2023

Bolivar
Transportation Plan

Introduction

A transportation plan is a long-term framework that guides a community in establishing its goals and objectives to achieve its vision for the future. Transportation plans usually focus on the community's development for the next 10 to 20 years. The City of Bolivar's Transportation Plan will establish policies and guidelines that will improve the different transportation needs of the community. This is done by addressing community priorities and needs involving transportation from the development of existing roads, to the construction of new sidewalks, and many others. The Bolivar Transportation Plan was developed by engaging all community stakeholders in the planning process.

Planning Process

Throughout the planning process, the Southwest Missouri Council of Governments collaborated with city administration, the public, and the Transportation Planning Committee to develop strategies that will improve the transportation system in the City of Bolivar. To ensure the plan addresses the community's needs and priorities, the following steps were taken to identify strategies to achieve their vision:

- Engage the Community
- Review of Past Plans
- Existing Conditions Analysis
- Implementation

Community Engagement

Community engagement is a vital part of the decision-making process to determine future transportation goals, objectives, priorities, and needs. The City of Bolivar places a high value on the engagement and involvement of its citizens. Throughout the planning process, there were multiple opportunities for residents to get involved in the creation of the Transportation Plan. To ensure that the plan meets Bolivar's needs, community engagement activities, such as a survey, open house, and Transportation Planning Committee meetings, were utilized.

Transportation Planning Committee meetings

The Transportation Planning Committee (TPC) was created to provide input and help guide the planning process. The committee helped in identifying area needs and serving as a champion to raise awareness of the Transportation Plan in the community. The Transportation Planning Committee members were:

Kyle Lee – Community Development Supervisor, City of Bolivar

Lacy Hamby – Planning and Zoning, City of Bolivar

Justin Quinn – Code Inspection Tech, City of Bolivar

Brent Watkins – Fire Chief & Emergency Management Director, City of Bolivar

Gail Noggle – Director of Economic Development, Industrial Development Authority

Jerry Hamby –Public Works Director, City of Bolivar

Brice Flynn – Community Member

Thane Kifer – Developer, Pinecone Developments LLC

Mike Cribbs – Developer, DCBC LLC

Minda Cox – Community Member

Tim Martin – Community Member

Tim Declue – Community Member

Richard Asbill – Superintendent, Bolivar R-1 School District

Ryan Griffith – Representative, Southwest Baptist University

Mike Pitts – Director of Business and Technology, Bolivar R-1 School District

Russ Martin – Representative, Bolivar R-1 School District

Keith Kelly – Community Member

Bill Little – Planning & Zoning Commission

Dan Wohnoutka – Board of Alderman

The TPC met three times throughout the planning process to discuss topics that needed to be addressed in the plan.

Orientation Meeting and Survey Results Review: This meeting was held on November 1, 2022, to provide an overview of the Transportation Plan, the planning process, and examine the results of the community survey.

Visioning Meeting: The visioning meeting was held on December 6, 2022, to review the existing roadway needs and proposed roadway projects based on community comments from the survey. The committee was encouraged to provide feedback and prioritize the top ten existing roadway needs.

Needs Analysis: This meeting was held on February 07, 2023, to analyze and rate the most important needs based on the community priorities identified in the survey. The committee also conducted a goals and risk analysis on the existing roadway needs and proposed roadway projects.

PUBLIC OUTREACH

Community Survey

An online survey was drafted with the help of city officials and launched to gather input from the community's perception of the transportation network. The survey collected community input and

feedback on topics such as general demographics, transportation methods, bicycles, and pedestrian challenges.

The members of the Transportation Planning Committee were encouraged to promote the community survey to other residents in Bolivar. The survey was promoted in a variety of ways, including a press release, social media posts, city website, and distribution of paper copies at the Bolivar Golf Course, Bolivar Recreation Center, and the Polk County Library. The survey was opened on August 15, 2022, and remained open until September 8, 2022. During this period, the survey received 453 responses, a detailed view of which is included in Appendix A.

The survey provided useful information which helped to better understand community needs and aid committee members in creating planning discussions and decisions on the transportation system in Bolivar. Of the 453 respondents, 97% (440) reported either living, working, or both living and working in Bolivar. 98% (445) of the respondents had their personal vehicle as the main mode of transportation in Bolivar.

Traffic conditions at the square, Springfield Avenue, Broadway/Highway D intersection, Springfield/Aldrich intersection, Broadway Avenue, Aldrich Road, and various school area needs received the most mentions in the open-ended response section of the survey which asked about transportation challenges in Bolivar.

Survey respondents were asked about their opinion on the major causes of congestion they experience, which led respondents to highlight road capacity and rush hour traffic as the most significant. Respondents ranked the importance of various transportation improvements based on a low, medium, and high priority scale. Of the improvements mentioned, maintenance and widening of existing roads were the most important. Additionally, requiring sidewalks in developing areas, maintaining or improving existing sidewalks, and bringing existing transportation facilities to meet the Americans with Disabilities Act (ADA) compliance received high priority.

The survey consisted of questions on multiple modes of transportation, such as biking, walking, and public transit. In this section, respondents highlighted the conditions and their needs in pedestrian and biking transportation facilities. The most mentioned areas in need included Springfield Avenue, Aldrich Road, Broadway Street, and Oakland Avenue. When ranked on a scale of 1 to 5, respondents gave an average score of 2.81 for walkability in Bolivar. The main deterrents to walking included sidewalks being in poor condition, lack of connectivity of the sidewalk network, unsafe intersections, and lack of street lighting. Respondents noted sidewalk requirements in developing areas and improvements or maintenance of existing sidewalks as a high priority for future transportation projects. The survey also ranked bikeability in Bolivar with an average score of 2.6, with a lack of off-street bike lanes, unsafe intersections, lack of biking infrastructure, and rude drivers being hindering factors. Child safety when walking and biking to school was a common concern, as about 80% of parents or guardians reported being uncomfortable allowing their children to travel on their own. Common biking or walking destinations mentioned by respondents were parks/trails, schools, commercial/retail, and community centers. The conditions of trails in Bolivar scored an average of 3.38 on a scale of 1 to 5 due to a lack of proper signage and poor lighting on the trails. The commonly used trails in Bolivar are the Frisco Trail and the Dunnegan Park Trail.

