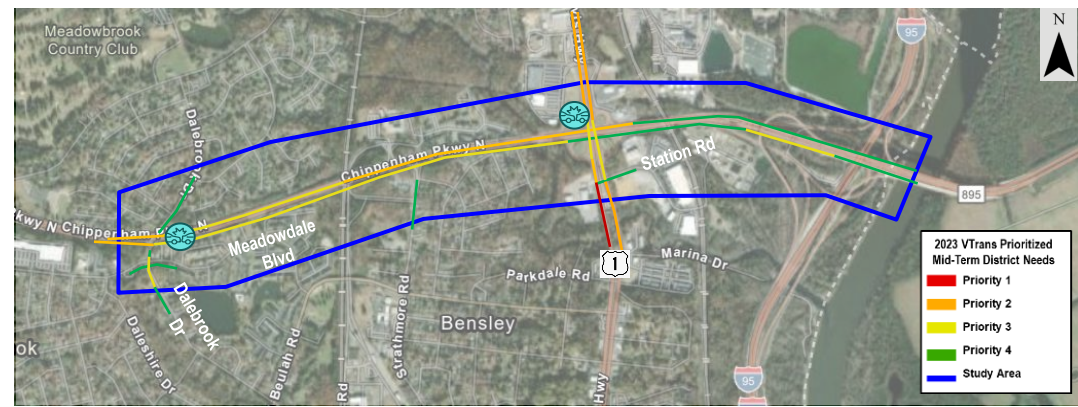




PROJECT PIPELINE NEEDS AND EXISTING CONDITIONS SUMMARY

Route 150 (Chippenham Pkwy) Corridor
VDOT District: Richmond District / Locality: Chesterfield County



Study Purpose, Goals, and Objectives

Analyze the operational and safety issues identified within the project area, with a focus on providing enhanced bicycle, and transit access.

Identify cost-effective preferred improvement alternatives that address the deficient conditions and prioritize safety for vulnerable users.

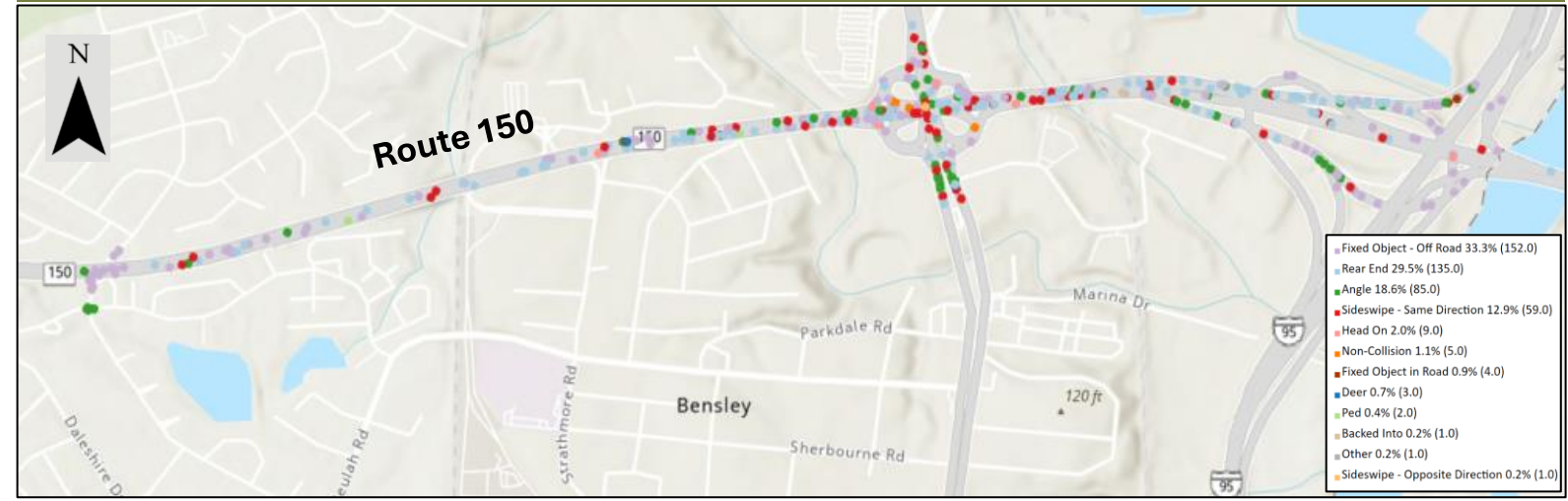
VTrans Needs

- Significant fixed object crashes and rear-end crashes along Route 150. Angle crashes trend at intersections and ramps specifically.
- 2 (0.4%) crashes involve pedestrians along Route 150. No existing bike lanes, shared-use paths, sidewalks, or crosswalks along US 1 and Route 150.
- Capacity preservation is a need along US 1.
- There are no existing park and ride facilities present along Route 150. US 1 has two GRTC transit routes along the corridor within the study limits.

