

Welcome to the Seven Bends State Park Access Study

Virtual Public Information Meeting



The meeting will begin at 5:30 PM

Seven Bends State Park Access Study

Virtual Public Information Meeting

August 17, 2021

5:30 PM – 6:30 PM

VDOT Project Manager

Adam Campbell

VDOT Staunton District

Consultant Team Project Manager

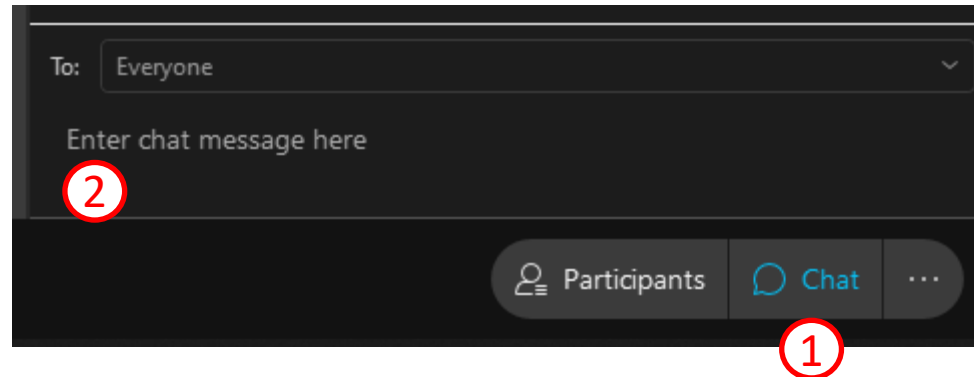
Zach Harris

Michael Baker International



Please submit your questions using the chat feature

- Step ①: Click on chat icon
- Step ②: Enter your question/comment in chat box

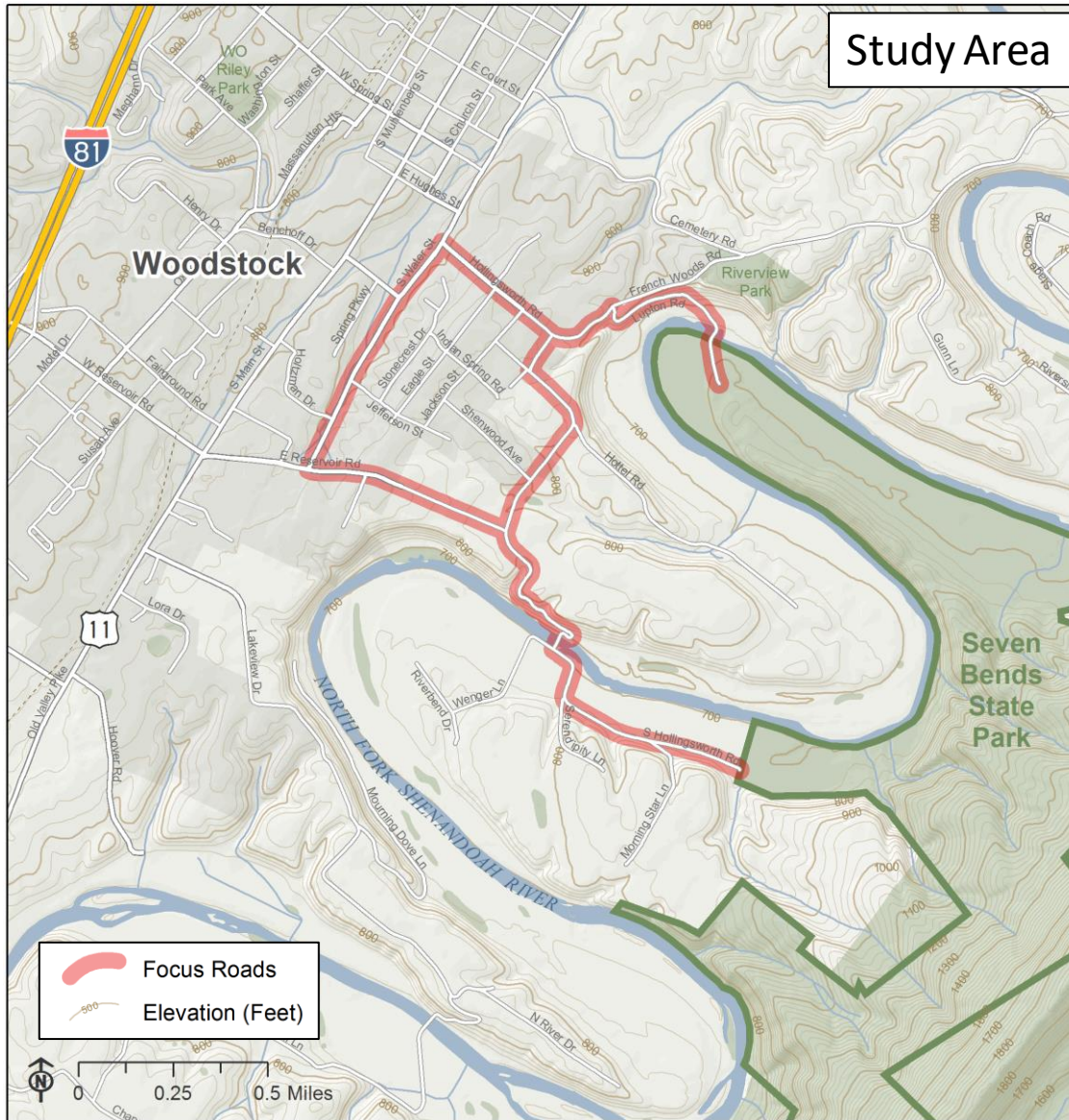


- Study Purpose and Scope of Work
- Existing Conditions & Preliminary Public Survey Results
- Preliminary and Preferred Alternatives
- Design Standards and Cost Estimates
- Future Traffic Conditions
- Potential Long-Term Connector Roadway
- Town of Woodstock Bike/Ped Plan
- Next Steps

- To provide DCR with the technical transportation alternatives access support
- Ensure local citizens can access residences safely
- Integrate intermediate and long-term park access options into DCR master plan

Stakeholder Working Group

- Shenandoah County
- Town of Woodstock
- The Virginia Department of Transportation
- The Virginia Department of Conservation and Recreation (DCR)
- Northern Shenandoah Valley Regional Commission (NSVRC)
- EMS providers
- Adjacent landowners and impacted landowners



Existing Traffic Conditions

- Traffic and Safety

Environmental Assessment

Topographical Assessment

Future Traffic Conditions

Preliminary Alternatives

Preferred Alternatives

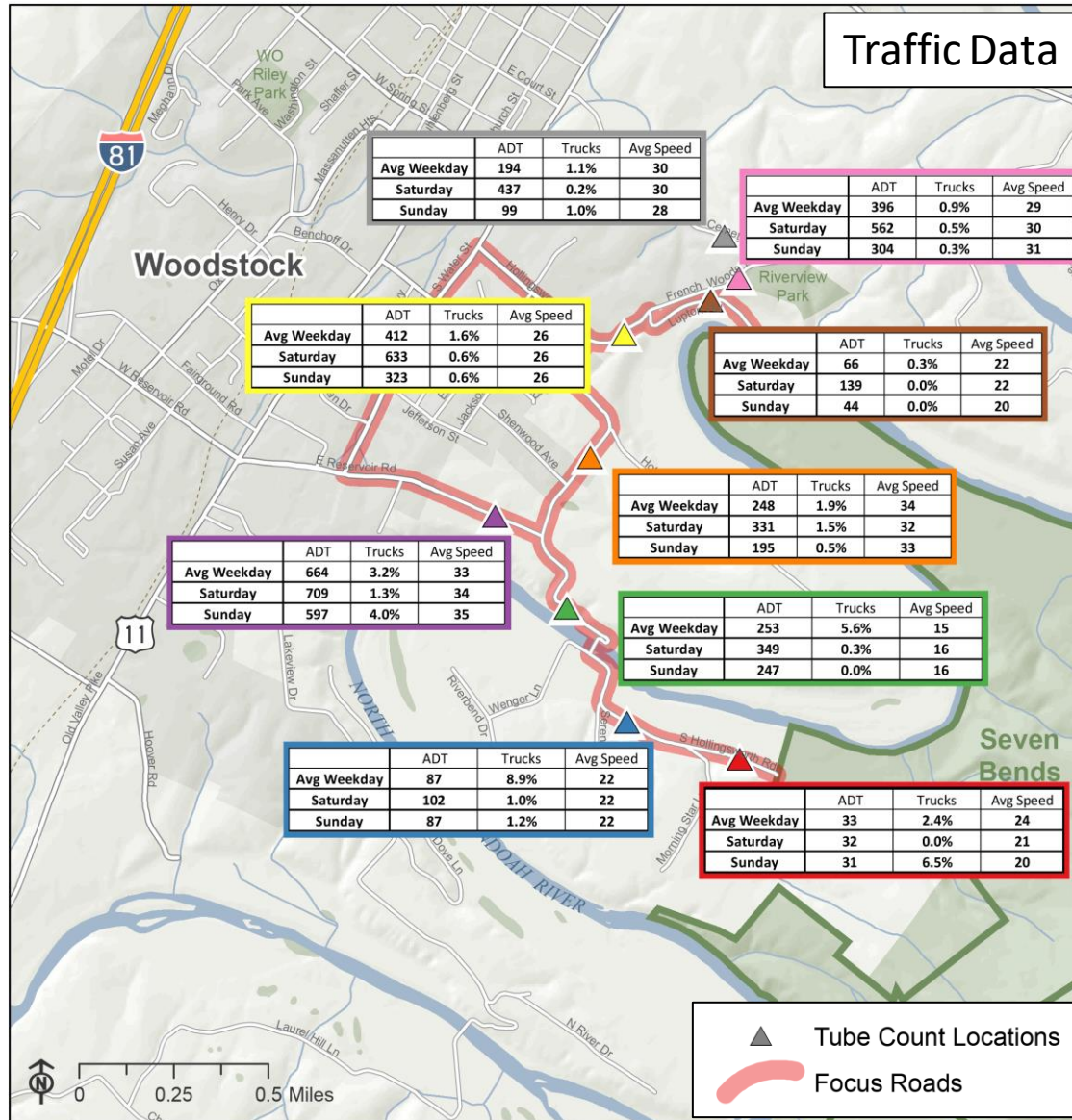
- Intermediate-term
- Long-term
- Cost Estimates

Poll Question #1

Why are you attending this virtual meeting on the Seven Bends State Park Access Study?

