



PROJECT PIPELINE NEEDS AND EXISTING CONDITIONS SUMMARY

US 58 and US 15 – Clarksville Bypass

VDOT District: Richmond District / Locality: Town of Clarksville/ Mecklenburg County

RI-25-03

Sheet 1 of 5



Study Purpose, Goals, and Objectives

Evaluate the operational and safety issues identified at the intersection of US 58 and US 15, with a focus on safety, Industrial and Economical Development Area (IEDA) /Urban Development Area (UDA) access, and TDM improvements.

Identify cost-effective preferred improvement alternatives that address the deficient conditions and prioritize overall intersection safety.

VTrans Needs

-  Significant angle crash trend related to mainline left turns.
-  Lack of IEDA/UDA transportation access.
-  Commuters traveling to/from the malls, shopping centers, and restaurants leads to congestion during peak hours.
-  No existing park and ride facilities present; no existing pedestrian or bicycle facilities.

Study Facts

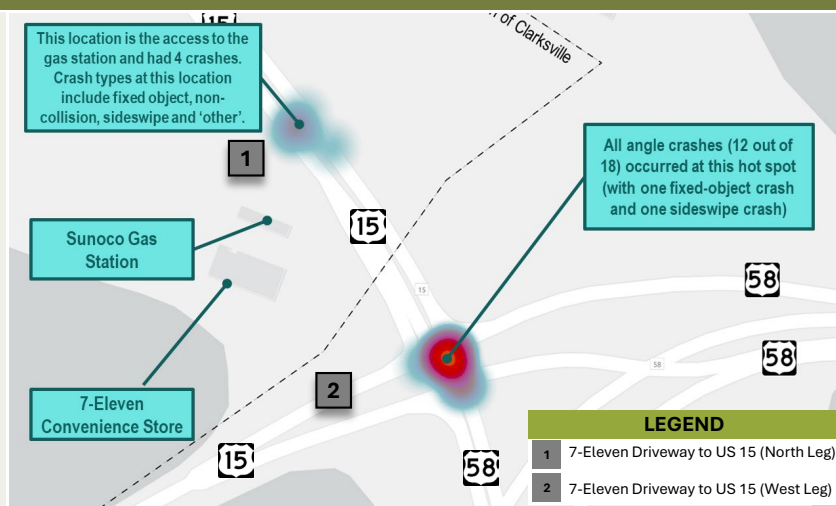
Major Study Intersections	1
Economical Development Area	Contributing Factor: Distressed Town
Classification	Minor Arterial
Transit Routes	None
Speed Limit	45 mph

Safety Needs

Intersection Safety Improvement Summary:

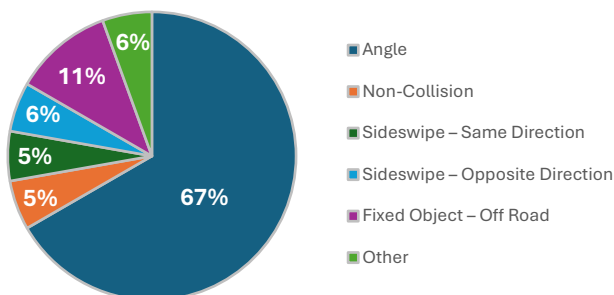
- The **Safety Improvement** VTrans Need is based on “Areas with a higher calculated risk of crashes based on roadway characteristics and observed crash data .¹”

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



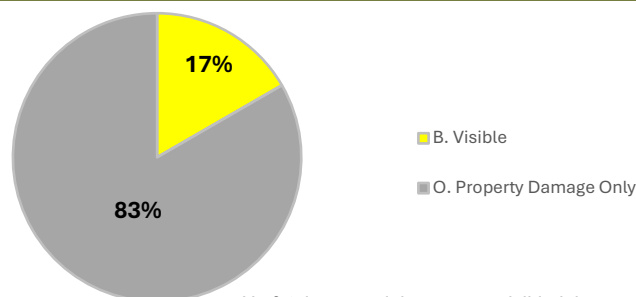
Crash Type

18 Total Crashes (2020 – 2024)



Crash Severity

18 Total Crashes (2020 – 2024)



No fatal, severe injury, or nonvisible injury crashes



PROJECT PIPELINE NEEDS AND EXISTING CONDITIONS SUMMARY

US 58 and US 15 – Clarksville Bypass

VDOT District: Richmond District / Locality: Town of Clarksville/ Mecklenburg County

