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SR-10 COMMUNITY MOBILITY PLAN

LAFAYETTE, TN

CTPG 2021

Placeholder: Resolution in support of document

Executive Summary

The City of Lafayette utilized 2020-2021 Community Transportation Planning Grant (CTPG) program funds through the Tennessee Department of Transportation (TDOT) to finance this Plan.

The City intends to use the finalized SR-10 Community Mobility Plan as the foundation to implement "brick and mortar" projects to develop the Public Square and the City's multimodal system for the benefit of its citizens. The City hopes to make the square a pedestrian-friendly destination which is both inviting to tourists and attractive to potential businesses. In spite of the SR-52 Bypass, truck traffic remains a problem around the Public Square as freight travels through to the industrial park.

Meetings with the study team led to the creation of a vision statement for the Plan.

The vision for Lafayette is to enhance, improve and promote road safety, to facilitate mobility for vehicles, heavy trucks and pedestrians, and to support economic growth.

The plan goals are:

G1. Encourage diversion of heavy truck traffic away from the Public Square

Heavy truck traffic destined for the industrial park, cattle yard and commercial areas north of the Public Square cut through the Public Square instead of utilizing SR-52 and Sneed Boulevard to go around the City center.

G2. Identify the best possible multimodal system to serve the Public Square

Pedestrians, vehicles and heavy trucks congregate in the confined space of the Public Square around the County Court House creating safety issues and impeding economic growth of the downtown businesses.

G3. Provide citizens the safest, ADA-compliant, multi-use connectivity to the City's residential, business and recreational areas

The City has limited sidewalk connectivity outside the Public Square. Concentrations of employment and housing exist, but residents are unable to safely access destinations without a vehicle.

G4. Improve access to the City's industrial park, just outside Lafayette's corporate City limits on SR-10

The industrial park is an economic asset to the City. Truck drivers face physical challenges accessing the park. The City would like to foster growth of the industrial park by providing better access.

Early meetings with the study team lead to the identification of three target areas for goal implementation:

1. The intersection of Akersville Road at Sneed Boulevard /Coolidge Road (pedestrian mobility and intersection operations at Sneed Boulevard /Coolidge Road focus)
2. Akersville Road between Scottsville Road and Sneed Boulevard
3. Lafayette Public Square (pedestrian accessibility and safety focus)

In addition to the three primary focus areas, a limited review of Sneed Boulevard between SR-52 and Akersville Road was conducted with a focus on promoting the route as a vehicular access route for heavy trucks to the industrial park.

As part of the process, existing and previous transportation studies and reports were collected to ensure consistency in planning efforts. State, regional, and local plans were gathered and consulted throughout the planning processes. Policies and procedures, specifically those regulating land use, local ADA directives and freight routes, were researched and cataloged for review. Future development areas were identified and mapped as well as existing sidewalk infrastructure. Data concerning pedestrian origins and destinations was compiled. Traffic counts, crash histories and roadway characteristics were documented. Finally, demographic data was utilized to identify and map the location of vulnerable populations including households with no vehicles, minority persons, persons over the age of 65 and persons in poverty in the last 12 months.

Analyses were conducted as part of this Plan. These analyses and their outcomes are summarized for each focus area below:

1. Akersville Road & Sneed Boulevard; SR-52 and Sneed Boulevard
 - A **Crash Analysis** showed a higher-than-average crash rate and a high number of “angle” crashes indicating turning difficulty
 - A **Level of Service (LOS) Analysis** showed acceptable wait times at all four legs of intersection
 - **AM/PM Peak traffic Volume Analyses** alone did not support creation of turn lanes to support traffic flow
 - A **Semi Turning Movement Analysis** demonstrated a need for increased turning radii at this intersection and a need to reroute heavy truck traffic away from the Public Square
 - An **All Way Stop Analysis** identified the need for a 4-way stop
 - **Heavy Truck Traffic** presence was documented in the Public Square, supporting the need for an alternative route for heavy trucks
 - An **Analysis of Pedestrian Origins and Destinations** revealed a concentration of multifamily and low-income housing adjacent to a concentration of jobs and retail services without safe pedestrian connections
 - An updated **Signal Warrant and LOS Review** was performed for the SR-52 and Sneed Boulevard intersection. The original review was part of the 2017 Lafayette CTPG. Data indicated that recommended improvements are still needed at that intersection.
2. Akersville Road
 - **Crash Analyses** did not reveal a higher-than-average crash rate, but a pedestrian was hit along this route in the recent past

- A look at **Vulnerable Populations** showed a higher-than-state-average number of households with no vehicles and persons in poverty in the last 12 months (2019)
 - An **Analysis of Pedestrian Origins and Destinations** revealed a concentration of multifamily and low-income housing adjacent to a concentration of jobs and retail services without safe pedestrian connections
3. Public Square
- A **Crash Analysis** identified one collision with a pedestrian
 - An **Analysis of Public Square Infrastructure** showed ADA accessibility issues, multiple vehicle/pedestrian conflict points and sight distance issues
 - **Heavy Truck Traffic** presence was documented in the Public Square
 - A **Semi Turning Movement Analysis** demonstrated a need for increased turning radii
 - A look at **Vulnerable Populations** showed a higher-than-state-average number of households with no vehicles, persons in poverty in the last 12 months, and percentage of individuals over age 65 (2019) in the City

Five recommendations for general improvements were identified through the plan process. They are in order of priority as follows:

1. Wayfinding for Truck Traffic:
 - a. Work with TDOT to contact wayfinding application developers such as Google Maps and WAZE concerning heavy truck traffic in Public Square
 - b. Install signage to redirect heavy truck traffic to industrial park
 - c. Consider adoption of ordinance to deter heavy truck traffic.
2. Sidewalks along Akersville Road:
 - a. Construct sidewalk along south side of Akersville Road from Sneed Boulevard to SR-10
3. Intersection of Sneed Boulevard and SR-52:
 - a. Add signalization, a southbound left-turn lane and a westbound right-turn lane at the intersection
4. Intersection of Akersville Road, Coolidge Road and Sneed Boulevard:
 - a. Realign the southbound approach of Akersville Road and increase the curb radii at three locations
5. Public Square Improvements:
 - a. Install multimodal improvements, traffic calming measures, ADA improvements and pedestrian safety improvements

A prioritization, benefits and tradeoffs analysis was performed for each recommendation. An action plan for implementation, project sheets and funding opportunities are included in the Plan to facilitate implementation.

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1. Introduction

1.1 Grant Application Background

The City of Lafayette funded this Community Mobility Plan (Plan) utilizing the 2020-2021 Community Transportation Planning Grant (CTPG) program. CTPGs are awarded by the Tennessee Department of Transportation (TDOT) Long Range Planning Division. The purpose of the grant program is to:

- Assist rural municipalities with planning efforts that define the transportation cohesiveness between multimodal transportation systems and local land use objectives that achieve the statewide transportation goals
- Aid rural municipalities with the creation of planning documents that support improvements in traffic flow, safety, and overall efficiency of the transportation system
- Provide rural city governments with planning resources to achieve community visions as related to transportation and land use needs that promote future economic growth

According to TDOT, "a Community Mobility Plan (CMP) is a multi-modal plan that identifies the existing and future transportation system, including roadways, public transportation, rail, bicycle, and pedestrian facilities needed to serve the current and anticipated travel demand in a specified area. The CMP process strengthens the connections between an area's transportation plan, local land use plans, and community vision".

The City intends to use the finalized Plan as the foundation to implement "brick and mortar" projects to develop the Public Square and the City's multimodal system for the benefits of its citizens. The City hopes to make the square a pedestrian-friendly destination, which is both inviting to tourists and attractive to potential businesses. In spite of the SR-52 Bypass, truck traffic remains a problem around the Public Square as freight travels through it to the industrial park.

The Plan will serve as a resource for the City's planning commission and will guide future development for the Public Square and SR-10.

1.2 Vision

A kick-off meeting and visioning session was held with the study team to identify the community vision for the Plan. Discussion led to the creation of a vision statement. The vision statement was approved by the stakeholders' group and reflects the intentions of the plan goals.

The vision for Lafayette is to enhance, improve and promote road safety, to facilitate mobility for vehicles, heavy trucks and pedestrians, and to support economic growth.

1.3 Plan Goals

The plan goals were drafted as part of the CTPG application process. The goals were refined with input from the City and TDOT during the Plan process. Problem statements clarify each goal outlined below.

The plan goals are:

G1. Encourage diversion of heavy truck traffic away from the Public Square

Heavy truck traffic destined for the industrial park, cattle yard and commercial areas north of the Public Square cut through the Public Square instead of utilizing SR-52 and Sneed Boulevard to go around the City center.

G2. Identify the best possible multimodal system to serve the Public Square

Pedestrians, vehicles and heavy trucks congregate in the confined space of the Public Square around the County Court House creating safety issues and impeding economic growth of the downtown businesses.

G3. Provide citizens the safest, ADA-compliant, multi-use connectivity to the City's residential, business and recreational areas

The City has limited sidewalk connectivity outside the Public Square. Concentrations of employment and housing exist, but residents are unable to safely access destinations without a vehicle.

G4. Improve access to the City's industrial park, just outside Lafayette's corporate City limits on SR-10

The industrial park is an economic asset to the City. Truck drivers face physical challenges accessing the park. The City would like to foster growth of the industrial park by providing better access.

1.2 Study Area

The City of Lafayette is in the north central portion of the state of Tennessee. The City is the county seat of Macon County. The estimated population is 5332 as of 2019¹. SR-10 and SR-52 are the main arterials through the City, connecting the Public Square, commercial areas and an industrial park. SR-10 runs north to south while SR-52 runs east to west.

A preferred heavy truck route along SR-52 and Sneed Boulevard was identified and discussed by the stakeholders' group to discourage heavy truck traffic in the Public Square while facilitating truck movement toward the industrial park and cattle yard on SR-10. Impediments to heavy truck movement were identified. The intersection of Akersville Road at Sneed Boulevard was determined to be the most impactful intersection along that route. Heavy trucks traveling along Sneed Boulevard have difficulty turning west toward the cattle yard and commercial strip and have difficulty turning east into the industrial park at that intersection.

A dense residential population and close access to jobs and commercial areas make the roadway along Akersville Road between Sneed Boulevard and SR-10 a candidate for ADA-compliant multi-use connectivity pedestrian improvements. Residents living along the roadway currently walk in the roadway to access destinations. There is no room along the shoulder for pedestrians to travel safely.

¹ US Census ACS 2019 Population Estimate

The Public Square is at the City center. The Macon County Court House sits in the center of the Public Square in the middle of a one-way circular flow roadway and a traditional Main Street style commercial strip. The Public Square is the location for multiple festivals throughout the year. There are four mid-block crosswalks connecting pedestrians traveling between the courthouse at the center of the circular roadway to the businesses along the square. Sidewalks in the Public Square are not ADA compliant. Sight distance is a safety issue for motorists and pedestrians. Heavy truck traffic goes through the narrow square causing issues for motorists and pedestrians and placing strain on the transportation network. The square was identified as a location in need of multimodal improvements as well as ADA-compliant multi-use connectivity improvements.

Meetings with the study team lead to the identification of three target areas for goal implementation (Figure 1).

1. The intersection of Akersville Road at Sneed Boulevard/ Coolidge Road
2. Akersville Road between Scottsville Road and Sneed Boulevard
3. Lafayette Public Square

In addition to the three primary focus areas, a limited review of Sneed Boulevard between SR-52 and Akersville Road was conducted with a focus on promoting the route as a vehicular access route for heavy trucks to the industrial park.

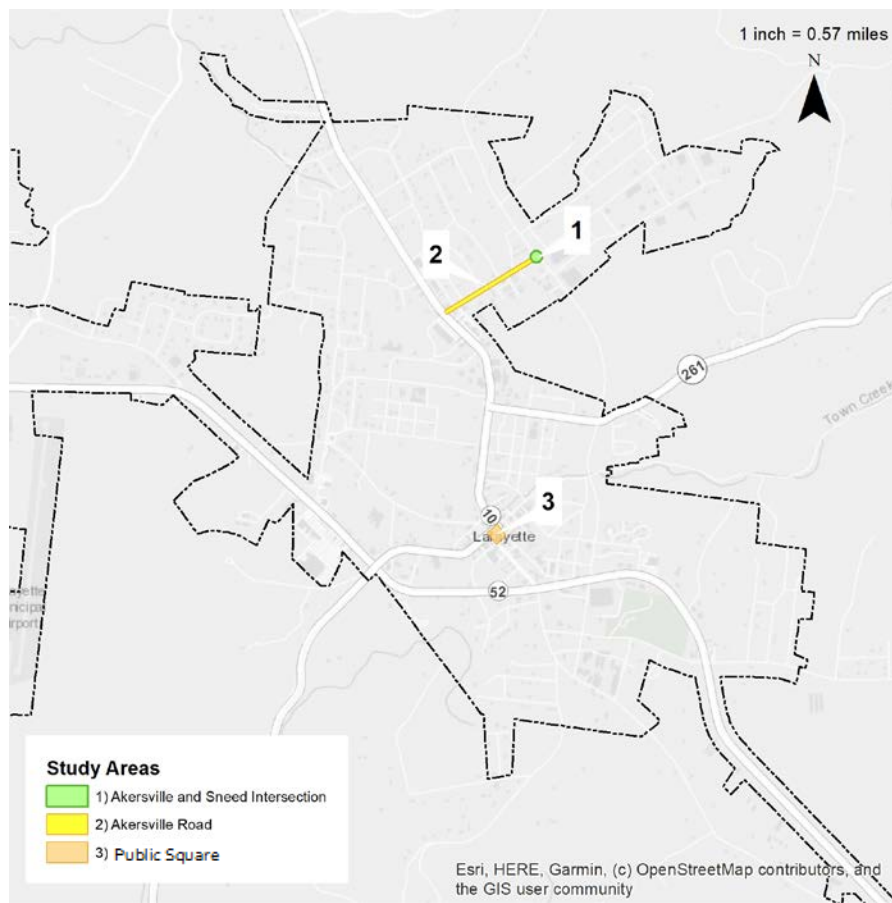


Figure 1: Focus Areas

1.4 Study Team

The study team was comprised of individuals representing TDOT, the Dale Hollow RPO and the City of Henderson. Neel-Schaffer, Inc. assisted with the process. Representatives of the organizations include:

Mayor Jerry Willmore, City of Lafayette
Jeff Harper, Director of Public Works, City of Lafayette
Kristie Talley, City Recorder, City of Lafayette
Mark Dudley, Dale Hollow RPO Coordinator, Upper Cumberland Development District
Jonathan Russell, OCT Region 3 Supervisor, TDOT
Ian Preston, OCT Region 3, TDOT
Greg Judy, Neel-Schaffer, Inc.
Maria Scheitz, Neel-Schaffer, Inc.
Whitney Sullivan, Neel-Schaffer, Inc.
Jacob Carson, Neel-Schaffer, Inc.

2. Data Collection and Inventory

As part of the documentation of existing conditions in the City, data was collected and inventoried. Pointed documentation efforts provide a rich background for analyses efforts and facilitates targeted planning recommendations.

As part of the process, existing and previous transportation studies and reports were collected to ensure consistency in planning efforts. State, regional and local plans were gathered and consulted throughout the planning processes. Policies and procedures, specifically those regulating land use, local ADA directives, and freight routes, were researched and cataloged for review. Future development areas were identified and mapped as well as existing sidewalk infrastructure. Data concerning pedestrian origins and destinations was compiled. Traffic counts, crash histories and roadway characteristics were documented. Finally, demographic data was utilized to identify and map the location of vulnerable populations including households with no vehicles, minority persons, persons over the age of 65 and persons in poverty in the last 12 months.

2.1 Existing and Previous Transportation Studies/ Reports

The following documents were referenced during the study process:

1. TDOT 25-Year Long Range Transportation Policy Plan
2. 2010 TN Statewide Bicycle Plan
3. Dale Hollow Rural Regional Transportation Plan
4. SR-52/ SR-10 Corridor Study (2017)

These documents were consulted to ensure consistency and efficiency of the plan with all ongoing planning efforts.

2.2 Policies and Procedures

Land Use

The official zoning map for the City is on file in the office of the Lafayette Regional Planning Commission and is shown in Figure 2. The zoning map does not show planned future developments, but it illustrates the current use categories approved for each parcel of land within the City. Title 14 of the Municipal

routes within their city limits, provided the route is not part of the National Network and the restriction does not deny reasonable access to the National Network².” Because SR-10 and SR-52 are part of the National Network Highway System within Tennessee, the City cannot restrict truck traffic in the Public Square area without prior approval from TDOT. The *TDOT Truck Route Restrictions Procedures Manual* provides instruction for that process.

2.3 Future Planning Considerations

Future development determines increases in travel demand on multimodal networks. Anticipated future development areas affecting the City are shown in Figure 3.

Future development is expected in the industrial park on Sneed Boulevard near its intersection with Highway 261. An increase in traffic, including an increase in heavy truck traffic, is expected.

Future elementary and high school construction is planned adjacent to and directly behind the existing school property at the intersection of SR-52 and Days Road East. Currently, the Public Square experiences an increase in traffic during peak times as vehicles travel toward the school. It is anticipated that this will increase when the new school is constructed. According to the Lafayette SR-52/ SR-10 Corridor Study, approximately 1400 new students will be attending the newly developed schools, with the anticipation of 600 new vehicular trips within this area.

The northern part of the county on SR-10 is not as developed as other areas of the community and the City anticipates land use improvement in this general area.

2.4 Existing Sidewalk Network

As part of the Plan process, existing sidewalks within the primary focus areas of the study were inventoried and mapped. The sidewalk inventory was limited to identifying the location of sidewalks

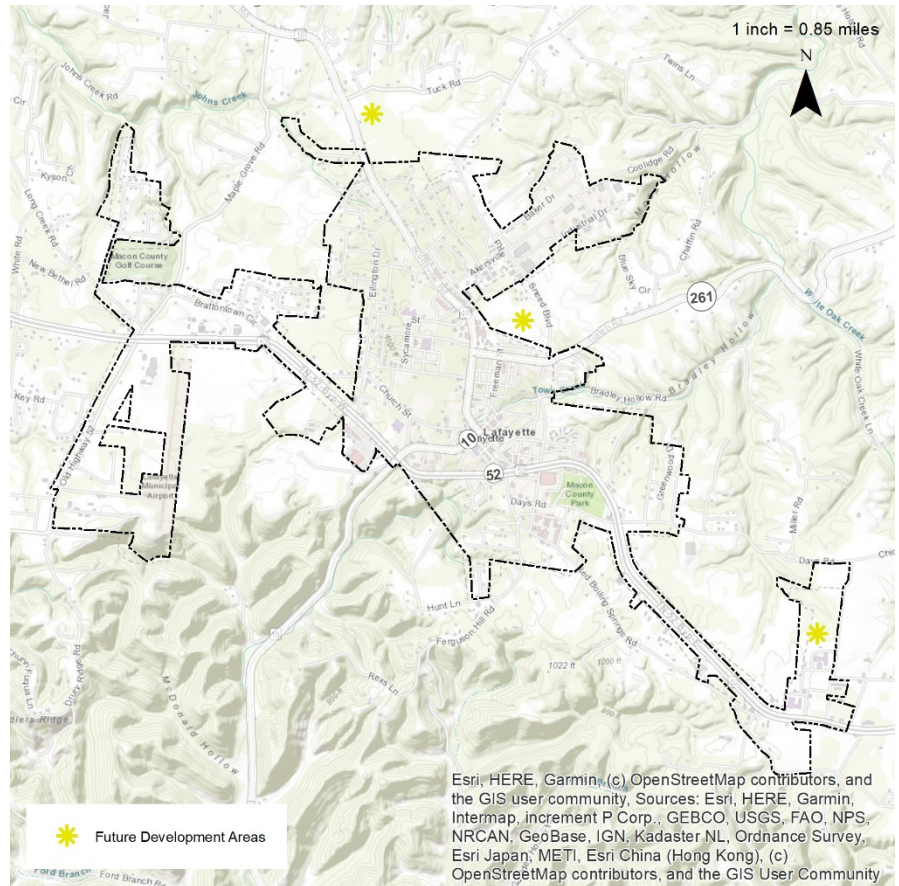


Figure 3: Future Development Areas

² *TDOT Truck Route Restrictions Procedures Manual*: <https://www.tn.gov/content/dam/tn/tdot/traffic-engineering/TDOT%20Truck%20Route%20Restriction%20Procedures%20-%20Final%208-2-2019.pdf>

and cataloging photographs of typical sidewalk infrastructure only to provide a foundation for a network gap analyses. Typical ADA conditions were documented with photographs but were not inventoried due to the limited scope of this Plan.

The City has a limited sidewalk network outside of the Public Square. The sidewalk inventory process was not exhaustive of all sidewalks in the City. However, few sidewalks were identified outside of the downtown area, along SR-52 and at the intersection of Akersville Road and SR-10 by the stakeholders' group.

Akersville Road

No sidewalks currently exist along Akersville Road in the study area. ADA compliant sidewalk ramps and pedestrian signals are provided at the intersection of Akersville Road and SR-10 (Figure 7). Continental or "zebra" crosswalks are located at all legs of the intersection. There are no sidewalks leading to or away from this intersection. Commercial businesses set back from the roadway with large parking areas and frequent wide driveways line SR-10 in the vicinity of this study area. There is no shoulder along Akersville Road to accommodate safe pedestrian passage. A drainage ditch runs adjacent to the roadway. There are no crosswalks or pedestrian amenities at the intersection of Akersville Road and Sneed Boulevard (Figure 4, 5, 6).



Figure 4: Crosswalk at Akersville Road and SR-10

Figure 6: Pedestrian in Roadway

Figure 5: Drainage Ditch Along Roadway



Figure 7: Sidewalks Along Akersville Road and Intersection of Akersville Road and Sneed Boulevard

Public Square

The downtown area has a strong sidewalk network (Figure 8). Sidewalks are located along storefronts and around the Macon County Court House in the Public Square. Sidewalks extend approximately one block past the Public Square in all directions and then become intermittent or nonexistent. Sidewalks are not ADA compliant as documented in Figure 9 and 10. Specific ADA noncompliance issues include: sidewalks included stairways, ramps were lacking, objects blocking the path, brick pavers caused trip hazards, and handicapped parking spaces lacked access to the sidewalk.

Pedestrian amenities include crosswalks and street level lighting. Mid-block pedestrian crossings are simply demarcated with two transverse lines at each side of the square, the standard crosswalk configuration used by TDOT (Figure 11). Crossings are 50-70 ft in distance across vehicular areas.

This exceeds the TDOT recommendation of 30 feet³. Additional crosswalks are located at each entrance to the circular roadway. Lighting was recently installed at the street level. There are pedestrian crossing signs to call out crosswalks to motorists.