Study Facts

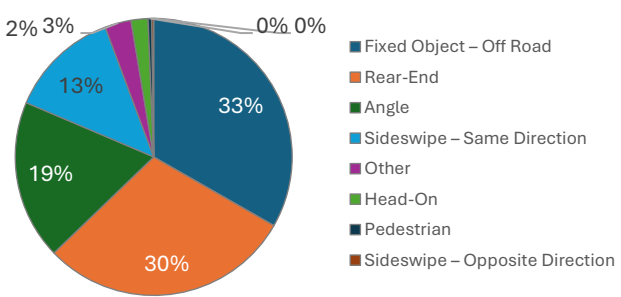
Major Study Intersections	3
Length of Study Area	2.3 miles
Classification	Freeway
Transit Routes	Greater Richmond Transit Company (GRTC) Routes along US 1
Speed Limit	60 mph

Study Area Crashes (2020-2024 Data)



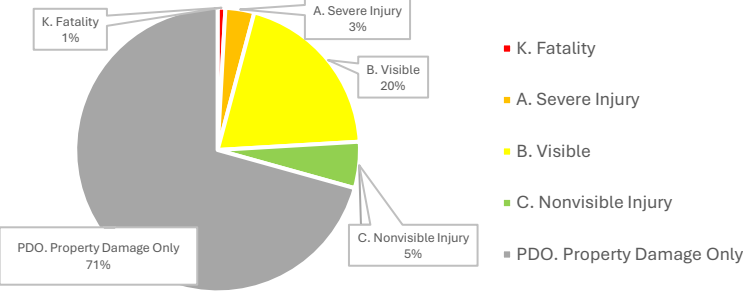
Crash Type

457 Total Crashes (2020 – 2024)



Crash Severity

457 Total Crashes (2020 – 2024)





PROJECT PIPELINE NEEDS AND EXISTING CONDITIONS SUMMARY

Route 150 (Chippenham Pkwy) Corridor

VDOT District: Richmond District / Locality: Chesterfield County

RI-25-01

Sheet 2 of 3

Bicycle Needs Identification Summary

The **Bicycle Access** VTrans Need is based on “Applicable roadway segments within biking distance (seven miles) of VTrans Activity Centers, fixed-guideway transit stations, or BRT lines.¹” The study area includes:

- No existing bike lanes along Route 150,
- No existing Bike Lanes along US 1 or Dalebrook Dr.
- No existing shared-use paths,
- One crash involving a bicyclist between 2020-2024.

Transit Accessibility Summary

- There are two GRTC Transit Routes along the corridor, namely 3B and 3C. One of the 3C route bus stops is a part of the study corridor and is located at the Food Lion to the North of US 1 and Route 150 interchange.
- The Transit Access VTrans Need is based on “The number of workers that can access a given VTrans Activity Center via public transit within 45 minutes versus a private automobile. Any transit deficit greater than zero constitutes a need.¹”

Transportation Demand Management (TDM) Summary

- No existing park and ride or other intermodal facilities exist along or near the study area.
- The TDM VTrans Need is based on “Roadway segments where TDM strategies such as new or expanded public transportation services/facilities, new or expanded bicycle and pedestrian facilities, or coordination of commuter assistance programs can be beneficial to reduce vehicle miles traveled.¹”

1. Technical Guide for the Identification and Prioritization of the VTRANS Mid-Term Needs, Office of Intermodal Planning and Investment (OIPI), November 2021.

Pedestrian Safety Improvement Summary

The **Pedestrian Safety Improvement** VTrans Need is based on “Applicable roadway segments within walking distance (one mile) of VTrans Activity Centers, fixed-guideway transit stations, or BRT lines.¹” The study area includes:

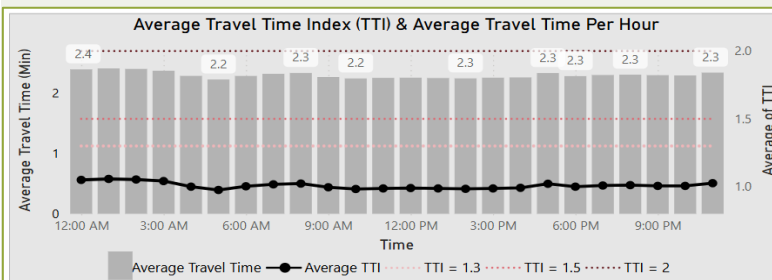
- No existing sidewalks along US 1.
- No Pedestrian Crosswalks along US 1.
- Unsignalized Pedestrian Crosswalk across US 1 to North of Route 150 Interchange.
- Two fatal crashes involving pedestrians between 2020-2024.

