



06/15/2015

Ludlow STP DECK (39) Alternatives Presentation Meeting

VT 100 – Bridge #99 over Branch Brook

April 4, 2016



Introductions

Jennifer Fitch, P.E.

VTrans Scoping Project Manager

Todd Sumner, P.E.

VTrans Design Project Manager

Shannon Beaumont, P.E.

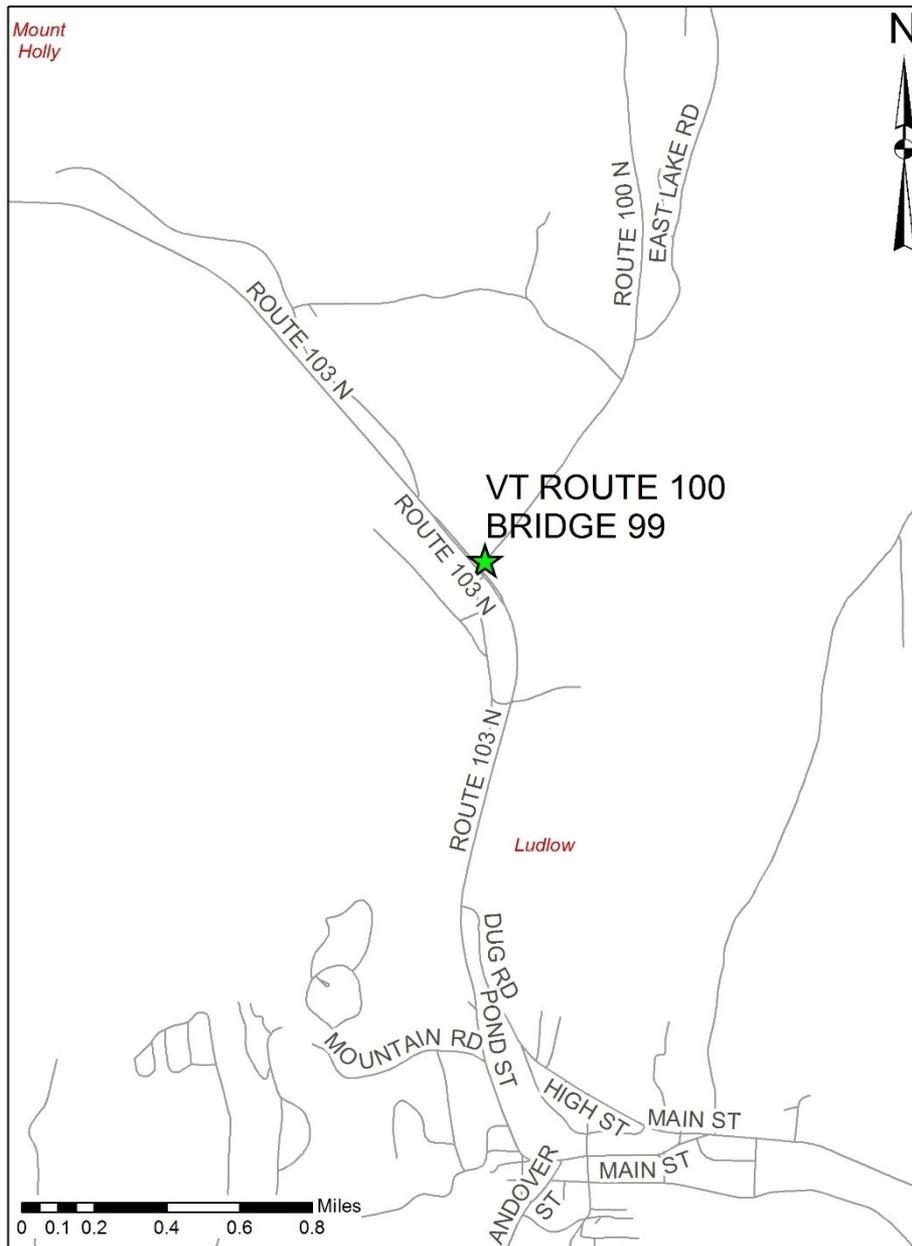
CLD Design Consultant



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

Project Location



son Gore Inn

Ludlow Shipp & Copy Center

Harry's

Rd

Ranta Rd

Ranta Rd

Ranta Rd

Branch Brook

Barton Dr

103

103

100

103

100

103

100

100

100

100

100

100

100

100

100

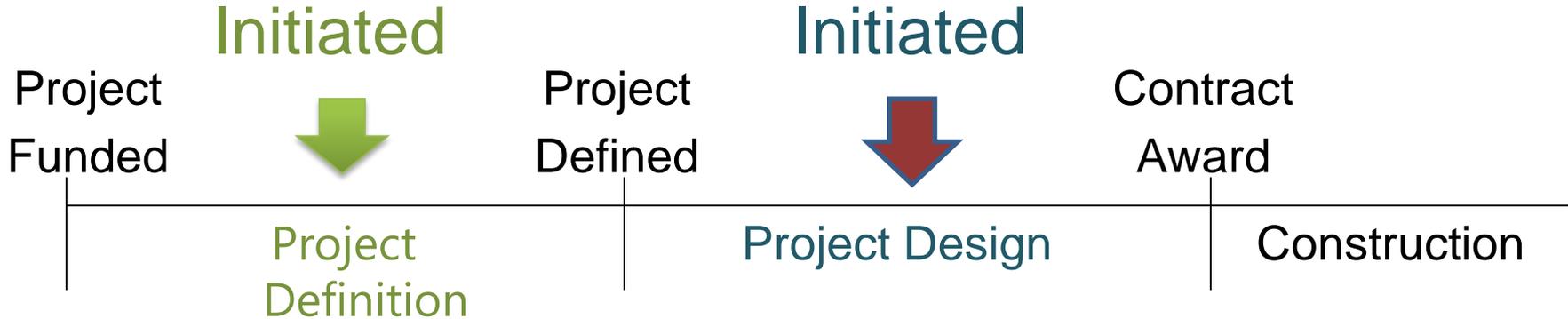
100

Meeting Overview

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



VTrans Project Development Process

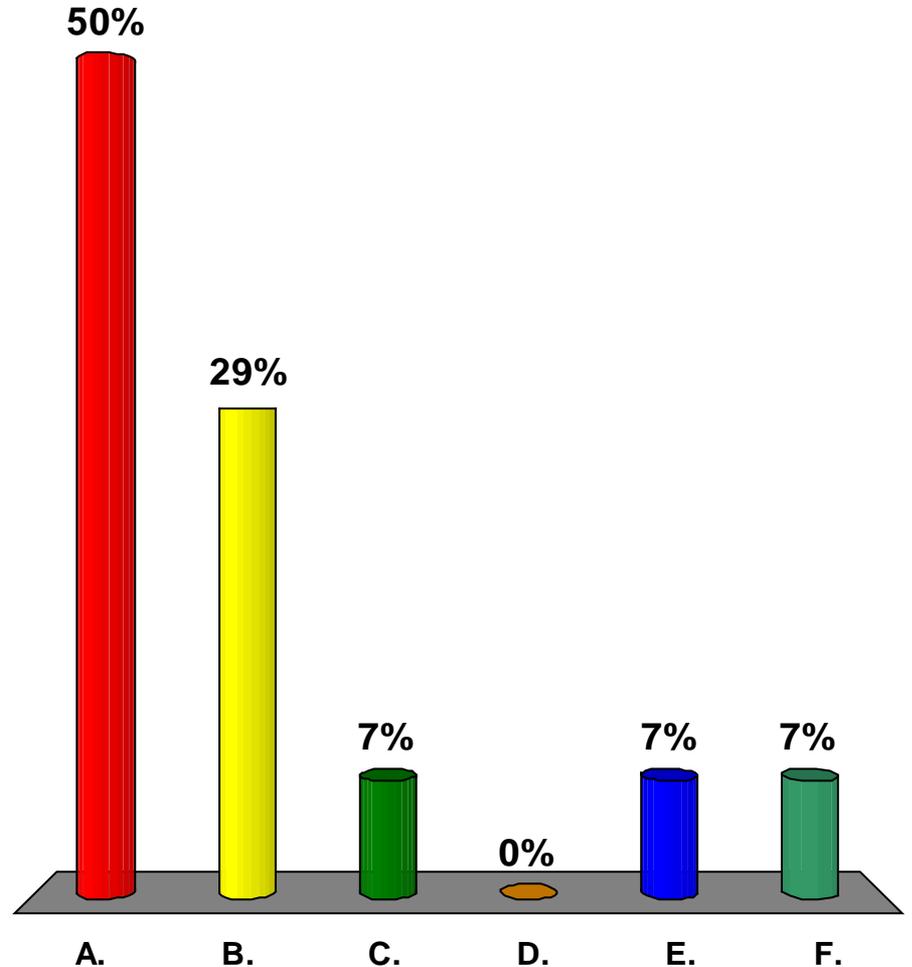


- Identify resources & constraints
- Evaluate alternatives
- Public participation
- Build Consensus

- Quantify areas of impact
- Environmental permits
- Develop plans, estimate and specifications