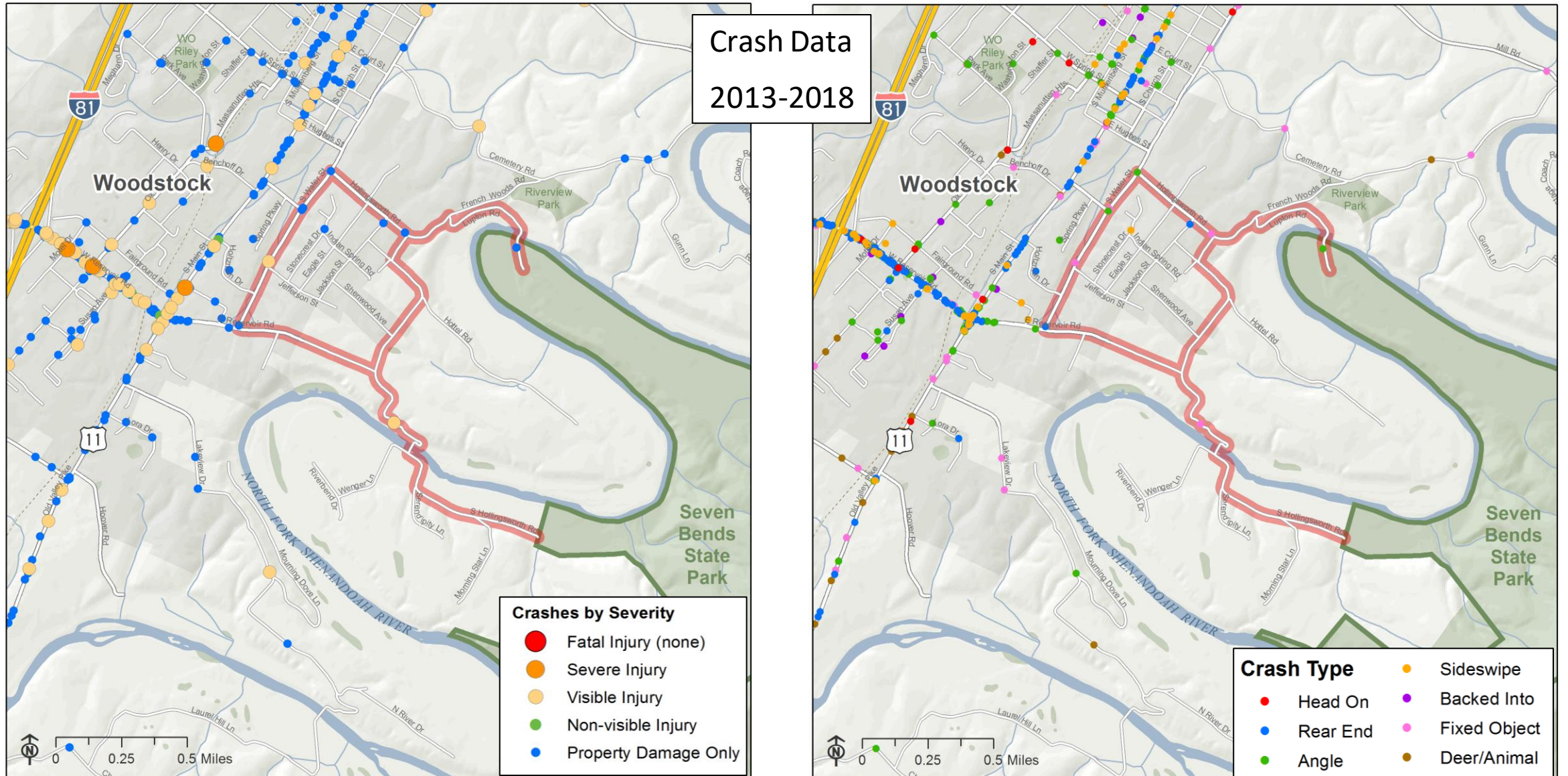
Poll Question #2

Do you experience any issues when traveling to Seven Bends State Park?

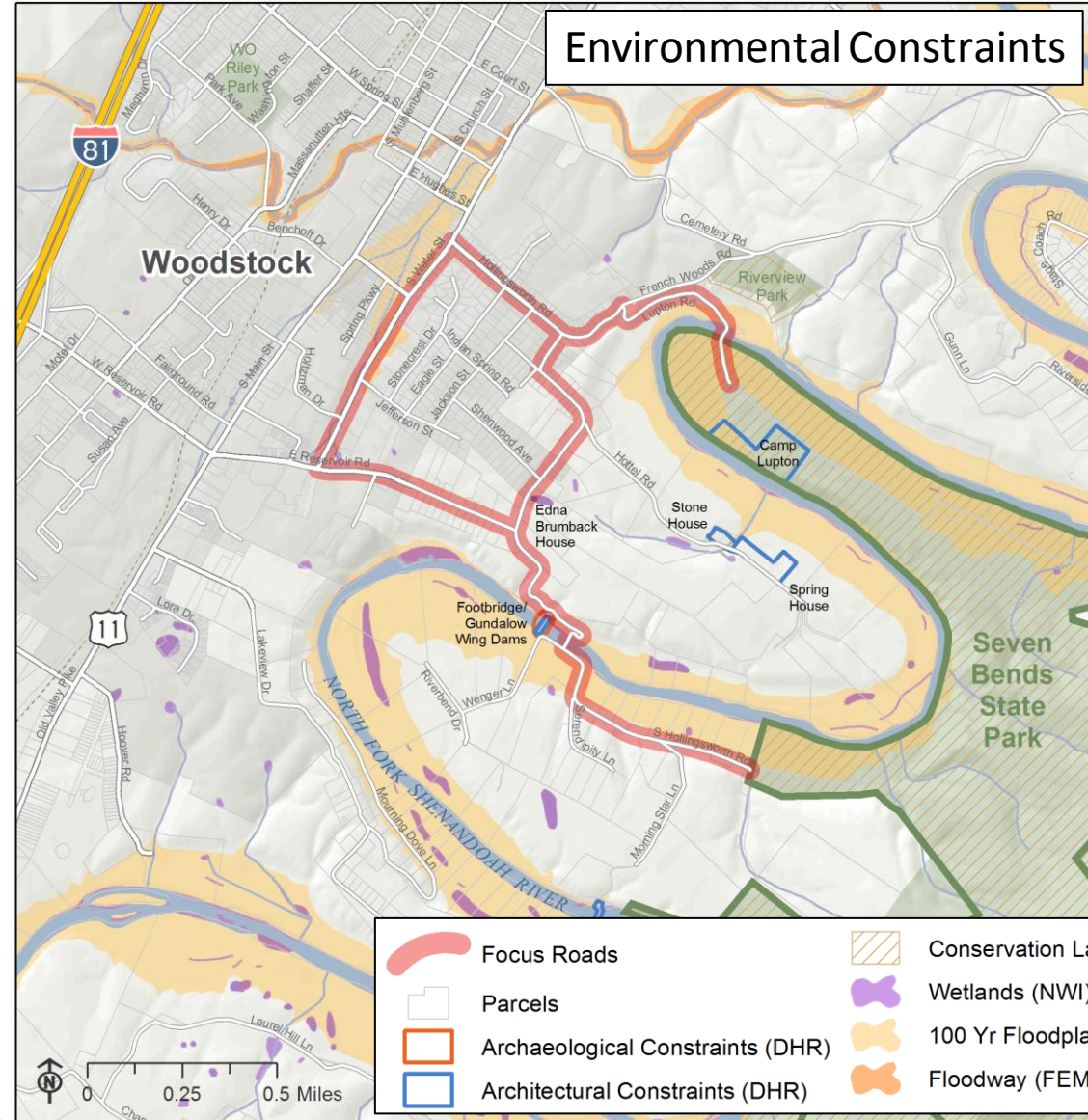
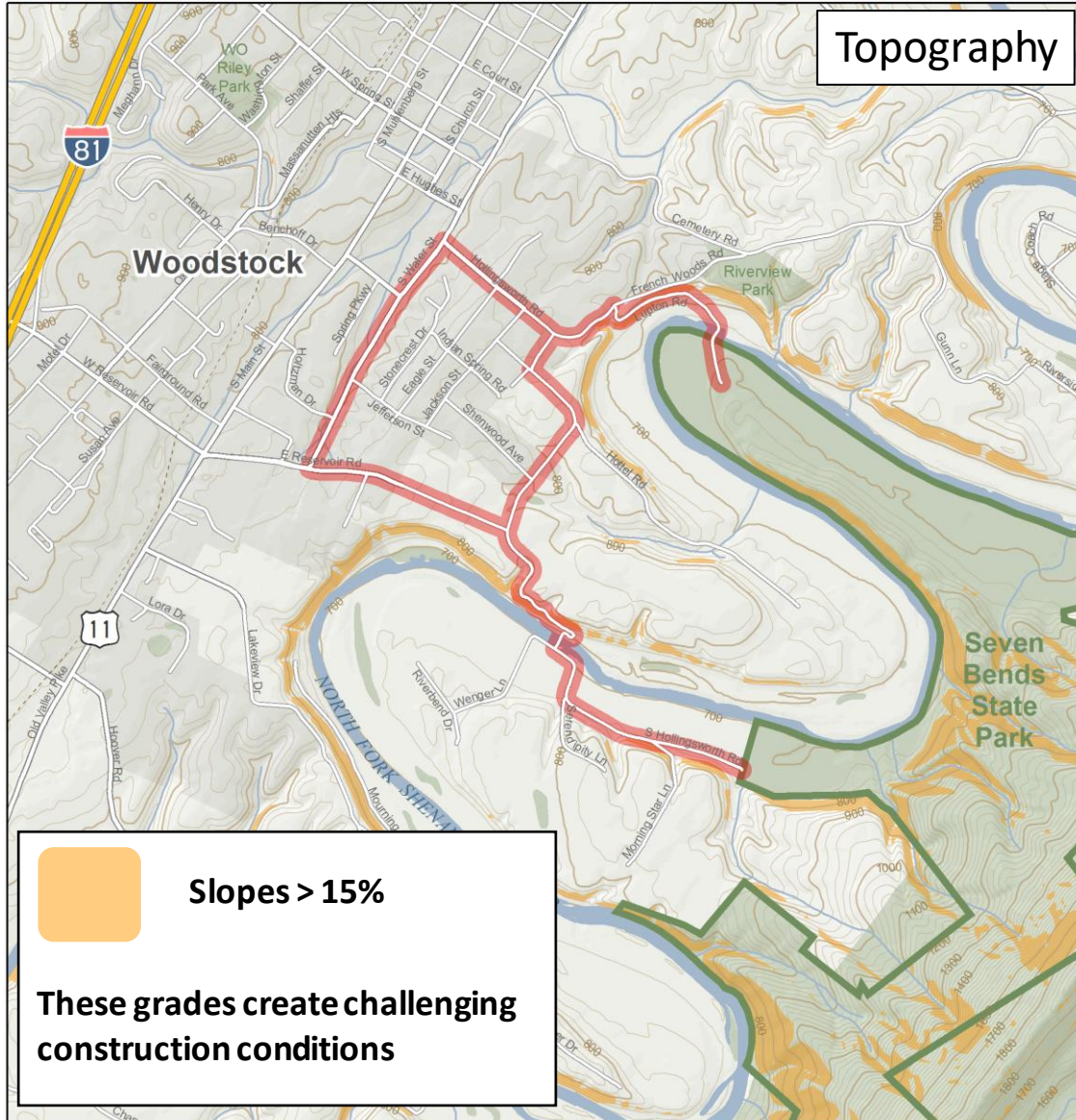