The most popular source of funding for local transportation improvements identified by the respondents was restructuring funds within the existing annual budget. Other popular sources included impact fees on developers, the use of transportation bonds, and an increase in sales tax. Safety, congestion, and mobility/convenience were identified as the most crucial factors for the city to consider when making transportation decisions.

Past Plans and Studies

Existing documents relevant to the transportation system in Bolivar were reviewed to serve as a guide and foundation for the planning process. The documents reviewed included the 2022 Bolivar Active Transportation Plan, the 2020 Comprehensive Plan, the 2020 Traffic Engineering Assistance Program Study for South Albany Avenue, and a 2017 Sidewalk Inventory. Each of these documents are summarized below.

2022 Bolivar Active Transportation Plan

In 2022, the City of Bolivar partnered with the Southwest Missouri Council of Governments to create an Active Transportation Plan to develop policies and infrastructure to improve safety, interconnectedness, and mobility. The plan was funded by the Missouri Department of Health and Senior Services through their Community Active Transportation Planning Grant. The plan includes analysis of existing conditions and future improvements on sidewalks, crosswalks, and bicycle facilities in the city. It also uses community needs and priorities to address the city's active transportation improvements. The community goals focused on safety, health, economic impact, mobility, and convenience to enhance the active transportation system for the city.

2020 Comprehensive Plan

In 2020, Bolivar created a comprehensive plan, *Believe in Bolivar 2040,* guiding the community's vision for the next twenty years. This plan, which was an updated version of the 2010 plan, focuses on elements such as transportation, housing, economic development, education, and others to determine guidelines for growth. These guidelines are based on community goals, objectives, policies, and strategies used in the planning process. Community goals and objectives consider factors such as community identity, health of the community, education, economy, and the built environment. This plan includes goals and objectives on transportation and mobility such as:

GOAL M*: Develop a safe, efficient transportation network that connects and accommodates a variety of modes and users.*

OBJECTIVE 1*: Accommodate a variety of transportation choices, modes, and users.*

OBJECTIVE 2*: Enhance connections between where people live and where they work and play.*

OBJECTIVE 3*: Improve the efficiency and safety of the transportation network.*

2020 Traffic Engineering Assistance Program Study for South Albany Avenue

The City of Bolivar developed a Traffic Engineering Assistance Program study with the help of Cook, Flatt, & Strobel Engineers. The study focused on South Albany Avenue starting from East Walnut Street to South Springfield Avenue. This report was funded through MoDOT's Traffic Engineering Assistance Program. The traffic study aims to focus on traffic and pedestrian safety issues, reduce delay time, and address conflict points on South Albany Avenue. This included analysis of existing conditions of South

Albany Avenue, observations of different traffic operations, traffic counts during peak hours, and various approaches to addressing issues. The recommendations for the improvements along South Albany Avenue as listed in the traffic report include the following:

- Install signage to make South Albany Avenue a northbound one-way street between South Springfield Avenue and East Maupin Street. Public engagement is needed prior to implementation.
- Construct a pedestrian bump-out at the intersection of South Albany Avenue & South Springfield Avenue to reduce pedestrian crossing distance and reduce the potential of a wrong way southbound vehicle.
- Use pavement markings and white vertical delineators to reduce the roadway width on South Albany Avenue between East Van Buren Street and East Maupin Street.
- Add a pedestrian facility (either a 6 ft sidewalk on the eastern side of South Albany Avenue or a 10 ft multi-use path on the western side of South Albany Avenue) which will require stormwater improvements.
- Along the pedestrian facility, install bike fix-it stations, benches, pedestrian-scale lighting, and other pedestrian-friendly accessories to create a welcoming environment for active transportation.
- Redesign the uncontrolled access at the shopping center along South Albany Avenue to reduce erratic parking maneuvers.
- Because of the 40 ft right-of-way constraints, install a 0.5 ft wide straight curb. For Concept 1, include special curb cuts to allow water to flow into the ditch. All new curb returns need to be designed to handle existing truck paths.
- Add streetlights at intersections along South Albany Avenue.
- Within the new greenspace along the roadway, installing street trees, native vegetation, landscaping berms, and "Green Infrastructure" Best Management Practices (BMPs) for increasing stormwater penetration can improve the aesthetic qualities of the roadside area.
- Pursue a grant through the Surface Transportation Block Grant Program (STBG) as a primary funding resource.

The estimated total cost of the improvements on South Albany Avenue determined by CFS (Cook, Flatt, & Strobel) engineers was $624, 550.35. The City of Bolivar funded the improvements through pursuing different grants, such as the Transportation Alternatives Program, Surface Transportation Block Grant Program, and others.

2017 Sidewalk Inventory

The City of Bolivar partnered with Southwest Missouri Council of Governments (SMCOG) to conduct a sidewalk inventory in 2017. This involved locating and assessing the overall conditions of the sidewalks in the area. The sidewalks were categorized into three conditions (good, fair, and poor) based on appearance, location, accessibility, and connectivity. SMCOG also conducted a manual pedestrian count at specific locations to determine community utilization of the sidewalks. After the assessment, a total of 20.89 miles of sidewalks were categorized with 64% being in good condition, 21% fair, and 15% in poor condition. The table below shows the conditions of the sidewalks.