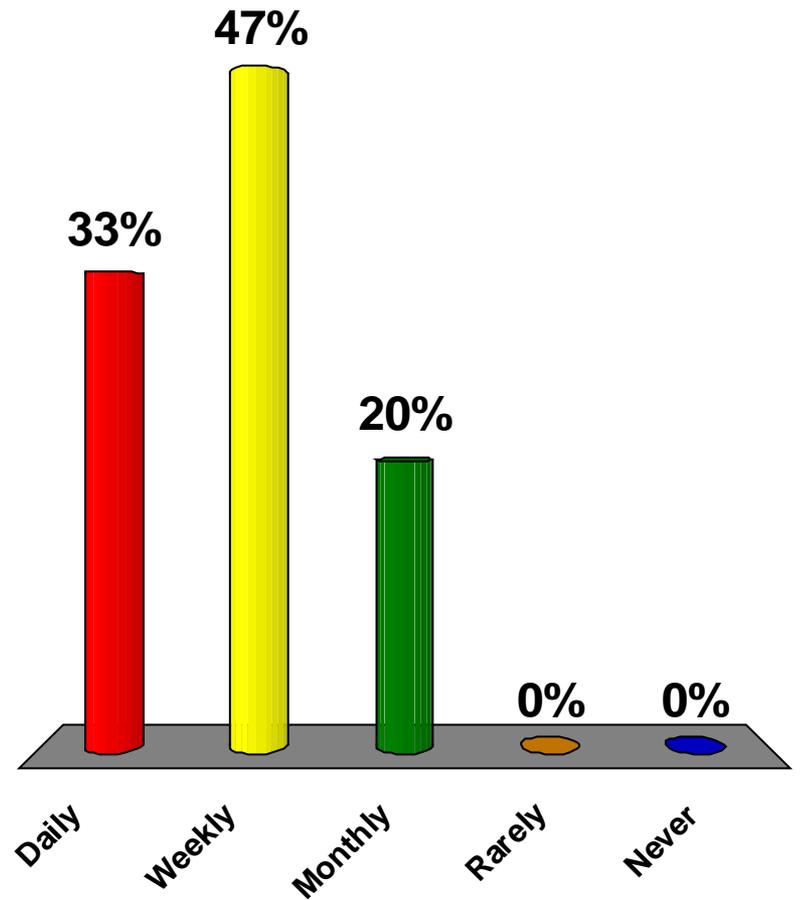
Who are you representing?

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



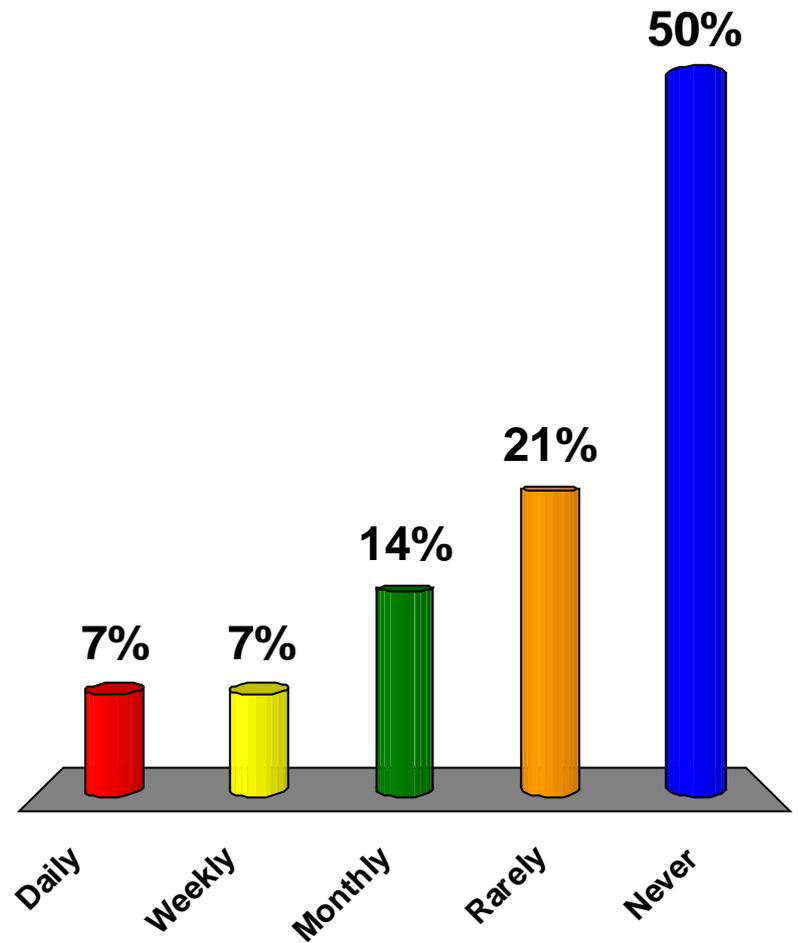
How often do you use this segment of VT 100?

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



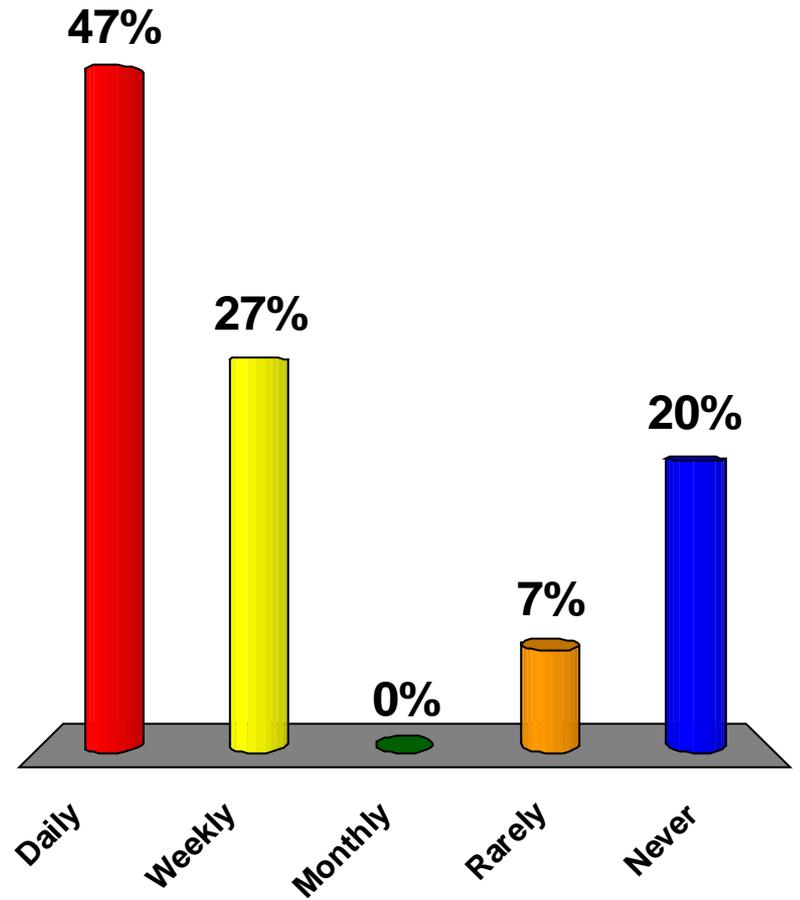
How often do you walk over the bridge?

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



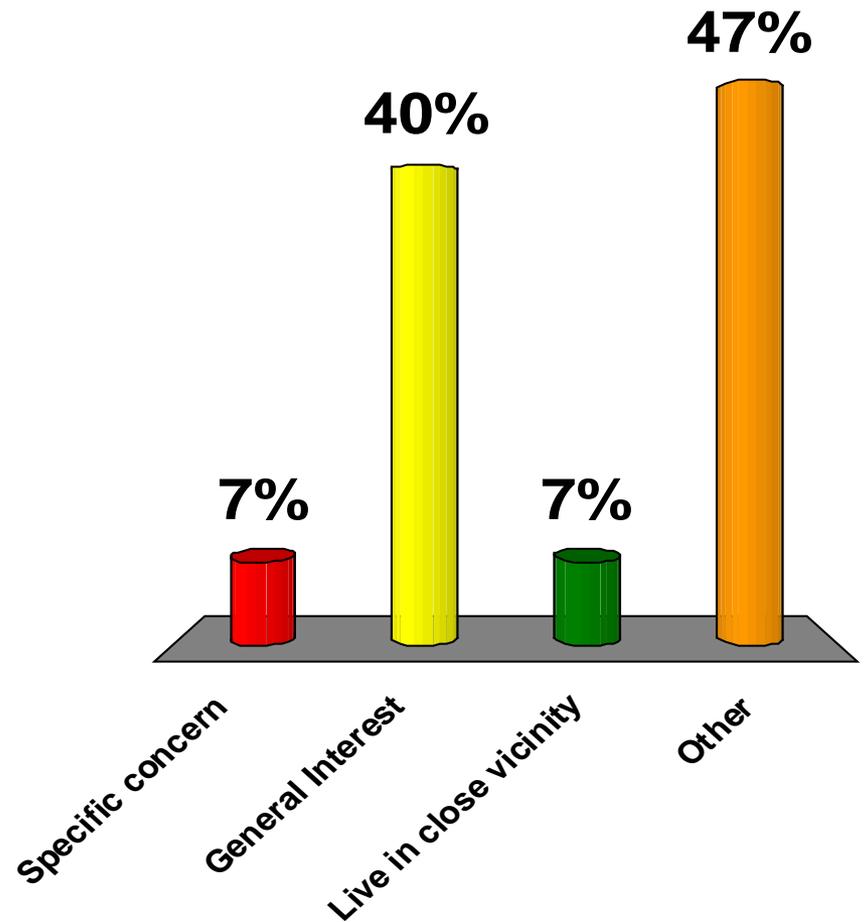
How often do you bike over the bridge?