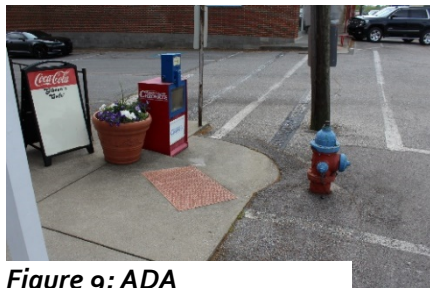
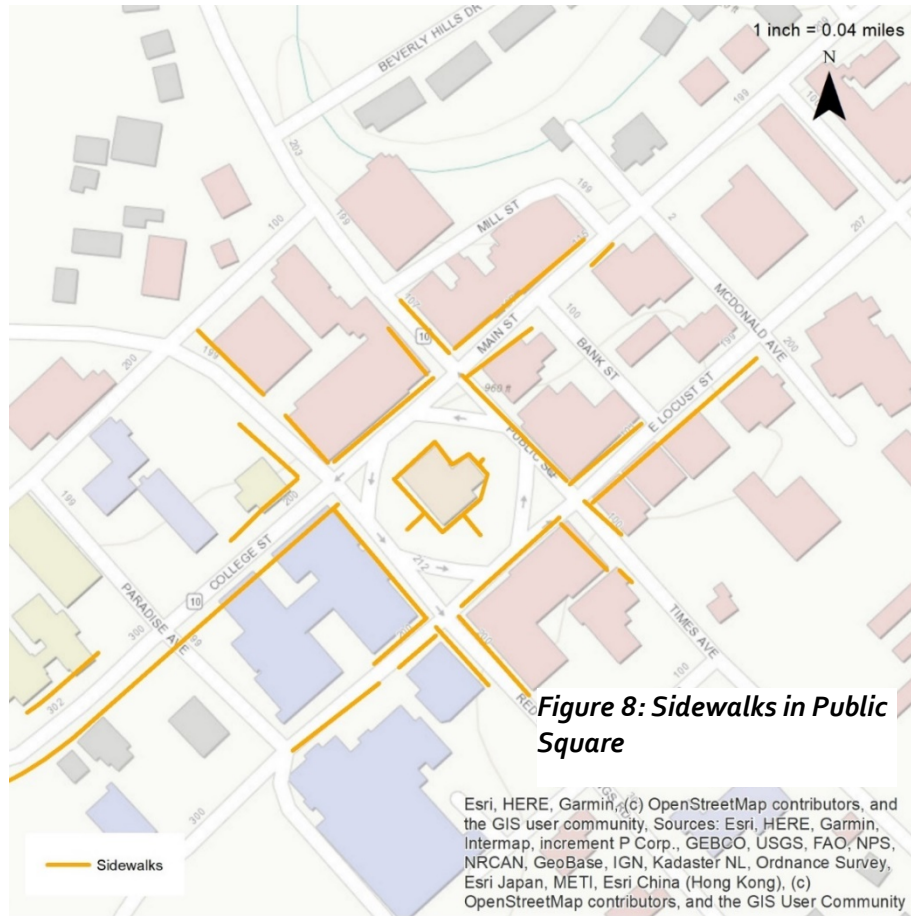


Figure 9: ADA Noncompliance Issue



Figure 10: ADA Noncompliance Issue



Figure 11: Transverse Lines Mid-Block Crossing

³ INSTRUCTIONAL BULLETIN NO. 19-02 Regarding TDOT Accessibility Guidance of Roadway Design Guidelines Section 9, Subsections 9-300.00 to 9-301.03 https://www.tn.gov/content/dam/tn/tdot/roadway-design/documents/instructional-bulletins/2019/IB%2019_02.pdf

2.5 Origins/ Destinations

Pedestrian origins and destinations within the City were cataloged and mapped (Figure 12). Employment data from the Longitudinal Employer-Household Dynamics (LEHD) survey was collected⁴. The City zoning map is used as a backdrop to identify commercial, industrial, multifamily residential and institutional land uses. Low-income housing subsidized by governmental agencies is identified as well as schools and parks.

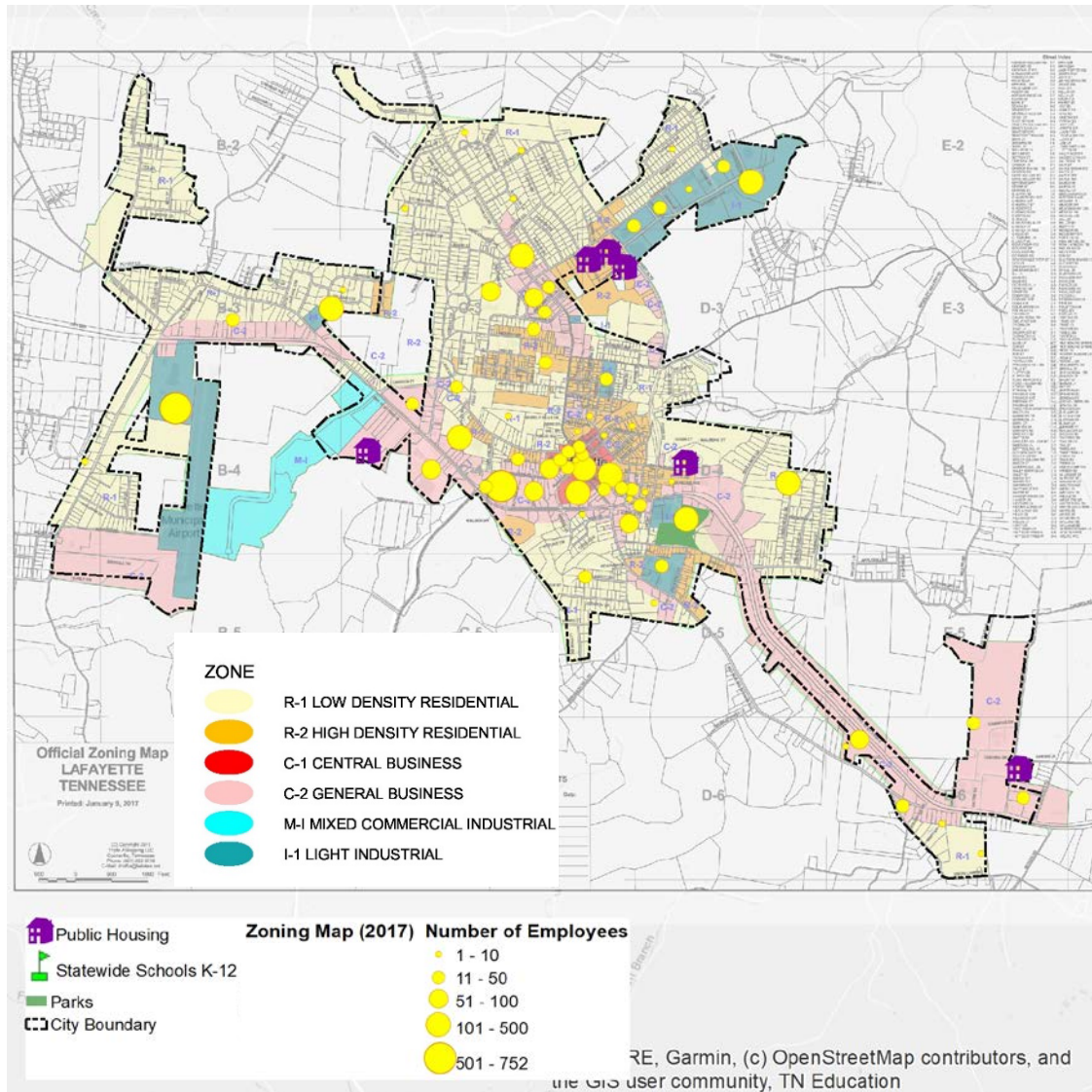


Figure 12: Origins and Destinations

⁴ LEHD data documents the number of employees listed as employed at each address. It is important to note that a limitation of this dataset is while employers may list an employee at a certain address, employees may work from a different physical location.

Akersville Road

There is a concentration of multifamily residential housing uses including low-income housing along Akersville Road (Figure 13). To the east of Sneed Boulevard there is a concentration of industrial uses in the industrial park, establishing an employment node. To the west of SR-10, a commercial corridor provides a number of jobs to the surrounding community. Within the City, this location provides a dense concentration of people and jobs.

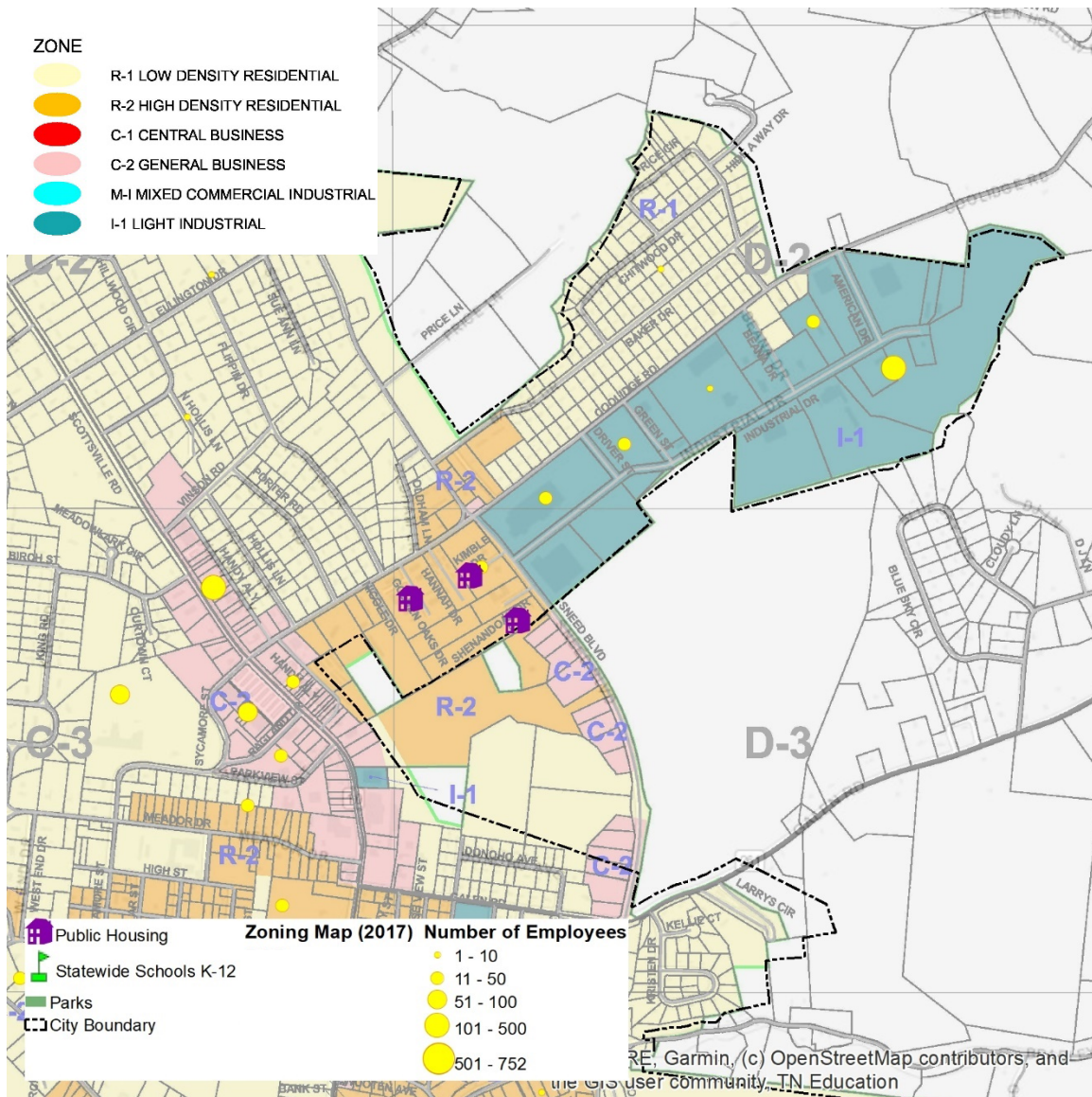


Figure 13: Akersville Road and Intersection of Akersville Road and Sneed Boulevard Origins and Destinations

Public Square

A concentration of jobs and multifamily residential housing exists in the downtown area near the Public Square (Figure 14). The downtown area is zoned commercially with multifamily residential to the north and east and commercial to the south and west. Some low-income housing exists to the east of the downtown area. A school exists to the west of downtown.

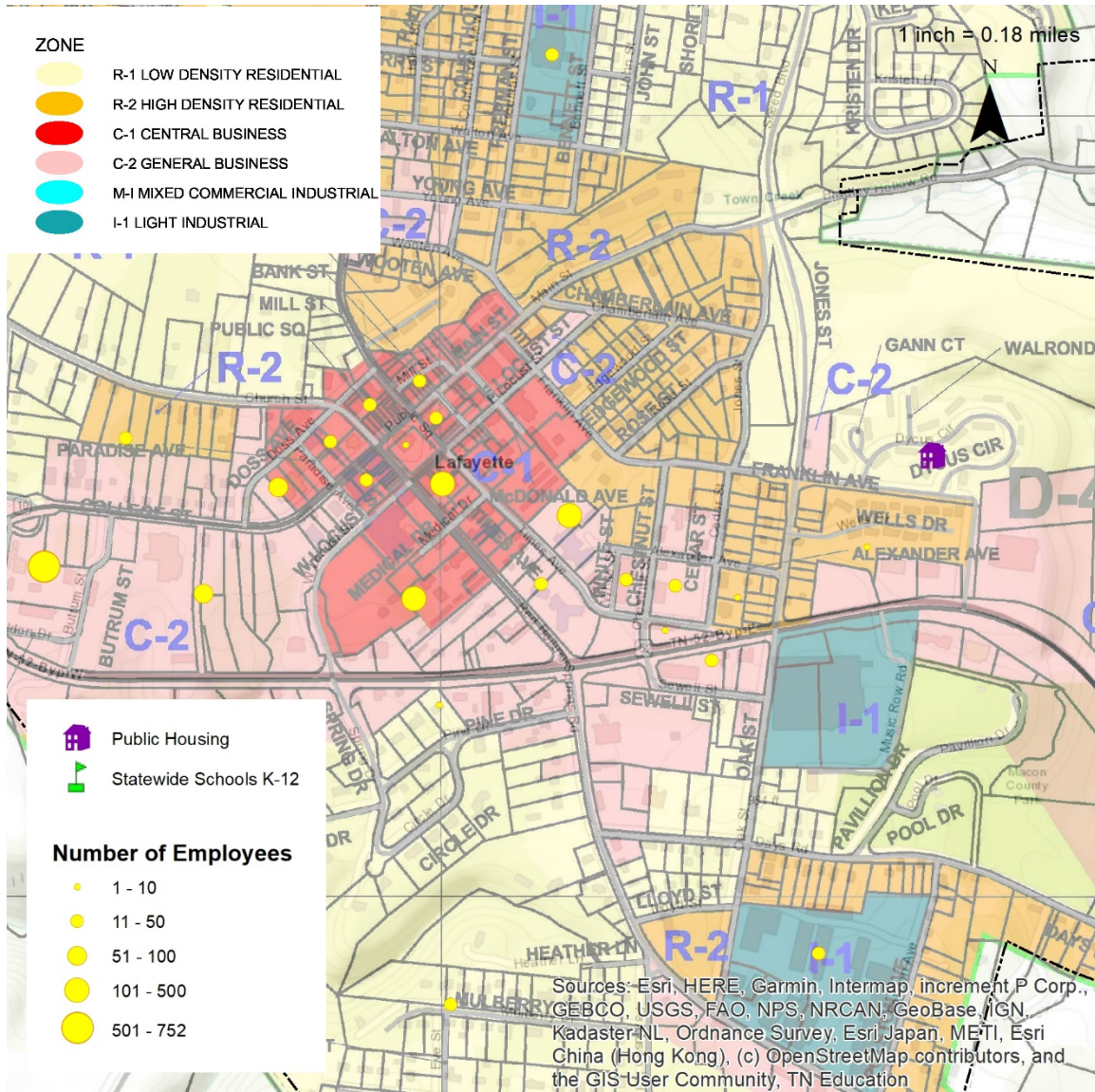


Figure 14: Public Square Origins and Destinations

2.6 Traffic Counts

In February of 2021, TDOT conducted traffic counts at the following intersections for the purposes of this study:

- 1) Akersville Road and Sneed Boulevard/Coolidge Road
- 2) Sneed Boulevard and SR-52

Traffic counts were not conducted at the Public Square location. Existing Annual Average Daily Traffic (AADT) data collected by TDOT for the Public Square was utilized for this Plan.

Results of the intersection turning movement count conducted at the intersection of Akersville Road and Sneed Boulevard are summarized in Figure 15.

Peak hour turn movement counts at the intersection of Akersville Road at Sneed Boulevard /Coolidge Road were collected by Marr Traffic while TDOT provided design hour volumes and directional AADT estimations. Traffic counts were conducted on Tuesday, February 9, 2021 between the hours of 6 am-9 am, 11 am-1 p.m., and 3 pm-6pm.

Due to the unique geometric layout of this intersection, the traffic data had to be interpreted in a manner that represents ongoing traffic behavior at this location.

The intersection's existing traffic behavior and control layout is detailed as follows:

- All left and right turning vehicles between the Akersville Road approaches utilize the free-flow curve segment that is on the west side of the intersection.
- The intersection of Sneed Boulevard at Coolidge Road is a two-way stop where the northbound & southbound approaches of Sneed Boulevard are stop controlled and the eastbound and westbound approaches of Coolidge Road are uncontrolled.
- The northbound approach of Sneed Boulevard is yield controlled at the merge with Akersville Road.
- The westbound approach of Coolidge Road is stopped controlled at the merge with Akersville Road.

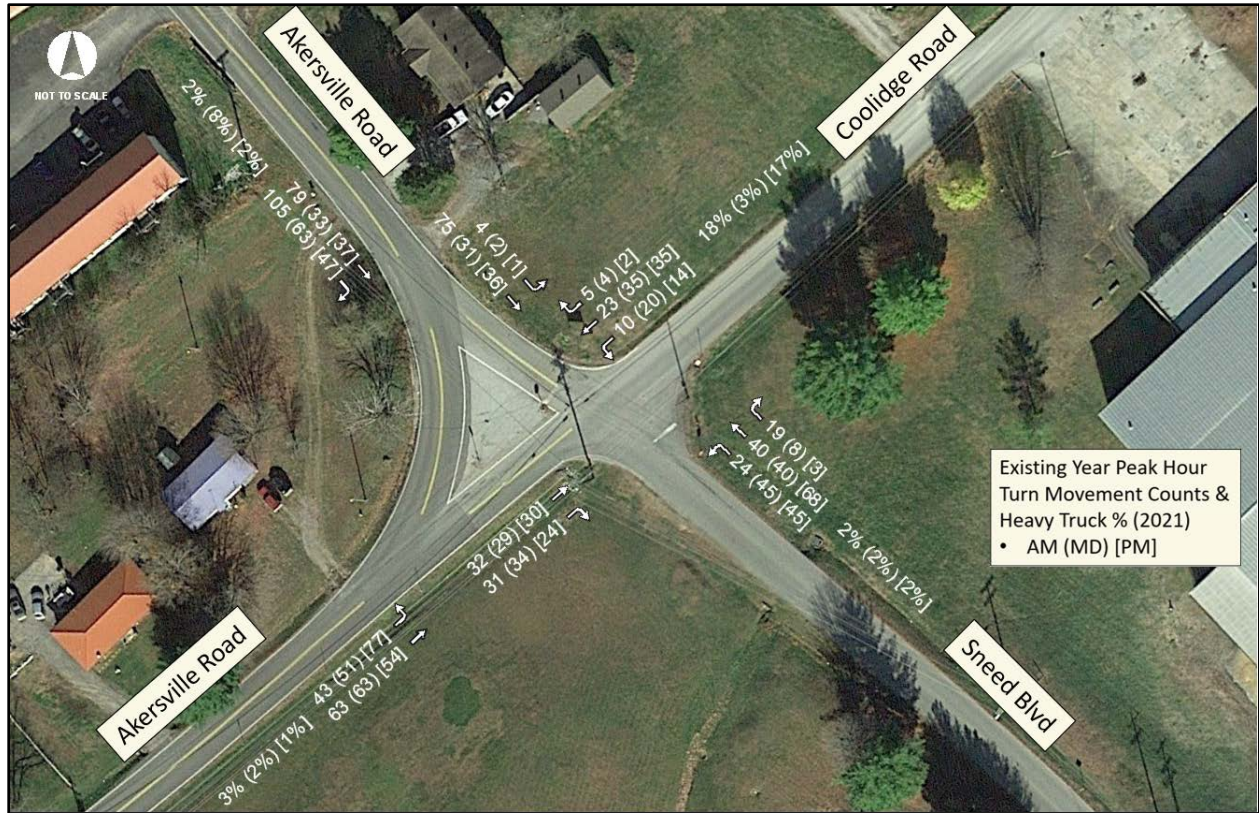


Figure 15: Akersville Road and Sneed Boulevard Turning Movement Counts

Traffic count data was collected by TDOT at three points along the circular roadway in the Public Square in 2018 (Figure 16). Traffic counts cataloged between 5163 and 7316 vehicles per day on average (AADT).

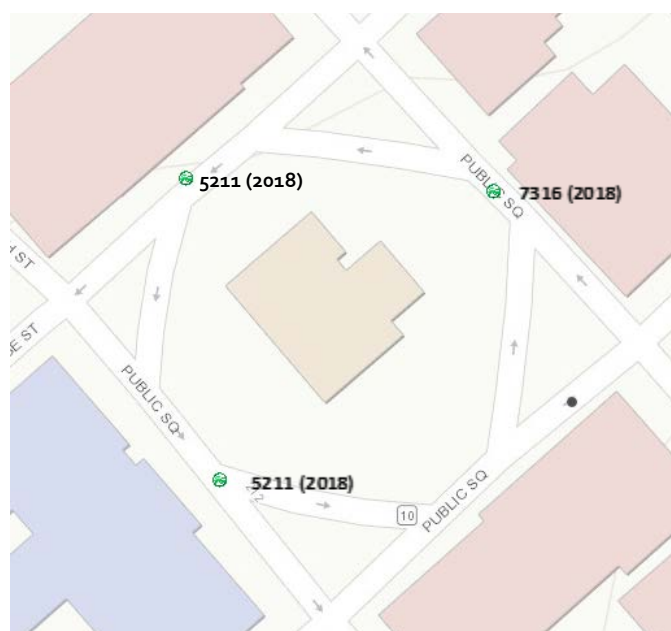


Figure 16: Downtown AADT

2.7 Crash History

Crash history was collected for the past three years for the intersection at Akersville Road and Sneed Boulevard, the section of Akersville Road running east to west between Sneed Boulevard and SR-10 and the Public Square. Vehicular and pedestrian crashes were identified.

Collision data can help identify safety issues in the study area. However, vehicular collisions with pedestrians and bicycles are typically under-reported. Research indicates pedestrian collisions may be underreported to police by as much as 55% and bicycle collisions underreporting is thought to be even higher.⁵ Collision data will be reviewed as part of the crash analysis in Section 3 of this document.

National data indicates pedestrian safety can be improved through discouragement of unmarked mid-block crossings and implementation of lighting improvements. In 2017, pedestrians and bicyclists accounted for 18.2% of all traffic fatalities nationally. Of these fatalities 75% of pedestrian fatalities and 45% of bicycle fatalities occur in dark conditions. Crossing at non-intersections is also a predictor in pedestrian and bicycle fatalities. A majority of pedestrian fatalities, 73%, occur at non-intersections and 58% of bicycle fatalities occur at non-intersections⁶. Mid-block crossing design guideline standards provided by TDOT will be reviewed in Section 3 of this document.

2.8 Roadway Characteristics

Along with the traffic counts and crash data, a field assessment was conducted at all the study locations to define traffic parameters and facility characteristics. These parameters and characteristics include measuring lane and pavement widths, sight distances, storage lengths, identifying roadside features, locating existing signage, utility amenities, pedestrian accommodations, access points, hazards and observing traffic behavior.