RI-25-03

Sheet 2 of 5

Pedestrian Accessibility Summary

- No existing crosswalks or sidewalks present at the study intersection.
- No fatal crashes involving a pedestrian between 2020-2024.
- The **Pedestrian Access 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

Bicycle Accessibility Summary

- No existing bicycle lanes / shared-use paths in the vicinity of the study site.
- No crashes involving a bicyclist between 2020-2024
- 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

Bicycle/Pedestrian Access Needs Identification Summary



Transportation Demand Management (TDM) Summary

- No park-and-ride or other intermodal facilities exists near the study intersection. However, the gas station parking lot is used as an unofficial park-and-ride option by the local commuters.
- The **Transportation Demand Management (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

IEDA (UDA) Accessibility Summary

- The IEDA/UDA VTrans Need is based on an ongoing basis, per local government designation in a locality’s Comprehensive Plan¹.”
- The town is categorized as “distressed town” with low household and employment density and may require improved transportation access soon.

Transit Accessibility Summary

- No existing bus stops or transit route in the vicinity of the study intersection.
- VTrans Transit Access 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.*”



PROJECT PIPELINE NEEDS AND EXISTING CONDITIONS SUMMARY

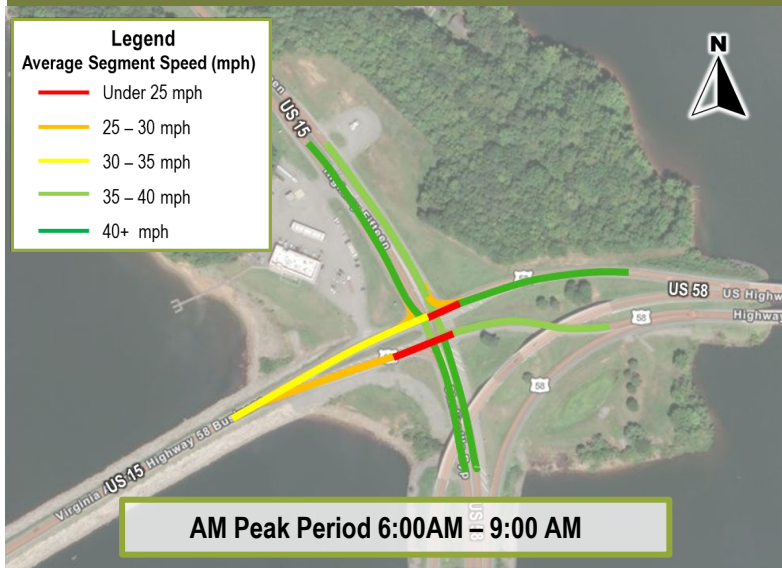
US 58 and US 15 – Clarksville Bypass

VDOT District: Richmond District / Locality: Town of Clarksville/ Mecklenburg County

