JOHNSON CITY MTPO SR 75 (SUNCREST DRIVE) CORRIDOR STUDY REPORT

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1. Introduction

The Johnson City Metropolitan Transportation Planning Organization (MTPO) initiated and funded the State Route (SR) 75 Corridor Study to evaluate existing and future mobility needs along a key segment of SR 75, otherwise known as Suncrest Drive, in the Gray community of Washington County, with a portion located within the city limits of Johnson City. The study corridor extends approximately 2.8 miles from the I-26 eastbound on/off-ramps at the northern terminus to the intersection with Hugh Cox Road to the south. This segment serves as a vital connection between residential neighborhoods, local businesses, regional destinations, and the interstate system. It also plays an increasingly important role in supporting growth within both Washington County and the broader Johnson City region.

This study provides a comprehensive, planning-level assessment of existing conditions along the corridor, including roadway operations, multimodal access, safety performance, and adjacent land use. It documents key issues and opportunities identified through technical analysis and stakeholder input and evaluates a range of improvements intended to enhance the corridor's overall function. The recommendations presented herein are designed to support the MTPO in advancing future project development, with an emphasis on improving safety, optimizing capacity, and supporting long-term mobility for all users. An overview of the study area is shown in Figure 1-1.

1.1 Project Background

SR 75 plays a vital role in the regional transportation network, serving as a key north-south connection within Washington County. The corridor links the Gray community to I-26, providing access north toward Kingsport and south toward Johnson City. It supports a mix of local and regional travel, with daily traffic generated by residential neighborhoods along the corridor and commercial activity north of the I-26 interchange.

Several transportation concerns have emerged along this segment of SR 75 in recent years. Safety has become an increasing priority due to a pattern of crashes at various points along the corridor and the presence of multiple access points that create conflict opportunities. Additionally, Daniel Boone High School fronts the roadway, contributing to recurring congestion during the morning drop-off and afternoon pick-up periods. These peak-hour surges place added strain on the roadway and affect travel time reliability for both school-related and through traffic.

The Gray community continues to experience growth, and with substantial undeveloped land available adjacent to the corridor, additional residential and commercial development is anticipated. As development intensifies, traffic volumes are expected to increase, further influencing safety, operations, and access along SR 75. Proactive planning for this growth is essential to ensure the corridor can adequately accommodate future demand while maintaining safe and efficient travel for all users.

Figure 1-1 SR 75 Corridor Study Area

1.2 Project Purpose

The purpose of the SR 75 (Suncrest Drive) Corridor Study is to evaluate current and future transportation needs along the corridor and develop targeted recommendations that ***enhance safety, improve traffic operations,*** and support ***multimodal connectivity***. This study aims to address existing challenges while proactively preparing the corridor for anticipated growth.

The study examines a range of existing conditions, including demographics, land use patterns, crash history, roadway geometry, traffic operations, and congestion, to identify locations where safety issues and operational inefficiencies are most prominent. Crash records obtained from the Enhanced Tennessee Roadway Information Management System (E-TRIMS) show that between January 2020 and December 2024, 187 crashes occurred within the study limits, including one fatality, emphasizing the need for strategic safety improvements.

The study's safety analysis focuses on intersections and segments with elevated crash frequencies, severe crash types, and pedestrian or bicycle involvement. Potential countermeasures include reducing conflict points, improving intersection alignment, adding dedicated turn lanes, modifying signal control, and introducing pedestrian infrastructure.

To address operational concerns, the study evaluates existing and projected traffic volumes, capacity constraints, and signal possibilities. These analyses will help identify opportunities for geometric adjustments, signalization of intersections, and other measures that can improve travel time reliability for both current and future demand.

The study also considers opportunities to enhance multimodal accessibility. Incorporating infrastructure such as sidewalks, pedestrian crossings, and a potential multi-use path can expand travel options, support active transportation, and improve overall quality of life for residents and other users of the corridor.

Overall, the corridor study seeks to deliver a coordinated set of improvements that strengthen safety, mobility, and connectivity along SR 75, supporting the long-term needs of the residents, visitors, and the surrounding community.

2. Existing Conditions

This section will focus on the existing conditions of the study area and establish the environment upon which the recommendations of this study are based.

2.1 Demographics

Washington County has experienced steady population growth over the past decade. According to the 2020 Decennial Census, the county's population was 133,001, representing an increase of 10,022 residents (8 percent) since 2010. This growth trend has continued, with the 2023 American Community Survey (ACS) estimating the county's population at 134,693. Population projections from the Tennessee State Data Center further indicate sustained growth, with Washington County expected to reach approximately 150,000 residents by 2040 and 158,000 by 2060.

Johnson City, the largest municipality in Washington County, has similarly grown over time. The city's population increased from 63,152 in 2010 to 71,046 in 2020, an increase of 12.5 percent. The 2023 ACS estimates Johnson City's population at 71,455, indicating continued, albeit slower, growth in recent years.

At a more localized scale, population growth is also evident within and near the SR 75 (Suncrest Drive) study area. The 2020 Decennial Census identified 3,186 residents living within a half-mile radius of the corridor based on Census Block data. North of I-26, the Gray area, which is designated by the Census Bureau as a Census Designated Place (CDP), has experienced particularly rapid growth. The Gray CDP population increased from 1,222 in 2010 to 1,237 in 2020, and further to an estimated 1,606 residents in 2023, representing an approximately 30 percent increase since 2020.

Collectively, these trends reflect a growing population in the Gray community and surrounding communities, which is expected to place increasing demand on SR 75 (Suncrest Drive) as a key transportation corridor.

2.2 Land Use

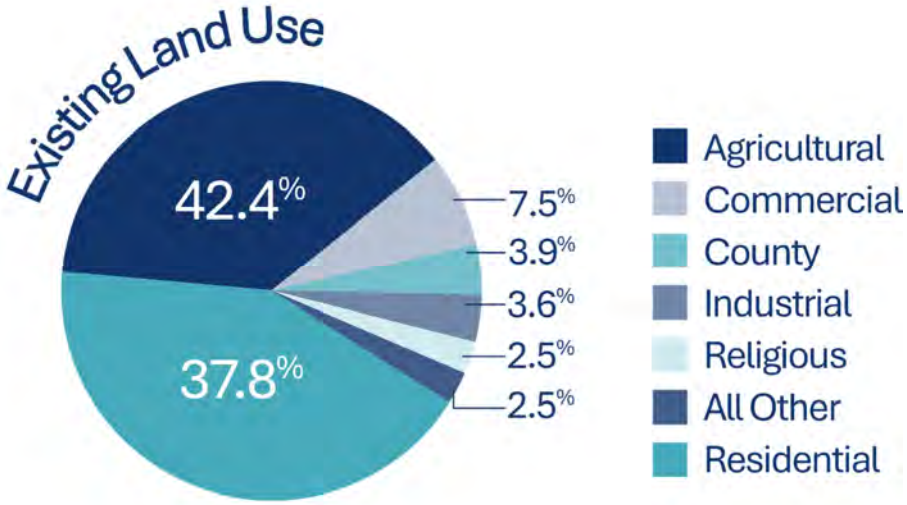
Land use within a half-mile radius of the SR 75 (Suncrest Drive) corridor is predominantly agricultural and low-density residential. Agricultural land comprises approximately 42.4 percent of the area, followed by residential uses at 37.8 percent. Commercial development accounts for 7.5 percent, county facilities for 3.9 percent, and religious facilities and other miscellaneous uses each account for approximately 2.5 percent. Overall, the

corridor retains a largely rural character, with more intensive development concentrated along SR 75 (Suncrest Drive).

Agricultural land is a key factor in the future evolution of the corridor, as these properties are the most likely to transition to higher-intensity uses through rezoning and changes in ownership. Beyond the immediate study area, large tracts of undeveloped land further indicate strong long-term growth potential. Recent and planned residential developments along and near SR 75 (Suncrest Drive) demonstrate this shift and are expected to place increasing demands on the corridor.

Several planned developments are anticipated to influence traffic patterns along SR 75 (Suncrest Drive) and the surrounding roadways. The Adams Street/Sun Street subdivision proposes 84 single-family residential units. The site includes existing right-of-way connections from the Adams Acres Subdivision to Bob Fitz Road, as well as an existing connection from Sun Street to Adams Street. Due to the narrow width of Adams Street, it is anticipated that a portion of traffic from this development may preferentially use the more direct and wider connection to Bob Fitz Road rather than Gray Station Road. This redistribution of traffic could increase volumes on Bob Fitz Road and should be considered when evaluating future signal warrants and intersection improvements along the corridor.

Another planned residential development is located along Gray Station Road. This project includes 30 single-family residential units and will rely solely on Gray Station Road for access. Traffic generated by this development is



expected to increase turning movements from Gray Station Road to SR 75 (Suncrest Drive) and will contribute additional demand at the proposed traffic signal location identified in this study.

The Keebler Meadows development represents a larger residential project in the corridor area, consisting of 367 single-family homes and 126 townhouses, totaling 493 dwelling units. Of the approved townhomes, 25 units are currently under construction near Sam Jenkins Road. Additionally, the Midland Apartments, situated between Gray Station Road/Shadden Road and Gray Commons Circle, has recently been completed.

In addition to residential growth, commercial development is emerging along SR 75 (Suncrest Drive). A new strip commercial center is under construction south of Roscoe Fitz Road on the east side of the corridor, with adjacent parcels under common ownership that may support future

development. These uses are expected to increase access-related activity and turning movements along SR 75 (Suncrest Drive), further emphasizing the need for access management and intersection evaluation.

From a regional perspective, SR 75 (Suncrest Drive) serves as a critical access route for the Gray Community, providing direct connectivity to Interstate 26 and facilitating travel between Johnson City, Kingsport, and the greater Tri-Cities region. The corridor also supports regional destinations such as the Gray Fossil Site near Sam Jenkins Road and Daniel Boone High School, which draws students from across Washington County. Together, local development pressures and regional travel demand highlight the importance of coordinated land use and transportation planning to ensure SR 75 (Suncrest Drive) can safely and efficiently accommodate future growth.

2.3 Zoning

Zoning serves as the primary regulatory tool through which Washington County and the City of Johnson City guide and control land development. In addition to defining allowable land uses, zoning regulations establish key site development standards, including setbacks, landscaping requirements, and allowable density. Because the SR 75 corridor spans areas under both county and city jurisdiction, zoning regulations from each entity will influence how the corridor develops over time.

The existing zoning along the corridor reflects a wide range of allowable land uses, including several zoning districts that accommodate planned or mixed-use development. Zoning designations for both jurisdictions are illustrated in the Zoning Map in Figure 2-1. When these districts are consolidated into broader land use categories, as shown in the accompanying chart, residential and agricultural zoning clearly emerge as the predominant classifications within a half-mile of SR 75 (Suncrest Drive).

Zoning Breakdown Near SR 75 (Suncrest Drive)

40.1%	975 ac	Residential
36.5%	889 ac	Agriculture
16.6%	403 ac	Commercial
6.1%	148 ac	Industrial
0.6%	14 ac	Mixed Use
0.2%	6 ac	Medical Services

Agricultural zoning is particularly notable due to the size and continuity of these parcels. Large agricultural tracts are often the most likely to convert to more intensive uses as property ownership changes and rezoning requests are submitted. As development pressure increases in the Gray community, these zoning patterns highlight the importance of proactively planning for future land use transitions and their associated transportation impacts along the SR 75 (Suncrest Drive) corridor.

Johnson City Zoning

- B-4 Planned Arterial Business District
- B-5 Planned Community Business District
- I-1 Light Industrial District
- MS-1 Medical Services District
- R-2 Low Density Residential District
- R-4 Medium Density Residential District
- RP-3 Planned Residential District
- CO Corridor Overlay

Washington County Zoning

- A-1 General Agriculture District
- B-1 Neighborhood Business District
- B-3 General Business District
- PBD-1 Planned Business District
- PBD-2 Planned Business District
- PR-BD Planned Residential-Business District
- PRD-2 Planned Residential District
- PRD-3 Planned Residential District
- R-1 Low Density Residential District
- R-1A Low Density Residential District
- R-1B Low Density Residential District
- R-2A Medium Density Residential District
- R-3 High Density Residential District
- R-3A High Density Residential District

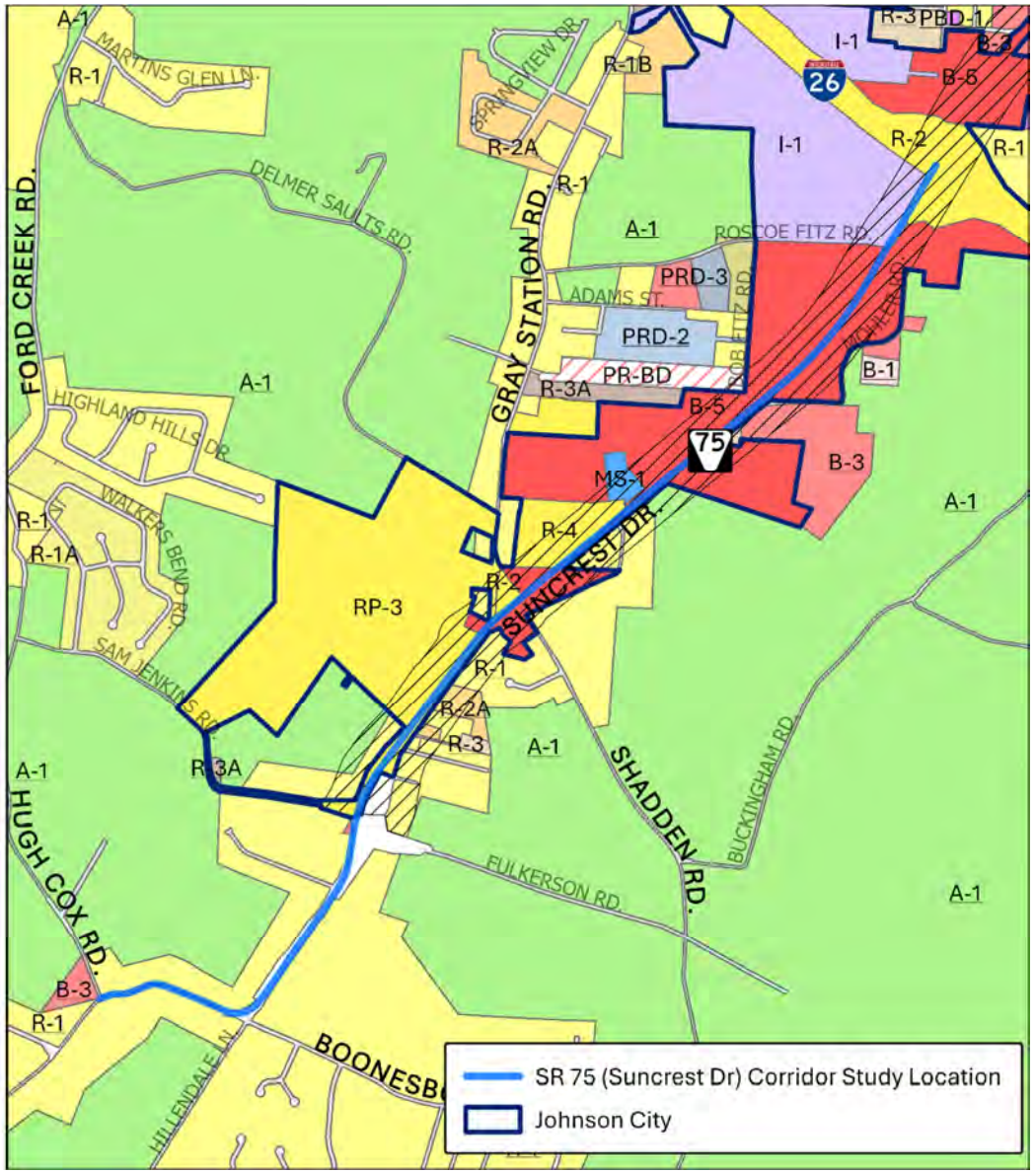


Figure 2-1 Zoning Map

2.4 Flood Hazard Areas

The area surrounding SR 75 (Suncrest Drive) has minimal Special Flood Hazard Areas designated by FEMA, as shown in Figure 2-2. The identified Special Flood Hazard Areas follow the immediate land around Sinking Creek, Ford Creek, and Cedar Creek, which flow in a north-south direction. These creeks and their adjacent flood zones can have localized impacts on the surrounding land. The SFHA Zone "A" shown on the map is designated for areas identified with having a 1% annual chance of flooding, often referred to as the 100-year flood.

Ford Creek crosses beneath SR 75 (Suncrest Drive) near the Gray Fossil Site, which will be an important consideration for improvements to this section of the roadway. Beyond this crossing, FEMA-designated flood areas do not significantly affect proposed improvements to SR 75 (Suncrest Drive); however, when parcels develop adjacent to the creeks, it is essential to consider the overall impacts on the surrounding area. Intense land development, which increases impervious surfaces or alters natural drainage patterns, can have cumulative effects that may lead to localized flooding impacting the corridor.

For official determinations and decisions regarding flood areas, it is essential to consult the official FEMA flood maps and Flood Insurance Study for Washington County.

Figure 2-2 Flood Zone Map

2.5 Crash History and Safety Analysis

A review of historical crash data was conducted for the five-year period from January 1, 2020, through December 31, 2024, to evaluate safety performance along the SR 75 (Suncrest Drive) corridor. During this period, a total of ***187 crashes*** were reported within the study limits, including ***one fatal*** crash. Crash records were obtained through the Enhanced Tennessee Roadway Information Management System (E-TRIMS).

Intersection crash rates were calculated in terms of crashes per million entering vehicle (MEV) for each intersection along the corridor. These rates were then compared to statewide averages for similar intersection types to identify and prioritize locations with elevated safety concerns.

Figure 2-3 on page 17 summarizes crashes by collision type along SR 75 (Suncrest Drive), from the westbound I-26 ramps at the northern terminus to Hugh Cox Road at the southern terminus. Figure 2-4 presents a map of crashes by maximum injury severity. To improve legibility, crash symbols have been dispersed to better visualize the number of crashes without overlapping; therefore, the locations shown on the map are approximate.

2.5.1 Crash Rates

Intersection crash rates were calculated using five years of crash data and estimated traffic exposure. Traffic exposure was determined by approximating daily entering volumes from available peak hour turning movement counts. Peak hour volumes at each intersection were scaled to daily volumes using a ratio derived from the 24-hour volume count collected mid-corridor between Gray Station Road/Shadden Road and Sam Jenkins Road. This ratio was assumed to be representative of traffic patterns along SR 75 (Suncrest Drive) and was applied consistently across all study intersections.

Statewide average crash rates for various intersection types are periodically developed by the Tennessee Department of Transportation (TDOT). The rates used in this analysis were obtained from the 2021-2023 Highway Safety Improvement Program (HSIP). In addition to average crash rates, critical crash rates were calculated for each intersection to account for statistical variability. The critical crash rate represents the threshold above which an observed crash rate is unlikely to be the result of random variation alone and instead suggests that specific geometric, operational, or traffic-related characteristics may be contributing to elevated crash risk.

In Table 2-1, intersection crash rates were compared to the statewide average and critical crash rates based on:

- **Below Average**: Locations with crash rates below the statewide average or critical crash rates
- **Average**: Locations with crash rates at or within 15 percent above the statewide average or critical crash rates
- **Above Average**: Locations with crash rates 15 to 40 percent above the statewide average or critical crash rates
- **Significantly Above Average**: Locations with crash rates greatly above the statewide average or critical crash rates

The most significantly above average crash risks exist at both ends of the study corridor. Observed crash rates exceeded the critical rate at the intersections along SR 75 (Suncrest Drive) at the following cross-streets:

1. **Interstate 26W Ramps**
2. **Roscoe Fitz Road**
3. **Daniel Boone High School south driveway**
4. **Boonesboro Road**
5. **Hugh Cox Road**

A detailed summary of the crash history at each intersection is included in Appendix A.