2.9 Vulnerable Populations

Some populations, including those in poverty and the elderly, do not have access to or are unable to drive a vehicle and are more reliant on alternative modes of transportation. Plans must also be sensitive to the inclusion of minority populations. This section identifies vulnerable populations in the plan area including households with no vehicles, minority persons, persons over the age of 65 and persons in poverty in the last 12 months.⁷

Areas with concentrations higher-than-state-average are identified. This section does not identify concentrations of dependent children. Schools and residential areas identified as part of this Plan process will have concentrations of dependent children.

⁵ University of North Carolina Highway Research Center. http://www.pedbikeinfo.org/factsfigures/facts_safety.cfm

⁶ University of North Carolina Highway Research Center. http://www.pedbikeinfo.org/factsfigures/facts_safety.cfm

⁷ 2019 ACS Data used to avoid influence of COVID-19 on data sets

Households with Zero Vehicles

Within the City, the percentage of households with no vehicles⁸ is at or above the state average, 5.7%, in every census block group (Table 1, Figure 17). It is notable that the northeastern block group is moderately⁹ above the state average with 11% or greater of households owning no vehicles.

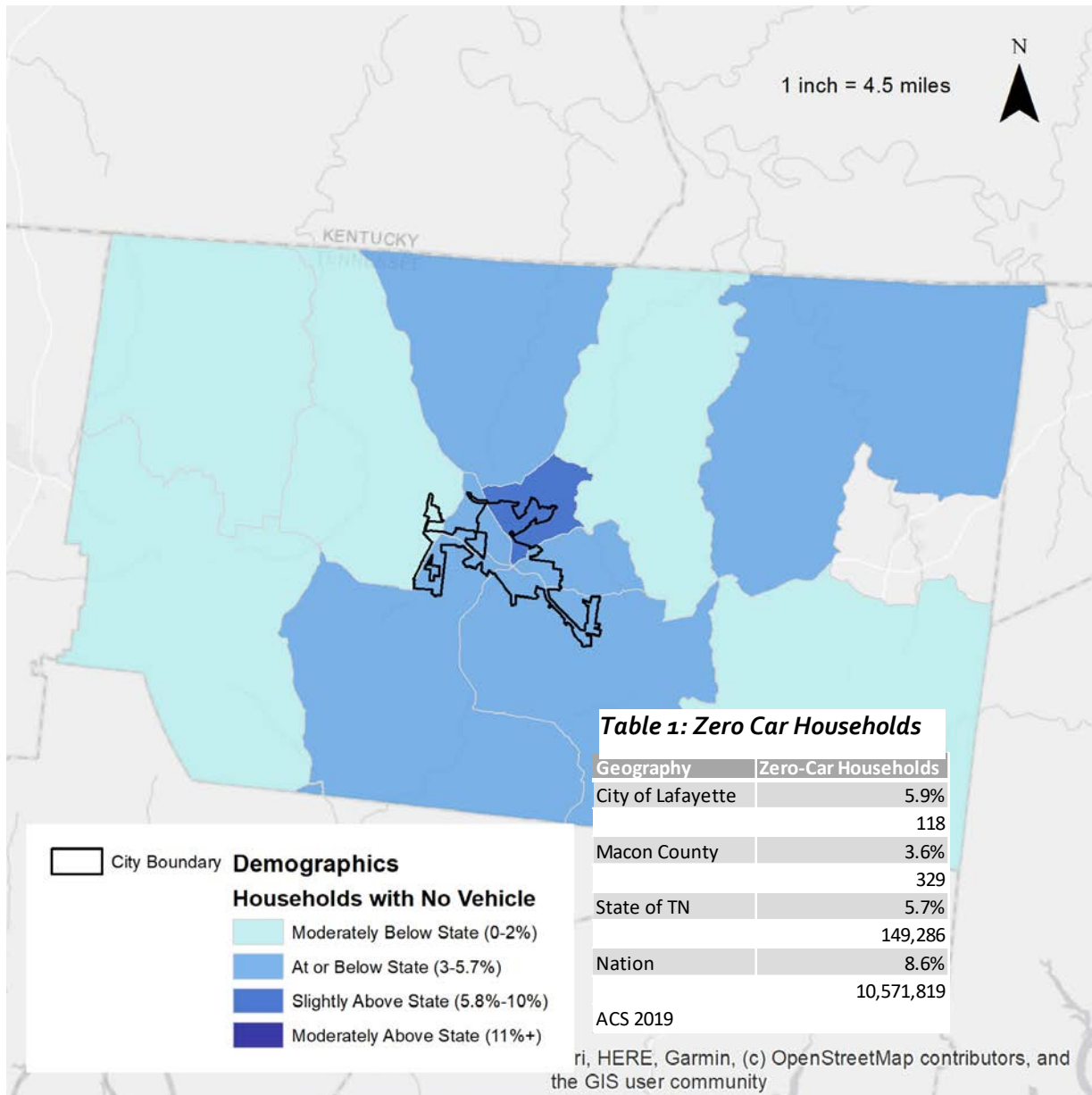


Figure 17: Households with Zero Vehicles

⁸ 2019 ACS Data Households with no Vehicle for both Owner occupied and Rental Households

⁹ "Moderately Above" and "Moderately Below" are defined as greater than one standard deviation from the average

Minority Persons

Within the City, the percentage of minority persons¹⁰ is moderately below the state average, 26.7%, in every census block group (Table 2, Figure 18). The percentage of minority persons within the City is 7.8%.

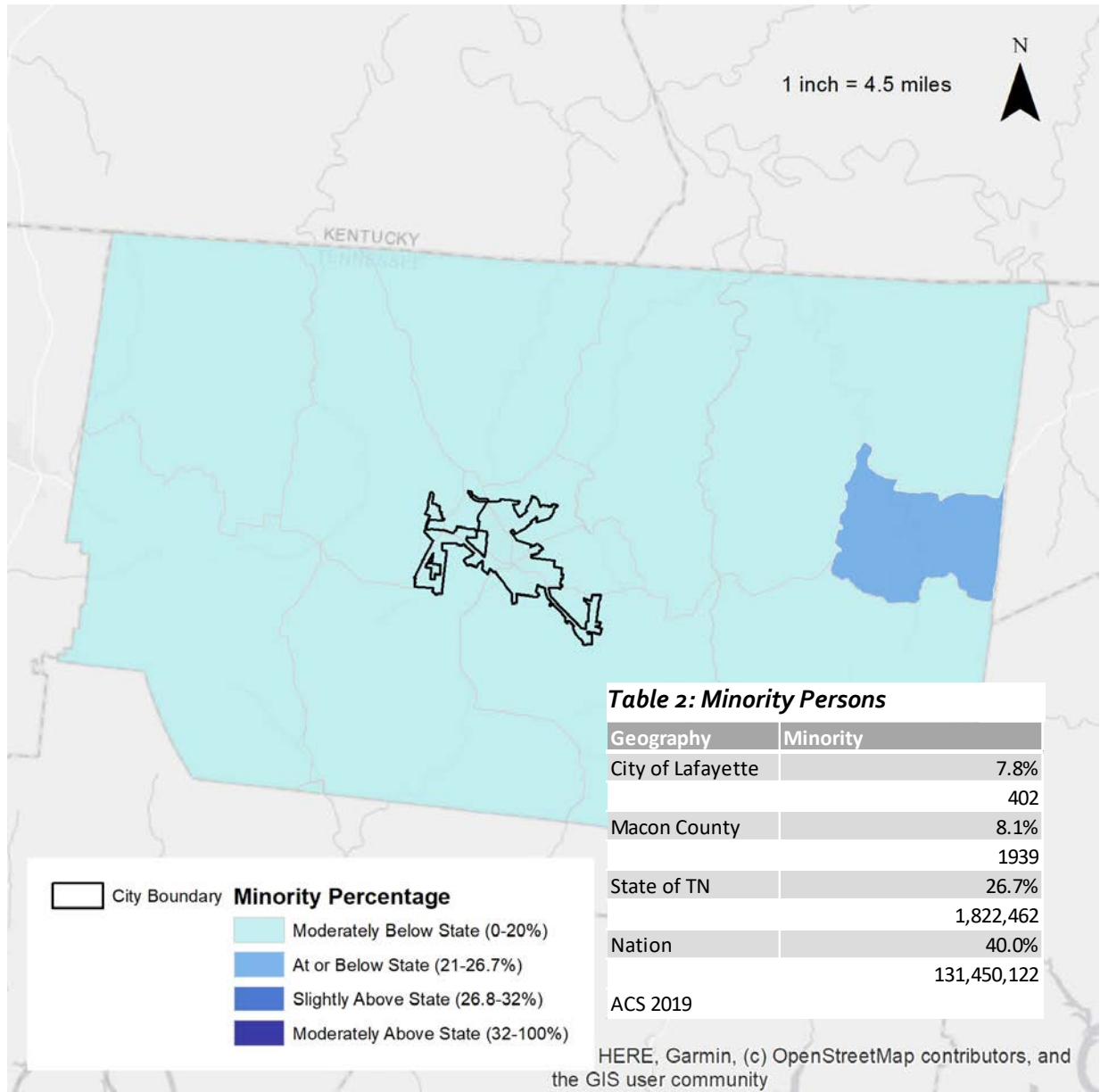


Figure 18: Minority Persons

¹⁰ 2019 ACS Data; For the purposes of this study “Minority” is defined as non-white and/or Hispanic individuals.

Persons Over the Age of 65

Within the City, the percentage of persons over the age of 65, 16.7%, varies greatly (Table 3, Figure 19). It is notable that the southwestern census block group is moderately above the state average with greater than 22% of individuals over 65.

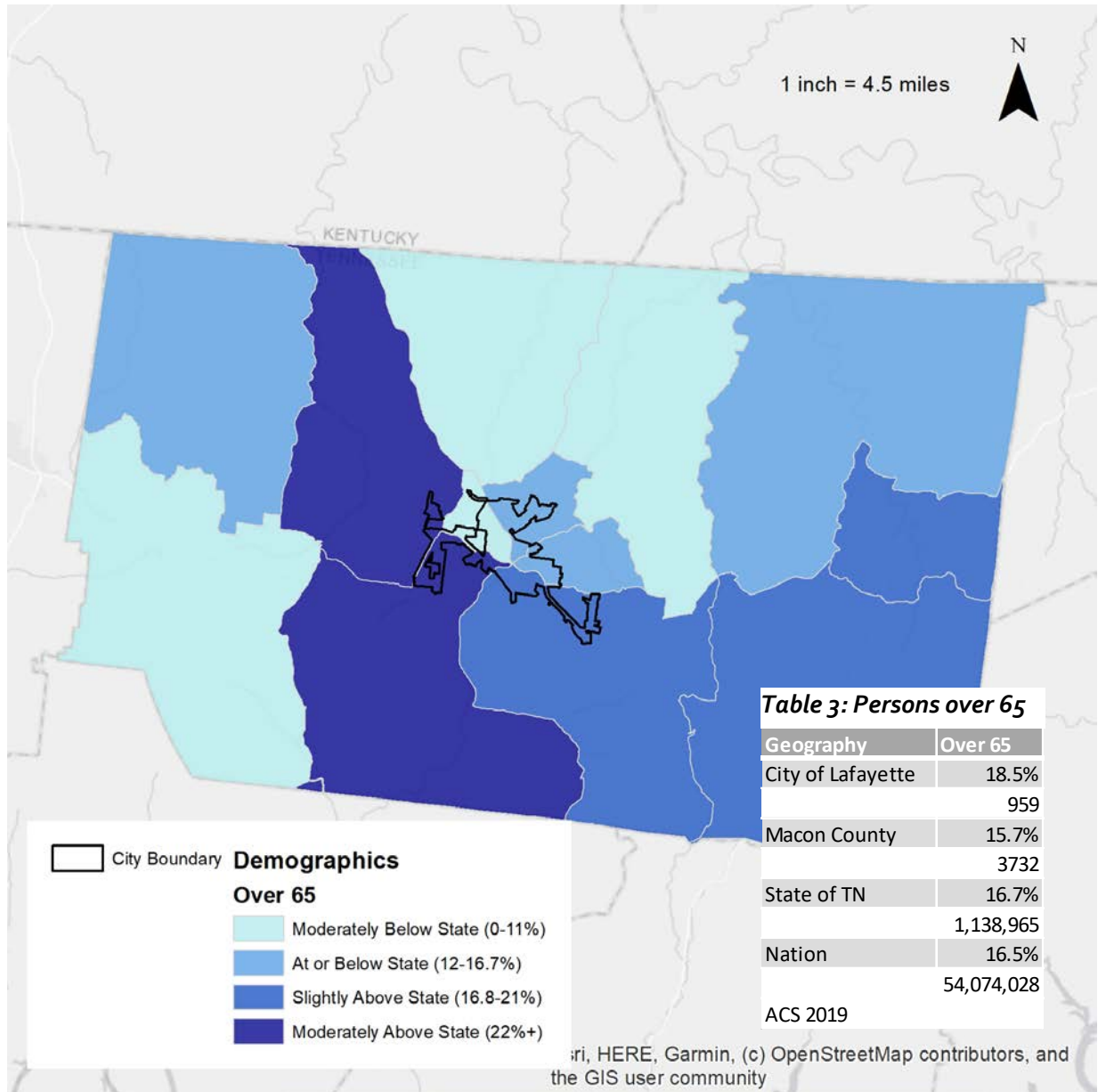


Figure 19: Persons over 65

Percent of Persons in Poverty in the Last 12 Months

Within the City, the percentage of persons in poverty in the last 12 months (2019) varies in relation to the state average of 13.9% (Table 4, Figure 20). One block group in the northeastern portion of the City is moderately above the state average. The City is above the state average with 30% of the persons in the City experiencing poverty in the last 12 months.

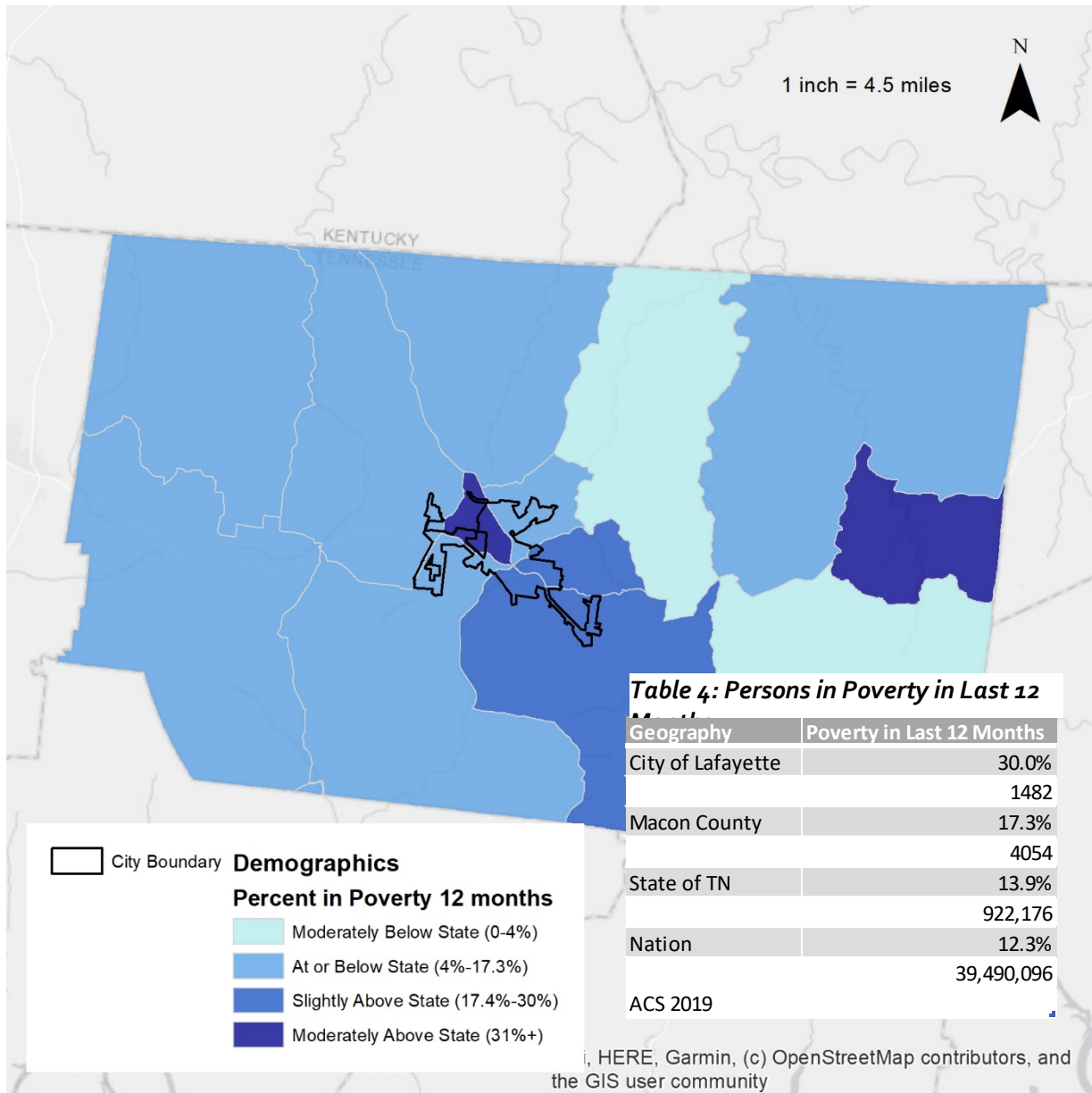


Figure 20: Persons in Poverty in Last 12 Months

3. Existing Conditions Review and Assessment

Analyses were conducted as part of this Plan. These analyses and their outcomes are summarized for each focus area below:

1. Akersville Road & Sneed Boulevard; SR-52 and Sneed Boulevard
 - A **Crash Analysis** showed a higher-than-average crash rate and a high number of “angle” crashes indicating turning difficulty
 - A **Level of Service (LOS) Analysis** showed acceptable wait times at all four legs of intersection
 - **AM/PM Peak traffic Volume Analyses** alone did not support creation of turn lanes to support traffic flow
 - A **Semi Turning Movement Analysis** demonstrated a need for increased turning radii at this intersection and a need to reroute heavy truck traffic away from the Public Square
 - An **All Way Stop Analysis** identified the need for a 4-way stop
 - **Heavy Truck Traffic** presence was documented in the Public Square, supporting the need for an alternative route for heavy trucks
 - An **Analysis of Pedestrian Origins and Destinations** revealed a concentration of multifamily and low-income housing adjacent to a concentration of jobs and retail services without safe pedestrian connections
 - An updated **Signal Warrant and LOS Review** was performed for the SR-52 and Sneed Boulevard intersection. The original review was part of the 2017 Lafayette CTPG. Data indicated that recommended improvements are still needed at that intersection.
2. Akersville Road
 - **Crash Analyses** did not reveal a higher-than-average crash rate, but a pedestrian was hit along this route in the recent past
 - A look at **Vulnerable Populations** showed a higher-than-state-average number of households with no vehicles and persons in poverty in the last 12 months (2019)
 - An **Analysis of Pedestrian Origins and Destinations** revealed a concentration of multifamily and low-income housing adjacent to a concentration of jobs and retail services without safe pedestrian connections
3. Public Square
 - A **Crash Analysis** identified one collision with a pedestrian
 - An **Analysis of Public Square Infrastructure** showed ADA accessibility issues, multiple vehicle/pedestrian conflict points and sight distance issues
 - **Heavy Truck Traffic** presence was documented in the Public Square
 - A **Semi Turning Movement Analysis** demonstrated a need for increased turning radii
 - A look at **Vulnerable Populations** showed a higher-than-state-average number of households with no vehicles, persons in poverty in the last 12 months, and percentage of individuals over age 65 (2019) in the City

3.1 Level of Service (LOS) Analysis

Integration of the traffic movement counts and field inventory made it possible to conduct a capacity analysis at the intersection of Akersville Road at Sneed Boulevard /Coolidge Road. The analysis was measured using Level of Service (LOS), which incorporated average control delay for individual approaches at unsignalized intersections.

The concept of LOS is defined as a qualitative measure of traffic flow describing operational conditions within a traffic stream based on road conditions and the perceptions of motorists. A LOS designation provides characterization of the quality of traffic flow in terms of factors such as speed, travel time, freedom to maneuver, traffic interruptions, comfort, and convenience. The LOS analysis results in an assignment of a letter value to all approaches at an intersection or the intersection as a whole based on traffic control measures at the respective location (signalized, all-way stop, two-way stop, etc.).

The LOS for an unsignalized intersection is determined by application of a procedure described in the *Highway Capacity Manual*, 6th Edition. The procedure accounts for lane configurations on both the minor and major approaches, and conflicting traffic stream volumes. First, the theoretical maximum or “potential capacity” of vehicles for each minor approach lane is calculated based on a gap acceptance procedure. The capacities are then compared to the demand at the respective minor approaches to determine the average control delay for each vehicle. Average control delay is used as the criterion for estimating level of service for minor street traffic. Table 5 summarizes the relationship between control delay and LOS for an unsignalized intersection.

**Level of Service Criteria
Unsignalized Intersections¹**

Level of Service	Control Delay per Vehicle (Seconds)
A	≤10
B	>10 and ≤15
C	>15 and ≤25
D	>25 and ≤35
E	>35 and ≤50
F	>50

¹Source: *Highway Capacity Manual*, 6th Edition, Transportation Research Board; Washington ,DC; 2016.

Table 5: Level of Service

After review of the LOS Study, it was determined if a LOS grade of D or lower was assigned then further recommendations should be established to promote efficient traffic operations. Study assessment determined that a LOS designation of C would be the threshold of acceptable performance. Dense urban areas experience high traffic volumes and lower LOS of D are accepted

because improvements to infrastructure would not mitigate congestion due to volume. In rural areas such as this, a LOS C is an indication that improvements to infrastructure could improve service levels and alleviate congestion.

The traffic count data was used to determine the peak AM, mid-day, and PM travel times at each intersection. At the intersection of Akersville Road at Sneed Boulevard /Coolidge Road, the AM peak travel time was determined to be 7:00 AM- 8:00 AM, the mid-day peak lasted from 11:15 AM to 12:15 PM and the PM peak lasted from 3:00 PM to 4:00 PM. At the intersection of SR-52 at Sneed Boulevard, the AM peak travel time was determined to be 7:00 AM- 8:00 AM, the mid-day peak lasted from 11:30 AM to 12:30 PM and the PM peak lasted from 3:00 PM to 4:00 PM. Table 6 documents the existing LOS for Akersville Road and Sneed Boulevard.

The LOS at all portions of the intersection was considered acceptable for the intersection at Akersville Road and Sneed Boulevard.

Intersection		Existing (2021)		
		Peak Period		
		AM	MD	PM
AKERSVILLE RD @ COOLIDGE RD/SNEED BLVD.	NB	B (10.0s)	B (10.3)	B (10.5)
	SB	B (10.1s)	B (10.0)	A
	WB	A	A	A
	Overall	A	A	A

Table 6: Akersville Road and Sneed Boulevard Existing Level of Service LOS

3.2 Crash Analysis

The crash analyses performed as part of this Plan utilized intersection peak hour turn movement counts, crash history data, and a field assessment. These processes are described in Section 2 of this Plan.

Akersville Road and Sneed Boulevard Crash Analysis & Akersville Road Crash Analysis

Crash data between the years of 2018 to 2020, roadway typologies based on number of lanes, and AADT volumes were compiled for the study area by location type and utilized to determine a critical crash rate for each intersection.