- 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

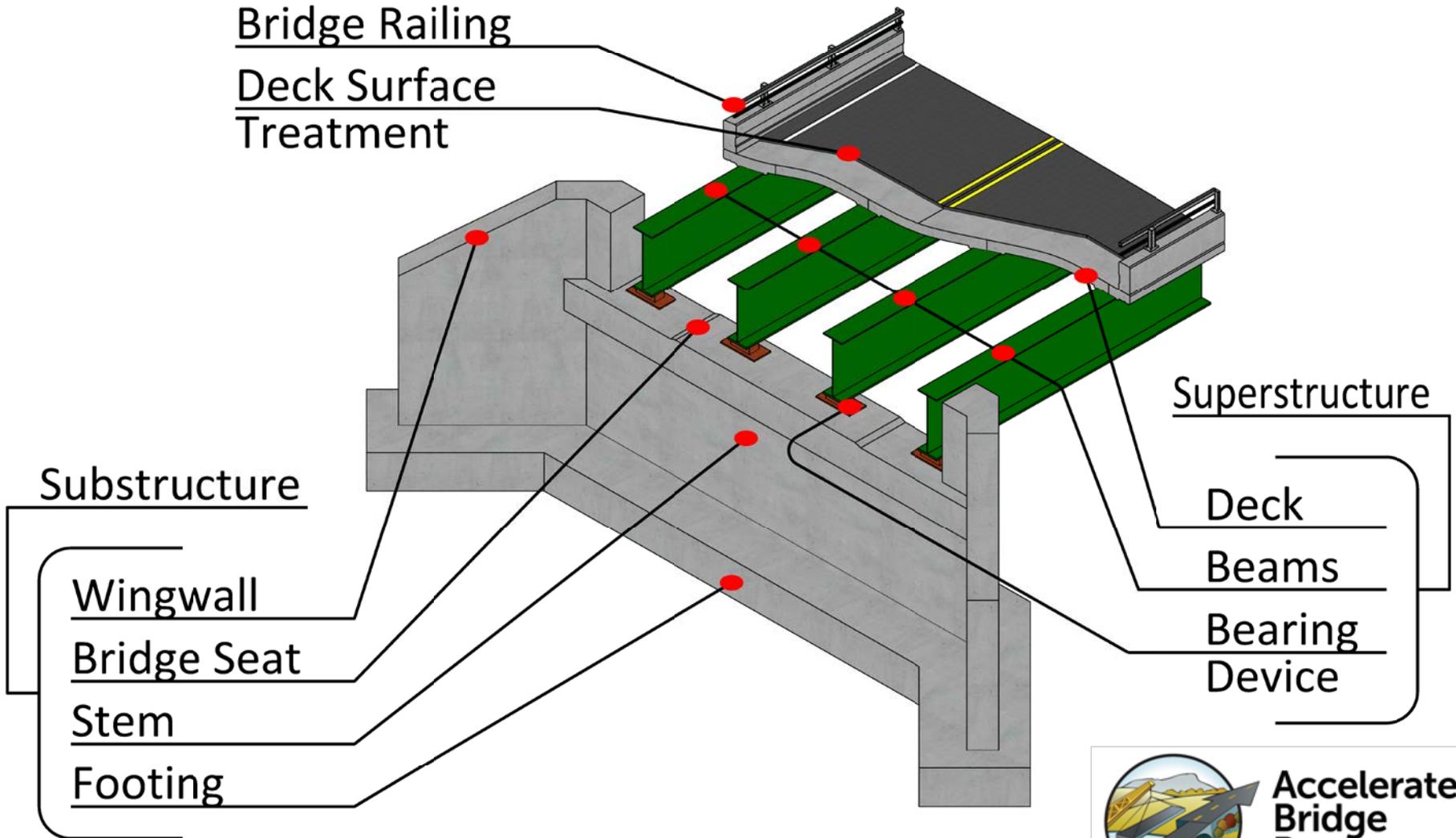


Project Overview

- Existing Conditions
- Alternatives Considered
- Recommended Alternative



Description of Terms Used



Looking Along VT 100



Existing Conditions – Bridge #99

- Roadway Classification – Minor Arterial
- Bridge Type – 82' Rolled Beam
- Constructed in 1966
- Ownership – State of Vermont

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Existing Conditions – Bridge #99

- Concrete deck has begun to delaminate

Cracks, Spalls, and Delamination

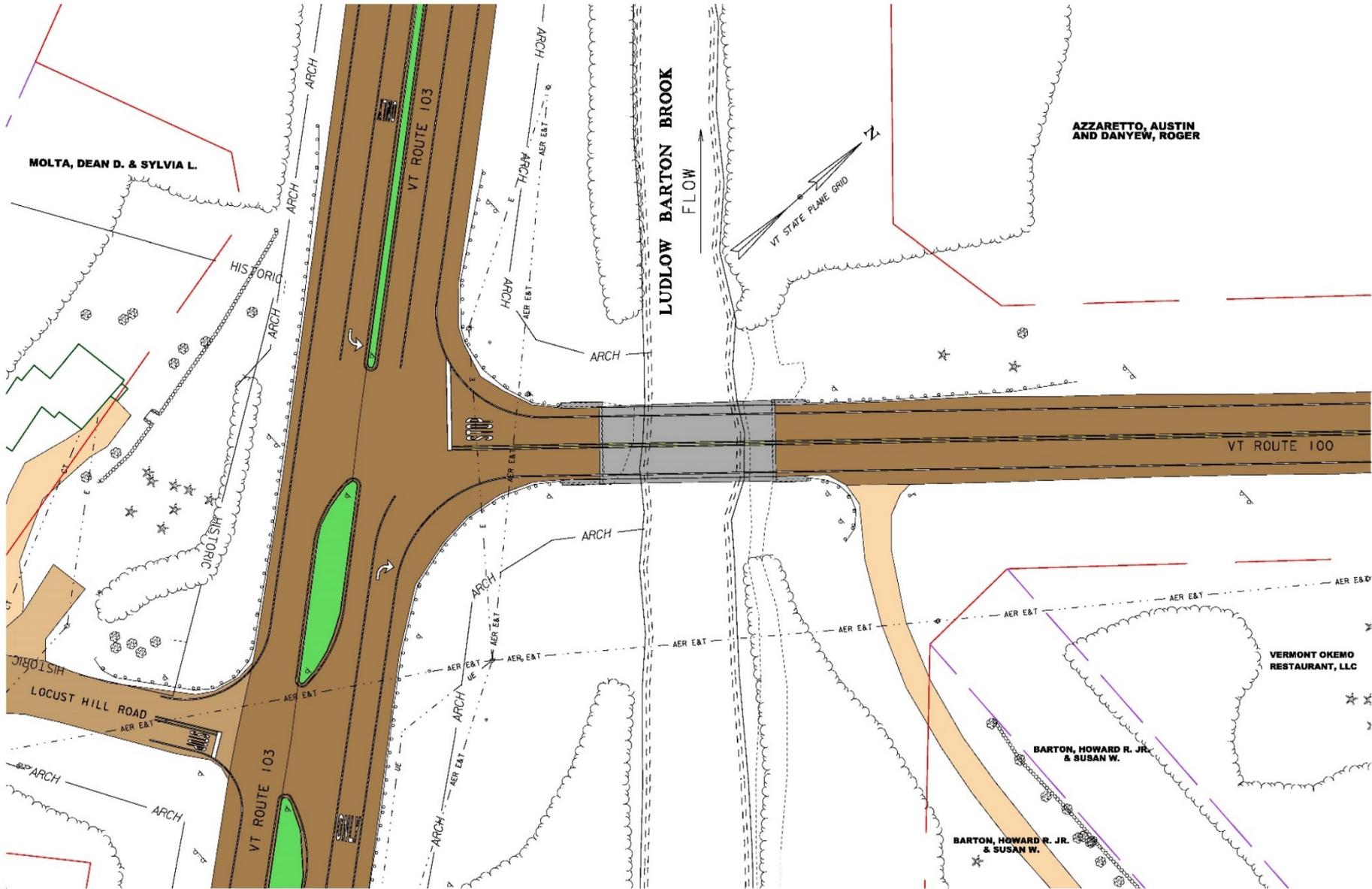


Existing Conditions - Bridge #99

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

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Existing Conditions



Design Criteria and Considerations

- Truck Turning Movements/Limitations
- Design Speed of 40 mph (Stop Condition)
- Access to local businesses throughout construction

TRAFFIC DATA	2017	2027	2037
AADT	3000	3200	~
DHV	430	460	~
ADTT	210	310	~
%T	6.8	9.1	~
%D	52	52	~
FLEXIBLE ESAL	~	2017 ~ 2027 450,000	2017 ~ 2037 1,081,000

