TOWN OF MOORESVILLE THOROUGHFARE PLAN

ADOPTED BY RESOLUTION 28-2023

OCTOBER 3, 2023

TOWN OF Mooresville
Home of the Indiana State Flag


SCHOOL
SPEED LIMIT 35
WHEN FLASHING
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ACKNOWLEDGMENTS

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CONTENTS


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RESERVED PARKING
2 HR
NO PARKING

KEY TERMS

There are several technical terms used throughout this document that are specific to transportation planning. These key terms and their definitions are listed below.

Annual Average Daily Traffic (AADT): The total traffic volume passing a point or segment of a roadway facility in both directions for one year divided by the number of days in a year.

Capacity: The maximum rate of flow at which persons or vehicles can be reasonably expected to traverse a point or uniform segment of a lane or roadway during a specified time period under prevailing roadway, traffic and control conditions. Usually expressed as vehicles per hour or persons per hour.

Functional Classification: The classification of roadways based on two key characteristics: roadway mobility (traffic volume) and roadway accessibility (entry and exit onto the roadway). Functional classifications are defined by the Federal Highway Administration (FHWA).

Land Use: The classification of geographic areas of land according to their primary use. Examples can include agricultural, residential, commercial, industrial, open space and recreation. Land use classifications are defined in the Town of Mooresville Comprehensive Plan.

Level of Service: Qualitative measure describing operational conditions within a traffic stream, generally described in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, safety, comfort and convenience.

Multi-Modal: Utilizing multiple forms of transportation, including transit, vehicular, cycling and pedestrian.

Right-of-Way: Publicly owned land reserved for public infrastructure purposes such as roadways, railroads, utilities, or greenways.

FHWA: The acronym for the Federal Highway Administration, which is the agency within the U.S. Department of Transportation that supports state and local governments in the design, construction and maintenance of the nation's highway system (Federal Aid Highway Program) and various federally and tribally owned lands.

Indianapolis MPO: The Indianapolis Metropolitan Planning Organization which is responsible for conducting a continuing, cooperative and comprehensive transportation planning process within the Indianapolis region.

INDOT: The acronym for the Indiana Department of Transportation.


O'Reilly
WARD'S
APPAREL
Wrangler

01

EXECUTIVE SUMMARY

PURPOSE

WHY DOES MOORESVILLE NEED A THOROUGHFARE PLAN?

The Town of Mooresville recognizes the importance of a safe and efficient transportation network in supporting residents' mobility needs and advancing economic development goals. However, Mooresville does not presently have a thoroughfare plan. Many participants in the planning process emphasized Mooresville's location and easy access to Indianapolis, the Indianapolis International Airport, and surrounding communities as a top asset. As Mooresville prepares to accommodate managed growth in the future, it will be imperative for town leaders to ensure the community's transportation network can effectively manage increased levels of traffic and that accessibility remains a key strength.

The number of state routes that travel through Mooresville, combined with growth and development in surrounding communities and unincorporated Morgan County, are beginning to cause congestion issues at key intersections in town. Continued growth in the surrounding area and on-going and planned improvements to Interstate 69 to the south and east and Interstate 70 to the north and west have the potential to increase traffic volumes and further impact the roadway network.

This plan examines Mooresville's current transportation network, considers traffic volume increases based on forecasted regional growth trends, and details a series of recommendations to mitigate potential traffic and safety issues in the future. It was prepared in conjunction with an updated Town of Mooresville Comprehensive Plan so that together, these documents can help the town make important decisions about appropriate growth and development in a way that ensures Mooresville remains an attractive and desirable community for residents and businesses.

WHAT IS A THOROUGHFARE PLAN?

A thoroughfare plan is a transportation planning tool to provide elected and appointed leaders, town staff, property owners, developers, and transportation professionals with the guidance necessary to maintain a safe and efficient roadway network that supports the community's future mobility needs. It designates roadway segments identified as thoroughfares into a series of classifications that form a hierarchy of roads based on the relative priorities of traffic movement and access to adjacent properties. The thoroughfare plan also includes policies related to the transportation network and recommends standards for the development of new road segments of enhancement of existing road segments. Finally, specific roadway and intersection improvements are included based on future land use plans and anticipated regional growth.

High Street / State Road 42 was recently repaved and new sidewalks, curbs, and storm drain inlets were installed.

GUIDING PRINCIPLES

- **Maintain a safe and efficient transportation network for all users.**
- **Identify priority intersection enhancements to reduce existing and potential congestion issues.**
- **Ensure the transportation network supports the mobility needs of existing residents and businesses and that it can accommodate the managed approach to growth as described in the Comprehensive Plan.**
- **Identify future arterial and collector roadways so that necessary right-of-way can be protected as development may occur.**
- **Balance potential transportation network enhancements with established character and adjacent use to preserve the appeal of Mooresville neighborhoods and the downtown.**

The projects and strategies outlined in this plan should be integrated into Mooresville's capital projects list and referenced by town leadership when determining annual budgets, where to allocate funding, and potential grants to pursue in improving the transportation network. Each strategy outlined in this document aims to capitalize on regional transportation projects and development potential to expand the town's capacity for targeted growth and economic development.

A thoroughfare plan is not a traffic study of immediate congestion or safety concerns. Nor does it include recommendations about potential maintenance needs related to the existing roadway network. Rather, it is a long-range guide to the projects and investments that will likely be needed in conjunction with town plans for development and redevelopment as well as surrounding factors that may impact the transportation network within town. Some of the projects in this plan are along state controlled routes and therefore the responsibility of the Indiana Department of Transportation (INDOT). Mooresville has limited ability to advance these projects without INDOT leading them. Other projects identified in the plan will be implemented as local and grant resources are available and changing conditions warrant their need.

PLAN OVERVIEW

The plan is organized into four chapters:

1. An executive summary that provides an overview of the Mooresville Thoroughfare Plan, the process and input that led to its development, and key recommendations.
2. An examination of Mooresville's existing conditions related to the transportation network, including potential opportunities and challenges that may arise as growth and development occur in and around the community.
3. A traffic modeling analysis of 20 intersections and 13 roadway segments in Mooresville to understand existing traffic volumes, potential future traffic volumes, and associated congestion based on the Indianapolis MPO's regional traffic model forecasts.
4. Recommendations that outline a number of roadway and intersection improvements, the Future Thoroughfare Plan Map, changes to the functional classification of certain roads, right-of-way standards, and specific intersection improvements to address issues identified in the modeling analysis.

PLANNING PROCESS

The Thoroughfare Plan was developed as the second piece of a community-wide planning initiative meant to equip Mooresville with the background and guidance by which to make decisions about future growth. This document, along with the Mooresville Comprehensive Plan, was developed from early summer of 2022 to the spring of 2023. The Thoroughfare Plan uses public input gathered during the comprehensive plan's creation, along with technical analysis of the town's existing transportation system, to recommend strategies Mooresville leadership can use when determining future roadway, intersection, and other public improvements.

The planning process was guided by a project steering committee comprised of elected and appointed leadership, town staff, key stakeholders, residents, business owners, and other community leaders. The steering committee met five times throughout the process to provide input and direction, review draft materials, and identify needed amendments. The combined comprehensive plan and thoroughfare plan process also included significant community engagement, updates to the Town Council and Plan Commission, and formal public hearings before adoption.

The Big Ideas Open House was held at the Mooresville Public Library on November 17, 2022.

COMMUNITY ENGAGEMENT

Although much of the community engagement during the process occurred under the guise of the comprehensive plan, many of the comments and feedback directly influenced the specific strategies outlined in this document. Input and engagement methods included an issues and opportunities workshop, big ideas open house, two online surveys, and public presentation.

The following bullets highlight key challenges and opportunities gathered throughout public engagement that directly relate to transportation and roadway infrastructure. More complete explanations of individual engagement opportunities can be found in the Mooresville Comprehensive Plan.

- Over 70% of respondents to the first online survey strongly agree or somewhat agree that town streets are generally in good condition.
- Responses were split almost evenly between those that generally agree "it is easy to travel by car throughout Mooresville" versus those that generally disagree with that statement.
- Approximately 50% of survey respondents thought proposed improvements to I-69 and I-70 near Mooresville will have a positive effect on the community. More than 30% of responses were neutral to this statement.
- Participants in the key stakeholder meetings identified Indiana Street and Bethel Road as two corridors needing investment or enhancement.
- Across engagement opportunities, poor east-west connectivity and congestion along state routes was identified as a major concern.
- Many plan participants recognized that if Mooresville is going to grow, improvements to the transportation network will be needed to serve new development.
- Input gathered at the Big Ideas Open House and corresponding online survey was overwhelmingly supportive of:
    - Improving existing roads and intersections.
    - Constructing new road segments in potential development areas to improve connectivity.
    - Working with Hendricks County on enhancements to County Line Road.
    - Better addressing through traffic, congestion issues, and dangerous intersections in the downtown.

KEY PLAN ELEMENTS

THOROUGHFARE PLAN MAP

The proposed Future Thoroughfare Plan Map was created to depict the town's desired future roadway network. While this map utilizes the same terms as the Existing Functional Classification Map (arterials and collectors) in Chapter 2, the Future Thoroughfare Plan Map incorporates recommended changes to the functional classification of several road segments as well as the construction of new road segments to improve connectivity and serve new development. It should be used to guide investments in the transportation network over the next 10 to 15 years.

FUNCTIONAL CLASSIFICATION CHANGES

Improvements to the regional transportation network, including those to interstates 69 and 70, as well as traffic volume increases associated with new development in and around Mooresville will likely lead to changes in how some roadways are used. The functional classification system was developed by the Federal Highway Administration (FHWA) to organize roadways based on the service they provide. As roadways are enhanced and become more important to the overall network, they may warrant reclassification within the functional classification hierarchy. Recommended changes to functional classification, as discussed in Chapter 4, should be presented to the Indianapolis Metropolitan Planning Organization and INDOT for consideration. These proposed changes are the result of traffic volume projections analyzed in Chapter 3 and connectivity enhancements included in the comprehensive plan and elsewhere in this document.

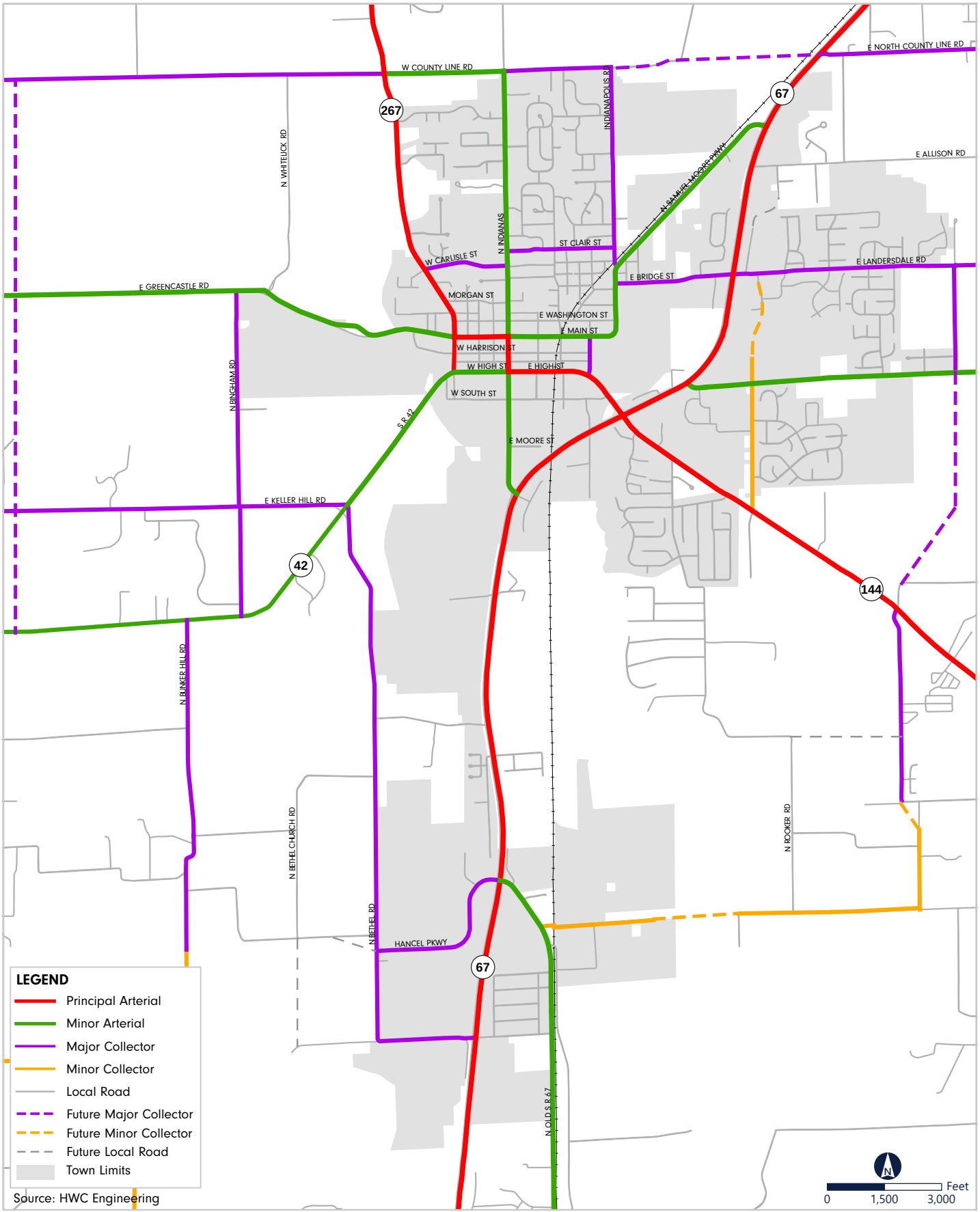
RIGHT-OF-WAY STANDARDS

Right-of-way standards help keep roadway development consistent throughout the community. The proposed right-of-way standards are based on the functional classification system and describe minimum dimensions needed for all of the components that together make up the roadway. Having right-of-way standards helps to protect land likely needed to accommodate future transportation improvements and helps to inform property owners and developers of changes to the adjacent road that are likely needed. These recommendations are included in Chapter 4.

POTENTIAL IMPROVEMENTS

Based on the traffic modeling analysis detailed in Chapter 3, a number of proposed intersection improvements have been described to help address potential congestion issues that may occur in the future. These potential improvements take into account existing right-of-way and roadway geometry as well as adjacent land use and context. The list of intersections and potential improvements are included in Chapter 4. More detailed narrative descriptions are included for projects identified as a priority during the community engagement process.

