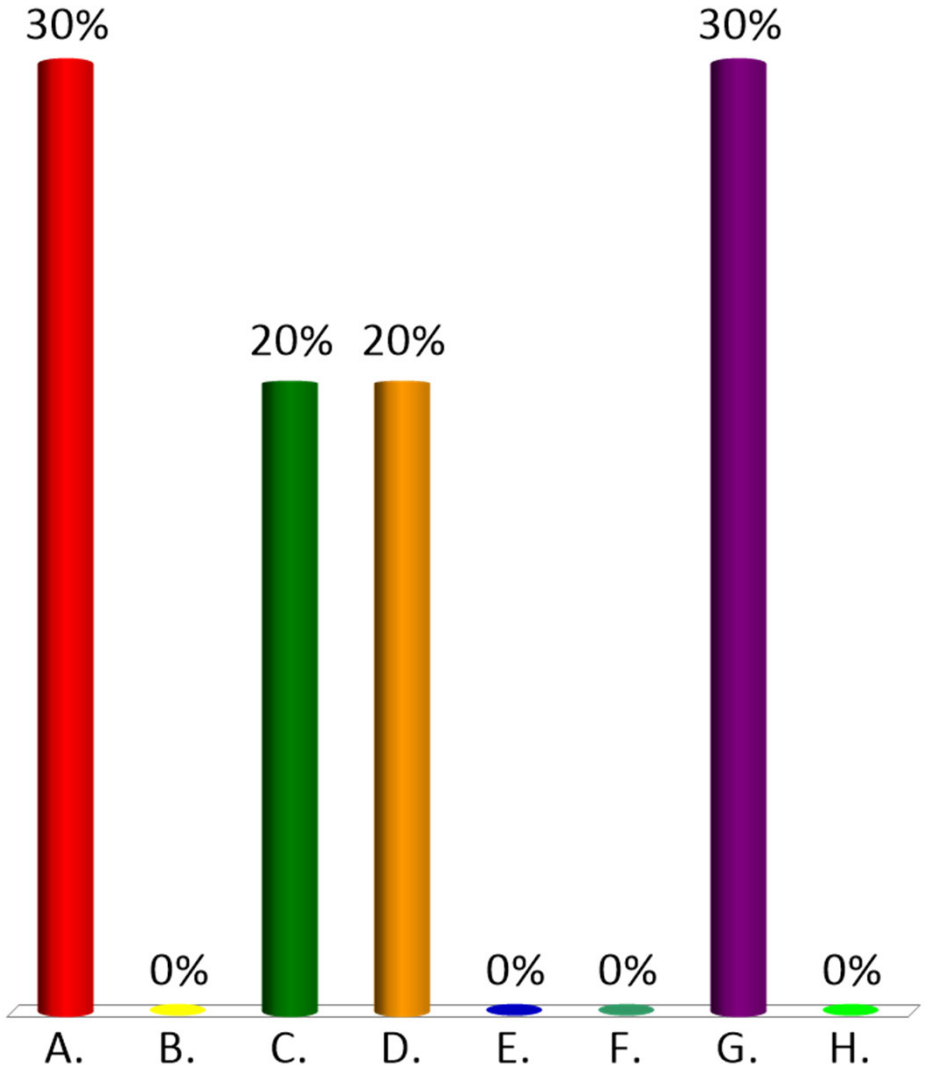
What would be the maximum acceptable length of closure for Bridge #5?

A. 30 days (≈4 weeks)
B. 45 days (≈6 weeks)
C. 60 days (≈9 weeks)
D. 90 days (≈13 weeks)
E. 120 days (≈17 weeks)
F. A closure is not acceptable



Which time of year would be most acceptable for Bridge #5 to be closed?