Table 2-1 Intersection Crash Rates

Intersection	Entering Volume	Exposure	Total Crashes	Actual Crash Rate	Statewide Crash Rate	Actual/ Statewide Ratio	Critical Crash Rate	Actual/ Critical Ratio
SR 75 & I-26W Ramps	28,100	51.28	83	1.618	0.537	**3.014**	0.710	**2.280**
SR 75 & I-26E Ramps	24,855	45.36	27	0.595	0.495	**1.202**	0.674	**0.883**
SR 75 & Roscoe Fitz Rd	18,320	33.43	21	0.628	0.099	**6.344**	0.204	**3.083**
SR 75 & Mosley Rd	16,950	30.93	2	0.065	0.099	**0.653**	0.200	**0.323**
SR 75 & Bob Fitz Rd	16,010	29.22	1	0.034	0.099	**0.346**	0.203	**0.168**
SR 75 & Gray Station Road/Shadden Rd	16,085	29.36	4	0.136	0.099	**1.376**	0.212	**0.643**
SR 75 & Sam Jenkins Rd	15,280	27.89	2	0.072	0.099	**0.724**	0.206	**0.348**
SR 75 & Daniel Boone High School (North)	13,100	23.91	3	0.125	0.099	**1.268**	0.215	**0.583**
SR 75 & Daniel Boone High School (South)	10,810	19.73	7	0.355	0.099	**3.584**	0.228	**1.555**
SR 75 & Boonesboro Rd	9,770	17.83	7	0.393	0.099	**3.966**	0.250	**1.570**
SR 75 & Hugh Cox Rd	8,415	15.36	11	0.716	0.099	**7.235**	0.247	**2.895**

Figure 2-3 Summary map of crashes by manner of collision

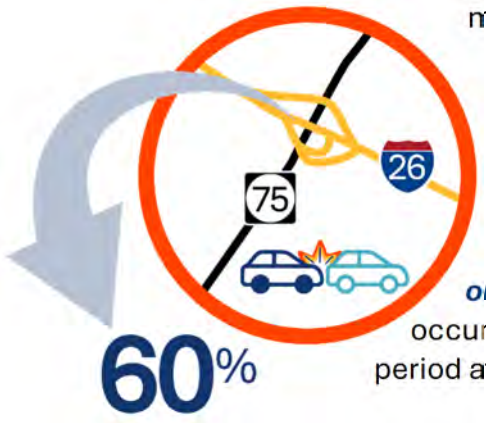
Figure 2-4 Summary map of crashes by injury severity

2.5.2 Safety Highlights

A more detailed review of crash characteristics was performed at locations along the corridor to identify trends or highlight concerns. Crash trends differ between two primary areas on Suncrest Drive. The I-26 interchange and surrounding area sees the highest volumes and concentration of turning movement conflicts, as well as the most interruption of traffic flow. Beyond the Roscoe Fitz Road intersection, SR 75 (Suncrest Drive) has no traffic control, as all intersections are stop-controlled only on the crossing roadways, and intersecting roadway volumes are relatively low by comparison. These contrasting traffic patterns result in unique crash risks.

Interstate 26 Interchange

More than 60% of all the crashes that occurred on this section of Suncrest Drive ***happened at the Interstate 26 interchange***. Most of these crashes were rear-end crashes, primarily involving vehicles approaching the intersection between SR 75 (Suncrest Drive) and the I-26 westbound ramps. Rear-end crashes also represent the majority of crashes at the intersection with the eastbound ramps; however, the crash rate is significantly lower at this intersection. ***No fatal or serious injury crashes*** occurred during the study period at either location.



Lane Departures

Crashes coded as single-vehicle, head-on, or sideswipe are designated as lane departure types.

Single-vehicle collisions were responsible for more than one-third of the crashes away from the I-26 interchange area. ***Nine lane departure*** crashes occurred in the relatively ***straight section*** of the road between Sam Jenkins Road and Bob Fitz Road, including a head-on collision near Gray Commons Circle which resulted in the only fatality in the study data. An animal crossing the roadway caused four of these crashes, and the others were due to driver failure to maintain their lane.

An additional ***20 lane departure*** crashes occurred in the series of ***curves*** at the south end of the study corridor, in the vicinity of the Hugh Cox Road and Boonesboro Road intersections. The cause of all these crashes was failure to maintain the travel lane and crash reports indicate they are mostly curve-related. A map of the described area is shown in Figure 2-5.

Figure 2-5 Crashes clustered in curves at south end of study area

2.6 Roadway Characteristics

The SR 75 (Suncrest Drive) corridor extends approximately 2.8 miles from the I-26 Westbound On/Off-Ramps at the northern terminus to Hugh Cox Road at the southern end of the study area. Within these limits, the roadway is signed as Suncrest Drive. South of Hugh Cox Road, SR 75 continues as Gray Station-Sulphur Springs Road, ultimately continuing to SR 81 beyond the study area.

SR 75 (Suncrest Drive) is classified by TDOT as a Minor Arterial and functions as an important connector within the local and regional roadway network. The study area also includes several other classified roads, including Interstate 26, which is part of the National Highway System, and Gray Station Road/Shadden Road and Hugh Cox Road, both of which are classified as Major Collectors. The functional classifications are illustrated in Figure 2-6.

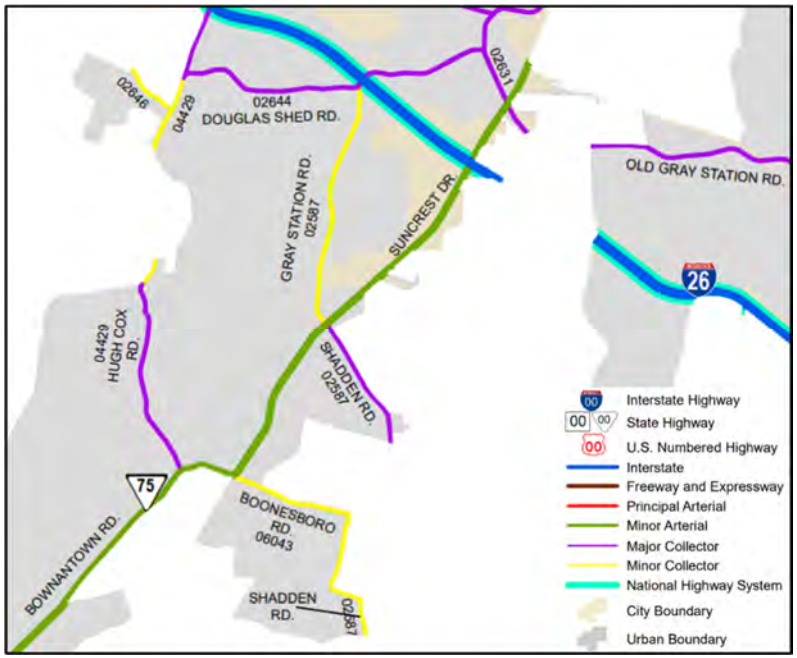


Figure 2-6 TDOT Functional Classification Map

2.6.1 Segments

Throughout much of the study area, SR 75 (Suncrest Drive) operates as a two-lane roadway with a center two-way left turn lane (TWLTL). The corridor traverses a mix of agricultural and residential land uses, which influences existing access spacing, driveway density, and traffic demand along different segments of the roadway.

Traffic volume counts were collected to capture vehicular activity along roadway segments and at key intersections along the corridor. These counts provide insight into traffic patterns, corridor performance, and intersection capacity, and support the evaluation of existing signal timing and the identification of locations where operational improvements may be warranted. Turning movement counts and 24-hour segment counts were collected on March 11, 2025. The complete traffic counts are provided in Appendix B.

In addition to the project-specific counts, 2024 Annual Average Daily Traffic (AADT) data published by TDOT were reviewed to supplement the traffic data collection. Figure 2-7 illustrates the locations of the 24-hour segment counts, eight-hour turning movement counts (TMCs), and existing TDOT AADT count stations.

Figure 2-8 presents a comparison of the 2025 CDM Smith 24-hour segment counts and the 2024 TDOT AADT values.

INTERSECTIONS

1 SR 75 (Suncrest Dr) at I-26 WB On/Off-Ramp	4 SR 75 (Suncrest Dr) at Mosley Road	7 SR 75 (Suncrest Dr) at Sam Jenkins Rd	10 SR 75 (Suncrest Dr) at Boonesboro Rd
2 SR 75 (Suncrest Dr) at I-26 EB On/Off-Ramp	5 SR 75 (Suncrest Dr) at Bob Fitz Rd	8 SR 75 (Suncrest Dr) at Daniel Boone High School	11 SR 75 (Suncrest Dr) at Hugh Cox Rd
3 SR 75 (Suncrest Dr) at Roscoe Fitz Road	6 SR 75 (Suncrest Dr) at Gray Station Rd	9 SR 75 (Suncrest Dr) at Daniel Boone High School	12 Boonesboro Rd at Hillendale Ln

Figure 2-7 AADT & Turning Movement Count Locations

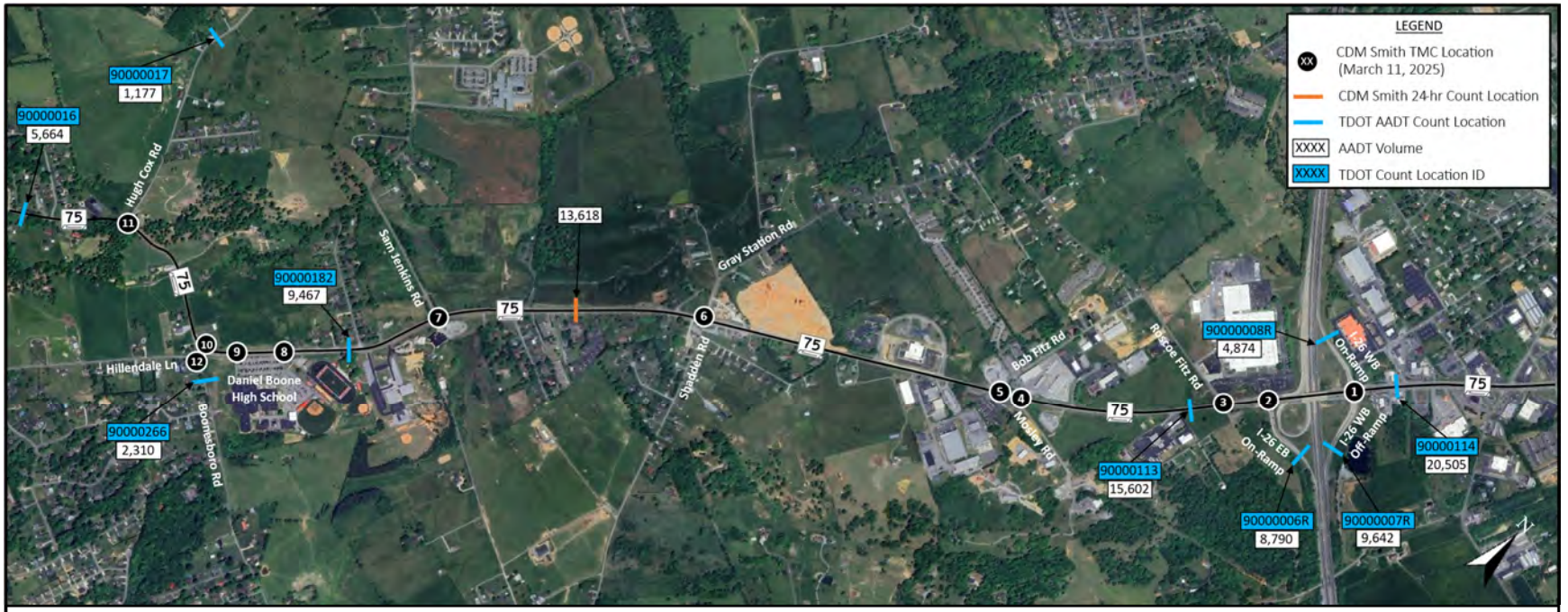


Figure 2-8 Segment AADT Volumes

Traffic volumes along SR 75 (Suncrest Drive) vary notably by segment, reflecting changes in land use, access, and regional connectivity. The highest traffic volumes occur near the northern end of the corridor at the westbound I-26 on/off-ramps, where an AADT volume of approximately 20,500 vehicles is recorded. Moving southward, volumes decrease to approximately 13,600 vehicles per day between Gray Station Road/Shadden Road and Sam Jenkins Road. Near the southern end of the study area, volumes further decline to approximately 5,700 vehicles per day. This gradual reduction in traffic corresponds to the transition from regional-serving to more locally oriented roadway functions along the corridor.

2.6.2 Intersections

Intersections represent critical control points along SR 75 (Suncrest Drive), where congestion and safety concerns are most likely to occur. Building on the segment-level traffic analysis, a detailed evaluation of key intersections was conducted to better understand traffic operations, peak-period demand, and factors influencing corridor performance.

Turning movement counts (TMCs) were collected at eleven primary intersections along the corridor to capture detailed traffic flow patterns and operational characteristics. An additional TMC was conducted at the intersection of Boonesboro Road and Hillendale Lane due to its proximity to the unsignalized intersection of SR 75 (Suncrest Drive) and Boonesboro Road and its potential influence on traffic operations in the area. All TMCs were collected on March 11, 2025.

Analysis of the TMC data indicates that SR 75 (Suncrest Drive) experiences three distinct peak periods throughout the day. While typical arterial corridors exhibit morning (7:00 - 8:00 AM) and evening (4:30 - 5:30 PM) peak hours, traffic conditions along this corridor are also significantly influenced by nearby school activity. The presence of Daniel Boone High School and Ridgeview Elementary School generates a pronounced midday peak during the school dismissal period from approximately 2:45 PM to 3:45 PM. Figure 2-9 and Figure 2-10 display the turning movement counts collected for the study.

In addition to traffic volumes, detailed information on intersection characteristics was documented for the 12 key intersections, including geometry, lane configurations, turn lanes, and traffic control features. These characteristics were evaluated to assess intersection capacity, operational efficiency, and safety performance.

This intersection-focused analysis complements the segment-level findings and ensures that recommended improvements address both continuous roadway operations and the performance of critical intersection locations. The following sections summarize the key intersection attributes and discuss their role in supporting overall corridor functionality and safety.

INTERSECTIONS

1. SR 75 (Suncrest Dr) at I-26 WB On/Off-Ramp
2. SR 75 (Suncrest Dr) at I-26 EB On/Off-Ramp
3. SR 75 (Suncrest Dr) at Roscoe Fitz Road
4. SR 75 (Suncrest Dr) at Mosley Road
5. SR 75 (Suncrest Dr) at Bob Fitz Rd
6. SR 75 (Suncrest Dr) at Gray Station Rd
7. SR 75 (Suncrest Dr) at Sam Jenkins Rd
8. SR 75 (Suncrest Dr) at Daniel Boone High School
9. SR 75 (Suncrest Dr) at Daniel Boone High School
10. SR 75 (Suncrest Dr) at Boonesboro Rd
11. SR 75 (Suncrest Dr) at Hugh Cox Rd
12. Boonesboro Rd at Hillendale Ln

Figure 2-9 2025 Peak Hour Turning Movement Count Volumes

INTERSECTIONS

1. SR 75 (Suncrest Dr) at I-26 WB On/Off-Ramp
2. SR 75 (Suncrest Dr) at I-26 EB On/Off-Ramp
3. SR 75 (Suncrest Dr) at Roscoe Fitz Road
4. SR 75 (Suncrest Dr) at Mosley Road
5. SR 75 (Suncrest Dr) at Bob Fitz Rd
6. SR 75 (Suncrest Dr) at Gray Station Rd
7. SR 75 (Suncrest Dr) at Sam Jenkins Rd
8. SR 75 (Suncrest Dr) at Daniel Boone High School
9. SR 75 (Suncrest Dr) at Daniel Boone High School
10. SR 75 (Suncrest Dr) at Boonesboro Rd
11. SR 75 (Suncrest Dr) at Hugh Cox Rd
12. Boonesboro Rd at Hillendale Ln

Figure 2-10 2025 School Dismissal Turning Movement Count Volumes

SR 75 (Bobby Hicks Highway) at I-26 Westbound On/Off-Ramp

The intersection of SR 75 (Bobby Hicks Highway) and the I-26 westbound on/off-ramps is a signalized intersection designed to manage significant traffic volumes from I-26. The geometry includes dual through and left turn lanes on SR 75 (Bobby Hicks Highway) northbound, while the southbound approach has dual through lanes and a channelized right turn lane on to I-26 westbound. From the east, the I-26 westbound off-ramp transitions from a single lane into dual left turn and right turn lanes at the intersection with SR 75 (Bobby Hicks Highway).

SR 75 (Suncrest Drive) at I-26 Eastbound On/Off-Ramp

The intersection of SR 75 (Suncrest Drive) and the I-26 eastbound ramps is signalized, but the movements are mostly separated, so only two signal phases exist. The only crossing conflict is between the northbound through and southbound left-turn movements. All other movements are yield controlled or free-flow.

The southbound left-turn has dual turn lanes, which are controlled by the signal, and the northbound right turn onto the I-26 on-ramp merges into one of the ramp lanes. Both off-ramps enter SR 75 (Suncrest Drive) as free-flow. Because SR 75 (Bobby Hicks Highway) northbound is transitioning from two lanes to four lanes, the off-ramp acts as that transition point, so no merge is necessary.

In contrast, the I-26 off-ramp onto SR 75 (Suncrest Drive) southbound enters into a crossover condition. Once traffic merges onto SR 75 (Suncrest Drive), drivers have approximately 700 feet before the new lane drops into a right-turn at the next intersection of Roscoe Fitz Road.

SR 75 (Suncrest Drive) at Roscoe Fitz Road and Mohler Road

The intersection between SR 75 (Suncrest Drive) and Roscoe Fitz Road / Mohler Road is stop-controlled on the side street approaches. A left-turn lane opens for southbound traffic to turn onto Mohler Road, and northbound left-turning traffic is serviced by a center left-turn lane that ends the two-way left-turn lane on SR 75 (Suncrest Drive) heading northbound.

The southbound right-turn lane is a drop-lane that is also the eastbound I-26 off-ramp merge lane. Because of this, much of the traffic in this lane is not turning right but actually trying to find a gap in the through lane to merge over to continue straight on SR 75 (Suncrest Drive) southbound. This can result in situations where driver intentions are not clear to other traffic on the roadway, and it also frequently creates a condition where vehicles enter an intersection while looking over their shoulder or in their rear-view mirrors.

SR 75 (Suncrest Drive) at Mosley Road

The intersection of SR 75 (Suncrest Drive) and Mosley Road is a partial stop-controlled, T-intersection. SR 75 (Suncrest Drive) is straight and is intersected by Mosley Road, which is stop-controlled. A center turn-lane proceeds through the intersection unbroken, with no stop lines at the stop sign. Mosley Road also approaches at an angle of approximately 50-degrees from perpendicular, although the road does shift some just before meeting SR 75 (Suncrest Drive) to reduce the skew angle.

Both roads are marked with edge lines. Minimal paved shoulder exists on SR 75 (Suncrest Drive), although rumble cuts are present to provide tactile feedback of roadway departures.

SR 75 (Suncrest Drive) at Bob Fitz Road

Bob Fitz Road approaches SR 75 (Suncrest Drive) from the north, at a skewed angle. Bob Fitz Road approaches with a wide pavement area, which exceeds 75 feet wide when it joins SR 75 (Suncrest Drive). It is stop-controlled and has a centerline.

The center two-way left-turn lane continues through the intersection, unbroken by dedicated left-turn lanes for the intersection. Multiple driveways exist in close proximity and across from Bob Fitz Road.

SR 75 (Suncrest Drive) is marked with solid white edge lines and rumble cuts; however, minimal paved shoulders are present.