The methodology of this analysis was detailed as follows:

- Historic crash data was retrieved from TDOT’s E-Trims web application.
- The data was categorized based on manner of collision and location, which made it possible to identify possible trends of safety concerns.

- The total number of crashes at study locations and statewide crash rate averages made it possible to develop a critical crash rate for all intersections.
- Crash rates at each study location were compared to the Tennessee Statewide Average Crash Rate.

This comparison indicated:

- Intersection of Akersville Road at Sneed Boulevard /Coolidge Road crash rate of .461 is **above** the statewide average of .126 (Figure 21, Table 7).
- Akersville Road segment between Scottsville Road and Sneed Boulevard crash rate of .413 is **below** the statewide average 2.567 (Figure 22, Table 8).

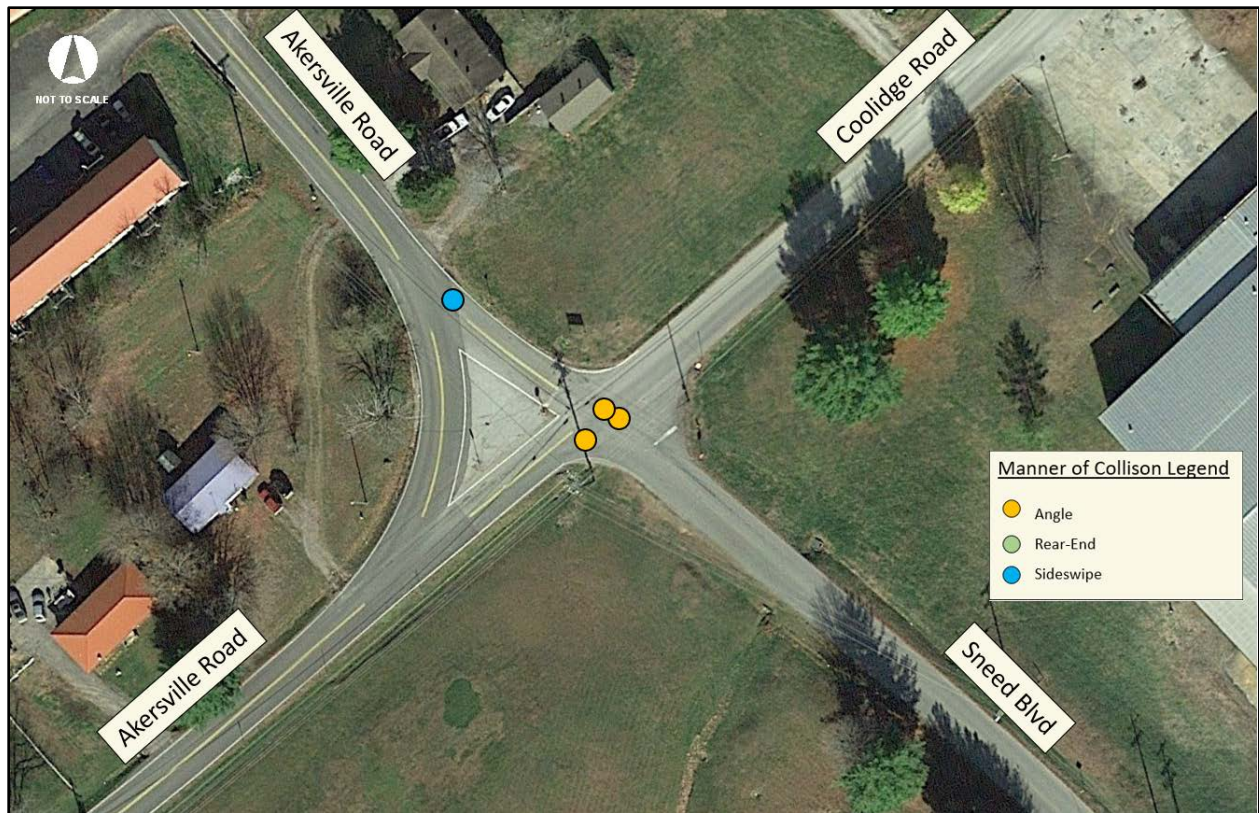


Figure 21: Akersville Road and Sneed Boulevard Collisions

LAFAYETTE CTPG STUDY

CRASH DATA SPOT ANALYSIS (2017-2020)

LOCATION Intersection	CRASH TYPE				MANNER OF COLLISION				VOLUME Avg Entering Traffic Volume (vpd)	STATISTICAL COMPUTATIONS			
	Total Number of Crashes	Property Damage	Injury	Fatal	Rear-End	Angle	HeadOn	Sideswipe		Crash Rate	Critical Crash Rate	TN Statewide Avg Crash Rate	Equip PDO Rating ¹
AKERSVILLE RD @ SNEED BLVD/COOLIDGE RD	4	2	2	0	0	3	0	1	4,755	0.461	0.126	0.118	24

¹ EPDO Weighted Factors have come from HSM and AASHTO (2010). Fatal = 542, Injury = 11, PDO = 1

Table 7: Akersville Road and Sneed Boulevard Crash Rate



Figure 22 Akersville Road Collisions

LAFAYETTE CTPG - AKERSVILLE ROAD

AKERSVILLE ROAD DATA SEGMENT ANALYSIS (2017-2020)

LOCATION Segment	CRASH TYPE				MANNER OF COLLISION				VOLUME Avg Bi-dir. Traffic Volume (vpd)	STATISTICAL COMPUTATIONS			
	Total Number of Crashes	Property Damage	Injury	Fatal	Rear-End	Angle	HeadOn	Sideswipe		Crash Rate ²	Critical Crash Rate	TN Statewide Avg Crash Rate	Equiv PDO Rating ¹
SR-10 (SCOTTSVILLE RD) TO INTERSECTION WITH SNEED BLVD & COOLIDGE RD	2	2	0	0	1	1	0	0	3,781	0.413	2.567	2.524	2

¹ EPDO Weighted Factors have come from HSM and AASHTO (2010). Fatal = 542, Injury = 11, PDO = 1

² Segment Crash Rates are crashes per million vehicle miles

Table 8: Akersville Road Crash Rate

Public Square Crash Review

A crash rate for the public square was not estimated. However, one (1) collision with a pedestrian occurred within the study area and was regarded when potential pedestrian safety enhancements were evaluated (Figure 23, Table 9).

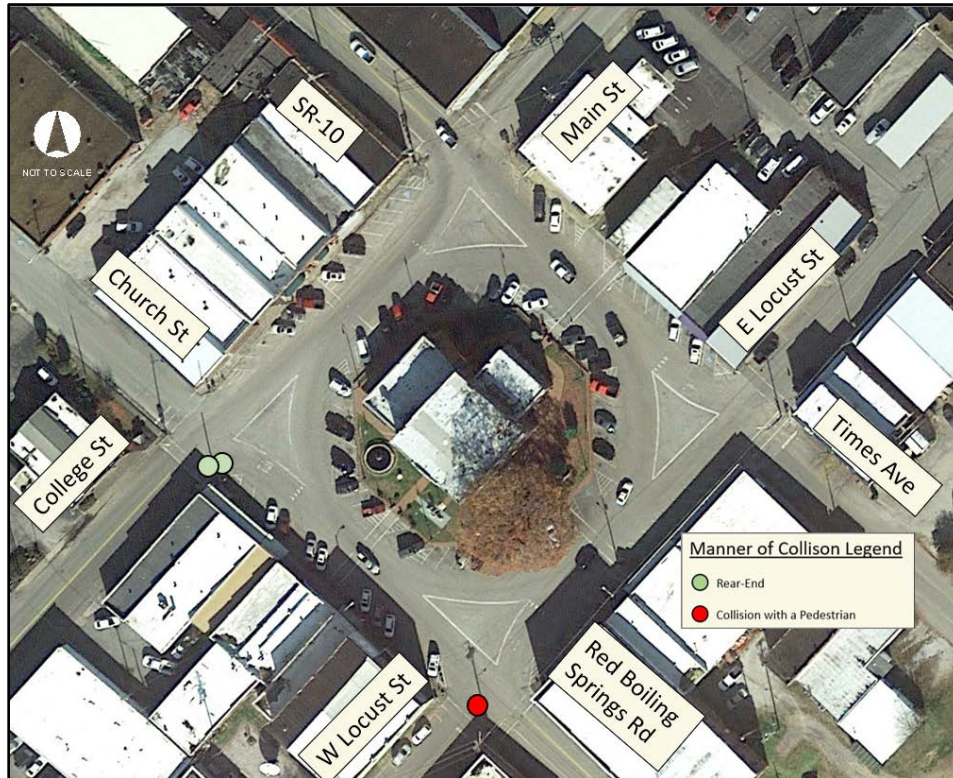


Figure 23: Public Square Collisions

**LAFAYETTE CTPG STUDY
DOWNTOWN CRASH DATA SUMMARY (2017-2020)**

LOCATION	CRASH TYPE				MANNER OF COLLISION			
	Total Number of Crashes	Property Damage	Injury	Fatal	Rear-End	Angle	HeadOn	Sideswipe
PUBLIC SQUARE @ COLLEGE ST/CHURCH STREET	2	2	0	0	2	0	0	0
PUBLIC SQUARE @ WEST LOCUST ST/RED BOILING SPRINGS RD	1*	0	1	0	0	0	0	0

Table 9: Crash Rate

3.3 Akersville Road & Sneed Boulevard Intersection Preferred Layout Analyses

Multiple analyses were performed to determine the optimal layout for the intersection at Akersville Road and Sneed Boulevard. The analyses considered the revision of traffic control from two-way stop to all-way stop control and the addition of turn lanes.

The intersection has a unique layout and operation due to vicinity of the horizontal curve on Akersville Road and because Sneed Boulevard and Coolidge Road independently access Akersville Road. Analytically, the intersection was viewed as three sperate intersections:

- Two-way stop at Sneed Boulevard and Coolidge Road
- One-way stop at Akersville Road and Coolidge Road
- One-way yield at Akersville Road and Sneed Boulevard

The analysis considered the revision of traffic control from two-way stop to all-way stop control. The Manual of Uniform Traffic Control Devices (MUTCD) provides guidance based on existing traffic volumes to help assess when multi-way stop conditions should be considered for an intersection. Multi-Way Stop warrant investigation results indicate that current intersection volumes and crash experience do not fulfill the minimum criteria requirements that justify the implementation of a multi-way stop. Detail of the warrant analysis is presented in Appendix A.

However, the hourly volumes on both approaches of Akersville Road and Sneed Boulevard are equivalent, and the demand of truck traffic is anticipated to grow. So, all-way stop control was further evaluated to determine if operations and safety would improve at this intersection. The existing operation LOS was compared to the proposed all way stop control (Table10). While the intersection currently experiences an acceptable level of service, the geometric and traffic control re-configuration is anticipated to perform better than the current intersection layout. Particularly, the northbound and southbound approaches are expected to perform better, since users are given more time and assurance for finding an acceptable gap in opposing traffic. With the removal of the free flow segment of Akersville Road, the intersection will accommodate left and right turn maneuvers between the Akersville approaches.

Intersection		Two-Way Stop Control			All-Way Stop Control		
		Peak Period			Peak Period		
		AM	MD	PM	AM	MD	PM
AKERSVILLE RD @ COOLIDGE RD/SNEED BLVD.	NB	B (10.0s)	B (10.3)	B (10.5)	A	A	A
	SB	B (10.1s)	B (10.0)	A	A	A	A
	WB	A	A	A	A	A	A
	EB	-	-	-	A	A	A
	Overall	A	A	A	A	A	A

Table 10: LOS Analysis – Comparative Summary

The analysis performed supplemental investigations to determine the need for exclusive left and right turn lanes on the Akersville Road approaches (Figures 24, 25, Tables 11, 12). The study referenced the

National Cooperative Highway Research Program (NCHRP) Report 457: *Evaluating Intersection Improvements: An Engineering Study Guide*, for right turn lane analysis and TDOT’s design guidelines for left turn analysis. Both analyses compared the intersection’s peak hour volumes to criterion thresholds that justifies the implementation of an exclusive turn lane. Study results indicate that neither a right turn lane on the southbound approach of Akersville Road nor an eastbound left turn lane on Akersville Road are warranted based on traffic volume demand. Therefore, the exclusive lanes are not included with the geometric improvements.

	AM Peak	PM Peak
Major Road Volume (total of both directions), veh/hr	194	245
Minor Road Volume (one direction), veh/hr	247	112
Percentage of Right Turns on Minor Road	57%	56%
Right-Turn Lane Criteria Met	NO	NO

Table 11: Akersville Road: Exclusive Southbound Right Turn Lane Analysis

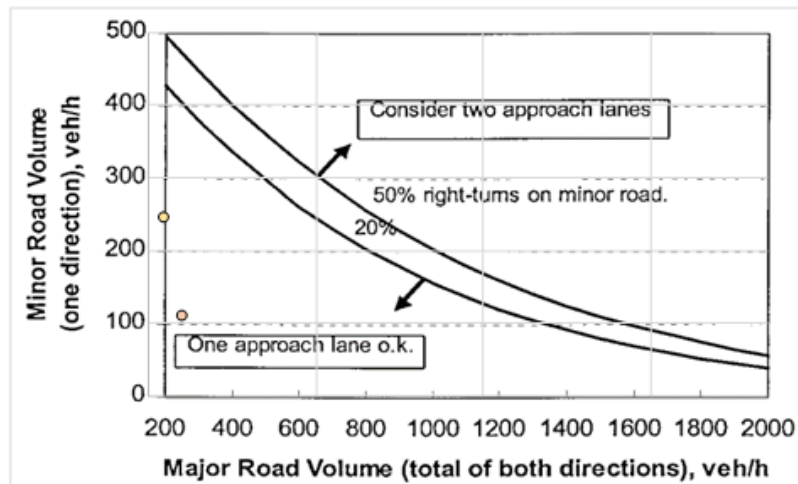


Figure 24: Akersville Road: Exclusive Southbound Right Turn Lane Analysis¹¹

	AM Peak	PM Peak
Advancing Volume (V_A), veh/hr	143	176
Percentage of Left Turns in V_A	41%	59%
Opposing Volume (V_O), veh/hr	51	69

Table 12: Akersville Road: Exclusive Eastbound Left Turn Lane

¹¹ Source: National Cooperative Highway Research Program Report 457: *Evaluating Intersection Improvements: An Engineering Study Guide*

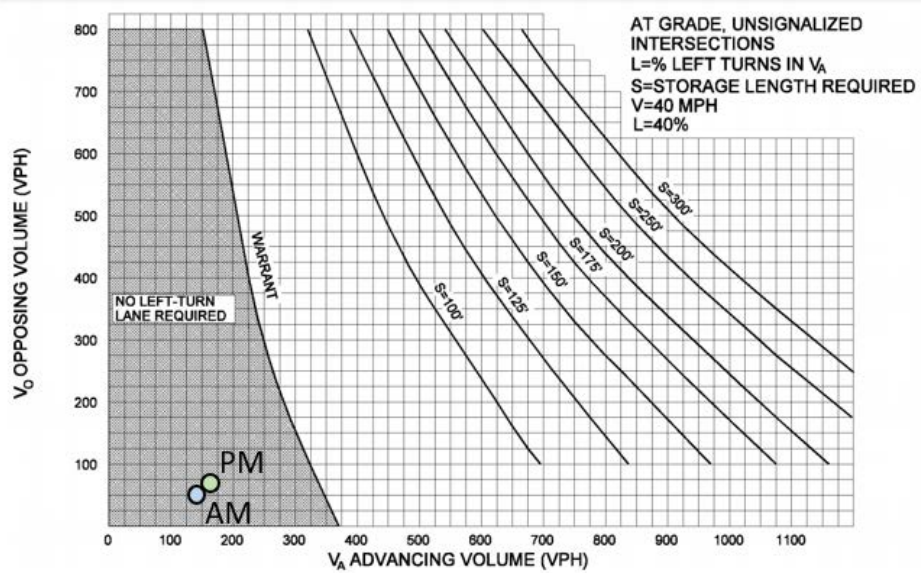


Figure 2-18F
Warrant for Left-Turn Storage Lanes on Two-Lane Highways (V = 40 mph and L = 40%)

Figure 25: Akersville Road: Exclusive Eastbound Left Turn Lane¹²

After careful analysis of existing conditions, evaluation concluded that this intersection could benefit from geometric and operational improvements. These improvements include incorporating the intersection corner radii extensions, the realignment of the north leg of Akersville Road to meet at the intersection with Sneed Boulevard /Coolidge Road and change the traffic operation to accompany the new geometric alignment. A functional drawing depicting the proposed intersection operational improvement scenario is included in Figure 26.

¹² Source: Tennessee Department of Transportation: *Roadway Design Guidelines - Section II - Preliminary Plans*

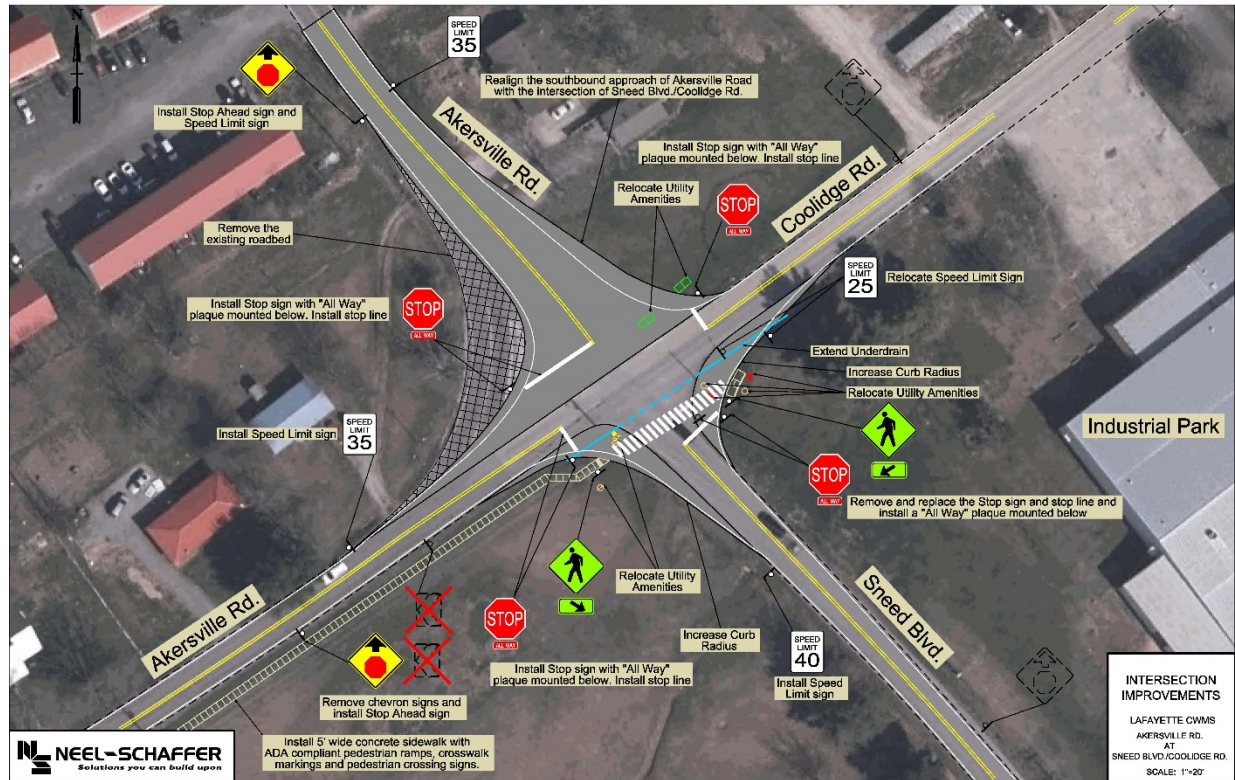


Figure 26: Akersville Road and Sneed Boulevard Proposed Intersection Improvements

3.4 Review of Previous Community Transportation Planning Grant Study findings at the intersection of SR-52 at Sneed Boulevard

In 2017, Neel-Schaffer performed a corridor study along SR-52/SR-10 that focused on identifying strategies to improve transportation operations within the study area for vehicular traffic, pedestrians, bicyclists, and freight movement. The results of the analysis recommended signalization of the intersection of SR-52 at Sneed Boulevard based on hourly volumes, crash history, and the anticipation of industrial truck traffic. Since this intersection is vital for the City's current efforts for rerouting truck traffic from the Public Square to Sneed Boulevard, the intersection was revisited and underwent a supplemental signal warrant analysis, with current year traffic turn movement count data, to see if the signal is still warranted based on hourly volumes.

Methodology

Traffic counts were taken for 8 hours of the day at the mentioned intersection. In accordance with the MUTCD, volumes had to meet a minimum of 8 hours on one of two conditions or for 4 hours during peak travel times throughout the day. The two conditions are considered as Condition A and Condition B.

Condition A is defined as the minimum vehicular volume of an intersection, with a higher emphasis on the volume coming from the side street. Condition B is defined as the interruption of continuous traffic, with a higher emphasis on the volume coming from the major street.

An additional signal warrant analysis was conducted in 2017 for SR-52 at Sneed Boulevard to account for the number of crashes that have occurred at the intersection within 12 months.

According to the signal warrant methodology that considers crash experience, three conditions must be met to allow for a signal:

- Consider alternative measures to a traffic signal before implementing signalization.
- Document five or more reported crashes that can be corrected by a traffic signal within a 12-month period.
- For 8 hours of any day, volumes meet 80% of Condition A or Condition B.

Previous Study Findings

SR-52 at Sneed Boulevard did meet the crash experience signal warrant based on the number of reported crashes and prevailing traffic volumes and based on the 80% volume condition B. There were 24 crashes from 2012 to 2016 (an average of 6 per year).

Along with the crash experience signal warrant assessment, a 70% threshold was investigated due to the population of the community and speed limit surrounding the intersection. According to the MUTCD, the 70% threshold scenario “may be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000.” The speed limit at this specific intersection is posted as 40 mph, with a population of 5,200 within the City. Therefore, conditions to use the 70% threshold were met and as expected, SR-52 at Sneed Boulevard the 70% threshold was warranted.

Additionally, the Fire Department at Sneed Boulevard / Oak Street reported having a difficult time entering SR-52 during peak hour traffic. During conversation with the steering committee, it is anticipated that traffic within this area will increase in the coming years as a result of additional development at the City’s industrial park. The full Signal Warrant Analysis for the 2017 study is included in the previous corridor plan.

Current Study Review

The updated LOS analyses at the intersection of SR-52 and Sneed Boulevard documented an unacceptable LOS for the northbound and southbound lanes in both the AM and PM peak periods (Table 13).

Intersection		Existing (2021)		
		Peak Period		
		AM	MD	PM
SNEED BLVD. @ SR-52	NB	F (63.5)	C (15.3)	D (26.1)
	SB	F (92.7)	B (11.1)	E (35.1)
	EB	A	A	A
	WB	A	A	A
	Overall	A	A	A

Table 13: SR-52 and Sneed Boulevard 2021 LOS

The 2021 collected traffic count data was investigated in accordance with the volume-based warrants outlined in the MUTCD. The same approach geometry and threshold reduction criteria was used in this review. The review indicated that the signal warrant is met based under Warrant 2: Four-Hour Vehicular Volume (70% Volume Criteria) (Figure 27). The full Signal Warrant Analysis for the 2021 study is included in the Appendix A.