A. April - May
B. May – June
C. June - July
D. July - August
E. August – September
F. September - October
G. During Summer Break
H. Other



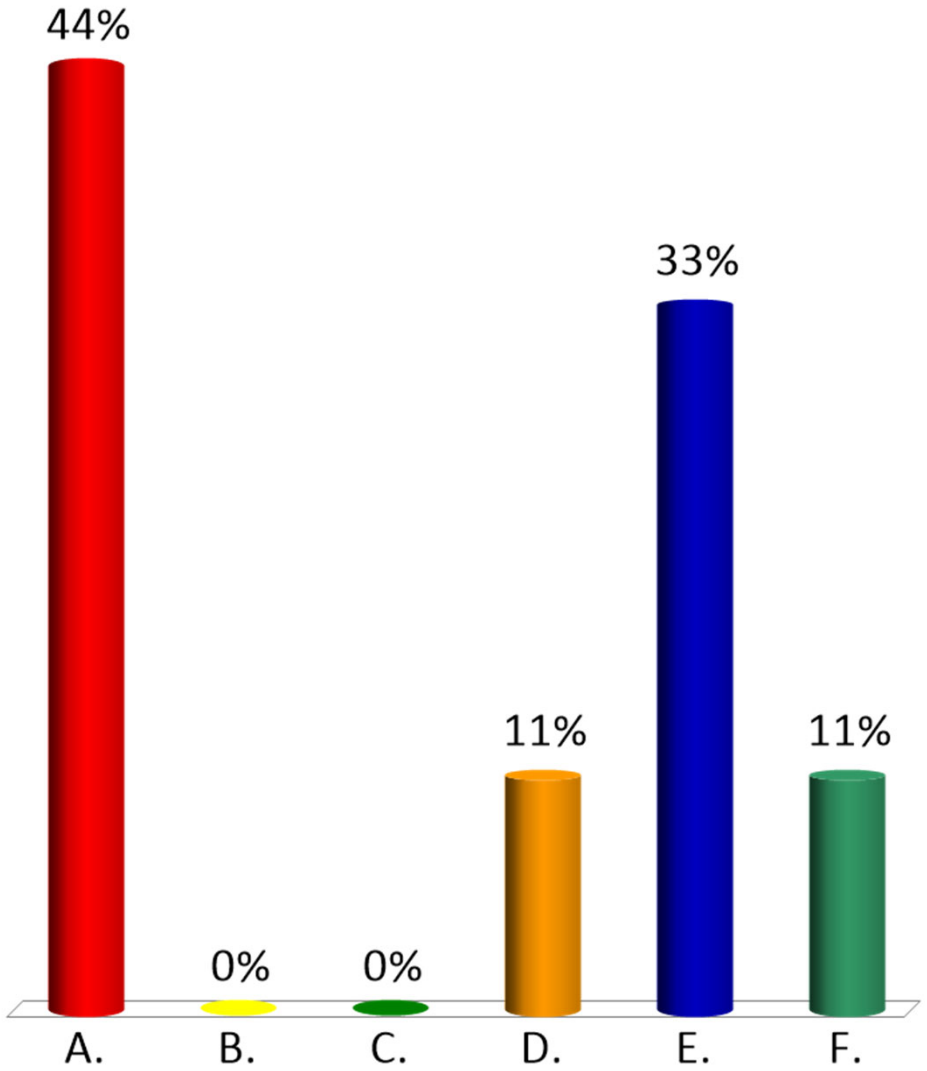
Preliminary Project Schedule

- Construction Start – 2022
  - Total Cost Estimate: $1,146,720
    - Town Share: $28,670