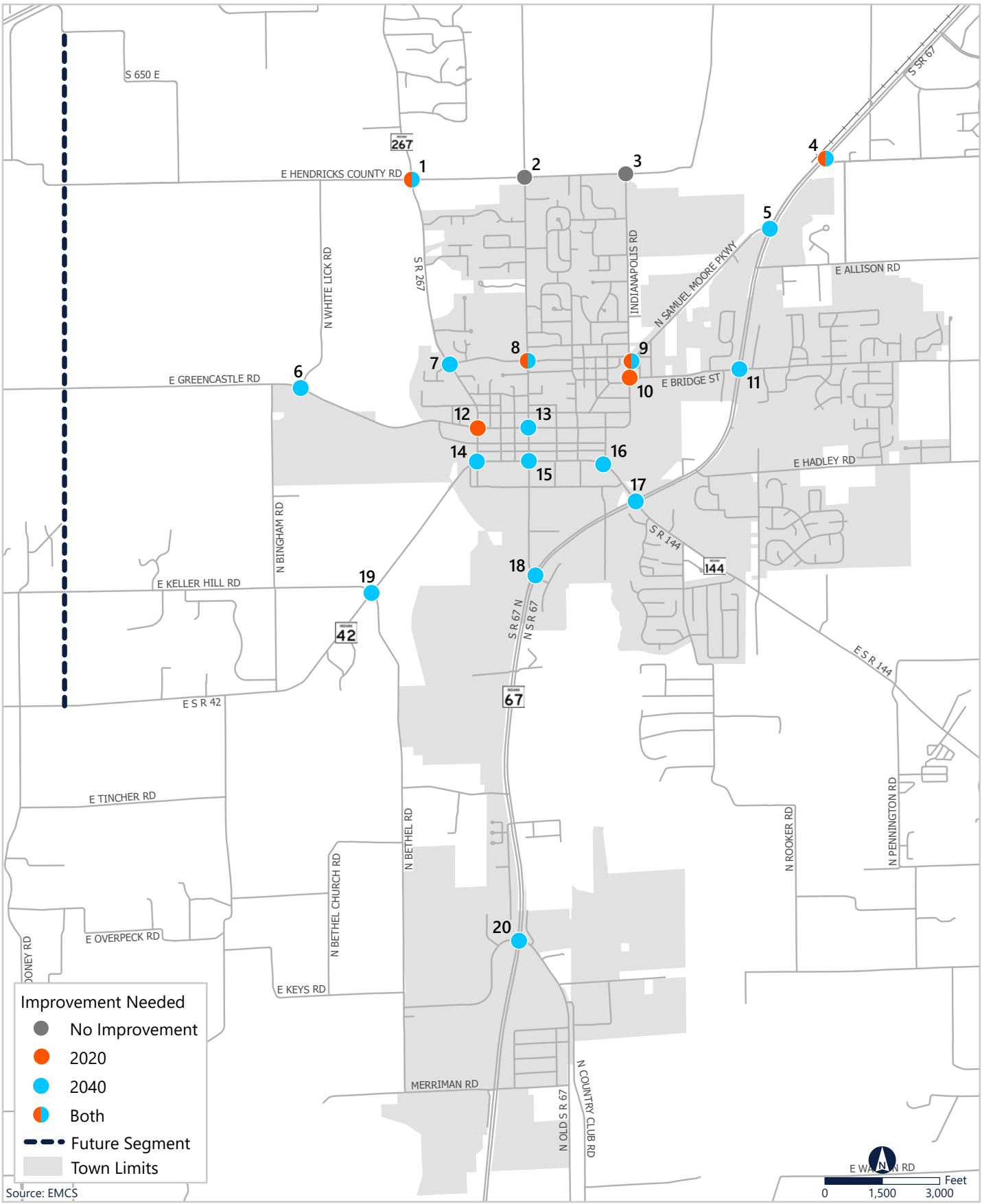
FUTURE THOROUGHFARE PLAN MAP



PRIORITY IMPROVEMENTS

1. **Indianapolis Road & Samuel Moore Parkway and Indianapolis Road & Bridge Street Intersections**
2. **Main Street & Monroe Street Intersection**
3. **High Street & Monroe Street Intersection**
   (INDOT Signalization Project - Winter 2023 Estimated Completion)
4. **Indiana Street Improvements**
5. **Bethel Road Improvements**
6. **New North-South Collector to Planned Interchange**
7. **Indiana Street & Carlisle Street Intersection**
8. **Johnson Road/Town Center South Drive Connection Between Bridge Street and Hadley Road**

FIGURE 4.4: INTERSECTION IMPROVEMENTS



02

CONTEXT & BACKGROUND

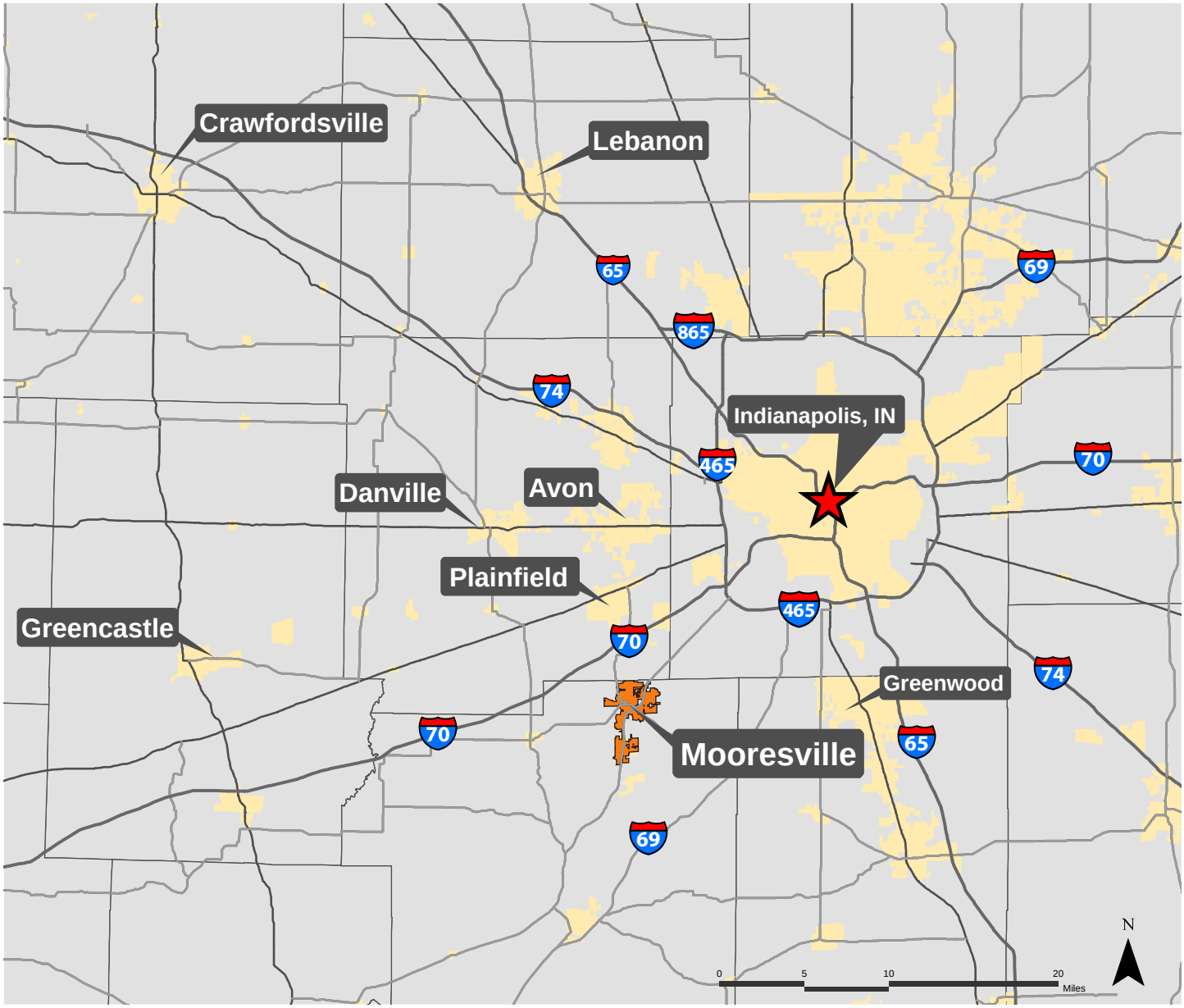
Mooresville's current transportation network consists of important state routes, urban streets, suburban corridors, and local subdivision roads. These roadways serve different purposes as they balance moving traffic, providing access to adjacent land, and connecting key destinations. The character of roadways also plays a major role in how residents and visitors perceive the town. Well-connected and maintained roadways also provide economic benefits, linking industries to major transportation corridors and allowing commuters to efficiently travel into or outside of the community.

LOCATION

Mooresville's location in northeast Morgan affords it great access to Indianapolis and greater central Indiana via interstates 60 and 70 and state roads 42, 67, 144, and 267. These thoroughfares have made the community an ideal housing location in the region and allowed residents to easily commute outside Morgan County for work and retail needs. Despite the good condition of Mooresville streets, participants in the planning process identified congestion along key east-west and north-south routes as a growing concern.

The study area for this plan includes the incorporated area of the Town of Mooresville as well as additional lands to the east and west given their development potential and possibility of being annexed should they be served by town infrastructure.

Figure 2.1: Regional Location Map



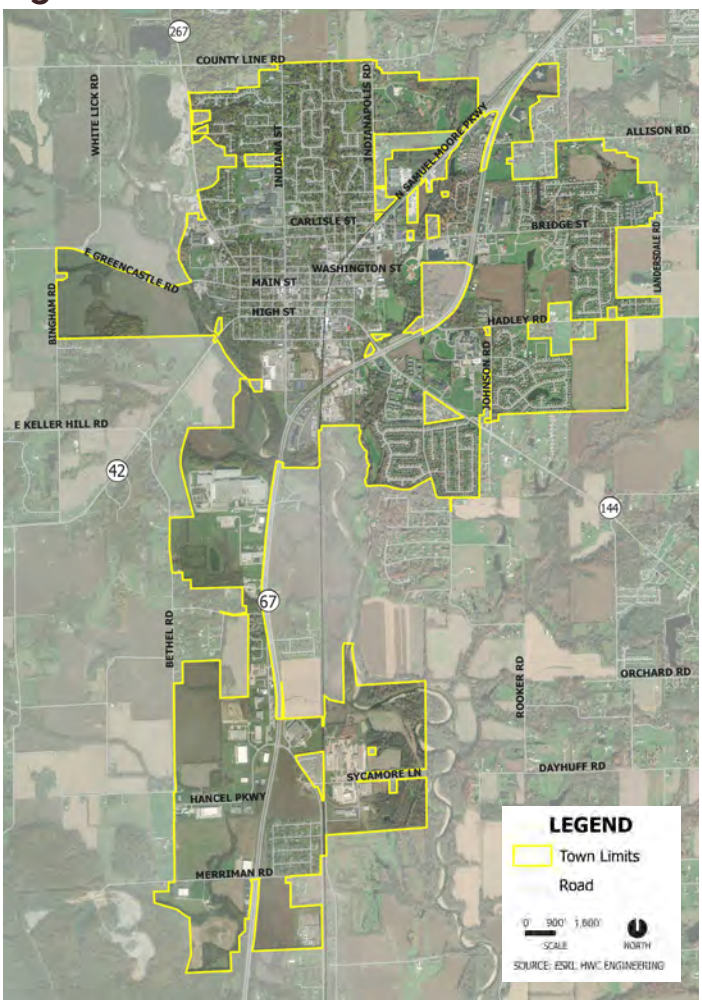
I-69 & I-70 CORRIDOR GROWTH POTENTIAL

Mooresville sits between two major transportation corridors, I-69 to the south and east and I-70 to the north and west, with State Road 67, a major four-lane highway, running directly through town. What had been State Road 37 through Morgan County has recently been improved into an extension of Interstate 69, connecting Indianapolis to Evansville. Interstate 70 has seen a number of investments in interchanges and additional lanes near Mooresville, and a new interchange west of Plainfield, between the SR 267 and SR 39 interchanges, is in the early planning stages. These improvements have increased the potential for development in the areas surrounding Mooresville, as enhanced accessibility will make it easier for commuters and businesses to access outside markets. This accessibility creates the potential for development on what have historically been rural properties.

SURROUNDING DEVELOPMENT PRESSURE

While Mooresville has experienced limited population growth over the last decade, surrounding communities such as Bargersville, Greenwood, Monrovia, and Plainfield have experienced significant population gain. Brown Township has also grown at a faster rate than the town, with an estimated 9.8% increase in population within the township but outside Mooresville's corporate boundary. Because traffic doesn't stop at jurisdictional boundaries, growth in these neighboring communities is impacting Mooresville's transportation network.

Figure 2.2: Mooresville Town Limits



THROUGH TRAFFIC CONGESTION

The potential for future growth within and around the community also means a potential increase in traffic. Currently, the west side of the community must connect to state roads 267 or 42 and use Main Street or High Street (SR 42) through the downtown. Similarly, the east side of Mooresville must connect to SR 67 and use Main Street or High Street (SR 42) through the downtown. New development could further strain the community's east-west connectivity unless necessary improvements are constructed.

POPULATION

Population growth and corresponding increases in traffic volumes can have a significant impact on the transportation network. A stable or declining population may mean adequate capacity exists across the roadway system, but without revenue from new development, it may be challenging to maintain the network in optimal condition. According to the 2020 Census, Mooresville has a population of 9,411. This represents little change since 2000 – increasing only 1.5% during that twenty-year period. Mooresville's slow population growth is well below that of Morgan County's rate of 7.6% and Indiana's rate of 11.6% between 2000 and 2020. Table 2.1 below shows population change from 2000 to 2020 for Mooresville and several comparison communities.

The challenge Mooresville faces is that limited population growth within town has not necessitated major transportation improvements, but substantial growth in surrounding communities and unincorporated Morgan County is now impacting Mooresville's roads and intersections.

More detailed demographic analysis can be found in the Mooresville Comprehensive Plan.

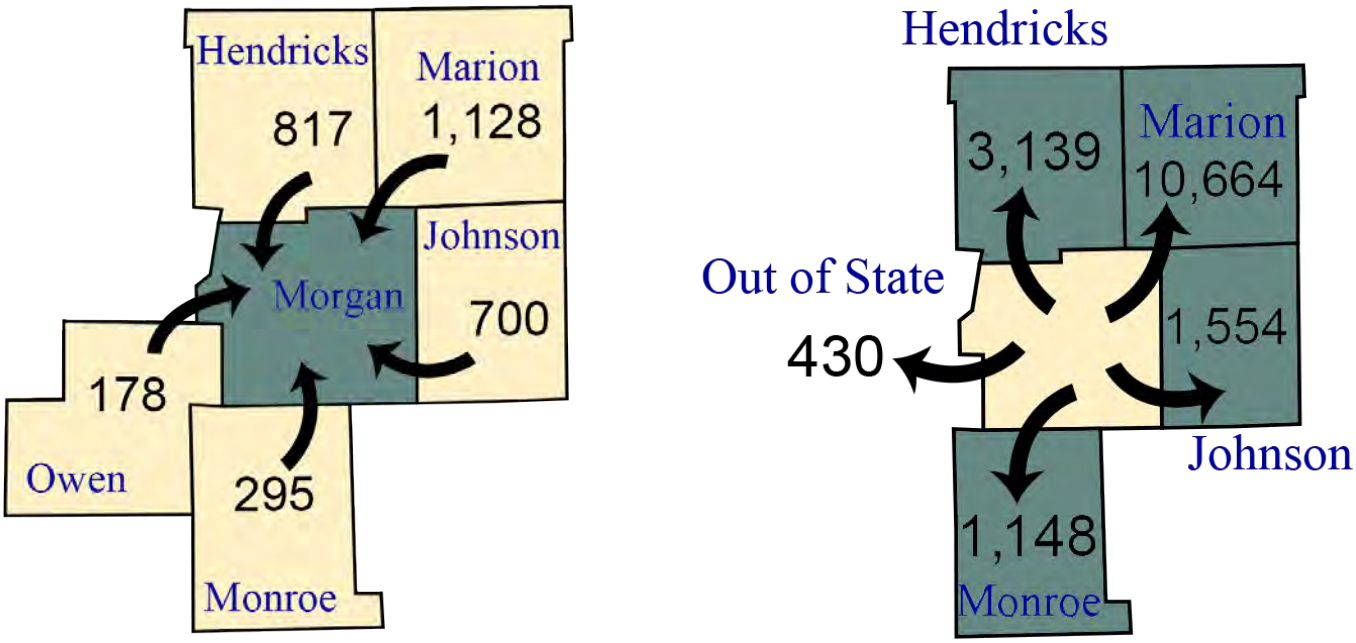
COMMUTING PROFILE

Mooresville has long been seen as a bedroom community of Indianapolis, meaning a number of Mooresville residents in the workforce commute to Marion County for work each day. As employment opportunities have increased in neighboring Hendricks and Johnson counties, so to have commuting patterns out of Morgan County. The 2020 American Community Survey found that Morgan County exports nearly five times as many workers (18,357 workers) to outside communities as it brings in (3,846), with the majority commuting to Marion County and Hendricks County. 1,128 workers come in to Morgan County from Marion County each day. Conversely, over 10,000 workers travel from Morgan County into Marion County. Over 3,000 commuters go from Morgan County into Hendricks County, and over 1,500 workers go from Morgan County into Johnson County daily. Not all of these commuters are Mooresville residents, but Mooresville's transportation network plays a significant role in the outflow of traffic from Morgan County into neighboring jurisdictions.