Warrant 2: Four-Hour Vehicular Volume 70% Volume Criteria							
Intersection Information							
Major Street # of Lanes	2 or more				Reduced Volume Criteria?	Yes	
Minor Street # of Lanes	1				Condition Criteria Used	70%	
Number of Approaches	4						
Warrant Summary							
	SR-52		Sneed Blvd		Major St. Total Volume	Minor St. Higher Volume	Criteria Met?
	Eastbound	Westbound	Northbound	Southbound			
6 - 7 AM	208	360	18	96	568	96	No
7 - 8 AM	766	733	26	129	1,499	129	Yes
8 - 9 AM	346	443	31	93	789	93	Yes
11 - 12 PM	399	389	22	82	788	82	No
12 - 1 PM	450	411	28	98	861	98	Yes
3 - 4 PM	645	741	26	111	1386	111	Yes
4 - 5 PM	702	478	37	127	1180	127	Yes
5 - 6 PM	560	388	32	94	948	94	Yes
Criteria Satisfied						Total # of Hours	6

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume - 70% Volume Criteria

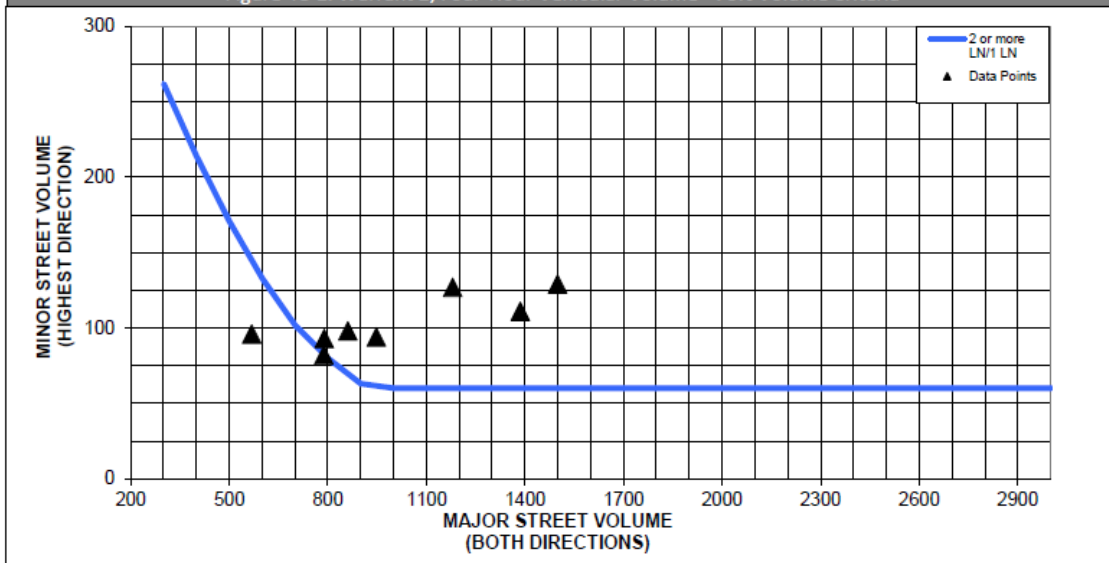


Figure 27: SR-52 and Sneed Boulevard Warrant Analysis

3.5 Public Square Multimodal Review

A field assessment of the public square pedestrian network was conducted on April 21, 2021, to collect data required for investigating existing conditions and recommending proposed improvements that are in accordance with ADA design regulations¹³, *TDOT Multimodal Design Guidelines* and the MUTCD. A sample of the type of information documented consisted of, but was not limited to, the following parameters:

- Sidewalk width
- Sidewalk running/cross slope
- Sidewalk surface texture
- Crosswalk length/width
- Obstructions along walking paths
- Ramps and access points
- Utility amenities
- Driver and pedestrian sight distances
- Condition and placement of existing signage
- Condition of pavement surface and markings
- Tripping and falling hazards
- Driver behavior
- Existing traffic control and operation

¹³ TDOT Access Due-Diligence Checklist: Public Rights-Of Way was consulted as a resource for determining ADA compliance

The field assessment categorized the findings into one of three criteria that relates to pedestrian mobility: Accessibility, Sight Distance, and Other Hazards. The locations are depicted in Figures 28, 29, and 30 and criterion descriptions are provided below.



Figure 28:Public Square Mobility Conflicts - Accessibility

Locations where accessibility conflicts are present contain at least one of the following issues: lack of ADA compliant transition ramps, existing ramps and steps lack handrails or detection pads, awkward step placement, obstructions in walking paths and transition areas, and where sidewalk is not at the same grade as roadway.



Figure 29:Public Square Mobility Conflicts - Sight Distance

Marked locations are where pedestrian sight distance is obstructed by parked vehicles, post-mounted signs, or above ground utilities. TDOT Multimodal Design Guidelines state:

“The visibility of all users is to be evaluated at intersections. Vehicle operators and bicyclists need to be able to see crossing pedestrians, and pedestrians need to be able to see both motor vehicles and

bicyclists. Identifying sight triangles can help determine the optimal configuration of pedestrian crossing [...]. Visibility is impacted by both speed and the configuration of the intersection. There are multiple benefits in multimodal intersection configurations to proactively manage motorized vehicle speeds at intersection locations. The primary objective at intersections and interchanges is to create a clear, distinct, and predictable travel path for all users through the intersection.”

This guidance was used to assist in the identification of the location of sight distance issues.



Figure 30: Public Square Mobility Conflicts - Other Hazards

Other hazards include locations where pedestrians have prolonged exposure to traffic and abrupt changes in grade that present a tripping or falling hazard. Mid-block crossings are 50-70 ft in distance across vehicular areas across the Public Square. This distance exceeds the TDOT recommendation of 30 feet¹⁴.

The *TDOT Roadway Design Guidelines* provide additional guidance for evaluating pedestrian facilities for mid-block crossings (Table 14)¹⁵. The vehicle ADT of less than 9000, speed limit of 35 mph, and roadway width the equivalent of two travel lanes confirm the need for a mid-block crosswalk across the circular roadway in the Public Square. The guidance does not require, but also does not preclude, additional amenities for pedestrians. The fine print at the bottom of the chart notes that the addition of crosswalks alone will not always prevent pedestrian and vehicle conflicts. Additional pedestrian facilities such as signage, lighting, and traffic calming/ passive traffic control measures should be considered.

At these intersections, additional pavement marking should be considered. Two transverse lines is the basic standard marking used by TDOT on most roadways (Figure 31)¹⁶. Continental striping is often suggested by TDOT to improve visibility for mid-block crossings, but the City will need to work closely with TDOT to determine the best solutions.

¹⁴ INSTRUCTIONAL BULLETIN NO. 19-02 Regarding TDOT Accessibility Guidance of Roadway Design Guidelines Section 9, Subsections 9-300.00 to 9-301.03 https://www.tn.gov/content/dam/tn/tdot/roadway-design/documents/instructional-bulletins/2019/IB%2019_02.pdf

¹⁵ TDOT Roadway Design Guidelines Table 9-3: Recommendations for Installing Midblock Crosswalks

¹⁶ FHWA

Recommendations for Installing Midblock Crosswalks*					
Vehicle ADT	Speed Limit**	Roadway Type (Number of Travel Lanes and Median Type)			
		Two lanes	Three lanes	Multilane (four or more lanes) with raised median***	Multilane (four or more lanes) without raised median
≤ 9,000	30 mi/h	C	C	C	C
	35 mi/h	C	C	C	P
	40 mi/h	P	P	P	N
>9,000 to 12,000	30 mi/h	C	C	C	P
	35 mi/h	C	P	P	P
	40 mi/h	P	P	N	N
> 12,000 to 15,000	30 mi/h	C	P	P	N
	35 mi/h	C	P	P	N
	40 mi/h	N	N	N	N
> 15,000	30 mi/h	C	P	N	N
	35 mi/h	P	N	N	N
	40 mi/h	N	N	N	N

* These guidelines include intersection and midblock locations with no traffic signals or stop signs on the approach to the crossing. They do not apply to school crossings. A two-way center turn lane is not considered a median. Crosswalks should not be installed at locations that could present an increased safety risk to pedestrians, such as where there is poor sight distance, complex or confusing designs, a substantial volume of heavy trucks, or other dangers, without first providing adequate design features and/or traffic control devices. Adding crosswalks alone will not make crossings safer, nor will they necessarily result in more vehicles stopping for pedestrians. Whether or not marked crosswalks are installed, it is important to consider other pedestrian facility enhancements (e.g., raised median, traffic signal, roadway narrowing, enhanced overhead lighting, traffic-calming measures, curb extensions), as needed, to improve the safety of the crossing. These are general recommendations; good engineering judgment should be used in individual cases for deciding where to install crosswalks.

** Where the speed limit exceeds 40 mi/h, marked crosswalks alone should not be used at unsignalized locations.

*** The raised median or crossing island must be at least 4 ft. wide and 6 ft. long to serve adequately as a refuge area for pedestrians, in accordance with MUTCD and AASHTO guidelines.

C = Candidate sites for marked crosswalks . Marked crosswalks must be installed carefully and selectively. Before installing new marked crosswalks, an engineering study is needed to determine whether the location is suitable for a marked crosswalk. For an engineering study, a site review may be sufficient at some locations, while a more in-depth study of pedestrian volume, vehicle speed, sight distance, vehicle mix, and other factors may be needed at other sites. It is recommended that a minimum utilization of 20 pedestrian crossings per peak hour (or 15 or more elderly and/or child pedestrians) be confirmed at a location before placing a high priority on the installation of a marked crosswalk alone.

P = Possible increase in pedestrian crash risk may occur if crosswalks are added without other pedestrian facility enhancements. These locations should be closely monitored and enhanced with other pedestrian crossing improvements, if necessary, before adding a marked crosswalk.

N = Marked crosswalks alone are insufficient, since pedestrian crash risk may be increased by providing marked crosswalks alone. Consider using other treatments, such as traffic-calming treatments, traffic signals with pedestrian signals where warranted, or other substantial crossing improvement to improve crossing safety for pedestrians.

Adapted from Source: Safety Effects of Marked versus Unmarked Crosswalks at Uncontrolled Locations: Final Report and Recommended Guidelines, Table 11 FHWA, 2005

Table 9-3: Recommendations for Installing Midblock Crosswalks

Table 14: Recommendations for Installing Mid-Block Crosswalks TDOT

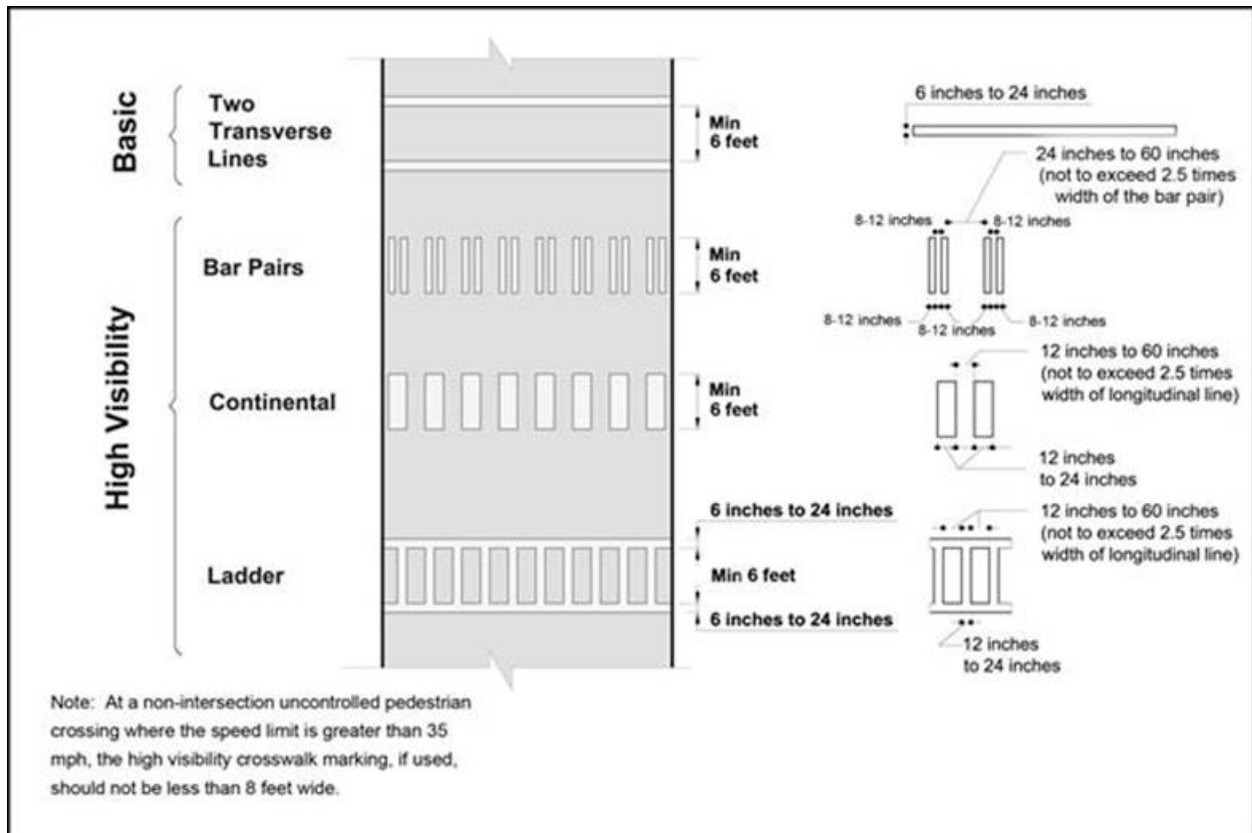


Figure 31: Crosswalk Striping FHWA

3.6 Semi Turning Movement Path Analyses

The procedure for evaluating truck turning paths began with assigning a standardized design vehicle provided in the American Association of State Highway Transportation Official's (AASHTO) *Geometric Design of Highways and Streets (The Green Book)*, 7th Edition. Based on the field observations and input from City Officials, the AASHTO semi-trailer combination truck, WB-62, is used to evaluate the extent of truck sweep paths under existing geometry and their impact on motorists and pedestrians. The characteristics and proportions (length, width, axial spacing, etc.) of the WB-62 design vehicle is similar to the cattle and freight trucks that travel through the public square and to the industrial area. Figure 32 shows the WB-62 truck and turning path dimensions.

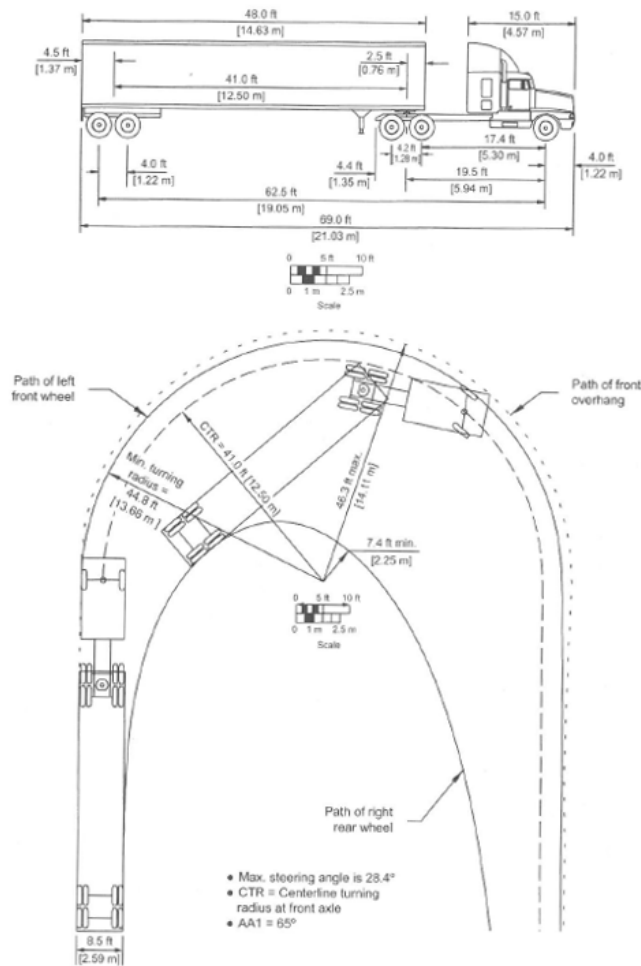


Figure 32: Minimum Turning Path for WB-62 Semitrailer¹⁷

The design vehicles sweep path is defined as the vehicles pavement occupancy when making a turn maneuver. The perimeter of the path is defined by the front and rear tires of the truck-trailer assembly. For right turns, the sweep path is defined by the front left tire and the back right tire paths, while left turns are defined by the front right tire and the back left tire paths. The analysis considered the design vehicle turning speeds to be 8 mph for right turns and 12 mph for left turns. Overlaying the turning templates, generated at the design turning speeds, defines the physical area that a truck needs, at a minimum, in order to complete the turn in a safe and efficient manner. The analysis began with overlaying the truck turning paths under the existing geometry to see their extent of pavement occupancy through the intersection and public square. Then, the defined paths were adjusted spatially

¹⁷ Source: American Association of State Highway Transportation Official's Geometric Design of Highways and Streets, 7th Edition

so the outer limits of the sweep path are not encroaching into opposing lanes, parking spaces, or pedestrian facilities.

The truck turning analysis indicated that the following locations should include some type of truck turning accommodation features that either promotes truck traffic or deters it:

- Intersection of Akersville Road at Sneed Boulevard /Coolidge Road
 - Extend the northern, eastern, and southern intersection curb radii
- Public Square
 - Install a 5 foot wide sidewalk around the perimeter of the center island
 - Install curb bulb-outs and curb extensions for pedestrian ramps along the outer and inner sidewalk network
 - Install mountable-concrete traffic islands with narrow turn radii in each intersection

3.7 Vulnerable Populations

Documentation of vulnerable populations was consulted for each of the focus areas of the Study.

A look at vulnerable populations around the intersection of Akersville Road and Sneed Boulevard and along Akersville Road showed a higher-than-state-average number of households with no vehicles and persons in poverty in the last 12 months (2019).

A look at vulnerable populations in the Downtown/ Public Square showed a higher-than-state-average number of households with no vehicles, persons in poverty in the last 12 months, and percentage of individuals over age 65 (2019) in the City.

4. Recommendations

4.1 General Improvements

Five recommendations for general improvements were identified through the plan process.

1. Wayfinding for Truck Traffic:
 - a. Work with TDOT to contact wayfinding organizations concerning heavy truck traffic in Public Square
 - b. Install signage to redirect heavy truck traffic to industrial park
 - c. Consider adoption of ordinance to deter heavy truck traffic.
2. Sidewalks along Akersville Road:
 - a. Construct sidewalk along south side of Akersville Road from Sneed Boulevard to SR-10
3. Intersection of Sneed Boulevard and SR-52:
 - a. Add signalization, a southbound left turn lane and a westbound right turn lane at the intersection
4. Intersection of Akersville Road, Coolidge Road and Sneed Boulevard:
 - a. Realign the southbound approach of Akersville Road and increase the curb radii at three locations
5. Public Square Improvements:
 - a. Install multimodal improvements, traffic calming measures, ADA improvements and pedestrian safety improvements

Project sheets depicting these improvements can be found in Appendix B. A Plant Palette with suggested plantings for public square improvements can be found in Appendix C.

4.2 Programmatic Policy Recommendations

Recommendations to alleviate the stress on the Public Square transportation network caused by heavy truck traffic range from notifying wayfinding application (app) developers of routing issues to making physical changes to roadways to adopting an ordinance (Figure 33). This section will discuss programmatic and policy recommendations for alleviation of heavy truck traffic in the Public Square.

Signage and Notification to Wayfinding Application Developers

The quickest and most cost-effective measures are to place signage redirecting heavy truck traffic away from the Public Square and to contact wayfinding application developers to reroute truck/freight traffic.

Often, the fastest route identified by wayfinding applications such as Google Maps and Waze, is not an appropriate route for heavy trucks. The National Coordination Office for Space-Based Positioning, Navigation, and Timing website¹⁸ offers a central point to contact the most popular apps and request rerouting of heavy truck traffic. Most applications require a local agency to identify the affected area and define a preferred freight route. TDOT representatives frequently work through these processes with small cities and can offer assistance working through the processes.

¹⁸ <https://www.gps.gov/support/user/mapfix/truck-traffic/>

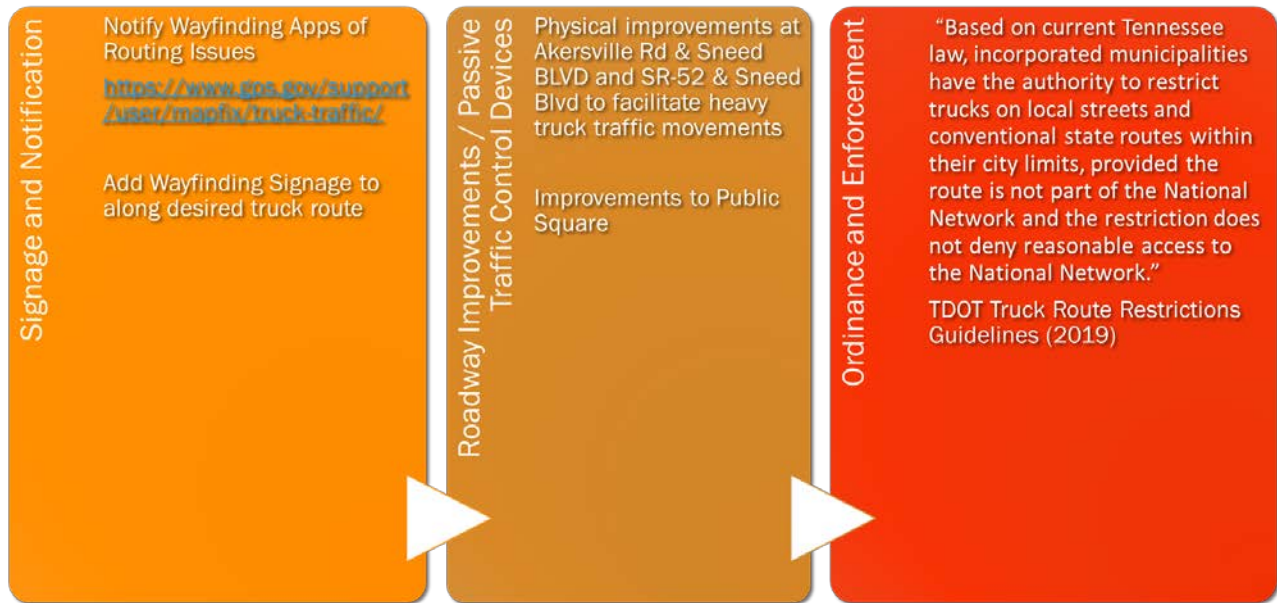


Figure 33: Heavy Truck Measures

Signage placed at strategic locations along an identified truck route can redirect some heavy truck traffic away from the Public Square. Recent efforts by the City to place signage should be continued.

A preferred truck route and signage plan is included in the next section of this Plan.

Ordinance and Enforcement

Because SR-10 and SR-52 are part of the National Network within Tennessee, the City cannot restrict truck traffic in the Public Square area without prior approval from TDOT. The *TDOT Truck Route Restrictions Procedures Manual* provides instruction for that process. A sample ordinance from the City of Shelbyville is included in Appendix D. If this route is undertaken, it is important to follow up with enforcement efforts through local law enforcement.

4.3 Action Plan

Prioritization and Tradeoffs

Projects were prioritized as short term (1-5 years), mid-term (5-10) years and long term (10+) years. Project prioritization was based on the following factors:

- Improves Safety:** Public input revealed a strong desire for improved safety.
- Provides Network Connection:** Gaps in the network keep people from accessing destinations. Dense population areas and vulnerable population areas should connect to schools, public institutions, employment areas, parks, and commercial areas.
- Provides Service to Vulnerable Populations:** Vulnerable populations including low-income persons, persons without vehicles, minority persons, and those over age 65 should be provided connections to destinations.