Accelerated Bridge Program
VTRANS

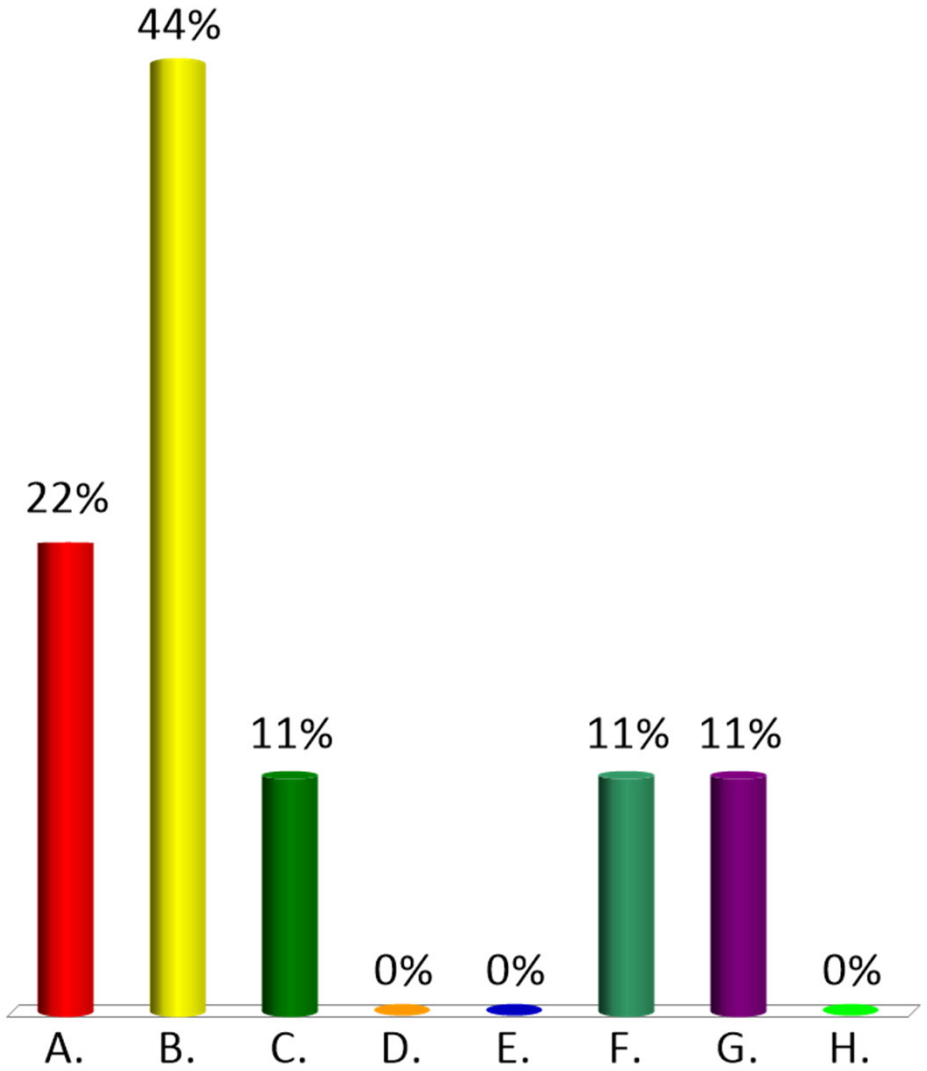
Which design aspect is the most important to you?