Table 2.1: Population Change 2000 - 2020 (Source: U.S. Decennial Census)

COMMUNITY	2000 POPULATION	2010 POPULATION	2020 POPULATION	% CHANGE 2000 - 2020
Mooresville	**9,273**	**9,326**	**9,411**	**1.5%**
Martinsville	11,698	11,828	11,932	2.0%
Monrovia	628	1,063	1,643	161.6%
Danville	6,418	9,001	10,559	64.5%
Plainfield	18,396	27,631	34,625	88.2%
Morgan County	66,689	68,894	71,780	7.6%
Indiana	6,080,485	6,483,802	6,785,528	11.6%

Figure 2.3: Daily Inflow and Outflow of Commuters
(Source: 2020 American Community Survey)



INDIANAPOLIS MPO PROJECTS

The Indianapolis Metropolitan Planning Organization (IMPO) maintains the Metropolitan Transportation Plan (MTP) to guide the region's transportation policy and system investments over the next 20 years. The current plan, the 2050 MTP, was adopted in 2021 and has been amended several times. Mooresville is not a sponsor for any projects in the 2050 MTP but two nearby projects are included:

- I-70 from 0.76 miles west of SR 39 to SR 267
  - Widen from 4 lanes to 6 lanes
  - 2030-2039
- Hendricks County Rd from CR 525 E to CR 925 E
  - Widen from 2 lanes to 4 lanes
  - 2040-2049

Additionally, the MPO's Metropolitan Indianapolis Transportation Improvement Program (MiTIP) is used to track state funded, federally funded, and locally funded transportation improvement projects. Currently there are two projects in Mooresville identified on MiTIP, both of which will be funded by INDOT:

- SR 42 & Monroe Street Intersection
  - New Signal Installation
  - 2022-2023
- SR 67 & Hendricks County Road Intersection
  - New Signal Installation
  - 2023-2024

EXISTING FUNCTIONAL CLASSIFICATIONS

The Federal Highway Administration (FHWA) defines functional classification designations based on the type of service the roadway provides and how it balances or prioritizes through-traffic mobility versus access to adjacent land. In other words, streets are designed along a spectrum to either connect to properties along the roadway or to carry through-traffic. Other important factors related to functional classification include access control, speed limit, traffic volume, spacing of routes, number and width of travel lanes and regional significance.

Interstates, such as I-70, are the highest classification of roadway. They prioritize vehicular mobility and have very limited access. Interstates are high speed and high volume and have statewide or national significance. They are planned and maintained by state authorities with federal oversight.
Other Freeways & Expressways look very similar to interstates, but without the interstate designation. These have regional or statewide significance.

Major (Principal) Arterials carry high volumes of regional traffic. They serve major cities from multiple directions and provide connectivity between cities in a region. Arterials provide direct access to adjacent land but may limit the number of intersections and driveways to give generally higher priority to through-traffic. Major Arterials are generally spaced at two to three mile intervals in suburban areas and farther apart in rural areas.

Minor (Secondary) Arterials are similar to Major Arterials but are spaced more frequently and serve trips of moderate length. Spacing of minor arterials is one to three miles in suburban areas and further apart in rural areas. Minor Arterials connect most cities and larger towns and provide connectivity between Major Arterials.

Major Collectors gather traffic from the local roads and connect them to the arterial network. They provide a balance between access to land and corridor mobility. Major Collectors provide connectivity to traffic generators not already on the arterial system, such as schools, parks, and major employers.

Minor Collectors are similar to Major Collectors but are used for shorter trips. They provide traffic circulation in lower-density developed areas and connect rural areas to higher classified roadways.

Local Roads make up the largest percentage of roadways within the town. Their primary function is to provide access to parcels. Trips are short, speeds are lower and through-traffic may be discouraged. All remaining roads that are not arterials or collectors are considered local roads. In most cases, local roads are not part of the system of roads eligible for federal funding.

FIGURE 2.4: EXISTING FUNCTIONAL CLASSIFICATION MAP

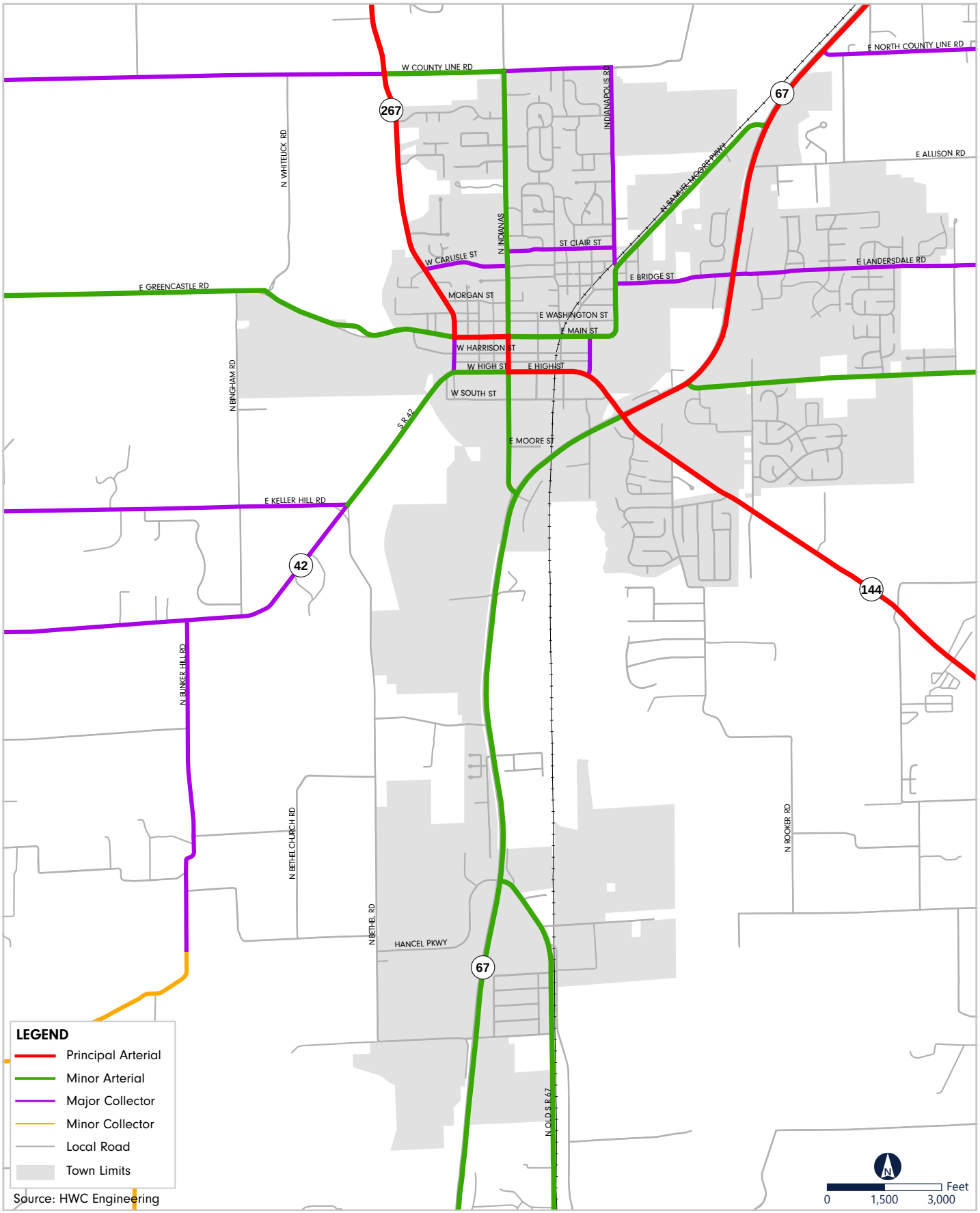
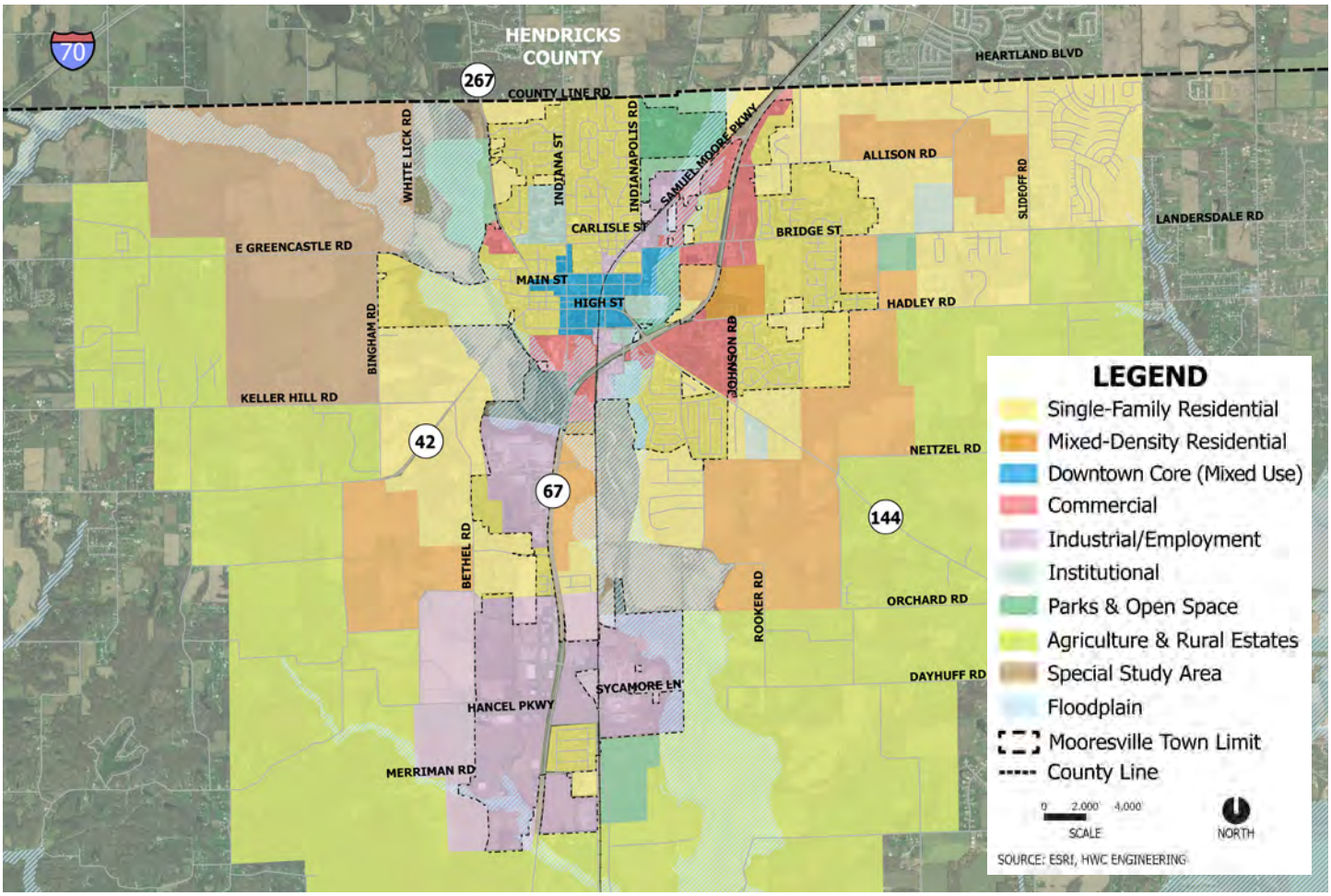


FIGURE 2.5: COMPREHENSIVE PLAN FUTURE LAND USE MAP

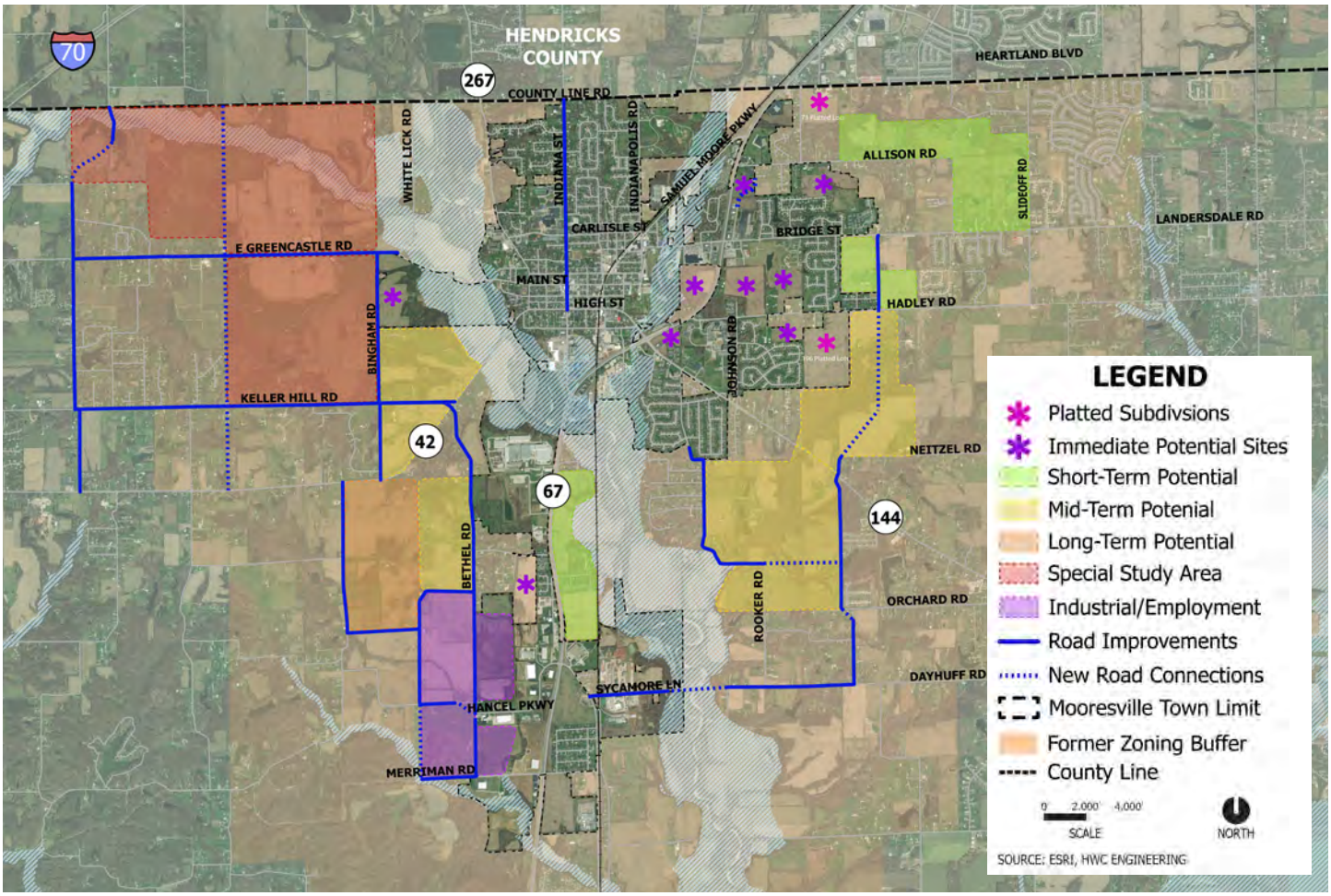


FUTURE LAND USE MAP

Understanding the vision for future land use development is critical to successfully planning transportation improvements likely to be needed in the future. The town's future land use plan was recently updated as part of the comprehensive planning process. It was created through examination of existing land use patterns, current zoning districts, utility service areas, environmental features, resident input, and discussion with the project steering committee. On most developed properties, the existing land use is also the desired future land use, but the future land use map is important in noting where agriculture parcels may be developed for some other use or where a combination of uses is appropriate, such as in the downtown area.