RATING	MILES	PERCENTAGE

Good	13.38	64%
Fair	4.34	21%
Poor	3.17	15%
TOTAL	20.89	100%

TRANSPORTATION SYSTEM ANALYSIS

Bolivar's transportation was assessed on multiple pieces of criteria, including functional classification, traffic volume, and accident data. This data was used to analyze current conditions and potential future needs. Multimodal transportation was also analyzed to evaluate the city's pedestrian, bicycle, and rail networks, while land use was evaluated to analyze the relationship between planned land uses and the transportation network.

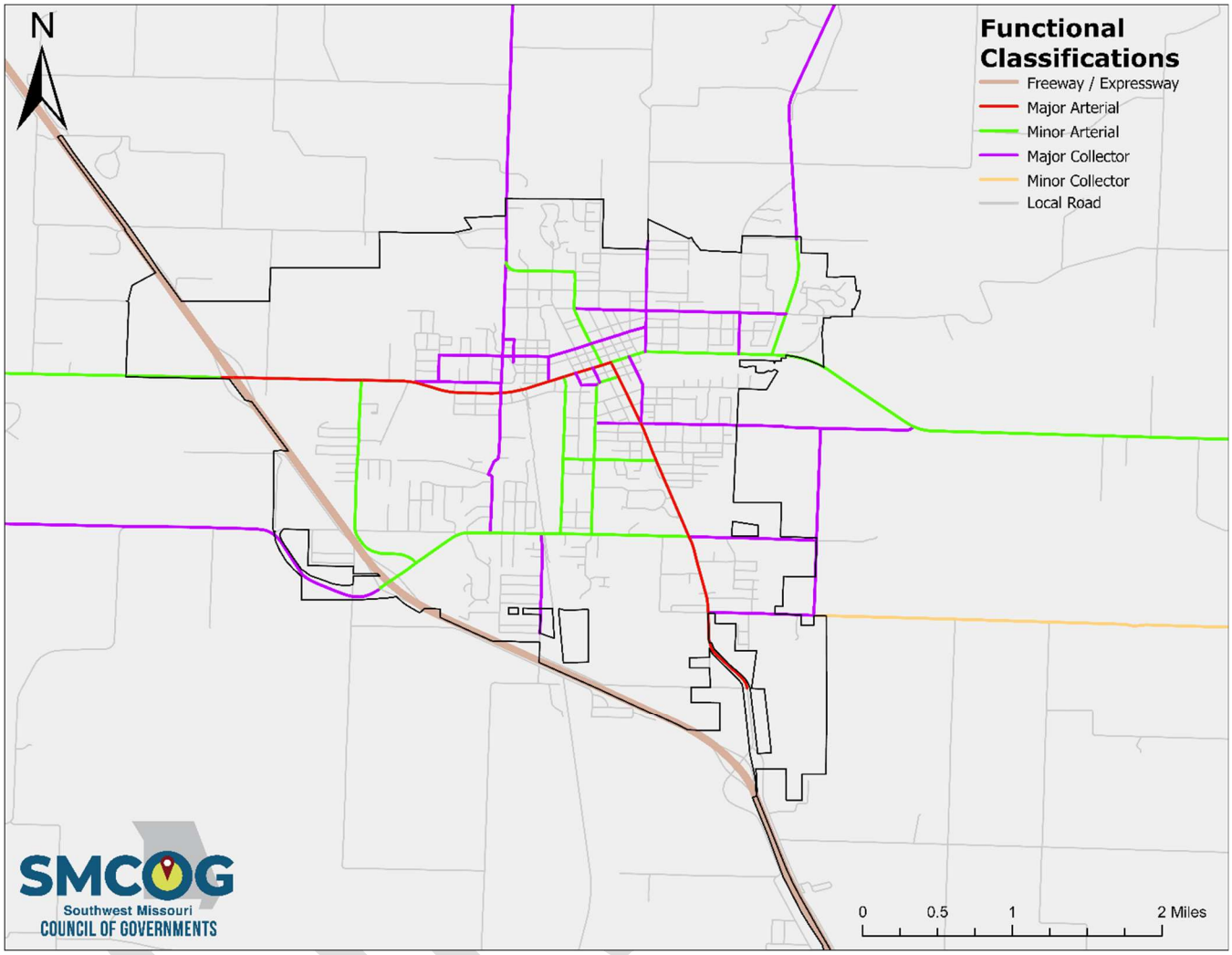
Functional Classification

Urban and rural roadways are classified by the Federal Highway Administration (FHWA) by their road function. Each function is based on the type of service the road provides, as well as its character of service. MoDOT periodically updates its functional classification maps to reflect the changes in travel patterns and land use. Maps are updated every ten years in line with the decennial census revisions. Functional classifications are listed in the table below, along with examples of Bolivar roads that fall under said classification. The Bolivar road network includes freeway/expressway, major arterial, minor arterial, major collector, and local roads.