SR 75 (Suncrest Drive) at Gray Station Road/Shadden Road

This four-leg intersection has Gray Station Road approach from the northwest and Shadden Road approach from the southeast. Both roads intersect SR 75 (Suncrest Drive) at approximate right-angles and are stop-controlled. The center turn lane is broken at this intersection, with a dedicated left-turn lane marked for northbound SR 75 (Suncrest Drive) traffic seeking to turn left onto Gray Station Road but marked as a two-way left-turn lane on the opposite approach for southbound traffic turning onto Shadden Road. Both side road approaches are marked with a double-yellow centerline.

At this intersection, the shoulder on SR 75 (Suncrest Drive) has widened to approximately 10 feet. The marked edge line and rumble cuts persist; however, the rumble cuts terminate immediately south of this intersection.

SR 75 (Suncrest Drive) at Sam Jenkins Road

Sam Jenkins Road intersects SR 75 (Suncrest Drive) from the west with the Gray Fossil Site driveway approach to the east. Both approaches are stop-controlled. The intersection point is in a gentle curve on SR 75 (Suncrest Drive). Paved shoulder a few feet wide exists on each side of SR 75 (Suncrest Drive), with a marked edge line, but no rumble cuts.

The center left-turn lane markings are broken but are not marked as designated left-turn lanes for the intersection. All four corners of the intersection have guardrail that proceeds through the radius of the intersection and continues for some distance each direction.

SR 75 (Suncrest Drive) at Daniel Boone High School North Driveway

The north Daniel Boone High School driveway intersects SR 75 (Suncrest Drive) at a right-angle. It has two-way traffic and is stop controlled. During school drop-off and release periods, the intersection is often controlled by a school resource officer.

A wide shoulder exists on SR 75 (Suncrest Drive), with curb and gutter on the east shoulder. The center left-turn lane is broken at the driveway, but remains marked as a two-way left-turn lane.

SR 75 (Suncrest Drive) at Daniel Boone High School South Driveway

The south driveway of Daniel Boone High School intersects SR 75 (Suncrest Drive) at a right-angle. The center turn-lane markings are broken through the intersection, without stop lines and dedicated left-turn lane markings. The north approach is straight, but the south approach enters a sharp curve approximately 150 feet from the intersection. Shoulder on SR 75 (Suncrest Drive) is approximately 6 feet wide on the east side and 10 feet wide on the west. Curb and gutter exist on the east shoulder.

SR 75 (Suncrest Drive) at Boonesboro Road and Hillendale Lane

Boonesboro Road intersects SR 75 (Suncrest Drive) in a sharp curve and during a lane transition. SR 75 (Suncrest Drive) approaches from the west and the north. The nearly 90-degree curve is signed with curve warning signs, which include chevrons. Due in part to the wide-throat of the Boonesboro Road approach and an adjacent driveway, chevrons are spaced at wide intervals. On the approach from the west, a flashing warning beacon and school warning sign also exist for the adjacent high school.

The center left-turn lane that persists for most of the study corridor length terminates at this intersection. The north approach has a marked left-turn lane for traffic turning onto Boonesboro Road. The west approach narrows to two lanes, with no shoulder, but the marked centerline and edge lines persist.

Boonesboro Road approaches mostly from the east, but curves sharply prior to intersecting SR 75 (Suncrest Drive) at approximately a right-angle. The Boonesboro Road approach is stop-controlled but is intersected by Hillendale Lane less than 100 feet from its intersection with SR 75 (Suncrest Drive). This condition is difficult for drivers to navigate during peak traffic conditions, as Boonesboro Road regularly has queues at its stop sign, and there only exists room for storage of one or two vehicles before the queue blocks the Hillendale Lane intersection.

SR 75 (Suncrest Drive) at Hugh Cox Road

Hugh Cox Road intersects SR 75 (Suncrest Drive) from the north and is stop-controlled. The intersection exists in a series of curves, and SR 75 (Suncrest Drive) is signed with curve warning signs, chevrons, and intersection warning signs. The warning signs also have advisory speed plaques of 30 miles per hour.

Centerlines are marked on both roadways, but only SR 75 (Suncrest Drive) has marked edge lines. No paved shoulder exists on SR 75 (Suncrest Drive), and the outside of the curve has steep slopes that would not allow a vehicle to recover after departing the roadway.

2.7 2025 LOS and Capacity Analysis

To assess existing traffic operations along the SR 75 (Suncrest Drive) corridor, capacity and level of service (LOS) analyses were performed using methodologies outlined in the Highway Capacity Manual (HCM), published by the Transportation Research Board (TRB). LOS and capacity are standard measures used to evaluate an intersection's ability to accommodate traffic demand.

LOS is reported on a scale from A to F, where LOS A represents the best operating conditions and LOS F indicates failing conditions. For signalized intersections, LOS is determined based on average control delay. LOS A corresponds to an average delay of less than 10 seconds per vehicle, while LOS F represents delays greater than 80 seconds per vehicle. LOS C and LOS D are typically used as design targets, with LOS D, which corresponds to delays between approximately 35 and 55 seconds, generally considered acceptable for signalized intersections in urban areas by the Institute of Transportation Engineers (ITE). A summary of standard LOS and capacity criteria for signalized intersections is presented in Table 2-2.

For unsignalized intersections, LOS is also based on average control delay, with LOS A representing delays of less than 10 seconds and LOS F representing delays greater than 50 seconds. As with signalized intersections, LOS C and LOS D are commonly used design values. Table 2-3 provides a summary of LOS criteria for unsignalized intersections.

The LOS and capacity analyses were conducted using Synchro 12, a traffic analysis and signal optimization software developed by Trafficware and commonly used to evaluate intersection operations and signal timing performance. Synchro was used to estimate intersection delays, LOS, and volume-to-capacity (v/c) ratios based on observed traffic volumes, intersection geometry, traffic control type, signal phasing, and green time allocation. The Synchro output reports are included in Appendix C.

Intersection capacity is represented by the v/c ratio, which reflects the relationship between traffic demand and available capacity. Intersections operating with v/c ratios between approximately 0.80 and 0.90 are generally considered to be functioning efficiently. Ratios exceeding 0.90 indicate that an intersection is operating near or above capacity and may experience unstable conditions and recurring delays. While signal timing adjustments may help reduce delay under saturated conditions, sustained capacity deficiencies typically require geometric or operational improvements.

Table 2-2 Level of Service Descriptions for Signalized Intersections

Level of Service	Average Control Delay (Sec/Veh)	Description
A	≤ 10	Very low delay with extremely favorable progression. Most vehicles don't stop.
B	> 10 and ≤ 20	Generally good progression. Increased number of stops from that described for LOS "A" resulting in higher delays.
C	> 20 and ≤ 35	Fair progression with increased delay. Number of stopping vehicles become significant; however, many still pass through the intersection without stopping. Stable flow.
D	> 35 and ≤ 55	The influence of congestion becomes more noticeable. Longer delays resulting from unfavorable progression, longer cycles, or high V/C ratios. Approaching unstable flow.
E	> 55 and ≤ 80	Limit of acceptable delay. Long delays associated with poor progression, long cycles, or high V/C ratios.
F	> 80	Unacceptable operation resulting from oversaturation (flow rates exceed capacity). Poor progression, long cycles, and high V/C ratios.

Table 2-3 Level of Service Descriptions for Unsignalized Intersections

Level of Service	Average Control Delay (Sec/Veh)	Description
A	0-10	Free Flow
B	>10-15	Stable Flow (Slight Delays)
C	>15-25	Stable Flow (Acceptable Delays)
D	>25-35	Approaching Unstable Flow
E	>35-50	Unstable Flow
F	>50	Forced Flow (Congested and Queues Fail to Clear)

2.7.1 Signalized Intersections

Table 2-4 summarizes the 2025 existing operational performance of signalized intersections along the study corridor during the AM, School Dismissal, and PM peak hours. Figure 2-11 and Figure 2-12 display the 2025 existing LOS for the signalized intersections.

Table 2-4 Existing Signalized Intersection Level of Service Summary

Intersection	Approach	Lane Group	Existing 2025								
			AM Peak			School Dismissal			PM Peak		
			V/C	Delay (sec)	LOS	V/C	Delay (sec)	LOS	V/C	Delay (sec)	LOS
SR 75 at I-26 WB On/Off-Ramp	NB SR 75	LT	0.41	39.4	D	0.40	42.7	D	0.34	42.0	D
		TH	0.28	7.2	A	0.34	6.5	A	0.29	8.2	A
	SB SR 75	TH	0.58	20.4	C	0.50	15.9	B	0.58	19.3	B
		RT	0.29	17.1	B	0.25	13.5	B	0.27	15.8	B
	WB I-26	LT	0.58	36.6	D	0.51	35.0	C	0.65	34.9	C
		RT	0.16	32.9	C	0.61	37.2	D	0.35	31.1	C
	Overall		**0.54**	**22.2**	**C**	**0.51**	**20.1**	**C**	**0.56**	**21.9**	**C**
SR 75 at I-26 EB On-Ramp	NB SR 75	TH	0.51	8.8	A	0.59	9.2	A	0.43	7.5	A
		RT	0.50	8.8	A	0.38	6.7	A	0.26	6.1	A
	SB SR 75	LT	0.72	23.2	C	0.68	27.1	C	0.71	26.5	C
		TH	n/a	n/a	A	n/a	n/a	A	n/a	n/a	A
	Overall		**0.56**	**12.9**	**B**	**0.61**	**13.2**	**B**	**0.49**	**13.9**	**B**

Note: NB = northbound; SB = southbound; EB = eastbound; WB = westbound

Figure 2-11 Existing AM & PM Peak Hour Level of Service Map for Signalized Intersections

Figure 2-12 Existing School Dismissal Level of Service Map for Signalized Intersections

The intersection of SR 75 (Suncrest Drive) and the I-26 westbound on/off-ramps currently operate at an overall LOS C during all three peak periods, with an average delay of 22.2 seconds in the AM, 20.1 seconds during the School Dismissal period, and 21.9 seconds in the PM. The northbound left-turn lane onto I-26 westbound experiences the longest delays, reaching 39.4 seconds (LOS D) during the AM, 42.0 seconds (LOS D) during the PM, and 42.7 seconds (LOS D) during School Dismissal, likely due to the allocation of more cycle time to the other major roadway approaches.

SR 75 (Suncrest Drive) at the I-26 eastbound on/off-ramps operate at an overall LOS B during all peak hour periods with an average delay of 12.3 seconds during the AM, 13.2 seconds during School Dismissal, and 13.9 seconds during the PM.

2.7.2 Unsignalized Intersections

Table 2-5 summarizes the 2025 existing operational performance of the unsignalized intersections along the study corridor during the AM, School Dismissal, and PM peak hours. For these intersections, only the approach with the poorest LOS is shown. Figure 2-13 and Figure 2-14 display the 2025 existing LOS for the unsignalized intersections.

Table 2-5 Existing 2025 Unsignalized Intersection Level of Service Summary

Intersection	Lane Group	Existing 2025								
		AM Peak			School Dismissal			PM Peak		
		V/C	Delay (sec)	LOS	V/C	Delay (sec)	LOS	V/C	Delay (sec)	LOS
SR 75 at Roscoe Fitz Rd	EB Roscoe Fitz Rd	2.14	$$$	**F**	2.74	$$$	**F**	1.29	309.1	**F**
SR 75 at Mosley Rd	WB Mosley Rd	0.14	25.5	D	0.35	26.5	D	0.18	17.5	C
SR 75 at Bob Fitz Rd	EB Bob Fitz Rd	0.67	115.5	**F**	2.62	$$$	**F**	0.68	71.8	**F**
SR 75 at Gray Station Rd/Shadden Rd	EB Shadden Rd	1.19	239.6	**F**	0.94	182.2	**F**	0.42	53.0	**F**
SR 75 at Sam Jenkins Rd	EB Sam Jenkins Rd	4.07	$$$	**F**	4.01	$$$	**F**	1.31	227.0	**F**
SR 75 at Daniel Boone HS N Driveway	WB HS Driveway	0.77	32.7	D	1.12	98.5	**F**	0.18	13.0	B
SR 75 at Daniel Boone HS S Driveway	WB HS Driveway	0.32	21.7	C	0.81	37.2	**E**	0.04	13.2	B
SR 75 at Boonesboro Rd	WB Boonesboro Rd	0.87	50.9	**F**	0.27	15.9	C	0.31	15.2	C
SR 75 at Hugh Cox Rd	EB Hugh Cox Rd	0.88	63.9	**F**	0.35	16.6	C	0.17	15.4	C
Boonesboro Rd at Hillendale Ln	EB Hillendale Ln	0.16	13.3	B	0.05	10.6	B	0.05	10.8	B
$$$: Delay > 500 sec										

Note: NB = northbound; SB = southbound; EB = eastbound; WB = westbound

Figure 2-13 Existing AM & PM Peak Hour Level of Service Map for Unsignalized Intersections

Figure 2-14 Existing School Dismissal Level of Service Map for Unsignalized Intersections

The eastbound approaches at Roscoe Fitz Road, Bob Fitz Road, Shadden Road, and Sam Jenkins Road show that delays are over 53 seconds and operating at LOS F during all three peak hour periods. During the School Dismissal period, Daniel Boone High School experiences a surge of traffic entering and leaving the school resulting in a LOS F at the North Driveway and LOS E at the South Driveway. The T-intersections at Boonesboro Road and Hugh Cox Road operate at a LOS F during the AM peak hour with delays over 50 seconds.

2.8 Prior Plans and Studies

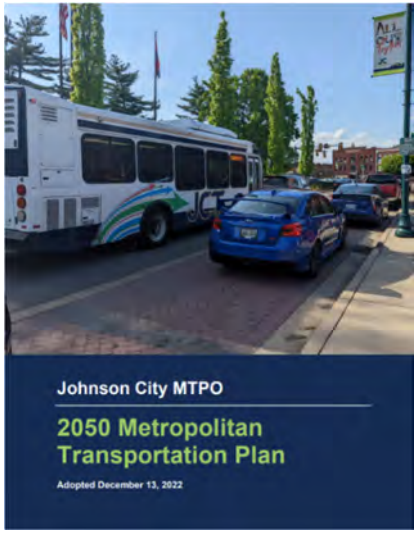
2.8.1 Johnson City's 2045 Growth Plan (Adopted 2025)

The Horizon 2045 Growth Management Plan establishes a long-range framework to guide Johnson city's growth and development through the year 2045. The plan serves as the city's principal policy document for land use, infrastructure investment, zoning decisions, and community character preservation. Central to the plan is a future land use map and a series of place type designations that articulate how and where growth is expected to occur across the city.

These policies and land use designations help shape expectations for development adjacent to SR 75 (Suncrest Drive), including residential expansion, commercial activity, and the transition of agricultural lands to more intensive uses over time. The corridor study directly supports the plan's emphasis on quality growth by evaluating existing and projected traffic conditions and identifying transportation needs associated with anticipated development.

By assessing safety, operations, and multimodal opportunities along the corridor, the corridor study provides critical technical information to ensure that the future land use patterns envisioned in the growth plan are supported by adequate transportation capacity, improved safety, and enhanced connectivity. In doing so, the corridor study also offers a foundation for prioritizing future capital improvement projects that are consistent with the growth management plan's long-term goals.

2.8.2 Johnson City MTPO 2050 Metropolitan Transportation Plan (Adopted 2022)

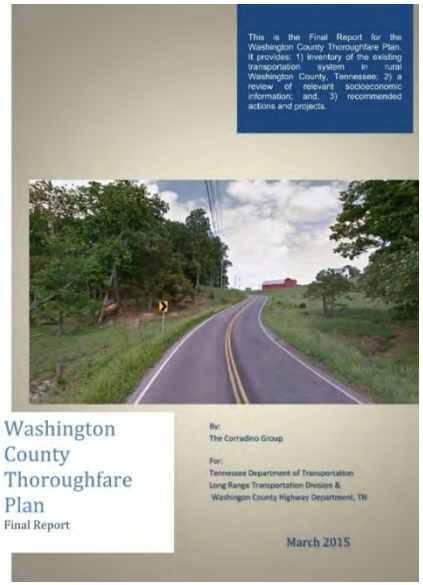


The Metropolitan Transportation Plan (MTP) is the region's federally required long-range transportation plan, guiding transportation investments through the year 2050. The plan establishes regional goals and priorities for roadways, transit, bicycle, and pedestrian systems and identifies both committed and fiscally constrained future projects needed to accommodate growth, improve safety, and support multimodal mobility across the Johnson City MTPO planning area.

The MTP provides the regional planning framework that supports the SR 75 (Suncrest Drive) Corridor Study. By identifying long-term transportation needs, funding constraints, and performance priorities, the MTP was utilized to ensure that corridor-level recommendations for SR 75 (Suncrest Drive) are consistent with regional goals and positioned for future implementation. Alignment with the MTP strengthens the ability to advance the corridor improvements through future programming and funding decisions. The following references to the SR 75 (Suncrest Drive) corridor and surrounding areas were included in the MTP:

- SR 75 (Suncrest Drive) at I-26: Listed as the #2 top bottleneck with an average duration of 2 hours 49 minutes.
- Traffic signal at Bob Fitz Road or Gray Station Road at SR 75 (Suncrest Drive): Listed as under development in the Existing + Committed Project List
- SR 75 Improvements from Boonesboro Road to Andrew Johnson Highway (US 11E): Safety/geometric improvements listed in the 2031-2050 Horizon Project List
- Shadden Road/Highland Church Road from SR 75 (Suncrest Drive) to Boones Creek Road (SR 354): Safety/geometric improvements (paved shoulders and spot location improvements) listed in the 2031-2050 Horizon Project List
- SR 75 (Suncrest Drive) from I-26 to Boonesboro Road: Widen from 3 to 5 lanes listed in the Illustrative Project List

2.8.3 Washington County Thoroughfare Plan (Adopted 2015)



The Washington County Thoroughfare Plan is a comprehensive transportation planning document that provides an inventory and evaluation of the rural roadway network in Washington county, Tennessee. It documents existing conditions, including roadway characteristics, multimodal facilities, traffic volumes, capacity, and safety performance for key corridors outside urbanized areas. As part of this effort, the plan identifies transportation needs and deficiencies to support long-range planning and corridor prioritization for future improvements.

Rather than serving as a traditional capital improvement list by itself, the thoroughfare plan functions as a technical foundation for coordinating county transportation planning with other regional processes such as the Johnson City MTPO Metropolitan Transportation Plan.

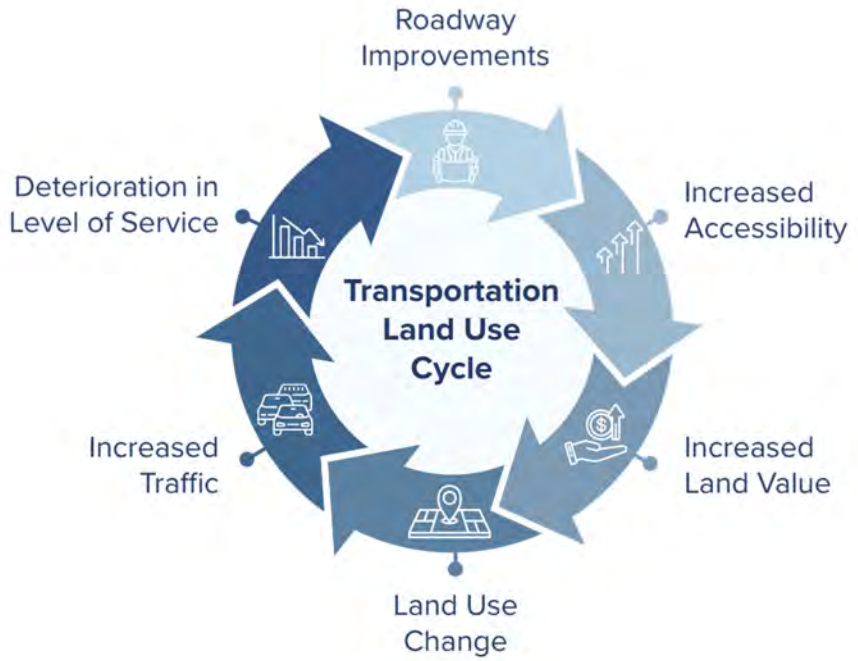
The thoroughfare plan identified eleven roadway improvement projects, including three on or near the SR 75 (Suncrest Drive) study area:

- Highland Church Road/Shadden Road (from SR 354 to SR 75): Widen the travel lanes to 12 feet, provide 2-foot shoulders, and improve the deficient curves.
- SR 75 (from Hugh Cox Road to Daniel Boone High School): Straighten the curve, provide 12-foot lanes, and construct 10-foot paved shoulders.
- SR 75 (from State Route 81 to Hugh Cox Road): Provide 12-foot travel lanes and 10-foot shoulders and improve the deficient curves.