The Future Land Use Map covers lands outside of Mooresville's town limits, and therefore not currently under town planning and zoning control. However, development in these areas will have an effect on town services and the transportation network, and were subsequently considered when analyzing the existing and planned roadway network.

FIGURE 2.6: COMPREHENSIVE PLAN POTENTIAL DEVELOPMENT PHASING MAP



POTENTIAL DEVELOPMENT PHASING

Also created as part of the comprehensive planning process was a potential development phasing map to consider short-term versus long-term development potential. New development and associated infrastructure improvements should be done in an incremental and outward approach. Leapfrog development, or skipping over developable properties within or adjacent to town limits to greenfield properties further away, should be discouraged.

The map depicts more readily developable properties within or adjacent to town limits with an asterisk. Areas with greater short-term potential are highlighted in bright green with the color gradient transitioning to red for properties with longer-term potential. The purple areas denote future employment generating development west and south of existing industrial properties. Like the future land use map, Figure 2.6: Comprehensive Plan Potential Development Phasing Map was used to inform the modeling and analysis phase of the thoroughfare planning process.


MOORESVILLE

03

MODELING & ANALYSIS

Existing traffic patterns at key road segments and intersections were analyzed in order to understand existing network performance and potential capacity and level of service changes as traffic volumes may increase in the future. The following analysis was instrumental in identifying strategies for how Mooresville should focus efforts to address safety concerns and congestion as growth may occur. The Mooresville Thoroughfare Plan study area targeted 13 road segments and 20 intersections along state highways, local town roads, and areas within unincorporated Morgan County.

EXISTING TRAFFIC VOLUMES

Traffic counts on thoroughfares were obtained using Streetlight Insight Data. Data from the Indianapolis Metropolitan Planning Organization (IMPO) travel demand model throughout the Mooresville area was used to determine a growth factor. Existing Streetlight Data was collected in 2021. Since 2020 was used as the base year traffic conditions, the 2021 traffic volumes were assumed to be 2020 traffic volumes. Figure 3.1: 2020 Traffic Volumes shows the existing traffic volumes on key roadways in and near town.

GROWTH FACTOR

Growth factors for each thoroughfare and intersection were determined by comparing the 2040 IMPO travel demand model projections with the 2022 IMPO travel demand model. Growth factors were applied to the Average Annual Daily Traffic (AADT) values as well as the intersection turning movement counts from Streetlight.

The 2022 IMPO travel demand model includes any roadway projects completed by December 31st, 2021 (including I-69 to Martinsville). The 2040 IMPO travel demand model also includes a proposed interchange along I-70 between the SR 267 interchange and SR 39 interchange. Figure 3.2: Growth Factors on page 32 depicts potential traffic volume increases as a multiplier of 2020 traffic volumes.

FUTURE TRAFFIC VOLUMES

The growth factors were applied to the existing Streetlight AADT to project traffic to the future year of 2040. Figure 3.3: 2040 Traffic Volumes on page 31 shows potential future traffic volumes on key road segments.

Intersection of Indiana Street and State Road 67.

FIGURE 3.1: 2020 TRAFFIC VOLUMES

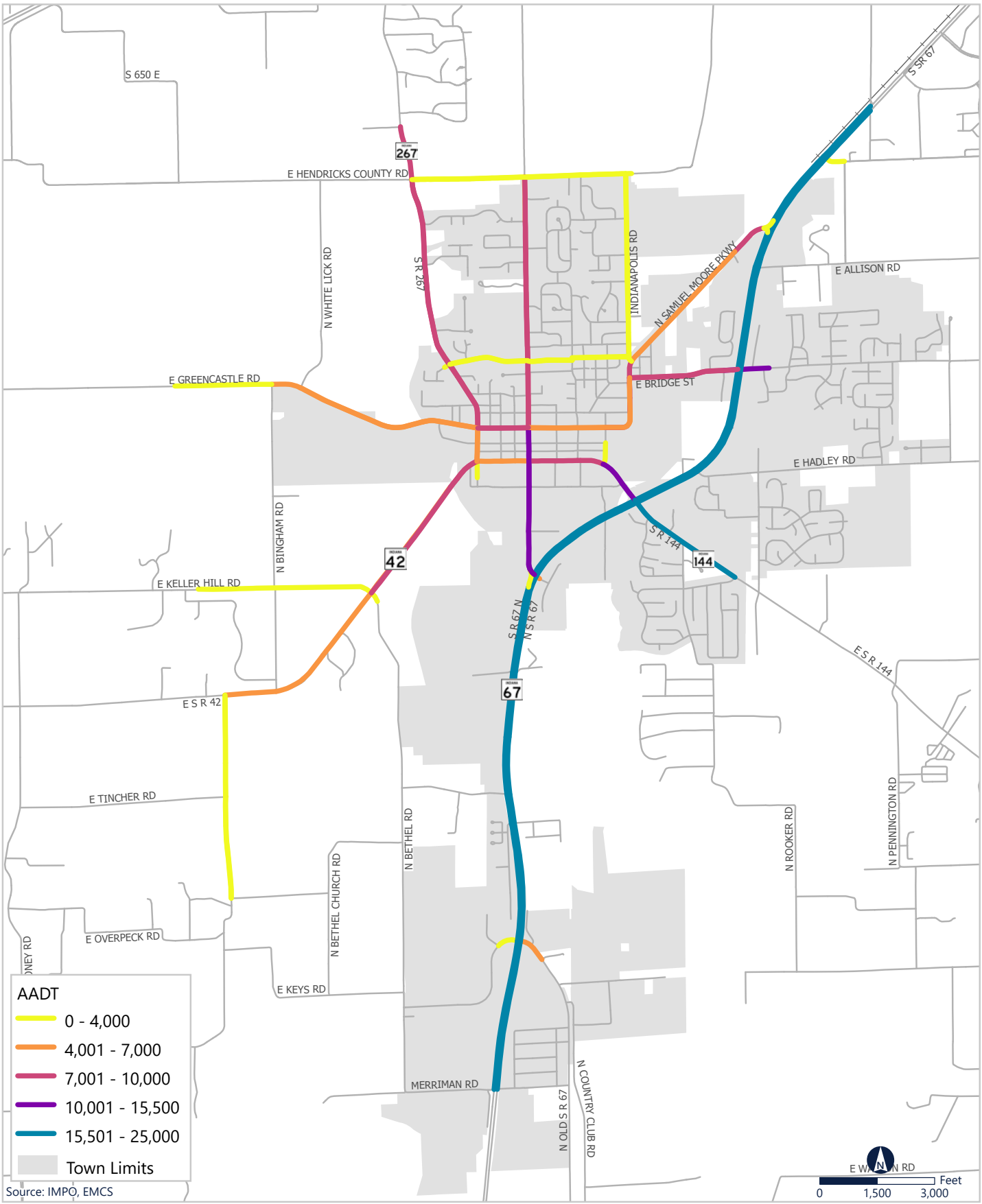


FIGURE 3.2: GROWTH FACTORS

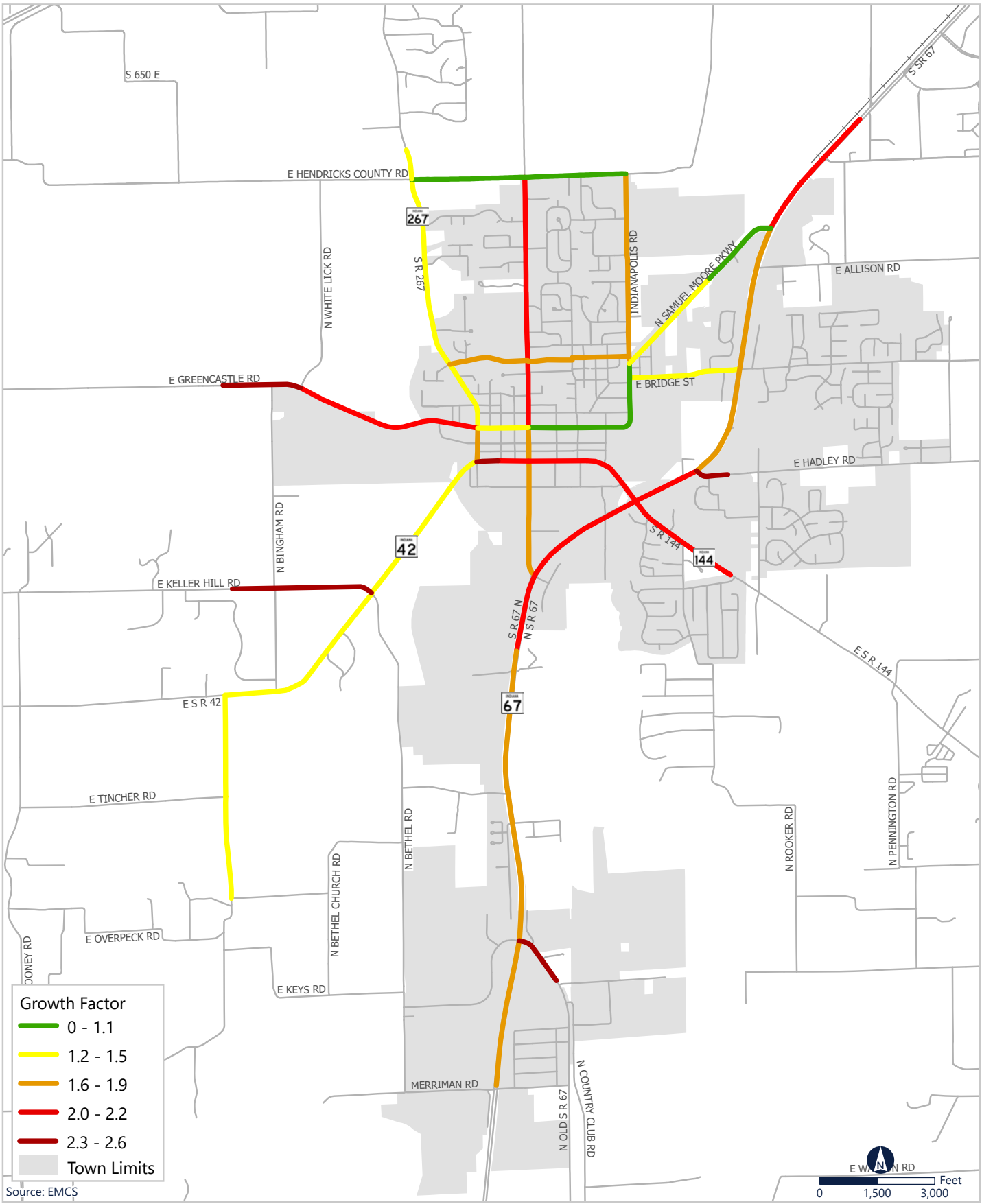
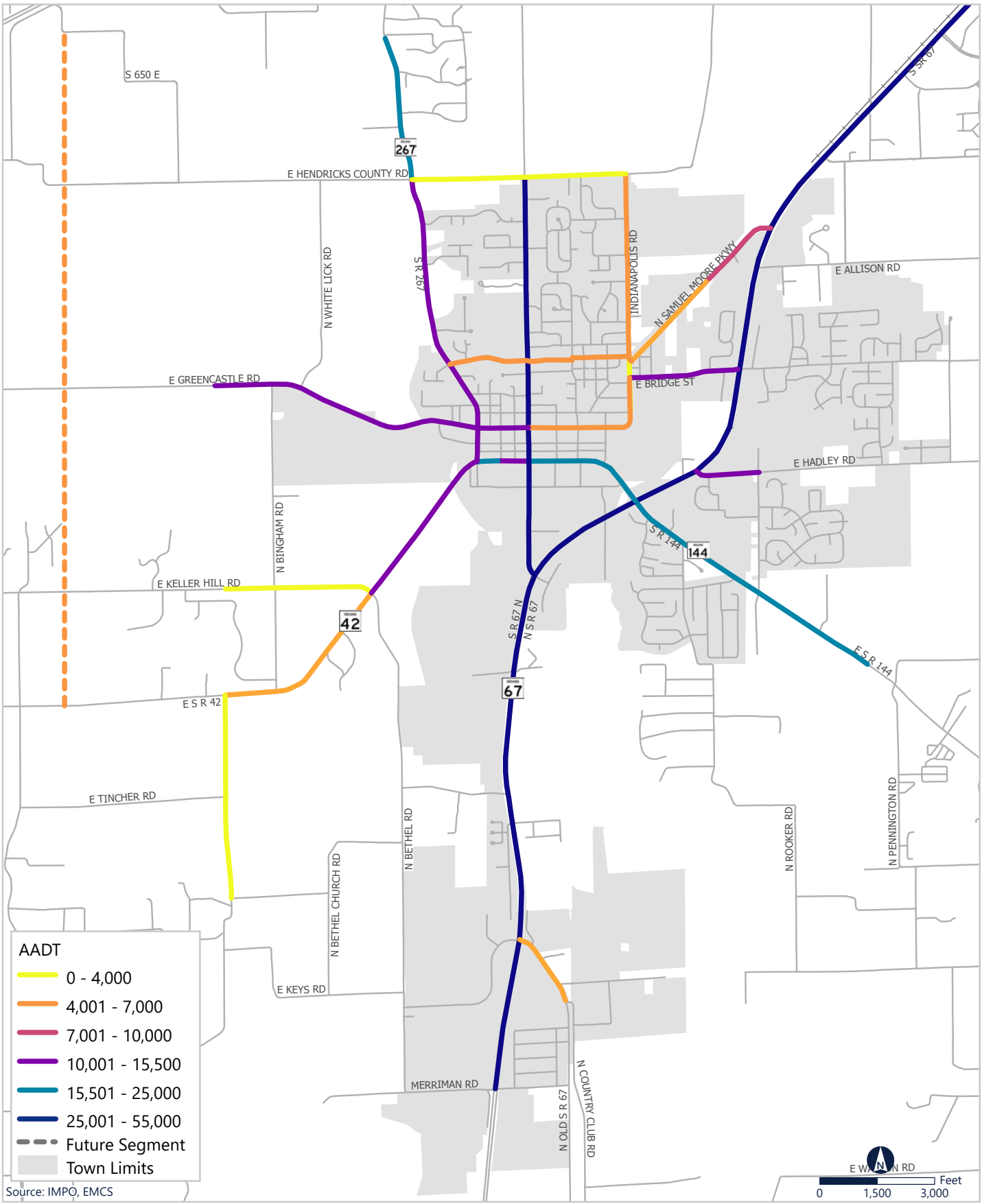


FIGURE 3.3: 2040 TRAFFIC VOLUMES



CAPACITY ANALYSIS

Capacity can be defined as the maximum rate at which vehicles can be reasonably expected to traverse a point or segment of a lane or roadway during a specified period under roadway, traffic, and control conditions. Usually expressed as vehicles per hour. A capacity analysis is the method in which traffic engineers determine if the supply of the roadway can accommodate the traffic volume demand.