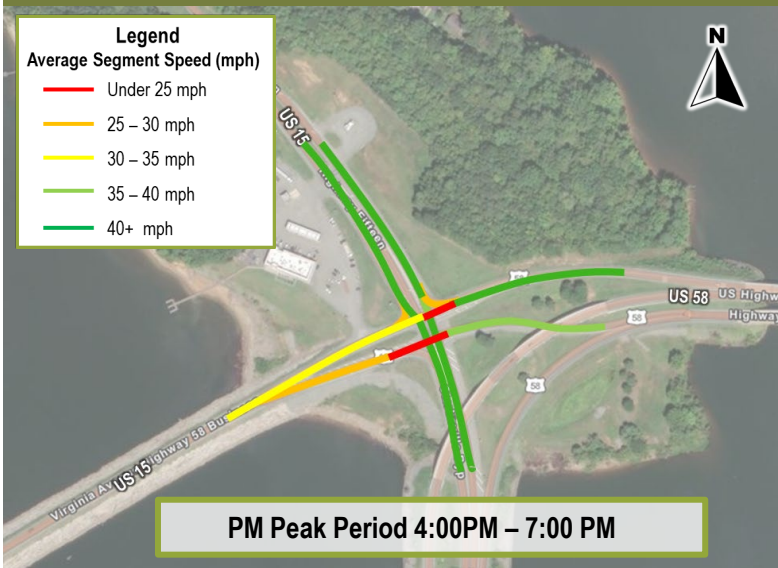
RI-25-03

Sheet 3 of 5

Average Speeds at the Study Intersection – AM Peak Period



Average Speeds at the Study Intersection – PM Peak Period



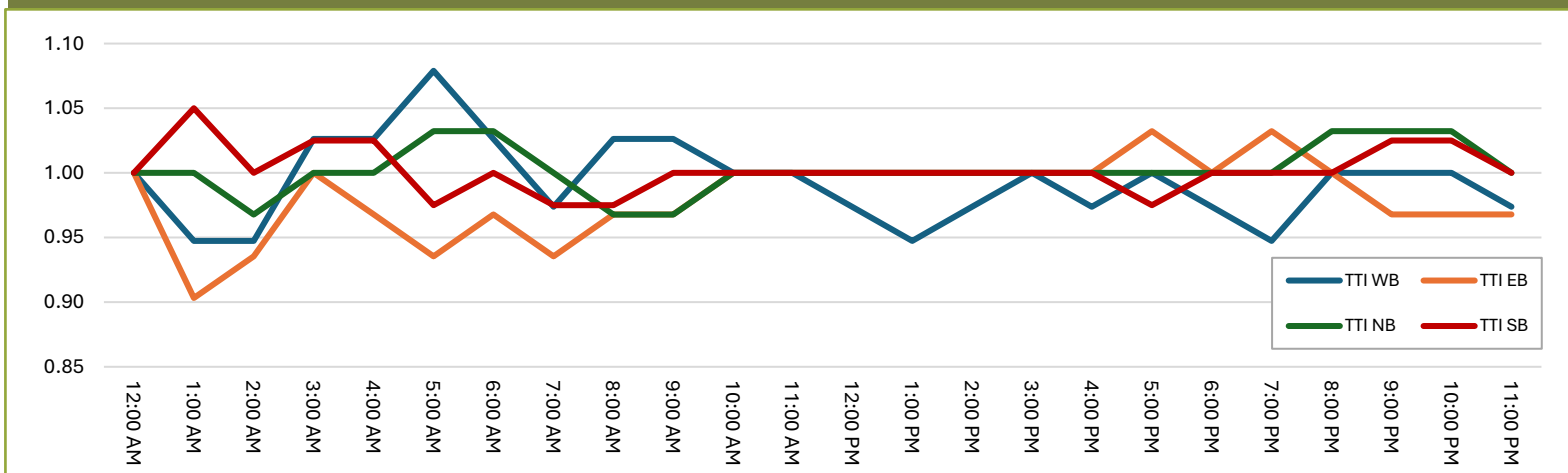
Operations Summary

- The intersection of US 58 & US 15 is Two-Way Stop Controlled (EB-WB approaches)
- No operational/ capacity deficiencies according to VDOT Pathways for Planning (P4P)
- 2023 Draft Mid-term VTrans Needs show the intersection as District Safety Priority Need.
- The intersection Peak Hours are:
 - AM Peak Hour: 7:30 – 8:30**
 - PM Peak Hour: 5:00 – 6:00**

Travel Time Index Summary

- Travel Time Index (TTI) is the ratio of travel time during the peak period to the time required to make the same trip at free-flow speeds. A higher value indicates more congestion.
- Travel Time Index by Hour for four directions did not show any significant spikes throughout the day.
- US 15 speed limit is 35 mph.
 - Average speed of 24 mph in both AM Peak Period and PM Peak Period were observed for the EB and WB directions, along the west leg of the intersection.

Travel Time Index (TTI) by Hour and Direction





PROJECT PIPELINE NEEDS AND EXISTING CONDITIONS SUMMARY

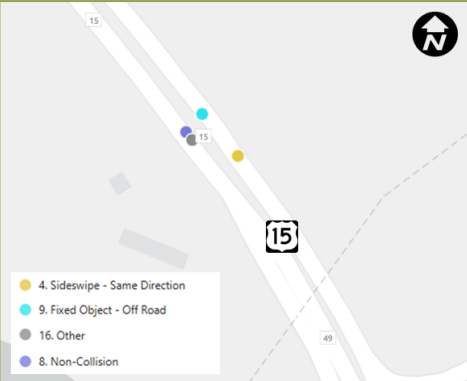
US 58 and US 15 – Clarksville Bypass

VDOT District: Richmond District / Locality: Town of Clarksville/ Mecklenburg County