2.8.4 Washington County Land Use and Transportation Policy Plan (Adopted 2008)

The Washington County Land Use and Transportation Plan was developed as a long-range policy document to guide growth and infrastructure investment across unincorporated areas of the county. The plan emphasizes coordinating land use decisions with transportation infrastructure to accommodate anticipated residential, commercial, and industrial development while preserving rural and agricultural character. It identifies areas where growth was expected to occur and highlights the importance of maintaining roadway connectivity, managing access, and planning roadway improvements in advance of development to support safe and efficient travel.

Although the plan is dated and some growth patterns have evolved since its adoption, it provides useful background context for the corridor study. Its overarching goal of aligning transportation capacity with land use change is directly supported by the corridor study's evaluation of traffic volumes, safety performance, and operational conditions along SR 75 (Suncrest Drive). The corridor study builds upon this policy foundation by providing updated, location-specific analysis to inform transportation improvements needed to accommodate ongoing and future development in the Gray community.



2.8.5 Washington County Growth Plan (Adopted 2000)

The Washington County Growth Plan was created in response to Tennessee's Growth Policy Act, which required counties and their municipalities to define anticipated growth patterns and to designate Urban Growth Boundaries (UGB), Planned Growth Areas (PGA), and Rural Areas over a 20-year planning horizon. The plan identifies areas expected to experience higher-intensity residential, commercial, and industrial growth based on existing settlement patterns, expected demographic trends, and local planning priorities.

Because the plan was prepared under the original statutory timeline in the early 2000s, some of its assumptions and projections are dated relative to current growth dynamics. Nevertheless, the plan generally seeks to match the timing and location of development with the provision of public infrastructure and services, including transportation, utilities, and community facilities. This ultimately ensures growth areas are supported by adequate infrastructure while rural areas remain less developed in character. It includes guidance on where new roads, expansions, and service extensions may be most appropriate as population and economic activity increase over time.

Although the plan is somewhat dated, its delineations of growth areas and the intent to coordinate infrastructure with land use provide valuable background for anticipating where traffic demand, safety issues, and multimodal needs may intensify. The corridor study builds on this by offering a technical assessment of current conditions, projected traffic volumes, and safety performance. This information is essential for prioritizing transportation improvements that align with the growth patterns envisioned in the county's growth planning framework.

3. Public Engagement

Public engagement is a critical part of the study process, allowing the project team to analyze and understand existing conditions from the perspective of corridor users.

3.1 Steering Committee

A steering committee consisting of representatives from the Johnson City MTPO, the Tennessee Department of Transportation (TDOT), the City of Johnson City, and the Washington County Highway Department was organized and consulted throughout the study. Another role of the steering committee is to ensure that the study team's recommendations are implementable and aligned with local expectations. Public engagement meetings were organized to gather input and better understand corridor users' concerns, opportunities, and values. To broaden participation and capture additional feedback, the project team also conducted an online public survey.

The steering committee met nine times with the study team over the course of the project. Steering committee members contributed both technical knowledge and local insights to identify existing conditions that may not be apparent through data collection or visual observation along the corridor. Each of the steering committee meetings were held virtually, and the minutes for each are included in Appendix D.

February 12, 2025 – Initial kickoff meeting to review the project purpose, discuss ongoing projects, and note areas of concern along the SR 75 (Suncrest Drive) corridor.

March 12, 2025 – Update on the data collection and analysis by the study team with presentation of crash data. Draft public meeting schedule and format.

April 9, 2025 – Presentation of initial Synchro models and traffic signal warrants. Discuss annual growth assumptions for the corridor and finalize public meeting agenda.

May 14, 2025 – Finalize annual growth assumptions and review initial public survey feedback.

June 11, 2025 – Presentation of future no-build Synchro models and summarized public survey feedback. Discuss initial recommendation ideas.

July 9, 2025 – Initial recommendations were reviewed for feedback.

August 20, 2025 – Initial recommendation concepts and displays for the public meeting were reviewed for feedback.

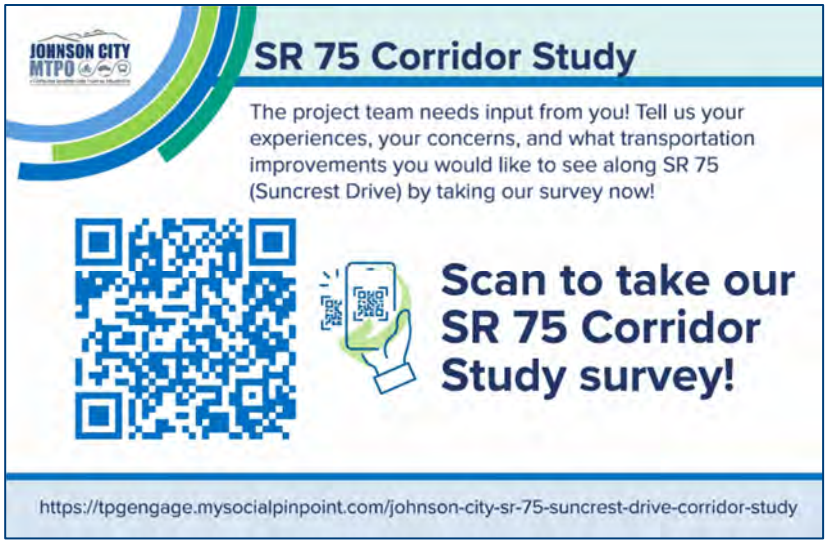
September 10, 2025 – Public comments on the initial recommendation concepts were presented.

October 8, 2025 – Final recommendations were reviewed for feedback and discussed project prioritization metrics.

3.2 Public Survey

A public survey was generated using Social Pinpoint and was available from May 5, 2025, to May 31, 2025. To advertise the survey, a press release was sent to the local newspaper, the Johnson City Press, featured on the local news broadcasts, and advertised on the MTPO's website and social media.

During the time the survey was available, it received over ***1,000 visitors***, which resulted in ***227 contributors*** and ***454 total contributions***.



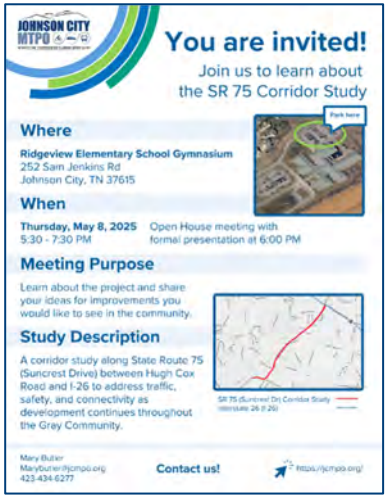
The survey website featured three methods of providing feedback – an interactive map, a survey form, and a vision board post.

The interactive map allowed participants to place a pin on a map of the corridor to indicate specific areas of concern or where improvements were needed. Of the eight categories of map markers (Traffic Congestion, Speeding Concern, Roadway Concern, Connectivity Concern, Accessibility, Visibility Concern, Bike/Ped Concern, Ideas or Suggestions), Traffic Congestion received the most responses followed by Roadway Concerns. Traffic Congestion markers were concentrated near the I-26 interchange and at the intersections on SR 75 (Suncrest Drive) particularly at Roscoe Fitz Road, Gray Station Road/Shadden Road, and Sam Jenkins Road.

For the survey form, participants were asked a series of general questions regarding their experiences along SR 75 (Suncrest Drive), including perceptions of safety, primary concerns, desired safety improvements, frequency of travel, and trip purpose. Most respondents identified traffic congestion as a primary concern, along with issues at intersections related to limited sight distance and difficulty making turning movements to and from the SR 75 (Suncrest Drive) mainline, and lack of turn lanes. Participants expressed a desire for additional traffic signals, most notably at Sam Jenkins Road and Gray Station Road/Shadden Road, and additional lanes to better accommodate both through traffic and turning movements. Most respondents who traveled the corridor daily did so because they live off SR 75 (Suncrest Drive).

A full summary of the public survey is included in Appendix D.

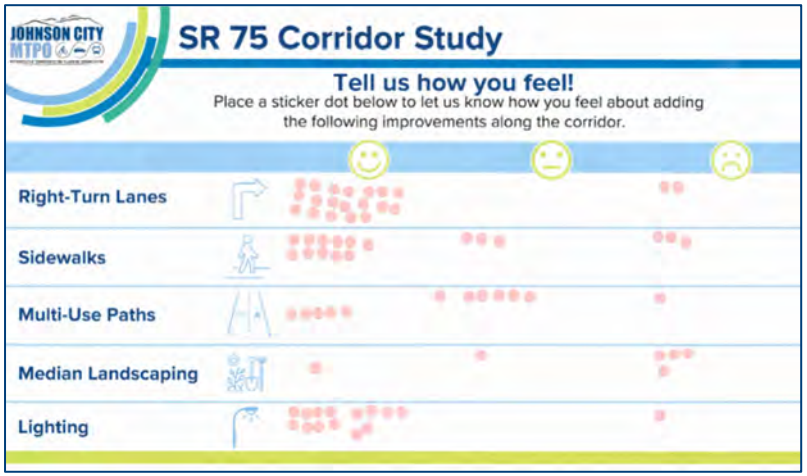
3.3 Public Meetings



Three public meetings were conducted to gather input on the SR 75 (Suncrest Drive) corridor and proposed recommendations. All of the meetings were held at Ridgeview Elementary School's gymnasium, which is located just 0.60 miles off of SR 75 (Suncrest Drive) on Sam Jenkins Road. These public meetings provided the study team an opportunity to engage directly with the community and capture first-hand insights into the corridor's challenges.

Public Meeting #1 ***(May 8, 2025)*** – The first public meeting was held to introduce the SR 75 Corridor Study and to gather first-hand input from residents and community members who use the corridor on a regular basis. The study team provided an overview of the project purpose and summarized existing corridor conditions, including traffic operations and crash history, to establish a common understanding of current issues.

Maps of the study area and interactive comment boards were displayed at the meeting, allowing participants to share their experiences, identify recurring concerns, and highlight locations where they experience safety or operational challenges. Attendees were encouraged to place markers and written comments directly on the maps



to communicate both existing issues and their vision for the corridor's future. The board above was provided to capture the public's sentiments about potential corridor improvements. The study team was available throughout the meeting to engage in discussion and answer questions. ***More than 60 community members*** were in attendance.

Public Meeting #2 ***(August 28, 2025)*** – The second public meeting was held to present the initial recommendations for the SR 75 Corridor Study and to gather feedback on the proposed improvements. The recommendations were developed based on the study's safety and operational analyses, as well as input received through the online public survey and the first public meeting.

During the meeting, the study team reviewed key themes from the public survey and provided an overview of the recommended strategies for addressing identified safety, operational, and multimodal needs along the corridor. Similar to the first public meeting, informational displays

illustrating the proposed improvements were arranged throughout the meeting space, and attendees were encouraged to review each recommendation and provide comments. ***Approximately 50 community members*** attended the meeting, and the feedback received was used to refine and finalize the corridor recommendations.

Public Meeting #3 ***(November 6, 2025)*** – The third public meeting was held to present the final recommended improvements for the SR 75 Corridor Study. These recommendations were refined based on feedback received during and following the second public meeting, ensuring that public input was incorporated into the final proposed strategies.

During the meeting, the study team reviewed the final corridor recommendations and asked attendees to rank each recommendation based on their level of preference and perceived importance. This ranking exercise provided valuable insight into community priorities and was used to help inform the prioritization of improvements in the final report. ***Approximately 30 community members*** attended the meeting.

SR 75 Recommendations

Location	Recommendation	Ranking
Daniel Boone High School South Driveway	Right-Turn Lane	
Mosley Road	Right-Turn Lane	
Daniel Boone High School to Sam Jenkins Road	Multi-Use Path	
SR 75 from Hugh Cox Road to Boonesboro Road	Phase 1 Realignment of SR 75 and Intersection Improvements at Hugh Cox Road	
Boonesboro Road at Hilldendale Lane	Intersection Realignment	
SR 75 at Boonesboro Road & Hilldendale Road	Roundabout	
Bob Fitz Road	Access Management	
SR 75 from Hugh Cox Road to Blazerview Road	Phase 2 Realignment of SR 75 and Widen Existing SR 75 between Boonesboro Road and Relocated SR 75	
Roscoe Fitz Road	Realignment and Signalization	
SR 75 from Sam Jenkins Road to I-26	5-Lane Widening	
I-26 Eastbound Off Ramp	Ramp Reconfiguration and Signal Modifications	

Figure 3-1 Public Meeting #1 Comments

Appendix D contains the public meeting presentations and supporting materials, including scanned maps, displays, and public comments from the interactive exercises.

4. Future Needs Assessment

It is necessary to establish a future *no-build* scenario to serve as a baseline for analysis. This scenario assumes no significant infrastructure improvements beyond those currently planned or programmed, providing a benchmark against which proposed recommendations can be evaluated. By understanding the projected demands, operational challenges, and deficiencies under the no-build condition, this study can identify and prioritize the most pressing needs within the corridor. This baseline serves as an essential foundation for developing strategic, data-driven solutions that effectively address future growth and mobility needs while aligning with community goals and long-term planning objectives.

4.1 Future Traffic Volumes

Traffic volumes within the study corridor and surrounding area have shown significant growth over the past five years, reflecting increased travel demand and regional development. Along SR 75 (Suncrest Drive), traffic volumes have grown at an average annual rate of ***1.68%,*** demonstrating steady growth throughout the corridor. I-26 Westbound Off Ramp, located at the northern end of the study area, has experienced the highest growth rate, with an impressive ***8.29%*** annual increase. Across the broader area, the average 5-year traffic growth rate is ***4.02%,*** echoing the region's overall trend of increasing vehicular activity and the need for proactive planning to accommodate future traffic demands. Table 4-1 contains the 5-year traffic volume trends at AADT locations along the study corridor and surrounding area, including annual traffic counts from 2020 to 2024 and corresponding average annual growth rates.

Table 4-1 Historical TDOT AADT Traffic Data

Location ID	Count Location	2020	2021	2022	2023	2024	5-year Annual Growth Rate
90000016	Gray Station Sulphur Springs Road near Sherfey Road	4975	5322	5840	5664	5664	2.14%
90000017	Hugh Cox Road	682	991	1012	1177	1177	6.26%
90000266	Boonesboro Road	1751	2064	2285	2377	2310	3.97%
90000182	SR 75 near Blazerview Road	7793	9350	9685	9467	9467	0.42%
90000113	SR 75 near Roscoe Fitz	12641	14350	15576	15602	15602	2.91%
90000007R	I-26 Westbound Off Ramp	4947	7721	8968	9282	9642	8.29%
90000114	SR 75 at I-26 Westbound Off Ramp	18007	19508	20405	20505	20505	1.70%
90000008R	I-26 Westbound On Ramp	3927	4054	4367	4520	4874	6.74%
90000006R	I-26 Eastbound On Ramp	3167	7910	8522	8820	8790	3.71%
						Average	4.02%

4.1.1 2030 Volumes

In addition to analyzing historical growth, it is vital to consider known developments that will influence future traffic volumes and patterns. The trip generation for the residential and commercial developments currently under development that will impact the traffic on SR 75 (Suncrest Drive) are provided in Table 4-2. The Institute of Transportation Engineers (ITE) Trip Generation Manual, 12th Edition trip generation tables are provided in Appendix E.

Table 4-2 Trip Generation Summary

				Daily Trips			AM Peak Hour Trips			PM Peak Hour Trips		
Development	**ITE Land Use Code**	**Density**		**Total**	**Enter**	**Exit**	**Total**	**Enter**	**Exit**	**Total**	**Enter**	**Exit**
Keebler Meadows Residential	Single-Family Detached Housing (210)	167	dwelling units	1613	807	806	117	32	85	155	96	59
	Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)	25	dwelling units	155	78	77	22	5	17	19	12	7
Midland Apartments Residential	Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)	50	dwelling units	311	156	155	30	7	23	31	19	12
Strip Retail Plaza	Strip Retail Plaza (<40k) (822)	17	1,000 sq. ft.	964	482	482	68	37	31	109	55	54
Walk-in Bank	Walk-in Bank (911)	5	1,000 sq. ft.	-	-	-	-	-	-	66	29	37
Total New Driveway Trips				**3043**	**1523**	**1520**	**237**	**81**	**156**	**380**	**211**	**169**

The intersection turning movement volumes shown in Figure 4-1 and Figure 4-2 represent the 2030 volume projections, derived by applying the observed annual historical growth rate of 4% over the next five years. These volumes also account for the sites currently under development.

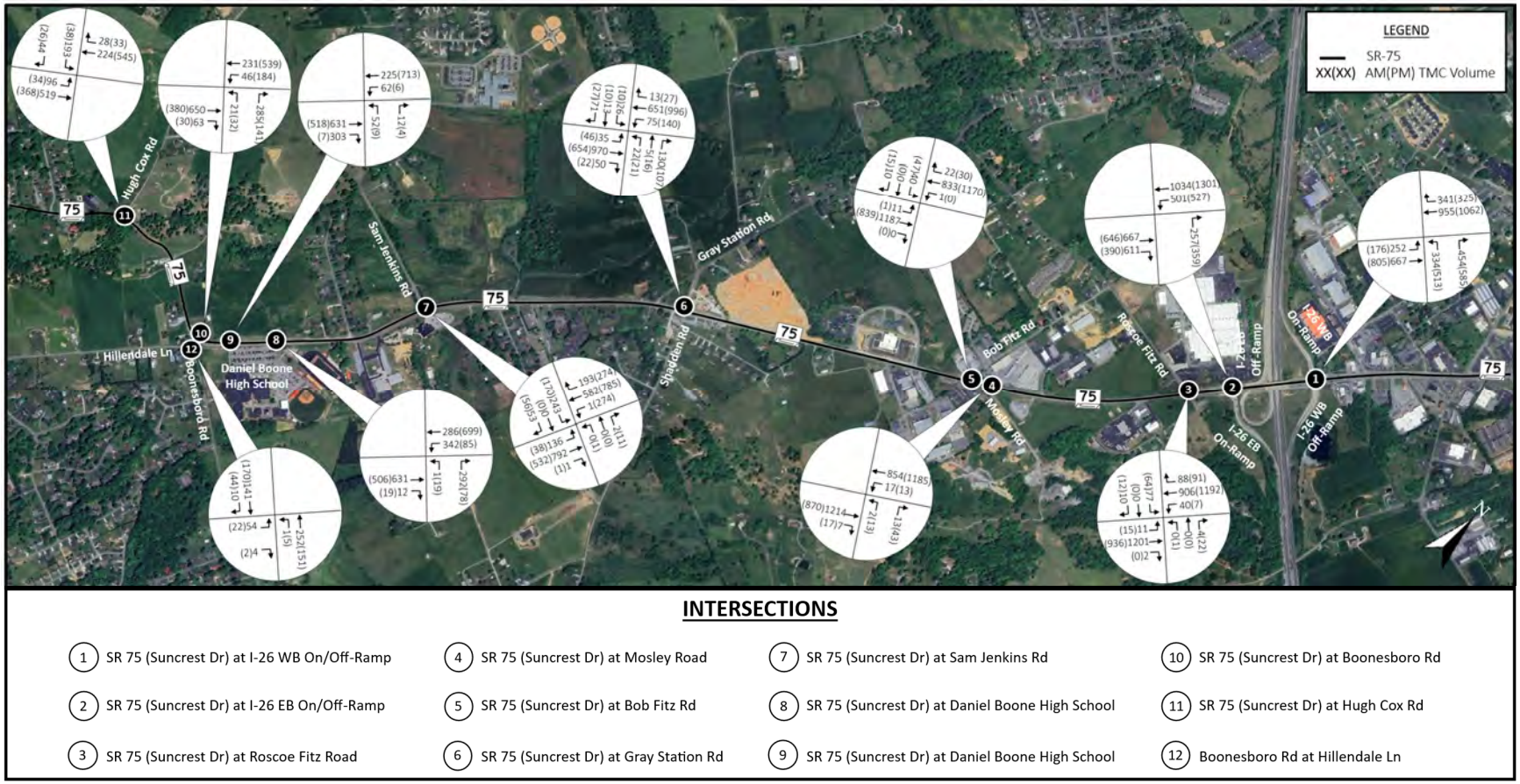


Figure 4-1 2030 Peak Hour Turning Movement Count Volumes

INTERSECTIONS

1. SR 75 (Suncrest Dr) at I-26 WB On/Off-Ramp
2. SR 75 (Suncrest Dr) at I-26 EB On/Off-Ramp
3. SR 75 (Suncrest Dr) at Roscoe Fitz Road
4. SR 75 (Suncrest Dr) at Mosley Road
5. SR 75 (Suncrest Dr) at Bob Fitz Rd
6. SR 75 (Suncrest Dr) at Gray Station Rd
7. SR 75 (Suncrest Dr) at Sam Jenkins Rd
8. SR 75 (Suncrest Dr) at Daniel Boone High School
9. SR 75 (Suncrest Dr) at Daniel Boone High School
10. SR 75 (Suncrest Dr) at Boonesboro Rd
11. SR 75 (Suncrest Dr) at Hugh Cox Rd
12. Boonesboro Rd at Hillendale Ln

Figure 4-2 2030 School Dismissal Turning Movement Count Volumes

4.1.2 2050 Volumes

The intersection turning movement volumes shown in Figure 4-3 and Figure 4-4 represent the 2050 projections, derived by applying a 4% annual growth rate over the 20-year period from 2030 to 2050. It is reasonable to expect the 4% annual growth rate to continue through 2050 due to the number of undeveloped parcels and farmland along the corridor.