- Counts conducted for one week (June 7 – June 13, 2019)
- Saturday had highest traffic volumes
- In-line with park entrance counts from DCR

Existing Conditions – Crash Data



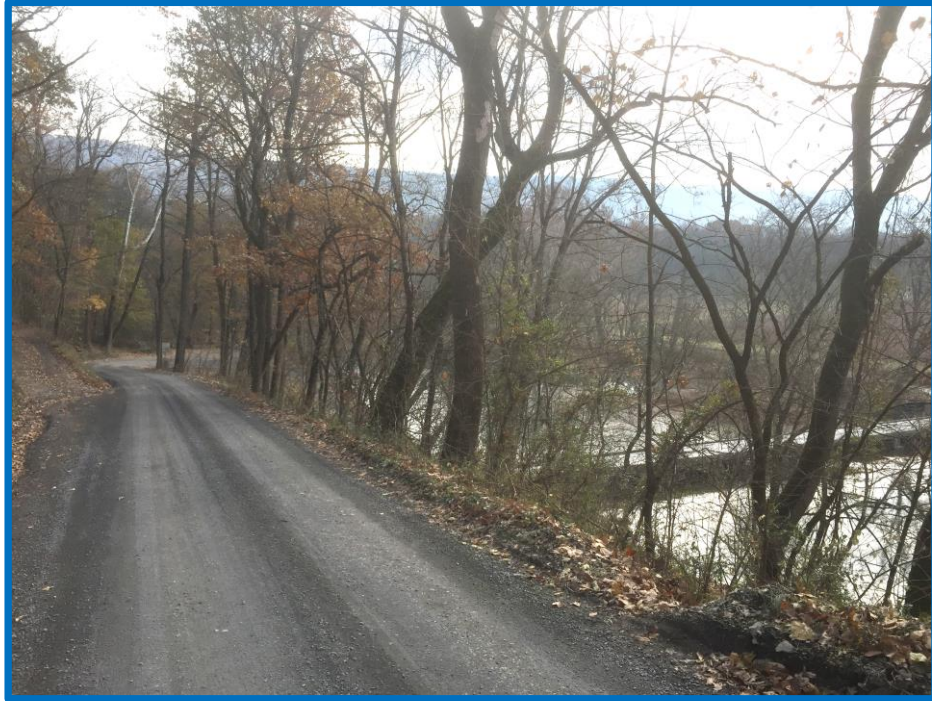
Existing Conditions – Constraints



Existing Conditions – S. Hollingsworth Road Access



Existing Conditions – S. Hollingsworth Road Access



115 Responses (November 2019 – February 2020)

Safety and Travel Time:

Safety, EMS response, and congestion

Rank = 1

Environmental Impacts:

Natural resource area impacts, stream impacts, cultural resource impacts, and protected species impacts

Rank = 2

Right-of-Way Impacts:

Residential and commercial private property impacts and impacts to utilities/easements

Rank = 3

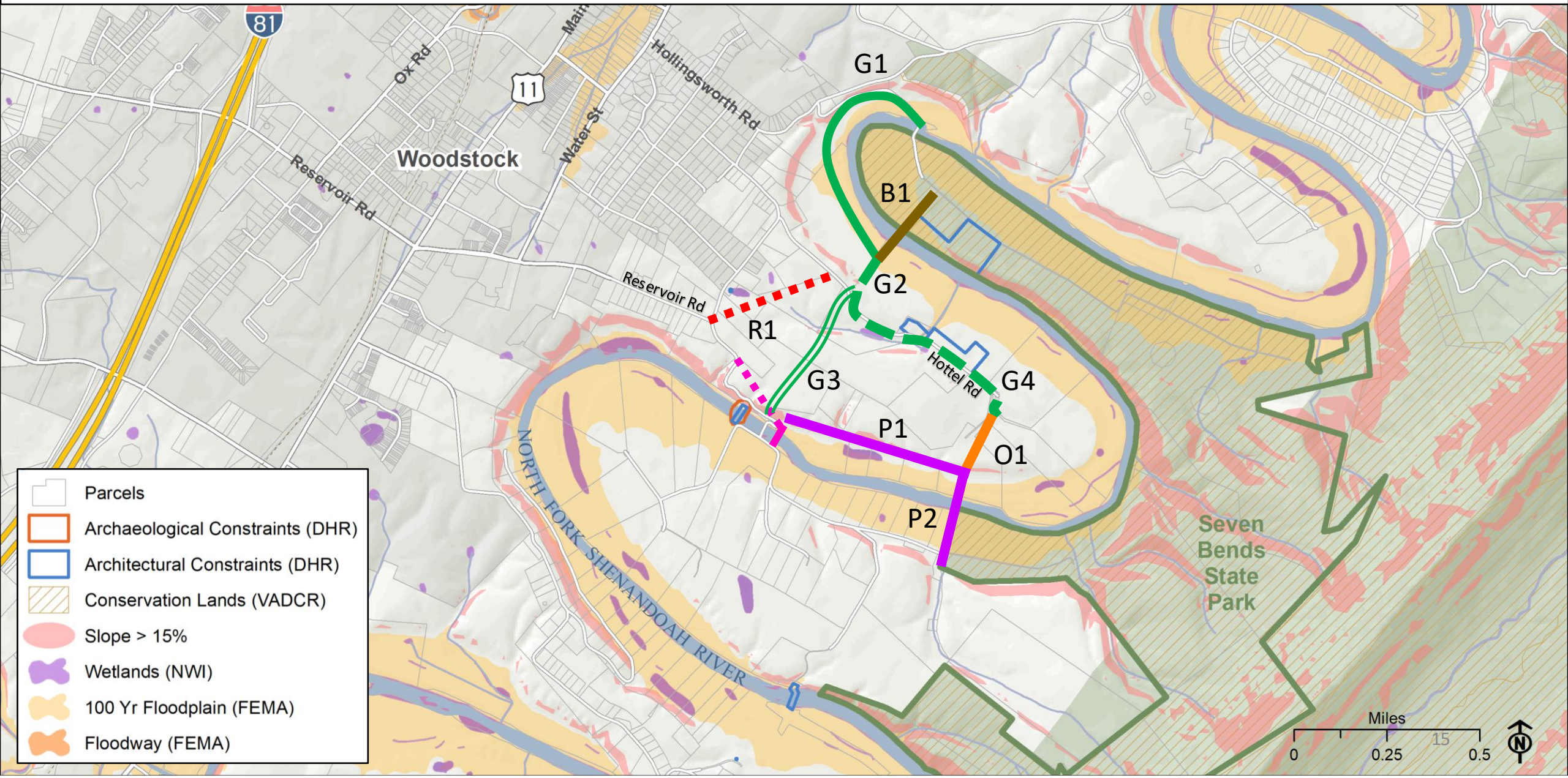
Community Impacts:

Travel times to local homes and businesses, local road impacts

Rank = 4

Seven Bends State Park Access Study

Preliminary Alternatives



- Parcels
- Archaeological Constraints (DHR)
- Architectural Constraints (DHR)
- Conservation Lands (VADCR)
- Slope > 15%
- Wetlands (NWI)
- 100 Yr Floodplain (FEMA)
- Floodway (FEMA)



Seven Bends State Park Access Study

Preferred Alternative (Intermediate-Term)

Woodstock

Wat

Reservoir Rd

Hottel Rd

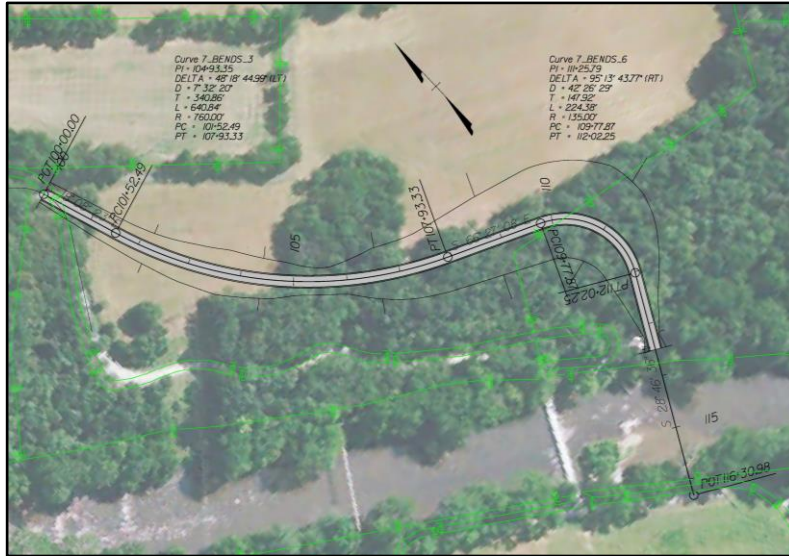
New Bridge and Connector Roadway

Seven
Bends
State
Park

- Parcels
- Archaeological Constraints (DHR)
- Architectural Constraints (DHR)
- Conservation Lands (VADCR)
- Slope > 15%
- Wetlands (NWI)
- 100 Yr Floodplain (FEMA)
- Floodway (FEMA)