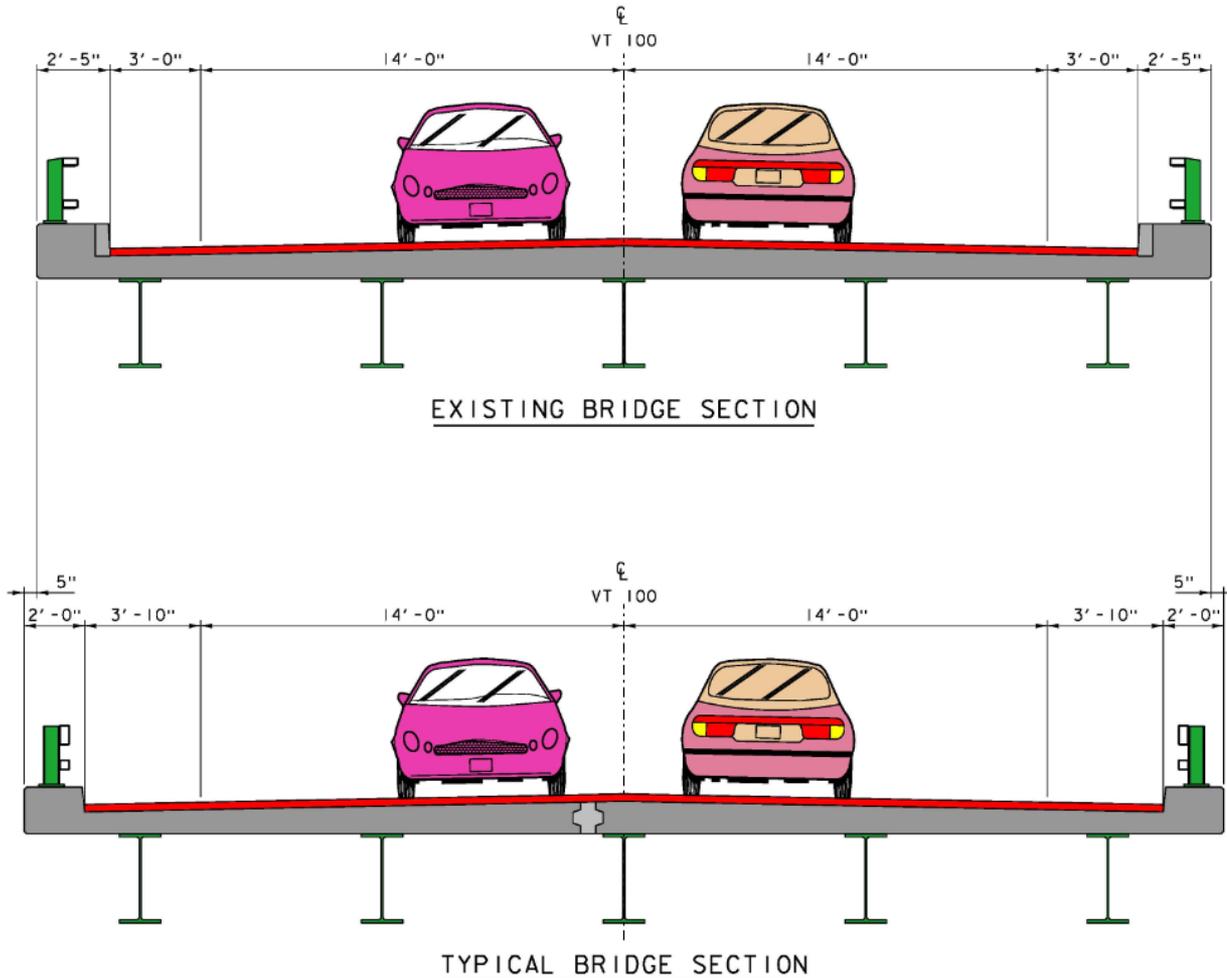
Alternatives Considered – Bridge #99

- No Action
 - Additional maintenance required within 10 years
- Deck Patching
 - Least-up front cost
- Full Deck Replacement
 - Longest service life



Proposed Typical Section (Looking Toward VT-103)

- Proposed Curb to Curb = 35'-8" (Existing is 34')
- Proposed Fascia to Fascia = 39'-8" (Existing is 38'-10")



Recommended Alternative - Bridge #99

- Deck Replacement
 - Replace Deck with precast concrete deck panels
 - Increase bridge width (10 inches)



Maintenance of Traffic Options Considered

- Short Term Road Closure w/ Offsite Detour
 - Signed by State
 - Passenger car/pedestrian route: 2.5 miles end-to-end
 - Regional truck detour route: 53.5 miles end-to-end
 - Truck through traffic:
- Phased Construction
 - 1-Way alternating Traffic maintained by phasing with no pedestrian access
- Temporary Bridge
 - Not considered since it isn't economical for maintenance projects



A photograph of a road closure barrier. The barrier consists of several horizontal white panels with red diagonal stripes. In the center, a white rectangular sign with a black border and black text reads "ROAD CLOSED". The sign is mounted on two white posts. The background shows a concrete barrier, a chain-link fence, and green trees under a clear blue sky.

**ROAD
CLOSED**

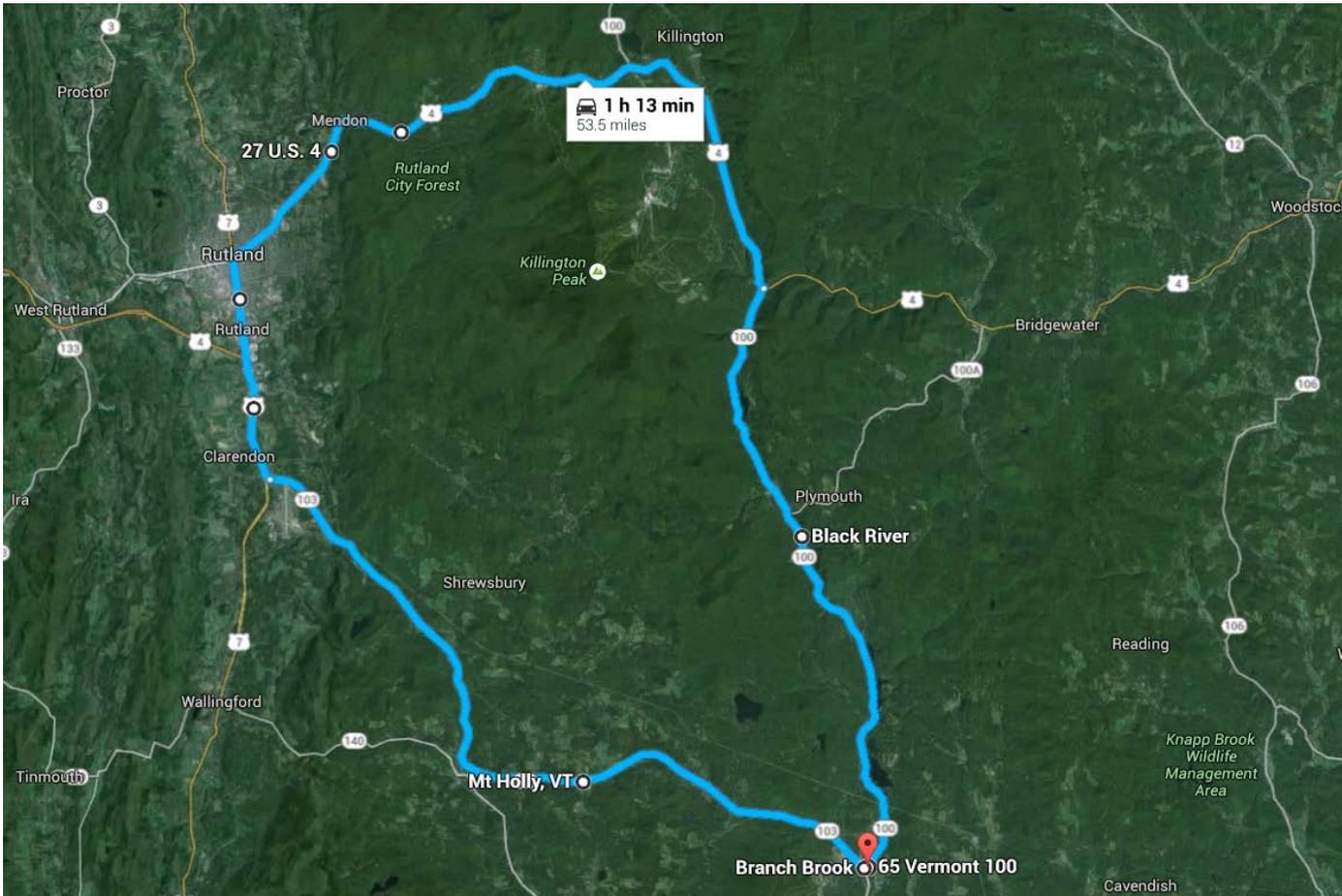
Road Closure

- Approx. 10 day bridge closure
- Detour route signed by State
- Shortest passenger car route available: 2.5 miles end-to-end