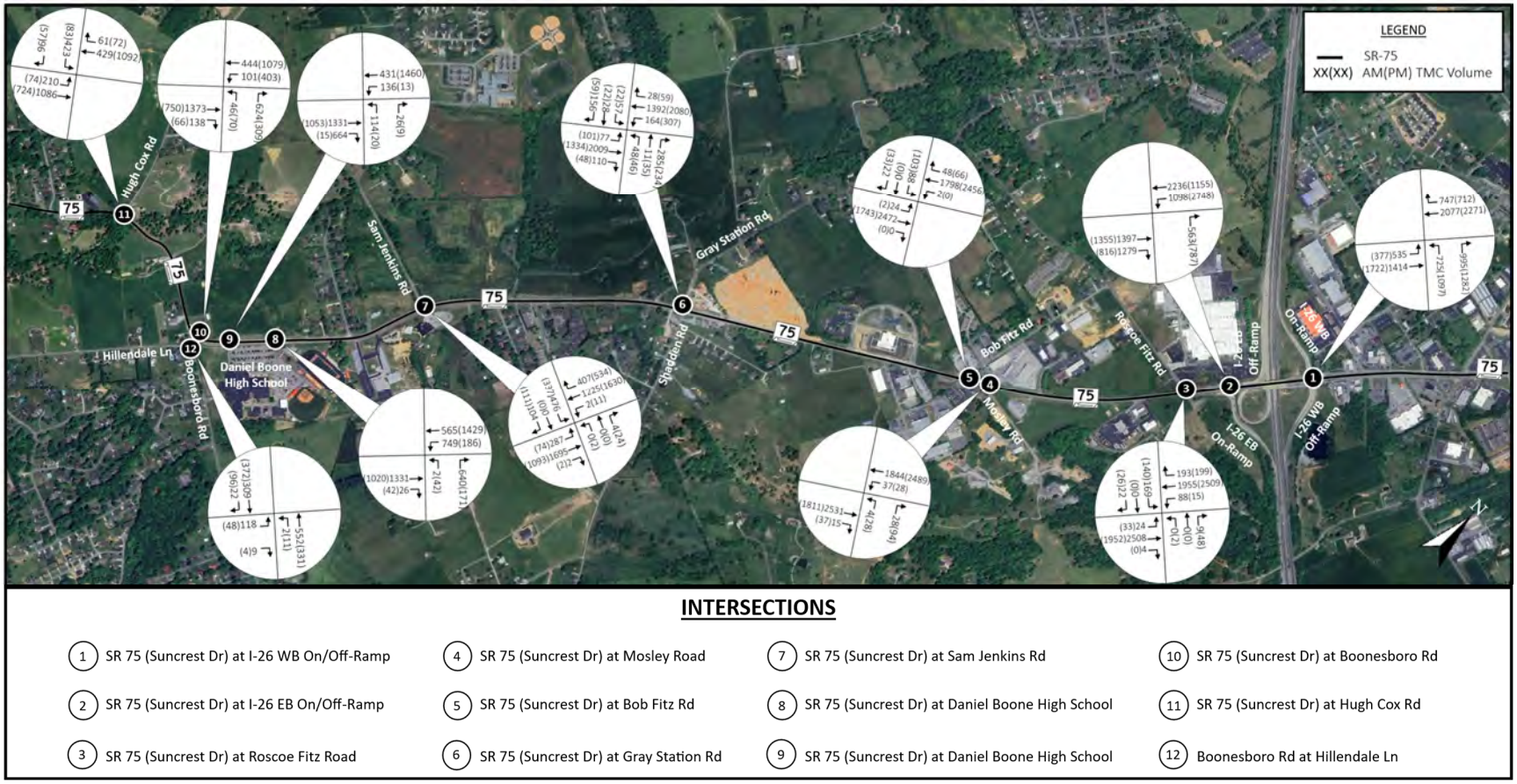


Figure 4-3 2050 Peak Hour Turning Movement Count Volumes

INTERSECTIONS

1. SR 75 (Suncrest Dr) at I-26 WB On/Off-Ramp
2. SR 75 (Suncrest Dr) at I-26 EB On/Off-Ramp
3. SR 75 (Suncrest Dr) at Roscoe Fitz Road
4. SR 75 (Suncrest Dr) at Mosley Road
5. SR 75 (Suncrest Dr) at Bob Fitz Rd
6. SR 75 (Suncrest Dr) at Gray Station Rd
7. SR 75 (Suncrest Dr) at Sam Jenkins Rd
8. SR 75 (Suncrest Dr) at Daniel Boone High School
9. SR 75 (Suncrest Dr) at Daniel Boone High School
10. SR 75 (Suncrest Dr) at Boonesboro Rd
11. SR 75 (Suncrest Dr) at Hugh Cox Rd
12. Boonesboro Rd at Hillendale Ln

Figure 4-4 2050 School Dismissal Turning Movement Count Volumes

4.2 Future LOS and Capacity Analysis

The 2030 and 2050 intersection level of service (LOS) analyses provide an estimate of future conditions based on projected volumes and operational performance. Although informed by current data and planning efforts, it is important to interpret these results with caution, as they rely on numerous assumptions regarding future land use, population growth, economic trends, and traffic patterns. The following analysis serves as a planning tool to highlight potential areas of concern but should be considered alongside other factors such as future land use changes, travel behavior, and technological advancements. As new data becomes available, more detailed analyses should be conducted to inform and refine the selection of final improvements.

4.2.1 2030 Level of Service

Table 4-3 presents the 2030 No-Build LOS and capacity for the signalized intersections within the study area. The two signalized intersections at the I-26 interchange are expected to operate at an overall LOS C during the AM, School Dismissal, and PM peak hours. However, at the I-26 westbound intersection all approaches, with the exception of the southbound approach, are anticipated to have movements that operate at LOS E during each peak hour. At the I-26 eastbound intersection, all movements are expected to operate at LOS D or better during the peak hours. The new signal under construction at Sam Jenkins Road is expected to reach completion in the near future with materials currently on order. With the additional trips generated from the developments taking place along the corridor, the intersection at Sam Jenkins Road is expected to operate at an overall LOS D during the AM peak period, LOS E during the School Dismissal peak, and LOS C during the PM peak. LOS E occurs during the school dismissal period; however, this condition is limited to a brief demand surge in the northbound direction from the high school dismissal and in the eastbound direction from the elementary school. Otherwise, the corridor is expected to operate satisfactorily during the AM and PM peak periods.

Table 4-3 No-Build 2030 Signalized Intersection Level of Service Summary

Intersection	Approach	Lane Group	No-Build 2030								
			AM Peak			School Dismissal			PM Peak		
			V/C	Delay (sec)	LOS	V/C	Delay (sec)	LOS	V/C	Delay (sec)	LOS
SR 75 at I-26 WB On/Off-Ramp	NB SR 75	LT	0.58	55.7	**E**	0.54	47.9	D	0.51	60.6	**E**
		TH	0.34	7.2	A	0.45	4.7	A	0.35	10.4	B
	SB SR 75	TH	0.58	24.0	C	0.63	22.9	C	0.62	24.5	C
		RT	0.37	20.7	C	0.36	18.8	B	0.35	20.0	B
	WB I-26	LT	0.73	65.6	**E**	0.51	42.1	D	0.78	60.4	**E**
		RT	0.53	59.7	**E**	0.80	51.9	D	0.65	56.1	**E**
	Overall		**0.61**	**32.0**	**C**	**0.66**	**25.5**	**C**	**0.64**	**33.4**	**C**
SR 75 at I-26 EB On-Ramp	NB SR 75	TH	0.64	13.6	B	0.75	14.2	B	0.54	11.0	B
		RT	0.65	14.4	B	0.52	9.3	A	0.36	8.6	A
	SB SR 75	LT	0.84	44.3	D	0.80	52.6	D	0.82	48.1	D
		TH	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Overall		**0.69**	**22.1**	**C**	**0.76**	**22.4**	**C**	**0.60**	**22.8**	**C**
SR 75 at Sam Jenkins Rd	NB SR 75	LT	0.54	43.5	D	0.25	35.1	D	0.22	34.2	C
		TH RT	0.96	45.3	D	1.12	91.9	**F**	0.64	18.2	B
	SB SR 75	LT	0.01	61.0	**E**	0.01	65.4	**E**	0.02	23.7	C
		TH	0.93	49.8	D	0.89	50.1	D	0.94	41.0	D
		RT	0.17	7.8	A	0.17	12.9	B	0.21	7.2	A
	EB Sam Jenkins Rd	LT	0.86	66.1	**E**	1.15	158.7	**F**	0.86	60.6	**E**
		TH RT	0.05	48.8	D	0.07	49.9	D	0.05	35.7	D
	WB Gray Fossil Site	LT	0.01	55.0	**E**	0.02	66.4	**E**	0.02	43.4	D
		TH RT	0.00	64.9	**E**	0.01	67.5	**E**	0.02	44.7	D
	Overall		**0.94**	**45.6**	**D**	**1.09**	**78.3**	**E**	**0.80**	**32.0**	**C**

Note: NB = northbound; SB = southbound; EB = eastbound; WB = westbound

Table 4-4 presents the 2030 No-Build LOS analysis for the key unsignalized intersections within the study area, showing only the approach with the poorest LOS. Under the 2030 No-Build conditions, all unsignalized intersections are expected to experience a decline in level of service, with many degrading by one letter grade. In addition to the intersections currently operating at LOS E or worse, SR 75 (Suncrest Drive) intersections at Roscoe Fitz Road, Bob Fitz Road, Shadden Road, and Hugh Cox Road are expected to operate at a LOS F with delays over 500 seconds in some instances. It is important to note that each of these poor levels of service are occurring on the minor streets turning on to SR 75 (Suncrest Drive).

Table 4-4 No-Build 2030 Unsignalized Intersection Level of Service Summary

Intersection	Lane Group	No-Build 2030								
		AM Peak			School Dismissal			PM Peak		
		V/C	Delay (sec)	LOS	V/C	Delay (sec)	LOS	V/C	Delay (sec)	LOS
SR 75 at Roscoe Fitz Rd	EB Roscoe Fitz Rd	###	$$$	**F**	###	$$$	**F**	4.40	$$$	**F**
SR 75 at Mosley Rd	WB Mosley Rd	0.26	43.7	**E**	0.65	60.5	**F**	0.31	26.0	D
SR 75 at Bob Fitz Rd	EB Bob Fitz Rd	1.92	$$$	**F**	###	$$$	**F**	1.65	444.0	**F**
SR 75 at Gray Station Rd/Shadden Rd	EB Shadden Rd	###	$$$	**F**	###	$$$	**F**	1.53	481.7	**F**
SR 75 at Sam Jenkins Rd	EB Sam Jenkins Rd	*Signalized*								
SR 75 at Daniel Boone HS N Driveway	WB HS Driveway	1.19	139.5	**F**	1.74	361.2	**F**	0.28	16.7	C
SR 75 at Daniel Boone HS S Driveway	WB HS Driveway	0.53	37.3	**E**	1.31	186.6	**F**	0.08	16.2	C
SR 75 at Boonesboro Rd	WB Boonesboro Rd	1.46	255.8	**F**	0.54	32.4	D	0.56	27.9	D
SR 75 at Hugh Cox Rd	EB Hugh Cox Rd	1.76	409.0	**F**	0.65	35.6	**E**	0.33	24.6	C
Boonesboro Rd at Hillendale Ln	EB Hillendale Ln	0.22	15.5	C	0.07	11.2	B	0.07	11.5	B
###: V/C > 5.00 $$$: Delay > 500 sec										

Note: NB = northbound; SB = southbound; EB = eastbound; WB = westbound

4.2.2 2050 Level of Service

Table 4-5 presents the 2050 No-Build LOS and capacity summary for the signalized intersections within the study area. All three signalized intersections along SR 75 (Suncrest Drive) are projected to operate at an overall LOS F during both the AM, School Dismissal, and PM peak hours. The demand is expected to exceed capacity if the intersection geometries remain unchanged from their current and expected configurations.

Table 4-6 presents the 2050 No-Build LOS analysis for the key unsignalized intersections within the study area. For each intersection, only the approach with the poorest LOS is shown. Under the 2050 No-Build conditions, all unsignalized intersections are projected to operate at LOS F during each peak hour period, except for the intersection at Boonesboro Road and Hillendale Lane, which is anticipated to operate at LOS C during the School Dismissal and PM peak hours.

Table 4-5 No-Build 2050 Signalized Intersection Level of Service Summary

Intersection	Approach	Lane Group	No-Build 2050								
			AM Peak			School Dismissal			PM Peak		
			V/C	Delay (sec)	LOS	V/C	Delay (sec)	LOS	V/C	Delay (sec)	LOS
SR 75 at I-26 WB On/Off-Ramp	NB SR 75	LT	1.45	262.1	F	1.36	215.9	F	1.42	250.7	F
		TH	0.83	10.5	B	1.06	39.6	D	0.86	11.6	B
	SB SR 75	TH	1.47	255.5	F	1.45	246.5	F	1.50	266.1	F
		RT	1.06	90.2	F	0.99	71.0	E	0.96	60.7	E
	WB I-26	LT	0.94	72.2	E	0.76	51.1	D	1.17	139.7	F
		RT	1.57	319.9	F	1.61	330.7	F	1.63	342.4	F
	Overall		**1.50**	**168.2**	**F**	**1.49**	**164.7**	**F**	**1.54**	**183.2**	**F**
SR 75 at I-26 EB On-Ramp	NB SR 75	TH	1.43	223.5	F	1.62	303.6	F	1.27	157.0	F
		RT	1.50	253.4	F	1.15	98.7	F	0.88	33.6	C
	SB SR 75	LT	1.50	290.7	F	1.48	281.7	F	1.28	185.1	F
		TH	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Overall		**1.50**	**252.4**	**F**	**1.58**	**240.1**	**F**	**1.27**	**136.3**	**F**
SR 75 at Sam Jenkins Rd	NB SR 75	LT	1.34	233.2	F	0.98	108.6	F	0.43	62.2	E
		TH RT	1.92	445.3	F	2.44	680.7	F	1.18	120.7	F
	SB SR 75	LT	0.04	68.3	E	0.03	63.9	E	0.12	67.9	E
		TH	1.77	386.3	F	1.54	282.5	F	1.76	379.7	F
		RT	0.44	10.1	B	0.40	10.4	B	0.46	9.9	A
	EB Sam Jenkins Rd	LT	1.93	490.9	F	2.11	568.8	F	1.40	255.6	F
		TH RT	0.09	52.6	D	0.13	48.2	D	0.11	49.5	D
	WB Gray Fossil Site	LT	0.03	68.7	E	0.01	61.4	E	0.05	66.5	E
		TH RT	0.01	72.7	E	0.02	64.3	E	0.04	67.2	E
	Overall		**1.92**	**366.1**	**F**	**2.27**	**461.0**	**F**	**1.50**	**219.4**	**F**
$$$: Delay > 500 sec											

Note: NB = northbound; SB = southbound; EB = eastbound; WB = westbound

Table 4-6 No-Build 2050 Unsignalized Intersection Level of Service Summary

Intersection	Lane Group	No-Build 2050								
		AM Peak			School Dismissal			PM Peak		
		V/C	Delay (sec)	LOS	V/C	Delay (sec)	LOS	V/C	Delay (sec)	LOS
SR 75 at Roscoe Fitz Rd	EB Roscoe Fitz Rd	###	$$$	F	###	$$$	F	###	$$$	F
SR 75 at Mosley Rd	WB Mosley Rd	###	$$$	F	###	$$$	F	3.14	$$$	F
SR 75 at Bob Fitz Rd	EB Bob Fitz Rd	3.09	$$$	F	###	$$$	F	###	$$$	F
SR 75 at Gray Station Rd/Shadden Rd	EB Shadden Rd	###	$$$	F	###	$$$	F	###	$$$	F
SR 75 at Sam Jenkins Rd	EB Sam Jenkins Rd	*Signalized*								
SR 75 at Daniel Boone HS N Driveway	WB HS Driveway	###	$$$	F	###	$$$	F	1.73	404.7	F
SR 75 at Daniel Boone HS S Driveway	WB HS Driveway	###	$$$	F	###	$$$	F	0.43	50.9	F
SR 75 at Boonesboro Rd	WB Boonesboro Rd	###	$$$	F	###	$$$	F	###	$$$	F
SR 75 at Hugh Cox Rd	EB Hugh Cox Rd	1.41	217.6	F	###	$$$	F	4.23	$$$	F
Boonesboro Rd at Hillendale Ln	EB Hillendale Ln	1.43	281.0	F	0.29	20.0	C	0.31	22.3	C
###: V/C > 5.00 $$$: Delay > 500 sec										

Note: NB = northbound; SB = southbound; EB = eastbound; WB = westbound

4.3 Future Segment Analysis

While portions of the corridor include established residential neighborhoods and commercial businesses, surrounding farmland and open space continue to give SR 75 (Suncrest Drive) a predominantly rural character. The roadway was originally designed to function as a rural three-lane highway; however, several large residential and commercial developments are currently under construction and numerous undeveloped parcels remain along the corridor. As these areas develop, the character and function of SR 75 (Suncrest Drive) are expected to change substantially.

The presence of both active development and significant undeveloped land introduces uncertainty in forecasting future traffic volumes. To address this uncertainty, a scenario-based traffic analysis was conducted that assumes full build-out of developments currently under construction and applies a conservative annual growth rate of 4 percent to account for potential development of remaining parcels. This approach provides a reasonable upper-bound estimate of future traffic demand and offers insight into how continued growth could affect corridor operations over the long term.