Preferred Alternative Potential Alignments

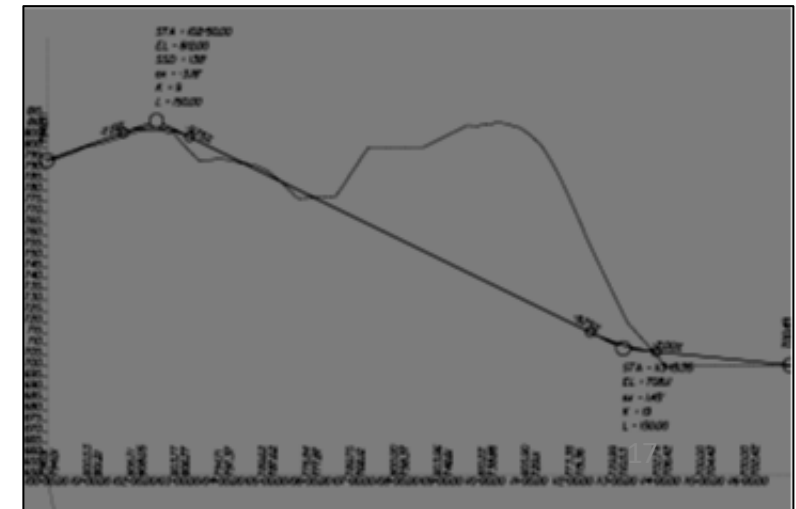
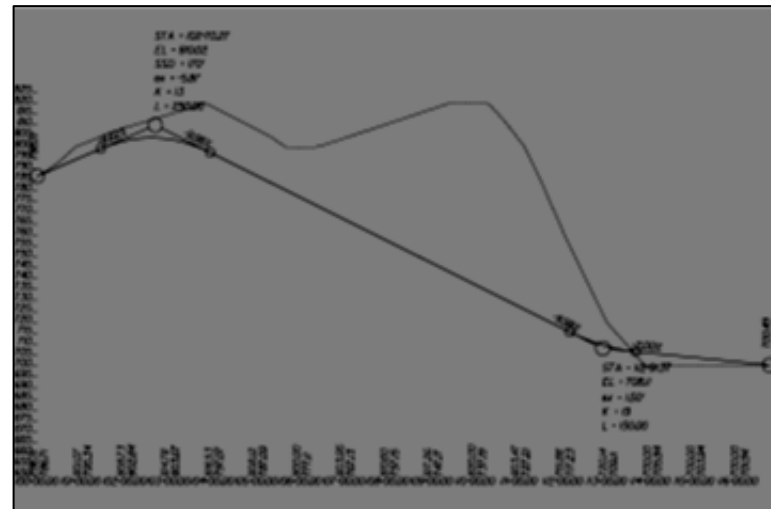
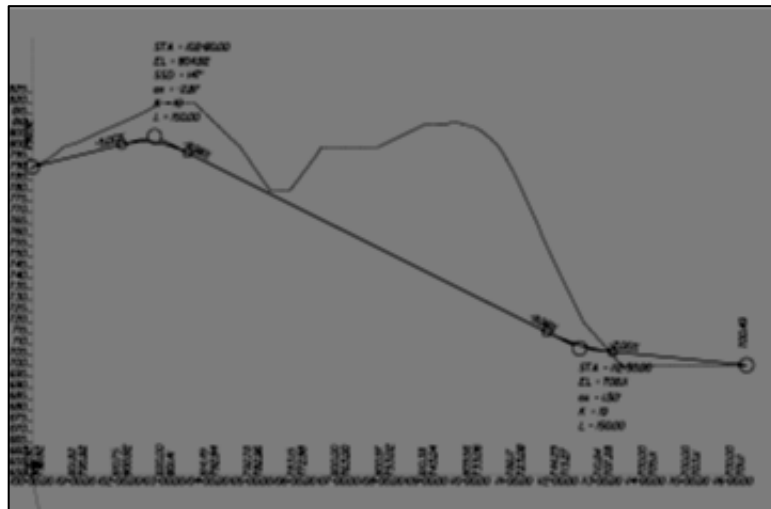
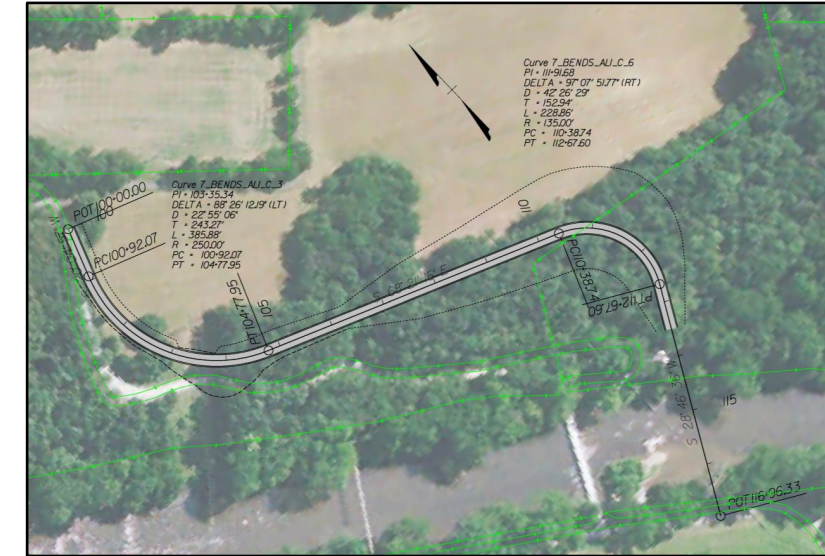
Alignment 1



Alignment 2



Alignment 3



Conducted by VDOT and Shenandoah County

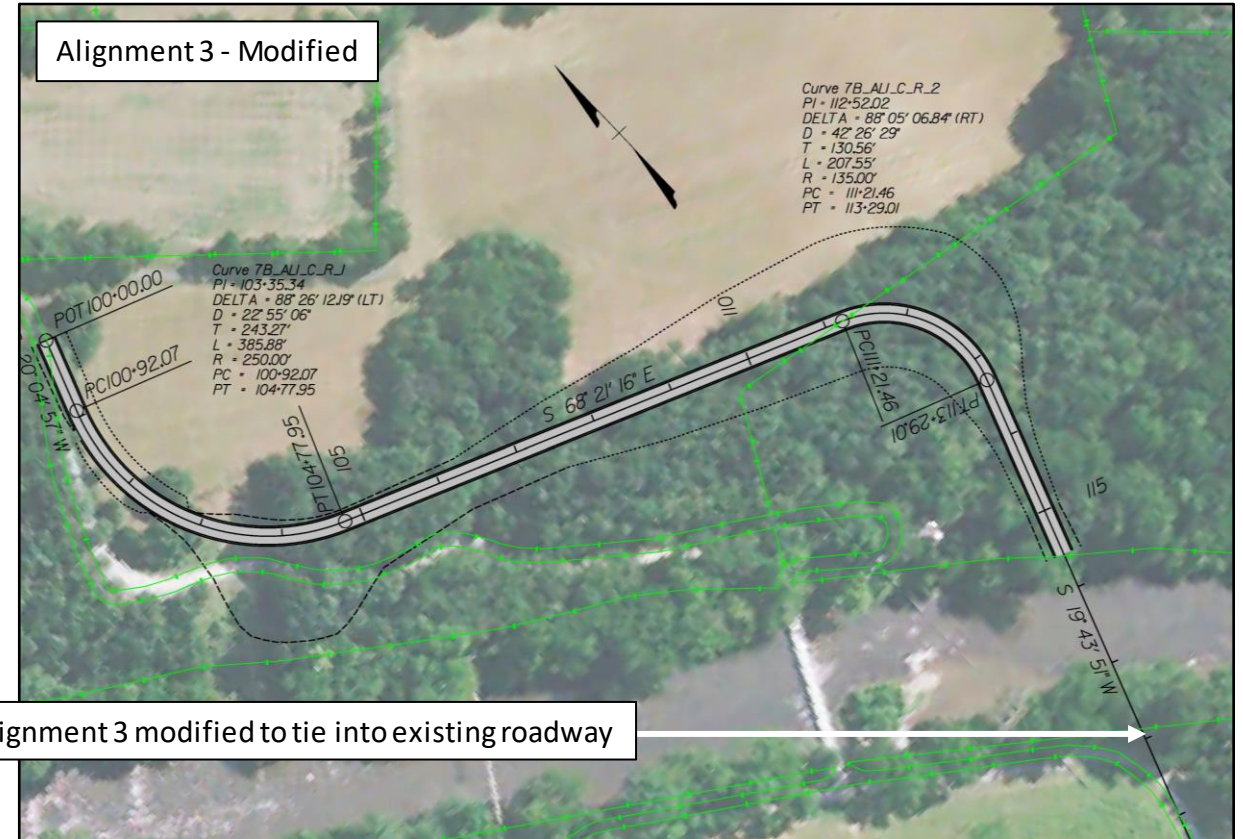
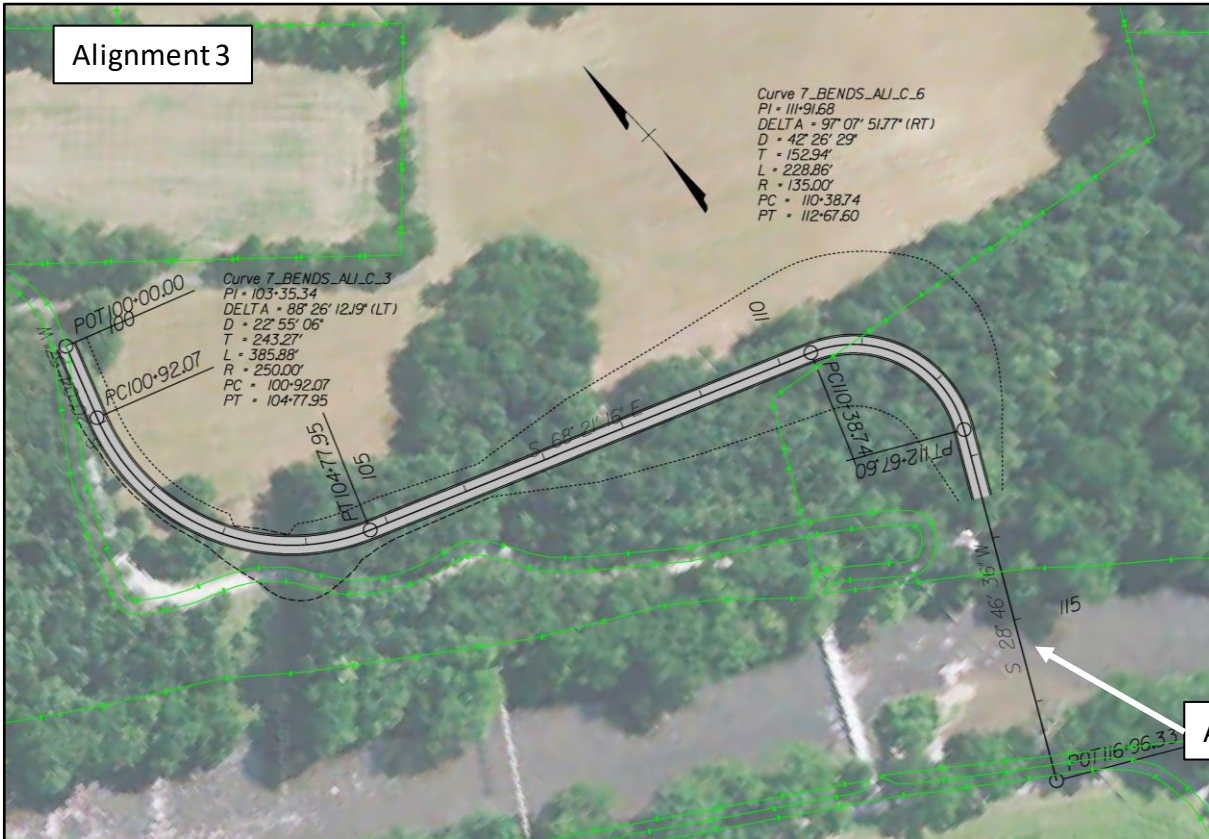
- Muse Vineyards
- Fravel Property
- Nora Long Estate