INTERSECTION CAPACITY

Existing and future traffic volumes were analyzed for 20 intersections using Synchro 11 and Highway Capacity Manual (HCM) 6th Edition methodologies. Signal timings were estimated using the National Cooperative Highway Research Program (NCHRP) Report 812 Signal Timing Manual and were optimized for all scenarios.

Intersections analyzed were:

- SR 267 & Hendricks County Rd
- Indiana St & Hendricks County Rd
- Hendricks County Rd & Indianapolis Rd
- SR 67 & County Line Rd
- SR 67 & Samuel Moore Pkwy
- Greencastle Rd & White Lick Rd
- SR 267 & Carlisle St
- Indiana St & Carlisle St
- Indianapolis Rd & Samuel Moore Pkwy
- Bridge St & Indianapolis Rd
- SR 67 & Bridge St
- Main St & Monroe St
- Indiana St & Main St
- High St & Monroe St
- High St & Indiana St
- Franklin St & SR 144
- SR 67 & SR 144
- SR 67 & Indiana St
- SR 42 & Keller Hill Rd/Bethel Rd
- SR 67 & Old SR 67

Intersection turning movement counts were used at all the study intersections in the analysis. Intersections where the volume to capacity ratio is greater than one will experience increased congestion and may need improvements.

The following intersections may currently experience high volume to capacity ratios and can be seen in Figure 3.4: 2020 Intersection Volume to Capacity:

- SR 67 & County Line Road
- SR 67 & SR 144
- Indianapolis Road & Samuel Moore Parkway
- Bridge Street & Indianapolis Road
- Main Street & Monroe Street

FIGURE 3.4: 2020 INTERSECTION VOLUME TO CAPACITY

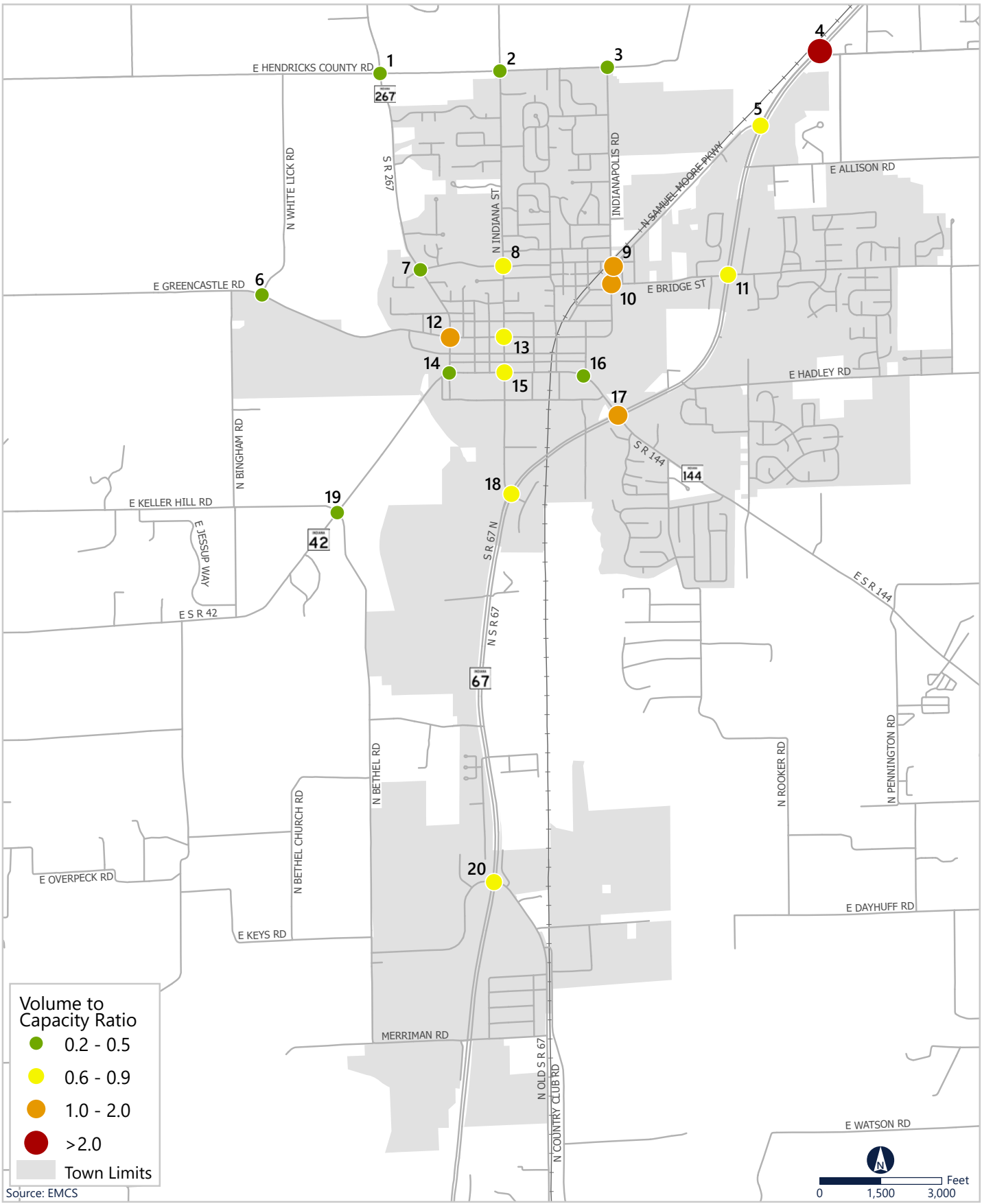
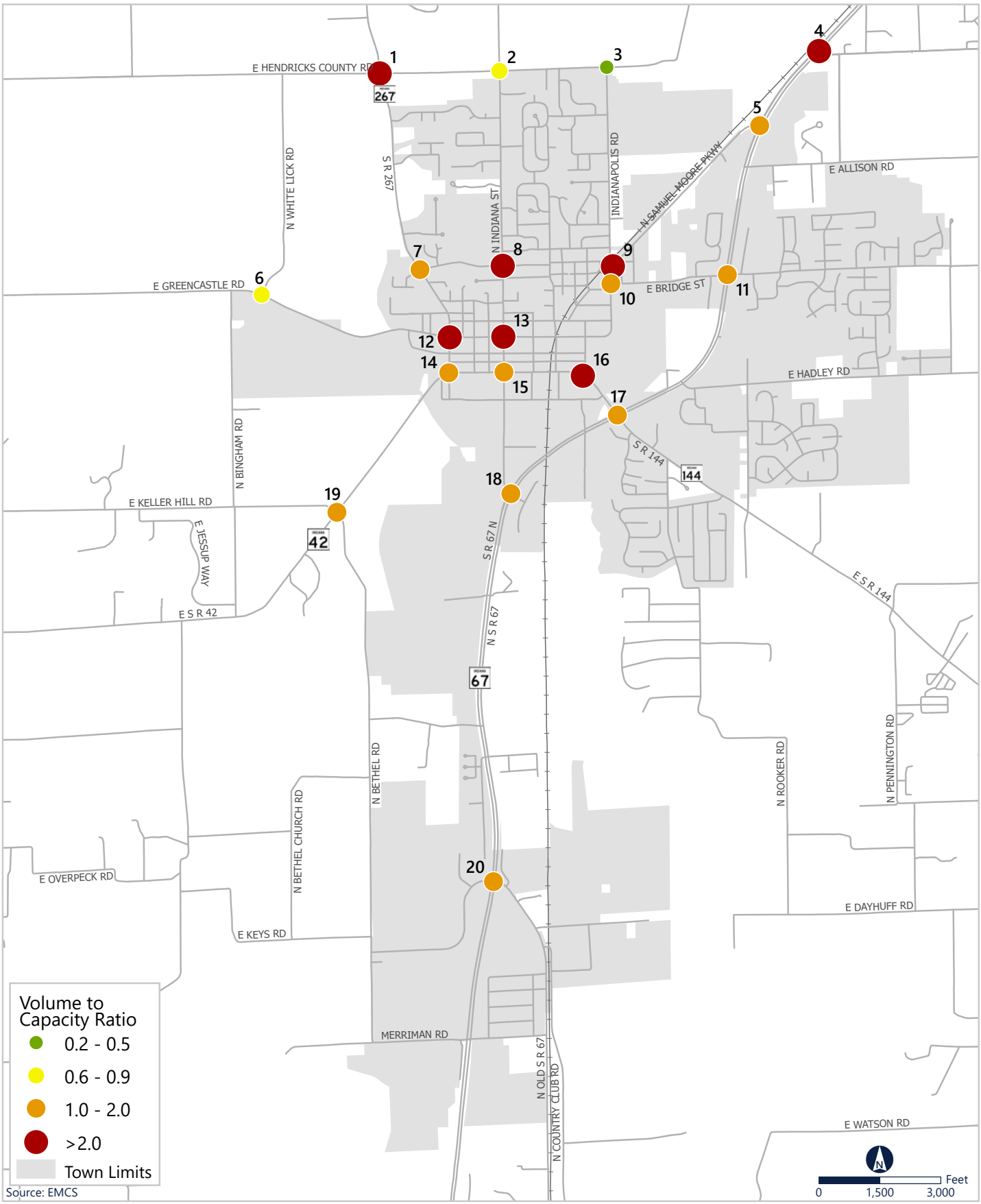


FIGURE 3.5: 2040 INTERSECTION VOLUME TO CAPACITY



The following intersections may experience high volume to capacity ratios in the future and can be seen in Figure 3.5: 2040 Intersection Volume to Capacity:

- SR 267 & Hendricks County Road
- SR 67 & County Line Road
- SR 67 & Samuel Moore Parkway
- SR 267 & Carlisle Street
- Indiana Street & Carlisle Street
- Indianapolis Road & Samuel Moore Parkway
- Bridge Street & Indianapolis Road
- SR 67 & Bridge
- Main Street & Monroe Street
- Indiana Street & Main Street
- High Street & Monroe Street
- High Street & Indiana Street
- Franklin Street & State Road 144
- SR 67 & SR 144
- SR 67 & Indiana Street
- SR 42 & Keller Hill Road/Bethel Road
- SR 67 & Old SR 67

Northbound traffic on Indiana Street near Raista Drive.

SEGMENT ANALYSIS

The study segments include 11 unique existing thoroughfares and one future segment. A total of 15 segments were analyzed as some were divided into shorter segments. The existing study segment volume was determined by averaging the Streetlight Data for 2021 along the segment. The average growth factor along the segment was applied to the existing AADT to determine the 2040 AADT.

The 11 roads analyzed as part of this process were:

- Monroe/ SR 267
- Indiana Street
- Carlisle Street
- Indianapolis Road
- Bridge Street
- SR 42
- Greencastle Road
- Bunker Hill Road
- Future road west of Mooresville
- Hendricks County Road
- Main Street

The 2040 IMPO travel demand model includes a new interchange along I-70. This thoroughfare plan also considers this additional interchange, and a new road segment that is expected to connect to the proposed interchange. The 2040 AADT along the future segment is similar to the AADT along the new north/south connector from the IMPO model.

The segments were analyzed using the daily service volumes for either two-lane highways or urban street facilities per HCM 6th Edition. The standard parameter for measuring traffic operating conditions is level-of-service (LOS). The LOS ranges from A-F with each indicating driving operations from best to worst. Typically, a LOS D or better is desired.

Based on the projected 2040 AADT, all the segments will operate at, or above LOS D. Indiana Street is projected to be at a LOS D in 2040, if more growth occurs than what is planned in the IMPO 2040 travel demand model, this segment may need improvements. See Table 3.1 for a summary of the LOS results for both 2020 and 2040.

What this analysis shows is that Mooresville roadways generally have the capacity to handle traffic volumes now and into the future. Traffic issues arise across the network at key intersections during peak times, leading to significant delays that will need to be mitigated with intersection improvements.

Table 3.1: Road Segment Level of Service, 2020 and 2040 (Source: EMCS)

	SEGMENT	FROM	TO	2020 LOS	2040 LOS
1	Monroe/ SR 267	Hendricks County Road	Main Street	B	C
2	Monroe/ SR 267	Main Street	High Street	B	C
3	Indiana Street	Hendricks County Road	Main Street	B	D
4	Indiana Street	Main Street	SR 67	C	C
5	Carlisle Street	Monroe/SR 267	Indiana Street	A	B
6	Carlisle Street	Indiana Street	Indianapolis Road	A	A
7	Indianapolis Road	Hendricks County Road	Samuel Moore Parkway	A	B
8	Bridge Street	Indianapolis Road	SR 67	C	C
9	SR 42	Keller Hill Road/Bethel Road	Monroe/SR 267	B	C
10	Greencastle Road	White Lick Road	Monroe/SR 267	B	C
11	Bunker Hill Road	SR 42	Lindley Road	A	A
12	Future Segment	SR 42	New Interstate	N/A	B
13	Hendricks County Road	Monroe/SR 267	Indianapolis Road	A	A
14	Main Street	Monroe/SR 267	Indiana Street	B	C
15	Main Street	Indiana Street	Bridge Street	C	C

CRASH DATA ANALYSIS

Crash data for Mooresville was provided by Indiana State Police (ISP). Crash history was evaluated for a five-year period between 2018 and 2022. There was a total of 1,188 crashes over a five-year period that occurred at the study intersections or along study thoroughfare segments. This data was filtered to find the total number of crashes per thoroughfare and at each intersection.

The number of crashes occurring at each intersection for the five-year period can be seen in Table 3.3 on page 41, while the number of crashes per segment can also be seen in the table below. Maps showing crash density at key intersections and those resulting in injuries can be seen in Figures 3.6 and 3.7 on the following pages.