Figure 4-5 summarizes the estimated trip generation associated with residential and commercial developments currently under construction within the SR 75 (Suncrest Drive) corridor and illustrates projected traffic growth through the year 2050. Under this scenario, average daily traffic volumes along portions of SR 75 (Suncrest Drive) could increase from approximately 13,500 vehicles per day today to nearly 40,000 vehicles per day by the year 2050. The figure also identifies segment level of service thresholds for both a two-lane and four-lane roadway, represented by the green (LOS C) and yellow (LOS D) horizontal lines. Once the AADT of the roadway exceeds the LOS D line, the roadway begins to experience unacceptable congestion, indicating that additional lanes or other capacity improvements will be needed in order to maintain throughput at an acceptable level.

Based on these thresholds, the existing two-lane configuration is projected to exceed the LOS D threshold by approximately year 2037. In contrast, a four-lane facility would be capable of accommodating the project traffic growth while maintaining acceptable operations through the 2050 planning horizon.

These findings highlight the importance of proactive corridor planning. Identifying future capacity needs in advance allows the City, County, and MTPO to pursue funding opportunities, coordinate with TDOT, and plan right-of-way and design improvements before operational conditions degrade. Advancing corridor improvements ahead of when capacity is reached will help ensure that necessary widening and supporting infrastructure can be implemented in a timely manner, minimizing congestion, preserving safety, and supporting continued growth along SR 75 (Suncrest Drive).

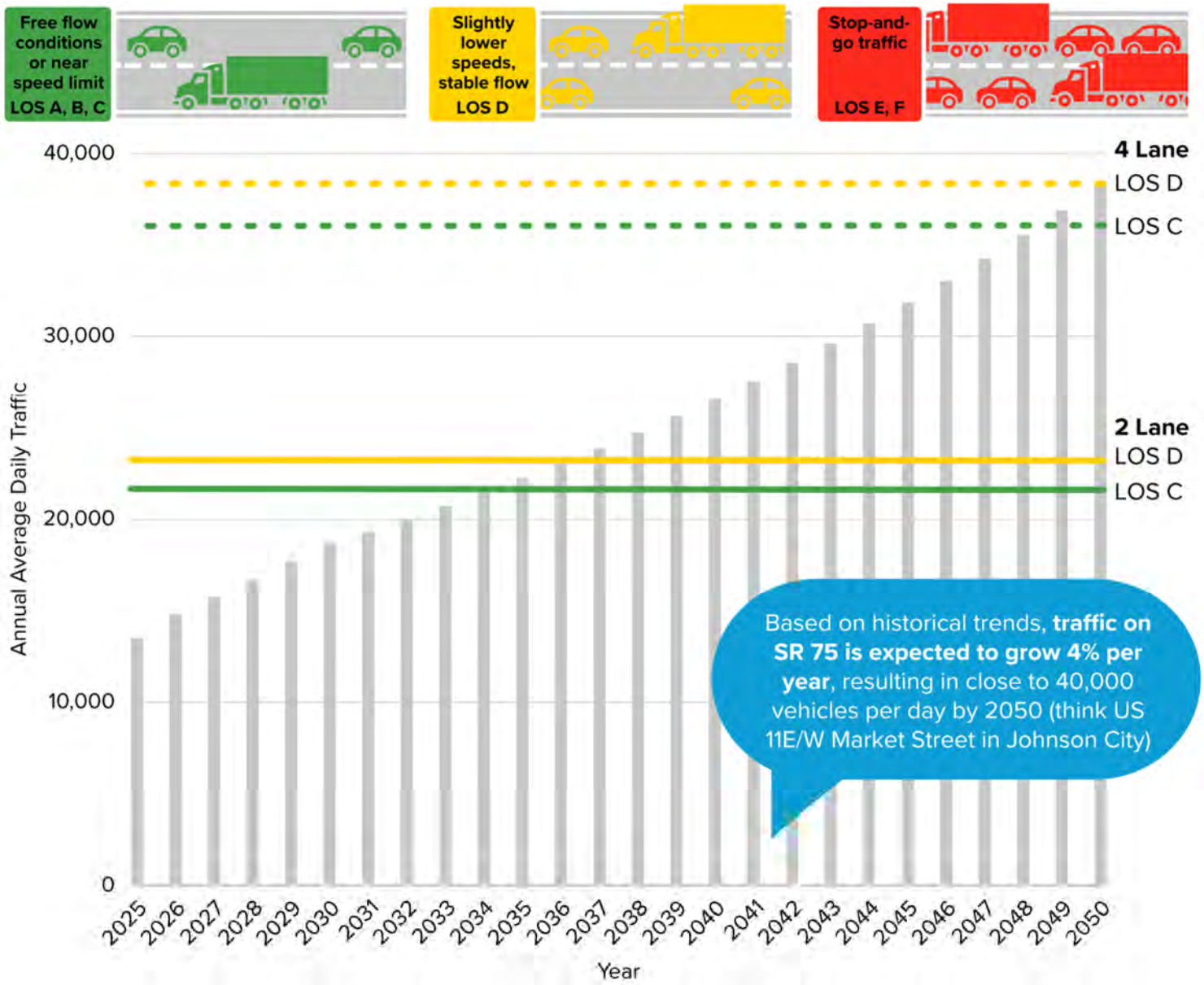


Figure 4-5 Projected Traffic Volume Growth and LOS Thresholds for SR 75 (2025-2050)

4.4 Needs and Deficiencies

Based on the future traffic forecasts, operational analyses, and safety findings, several needs have been identified along the SR 75 (Suncrest Drive) corridor. These needs reflect locations where the existing roadway and intersection configurations are no longer sufficient to safely and efficiently serve current and anticipated traffic demand, particularly as development continues and travel patterns evolve.

4.4.1 Intersection Access and Turning Deficiencies

A recurring deficiency along the corridor is the inability of vehicles on side streets and driveways to safely and efficiently access SR 75 (Suncrest Drive). Increasing mainline volumes significantly limit available gaps for turning movements, resulting in excessive delay, long queues, and elevated crash risk on minor street approaches. This issue is most pronounced at the following unsignalized intersections where future conditions show severe delay and LOS F operations:

- Roscoe Fitz Road
- Bob Fitz Road
- Gray Station Road/Shadden Road
- Daniel Boone High School driveways
- Hugh Cox Road

These deficiencies indicate a ***need for enhanced intersection control and additional turning capacity***, including signalization at warranted locations and dedicated turn lanes to separate turning vehicles from through traffic. Addressing these issues will improve safety, reduce delay, and restore reasonable access to the corridor for local traffic.

4.4.2 Peak Period Operational Constraints

The corridor experiences unique peak period demands, particularly during the school dismissal period associated with Daniel Boone High School and Ridgeview Elementary School. During these times, turning traffic related to school activity interferes with through traffic on SR 75 (Suncrest Drive), creating congestion, queuing, and increased crash potential. Existing intersection and driveway configurations lack adequate storage and control to manage these concentrated traffic peaks.

This operational constraint highlights the need for ***targeted peak period improvements***, such as turn lanes, driveway enhancements, and signal timing strategies that better accommodate school-related traffic without degrading corridor operations.

4.4.3 Mainline Capacity Limitations

While SR 75 (Suncrest Drive) currently functions as a rural three-lane roadway, projected traffic growth will increasingly strain this configuration. Segment-level analysis indicates that the existing two-lane facility will no longer provide acceptable operations within the planning horizon, with congestion and delay worsening as volumes

increase. This represents a capacity deficiency that cannot be resolved through intersection improvements alone.

This condition establishes the need ***for long-term mainline capacity enhancements***, including planning for future widening and access management strategies to ensure the corridor can function safely and efficiently as development intensifies.

4.4.4 Lack of Multimodal Connectivity

Despite serving key destinations such as Daniel Boone High School, the corridor currently lacks dedicated facilities for pedestrians and bicyclists. This deficiency limits safe nonmotorized travel options for students and residents and constrains the corridor's ability to evolve into a more complete transportation facility as land use changes.

This gap identifies the need for ***strategic multimodal investments***, such as a multi-use path, to improve safety, expand mobility options, and establish a foundation for a broader active transportation network along SR 75 (Suncrest Drive).

4.4.5 Implementation and Phasing Needs

Many of the identified deficiencies are already emerging and will worsen as traffic volumes increase. Without early planning and phased implementation, improvements may be delayed until after unacceptable congestion and safety issues develop. Proactive identification of needs allows agencies to pursue funding, coordinate right-of-way preservation, and sequence improvements in a manner that minimizes disruption and cost.

4.4.6 Summary

The needs identified along SR 75 (Suncrest Drive) are location-specific, operationally driven, and directly addressable through targeted intersection, segment, and multimodal improvements. The recommendations presented in the following section are designed to resolve these deficiencies by improving access, reducing conflict points, accommodating peak period demand, and preparing the corridor for long-term growth.

5. Recommendations

The following sections describe the recommendations that were developed based on data collection, existing conditions assessments, discussions with the steering committee, and comments received from the public engagement efforts. These recommendations are designed to address the identified challenges presented in the Existing Conditions and Future Needs Assessment and provide solutions to make the corridor safer, more efficient, and more accessible to all users.

Each recommendation includes a high-level planning cost along with high-level estimated costs for utility relocations and/or right-of-way acquisition. The costs were calculated using a combination of TDOT's 2025 Planning Level Cost Estimate Tool and recent unit bid prices from construction projects in the region. All cost estimates are provided in 2025 dollars. Quantities were determined from the concept drawings presented in the subsequent sections and should be refined during the detailed design phase. The final concept plans and cost estimate worksheets are provided in Appendix F and Appendix G, respectively.

5.1 Right-Turn Lanes

5.1.1 Daniel Boone High School South Driveway

ESTIMATED COST: $409,000

It is recommended that a dedicated right-turn lane be constructed on SR 75 (Suncrest Drive) at the Daniel Boone High School south driveway. Traffic analysis indicates that right-turn volumes from SR 75 (Suncrest Drive) into the school during peak arrival and dismissal periods meet established warrant criteria for a dedicated right-turn lane.

Providing a separate right-turn lane would allow school-related traffic to queue outside of the through travel lane, reducing delay and minimizing disruptions to mainline traffic on SR 75 (Suncrest Drive). This improvement would also enhance safety by reducing rear-end crash potential associated with turning vehicles slowing or stopping in the through lane and by improving overall traffic operations during peak school-related traffic periods.

Figure 5-1 Proposed Daniel Boone High School South Driveway Right-Turn Lane

5.1.2 Mosley Road

ESTIMATED COST: $358,000

To improve safety and traffic operations at the intersection of SR 75 (Suncrest Drive) and Mosley Road, it is recommended that a dedicated northbound right-turn lane be installed on SR 75 (Suncrest Drive). Traffic analysis indicates that existing right-turn volumes from SR 75 (Suncrest Drive) to Mosley Road, as well as turning movements from Mosley Road, meet established warrant criteria for a dedicated right-turn lane.

The addition of a northbound right-turn lane would provide dedicated storage for turning vehicles, allowing traffic to queue outside of the through lane and reducing delays to mainline traffic on SR 75 (Suncrest Drive). This improvement would also reduce the potential for rear-end crashes associated with slowing or stopped turning vehicles and improve overall intersection safety and operational efficiency.

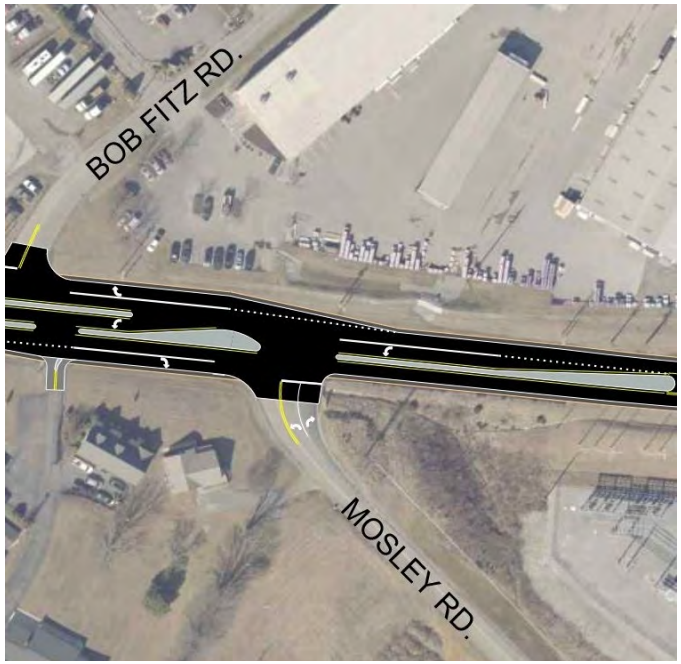


Figure 5-2 Proposed Mosley Road Right-Turn Lane

5.2 Multi-Use Path

ESTIMATED COST: $841,000

It is recommended to construct a multi-use path along the east side of SR 75 (Suncrest Drive) between Daniel Boone High School and Sam Jenkins Road. This segment would provide a dedicated facility for nonmotorized travel, improving safety and accessibility for students, residents, and other corridor users who walk or bike along or across SR 75 (Suncrest Drive).

Although this proposed path represents a relatively short segment, it serves as an important initial link in establishing a continuous multimodal network along the corridor. As redevelopment occurs and land use intensifies over time, this facility would help support safer active transportation options and encourage connectivity between key destinations. Implementing this segment now provides a foundation for future extensions of the multi-use path as additional opportunities arise along SR 75 (Suncrest Drive).

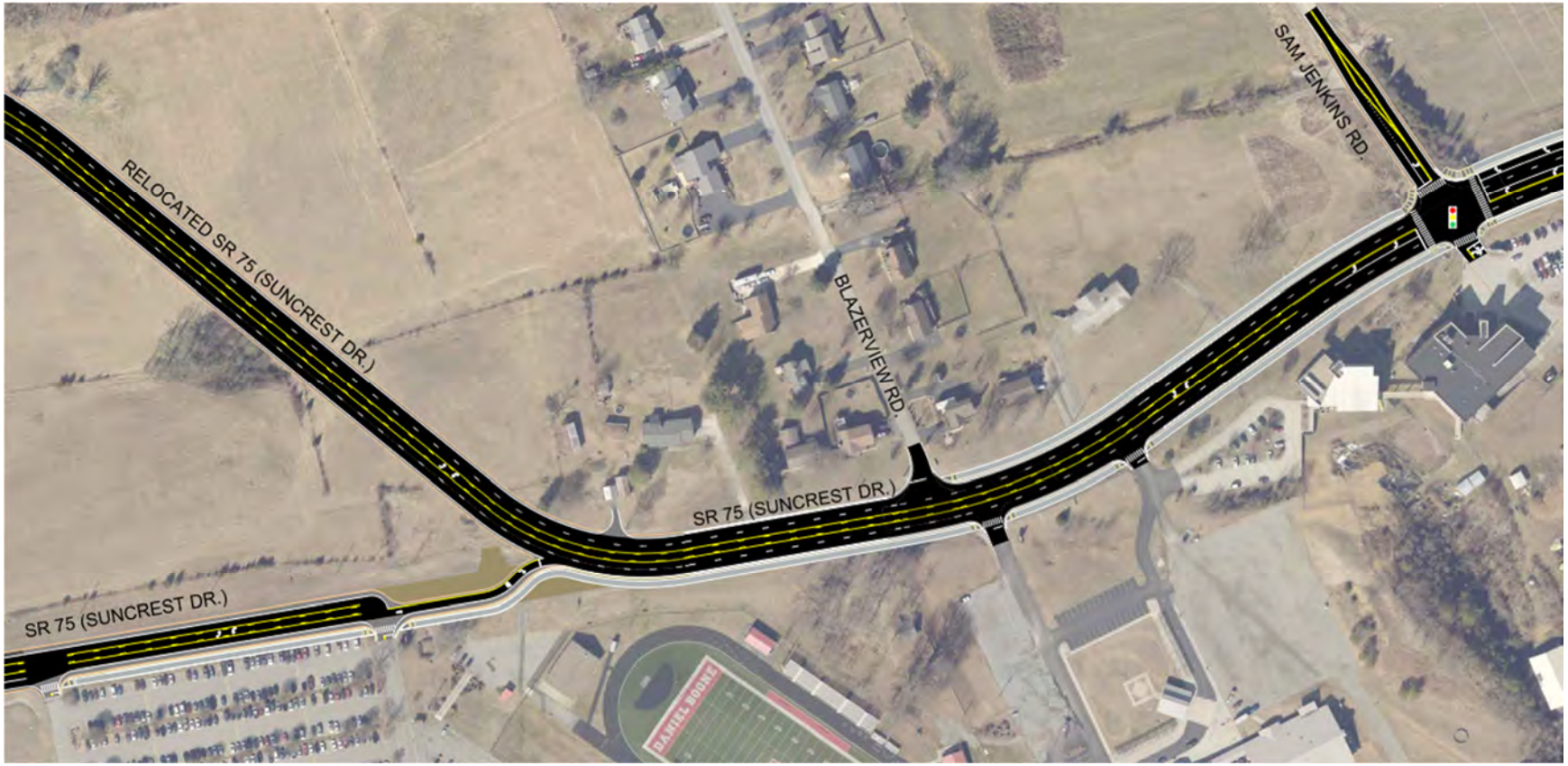


Figure 5-3 Proposed Multi-Use Path Between Daniel Boone High School and Sam Jenkins Road

5.3 Signalized Intersections

5.3.1 Sam Jenkins Road

It is recommended to install a traffic signal at the intersection of SR 75 (Suncrest Drive) and Sam Jenkins Road. Traffic analysis conducted as part of this corridor study indicates that existing traffic volumes meet established signal warrant criteria. Supporting signal warrant worksheets are provided in Appendix H. During the development of this study, the City of Johnson city was actively procuring signal equipment and initiating preliminary roadway preparation at this location, reflecting the near-term need for signalized traffic control.

The recommended signal configuration accounts for existing traffic demand as well as anticipated short-term growth along the corridor. As part of the signal improvement, dedicated right-turn lanes are recommended on the southbound SR 75 (Suncrest Drive) and eastbound Sam Jenkins Road approaches to reduce delay and improve overall intersection operations and safety.

While the proposed improvements are sufficient to accommodate current and near-term traffic conditions, continued development along SR 75 (Suncrest Drive) is expected to increase traffic volumes over time. As future growth occurs, additional roadway widening and expanded intersection geometry may be necessary to support added through and turning movements on SR 75 (Suncrest Drive).

Figure 5-4 Proposed Signal at Sam Jenkins Road

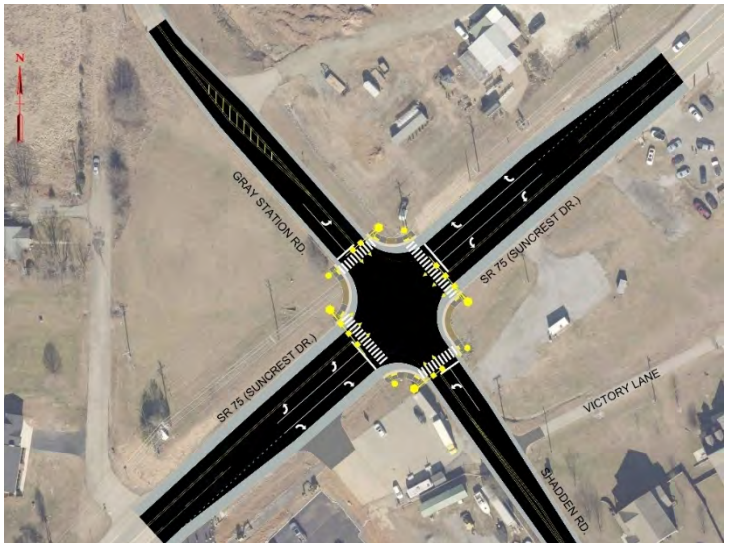


Figure 5-5 Proposed Signal at Gray Station Road/Shadden Road

5.3.2 Gray Station Road/Shadden Road

It is recommended to install a traffic signal at the intersection of SR 75 (Suncrest Drive) and Gray Station Road/Shadden Road. Traffic analysis conducted as part of this corridor study indicates that existing traffic volumes meet established warrant criteria. The signal improvement is currently programmed and is anticipated to be implemented within the

next five years. Installation of a traffic signal at this location would improve safety and traffic operations by providing controlled access to SR 75 (Suncrest Drive), reducing turning conflicts, and improving overall intersection efficiency as traffic volumes continue to increase.