Project Feasibility: Projects with physical constraints, high costs or low public support were ranked below those with few physical constraints, low costs and high public support.

Community Input: Prioritization exercises assisted in the ranking of proposed projects.

Economic Impact: Projects were evaluated for the economic impact they would have on the community including the impact on future development areas.

These prioritization factors can be used to discuss the tradeoffs of each proposed project. The associated Action Plan for implementation is found in Table 15.

1) Truck Route/ Signage

Work with TDOT to contact wayfinding apps concerning heavy truck traffic in Public Square. Install signage to redirect heavy truck traffic to industrial park. Consider adoption of ordinance to deter heavy truck traffic.

Efforts to redirect heavy truck traffic by contacting wayfinding apps and posting signage can have high impact and a comparatively low cost. These steps will have an immediate effect on the safety of pedestrians, vulnerable populations accessing the Public Square and the economic vitality of the Public Square. The project is feasible, and the effort is supported by the public. The project was identified as a **short-term project**.

2) Akersville Road Improvements

Construct sidewalk along south side of Akersville Road from Sneed Boulevard to SR-10.

This project will begin to fill in sidewalk network gaps. The project will support economic sustainability of the residents by providing dense housing areas with access to employment and commercial areas. Vulnerable populations concentrated in the area will be served by the construction of the sidewalk. There is currently no safe path along this roadway so a sidewalk would improve safety greatly. There are no identified physical hindrances to construction. The project is feasible, and the effort is supported by the public. The project was identified as a **mid-term project** primarily due to the associated cost.

3) Sneed Boulevard & SR-52 Intersection Improvements

Add signalization, a southbound left turn lane and a westbound right turn lane at the intersection of Sneed Boulevard.

This project will improve the safety of motorists in the study area. LOS improvements will facilitate the movement of heavy truck traffic along this route. This project was supported by the community in previous a previous plan and community support was reiterated for this project during the creation of this Plan. The project will support the economic health of the community by improving traffic condition for motorists along the route and diverting heavy truck traffic away from downtown. Community input ranked this as the most influential intersection along the proposed heavy truck route. The project was identified as a **mid-term project** primarily due to the associated cost.

4) Akersville Road & Sneed Boulevard Intersection Improvements

Realign the southbound approach of Akersville Road and increase the curb radii at three locations

This project will improve traffic flow into the industrial park and other heavy truck destinations. The project will support the economic health of the community by improving traffic condition for motorists along the route and diverting heavy truck traffic away from downtown. A proposed crosswalk will

improve the safety of pedestrians as they head to work in the industrial park. Community input ranked this as the second most influential intersection along the proposed heavy truck route. The project was identified as a **mid-term project** primarily due to the associated cost.

5) Public Square Improvements

Install multimodal improvements, traffic Calming Measures, ADA improvements, pedestrian safety improvements around the Public Square.

Improvements to the Public Square will have a long-lasting effect on the economic health and safety of the City. Improvements to the Public Square will improve safety for pedestrians and motorists. New pedestrian facilities would be built to ADA specifications and would support a concentration of jobs and vulnerable populations in downtown Lafayette. Discouraging heavy truck traffic will build on the momentum of the economic growth around the Public Square. This is the largest concentration of sidewalks infrastructure in the city and improvements would support the existing sidewalk network. The public supports this project, but its high cost makes it less feasible in the short term. Having a proposed plan on file will enable the City to begin working toward the implementation of these improvements. The project was identified as a **long term project** due to cost.

Action Plan

	Project	Cost Estimate	Prioritization
1	Truck Route Signage/ Policies	----	Short-Term
2	Sidewalk Along Akersville Road between Sneed Boulevard and SR-10	\$326,000	Mid-Term
3	Intersection Improvements at Sneed Boulevard and SR-52	\$328,000	Mid-Term
4	Intersection Improvements at Akersville Road and Sneed Boulevard	\$396,000	Mid-Term
5	Public Square Improvements	\$787,000	Long Term

Table 15: Action Plan for Implementation

4.4 Funding

Implementation of the plan's recommendations will require a persistent and phased approach across the recommended improvements to identify and secure funding opportunities from a variety of sources. The two main strategies include securing funding assistance from state and federal sources and exploring strategies at the local level for increasing revenues such as private/public partnerships or dedicated City or county revenues.

STATE AND FEDERAL FUNDING ASSISTANCE (GRANT PROGRAMS)

The City will need to seek diverse funding sources to implement this Plan. The City should partner with private industry and state and federal sources.

The Federal and State Government have a variety of programs that could potentially aid in funding various recommended plan projects. Some of the most popularly used programs in the state for the delivery of non-motorized improvements include the Transportation Alternatives Program (TAP), Surface Transportation Block Grant (STBG) Program, Recreational Trails Program (RTP), and TDOT's Multimodal Access Grant.

Table 16 displays some of the most relevant grant programs as it relates to the improvements recommended in this plan.

City of Lafayette - Grant Opportunities						
Agency	Grant	Eligible Items	Funding Source	Match	Funding Cap	Website
TDOT	TAP	curb & gutter, ADA-compliant items, utility relocations, landscaping, crosswalks, pedestrian lighting, benches, trash receptables, planters	Federal	20%	None (only funds construction)	https://www.tn.gov/tdot/program-development-and-administration-home/local-programs/tap.html
TDOT	Multimodal Access Grant	curb & gutter, ADA-compliant items, utility relocations, landscaping, crosswalks, pedestrian lighting, benches, trash receptables, planters, bike lanes	State	5%	\$1 million	https://www.tn.gov/content/tn/tdot/multimodal-transportation-resources/multimodal-access-grant.html
TDOT	STBG*	improvements to federal aid eligible roads, rideshare and vanpool projects, and ITS	Federal	20%	Based on population	https://www.tn.gov/content/dam/tn/tdot/programdevelopment/localprograms/funding-options/STBGProgram.pdf
TDEC	RTP	publicly owned trail expansion, improvement, development, and non-routine maintenance	Federal	20%	\$200,000	https://www.tn.gov/environment/about-tdec/grants/grants-recreation-grants/grants-recreation-educational-trail-program.html
Department of Health	Project Diabetes	greenways, fitness equipment, playgrounds, sports facilities, walking tracks, and other health-promoting infrastructure	State	0%	\$150,000	https://www.tn.gov/health/health-program-areas/mch-diabetes/project-diabetes.html

*Once the City's official population exceeds 5,000, this grant will be an eligible funding source.

Table 16: Funding Opportunities

Other agencies (such as the Department of Health, Department of Agriculture, Department of Tourism Development, and the Department of Economic and Community Development) should be consulted for programs that would provide funding for facility improvements as part of a secondary effort within the parameters of agency missions. Identifying such opportunities will require time and effort, but these agencies and grant programs are resources for smaller municipalities seeking funding assistance to develop their pedestrian facility network.

5. Public Involvement

THE FIVE I'S OF PUBLIC INVOLVEMENT

1. Identify the agency stakeholders who would be asked to provide the regulatory and fiscal constraints that affect the development and implementation of project recommendations.

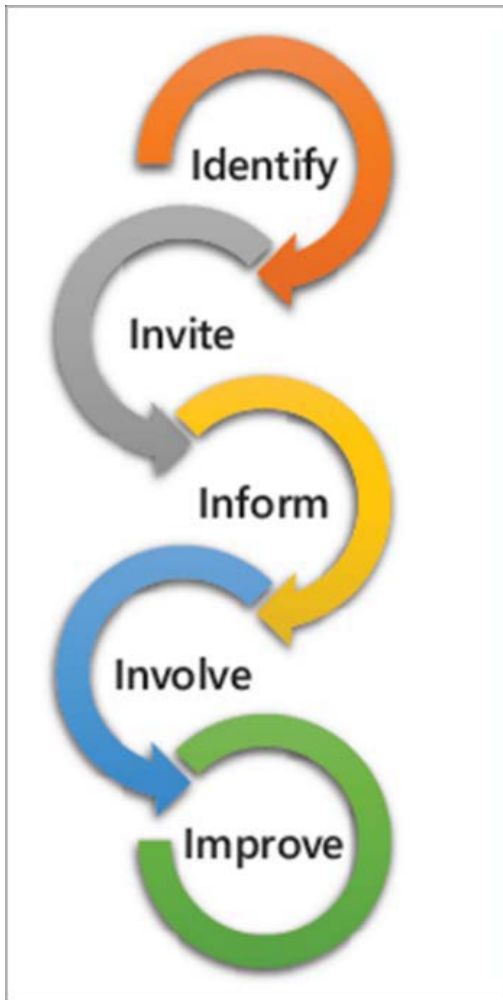
Also, identify the community “touchstones” (Stakeholders Group) such as downtown merchant organization representatives, community leaders, churches, clubs or organizations that could support the plan and benefit from its outcomes that should be involved in the planning process. Choose a Steering Committee from the Stakeholders Group to drive decision making processes.

2. Invite the community and stakeholders to participate in the planning process.

3. Inform participants about the planning process, their roles in the process, and the process outcomes.

4. Involve the community and stakeholders in easily accessible and effective activities.

5. Improve the community engagement process throughout the project based on the activities in the previous steps and make adjustments during the process to ensure successful engagement.



A working group (Stakeholders' Group) was selected by the City of Lafayette to inform the study. For this Plan, the Stakeholders' Group served as the Steering Committee.

Stakeholders' group members included:

Mayor Jerry Willmore, City of Lafayette
Mayor Steve Jones, Macon County
Representative Kelly Keisling
Senator Mark Pody
Jeff Harper, Director of Public Works, City of Lafayette
Kristie Talley, City Recorder, City of Lafayette
Chief Stacy Gann, Lafayette Police Department
Jonathan Russell, OCT Region 3 Supervisor, TDOT
Ian Preston, OCT Region 3, TDOT
Greg Judy, Neel-Schaffer
Maria Scheitz, Neel-Schaffer
Whitney Sullivan, Neel-Schaffer
Jacob Carson, Neel-Schaffer

Meeting 1: Project Kick-off; Visioning Purpose and Need
February 9, 2021, 3pm, held virtually via Zoom

Meeting 2: Existing Conditions Review; Preliminary Analysis and Feedback Work Session
May 14, 2021, 1pm, Lafayette City Council Chambers

Meeting 3: Recommendations and Prioritization Work Session
June 16, 2021, 1pm, Lafayette City Council Chambers

Meeting 4: Open House/ City Council Presentation
July 6, 2021, 6pm, Lafayette City Hall

Meeting 5: City Council Meeting/Adoption of Plan
August 2, 2021, 7pm Lafayette City Council Chambers

APPENDIX A- Warrant Analyses

Multi-Way Stop Applications

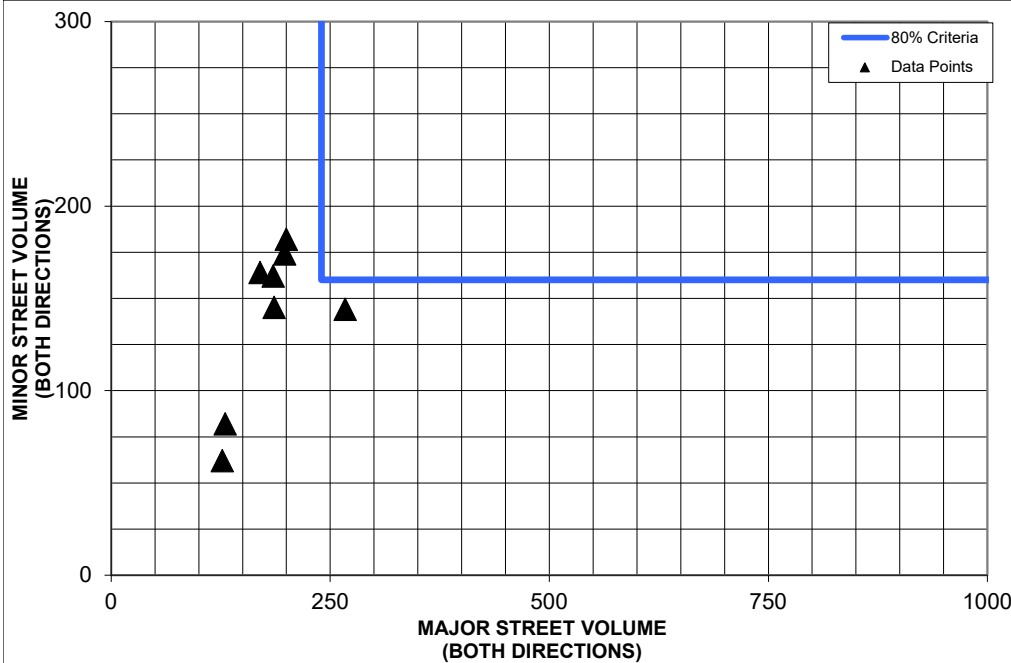
Intersection Information

Major Street # of Lanes	1		Condition D Alternative	Yes
Minor Street # of Lanes	1		85th Speed > 40 MPH	No
Number of Approaches	4			

Warrant Summary

	Sneed Blvd/Akersville Rd		Akersville Rd/Coolidge Rd		Major St. Total Volume	MajSTV ≥ #	Minor St. Total Volume	MinSTV ≥ #
	Northbound	Southbound	Eastbound	Westbound		240		160
6 - 7 AM	28	99	50	12	127	No	62	No
7 - 8 AM	83	184	106	38	267	Yes	144	No
8 - 9 AM	52	78	60	22	130	No	82	No
11 - 12 PM	94	91	108	54	185	No	162	Yes
12 - 1 PM	81	89	126	38	170	No	164	Yes
3 - 4 PM	122	76	135	39	198	No	174	Yes
4 - 5 PM	116	84	131	51	200	No	182	Yes
5 - 6 PM	89	97	124	21	186	No	145	No
Criteria Not Satisfied					Total # of Hours Major Street	1	Total # of Hours Minor Street	4

Section 2B.07. Multi-Way Stop Applications - Criterion B/Condition D - 80% Volume Criteria



Criterion B/Condition D:

Crash Experience

Number of Crashes	3
-------------------	---

Crash Criteria Not Met

**Four (4) or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions.*

Warrant 1: Eight-Hour Vehicular Volume Condition B - Interruption of Continuous Traffic

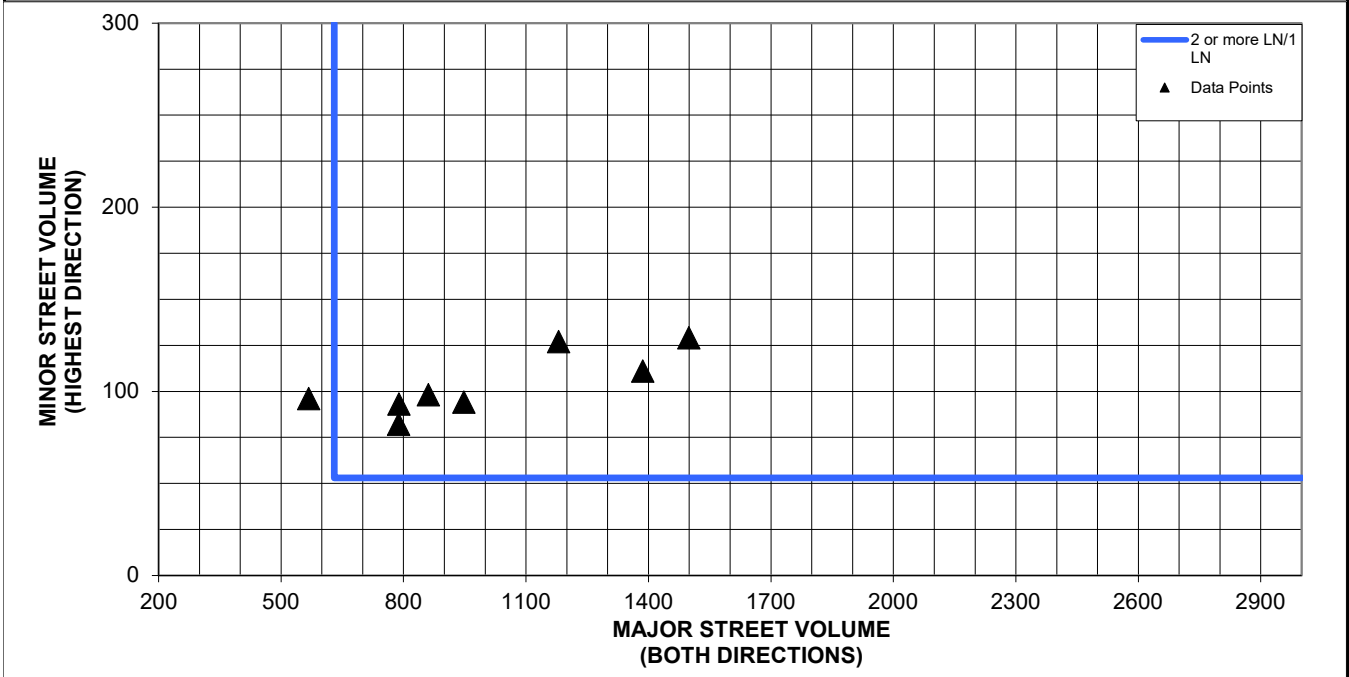
Intersection Information

Major Street # of Lanes	2 or more		Reduced Volume Criteria?	Yes
Minor Street # of Lanes	1		Condition B Criteria Used	70%
Number of Approaches	4			

Warrant Summary

	SR-52		Sneed Blvd		Major St. Total Volume	MajSTV ≥ #	Minor St. Higher Volume	MinSHV ≥ #
	Eastbound	Westbound	Northbound	Southbound		630	53	53
6 - 7 AM	208	360	18	96	568	No	96	Yes
7 - 8 AM	766	733	26	129	1499	Yes	129	Yes
8 - 9 AM	346	443	31	93	789	Yes	93	Yes
11 - 12 PM	399	389	22	82	788	Yes	82	Yes
12 - 1 PM	450	411	28	98	861	Yes	98	Yes
3 - 4 PM	645	741	26	111	1386	Yes	111	Yes
4 - 5 PM	702	478	37	127	1180	Yes	127	Yes
5 - 6 PM	560	388	32	94	948	Yes	94	Yes
Criteria Not Satisfied					Total # of Hours Major Street	7	Total # of Hours Minor Street	8

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume - Condition B - 70% Volume Criteria



Warrant 1: Eight-Hour Vehicular Volume Combination of Conditions A & B

Intersection Information

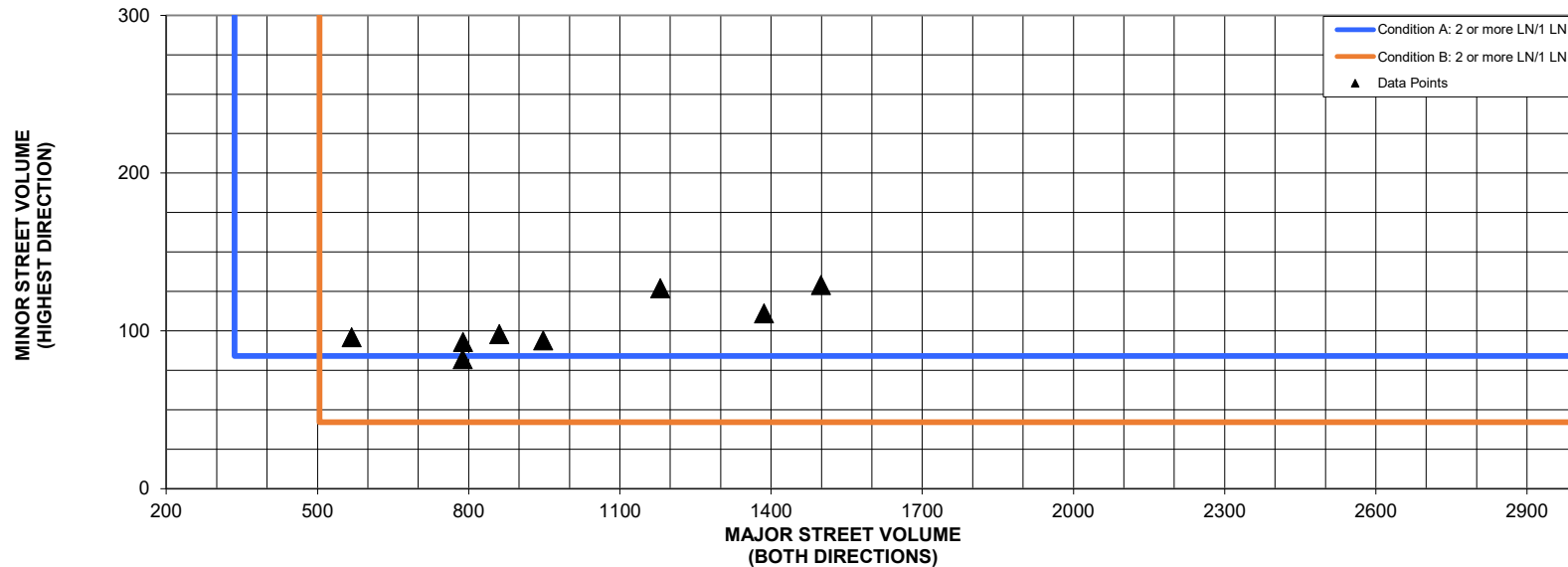
Major Street # of Lanes	2 or more
Minor Street # of Lanes	1
Number of Approaches	4

Reduced Volume Criteria?	Yes
Combined Criteria Used	56%

Warrant Summary

	SR-52		Sneed Blvd		Condition A				Condition B			
					MajSTV ≥ #		MinSHV ≥ #		MajSTV ≥ #		MinSHV ≥ #	
	Eastbound	Westbound	Northbound	Southbound	Major St. Total Volume	336	Minor St. Higher Volume	84	Major St. Total Volume	504	Minor St. Higher Volume	42
6 - 7 AM	208	360	18	96	568	Yes	96	Yes	568	Yes	96	Yes
7 - 8 AM	766	733	26	129	1,499	Yes	129	Yes	1,499	Yes	129	Yes
8 - 9 AM	346	443	31	93	789	Yes	93	Yes	789	Yes	93	Yes
11 - 12 PM	399	389	22	82	788	Yes	82	No	788	Yes	82	Yes
12 - 1 PM	450	411	28	98	861	Yes	98	Yes	861	Yes	98	Yes
3 - 4 PM	645	741	26	111	1,386	Yes	111	Yes	1386	Yes	111	Yes
4 - 5 PM	702	478	37	127	1,180	Yes	127	Yes	1180	Yes	127	Yes
5 - 6 PM	560	388	32	94	948	Yes	94	Yes	948	Yes	94	Yes
Criteria Not Satisfied					Total # of Hours Major Street	8	Total # of Hours Minor Street	7	Total # of Hours Major Street	8	Total # of Hours Minor Street	8

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume - Combination of Condition A & B - 56% Volume Criteria