Table 3.2: Road Segment Crashes, 2018-2022 (Source: Indiana State Police, EMCS)

	SEGMENT	FROM	TO	# OF CRASHES 2018 - 2022
1	Monroe/ SR 267	Hendricks County Road	Main Street	12
2	Monroe/ SR 267	Main Street	High Street	14
3	Indiana Street	Hendricks County Road	Main Street	64
4	Indiana Street	Main Street	SR 67	151
5	Carlisle Street	Monroe/SR 267	Indiana Street	12
6	Carlisle Street	Indiana Street	Indianapolis Road	7
7	Indianapolis Road	Hendricks County Road	Samuel Moore Parkway	22
8	Bridge Street	Indianapolis Road	SR 67	22
9	SR 42	Keller Hill Road/Bethel Road	Monroe/SR 267	15
10	Greencastle Road	White Lick Road	Monroe/SR 267	5
11	Bunker Hill Road	SR 42	Lindley Road	5
12	Future Segment	SR 42	New Interstate	N/A
13	Hendricks County Road	Monroe/SR 267	Indianapolis Road	4
14	Main Street	Monroe/SR 267	Indiana Street	12
15	Main Street	Indiana Street	Bridge Street	39

FIGURE 3.6: INTERSECTION CRASH DENSITY, 2018-2022

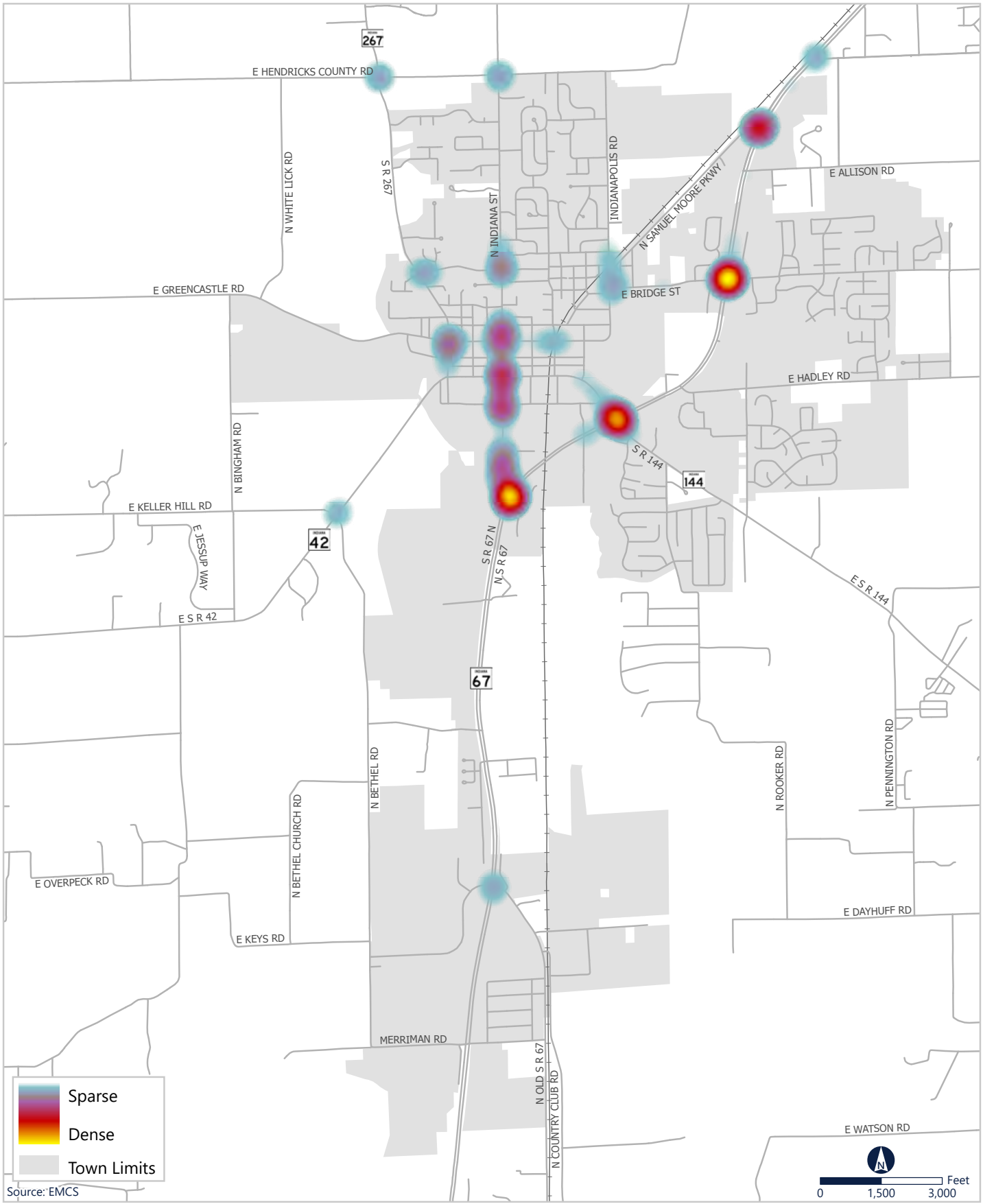
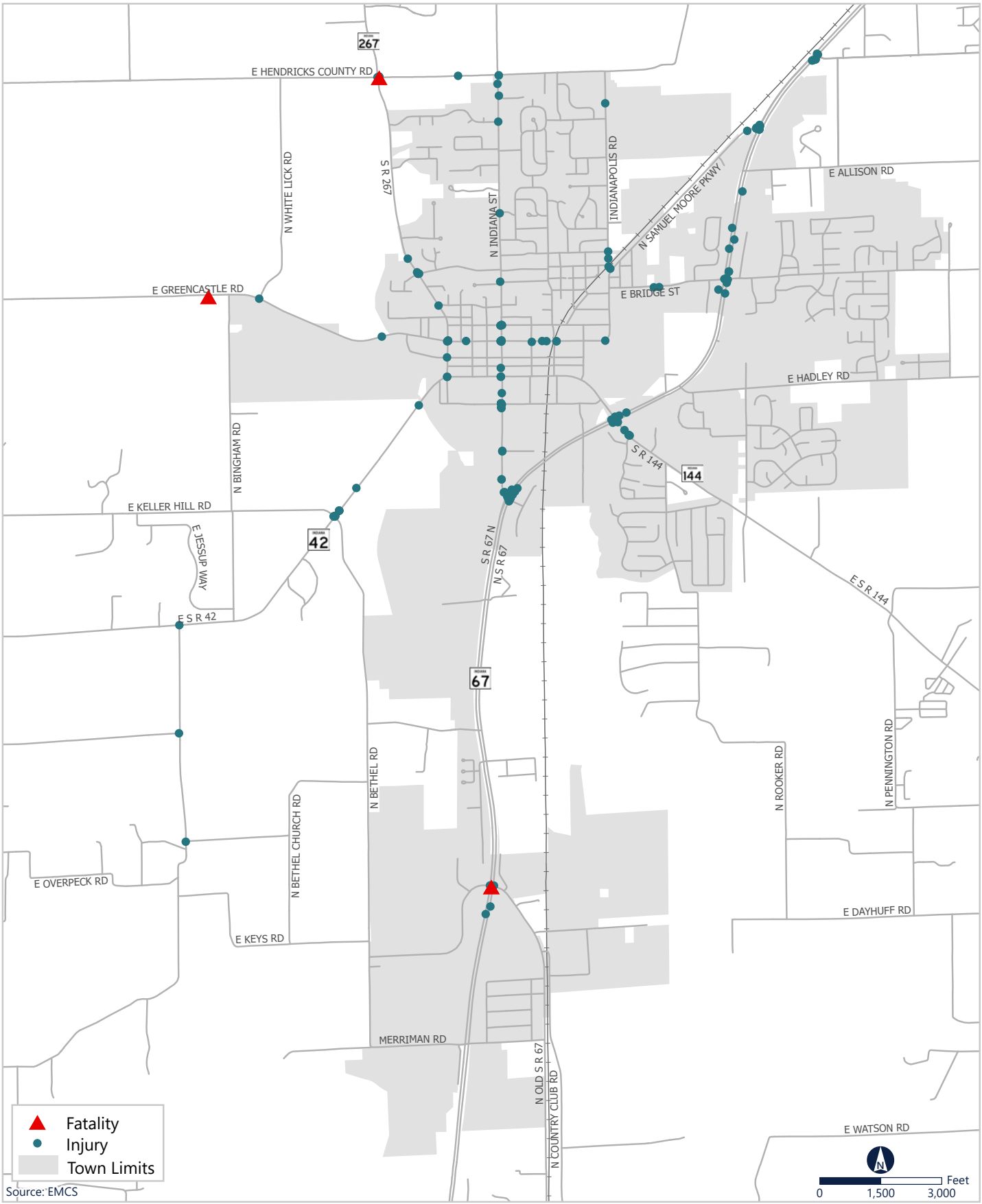


Table 3.3: Intersection Crashes, 2018-2022 (Source: Indiana State Police, EMCS)

	INTERSECTION	# OF CRASHES 2018 - 2022
1	SR 267 & Hendricks County Rd	22
2	Indiana St & Hendricks County Rd	21
3	Hendricks County Rd & Indianapolis Rd	2
4	SR 67 & County Line Rd	20
5	SR 67 & Samuel Moore Pkwy	76
6	Greencastle Rd & White Lick Rd	8
7	SR 267 & Carlisle St	17
8	Indiana St & Carlisle St	26
9	Indianapolis Rd & Samuel Moore Pkwy	9
10	Bridge St & Indianapolis Rd	14
11	SR 67 & Bridge St	143
12	Main St & Monroe St	32
13	Indiana St & Main St	29
14	High St & Monroe St	5
15	High St & Indiana St	50
16	Franklin St & SR 144	11
17	SR 67 & SR 144	146
18	SR 67 & Indiana St	126
19	SR 42 & Keller Hill Rd/Bethel Rd	20
20	SR 67 & Old SR 67	27
	Total	**804**

FIGURE 3.7: CRASHES RESULTING IN INJURY, 2018-2022



There were a total of three fatalities and 182 crashes that resulted in one or more injuries over the five-year period. Of the 804 crashes that occurred at the intersections, 672 were property damage only crashes, 130 were injury crashes, and three were fatal crashes. Note one crash had both a fatality and injury. The top crash types were rear end crashes with 378, right angle crashes with 133, and same direction sideswipe crashes with 78.

Table 3.4: Road Segment Rate Per 100 Million Vehicles Miles Traveled, 2018-2022

(Source: Indiana State Police, EMCS)

	SEGMENT	FROM	TO	CRASH RATE PER 100 MILLION VEHICLES MILES TRAVELED
4	Indiana Street	Main Street	SR 67	964.9
2	Monroe/ SR 267	Main Street	High Street	794.6
5	Carlisle Street	Monroe/SR 267	Indiana Street	549.2
15	Main Street	Indiana Street	Bridge Street	435.1
7	Indianapolis Road	Hendricks County Road	Samuel Moore Parkway	382.6
3	Indiana Street	Hendricks County Road	Main Street	365.3
14	Main Street	Monroe/SR 267	Indiana Street	336.9
6	Carlisle Street	Indiana Street	Indianapolis Road	297.6
8	Bridge Street	Indianapolis Road	SR 67	281.0
11	Bunker Hill Road	SR 42	Lindley Road	202.5
9	SR 42	Keller Hill Road/Bethel Road	Monroe/SR 267	140.0
13	Hendricks County Road	Monroe/SR 267	Indianapolis Road	87.8
1	Monroe/ SR 267	Hendricks County Road	Main Street	64.9
10	Greencastle Road	White Lick Road	Monroe/SR 267	64.5
12	Future Segment	SR 42	New Interstate	N/A

Table 3.5: Intersection Crash Rate Per Million Entering Vehicles, 2018-2022

(Source: Indiana State Police, EMCS)

	INTERSECTION	CRASH RATE PER MILLION ENTERING VEHICLES
11	SR 67 & Bridge St	2.6
18	SR 67 & Indiana St	2.5
17	SR 67 & SR 144	2.4
5	SR 67 & Samuel Moore Pkwy	1.7
15	High St & Indiana St	1.5
2	Indiana St & Hendricks County Rd	1.3
8	Indiana St & Carlisle St	1.3
12	Main St & Monroe St	1.3
19	SR 42 & Keller Hill Rd/Bethel Rd	1.3
1	SR 267 & Hendricks County Rd	1.2
7	SR 267 & Carlisle St	1.0
13	Indiana St & Main St	0.9
6	Greencastle Rd & White Lick Rd	0.8
10	Bridge St & Indianapolis Rd	0.7
20	SR 67 & Old SR 67	0.7
16	Franklin St & SR 144	0.6
4	SR 67 & County Line Rd	0.5
9	Indianapolis Rd & Samuel Moore Pkwy	0.5
3	Hendricks County Rd & Indianapolis Rd	0.4
14	High St & Monroe St	0.3

In many cases, the most heavily traveled road segments and intersections with the most entering vehicles will experience the highest number of crashes purely as a result of being the busiest. To better understand if particular segments or intersections may have other factors increasing crash frequency, crash rates along road segments have been calculated in terms of crashes per 100 million vehicle miles traveled. Table 3.4 on page 43 includes these figures. Indiana Street, from Main Street to SR 67, had both the highest number of crashes, 161, and the highest crash rate per 100 million vehicle miles traveled, 964.9. While Indiana Street between Hendricks County Road and Main Street had the second highest number of crashes, 64, it was sixth in terms of crash rate per 100 million vehicle miles traveled. Alternately, Monroe Street/SR 267, from Main Street to High Street, experienced a relatively low number of overall crashes, 14, but it was second highest in terms of crash rate per 100 million vehicle miles traveled, 794.6.

Intersection crash rates were compared as a rate per million entering vehicles, as shown in Table 3.5. In terms of pure number, SR 67 and SR 144, SR 67 and Bridge Street, and SR 67 and Indiana Street, experienced the most crashes, respectively. As a rate per million entering vehicles, the same three intersections were at the top of the list, but in a slightly different order. SR 67 and Bridge street was the highest at 2.6, followed by SR 67 and Indiana Street (2.5), and SR 67 and SR 144 (2.4).