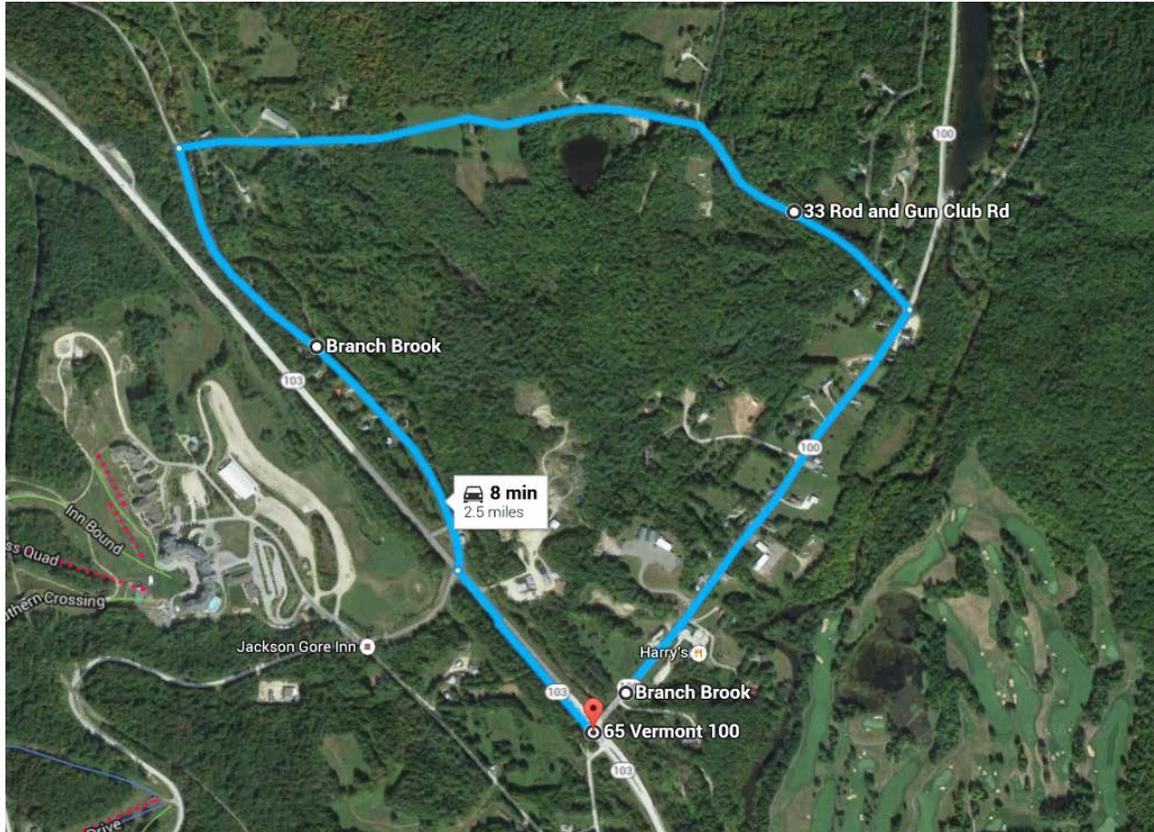
Regional Detour Route for Trucks

- VT 103, to US Route 7, to US Route 4, to VT 100

End-to-End: 53.5 Miles
Through: 33.7 Miles



Local Detour Route for Cars and Pedestrians



- VT 100, Rod and Gun Club Rd, to Buttermilk Falls Rd, to VT 103

End-to-End: 2.5 Miles

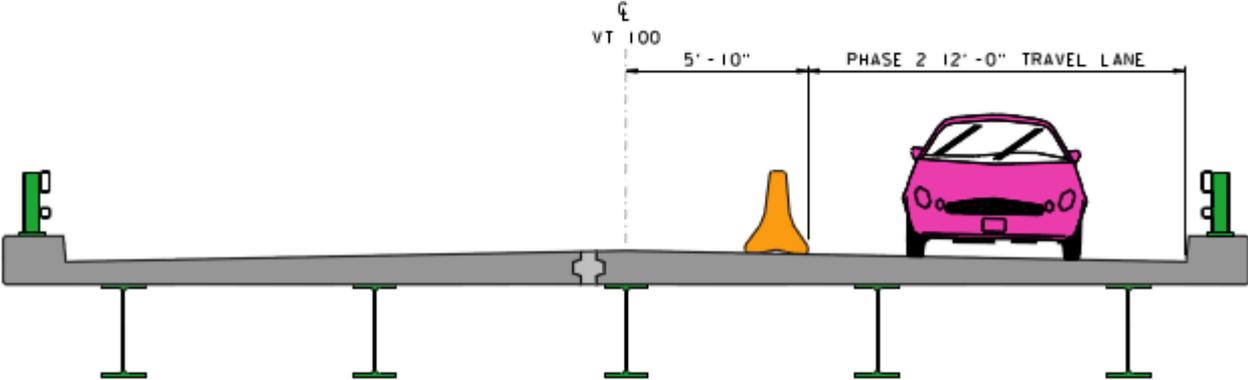
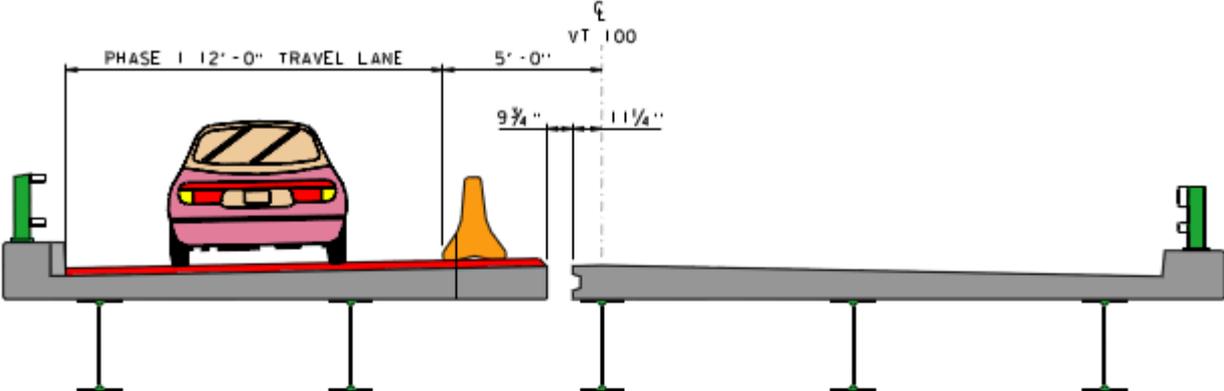




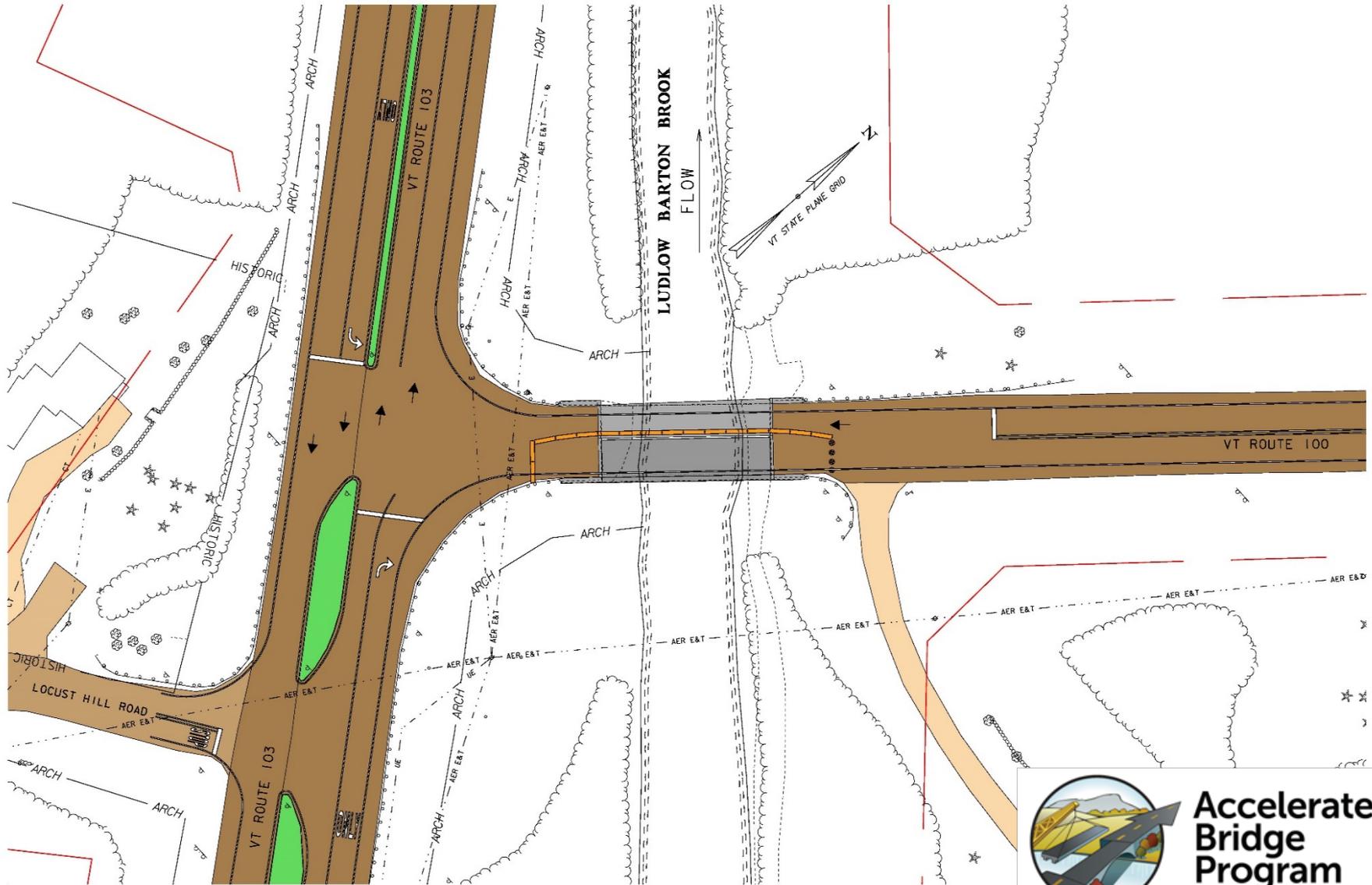
Phased Construction

- Alternating 1-way traffic
- Possible Truck Turn Around
- Bridge closed to pedestrians
- 12 weeks of construction
- Cycle length is approximately 2 min

