

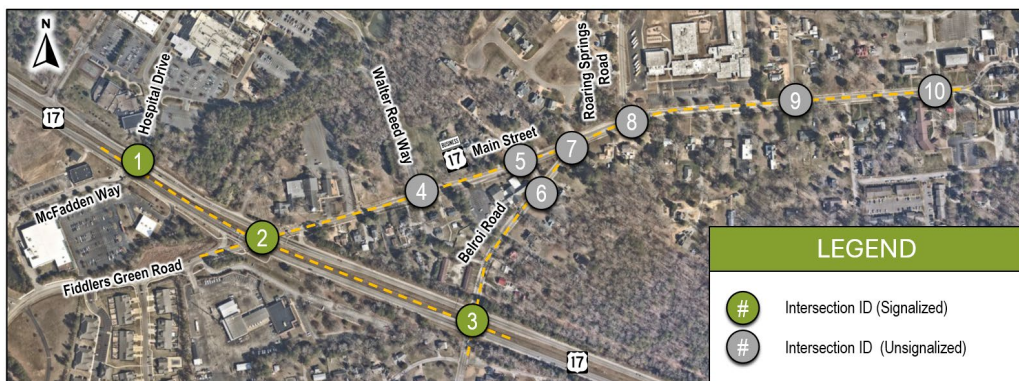
PROJECT PIPELINE NEEDS AND EXISTING CONDITIONS SUMMARY

US Route 17 / US Route 17 Business (Main Street)

VDOT District: Fredericksburg / Locality: Gloucester County

FR-25-02

Sheet 1 of 2



Study Purpose, Goals, and Objectives

To analyze the operational and safety issues identified along US Route 17 (US 17) from Hospital Drive to Belroi Road and along US Route 17 Business (US 17 BUS) from US Route 17 to Justice Drive with a focus on providing enhanced bicycle, pedestrian, and transit access; transportation demand management; safety improvements; capacity preservation; and congestion mitigation

VTrans Needs

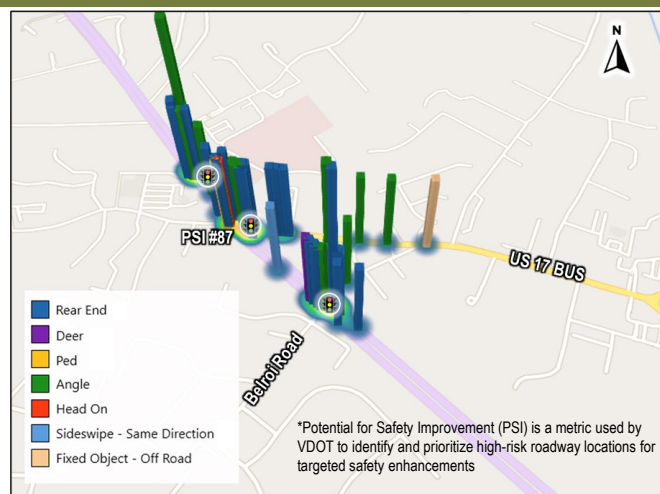
	Congestion Mitigation
	Capacity Preservation (Keep traffic flowing smoothly)
	Bicycle Access
	Safety Improvement
	Pedestrian Safety Improvement
	Transportation Demand Management (TDM)
	Transit Access

Study Facts

	US Route 17	US Route 17 BUS
Study Intersections	10 total	
Length of Study Area	0.4 miles	0.7 miles
Classification	Principal Arterial	Major Collector
2023 Annual Average Daily Traffic	15,000–18,000	6,000–7,700
Speed Limit	45–55 mph	25–35 mph

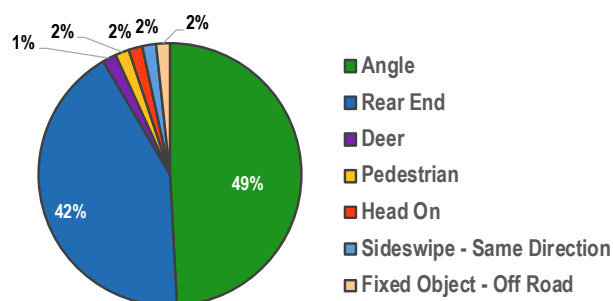
Safety Needs

- Of the 59 total crashes between 2020 and 2024, 49 (83%) occurred at the three signalized intersections along US Route 17. Of the crashes at signals, 94% were angle or rear-end.
- One fatal crash occurred at the intersection of US Route 17 and US Route 17 BUS (Main Street)/Fiddlers Green Road, which also experienced one pedestrian-involved crash
- A significant proportion of crashes are attributable to red light running and angle collisions, accounting for 24 of the 49 total crashes across the signalized intersections
- There were 18 congestion-related rear-end crashes along US Route 17. At the US Route 17 and Belroi Road intersection, seven of nine rear-end crashes involved northbound vehicles.