NO
TURN
ON
RED
2 West
1
ups
Worldwide Services
Natural Gas Vehicle

04

TRANSPORTATION RECOMMENDATIONS

The transportation recommendations described in this chapter come in the form of policies, standards, and potential construction projects. They are based on analysis of the existing transportation network, future traffic forecasts, stakeholder input, and national best practices. Implementation of these recommendations will be the responsibility of the Town of Mooresville, the Indiana Department of Transportation, and private developers depending on the nature of the policy and location of future improvements. Recommendations are organized into five categories:

- Future Thoroughfare Plan Map
- Proposed Changes to INDOT Functional Classifications
- Right-of-Way Standards Based on Context Zones
- Intersection Improvements
- Key Roadway Enhancements

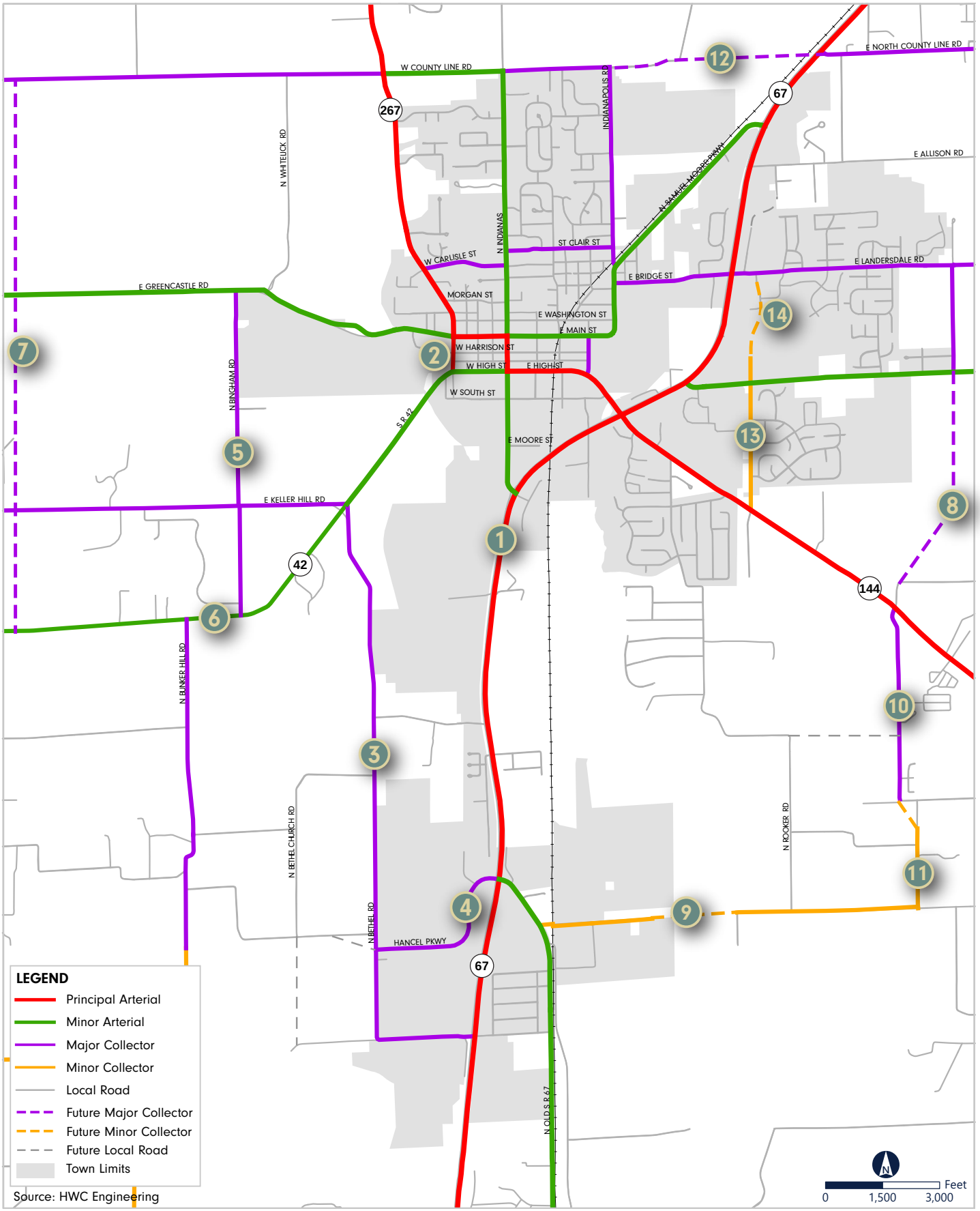
PROPOSED FUNCTIONAL CLASSIFICATION CHANGES

Figure 4.1: Proposed Functional Classification Changes shows recommended roadway functional classification updates to road segments within and near Mooresville. Recommended changes are based on the analysis presented in the previous chapter, anticipated traffic impacts from regional transportation projects, and potential future land use and development plans. These changes correspond with the Federal Highway Administration (FHWA) functional classification designations. Mooresville will have to coordinate functional classification changes in cooperation with the Indianapolis MPO and INDOT. These changes in classification should happen as road improvement projects occur and development happens along these corridors.

Table 4.1: Proposed Functional Classification Changes

	SEGMENT	EXISTING FUNCTIONAL CLASSIFICATION	PROPOSED FUNCTIONAL CLASSIFICATION
1	SR 67 – south of SR 144	Minor Arterial	Principal Arterial
2	SR 267 / Monroe St – from Main St to SR 42 / High St	Minor Arterial	Principal Arterial
3	Bethel Road	Local Road	Major Collector
4	Hancel Parkway	Local Road	Minor Collector
5	Bingham Road	Local Road	Major Collector
6	SR 42 – west of Keller Hill Road / Bethel Road	Major Collector	Minor Arterial
7	Future Road Segment – from County Line Road to SR 42	N/A	Major Collector
8	Future Road Segment – from Hadley Road to Neitzel Road	N/A	Major Collector
9	County Road 1000 N and new bridge across White Lick Creek	Local Road	Minor Collector
10	Pennington Road – from SR 144 to Orchard Road	Local Road	Major Collector
11	Pennington Road – from Orchard Road to County Road 1000 N	Local Road	Minor Collector
12	Hendricks County Road - from S CR 925 E to County Line Road	N/A	Major Collector
13	Johnson Road - from Hadley Road to SR 144	Local Road	Minor Collector
14	Johnson Road - from Bridge Street to Hadley Road	N/A	Minor Collector

FIGURE 4.1: PROPOSED FUNCTIONAL CLASSIFICATION CHANGES



FUTURE THOROUGHFARE PLAN MAP

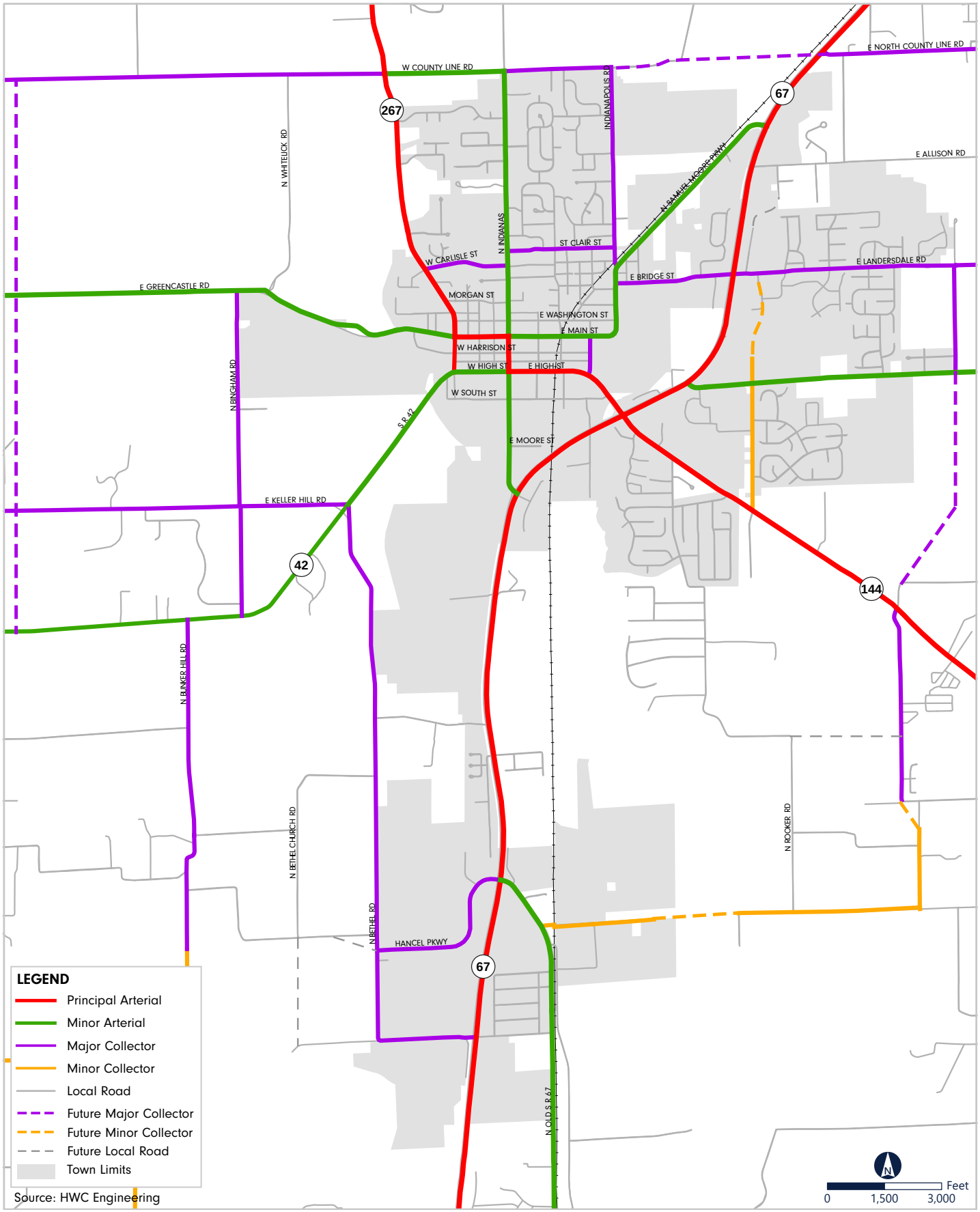
The Future Thoroughfare Plan Map displayed in Figure 4.2 depicts the desired future roadway network for the Town of Mooresville. Build-out and subsequent maintenance of this network will help to ensure the mobility and access goals of the community are realized. Improvements to certain key segments and construction of new routes, when combined with intersection improvements described later in this chapter, will allow for the safe travel of vehicles in to, around, and through Mooresville. This map organizes the transportation network into a series of major, minor, and local roads in conjunction with the functional classification terminology of arterials and collectors.

The vision described in the comprehensive plan, and based on community input, is for Mooresville to manage growth in conjunction with town service and infrastructure capacity in a way that preserves existing town strengths. As this managed growth occurs, limited new roadways will be needed to serve new development to the east, south, and west. Proposed road segments are shown with dashed lines and are primarily planned to connect potential development areas to the major thoroughfares of SR 144, SR 67, and a new planned interchange along I-70 west of town. Significant capacity improvements are not needed to existing roadways, as shown in the analysis in Chapter 3. However, on-going maintenance, alignment changes, and limitations on access will all help to create a safer and more efficient network. There may also need to be enhancements to short segments of roadways as they approach intersections in need of modification.

The roadway classifications on the Future Thoroughfare Plan Map also relate to right-of-way standards presented on the following pages. If development occurs along a classified roadway, adequate right-of-way in alignment with minimum width standards will need to be dedicated.

Roadway alignments and proposed road segments on the Future Thoroughfare Plan Map are representations only and do not indicate actual alignments. Detailed study, survey, and design will be needed for any right-of-way dedication, major road improvement, or new road construction.

FIGURE 4.2: FUTURE THOROUGHFARE PLAN MAP



RECOMMENDED RIGHT-OF-WAY STANDARDS

A key function of the Thoroughfare Plan is to protect road frontage that may need to be dedicated as right-of-way as development and redevelopment occur. In built-out areas of the community, the right-of-way width is already established and widening the right-of-way for roadway improvement projects is likely to be costly and difficult. In areas that continue to develop, additional right-of-way dedication can be required as part of the development review process. Because of the inherent differences in these conditions, it is recommended that two context zones be used to describe and differentiate recommended minimum right-of-way standards.

URBAN

The urban context zone includes the historic downtown core, surrounding neighborhoods, and development to the north to County Line Road. Most, but not all, the roads in this area are two lanes and subsequently can be accommodated in a more narrow right-of-way.

SUBURBAN

The suburban context zone covers the remaining areas of Mooresville to the east, west, and south where newer single-family subdivisions, commercial businesses, and industrial uses are located. This context zone includes areas that can accommodate wider rights-of-way to support additional through and turn lanes to address anticipated future traffic needs. The suburban context zone also includes areas of unincorporated Morgan County that are currently rural in character. Ensuring proper right-of-way dedication when development occurs will allow the construction of adequate roadways, utility easements, and amenity spaces for trails and sidewalks. It is much easier, and more cost effective, to acquire the proper right-of-way as development occurs rather than waiting until buildings and utilities have been constructed.

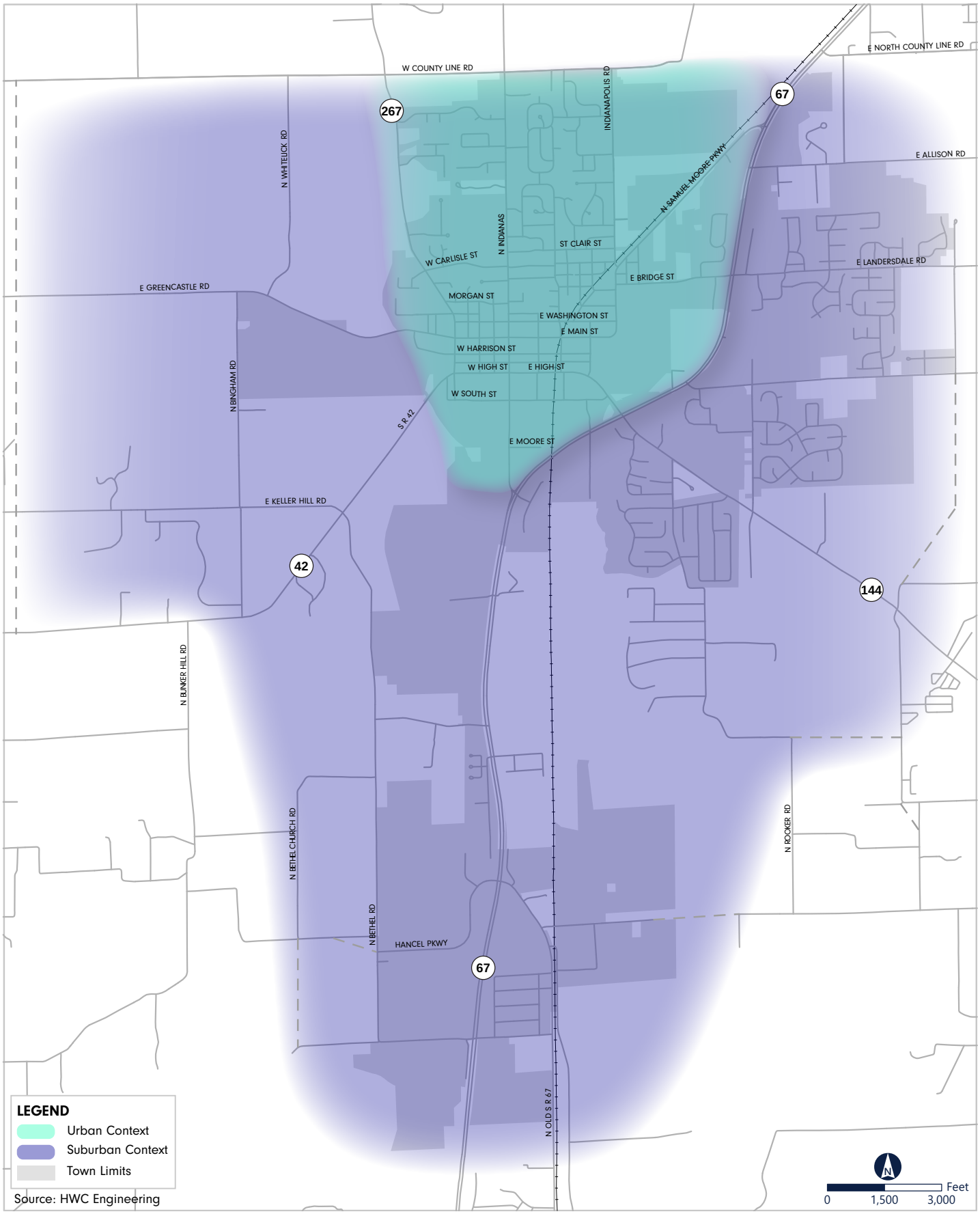
The Unified Development Ordinance (UDO), most recently updated in December 2022, includes references to the Thoroughfare Plan. It is recommended that the next time the Town is making amendments to the UDO, the minimum right-of-way standards presented in Table 4.2 be included to better emphasize these minimum right-of-way requirements and ensure necessary right-of-way is dedicated at the time of platting or development.

