

Project Overview | BR-23-08

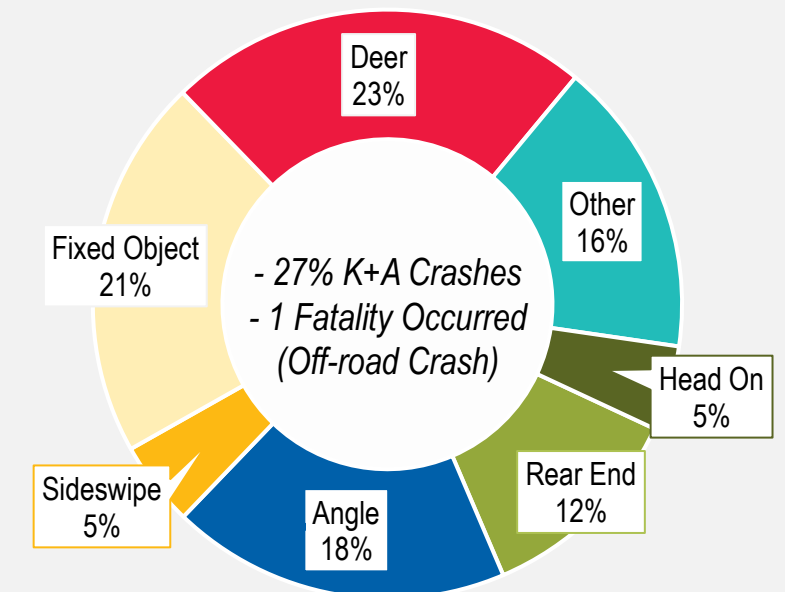
US 58 (Bristol Highway) between Wadlow Gap Highway and AP Carter Highway



Issues in the Study Area

- Pattern of angle crashes at the intersection of US 58 and Wadlow Gap Highway involving westbound and northbound vehicles. Contributing factors include the speed of northbound vehicles and confusion regarding northbound lane usage.
- 10 Deer crashes were reported throughout the study corridor between 2018-2022.
- Fixed-object crashes primarily occurred at night in horizontal curve locations. Contributing factors include lack of curve warning signs, narrow shoulders, and lack of rumble strips.

Study Area Crashes (2018 – 2022 Data)
33 total crashes



Project Purpose, Goals, & Objectives

Analyze the operational and safety issues identified along US 58.