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



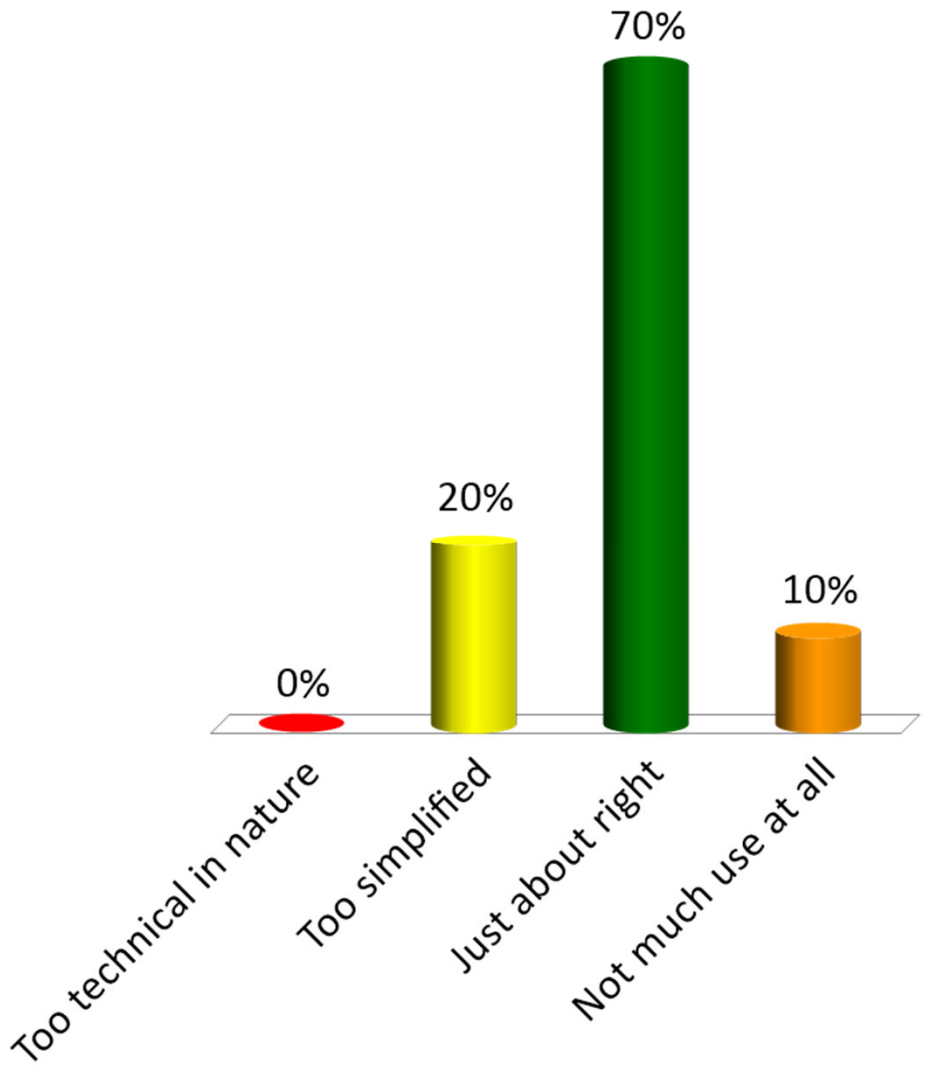
Which would you be most concerned about?

A. Construction delays on SNR 121
B. Length of Detour
C. Temporary Bridge Impacts
D. Bridge Aesthetics
E. Environmental Impacts
F. Recreational Impacts
G. Other
H. Not really concerned



Did you find this presentation to be?

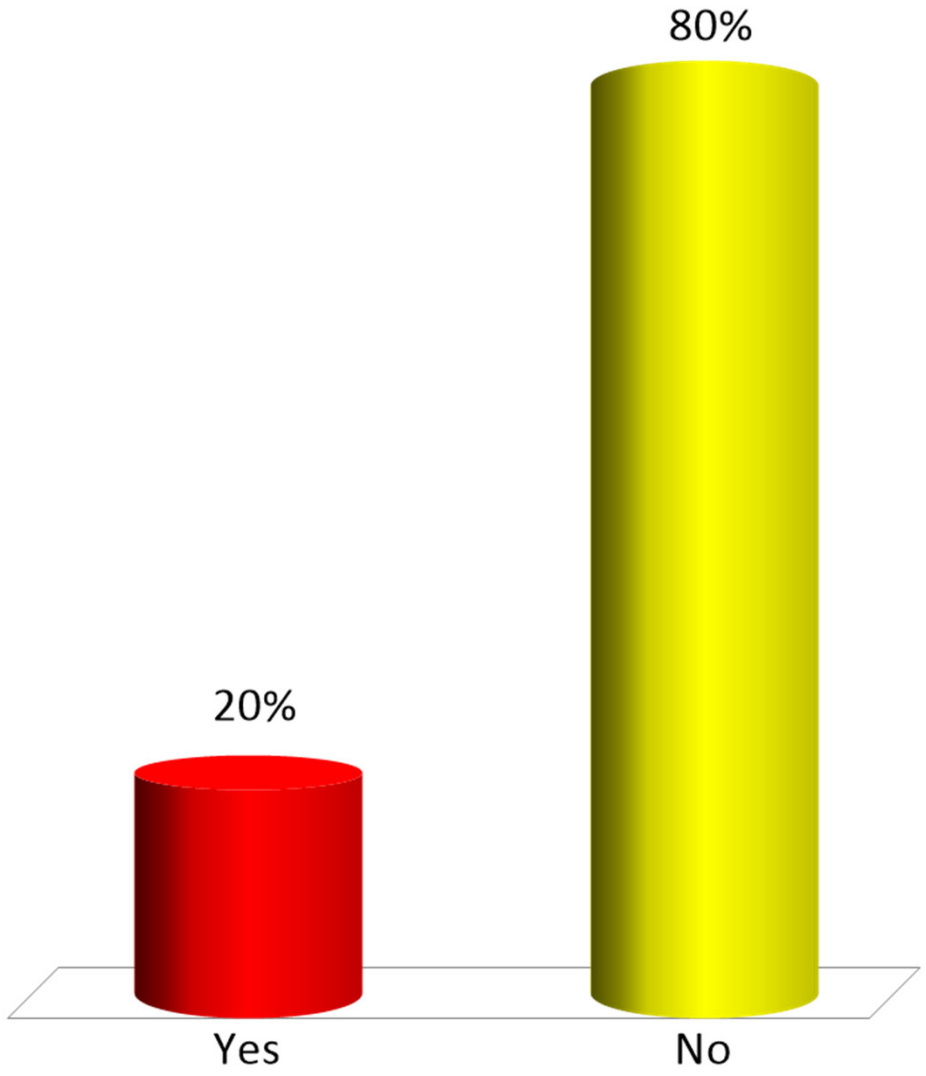
A. Too technical in nature
B. Too simplified
C. Just about right
D. Not much use at all