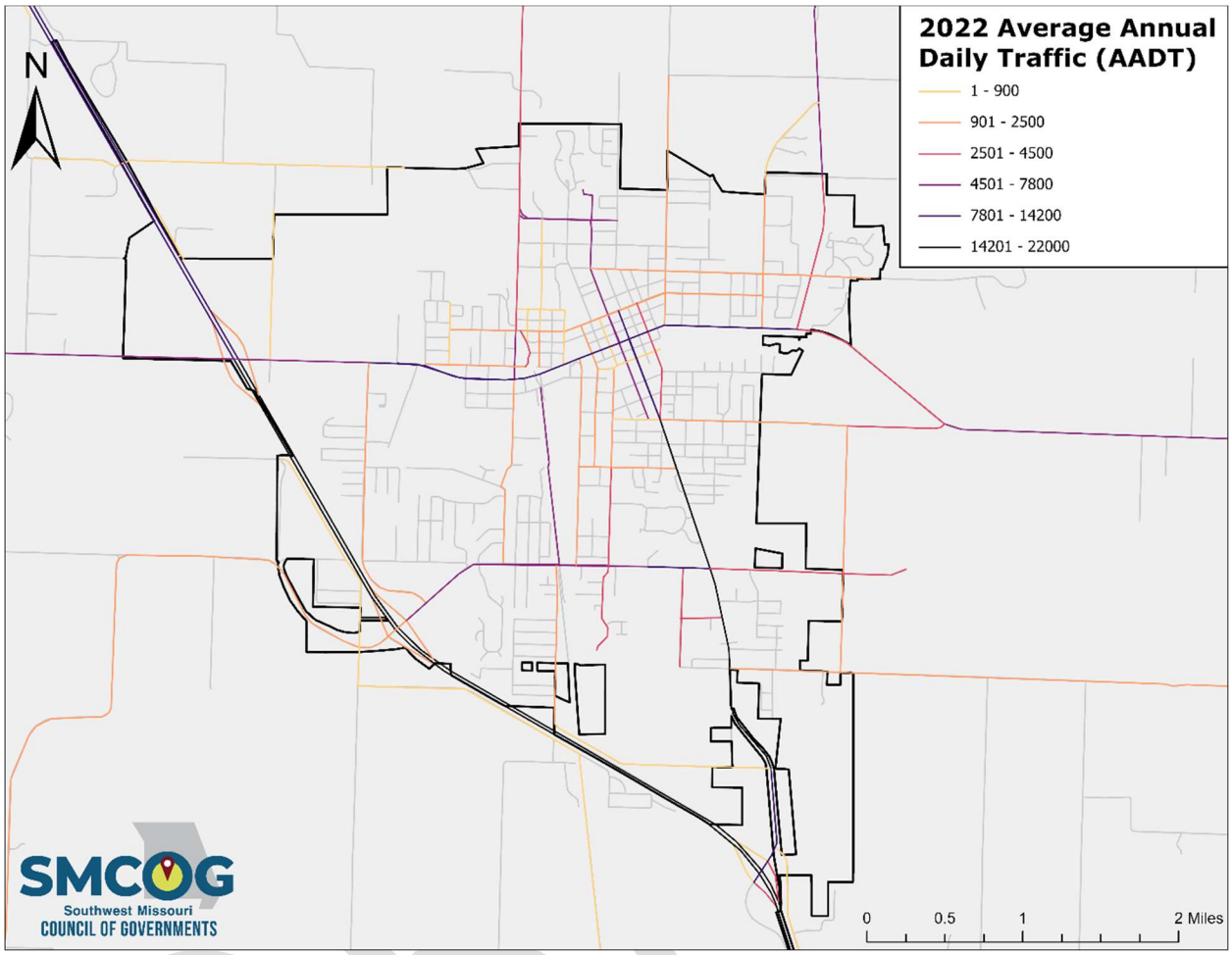
Functional Classification	**Description**	**Bolivar Roads**
Freeway/Expressway	Freeways and Expressways are roads that have directional travel lanes and are typically separated by a physical barrier of some kind. These roads have limited access points, mostly limited to on- and off-ramps with very few at-grade intersections. These roadways serve the purpose of facilitating long-distance travel, typically connecting cities.	MO-13
Major Arterial	These roadways act as the main thoroughfare through a city, providing a high level of mobility. Primary arterials do not have controlled access points, instead serving surrounding parcels directly. Rural areas typically have a single principal arterial road with other minor arterials and collector roads branching out from the main road. Unlike freeways and expressways, principal arterials	South Springfield Avenue Broadway Street

	typically have multiple at-grade intersections with other roadways.	
Minor Arterial	Minor arterials offer connectivity to principal arterials and act as another type of main thoroughfare. These roads provide relatively high travel speeds and have minimum interference to through movement. The main difference between minor arterials and principal arterials is typically seen in AADT values, with minor roads having an AADT of 3,000 – 14,000 and principal roads having an AADT of 7,000 – 27,000.	Aldrich Road South Pike Avenue (Aldrich to Jefferson) Tower Drive West Parkview Street Killingsworth Avenue West Forest Street South Boston (Mt. Gilead to Aldrich Road) Main Avenue (Buffalo to 32 Highway) North Pomme De Terre Avenue (D Highway)
Collector Roads	The main purpose of a collector road is to "collect" traffic from local roads and funnel them to arterial roads. In addition to serving this role of connecting local roads to arterial roadways, collectors often help circulate traffic within residential neighborhoods and commercial/industrial districts.	Mt Gilead Road East Buffalo Street North Springfield Avenue (Springfield Avenue to Locust Street) Oakland Avenue East Division Street East Harford Avenue West South Street Jones Street North Market Avenue (Market Avenue to Locust Street) Locust Street South Lilian Avenue

		North Albany Avenue 100-200 South Missouri South Morrisville Road West Fairplay Street (32 Highway to Oakland Avenue)
Local Roads	Local roads provide direct access to properties and connect residential areas to roadways with a higher functional classification. Local roads are often lined with several intersecting roadways and other access points like driveways and crosswalks. Speed limits on local roads are often low to help ensure traffic operations are safe due to the frequency of intersections. Local roads typically see the lowest AADT volumes of any road type but account for the largest percentage of roadways in terms of mileage.	All residential streets