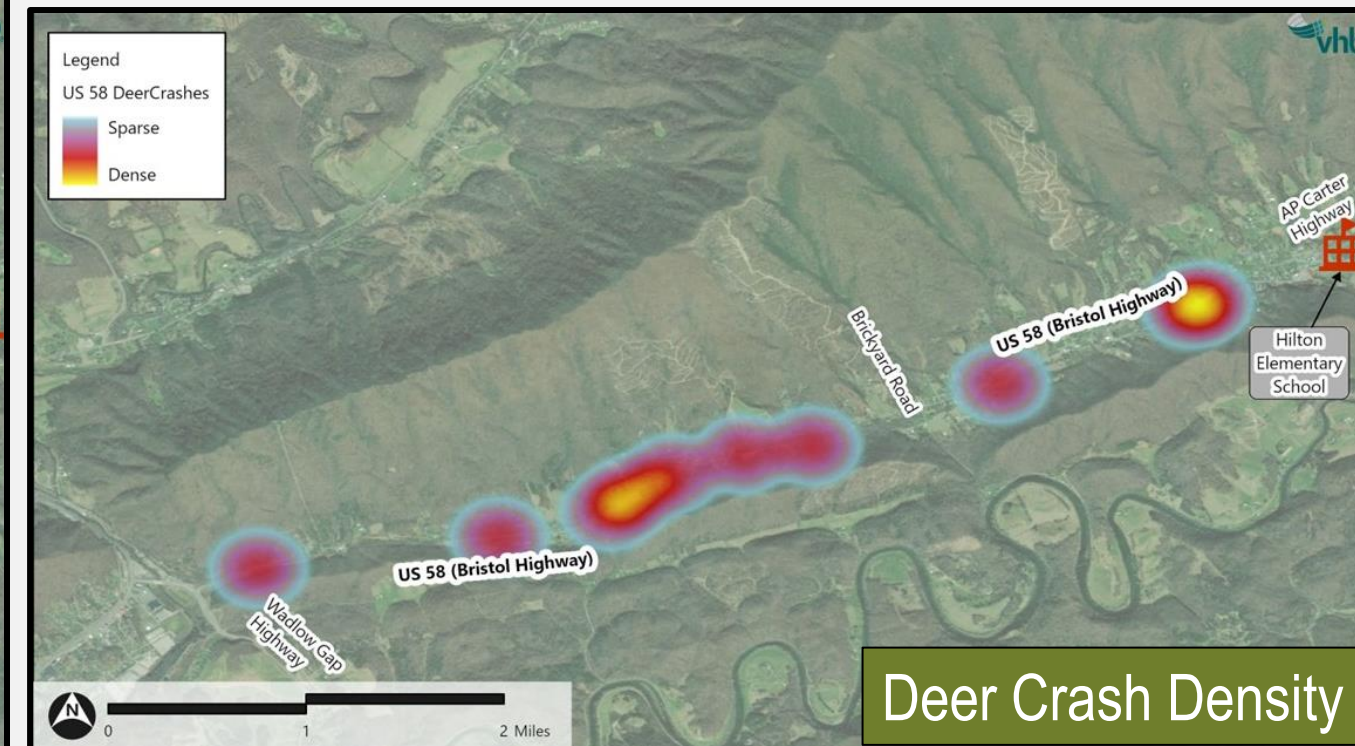
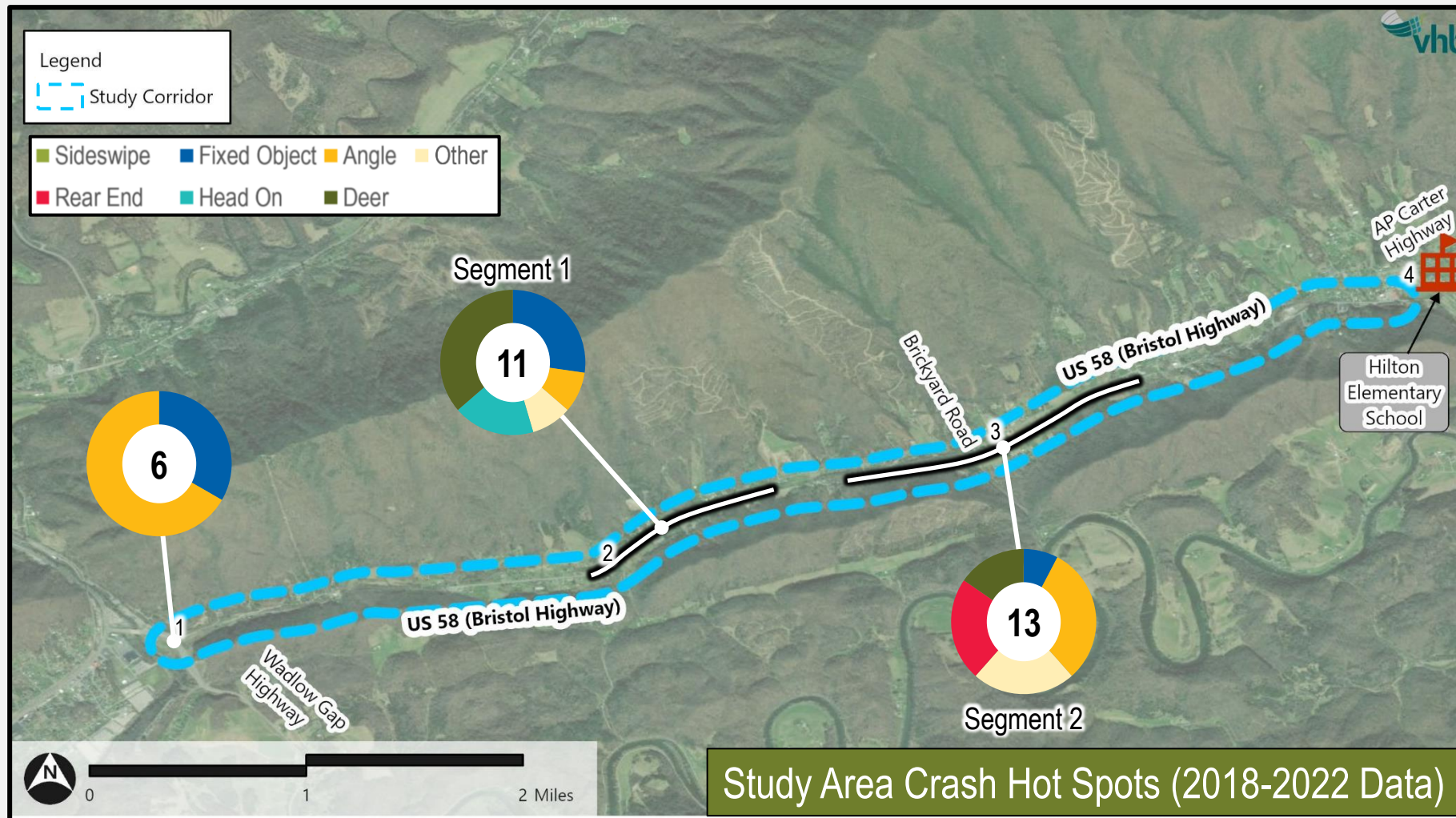
Identify cost-effective preferred improvement alternatives that address the deficient conditions.