* Technical Guide for the Identification and Prioritization of the VTRANS Mid-Term Needs, Office of Intermodal Planning and Investment (OIPI), November 2021.

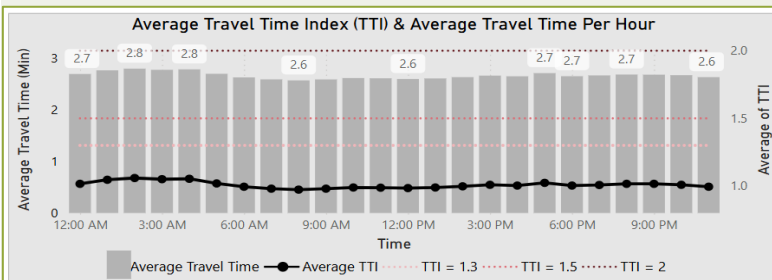
Operations Summary

- US-1 has a **High-Capacity** Preservation VTrans Need based on Travel Time Index (TTI) and travel speeds. Capacity Preservation focuses on the need to strike a balance between access and mobility.
- No significant congestion is observed along the corridor.

Travel Time Index*

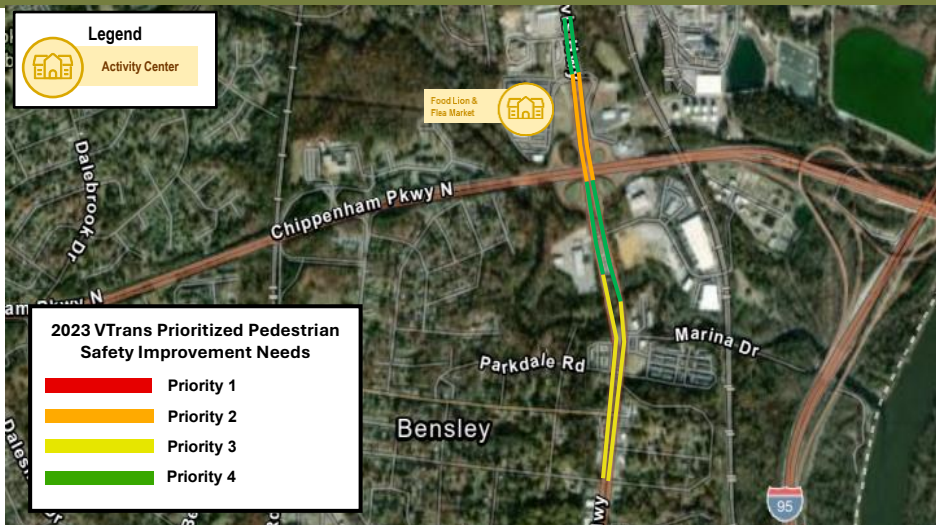


(Chippenham Parkway, Eastbound, Weekday)



(Chippenham Parkway, Westbound, Weekday)

*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.





PROJECT PIPELINE NEEDS AND EXISTING CONDITIONS SUMMARY

Route 150 (Chippenham Pkwy) Corridor

VDOT District: Richmond District / Locality: Chesterfield County

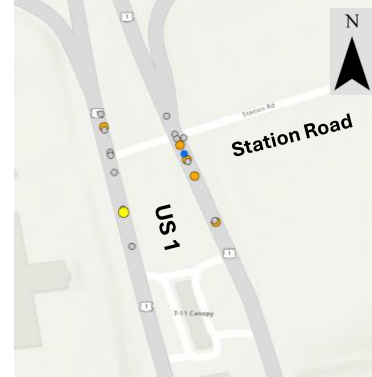
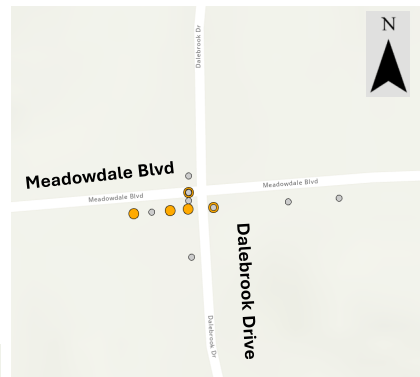
RI-25-01

Sheet 3 of 3

Route 150 and US-1 Intersection Crash (2020-2024)

- 30% of crashes were rear-end collisions and 28% of crashes were fixed object- off road collisions.
- 14% of rear-end collisions occurred on the ramps, 17% along US 1, 34% along EB Route 150 and, 35% along WB Route 150.
- Other Trends: 87% No Adverse Conditions, 66% Daylight, 50% Speeding, 3% Alcohol.