As a supplemental near-term improvement, it is recommended that the City and/or County install speed humps along Victory Lane to discourage cut-through traffic using this narrow residential street to bypass queues along Shadden Road. This measure would help protect neighborhood safety and is recommended for immediate implementation, independent of and not contingent upon the future installation of the traffic signal.

5.4 Hugh Cox Road Intersection Improvement and Curve Realignment

ESTIMATED COST: $2,430,000

It is recommended to improve the intersection of SR 75 (Suncrest Drive) and Hugh Cox Road and to realign the roadway segment between Hugh Cox Road and Boonesboro Road. This improvement is intended to serve as Phase 1 of a more comprehensive realignment of SR 75 (Suncrest Drive) to address longstanding safety and geometric deficiencies along this portion of the corridor.

This initial phase would focus on modifying the vertical angle at which Hugh Cox Road intersects SR 75 (Suncrest Drive) and

Figure 5-6 Proposed Intersection Improvements at Hugh Cox Road and Phase 1 Realignment

smoothing the sharp curve between Hugh Cox Road and Boonesboro Road. The existing roadway geometry presents both vertical and horizontal alignment challenges that limit sight distance and contribute to driver expectancy issues. These conditions are reflected in the prevalence of crashes observed within this segment of the corridor.

By improving the intersection geometry and addressing the most extreme curvature, Phase 1 would enhance sight distance and improve overall safety while remaining achievable as a near-term improvement. This phased approach allows critical safety benefits to be realized in advance of a more extensive realignment, which may be pursued in the future as funding, right-of-way, and development conditions allow.

5.5 Boonesboro Road and Hillendale Lane

5.5.1 Hillendale Lane Realignment

ESTIMATED COST: $512,000

It is recommended to realign Hillendale Lane at its intersection with Boonesboro Road to improve intersection geometry and create a more direct and functional approach. This adjustment would improve sight distance, simplify turning movements, and enhance overall safety.

The realignment would also increase spacing along Boonesboro Road between Hillendale Lane and the SR 75 (Suncrest Drive) intersection, reducing operational conflicts between closely spaced intersections. In conjunction with this improvement, dedicated left- and right-turn lanes are recommended along Boonesboro Road at SR 75 (Suncrest Drive) to provide adequate storage for turning vehicles and improve traffic flow and safety at the intersection.

Figure 5-7 Proposed Hillendale Lane Realignment

5.5.2 Roundabout

ESTIMATED COST: $2,610,000

As an alternative, a roundabout is recommended for consideration at the intersection of SR 75 (Suncrest Drive), Boonesboro Road, and Hillendale Lane. A roundabout configuration could address the approach geometry and spacing challenges at this location by consolidating movements into a single, well-defined intersection, improving alignment angles, and reducing conflict points.

This configuration has the potential to improve operations along Boonesboro Road by moderating vehicle speeds, reducing delay for certain turning movements, and improving overall intersection safety. A roundabout could also simplify access by accommodating the Hillendale Lane approach more effectively than a conventional intersection layout.

However, due to the close proximity of the Daniel Boone High School driveways, additional traffic analysis will be required to evaluate how a roundabout would operate during peak school arrival and dismissal periods. Further study would be necessary to assess queuing and overall operational performance under peak conditions before advancing this alternative for implementation.

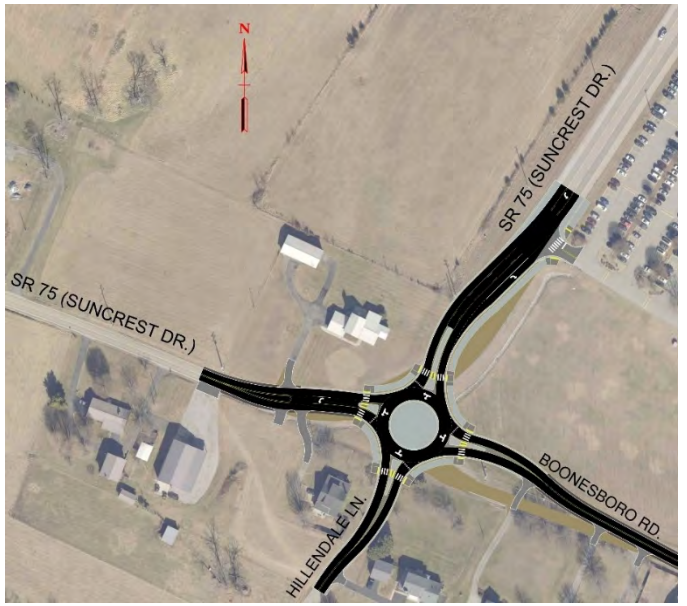


Figure 5-8 Proposed Roundabout at Boonesboro Road/Hillendale Lane

5.6 Bob Fitz Road Access Management Improvements

ESTIMATED COST: $2,250,000

To improve safety and reduce conflicts at the intersection of SR 75 (Suncrest Drive) and Bob Fitz Road, it is recommended to implement access management measures in the vicinity of the intersection. Due to the high concentration of driveways and closely spaced access points along this segment of the corridor, channelization and raised median islands are proposed to better direct vehicles into designated turning locations and reduce the number of conflict points along SR 75 (Suncrest Drive).

As part of this strategy, Bob Fitz Road would be converted to right-in/right-out access. This configuration would limit direct left-turn movements to and from SR 75 (Suncrest Drive), reducing delay and crash potential associated with those turn

maneuvers. Implementation of this recommendation would only be feasible if Roscoe Fitz Road is realigned to provide an alternative route for vehicles exiting Bob Fitz Road and traveling northbound on SR 75 (Suncrest Drive). Together, these improvements would help streamline access, improve corridor safety, and support more efficient traffic operations in this area.

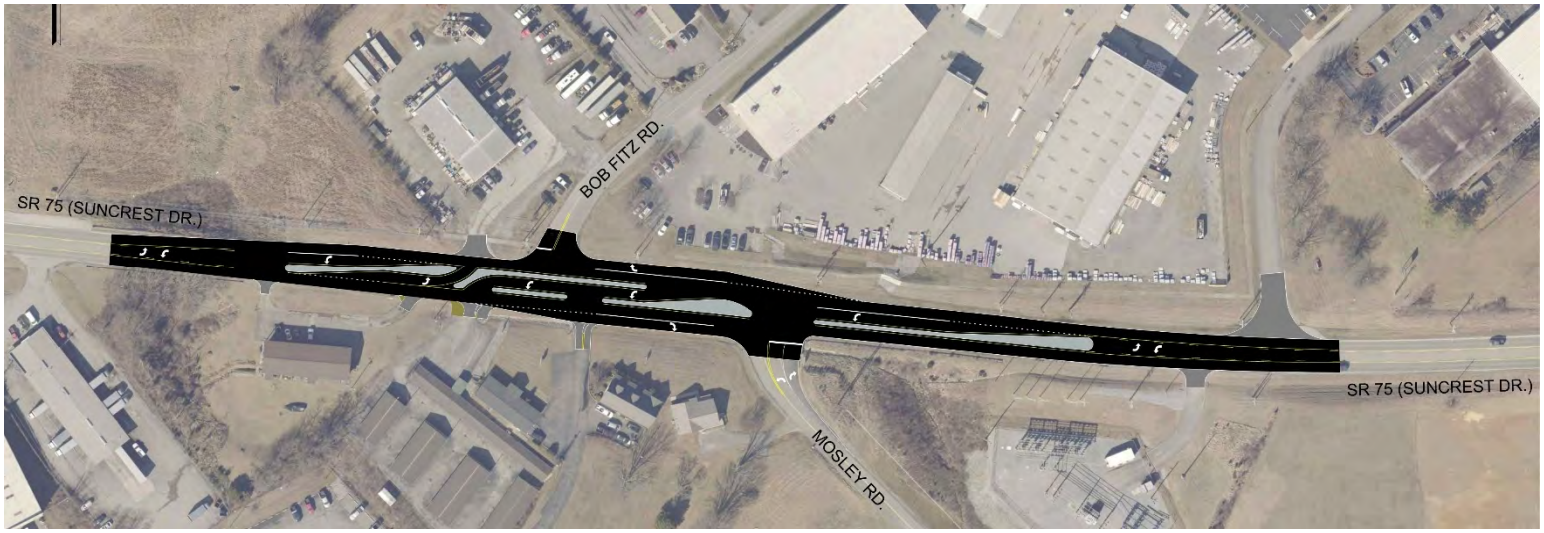


Figure 5-9 Proposed Access Management at Bob Fitz Road

5.7 Realigned SR 75 (Suncrest Drive)

ESTIMATED COST: $8,130,000

Phase 2 of the SR 75 (Suncrest Drive) improvement concept includes a more substantial realignment of the corridor through currently undeveloped farmland west of the existing roadway. This phase would address remaining geometric and operational deficiencies by relocating SR 75 (Suncrest Drive) to eliminate the sharp 90-degree curve at the Boonesboro Road intersection and provide a continuous, higher standard alignment capable of accommodating long-term traffic demand.

The proposed realignment would also function as a bypass around the Daniel Boone High School driveways, allowing through traffic on SR 75 (Suncrest Drive) to be separated from school-related traffic. Under this concept, the existing SR 75 (Suncrest Drive) alignment would remain in place to serve as the primary access to the high school. This separation would reduce turning conflicts, improve safety, and enhance traffic operations along the mainline by

removing frequent school-related congestion from the relocated SR 75 (Suncrest Drive) facility.

As part of this phase, a new signalized intersection would be required at the connection between the relocated SR 75 (Suncrest Drive) and the existing alignment to safely manage traffic movements and maintain access to adjacent properties and the school. The relocated roadway would need to be designed as either a four-lane divided or a five-lane section with a center two way left turn lane to accommodate projected traffic volumes through the 2050 planning horizon. In addition, the existing alignment serving the school would require widening to four lanes to support school traffic operations and maintain sufficient capacity.

This Phase 2 realignment represents a long-term investment in the corridor that builds upon the safety improvements implemented in Phase 1. By leveraging undeveloped land, the realignment provides an opportunity to achieve modern design standards, improve safety and operations, and support future growth while minimizing impacts to established development along the corridor.

Figure 5-10 Proposed SR 75 (Suncrest Drive) Phase 2 Realignment

5.8 Roscoe Fitz Road Realignment and Signal

ESTIMATED COST: $2,790,000

It is recommended to realign Roscoe Fitz Road to intersect SR 75 (Suncrest Drive) at a location further south of the existing intersection. The existing Roscoe Fitz intersection would be converted to a right-in only access to limit turning conflicts and reduce operational issues near the I-26 interchange.

The primary purpose of this realignment is to increase spacing between closely spaced intersections associated with the I-26 interchange ramps. Under existing conditions, the continuous green time provided to southbound SR 75 (Suncrest Drive) traffic makes it difficult for vehicles on Roscoe Fitz Road to find acceptable gaps to enter the corridor, resulting in excessive delays and operational challenges. Relocating the intersection further south would reduce this interference and allow access to be managed more effectively.

Figure 5-11 Proposed Roscoe Fitz Road Realignment

The proposed realignment would align Roscoe Fitz Road with new development driveways, creating a consolidated access point that could be signalized. A signalized intersection at this location would provide more reliable access to SR 75 (Suncrest Drive), improve safety, and better accommodate future traffic generated by adjacent development while reducing conflicts near the interchange.

5.9 Widen SR 75 (Suncrest Drive)

ESTIMATED COST: $23,800,000

It is recommended to widen SR 75 (Suncrest Drive) to a five-lane cross section, consisting of two through lanes in each direction with a center two-way left turn lane. This improvement would provide additional capacity to accommodate projected traffic growth, improve traffic flow, and reduce congestion along the corridor as development continues. Because the Phase 2 realignment includes widening the relocated SR 75 (Suncrest Drive) alignment to five lanes up to Sam Jenkins Road, this recommendation only includes widening from Sam Jenkins Road north to the I-26 interchange.

Figure 5-12 Proposed SR 75 (Suncrest Drive) Widening – East

Figure 5-13 Proposed SR 75 (Suncrest Drive) Widening - West

5.10 I-26 Eastbound Off-Ramp Reconfiguration

ESTIMATED COST: $915,000

It is recommended to reconfigure the I-26 eastbound off-ramp to SR 75 (Suncrest Drive) to support two continuous northbound through lanes on SR 75 (Suncrest Drive) without requiring widening of the overpass bridge structure. Under existing conditions, the off-ramp operates as a free-flow movement with an added lane, which constrains the ability to maintain two northbound through lanes beyond the interchange.

Reconfiguring the off-ramp to operate under signal control would allow the northbound SR 75 (Suncrest Drive) lanes to remain continuous through the interchange, improving mainline operations and reducing the need for costly bridge widening. This configuration provides a flexible long-term solution to accommodating future corridor widening. However, placing the off-ramp under signal control would require further operational analysis to evaluate queuing conditions along the off-ramp and ensure traffic does not back up onto I-26. Additional study would be necessary to confirm that adequate storage and signal timing strategies can be provided to safely accommodate off-ramp traffic during peak conditions.

Figure 5-14 Proposed I-26 Eastbound Off-Ramp Reconfiguration

5.11 County Road Improvement Prioritization

It is recommended that Washington County review and update its prioritization of maintenance and roadway improvement projects on county-maintained roads to reflect changes in growth patterns and traffic demand since the last Thoroughfare Plan was completed in 2015. Development along and near SR 75 (Suncrest Drive) has altered travel patterns within the area, increasing pressure on parallel and connecting county roads.

Feedback received during this study indicates that if SR 75 (Suncrest Drive) is not widened to accommodate growing traffic volumes, drivers are increasingly likely to divert to alternative county roads to avoid congestion. Many of these roads are narrow and were not designed to carry higher traffic volumes, which raise concerns related to safety, pavement conditions, and neighborhood impacts. Proactively adjusting maintenance and upgrade priorities will help ensure that county roads are

better equipped to handle evolving traffic demands and reduce unintended consequences of corridor congestion on the broader roadway network.

5.12 Daniel Boone High School

Daniel Boone High School is directly located along SR 75 (Suncrest Drive). Significant traffic is generated during the morning drop-off and afternoon dismissal periods, which results in extremely long queues on SR 75 (Suncrest Drive) northbound and southbound, most notably in the AM peak hour. Northbound traffic backs up to Hugh Cox Road. This queue is dangerous due to the sharp curves between Hugh Cox Road and Boonesboro Road. Vehicles traveling around the blind curves may not be aware that traffic is stopped or slowed ahead. Additionally, the traffic on SR 75 (Suncrest Drive) blocks vehicles on Boonesboro Road from entering the highway. Similarly, southbound traffic backs up as far as Gray Station Road/Shadden Road, blocking access to and from Sam Jenkins Road. The traffic is a safety concern and has a trickle down effect on operations throughout the corridor. This condition not only reduces efficiency along the highway but also creates safety concerns by introducing unexpected congestion into the travel lanes.

Existing Circulation Conditions

School-bound traffic must access the site directly from SR 75 (Suncrest Drive), resulting in heavy volumes of turning movements at peak times. On-site circulation is directed by school staff while the School Resource Officer (SRO) assists with traffic entering and exiting the site. Currently, all northbound traffic from Sulphur Springs and all school buses use the south driveway to enter the school. This driveway is also utilized by exiting traffic heading southbound. The entering vehicles merge into a single drive aisle where the buses turn off to drop students in front of the school and parents continue straight to merge with traffic who have entered the school via the north driveway. This convergence point is one of the major contributing factors to the school congestion. The SRO is stationed at the north driveway, conducting southbound traffic into the school. Exiting traffic headed northbound also use this driveway.

The existing circulation pattern is depicted in Figure 5-15 below.

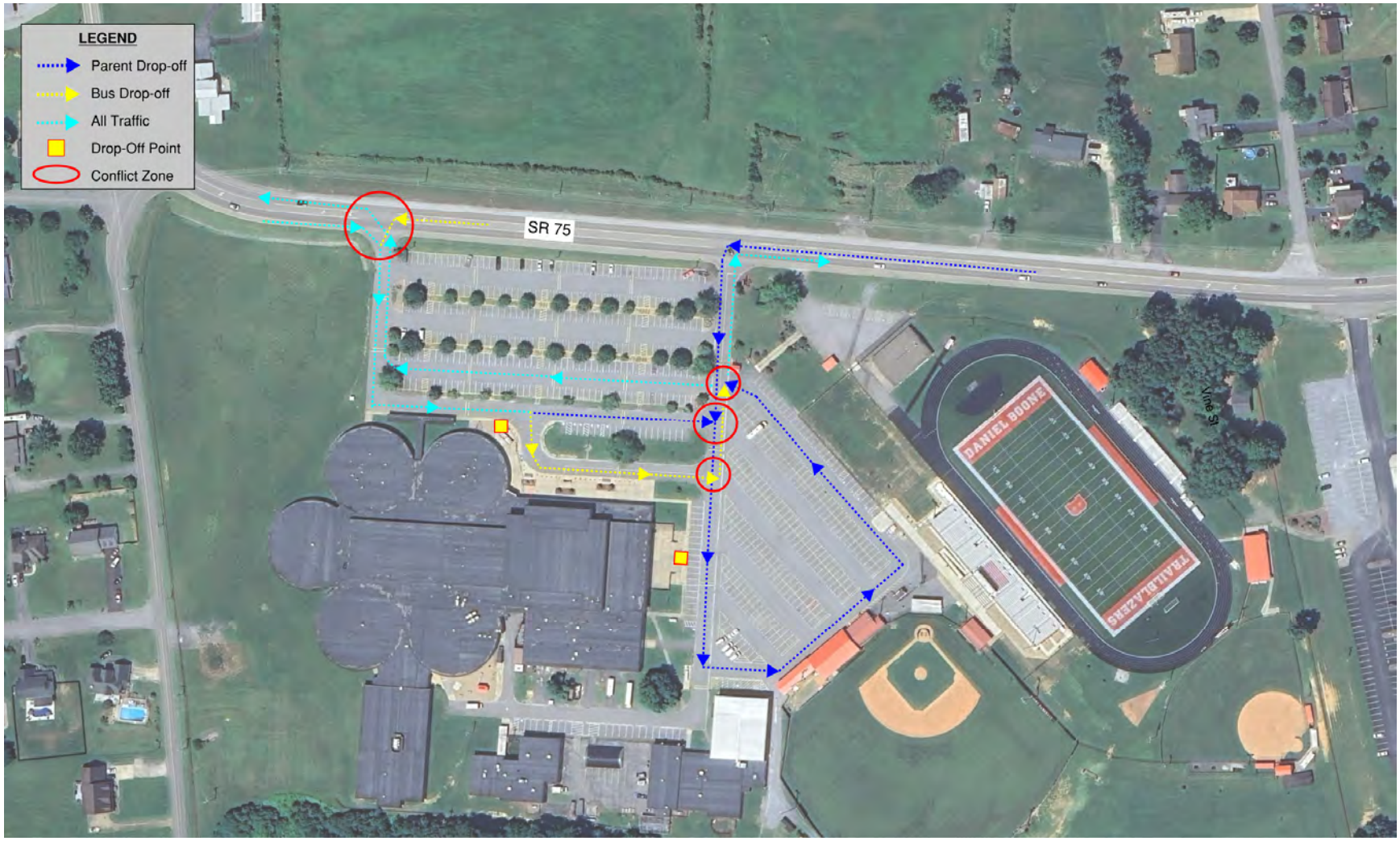


Figure 5-15 Existing School Circulation Plan

Identified Issues:

Based on drone footage taken during the morning drop-off on a typical school day (September 9, 2025) and anecdotal feedback, the following have been identified as being the primary causes of the traffic congestion.