Responses

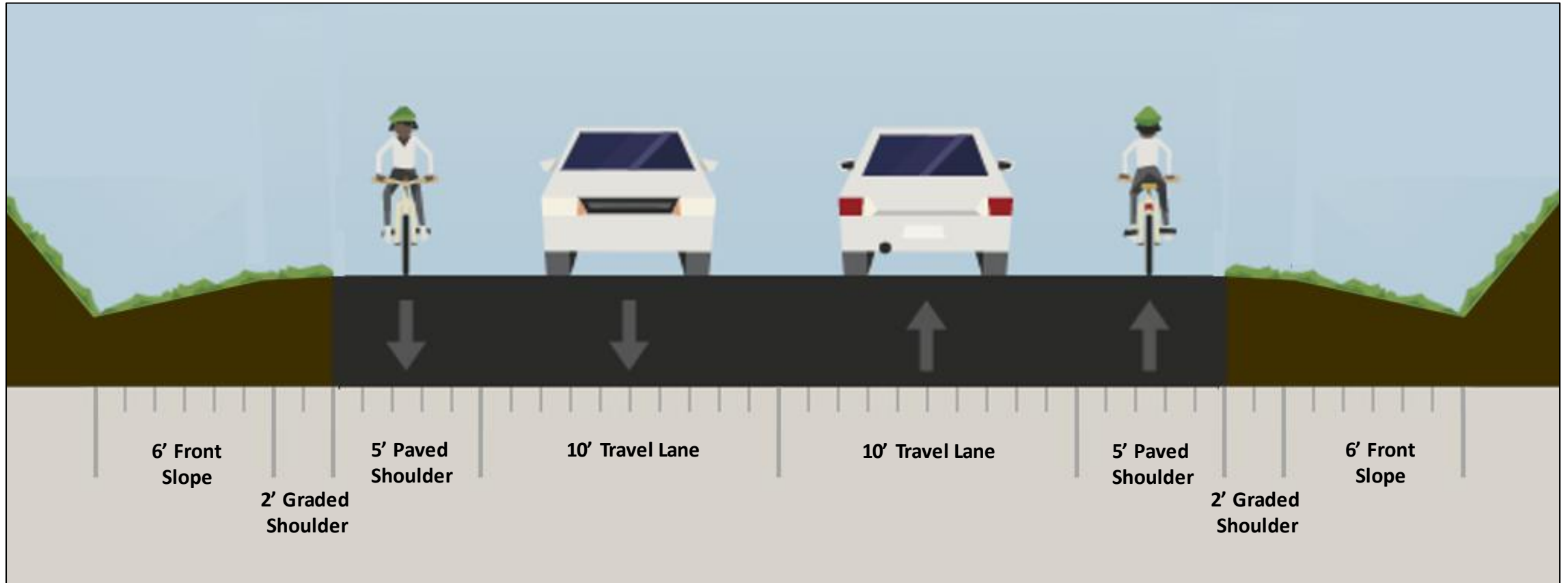
- Acknowledgment of potential improvement
- Muse Vineyards – concerned about impacts to property and locations of current grape vines



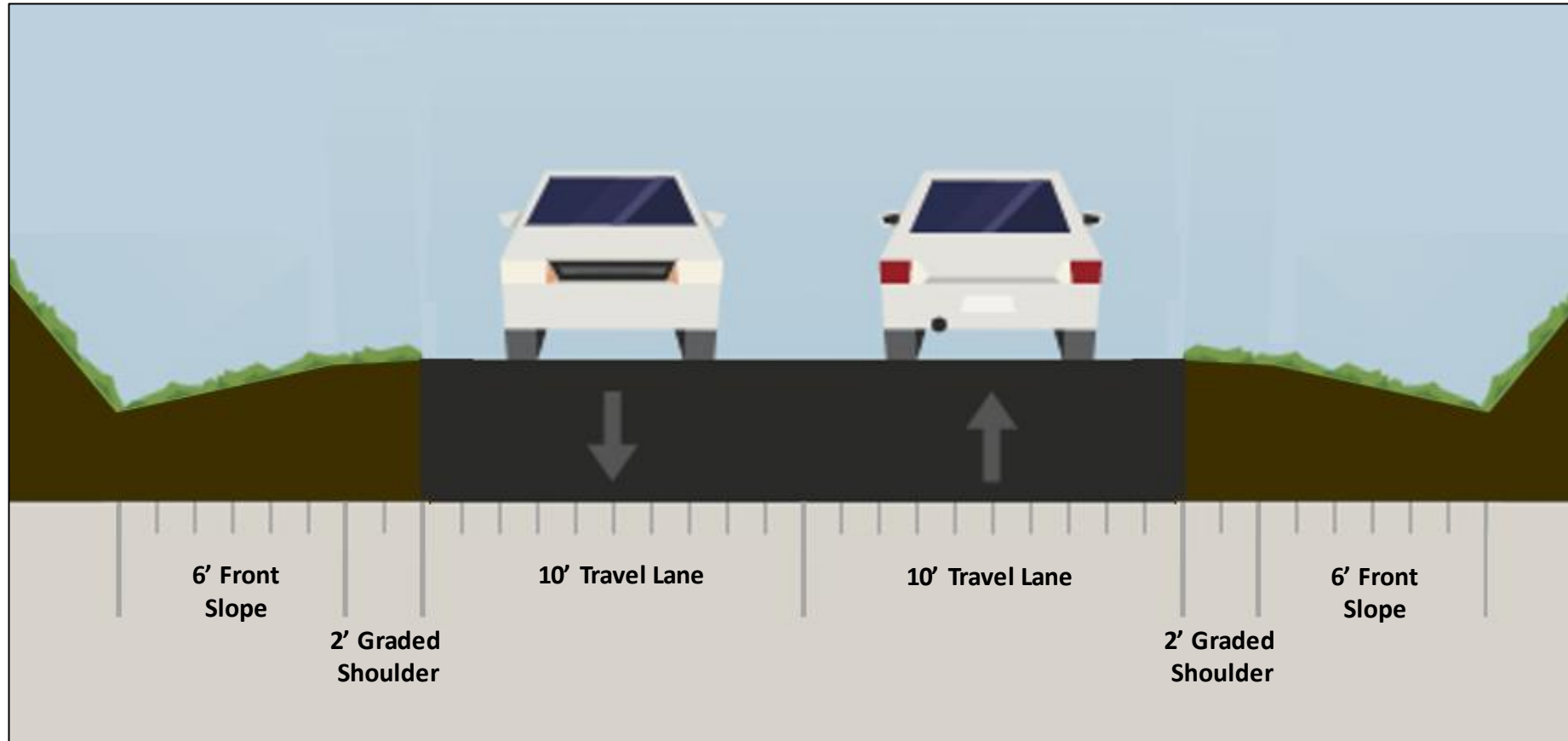
Preferred Alternative Alignment



Alignment 3 modified to tie into existing roadway

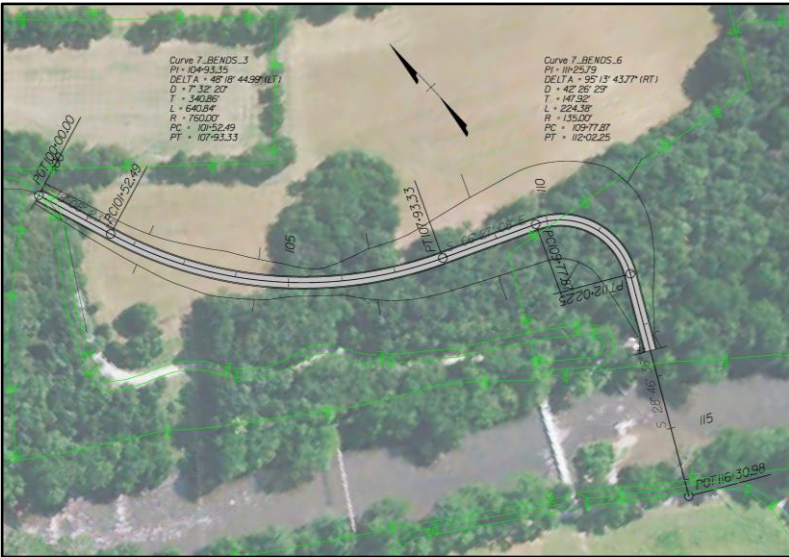


Typical section **with** shoulders for bikes



Typical section **without** shoulders for bikes

Alignment 1



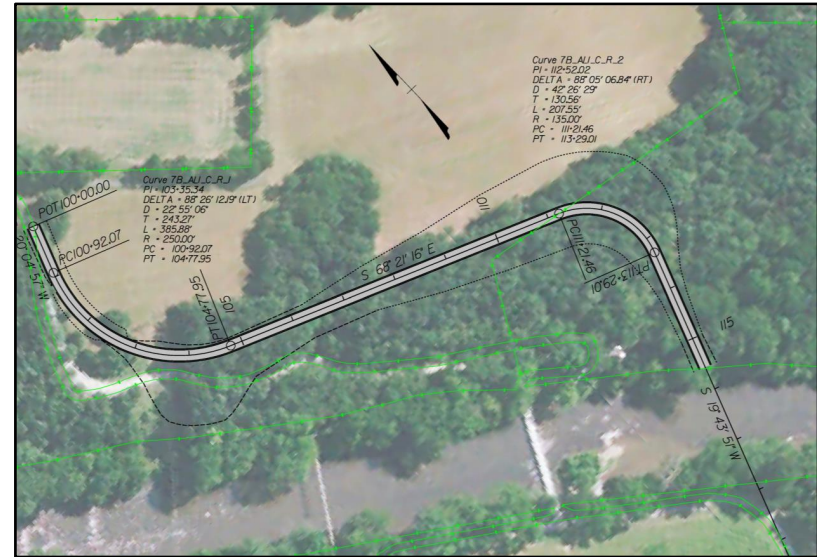
Length of Alignment (feet)	1350
Average Grade	-10%
Earthwork (Cubic Yards)	136,400
Construction Cost	\$13,000,000
Preliminary Engineering, ROW, Utilities, and Contingencies	\$2,400,000
Total Project Cost	\$15,400,000

Alignment 2



Length of Alignment (feet)	1425
Average Grade	-10%
Earthwork (Cubic Yards)	162,700
Construction Cost	\$14,600,000
Preliminary Engineering, ROW, Utilities, and Contingencies	\$2,400,000
Total Project Cost	\$17,000,000

Alignment 3-modified



Length of Alignment (feet)	1550
Average Grade	-10%
Earthwork (Cubic Yards)	109,200
Construction Cost	\$12,300,000
Preliminary Engineering, ROW, Utilities, and Contingencies	\$2,400,000
Total Project Cost	\$14,700,000

- Costs are in 2020 dollars
- Costs are for Typical Section **without** shoulders for bikes
- Upgrading to Typical Section **with** shoulders for bikes increases construction costs by approximately 10%

Poll Question #3

What entrance do you use when visiting Seven Bends State Park?