Do you find the recommended scope of work satisfactory?

A. Yes

B. No



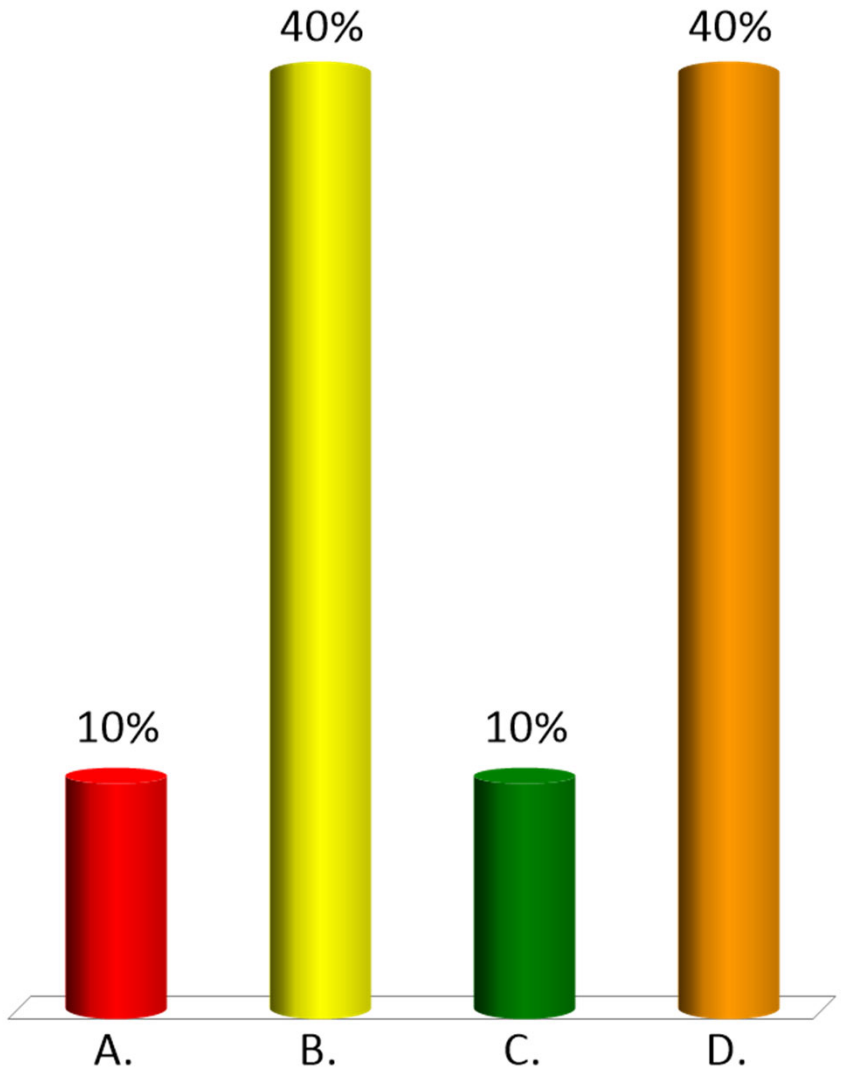
Which alternative do you have strongest support for?