Project Fact Sheet

VDOT District	Bristol
Locality	Scott County
# of Study Intersections	4
Transit Routes	None
Functional Classification	Rural Principal Arterial
Speed Limit	55 MPH

Safety Needs

Needs Identification Summary



Safety Summary

- The primary crash pattern along the corridor is lane departure crashes that are primarily located within horizontal curves. This type of crash pattern is typically addressed through low-cost safety countermeasures such as shoulder improvements, rumble strips, signing, and marking.
- Crashes at the intersection of US 58 and Wadlow Gap Highway appear to be partially attributed to the speed of northbound Wadlow Gap Highway vehicles.
- The fatality involved a driver medical event and is not indicative of a site-specific safety concern.
- The deer crashes along the corridor are not concentrated in sufficient quantity or proximity to warrant animal crash countermeasures. While these crashes are largely seasonal (late fall and early winter), this crash pattern exists throughout southwest Virginia.

VDOT 2018-2022 Crash Data

Hot Spot Intersection / Segment	Crashes by Severity					Total
	K	A	B	C	O	
At Wadlow Gap Highway	0	0	3	0	3	6
Segment 1	0	2	0	0	9	11
Segment 2	1	2	2	0	8	13
Total	1	4	5	0	20	30

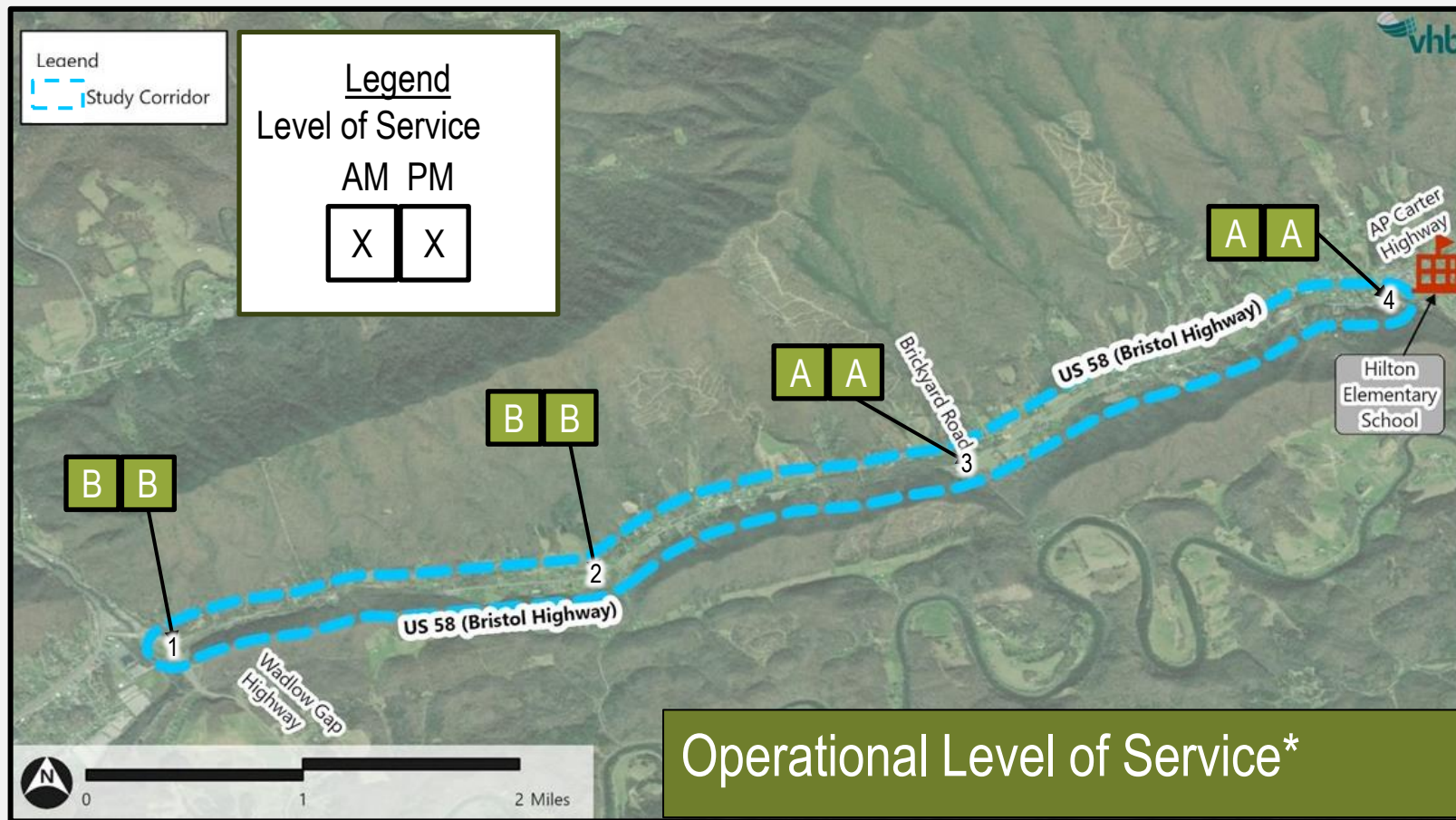
K = Fatal Injury; A = Severe Injury; B = Visible Injury; C = Non-visible Injury; O = Property Damage Only

VTrans Safety / Reliability Needs

NEED	PRIORITY
Road Safety	Low
Capacity Preservation	Very High

Operations / Access Needs

Needs Identification Summary



Operational Level of Service*

*Intersection LOS is not reported for two-way stop control intersection. LOS reported is worse of side-street approach.

72-Hour Volume and Speed Data

Location	Daily Traffic (ADT)	Mean Speed	85 th Percentile Speed	Percent of Traffic 10+ MPH over Speed Limit
Between Jayne Hill Circle and Scout Camp Lane	3,700	50.2 MPH	56.0 MPH	3.8%
Between Solid Waste Center and Derby Drive	2,500	54.3 MPH	59.7 MPH	2.6%

Operations Summary

- The intersection capacity analysis revealed that drivers do not experience significant delay or queuing on any controlled vehicle movements.
- The traffic volumes indicate that the two-lane cross-section has sufficient capacity to accommodate the volume demand.
- The speed data shows that driver speeding is not a significant concern along this corridor as the 85th percentile speed is less than 5 mph above the posted speed limit.
- US 58 is a vital corridor for local and regional capacity preservation; however, the safety and operations existing data does not indicate a need to enhance the existing capacity.