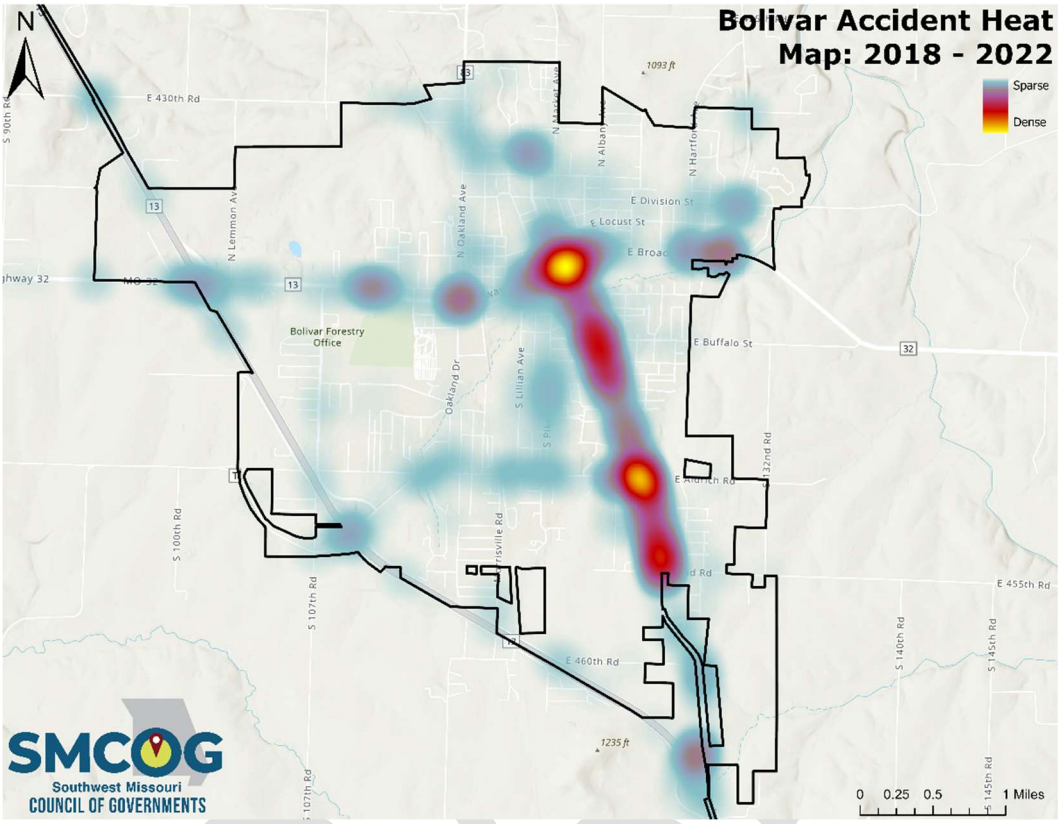

N
Functional Classifications
Freeway / Expressway
Major Arterial
Minor Arterial
Major Collector
Minor Collector
Local Road
SMCOG
Southwest Missouri
COUNCIL OF GOVERNMENTS
0
0.5
1
2 Miles