A. **Alt 1:** Minor Rehabilitation

B. **Alt 2:** Deck Replacement

C. **Alt 3:** Superstructure Replacement

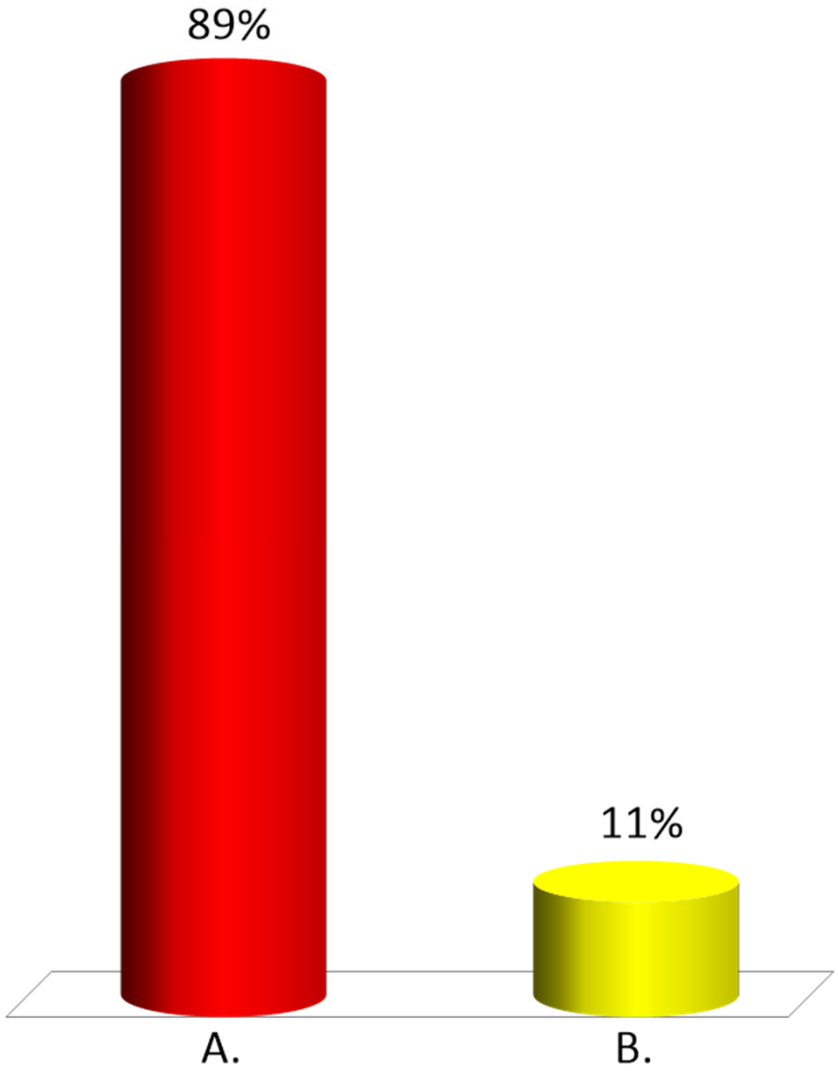
D. **Alt 4:** Full Bridge Replacement



Which traffic control method do you have strongest support for?

A. **Bridge Closure**
(2.5% Town Share)

B. **Temporary Bridge**
(5% Town Share)



Next Steps – Bridge #5

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 passenger car detour route

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For more information:

- https://outside.vermont.gov/agency/vtrans/external/Projects/Structures/12J668

Westminster BF 0126(13)
Questions and Comments

FAS Route 126 – Bridge #5 over Saxtons River

May 22, 2019

06/14/20

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