VTrans Operations / Access Needs

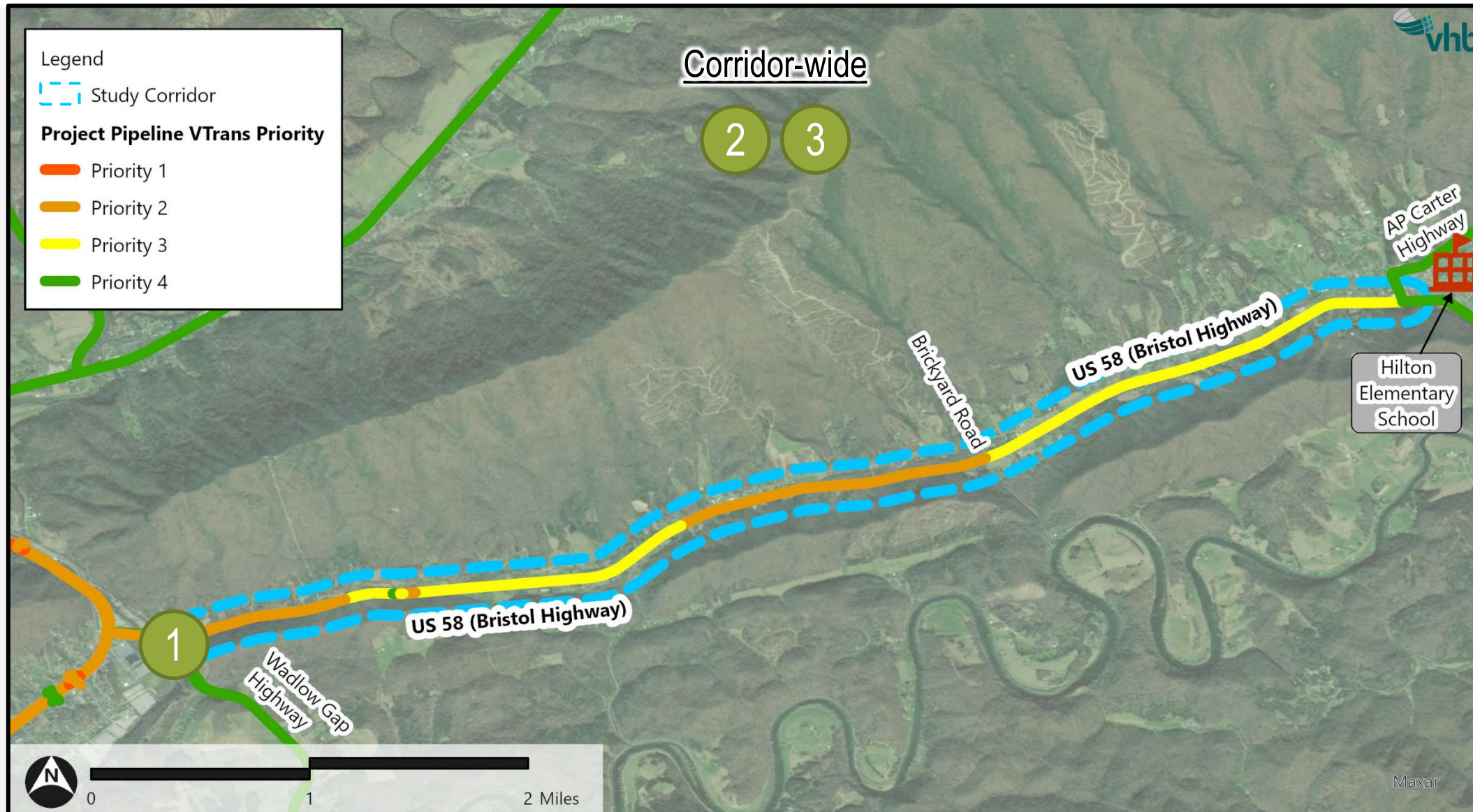
NEED	PRIORITY
Transit Access	Low
Bicycle Access	High
Capacity Preservation	Very High
Transportation Demand Management (TDM)	Low

Access Summary

- The transit and bicycle access VTrans Needs are due to the corridor's proximity to Gate City, a VTrans defined Activity Center.
- The characteristics of this corridor (adjacent land use, volumes, cross-section, etc.) do not suggest the need for transit or bicycle improvements along this corridor.

Phase 1 Conclusion | BR-23-08

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Alternatives Summary

- The US 58 corridor is also part of VDOT's Two Lane Rural Road (TLRR) Highway Safety Improvement Program (HSIP), which will be evaluating corridors for systemic improvements to address the crash pattern seen on this corridor.
- The existing conditions data does not indicate the need for a site-specific capital improvement project that could be developed through a Pipeline Phase 2 and applied for in Smart Scale.
- Proceeding to Pipeline Phase 2 is not recommended.**

No.	Proposed Alternatives Discussed	VTrans Needs Addressed
1	Low-cost safety improvements at Wadlow Gap Highway	Capacity Preservation
2	Seasonal deer advisory signs	Capacity Preservation
3	Systemic curve treatments (e.g., warning signs, shoulder improvements, rumble strips)	Capacity Preservation