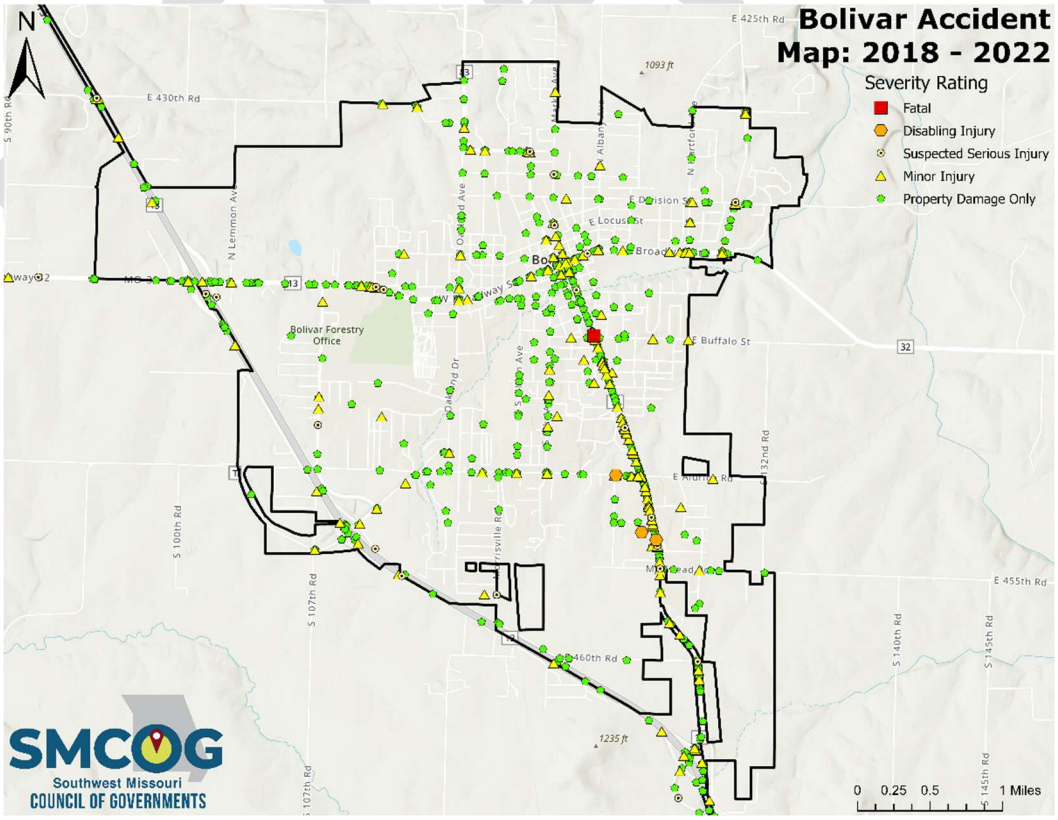
Traffic Volume



Traffic volume is another important factor to consider when analyzing the present conditions of the transportation network. 2022 traffic volume data from Missouri Department of Transportation (MoDOT) was used and reviewed for this process. Average Annual Daily Traffic (AADT) is a common metric used to evaluate traffic density on a road. This metric can be obtained by taking the total volume of vehicle traffic on a road during a year and dividing it by 365. The first primary corridor to consider is MO-83, as it serves as a primary arterial road and facilitates the bulk of the North-South travel in Bolivar. MO-83 is comprised of several roads in Bolivar, including Springfield Avenue and Main Avenue. Springfield Avenue has an AADT of 14,829, which is the highest AADT for any corridor in the city. Main Avenue is another major road comprising MO-83 which facilitates travel through the downtown area, having an AADT of 5,961. Both Broadway Street and Aldrich Road also see a high level of use in Bolivar, acting as the primary corridor for East-West travel. Broadway Street has an AADT of 9,908, while Aldrich Road has an AADT of 3,922. The final primary corridor of note is MO-13, the main road which provides access to Bolivar to much of the region. MO-13 has an AADT of 10,687.

Accident Review

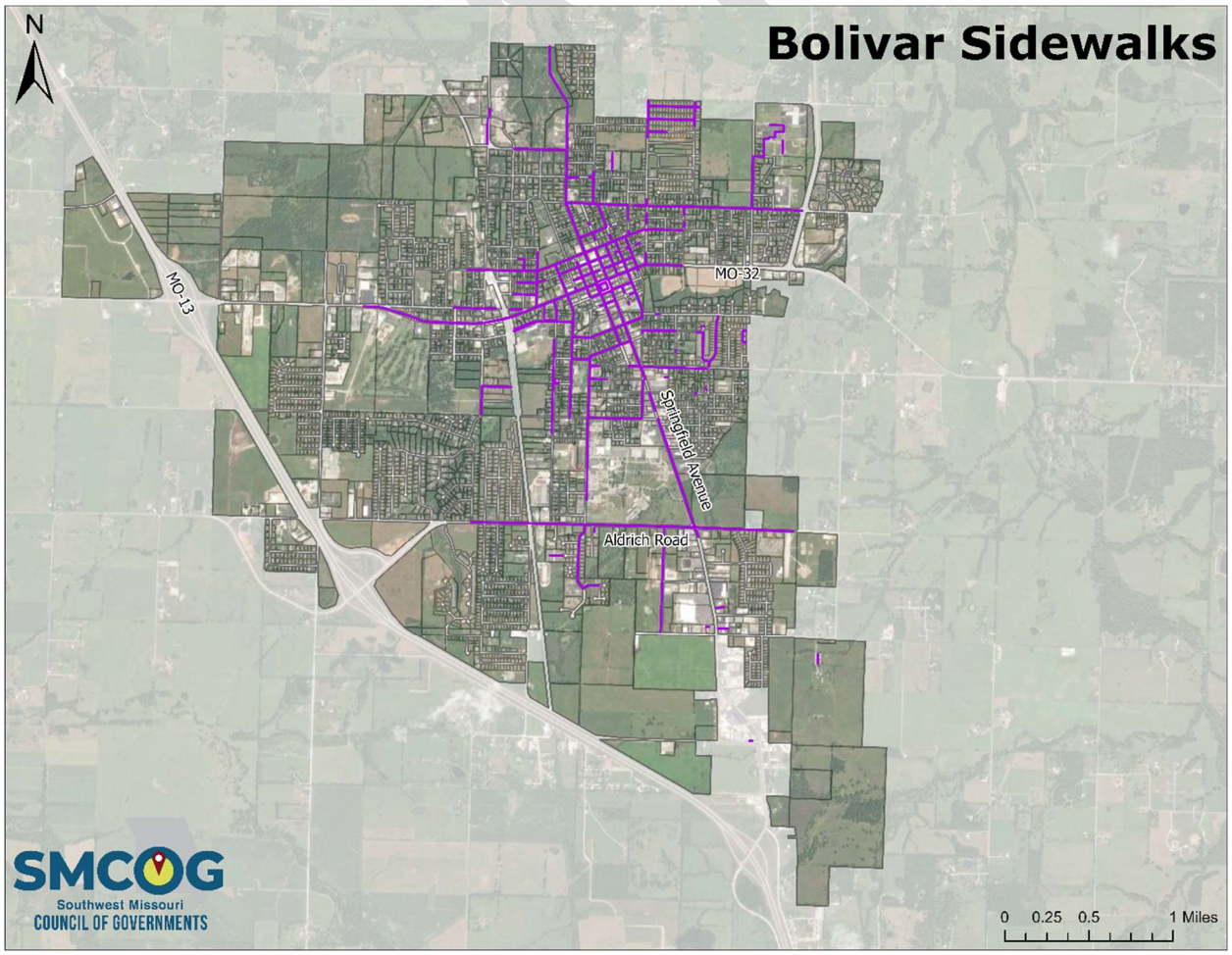




Accident data from the MoDOT was analyzed over the five-year period from 2018 to 2022. During this period, there were a total of 1,151 accidents in Bolivar, including 910 property damage-only crashes. Of those 910, 206 caused minor injuries, 28 caused suspected serious injuries, 4 caused disabling injuries, and 3 were fatal crashes. The majority of these accidents took place on Springfield Avenue, Broadway Street, and Aldrich Road. 405 crashes occurred on Springfield Avenue during the five-year period. Of those, 69 caused minor injuries, 7 caused suspected serious injuries, one caused a disabling injury, and one was a fatal crash. 224 crashes occurred on Broadway Street. Of those, 44 caused minor injuries and three caused suspected serious injuries. 86 crashes occurred on Aldrich Road. Of those, 16 crashes caused minor injuries and one accident caused a disabling injury.