Crash Diagram for Each Intersection



Dalebrook Dr & Meadowdale Blvd Intersection Crash (2015-2022)

- 88% of crashes were angle collisions, 60% of those angle collisions occurred along Meadowdale Blvd and 31% along Dalebrook Drive.
- Other Trends: 88% No Adverse Conditions, 74% Daylight, 12% Speeding, 12% Senior related.

US-1 and Station Road Intersection Crash (2015-2022)

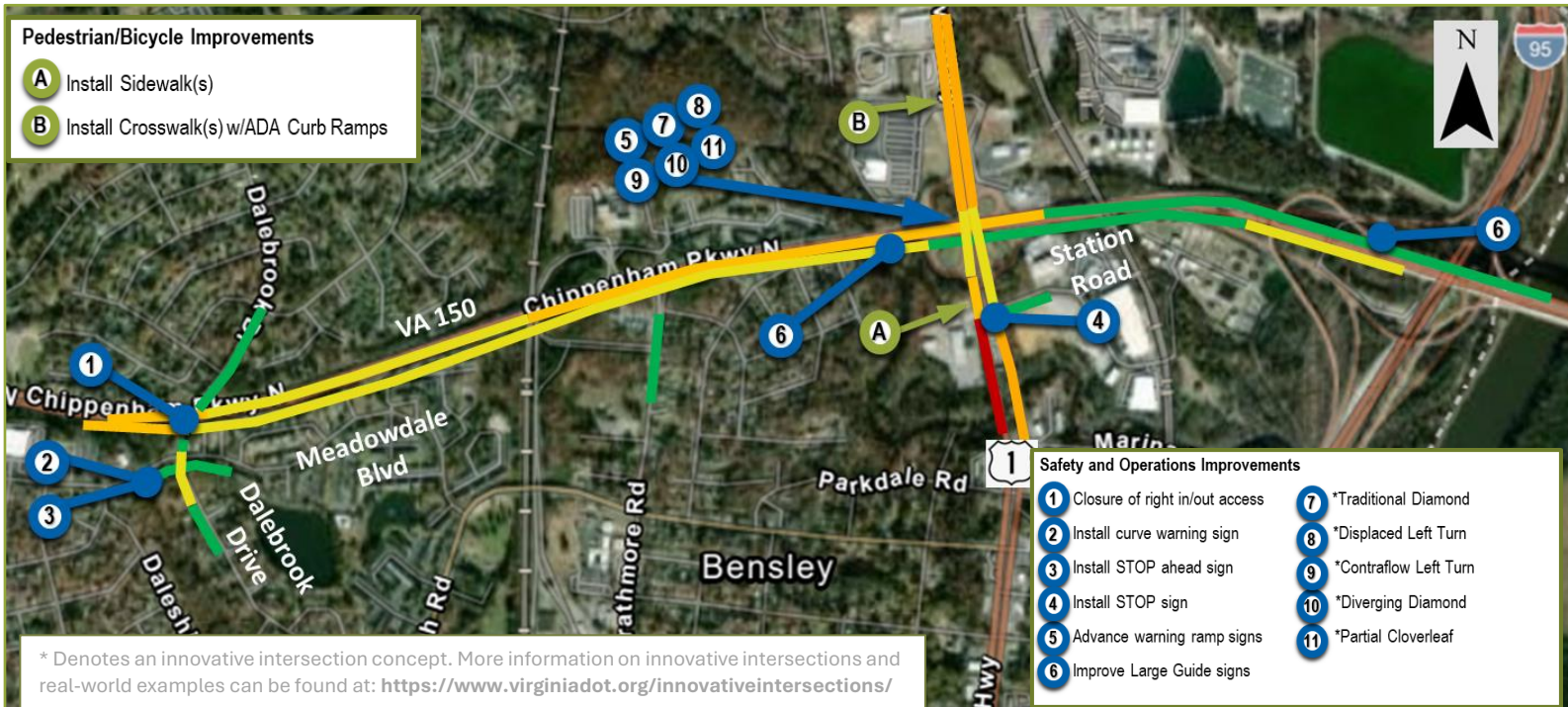
- 88% of crashes were angle collisions, 60% of those angle collisions occurred along Meadowdale Blvd and 31% along Dalebrook Drive.
- Other Trends: 88% No Adverse Conditions, 74% Daylight, 12% Speeding, 12% Senior related.



Phase 1 Scoping-Level Improvement Concepts

Pedestrian/Bicycle Improvements

- (A) Install Sidewalk(s)
- (B) Install Crosswalk(s) w/ADA Curb Ramps



* Denotes an innovative intersection concept. More information on innovative intersections and real-world examples can be found at: <https://www.virginiadot.org/innovativeintersections/>