Table 4.2: Minimum Right-of-Way Requirements

FUNCTIONAL CLASSIFICATION	NUMBER OF LANES	MINIMUM RIGHT-OF-WAY	
		URBAN	SUBURBAN
Principal Arterial	2-4	70' - 100' *	130'
Minor Arterial	2-4	70' - 90' *	100'
Major Collector	2	60'	75'
Minor Collector	2	60'	60'
Local Road	2	50'	50'

* Minimum right-of-way width may vary by location and adjacent context.

FIGURE 4.3: RIGHT-OF-WAY CONTEXT ZONES



INTERSECTION IMPROVEMENTS

Table 4.3: Proposed Intersection Improvements

	INTERSECTION	2020 IMPROVEMENTS*	2040 IMPROVEMENTS*
1	SR 267 & Hendricks County Rd	EBL	Signal/RAB
2	Indiana St & Hendricks County Rd	N/A	N/A
3	Hendricks County Rd & Indianapolis Rd	N/A	N/A
4	SR 67 & County Line Rd	Signal	WBR, Change Phasing
5	SR 67 & Samuel Moore Pkwy	N/A	EBL
6	Greencastle Rd & White Lick Rd	N/A	Exclusive SBR
7	SR 267 & Carlisle St	N/A	Signal w/SBL or RAB
8	Indiana St & Carlisle St	Signal	Adding all left turn lanes, SBR, Phasing
9	Indianapolis Rd & Samuel Moore Pkwy**	Signal	Exclusive EBL, NBL
10	Bridge St & Indianapolis Rd*	SBL, Change Phasing	N/A
11	SR 67 & Bridge St	N/A	NBL, SBL, EBT, WBT, EBR, WBL
12	Main St & Monroe St	Signal/RAB	N/A
13	Indiana St & Main St	N/A	Add all left turns, Change Phasing
14	High St & Monroe St	N/A	SBL, SBR
15	High St & Indiana St	N/A	WBR
16	Franklin St & SR 144	N/A	Signal/RAB
17	SR 67 & SR 144	N/A	SBL, SBT, NBT, EBT, WBT
18	SR 67 & Indiana St	N/A	NBL, EBR, SBR
19	SR 42 & Keller Hill Rd/Bethel Rd	N/A	Signal/RAB
20	SR 67 & Old SR 67	N/A	WBR

* See Abbreviation Key on page 54
** Other solutions possible see write up for more discussion

FIGURE 4.4: INTERSECTION IMPROVEMENTS

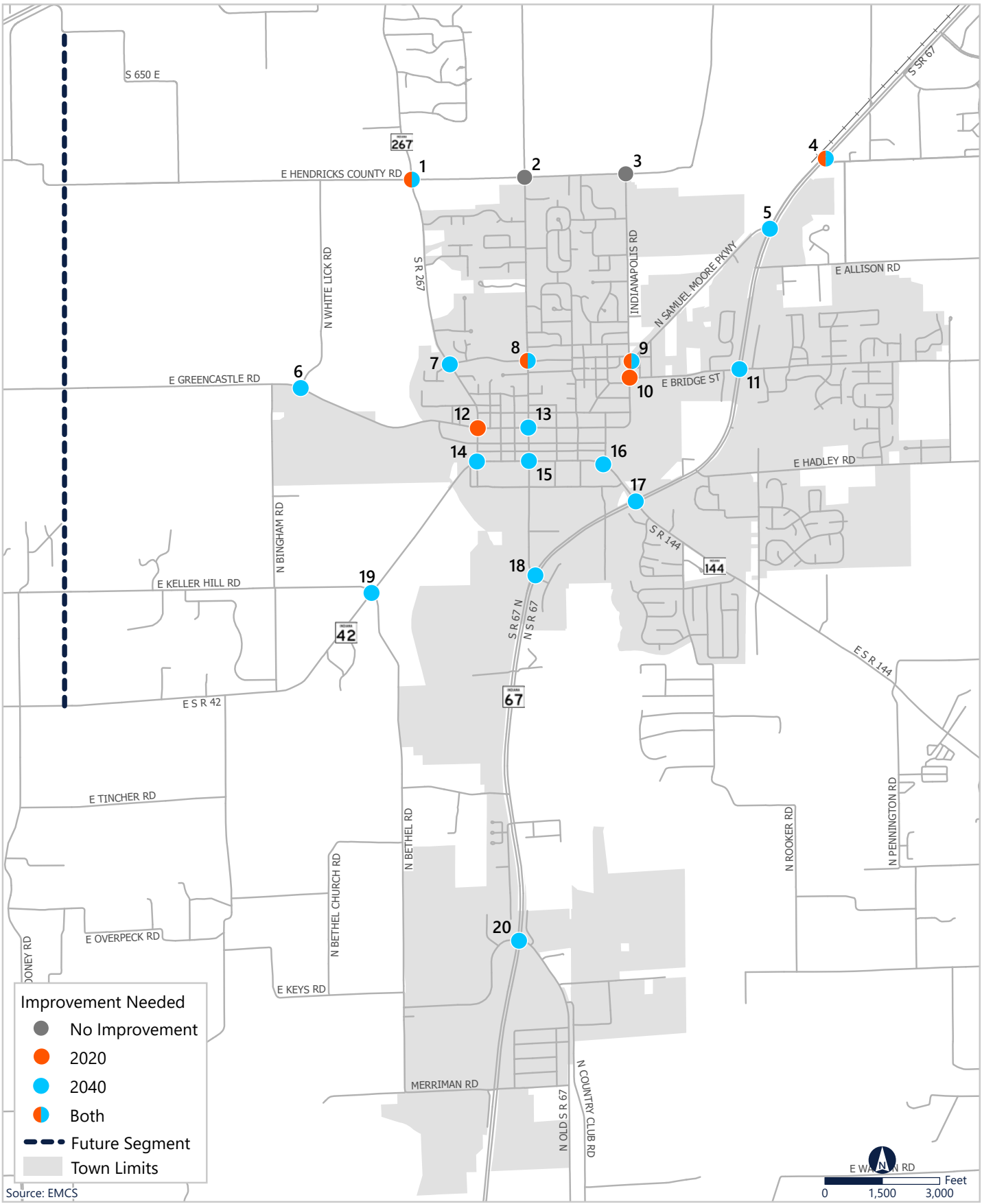


TABLE 4.3 ABBREVIATION KEY

- **Add All Left Turns – Add left turn lanes to all intersection legs**
- **Change Phasing – Modify stop light phasing sequence or length**
- **EBL – East Bound Left Turn Lane**
- **EBR – East Bound Right Turn Lane**
- **EBT – East Bound Through Lane**
- **NBL – North Bound Left Turn Lane**
- **NBR – North Bound Right Turn Lane**
- **NBT – North Bound Through Lane**
- **RAB - Roundabout**
- **SBL – South Bound Left Turn Lane**
- **SBR – South Bound Right Turn Lane**
- **SBT – South Bound Through Lane**
- **Signal – Convert to a signalized intersection**
- **WBL – West Bound Left Turn Lane**
- **WBR – West Bound Right Turn Lane**
- **WBT – West Bound Through Lane**

INDIANAPOLIS ROAD & SAMUEL MOORE PARKWAY, INDIANAPOLIS ROAD & BRIDGE STREET:

Indianapolis Road & Samuel Moore Parkway, and Bridge Street & Indianapolis Road are two intersections that experience high volume to capacity ratios in both the current and future conditions. In addition, there are current sight constraints due to the curve and no restricted access for the nearby businesses that are along the curve of Samuel Moore Parkway. The proposed improvements listed in the table will improve the intersections, however this doesn't consider the need for right-of-way or cost of construction and does not take into consideration sight and access constraints. If Indianapolis Road had a straight north/south alignment rather than the current "T-intersection" configuration, sight limitations would be improved. Realigning these intersections would also provide a better east-west connection through Mooresville. The Town of Mooresville Gateway and Corridor Study Phase Three discusses improving both Indianapolis Road & Samuel Moore Parkway, and Indianapolis Road & Bridge Street to roundabouts with an additional east west connection. An analysis was done using SIDRA 9 and geometric considerations were assumed using INDOT Intersection Traffic Analysis Procedures as guidance. A single lane roundabout at each intersection will experience lower volume to capacity ratio than if each intersection was a signalized intersection.

DOWNTOWN AREA

Downtown Mooresville consists of four main intersections: Indiana Street & Main Street, Monroe Street & Main Street, High Street & Monroe Street, and High Street & Indiana Street. Main Street and High Street act as "through" roadways as they connect SR 144, SR 267, SR 42, Greencastle Road and Indiana Street (to SR 67). Currently, Main Street has a higher daily traffic volume than High Street. This causes heavy turning movements to and from Indiana Street. To preserve the downtown feel of Main Street and to continue to encourage a pedestrian friendly environment, the following intersection considerations are made:

Indiana Street & Main Street:
Indiana Street & Main Street will still experience high volume to capacity ratios during the peak hour in the future conditions even with the suggested improvements shown in the table, however additional improvements are not recommended because they would begin to impact adjacent buildings, on-street parking, and pedestrian crossing distances. The recommendations in the table above include the addition of all left turn lanes and changing the signal phasing to accommodate protected turning movements at this intersection. This will still allow the downtown intersection to feel walkable and can be achieved within existing right-of-way. Additional right-turn lanes and/or through lanes would be required to completely remove congestion at this intersection.

Main Street & Monroe Street:
The intersection of Main Street & Monroe Street is currently an all-way stop controlled intersection. To help encourage through traffic to use High Street instead of Main Street, improved traffic control is recommended at this intersection. It is recommended that either a signal or roundabout be installed at this location. 50% of the crashes that occurred here during the five-year period were right-angle crashes. A roundabout has been a proven countermeasure to reduce right-angle crashes. A single lane or mini roundabout can also act as an "entrance" to the town and signal for drivers to slow speeds.

High Street & Monroe Street:
The intersection of High Street and Monroe Street is currently a two-way stop-controlled intersection with Monroe Street stopping for High Street. High Street/ SR 42 curves just west of this intersection which could cause sight distance constraints. INDOT is currently leading a project to add a traffic signal to this intersection. It was in the design phase during the thoroughfare planning process with an anticipated completion in the winter of 2023. Signalization of this intersection should encourage through traffic to use High Street. In the future, a roundabout could be considered at this intersection to further improve traffic operations. Based on the geometry of this intersection, a roundabout would promote higher throughput volume along High Street which could also relieve the high volume at the Main Street & Indiana Street intersection.

ADDITIONAL INTERSECTIONS IDENTIFIED BY THE STEERING COMMITTEE

Concern regarding several additional intersections was raised by the project steering committee when reviewing the results of the thoroughfare analysis. Existing issues and potential improvements for these intersections include:

SR 144 & Rooker Road:
Mooresville should work with Neil A. Armstrong Elementary School and school corporation leadership to understand drop off/pick up procedures and examine opportunities for a safer and more efficient process that alleviates queuing onto SR 144. Restricting certain turn movements off of the school property may also help. Given that the intersection is already signalized, other potential improvements include optimizing signal timing, especially during peak school times, and adding back plates to signal lights to aid in visibility. Several accidents have occurred at this intersection in the past 5 years.

SR 144 & Johnson Road:
It is difficult for vehicles on Johnson Road to turn onto SR 144 because of traffic volumes and speeds on SR 144, as well as the skewed alignment of the intersection. Addition of a southbound left turn lane on Johnson Road should help reduce backups. A center left turn lane along Johnson Road may be needed if traffic volumes increase with development or hospital activity. Finally, this intersection may warrant signalization when Johnson Road is connected north to connect to Bridge Street.

Bridge Street & Fields Street:
Fields Street will be a primary access point to a recently approved apartment development south of Lowe's. If apartment traffic starts to create issues at the Bridge Street and Fields Street intersection, the town should consider restricting left turns from Fields Street onto Bridge Street. This would require Fields Street traffic wanting to turn left to go west to the primary Lowe's entrance next to Dairy Queen. This intersection is too close to the SR 67 and Bridge Street intersection to ever be signalized. If INDOT approves additional access to the apartment site from SR 67, it should help to prevent issues at this intersection.

KEY ROADWAY IMPROVEMENTS

INDIANA STREET

Indiana Street is the major north-south thoroughfare in Mooresville. It is the primary gateway into town from I-70 to the north, bisects the downtown core, and ultimately connects with State Road 67 on the southern end of the community. Indiana Street provides access to a variety of uses that receive high volumes of daily traffic, including The Village Shopping Center as well as the Mooresville High School/Paul Hadley Middle School/Northwood Elementary School campus.

Due to the diverse mix of vehicular and pedestrian traffic along the corridor, and anticipated increases in traffic volumes, it is imperative for infrastructure and safety improvements to be made between Washington Street and County Line Road. While there are sidewalks present on at least one side of the street, they are narrow and need to be repaired in some locations, specifically in areas where children are walking to school from the surrounding neighborhoods. In addition to pedestrian facilities, stormwater infrastructure should be enhanced along Indiana Street. A major stormwater ditch running along the western side of the road travels through the downtown and dumps into White Lick Creek. While a simple ditch may suffice for light rain, it can become dangerous and ineffective during major flooding events.

Indiana Street just south of the Mooresville High School/Paul Hadley Middle School/Northwood Elementary School campus.

BETHEL ROAD

Mooresville has realized a number of economic development successes south along State Road 67, Old State Road 67, and Hancel Parkway. These efforts continue in conjunction with the Morgan County Economic Development Corporation and area property owners, as multiple properties were actively being marketed during the planning process. Development opportunities are now progressing west in this area towards Bethel Road. As the area continues to develop, and especially those properties fronting Bethel Road, the roadway will need to be improved to better support truck traffic and worker mobility. These improvements will only be warranted as development occurs, but it is important that the town identify Bethel Road as a future major collector thoroughfare and ensure additional right-of-way and utility easement area is dedicated as development occurs.

Portions of the Bethel Road corridor are within the town's tax increment financing (TIF) district. TIF district revenue may be used to help design and construct needed enhancements to Bethel Road, as well as other utility infrastructure along the corridor.

Bethel Road is not currently designed to handle the traffic that may be generated by continued employment generating development in and around the Flagstaff Business Park.