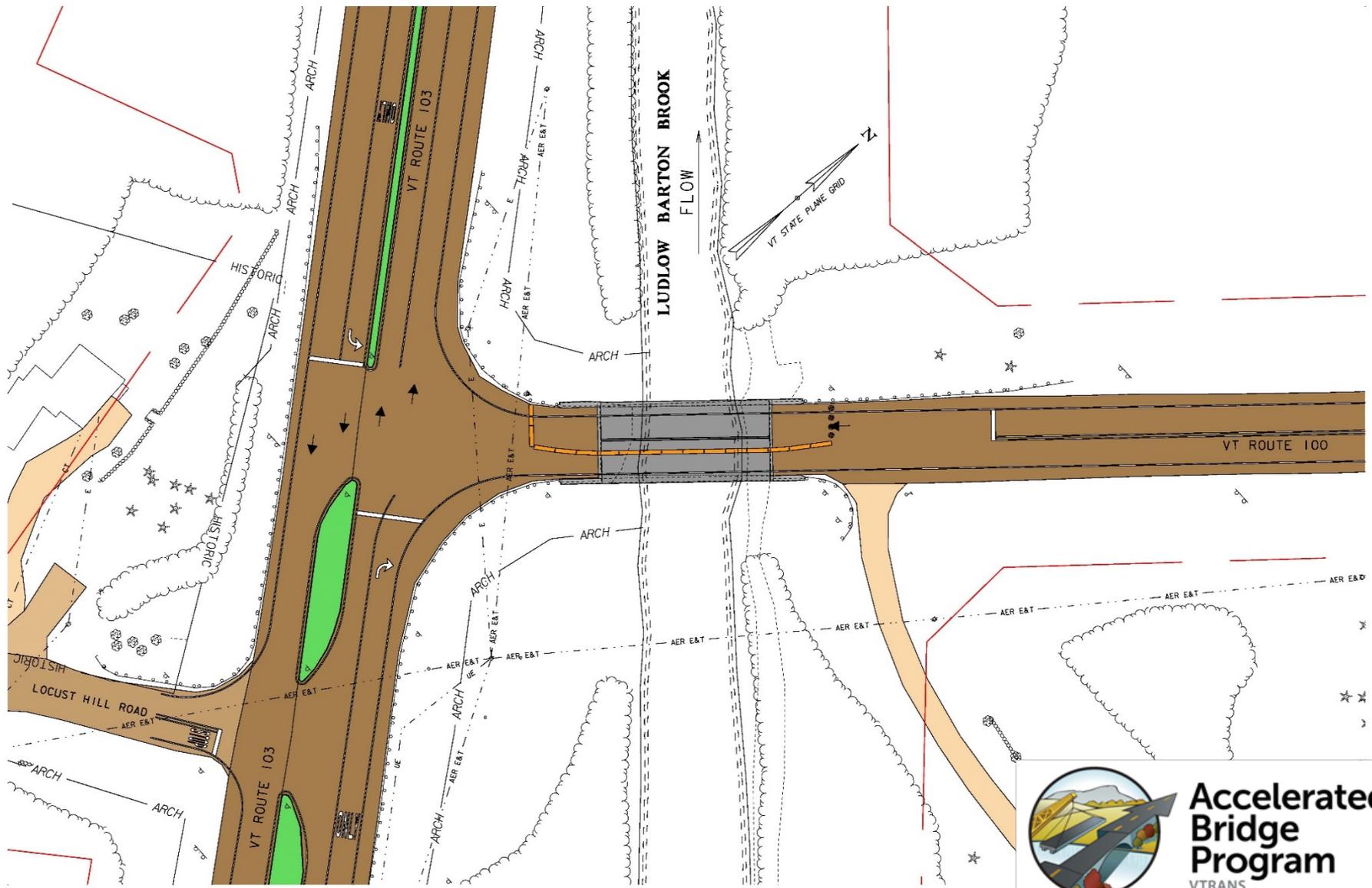
Phased Construction – Typical (Looking toward VT-103)