1. Convergence of traffic from south driveway and north driveway
   The convergence of drop-off traffic from the two driveways appears to be the primary contributor to the school traffic congestion. When traffic from both access points merges into the same internal circulation route, it creates a bottleneck, which slows the processing rate of vehicles reaching the designated drop-off area and causes queues to build more quickly and extend onto SR 75 (Suncrest Drive).
2. Two-Way Traffic at both driveways
   Two-way traffic at both driveways is generally less efficient than assigning one-way operations with two lanes at each driveway. In the current pattern, vehicles entering and exiting must cross paths, creating turning conflicts that slow movement and increase the potential for congestion and crashes. Vehicles turning into the north driveway are met with a conflict point within 250-feet of entering the site. If there is a back-up at this point, queuing will inevitably spill back onto SR 75 (Suncrest Drive).
3. Drop-off compliance
   Several parents were observed dropping their children off near the front door of the school. While unloading here may only take a few seconds, it occurs at a location that only allows for approximately 400 feet of queuing to occur. Queuing capacity is critical on site and when queuing space is inadequate, vehicles spill back onto the adjacent roadway. Therefore, storage needs to be maximized on-site to prevent backups. If parents would continue to the designated drop-off location on the side of the school, the queuing potential increases to over 1000-feet of space.

Recommendation

To address these issues, it is recommended that the school consider testing a revised internal circulation pattern that better separates traffic streams and reduces the likelihood of spillback onto SR 75 (Suncrest Drive). Specifically, a pattern that designates distinct areas for bus operations, parent pick-up/drop-off, and staff parking would allow traffic to be processed more efficiently on-site before vehicles re-enter the highway.

This recommendation is presented as a conceptual suggestion only. A more detailed traffic analysis using advanced modeling software would be necessary to fully evaluate operational impacts and confirm effectiveness. However, the proposed adjustment offers a no-cost interim strategy that can be tested by the school to assess whether it improves traffic conditions during peak periods. Results from this trial can inform future circulation planning and serve as a foundation for more comprehensive analysis.

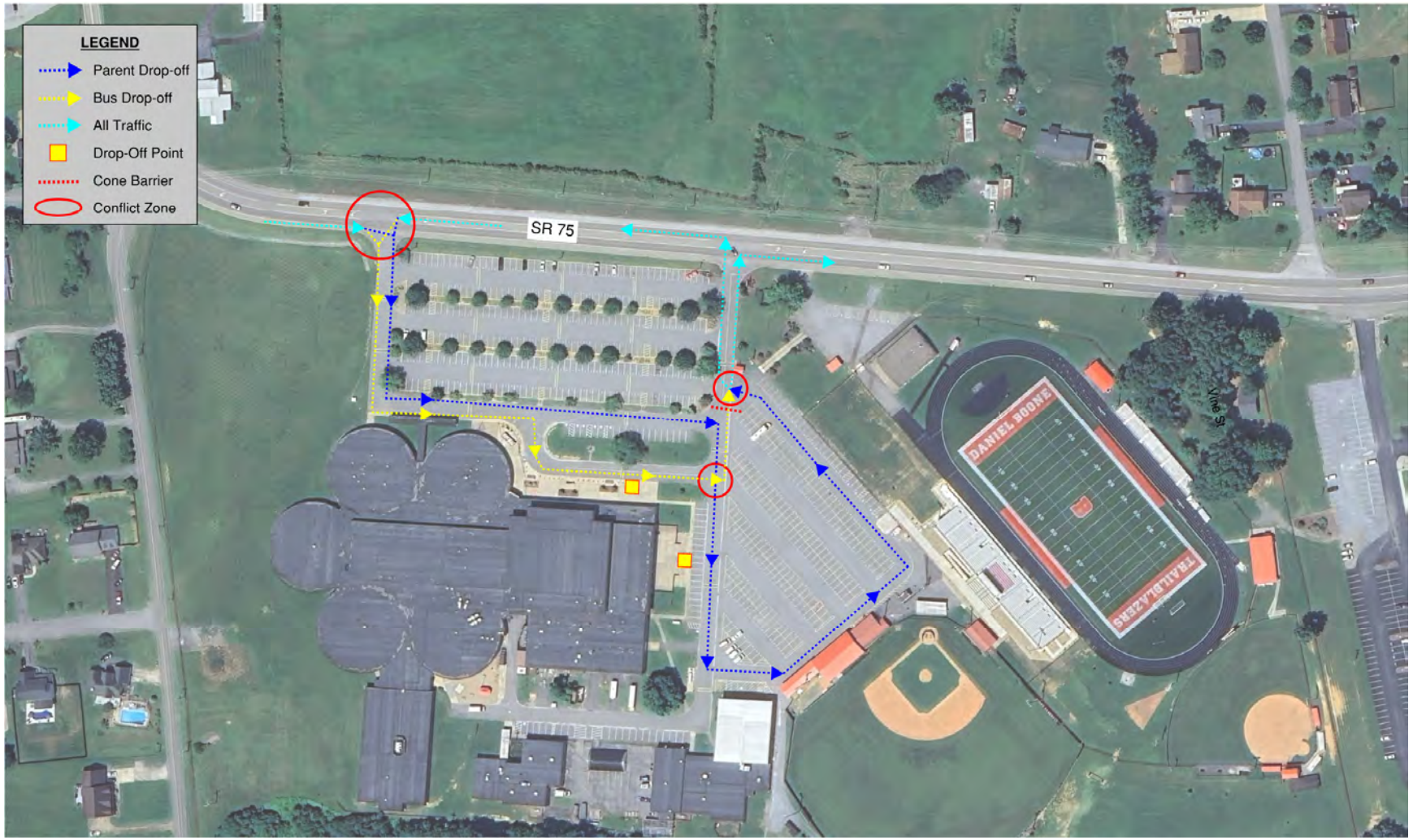


Figure 5-16 Proposed School Circulation Plan

6. Implementation Plan

This study proposes several recommendations at key locations to help create a safer corridor that improves the mobility for all users. This section describes how each recommendation was ranked and prioritized to come up with a strategic implementation plan that categorizes projects into short-term (1-3 years), mid-term (3-10 years), and long-term (more than 10 years) timeframes.

6.1 Project Evaluation Factors

Each project identified in the Recommendations was assessed based on four criteria to aid in prioritization. Within each criterion, projects were scored based on a system where 1 represents a higher priority and is denoted by a green dot, 2 represents a medium priority and is denoted by a yellow dot, and 3 represents a lower priority and is denoted by a red dot.

Each factor is described below:

Complexity – The complexity ranking is based on the level of design and thus the degree of procedural tasks that are anticipated with each project.

> **1 = low complexity**; examples include projects that involve localized improvements with minimal impacts to right-of-way, utilities, drainage, or traffic control
>
> **2 = moderate complexity**; examples include projects that require limited new alignment or geometric modification, modest right-of-way impacts, and potential utility coordination
>
> **3 = high complexity**; examples include projects involving substantial geometric or operational changes, new alignment, or significant right-of-way, utility, and environmental considerations

Safety – The safety ranking is based on the existing safety concerns at the location of the project.

> **1 = highest safety priority**; project is located at an area with a history of numerous crashes and has been identified as a location of significant safety concern
>
> **2 = medium safety priority**; project is located at an area where some crashes have occurred, but not at a frequency or severity level to be classified as a high-concern location

3 = lowest safety priority; project is located at an area with few or no reported crashes and has not been identified as a safety concern

Public Feedback – The public feedback ranking is based on the input received at Public Meeting #3. Participants were asked to review and rank the final recommendations from 1 to 11, with 1 being their most preferred. Projects that received the strongest support were prioritized higher under this metric.

1 = high public priority; recommendation had an average ranking lower than 4.5

2 = moderate public priority; recommendation had an average ranking greater than 4.5 and lower than 5.8

3 = low public priority; recommendation had an average ranking greater than 5.8

Cost – The cost ranking is based on the level of financial investment that would be required as determined by the cost estimates.

1 = low cost; projects less than $1,000,000

2 = moderate cost; projects greater than $1,000,000 and less than $3,000,000

3 = high cost; projects greater than $3,000,000 and less than $10,000,000

4 = very high cost; projects greater than $10,000,000

6.2 Implementation Plan

The project evaluation summary is provided in Table 6-1. The scores in the table are categorized by the following:

- highest priority rankings (1)
- medium priority rankings (2)
- lowest priority rankings (3)

The total score for each project was calculated by taking the average score across each evaluation category and is shown in the Priority Band column, which indicates the timeframe the improvement should fall under. The following are suggestions, and the City and County may choose to prioritize the recommended improvements however they deem appropriate based on local feedback and available funding.

6.2.1 Short-Term Improvements

Short-term improvement projects are those that can be completed within one to three years or provide an exceptional safety benefit and should thus be implemented as soon as possible. The recommended short-term improvements are:

- Boonesboro Road at Hillendale Lane – Intersection Realignment
- I-26 Eastbound Off-Ramp – Ramp Reconfiguration and Signal Modifications
- Daniel Boone High School South Driveway – Right-Turn Lane
- Daniel Boone High School to Sam Jenkins Road – Multi-Use Path
- Roscoe Fitz Road – Realignment and Signalization

6.2.2 Mid-Term Improvements

Mid-term improvements are those that can be completed within three to ten years, either because of the complexity of the project or the cost. The recommended mid-term improvements are:

- Mosley Road – Right-Turn Lane
- Bob Fitz Road – Access Management
- SR 75 from Hugh Cox Road to Boonesboro Road – Phase 1 Realignment of SR 75 and Intersection Improvements at Hugh Cox Road

6.2.3 Long-Term Improvements

Long-term improvement projects are those that do not pose an immediate safety need and could be planned for a longer-term horizon. The recommended long-term improvements are:

- SR 75 at Boonesboro Road and Hillendale Lane – Roundabout
- SR 75 from Hugh Cox Road to Blazerview Road – Phase 2 Realignment of SR 75 and Widen Existing SR 75 between Boonesboro Road and Relocated SR 75
- SR 75 from Sam Jenkins Road to I-26 – Widen to 5 lanes

Table 6-1 Priority Ranking for SR 75 (Suncrest Drive) Recommendations

Location	Recommendation	COMPLEXITY	SAFETY	PUBLIC RANKING	COST	PRIORITY BAND	Cost Estimate
Boonesboro Road at Hillendale Lane	Intersection Realignment	🟢	🟡	🟡	🟢	🟢	$512,000
I-26 Eastbound Off-Ramp	Ramp Reconfiguration and Signal Modifications	🔴	🟢	🟢	🟢	🟢	$915,000
Daniel Boone High School South Driveway	Right-Turn Lane	🟢	🟡	🔴	🟢	🟢	$409,000
Daniel Boone High School to Sam Jenkins Road	Multi-Use Path	🟢	🔴	🟡	🟢	🟢	$841,000
Roscoe Fitz Road	Realignment and Signalization	🔴	🟢	🟢	🟡	🟢	$2,790,000
Mosley Road	Right-Turn Lane	🟢	🔴	🔴	🟢	🟡	$358,000
Bob Fitz Road	Access Management	🟡	🔴	🟢	🟡	🟡	$2,250,000
SR 75 from Hugh Cox Road to Boonesboro Road	Phase 1 Realignment of SR 75 and Intersection Improvements at Hugh Cox Road	🟡	🟢	🔴	🟡	🟡	$2,430,000
SR 75 at Boonesboro Road & Hillendale Lane	Roundabout	🟡	🟡	🔴	🟡	🔴	$2,610,000
SR 75 from Hugh Cox Road to Blazerview Road	Phase 2 Realignment of SR 75 and Widen Existing SR 75 between Boonesboro Road and Relocated SR 75	🔴	🟢	🟡	🔴	🔴	$8,130,000
SR 75 from Sam Jenkins Road to I-26	5-Lane Widening	🔴	🟡	🟢	🔴	🔴	$23,800,000

6.3 Funding Opportunities

Infrastructure projects can be costly to design and construct within the means of a city's existing tax base. While local funds and inclusion in a jurisdiction's Capital Improvement Program (CIP) are often the primary means of advancing transportation improvements, intergovernmental assistance can alleviate funding shortfalls and accelerate implementation while allowing the local government to continue investing its resources in other community priorities.

Projects identified in this study may be pursued using local funding sources where feasible, with state and federal programs serving as supplemental resources for projects that exceed local funding availability or require additional financial support.

Table 6-2 summarizes several applicable funding programs for implementing transportation improvements in the City of Johnson City and Washington County.

Table 6-2 Available Funding Strategies

Grant/Program	Agency	Examples of Eligible Activities	Funding
Multimodal Access Grant	TDOT Multimodal Division	Multimodal Access Grant funding is available to improve transportation access for pedestrians, bicyclists, and transit users along State Routes using the following improvement types: sidewalks; pedestrian crossing improvements; bicycle facilities; multi-use paths; transit stop amenities; complete streets, road diet or traffic calming measures; improvements that address ADA non- compliance; pedestrian-scale lighting; and other improvements which primarily improve access for multimodal users.	90% state 10% local match State portion may not exceed $1,125,000
National Highway Performance Program (NHPP)	FHWA funds distributed to TDOT	The National Highway Performance Program provides federal funding to support the condition and performance of the National Highway System and for the construction of new facilities on the National Highway System. Projects may include planning, design, and construction.	Conditional Apportionment based on TDOT discretion
Highway Safety Improvement Program	FHWA funds distributed to TDOT	HSIP funds can be used for safety projects that are consistent with the State's Strategic Highway Safety Plan and that correct or improve a hazardous road location or feature or address a highway safety problem. The following projects are eligible: installation of vehicle-to-infrastructure communication equipment; pedestrian hybrid beacons; and roadway improvements that provide separation between pedestrians and motor vehicles, including medians and pedestrian crossing islands	90% federal 10% local match

Grant/Program	Agency	Examples of Eligible Activities	Funding
Transportation Alternatives Program (TAP)	FHWA funds distributed to TDOT	All facilities must be hard-surfaced, ADA compliant, and provide adequate connectivity and separation from vehicular traffic. Sidewalk facilities must be a minimum of 5 feet wide and shared-use facilities must be a minimum of 10 feet wide. TAP funds can be used for sidewalks, walkways or curb ramps, bike lane striping, wide paved shoulders, bike parking and bus racks, traffic calming for the safety of bike/ped traffic, off-road trails, bike and pedestrian bridges/underpasses, and ADA compliance.	20% local match for construction Preliminary engineering, design, and ROW expenses are responsibility of local government
Surface Transportation Block Grant	FHWA funds distributed to TDOT & MPO	In general, STBG projects may not be on local roads or rural minor collectors. There are a number of exceptions to this requirement, such as the ability to use up to 15 percent of a state's rural suballocation on minor collectors. Other exceptions include: bridge and tunnel projects; safety projects; fringe and corridor parking facilities/programs; recreational trails, pedestrian and bicycle projects, and safe routes to school projects; boulevard/roadway projects largely in the ROW of divided highways; inspection/evaluation of bridges, tunnels, and other highway assets; port terminal modifications; and projects within the pre-FAST Act title 23 definition of "transportation alternatives."	80-100% federal 20% local match
Safe Streets and Roads for All (SS4A); Planning & Demonstration and Implementation Grants	FHWA	The SS4A Action Plan Grant provides federal funds for Planning and Demonstration projects which can include an Action Plan. The goal of an Action Plan is to develop a strategy to prevent roadway fatalities and serious injuries in a locality. The SS4A Implementation Grant provides federal funds for projects and strategies identified in an Action Plan that addresses roadway safety problems.	80% Federal Match 20% State or Local Planning & Demonstration: $100,000 - $5,000,000 Implementation: $2,500,000 - $25,000,000

Grant/Program	Agency	Examples of Eligible Activities	Funding
TN Highway Safety Office Grants	TN Highway Safety Office	The Tennessee Highway Safety Office provides grants to programs which are designed to reduce the number of fatalities, injuries and related economic losses resulting from traffic crashes on Tennessee's roadways. Grant areas include but are not limited to: Alcohol and Impaired Driving Education & Enforcement, Bicycle and Pedestrian Safety, High Visibility Enforcement, Police Traffic Services, and Safe Communities.	Conditional
Statewide Partnership Program (SPP)	TDOT	The TDOT Statewide Partnership Program (SPP) supports a wide range of transportation improvements on state routes, including highway capacity projects (such as lane additions or roadway extensions), highway ITS and system operations projects (including technology upgrades and operational improvements), highway safety projects (including geometric, design, or operational improvements targeted to identified safety needs), major bridge replacement or reconstruction projects, and major pavement rehabilitation or reconstruction projects. The program is intended to accelerate projects with identified local funding and support and serves as an initial step in the planning process to help TDOT understand local needs, priorities, and ability to partner. Priority is given to projects that are MPO or RPO priorities and represent a significant local financial investment.	Conditional; projects are evaluated based on statewide priorities, performance, deliverability, and cost.
State Infrastructure Fund (SIF)	Tennessee Local Development Authority (TLDA)	The State Infrastructure Fund (SIF) aids local governments by providing them with low-interest loans administered through the TLDA to help in the construction of transportation infrastructure projects. Communities without the ability to offer financial partnership through the SPP with traditional local funds could consider using an SIF loan, subject to the approval of the TLDA, to enable a flexible, layered finance strategy.	Low interest loans to finance broad range of transportation infrastructure needs.

Grant/Program	Agency	Examples of Eligible Activities	Funding
Community Development Block Grant	TN Dept. of Economic and Community Development	Provide essential, pressing community development needs in underserved areas. Can go towards community infrastructure and revitalization projects.	80% federal 20% Local Match $1,000,000 Maximum
Healthy Built Environment Grants	TN Dept of Health	Healthy Built Environment supports a variety of initiatives designed to encourage physical activity and foster social interaction. Previous project examples include greenways, playgrounds, and walking tracks.	TBD
Project Diabetes	TN Dept of Health	Grants are awarded to community partners with a focus on reducing overweight and obesity as risk factors for the development of type 2 diabetes. Grant activities are geared toward interventions that are applied before there is any evidence of disease.	Category A – funded up to 3 years; max of $150,000/year Category B – funded up to 2 years; max of $15,000/year
AARP Community Challenge	AARP	The AARP Community Challenge provides small grants to fund quick-action projects that can help communities become more livable for people of all ages. Applications will be accepted for projects to improve public spaces, housing, transportation and civic engagement; support diversity, equity and inclusion; build engagement for programs under new federal laws; and pursue innovative ideas that support people aged 50 or older. Transportation and Mobility projects include options that increase connectivity, walkability, bikeability, wayfinding, access to transportation options and roadway improvements.	$500 to $50,000

Grant/Program	Agency	Examples of Eligible Activities	Funding
Better Utilizing Investments to Leverage Development (BUILD)	FHWA	The BUILD grant provides funds for surface transportation infrastructure projects that will improve: safety; environmental sustainability; quality of life; mobility and community connectivity; economic competitiveness and opportunity including tourism; state of good repair, partnership and collaboration; and innovation. Funds can be used for planning and development as well as construction, including right-of-way acquisition.	Up to 20% match *may* be required. Minimum award for rural areas is $1,000,000.
Rural Surface Transportation Grant Program	FHWA	The Rural Surface Transportation Grant Program supports projects that improve and expand the surface transportation infrastructure in rural areas to increase connectivity, improve the safety and reliability of the movement of people and freight, and generate regional economic growth and improve quality of life.	80% match for planning grants and no more than 50% for capital projects.