Sidewalks

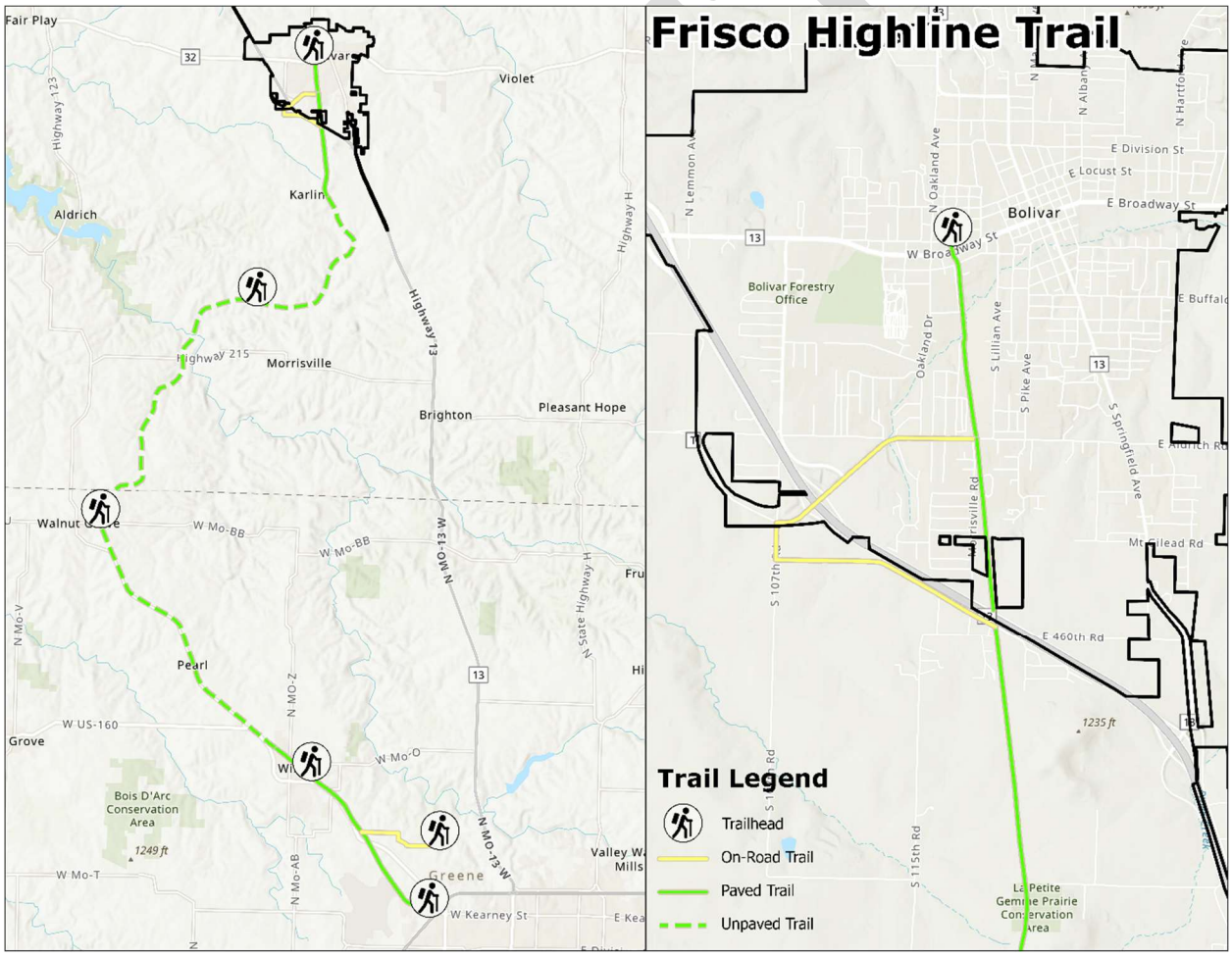
Bolivar has a total of 46.6 miles of sidewalks within city limits. However, the majority of these sidewalks are concentrated in high-use areas like the Bolivar downtown, while residential areas have limited or no sidewalk facilities. Residents outside the downtown area have limited options for non-vehicular transportation and are primarily reliant on driving to reach their destinations. To enhance community safety and promote a more efficient transportation network, it is important to implement additional sidewalk segments, bike paths, safe crossings, and general infrastructure improvements throughout Bolivar. These measures would not only increase accessibility but also provide residents with more options for walking, biking, and other multimodal transportation.



Trails

There are two primary trails in Bolivar, the Dunnegan Park Trail and the Frisco Highline Trail. Dunnegan Park Trail is a local trail less than a mile in length which is commonly used by residents in the surrounding neighborhoods. It is a gravel trail with very little lighting, making many residents uncomfortable with using it at night.

The Frisco Highline Trail is a regional biking and walking trail that connects Bolivar to Springfield, passing through towns like Walnut Grove and Willard along its 35-mile span. This trail acts as a great transportation thoroughfare for cyclists looking to travel through the region. Despite its popularity and potential to attract visitors to Bolivar, there is currently no convenient crossing point for cyclists on the trail to access Bolivar while crossing Highway 13. Presently, cyclists are left with two options: either take a significant detour on Prairie Lane and Aldrich Avenue or attempt to cross Highway 13 without proper crossing, putting themselves and others at risk.