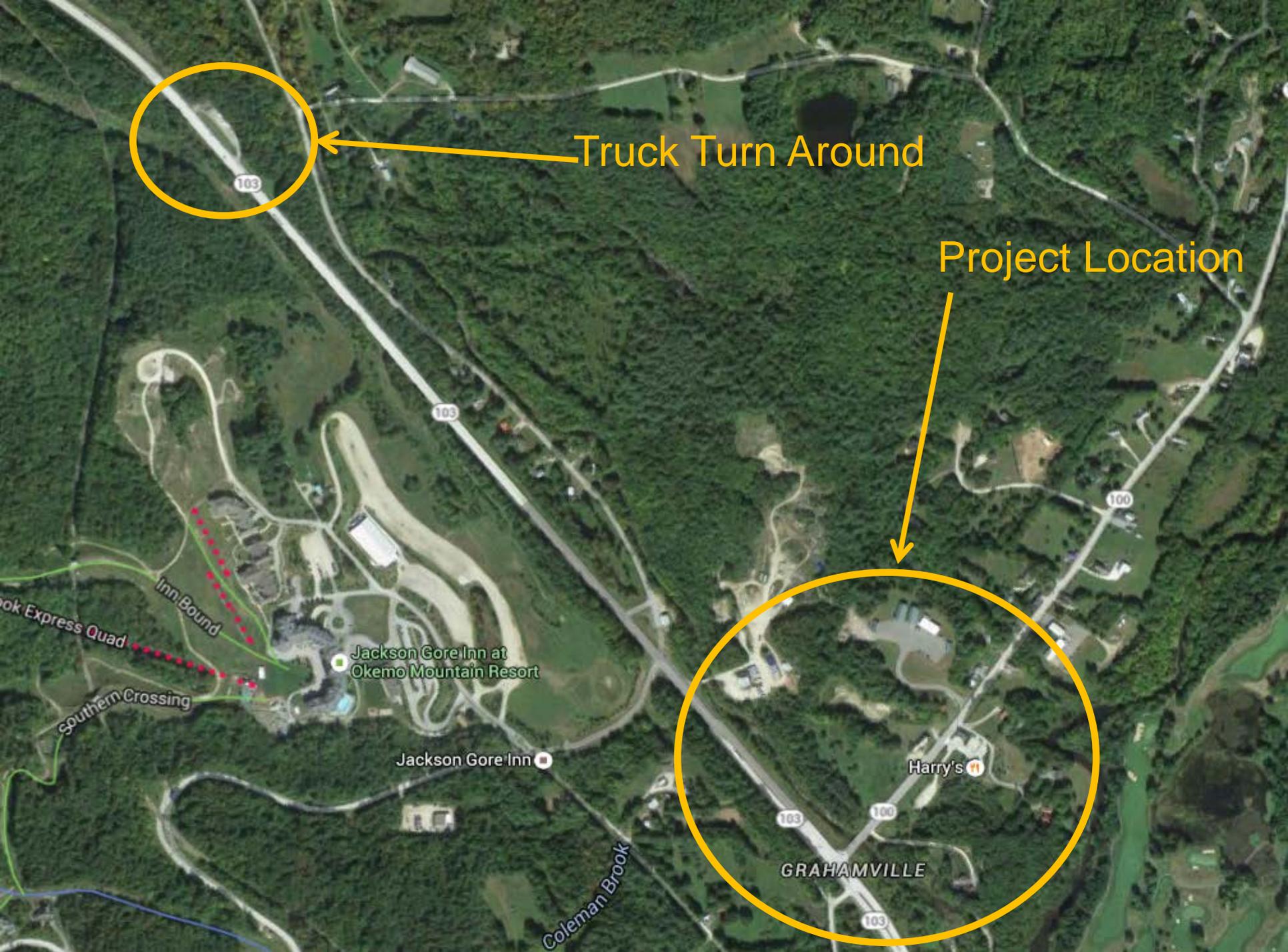


Phased Construction - Phase 1



Phased Construction - Phase 2





Truck Turn Around

Project Location

103

103

100

Jackson Gore Inn at
Okemo Mountain Resort

Jackson Gore Inn

Harry's

103

100

GRAHAMVILLE

103

Brook Express Quad

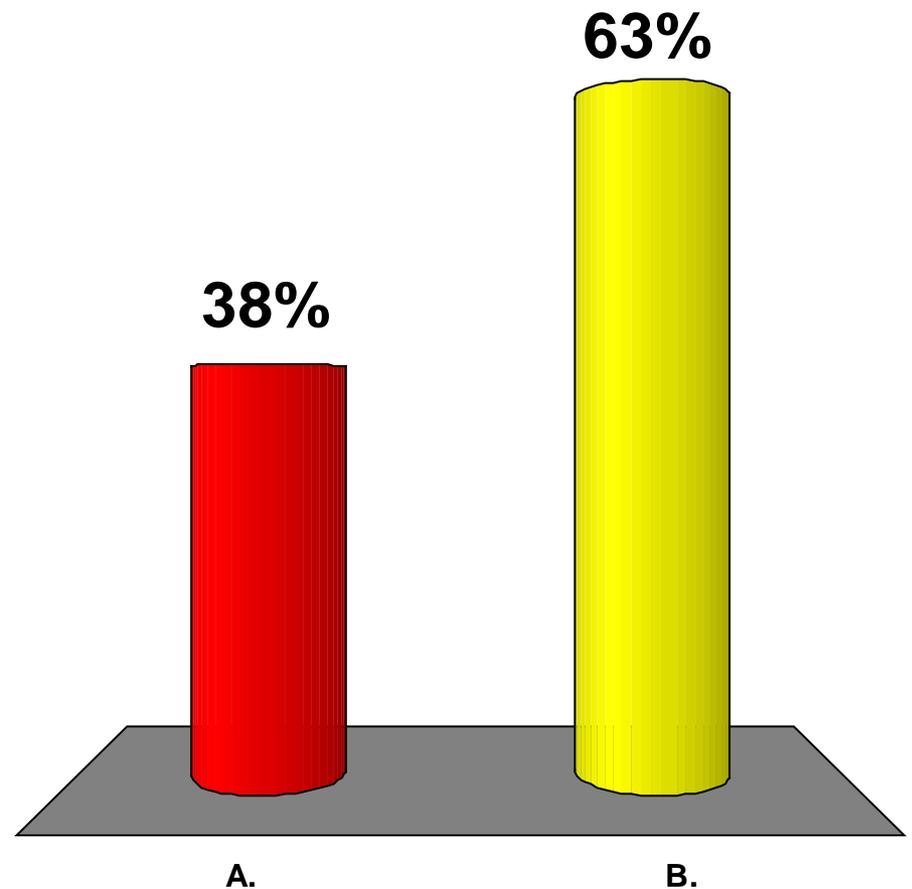
Inn Bound

Southern Crossing

Coleman Brook

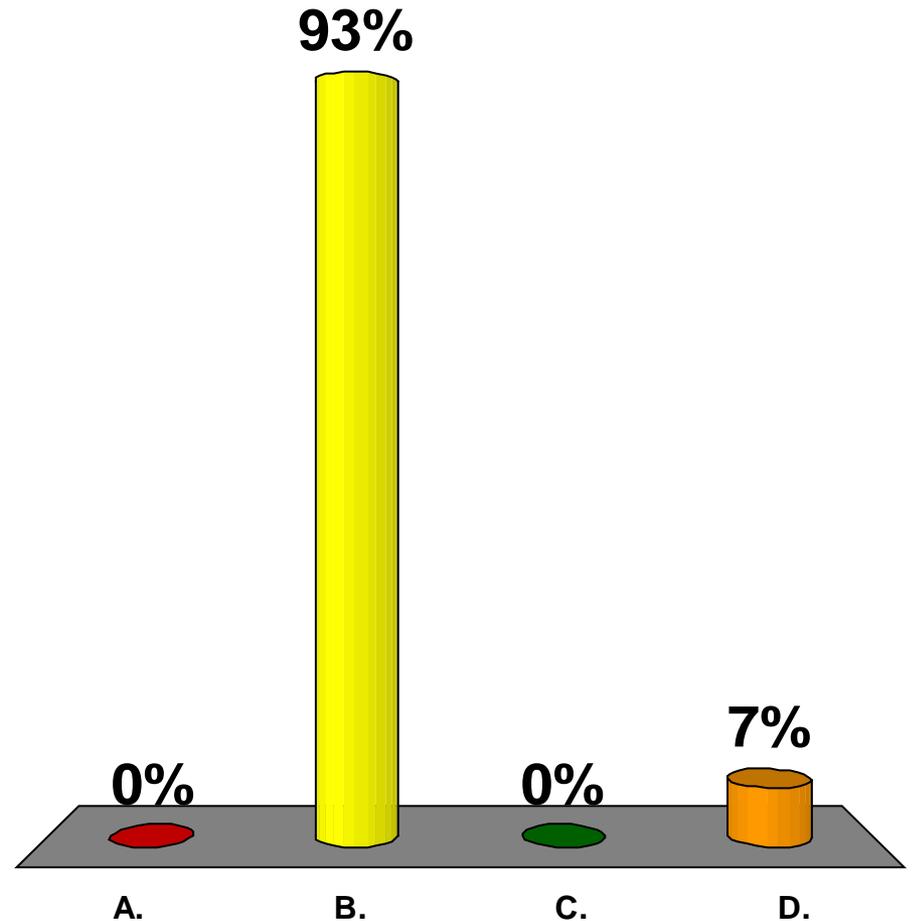
Which maintenance of traffic option do you prefer?

- A. Phased Construction
- B. Closure



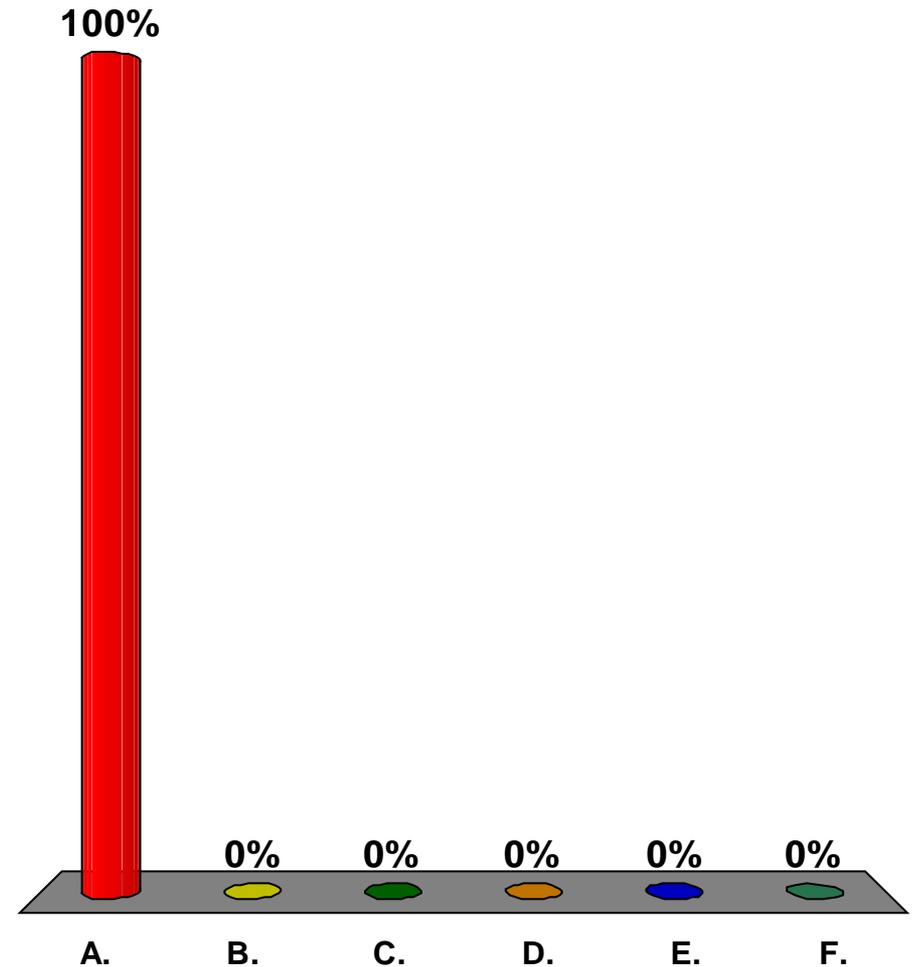
What would be the maximum acceptable length of closure for Bridge #99?

- A. 5 Days
- B. 10 Days
- C. 2 weeks
- D. Not Acceptable



Which time of year would be most acceptable for Bridge #99 to be constructed?

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



Recommended Scope

- Deck replacement with new precast panels with traffic maintained onsite with phased construction
 - Increase width 10"
 - Summer 2017 or 2018



Alternatives Matrix

Recommended



	Alt 1	Alt 2	Alt 3
Montgomery STP DECK (40)	Do Nothing	Deck Patching	Deck Replacement
	N/A	Phased Construction	Phased Construction
Total Project Costs (Including Engineering and Contingencies)	\$0	N/A	\$948,900
Town Share	N/A	N/A	N/A
Project Development Duration	0	N/A	2 year
Construction Duration	0	N/A	4 months
Closure Duration (If Applicable)	N/A	N/A	N/A
Geometric Design Criteria	No Change	No Change	No Change
Alignment Change	No	No	No
Utilities	No Change	No Change	No Change
ROW Acquisition	No	No	No
Design Life	Less than 10 Years	N/A	30-40 Years

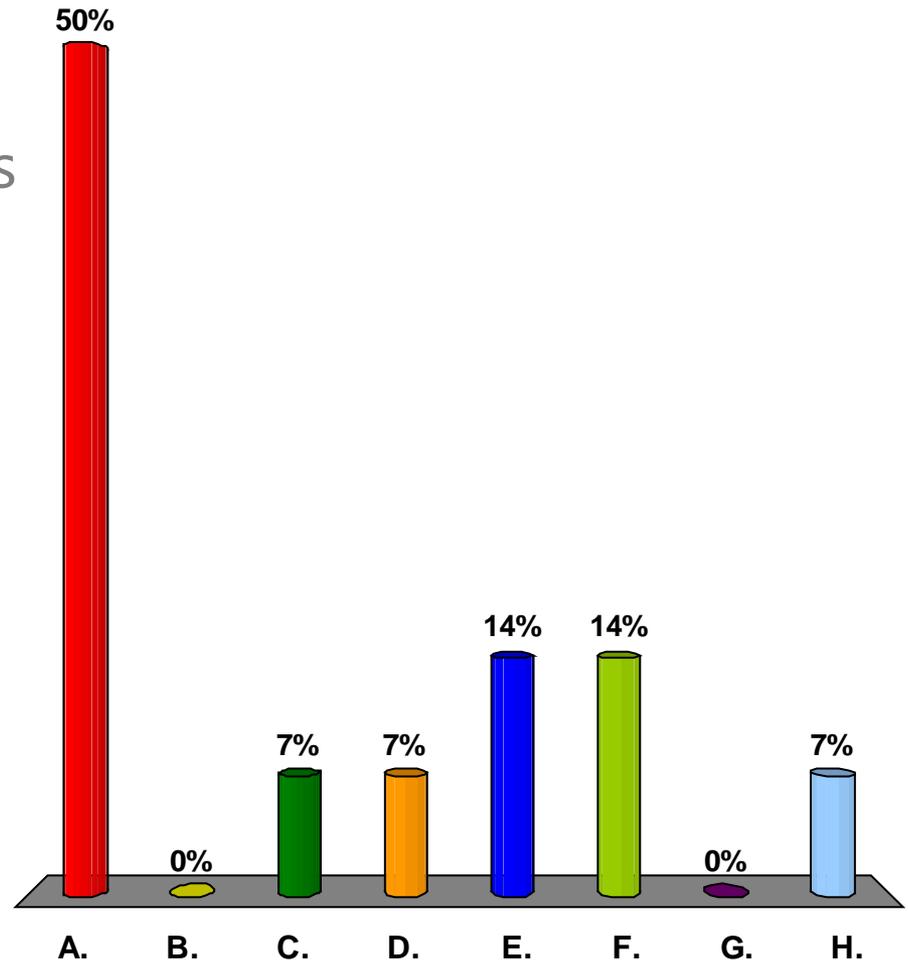
Additional Considerations

- Coordinate with intersection and downtown closure projects
- Intersection scope
- Intersection Duration
- Intersection traffic impacts
- Mike Lacroix for contact info