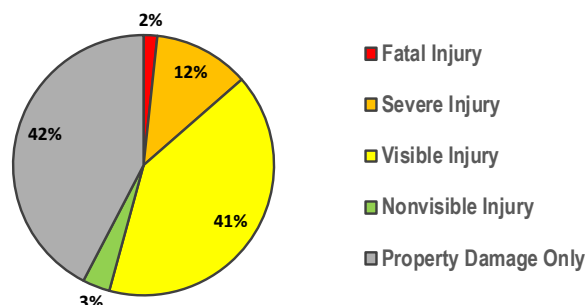
Crash Type

59 Total Crashes (2020 – 2024)



Crash Severity

59 Total Crashes (2020 – 2024)



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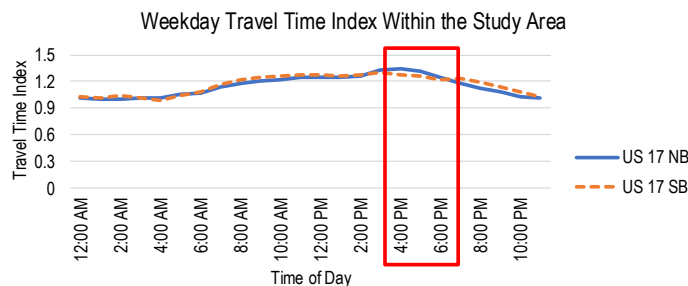
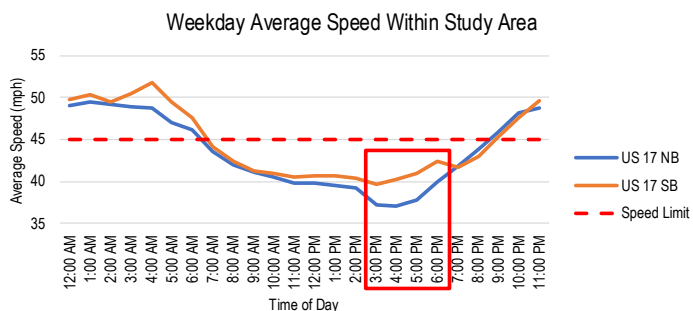
FR-25-02

Sheet 2 of 2

Operations Summary

- US Route 17 operates below the speed limit from 7:00 AM to 7:00 PM and as low as 37 mph in the northbound direction during the PM peak period
- During field observations in April 2025, several left-turn queues along US Route 17 were observed to exceed their storage length
- Significant westbound queuing occurs along Main Street during school arrival and dismissal periods

Travel Time Index* and Average Speed on US Route 17



*Travel Time Index (TTI) is the ratio of the travel time during the referenced time period to the travel time during typical conditions. For example, a TTI of 1.5 means a trip takes 50% longer than it would in free-flow conditions.

Bike and Pedestrian Access Needs

- No existing bike facilities are provided in study area
- Some segments of sidewalk exist along US Route 17 and US Route 17 BUS, but there are large gaps in pedestrian network
- Only one signalized pedestrian crossing of US Route 17 is currently provided in study area at intersection with US Route 17 BUS
- US Route 17 is in statewide top 5% of VDOT Pedestrian and Bicyclist Safety Action Plan (PBSAP) priority corridors

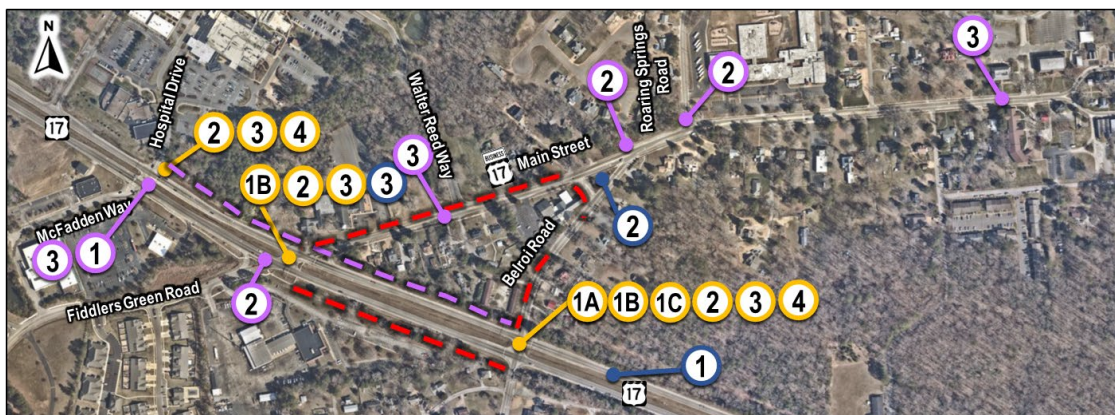
Transit and TDM Needs

- No local fixed route public transit service in study area
- Bay Transit Express provides demand-responsive microtransit service between Gloucester Courthouse and Gloucester Point
- MidPenRideShare provides TDM services including Guaranteed Ride Home and carpool and vanpool coordination

Summary of Needs Identified Through Public Outreach

- Survey date: May 7 – May 21, 2025
- Number of participants: 438
- Highest ranked needs: Capacity preservation, safety improvement, pedestrian safety improvement
- Mode(s) of travel: Personal vehicle (100%), walking (30%), cycling (14%), truck or commercial vehicle (6%)
- Speeding/aggressive driving, running red lights, sudden stopping / rear-end crashes, lack of sidewalks / missing sidewalks, and insufficient / missing crosswalks and pedestrian signal timings were identified by participants as the greatest safety issues in the area

Proposed Solutions to Evaluate in Phase 2



Safety Improvements

- Adjust location of speed limit transition
- Redesign intersection alignment
- Install "No Turn On Red" signs on side street approaches

Pedestrian and Bicycle Improvements

- Add pedestrian signal heads and push buttons
- Modify existing crosswalk
- Add new crosswalk

- Proposed shared-use path
- Proposed sidewalk

Operations Improvements

- Convert Belroi Road to one-way in eastbound from US 17 to US 17 Business
- Restrict select turning movements and consolidate signal phases
- Cul-de-sac Belroi Road
- Signal timing adjustments
- Extend turn-lane storage
- Restripe minor approaches and convert from split phase to concurrent side street operation