- **How many vehicles will Seven Bends State Park generate?**
 - **Daily?**
 - **Hourly?**
 - **Peak Season?**
- **Three Data Sources:**
 - **Seven Bends State Park**
 - **National Park Service Visitor Statistics**
 - **ITE Trip Generation Manual**

- **Data from Seven Bends State Park**
 - **30,000 – 50,000 annual visitors**
 - **Daily Visitors – Saturdays account for 23% of monthly visitors**

- **Data National Park Service Visitor Statistics (monthly data)**
 - **Shenandoah National Park – July accounts for 12% of annual visitors**
 - **Prince William Forest Park – July accounts for 14% of annual visitors**

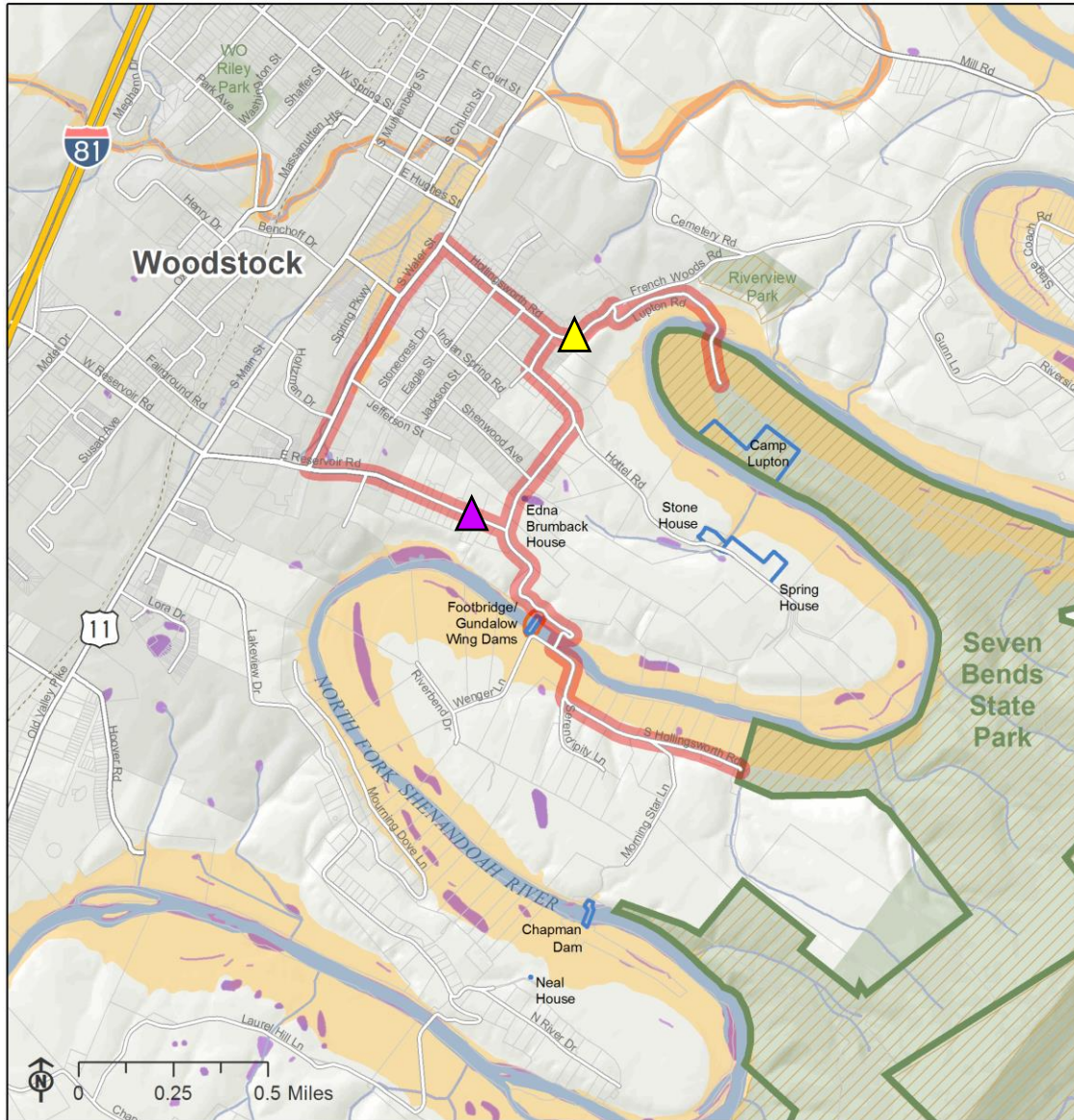
- **Seven Bends 2019 Trip Generation**

- **Average July Weekday: 31 Daily Visitors, 5 Peak Hour Visitors**
- **Average July Saturday: 64 Daily Visitors, 11 Peak Hour Visitors**
- **Average July Sunday: 52 Daily Visitors, 10 Peak Hour Visitors**

- **Seven Bends Forecast Trip Generation**

- **Average July Weekday: 101 - 200 Daily Visitors, 16 - 30 Peak Hour Visitors**
- **Average July Saturday: 210 - 410 Daily Visitors, 35 - 68 Peak Hour Visitors**
- **Average July Sunday: 170 - 330 Daily Visitors, 33 - 64 Peak Hour Visitors**

Future Traffic Conditions

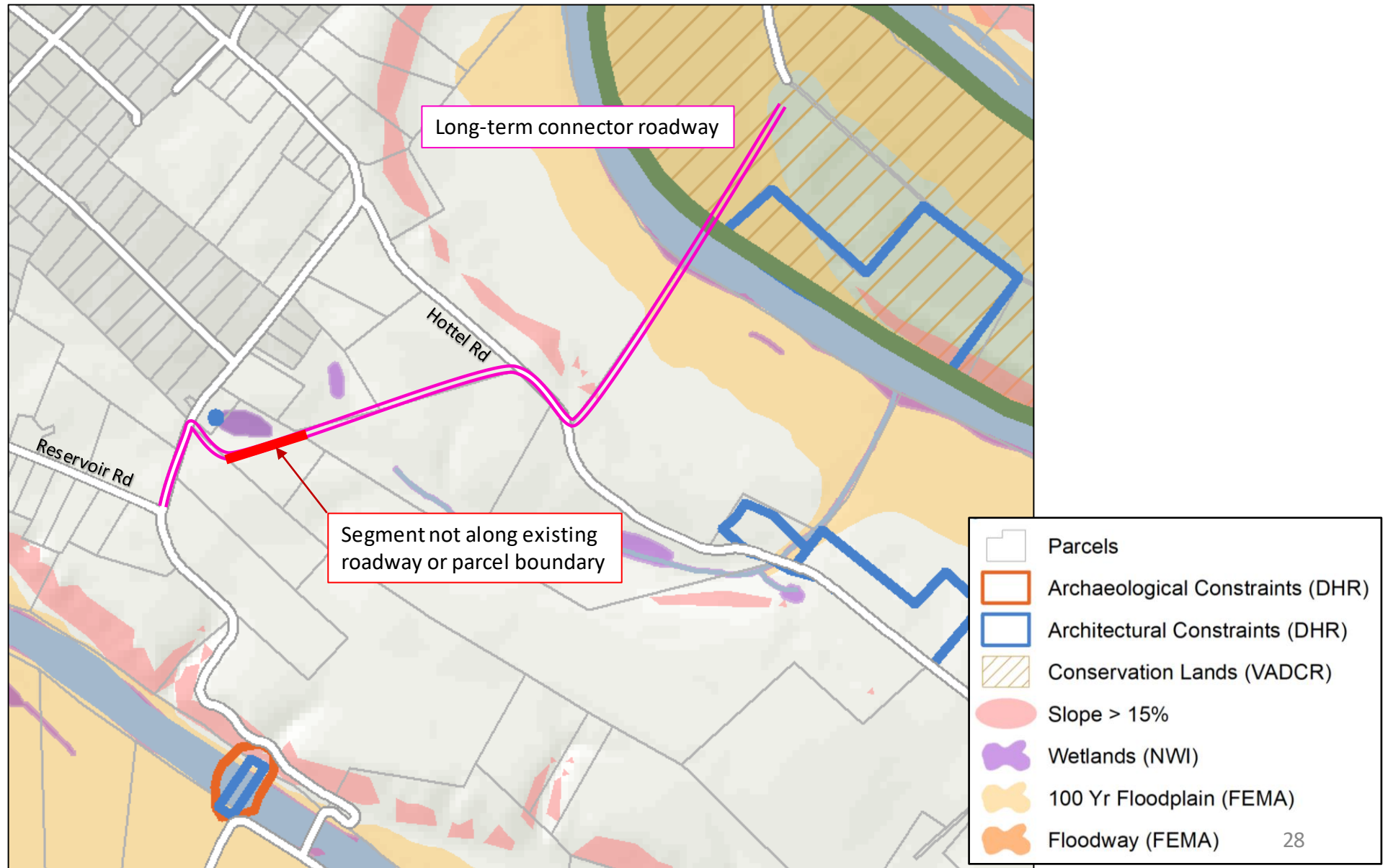


Scenario	Two-way Traffic Volume	Level of Service
2019 Saturday peak hour	69	A
Build-out Saturday peak hour	141	A