Warrant 2: Four-Hour Vehicular Volume 100% Volume Criteria

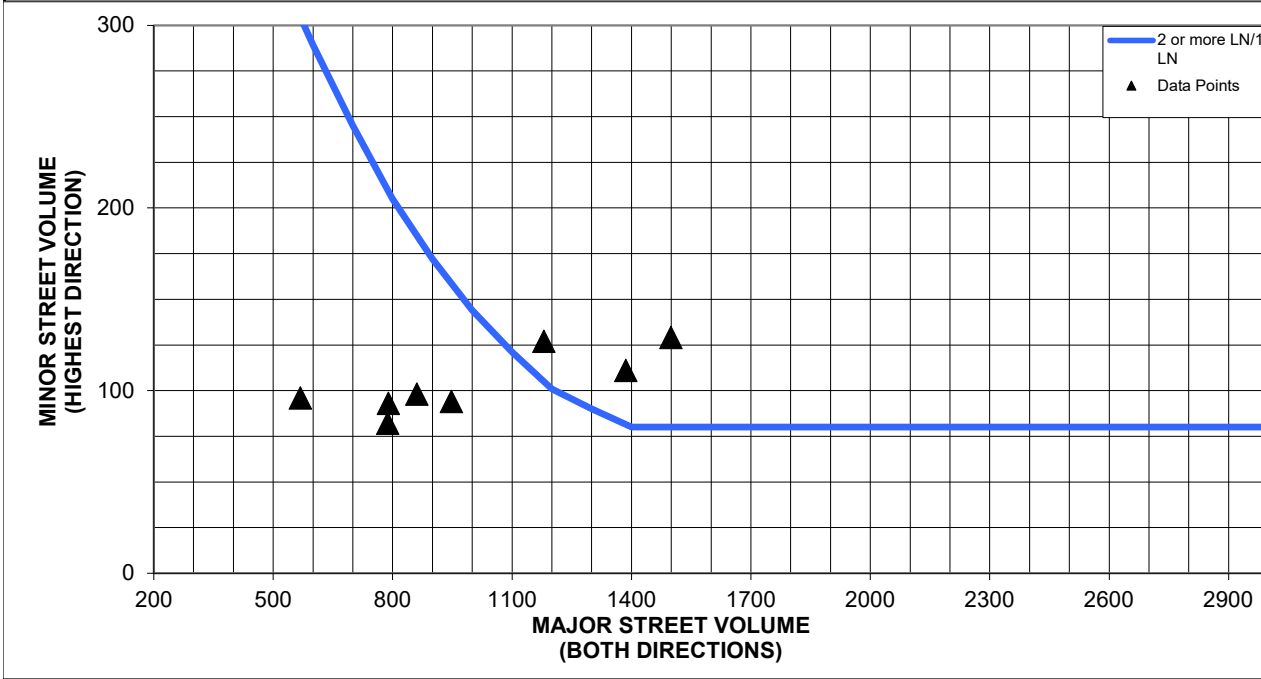
Intersection Information

Major Street # of Lanes	2 or more		Reduced Volume Criteria?	No
Minor Street # of Lanes	1		Condition Criteria Used	100%
Number of Approaches	4			

Warrant Summary

	SR-52		Sneed Blvd		Major St. Total Volume	Minor St. Higher Volume	Criteria Met?
	Eastbound	Westbound	Northbound	Southbound			
6 - 7 AM	208	360	18	96	568	96	No
7 - 8 AM	766	733	26	129	1,499	129	Yes
8 - 9 AM	346	443	31	93	789	93	No
11 - 12 PM	399	389	22	82	788	82	No
12 - 1 PM	450	411	28	98	861	98	No
3 - 4 PM	645	741	26	111	1386	111	Yes
4 - 5 PM	702	478	37	127	1180	127	Yes
5 - 6 PM	560	388	32	94	948	94	No
Criteria Not Satisfied						Total # of Hours	3

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume - 100% Volume Criteria



Warrant 2: Four-Hour Vehicular Volume 70% Volume Criteria

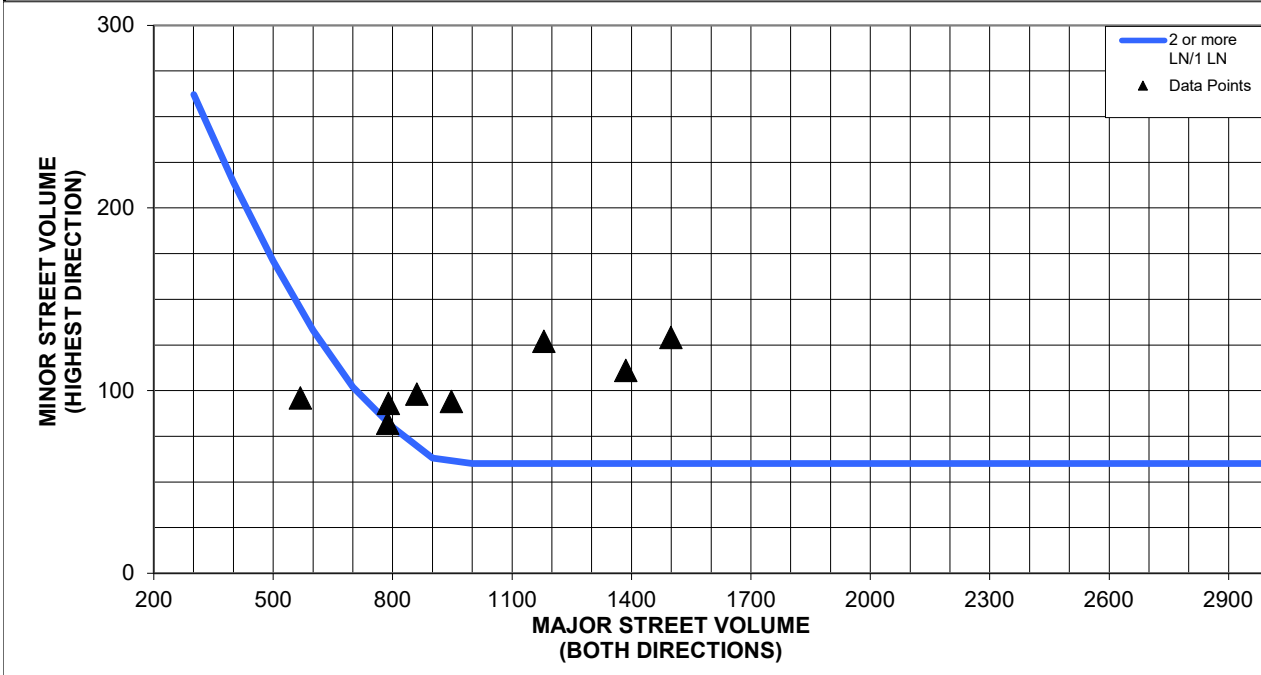
Intersection Information

Major Street # of Lanes	2 or more		Reduced Volume Criteria?	Yes
Minor Street # of Lanes	1		Condition Criteria Used	70%
Number of Approaches	4			

Warrant Summary

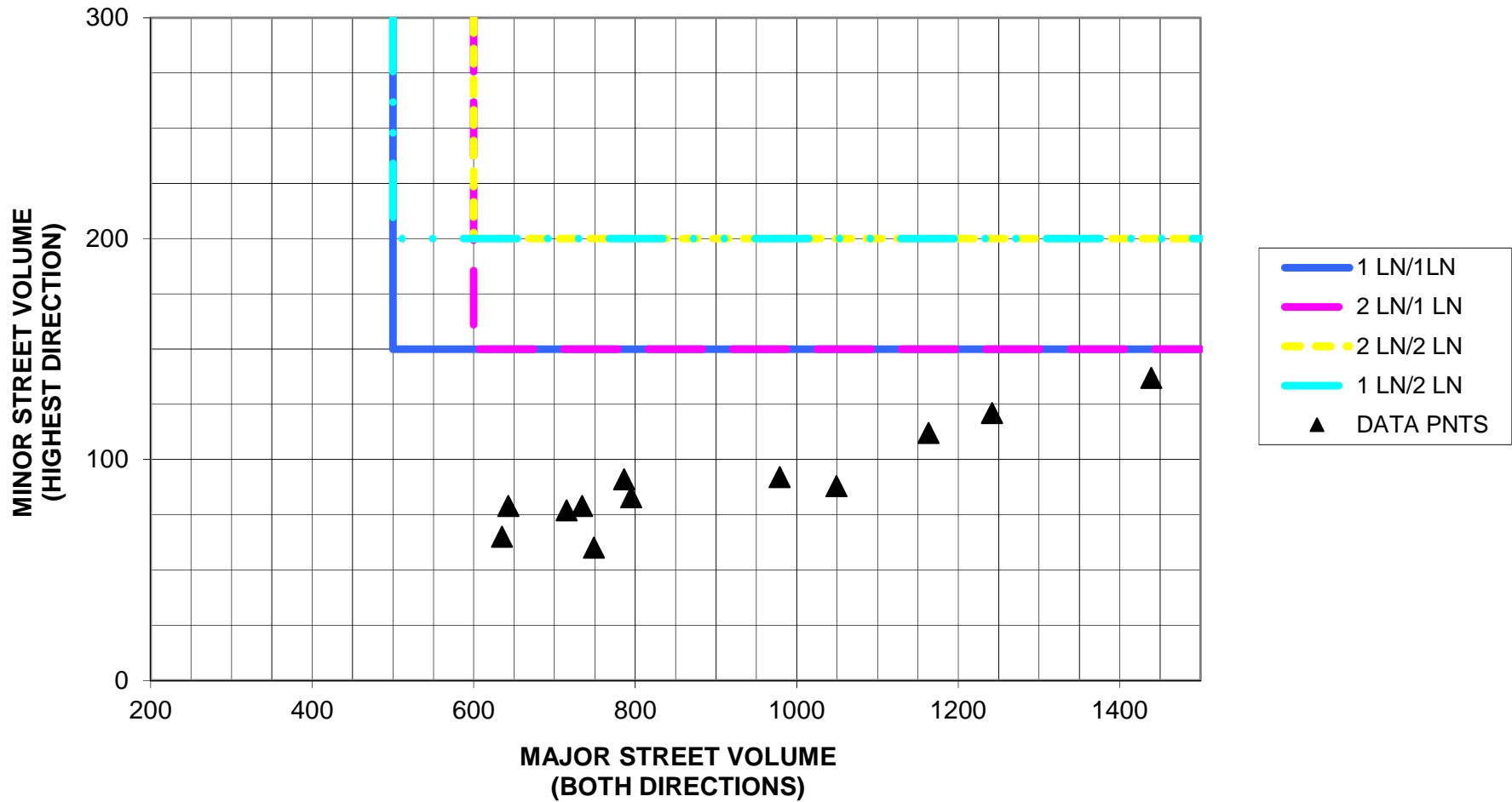
	SR-52		Sneed Blvd		Major St. Total Volume	Minor St. Higher Volume	Criteria Met?
	Eastbound	Westbound	Northbound	Southbound			
6 - 7 AM	208	360	18	96	568	96	No
7 - 8 AM	766	733	26	129	1,499	129	Yes
8 - 9 AM	346	443	31	93	789	93	Yes
11 - 12 PM	399	389	22	82	788	82	No
12 - 1 PM	450	411	28	98	861	98	Yes
3 - 4 PM	645	741	26	111	1386	111	Yes
4 - 5 PM	702	478	37	127	1180	127	Yes
5 - 6 PM	560	388	32	94	948	94	Yes
Criteria Satisfied						Total # of Hours	6

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume - 70% Volume Criteria



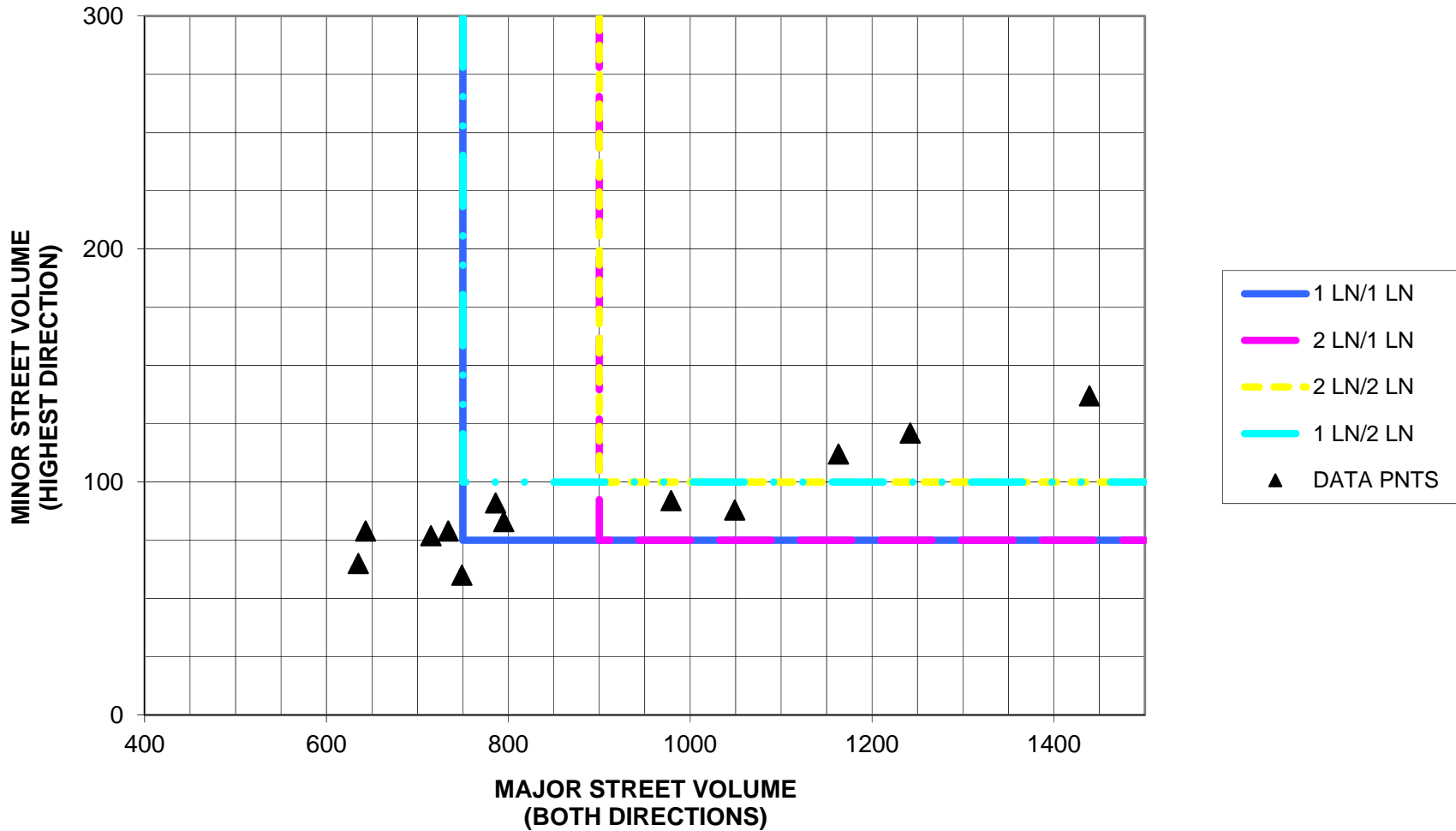
Oak St/Sneed Rd at SR-52
Lafayette CTPG

8-HOUR WARRANT
CONDITION A
100%

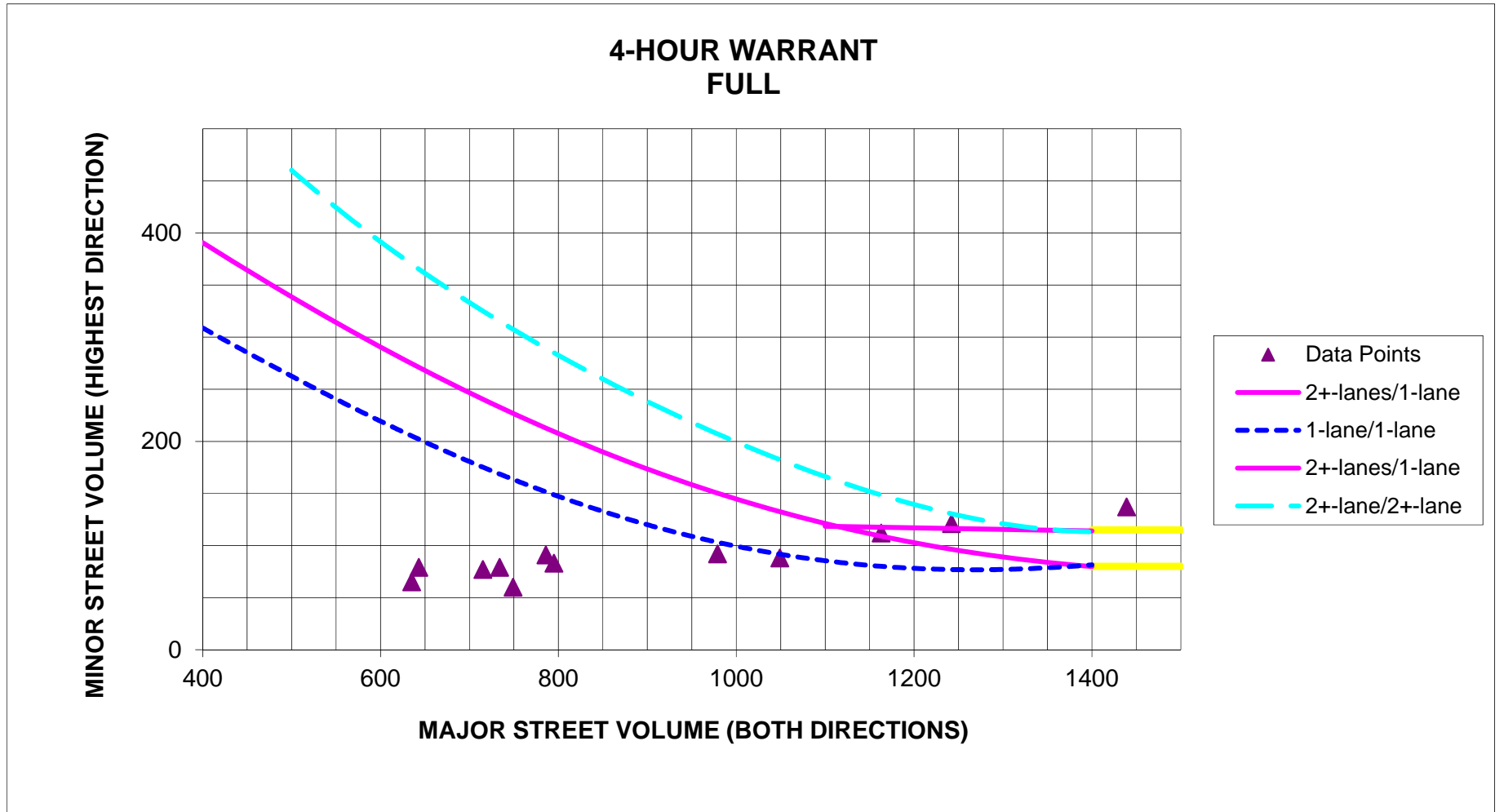


Oak St/Sneed Rd at SR-52
Lafayette CTPG

8-HOUR WARRANT
CONDITION B
100%



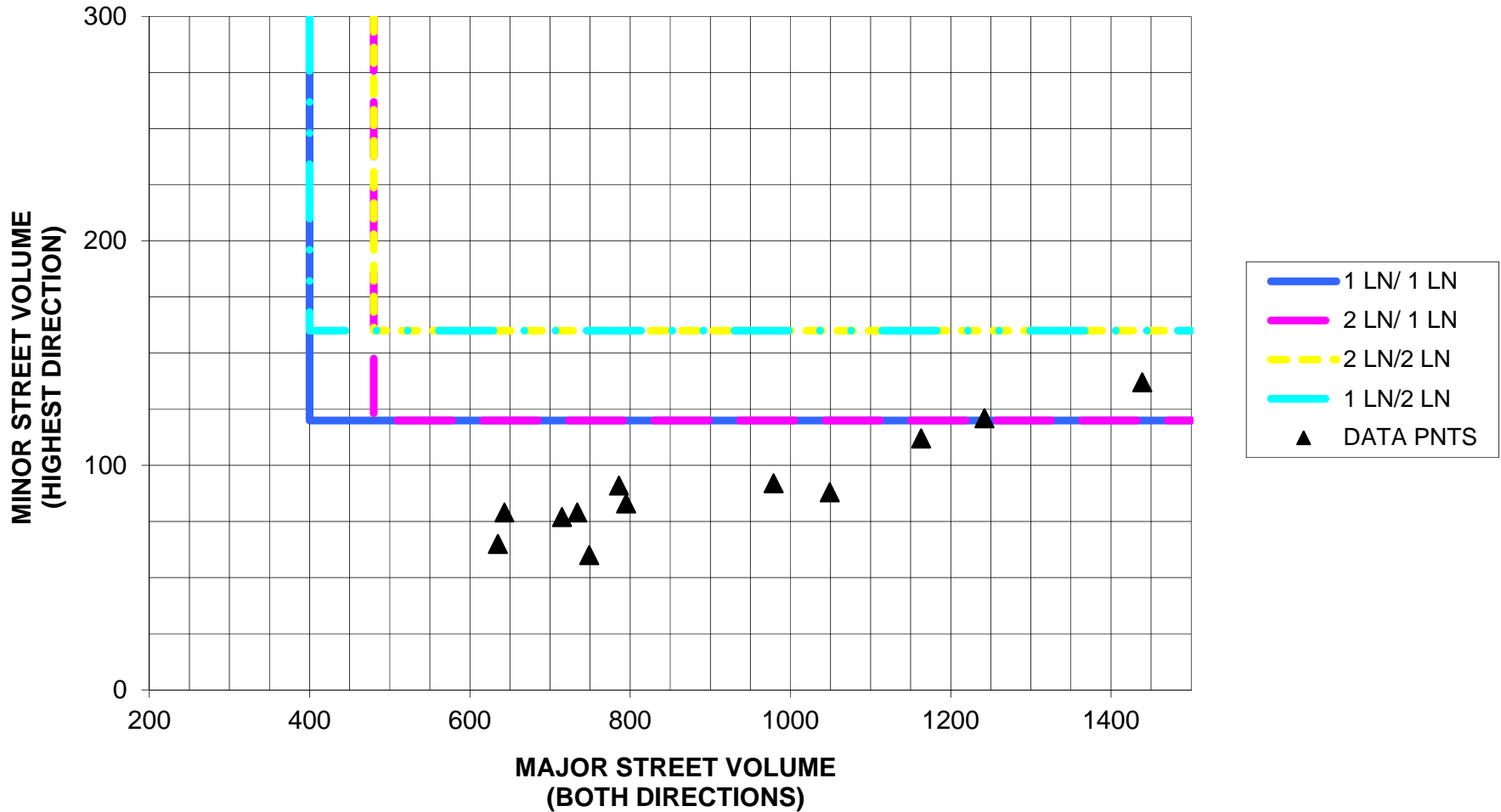
Oak St/Sneed Rd at SR-52
Lafayette CTPG



Oak St/Sneed Rd at SR-52
Lafayette CTPG

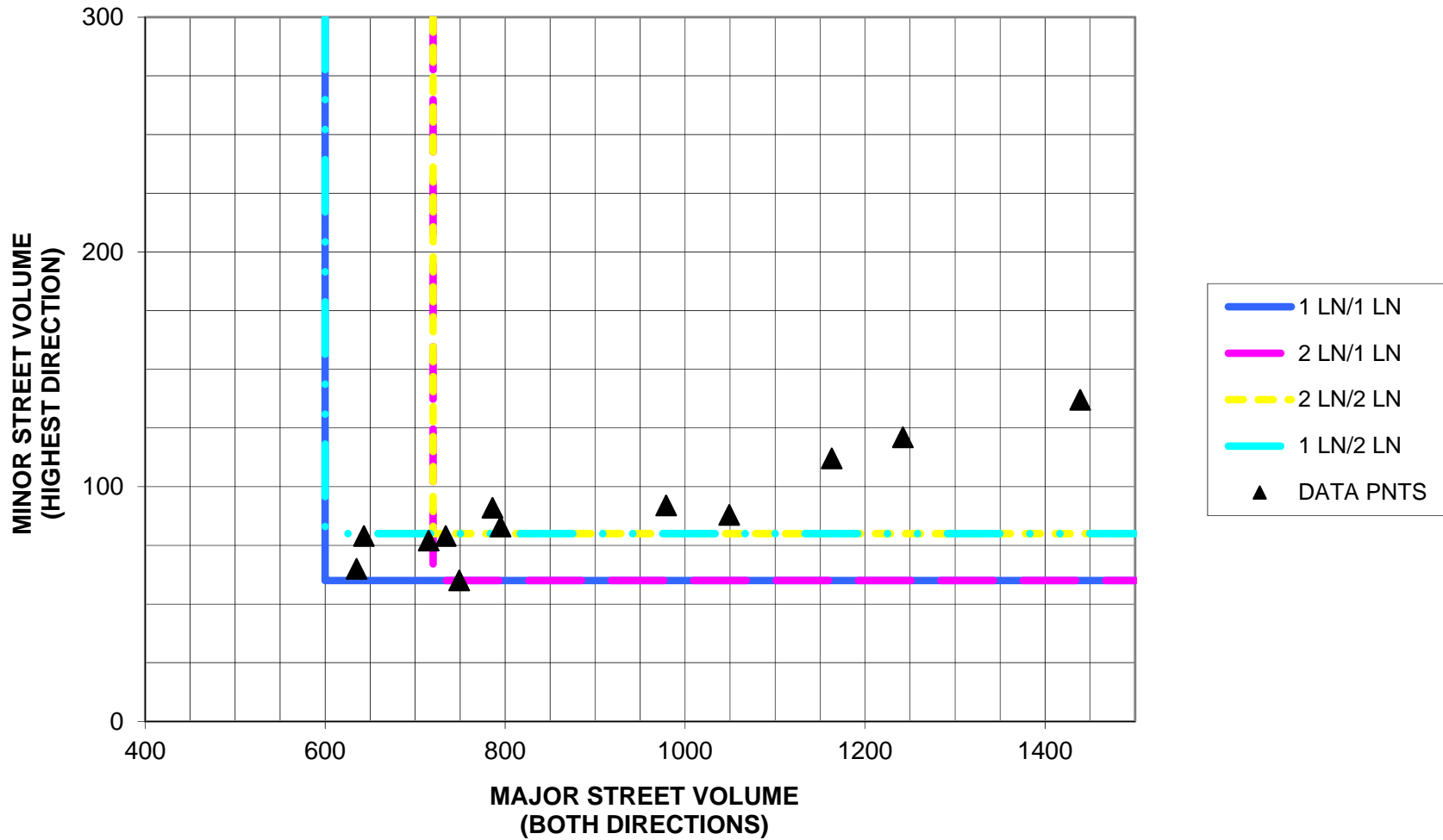
6/19/2017

8-HOUR WARRANT
CONDITION A
80%



Oak St/Sneed Rd at SR-52
Lafayette CTPG

8-HOUR WARRANT
CONDITION B
80%



LAFAYETTE CTPG - SR-52/SR-10
SR-52/SR-10 CRASH DATA ANALYSIS (2012-2016)