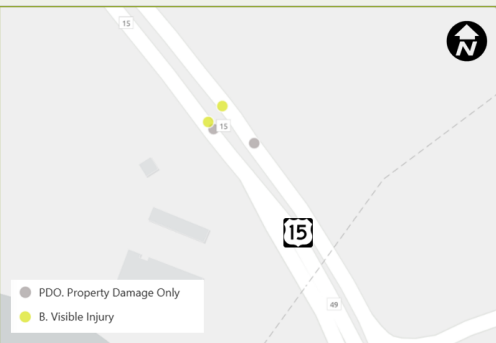
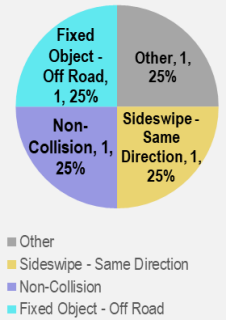
RI-25-03

Sheet 4 of 5

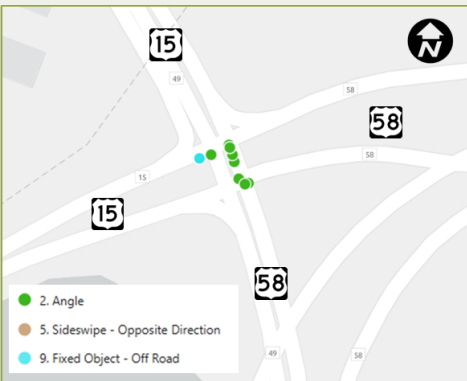
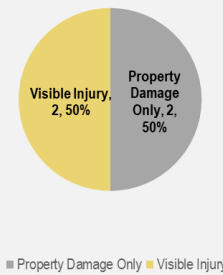
Crash Analysis (2020 – 2024 Data)



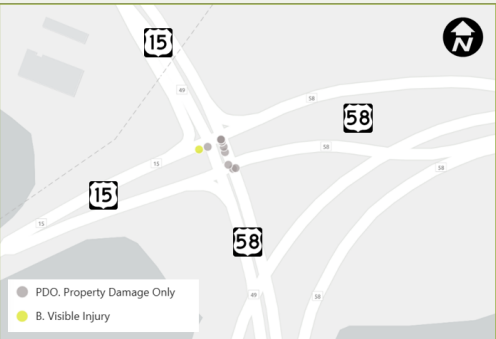
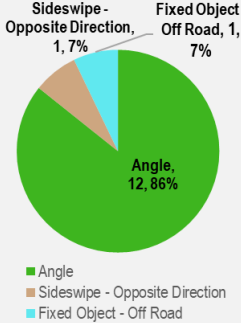
Crashes by Type



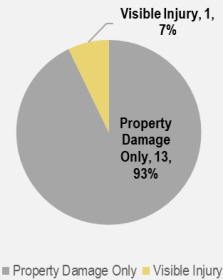
Crashes by Severity



Crashes by Type



Crashes by Severity



Intersection Crash Analysis Summary - Highlights

- No Fatal Crashes.
- Out of 18 total crashes, 3 resulted in visible injury and 15 crashes in property damage only
- Majority of the crashes were angle collisions (12 (66%) out of 18 total crashes)
- Both Fixed Object – Off Road crashes resulted in visible injury and recorded speeding.
- The Fixed Object crash at the intersection occurred at nighttime.

Potential Contributing Factors

- Sight Distance limitations.
- High speeds on the major roads
- Stop sign non-compliance resulting in angle crashes.
- Vehicles entering/exiting the Sunoco gas station and 7/Eleven onto US 15.
- Driver inattention.



PROJECT PIPELINE NEEDS AND EXISTING CONDITIONS SUMMARY

US 58 and US 15 – Clarksville Bypass

VDOT District: Richmond District / Locality: Town of Clarksville/ Mecklenburg County

RI-25-03

Sheet 5 of 5

Phase 1 Scoping-Level Improvement Concepts



Safety Improvements

- 1 Intersection Tightening
- 2 Signage and Pavement marking improvements
- 3 Raised medians / curb- extensions
- 4 Intersection Lighting improvements
- 5 Potential Median U-Turn
- 6 Potential Roundabout

Access Management Improvements

- 7 Access point review and improvements at the 7-Eleven Gas Station

Transportation Demand Management / Park and Ride / Industrial and Economical Development Area

- 8 Park and Ride facility (other than the unofficial use of 7-Eleven Parking Lot) could be beneficial