Scenario	Two-way Traffic Volume	Level of Service
2019 Saturday peak hour	66	A
Build-out Saturday peak hour	130	A

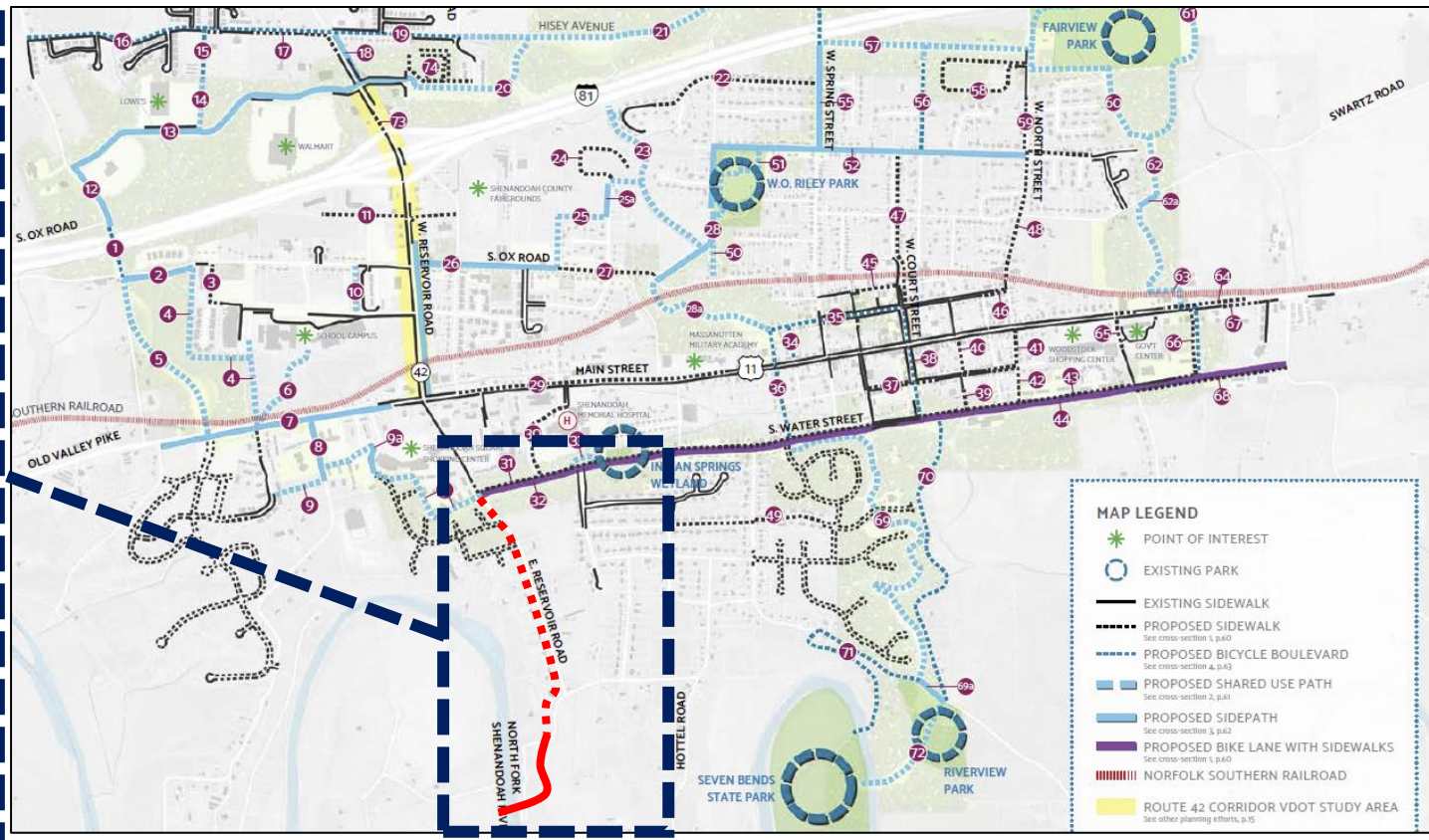
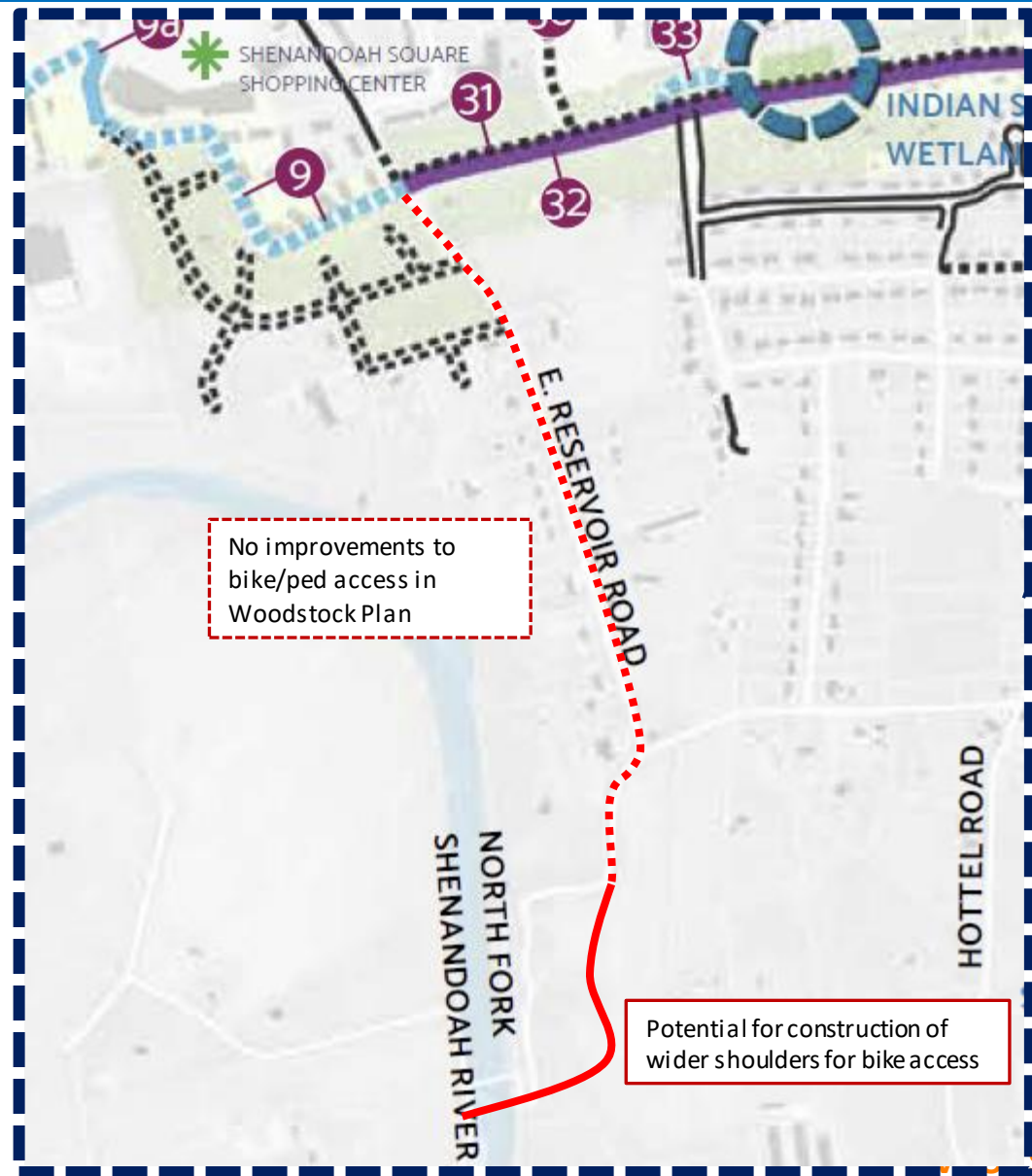
Potential Long-Term Connector Roadway

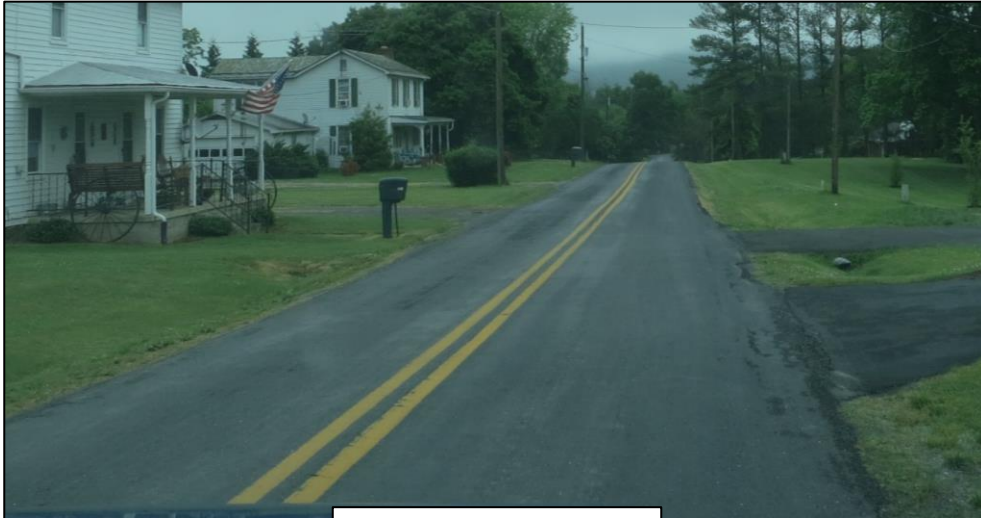


Poll Question #4

What mode of travel or vehicle type do you use to access Seven Bends State Park?