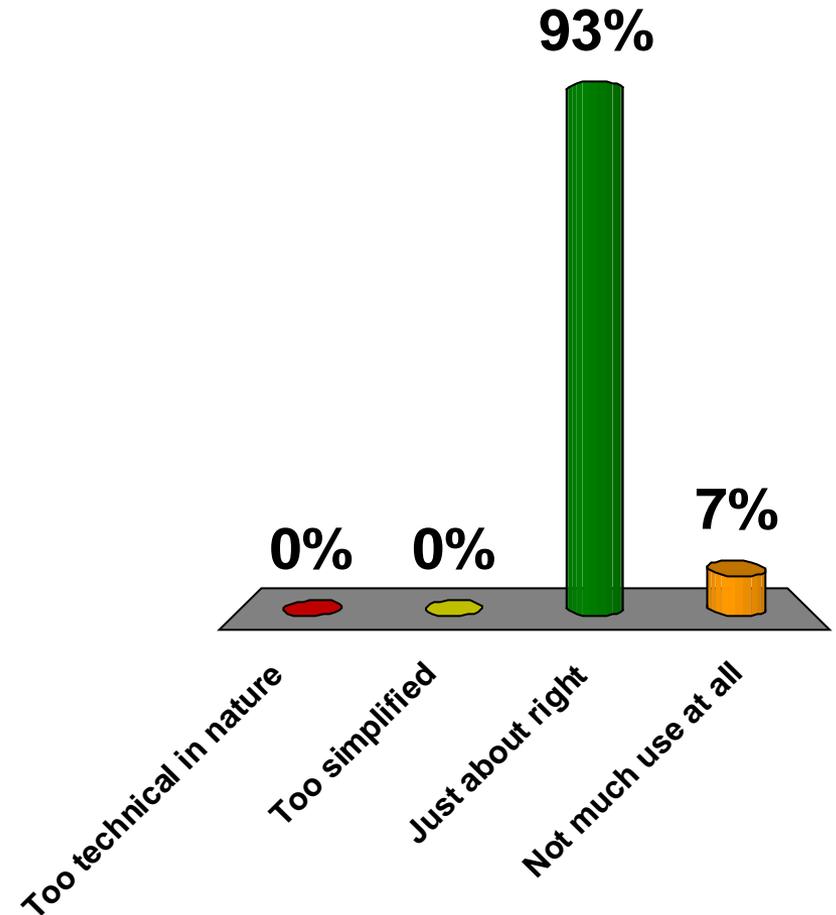
Which would you be most concerned about?

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



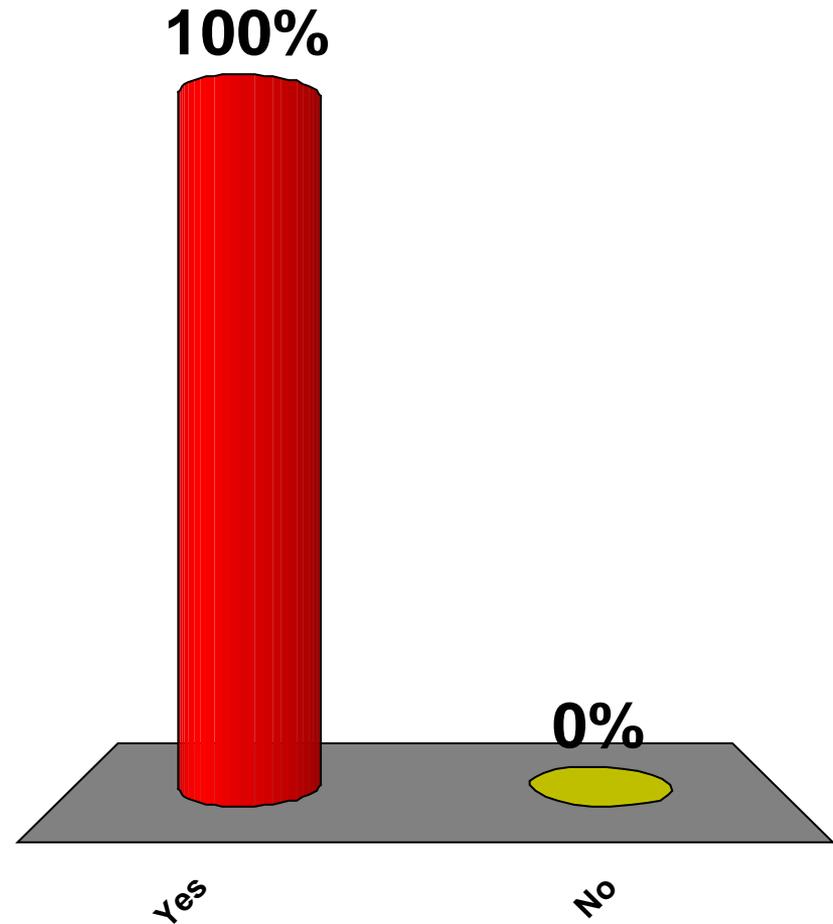
Did you find this presentation to be?

- 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



For more information:

- <https://outside.vermont.gov/agency/vtrans/external/Projects/Structures/15b109>



Ludlow STP DECK (39) Questions & Comments VT 100 – Bridge #99 over Branch Brook

April 4, 2016



REMOVE CURB (COMMON EXCAVATION)
 STA 264+05.99 RT - 264+39.53 RT
 STA 264+97.74 RT - 265+32.07 RT
 STA 265+43.29 RT - 265+43.67 RT
 SEE TYPICAL SECTIONS

PAINTED CURB
 STA 264+05.99 RT - 264+39.51 RT
 STA 264+97.74 RT - 265+32.07 RT
 STA 265+43.30 RT - 265+43.67 RT

TRAFFIC CONTROL SIGNAL SYSTEM
 SEE TRAFFIC SIGNAL PLAN

STEEL BEAM GUARDRAIL, GALV.
 STA D 2+85.00, RT - STA D 5+48.00

ANCHOR FOR STEEL BEAM RAIL
 STA. 30+48.50, RT - STA. 30+83.50
 STA. 30+98.50, RT - STA. 31+39.00

REMOVAL AND DISPOSAL OF GUTTER
 STA. 264+94.19 - 265+09.63, LT
 STA. 265+35.67 - 266+32.29, RT

ELECTRIC DEMOLITION (SPECIAL)
 STA XXX+XX XX, LT (SEE TR)

END COLD PLANE
 BEGIN F
 LOCUST H

END COLD PLANE
 VT RTE 103 STA 2

REMOVE PAVED AREA
 EXCAVATION OF SURFACES AND PAVEMENTS

DO NOT DISTURB
 STONE WALL

EXISTING R.O.W.

STA 263+50.00

REMOVE PAVED AREA
 EXCAVATION OF SURFACES AND PAVEMENTS

264+00

265+00

VT ROUTE 103

266+00

267+00

268+00

REMOVE LIGHT, UTILITY POLE, GUY
 AND TERMINATE AND CAP ELECTRICAL SIGNAL
 (PAID UNDER ITEM 900.645 ELECTRIC DEMOLITION)

VT RTE 103 STA 266+10.46 =
 VT RTE 100 STA 29+97.86
 LOCUST HILL RD STA 29+97.86

BEGIN LUDLOW HES SGNL (44)
 BEGIN APPROACH
 BEGIN COLD PLANE
 VT RTE 103 STA 263+75.00

APPROACH SLAB
 BRIDGE ABUTMENT

END COLD PLANE
 LIMIT OF WORK
 VT RTE 100 STA 28+85.82

LUDLOW - BAR

- 1 STA 30+46.13, 22.79 RT - STA 30+81.26, 34.36 LT
 INSTALL NEW 6" X 18" CPEP(SL)
 INV IN = 1020.56', INV OUT = 1026.60'
 INSTALL NEW 8" X 4' STONE OUTLET
- 2 STA 31+26.67, 99' LT - STA 32+10, 103.90' LT
 CLEANING CULV. PIPE IN-PLACE 82" X 18" CGMP
 INSTALL NEW 8" X 4' STONE OUTLET
- 3 STA 31+94, 9.22' RT - STA 32+33, 47.22' LT
 CLEANING CULV. PIPE IN-PLACE 69" X 18" CGMP
 INSTALL NEW 8" X 4' STONE OUTLET