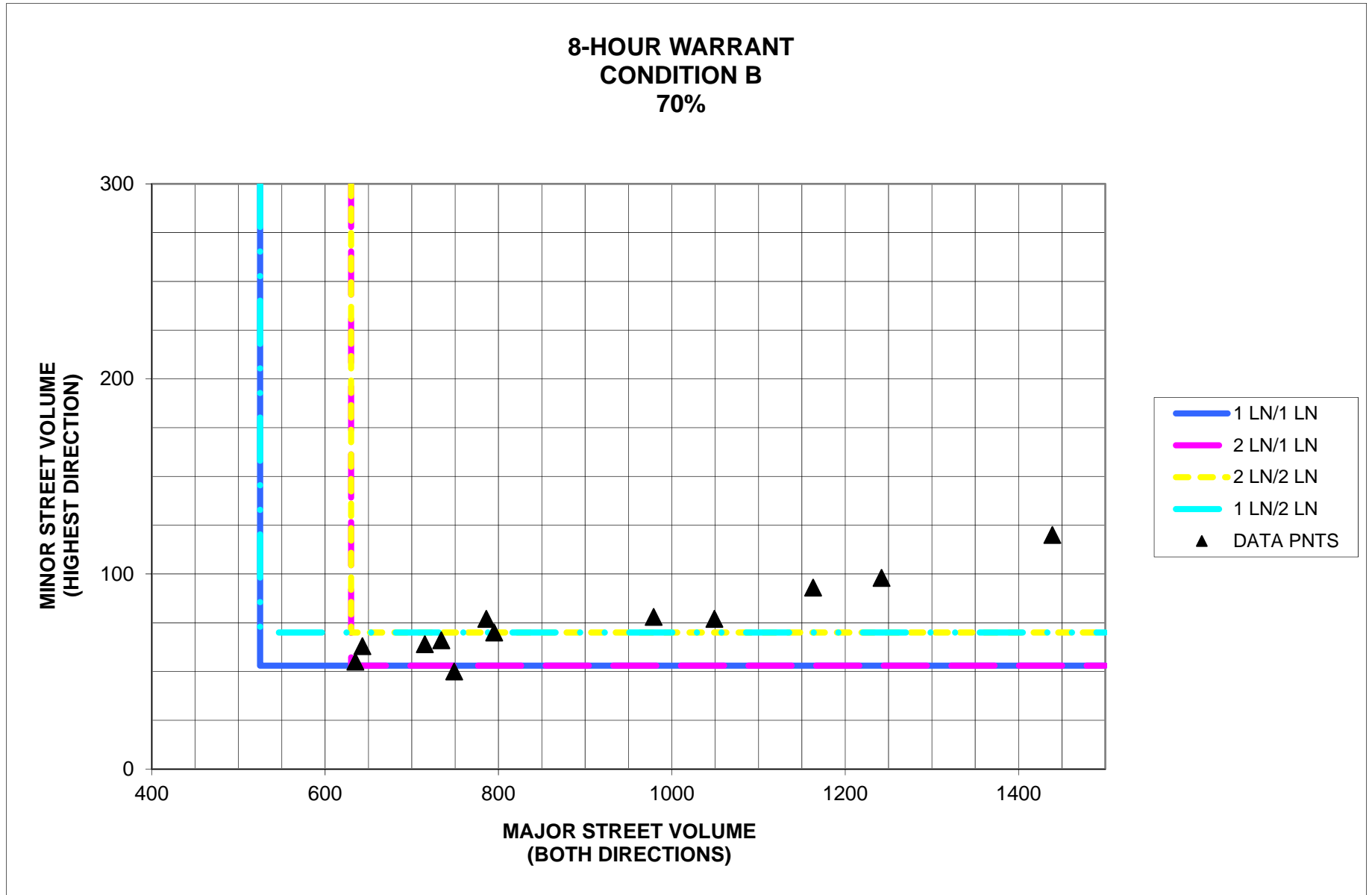
LOCATION Intersection	CRASH TYPE				MANNER OF COLLISION				VOLUME	STATISTICAL COMPUTATIONS			
	Total Number of Crashes	Property Damage	Injury	Fatal	Rear-End	Angle	HeadOn	Sideswipe	Avg Entering Traffic Volume (vpd)	Crash Rate	Critical Crash Rate	TN Statewide Avg Crash Rate	Equiv PDO Rating ¹
SR-52 @ Brattontown Circle (West)	18	15	3	0	9	6	1	1	14,060	0.701	0.673	0.666	48
SR-52 @ Brattontown Circle (East)	6	4	2	0	1	3	0	1	12,561	0.262	0.183	0.179	26
SR-52 @ Church St	10	7	3	0	7	2	0	1	16,229	0.338	0.139	0.136	40
SR-52 @ Ellington Dr	26	24	2	0	5	14	1	3	19,099	0.746	0.552	0.547	46
SR-52 @ SR-10	* Traffic Control Changed from AWSC to Signalized in 2016.												
SR-52 @ Spring Hollow Road/Spring Dr	3	3	0	0	0	1	0	1	13,167	0.125	0.139	0.136	3
SR-52 @ Red Boiling Springs (West)	11	8	3	0	6	1	0	3	17,499	0.344	0.778	0.772	41
SR-52 @ Sneed Blvd/Oak St	24	17	5	2	4	11	2	1	15,374	0.855	0.139	0.136	1156
SR-52 @ Days Rd (West)	15	12	3	0	9	4	0	1	12,600	0.652	0.139	0.136	45
SR-52 @ Red Boiling Springs (East)	1	1	0	0	0	0	0	0	12,074	0.045	0.163	0.16	1
SR-52 @ Days Rd (East)	5	4	1	0	1	3	0	0	10,477	0.261	0.164	0.16	15
SR-10 @ Burtrum	3	2	1	0	3	0	0	0	5,916	0.278	0.184	0.179	13

1) EPDO Weighted Factors have come from HSM and AASHTO (2010). Fatal = 542, Injury = 11, PDO = 1

* Fatality crashes were Pedestrian-Related and Angle, respectively.

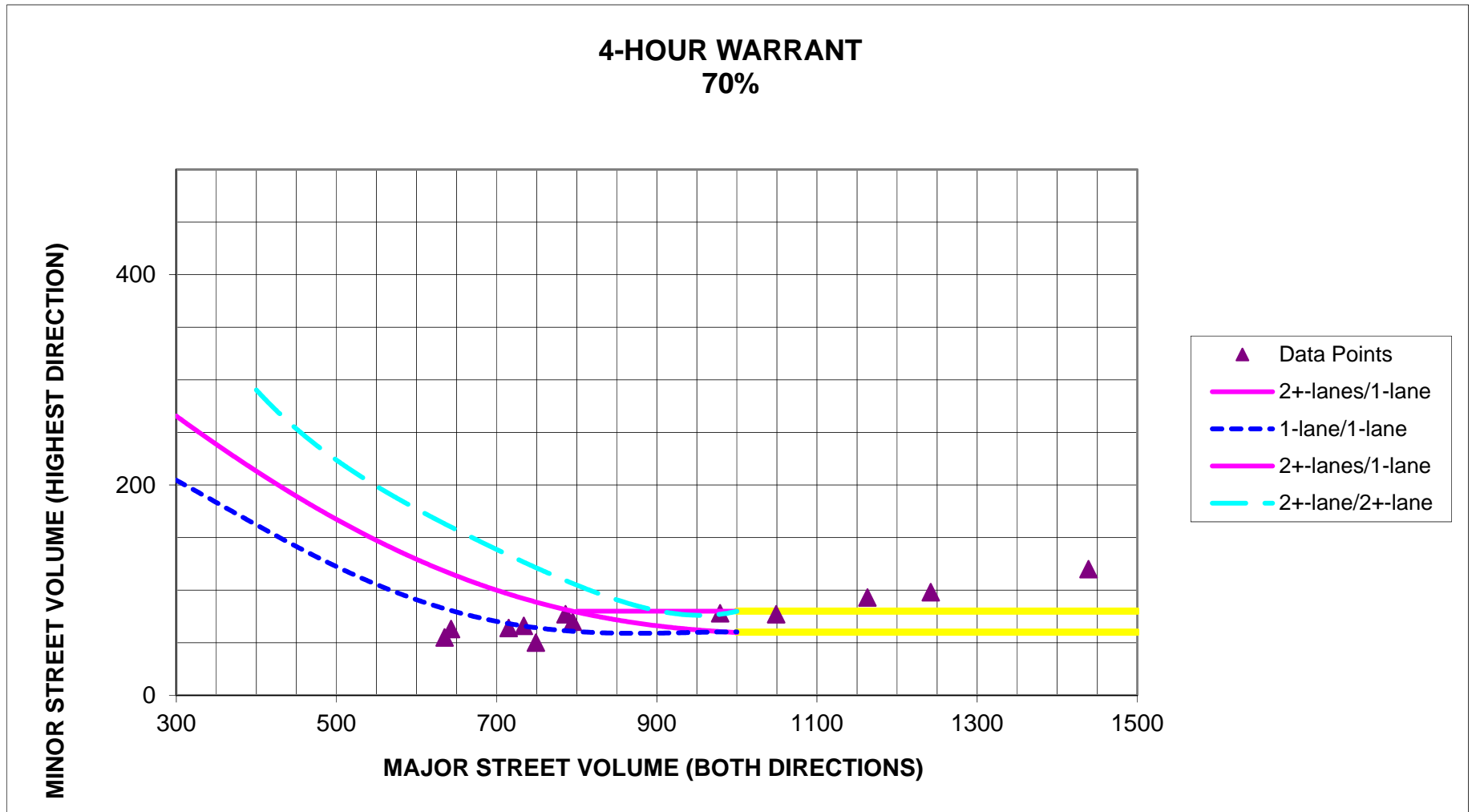
Oak St/Sneed Blvd at SR-52
Lafayette CTPG

9/13/2017



Oak St/Sneed Rd at SR-52
Lafayette CTPG

9/13/2017



APPENDIX B- Project Sheets



1) Truck Route/ Signage

Project Description: Contact Wayfinding Apps, Install Signage, Adopt Policies

Planning Level Cost Estimate: low cost

Project Details: Work with TDOT to contact wayfinding apps concerning heavy truck traffic in Public Square, Install signage to redirect heavy truck traffic to industrial park*, Consider adoption of ordinance

Prioritization: Short Term

Signage and desired truck route are not official TDOT signs or routes.





2) Akersville Road Improvements

Project Description: Sidewalk along south side of Akersville Road from Sneed Blvd to SR-10

Planning Level Cost Estimate: \$326,000

Project Details: 5 ft ADA compliant sidewalk, curb and gutter, closed drainage

Prioritization: Mid-Term





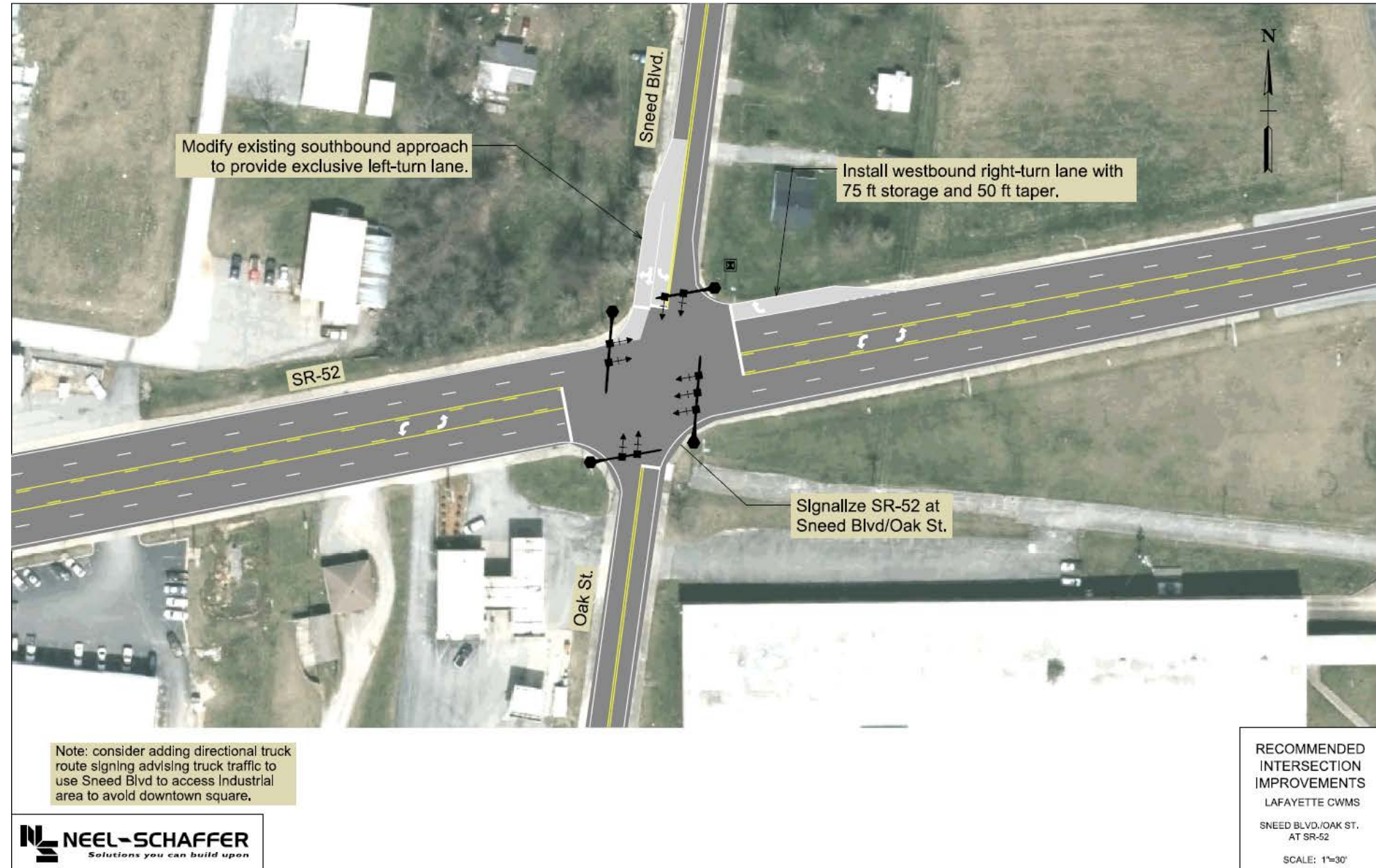
3) Sneed Blvd & SR-52 Intersection Improvements

Project Description: Signalization, SB Left Turn Lane, WB Right Turn Lane

Planning Level Cost Estimate: \$328,000

Project Details: See Engineer Drawing

Prioritization: Mid-Term





5) Public Square Improvements

Project Description: Multimodal improvements, Traffic Calming Measures, ADA improvements, Pedestrian Safety Improvements

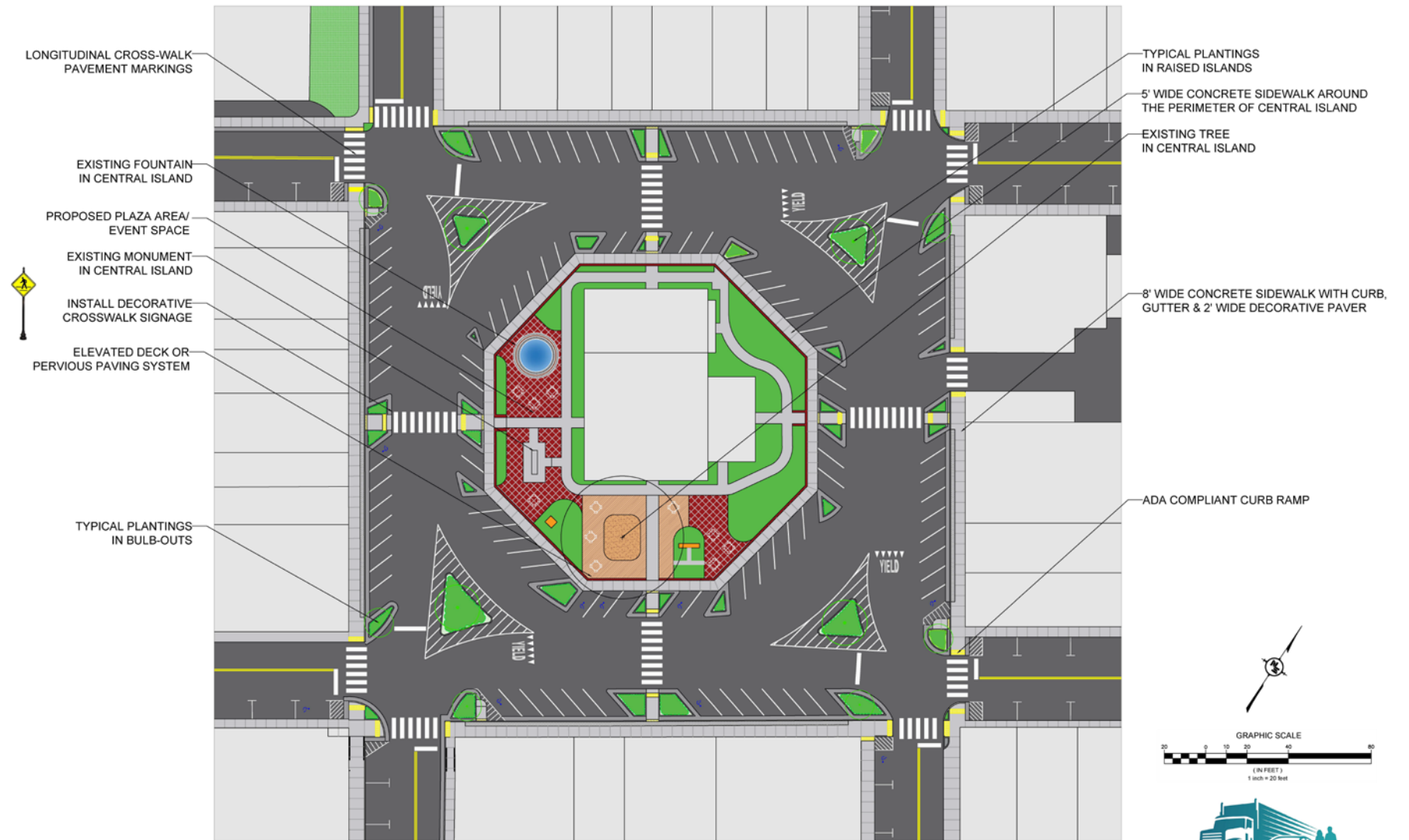
Planning Level Cost Estimate: \$787,000*

Project Details: Improved channelization including bulb outs, mountable or landscaped medians**, decreased pavement width, decorative crosswalk signage, longitudinal/continental crosswalk striping, outdoor event space

Prioritization: Mid to Long Term

* Does not include cost of buried utilities

** A suggested list of typical plantings/ plant palette is included in Appendix C



PUBLIC SQUARE
LAFAYETTE, TENNESSEE



APPENDIX C- Plant Palette

Public Square - Lafayette, TN
Recommended Plant Palette

Trees

Paperbark Maple
Princeton Sentry' Ginkgo
Japanese Maple (Multiple Varieties)
Tulip Poplar
American Hornbeam
Chinese Pistache

Shrubs

Little Lime Hydrangea
Gold Tide Forsythia
Azalea (Multiple Varieties)
Dwarf Japanese Yew
Shi Shi Camellia
Dwarf Chinese Fringe Flower

Groundcover

Sedge
Periwinkle
Purple Heart
Lilyturf (Liriope)
Flax Lily
Blue Rug Juniper



APPENDIX D- Sample Ordinance

9-129. Gross vehicular weight limit on vehicles using certain city streets.

(1) It shall be unlawful for any vehicle having a gross vehicular weight in excess of ten thousand (10,000) pounds to occupy or travel the City of Shelbyville, Tennessee, except for the following assigned truck routes attached hereto as Exhibit A,1 and incorporated herein by reference.

The use of streets other than these routes is permitted only where reasonably necessary to enable the driver of such vehicle to make a service call or delivery. Each violation not to exceed seventy-five dollars (\$75.00). (as added by Ord. #534, Nov. 1995
Shelbyville, TN