Town of Woodstock Bike/Ped Plan

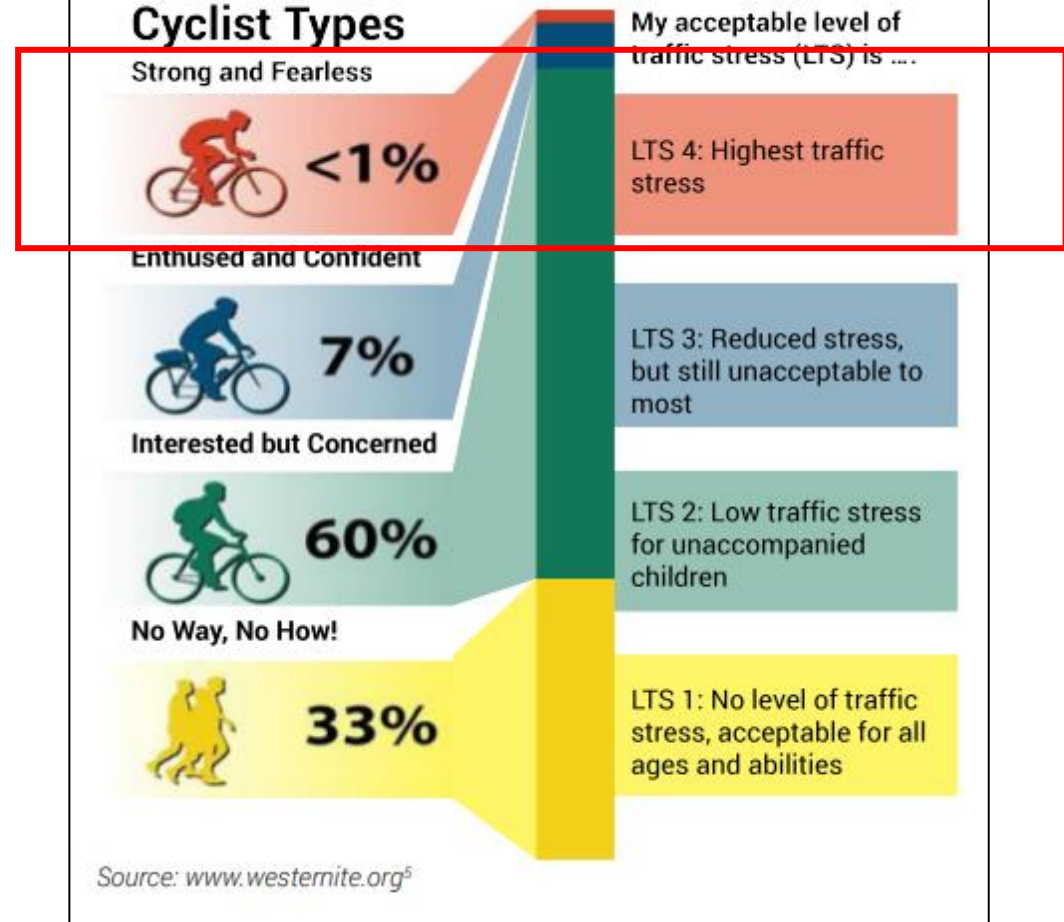




Existing Conditions

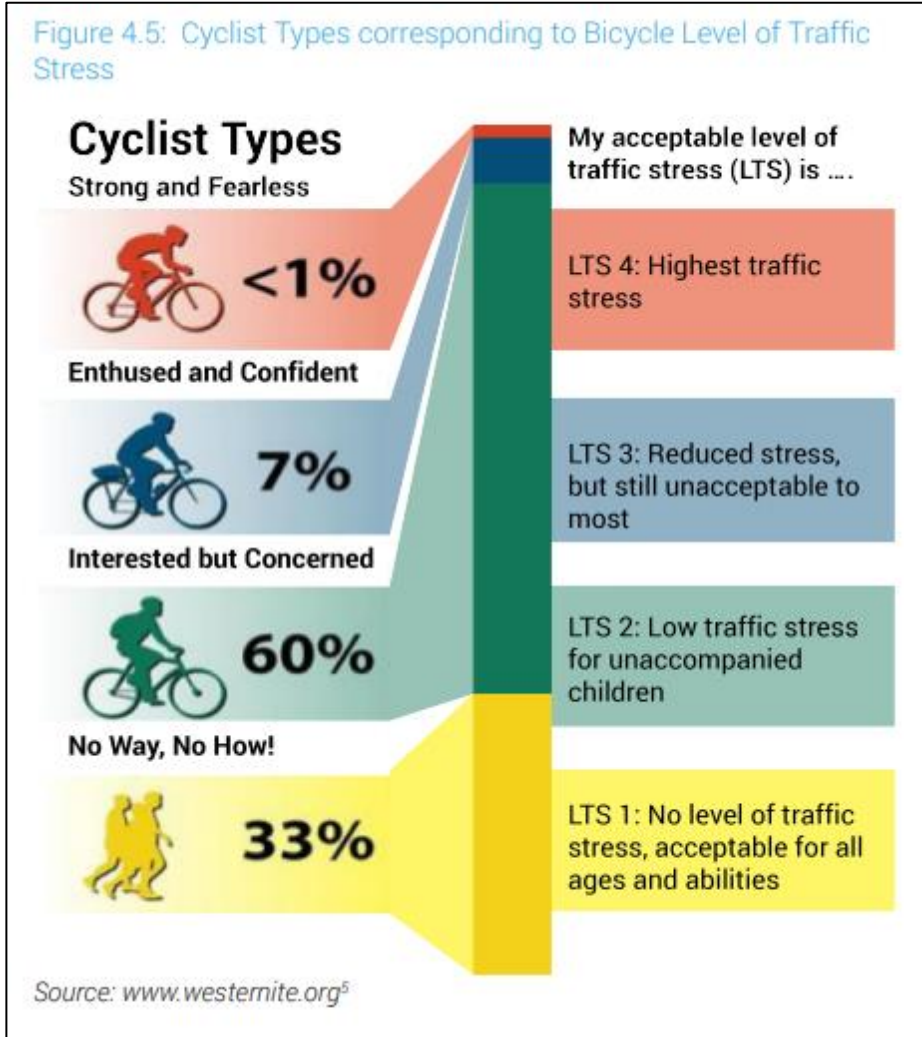


Figure 4.5: Cyclist Types corresponding to Bicycle Level of Traffic Stress



Option	Estimated Construction Cost Range		Estimated R/W (Square Feet)		Bike Level of Traffic Stress	Bike Level of Traffic Stress (25 MPH)
	Low	High	Low	High		
Existing	-	-	-	-	4	3
Shared Roadway Signage Only	-	<\$10K	-	-	4	3
2' Wide Curb (Curb and Gutter)	\$0.9M	\$1.1M	76,995	94,105	3/4	2/3
4' Bike Lane (Curb and Gutter) VDOT St'd	\$2.0M	\$2.4M	87,615	107,085	2/3	2
6' Bike Lane (Curb and Gutter)	\$3.2M	\$3.5M	98,235	120,065	1	1

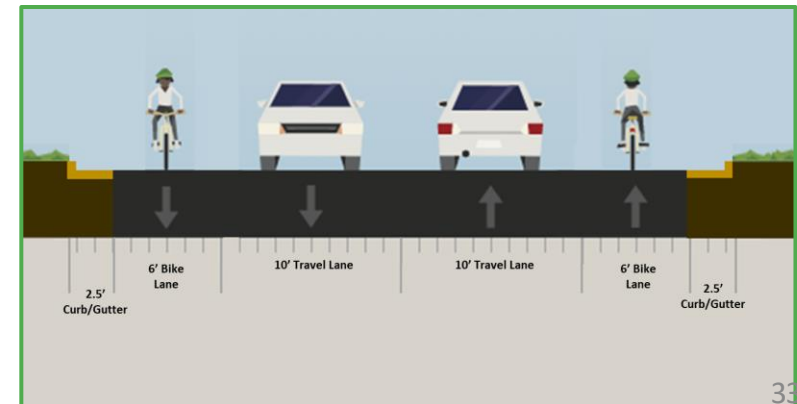
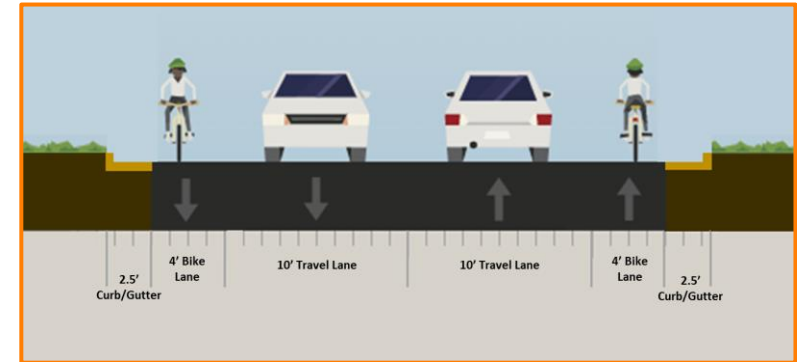
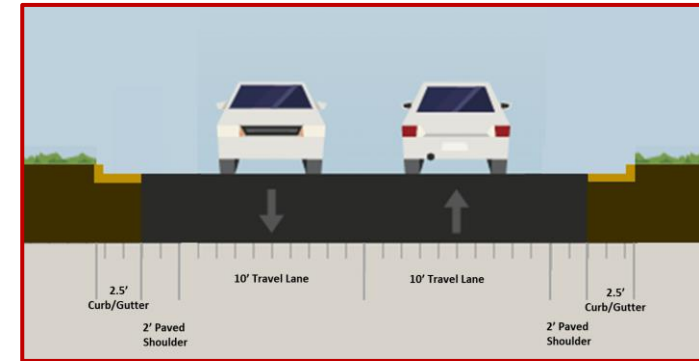
Shared Roadway signage is assumed to be included in all options but existing and bike lanes
 Existing cross-section is ditch, any pavement widening will require reconfiguring ditch to curb and gutter
 Construction Estimates are presented (no preliminary engineering) and are based on the Statewide Planning Estimate Tool and are not to be used for application funding/construction
 Right-of-way (R/W) assumes any additional pavement plus minimum 10' easement from back of curb
 Level of stress is based on qualitative assessment using NATCO, ODOT, and Mineta Transportation Institute methodologies



Bike Access

Option	Estimated Construction Cost Range		Estimated R/W (Square Feet)		Bike Level of Traffic Stress	Bike Level of Traffic Stress (25 MPH)
	Low	High	Low	High		
Existing	-	-	-	-	4	3
Shared Roadway Signage Only	-	<\$10K	-	-	4	3
2' Wide Curb (Curb and Gutter)	\$0.9M	\$1.1M	76,995	94,105	3/4	2/3
4' Bike Lane (Curb and Gutter) VDOT St'd	\$2.0M	\$2.4M	87,615	107,085	2/3	2
6' Bike Lane (Curb and Gutter)	\$3.2M	\$3.5M	98,235	120,065	1	1

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Poll Question #5

What is your biggest concern for roadways used to access Seven Bends State Park?

- **Submit Draft Report:** Mid-Late September
- **DCR Master Plan Public Meeting:** 4 - 6 Weeks after Draft Report Submittal

Study Website:

https://www.virginiadot.org/projects/staunton/shenandoah_county_8211_seven_bends_state_park_study.asp

Public Comments will be received through the month of August

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