Multimodal Network Connectivity

To enhance mobility options and ensure the transportation system caters to people of all ages, abilities, and transportation methods, it is essential to establish interconnected paths that facilitate seamless travel for pedestrians and cyclists to all areas within the city. As the city has expanded, the multimodal

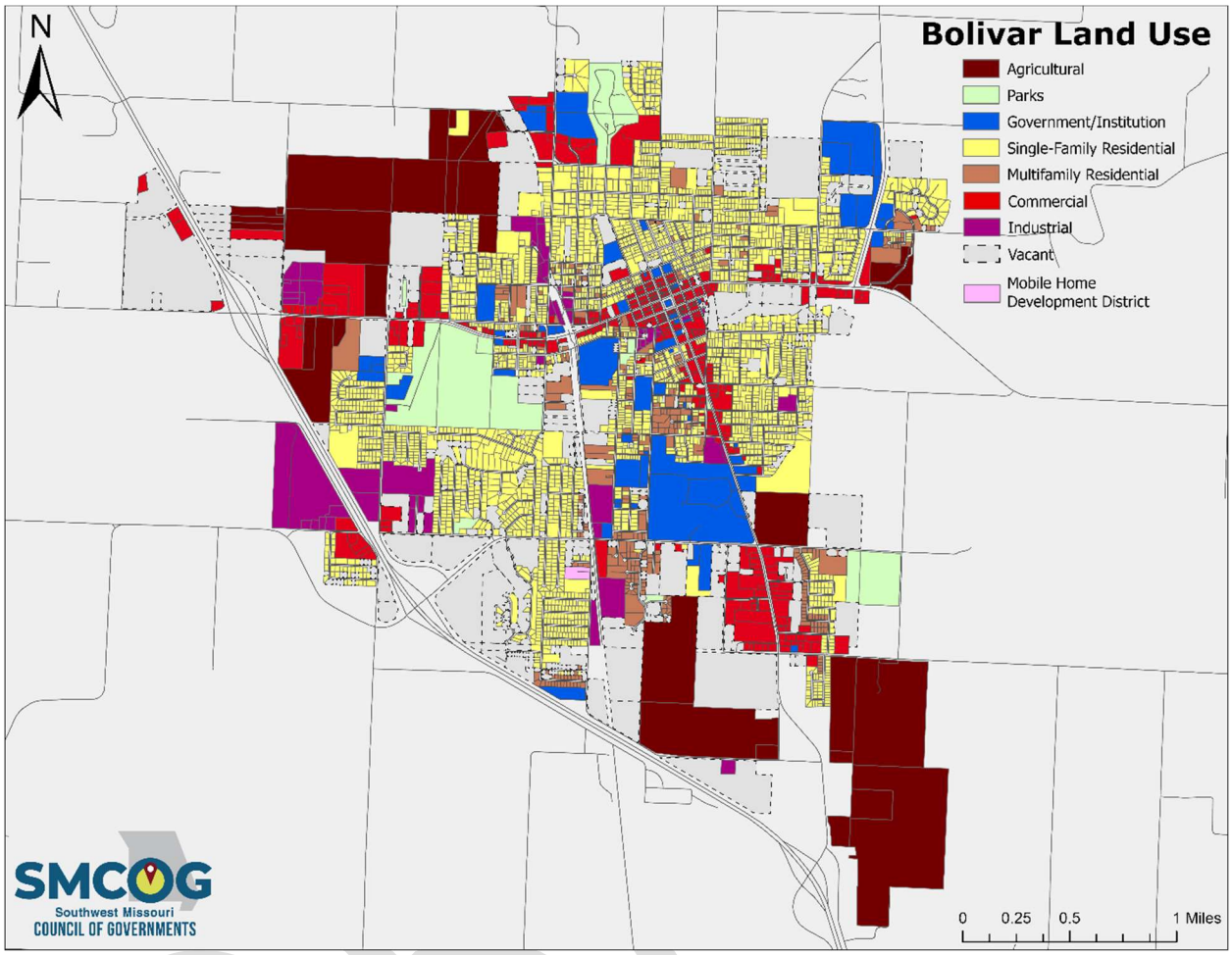
transportation network has not grown in tandem. While it would be ideal to expand multimodal infrastructure to most areas throughout the city, it is not feasible to complete the entire network at once. This makes it important to identify and prioritize high-priority locations for infrastructure improvements, implementing them as resources become available.

One major challenge in enhancing connectivity is accommodating pedestrians and cyclists on arterial roads, which serve as key transportation corridors within the city. While these roads are prime candidates for multimodal transportation infrastructure improvements, safety considerations should take precedence. Arterial roads are typically characterized by their high speeds and congestion, making it difficult to implement multimodal infrastructure that ensures the safety of residents while also meeting their transportation needs.

Connectivity can also be reinforced through city policies and zoning codes. Several developments in the city have poor connectivity due to the lack of sidewalks and frequent use of street designs that incorporate cul-de-sacs and other designs which limit the connectivity of roadways and pedestrian infrastructure.

The inclusion of bike lanes is another important aspect of a comprehensive multimodal network. Bike lanes offer an alternative to vehicular transportation, improving the local transportation system while promoting community health through increased physical activity. Similar to the previous discussion on sidewalks, safety remains paramount for the bike network. Residents and city officials have identified the need for separated bike paths instead of on-road bike lanes to enhance safety for both cyclists and drivers, minimizing the risk of accidents. Increasing the width of sidewalks adjacent to roads with identified bike needs to 10 feet can accommodate both cyclists and pedestrians effectively. Several elements can also be incorporated into the street design to provide a safer experience for residents using the active transportation system, including proper use of traffic signals, speed limits, signage, and pedestrian crossings.

Land Use



The City of Bolivar consists of the following land uses:

- 29.38% Residential
  - 15.5% Single-Family Housing
  - 13.88% Multi-Family Housing
- 24.53% Vacant
- 20.23% Agricultural
- 8.58% Commercial
- 6.81% Governmental/Institutional
- 5.35% Parks
- 5% Industrial

The land use map can provide valuable insight into the effectiveness of the transportation network. Land use decisions have a large amount of influence on traffic congestion in an area, as poorly planned land uses can result in increased congestion. When combined properly, cities can minimize congestion and decrease travel times for all residents. Land uses also affect the need for transportation infrastructure, as new developments require additional infrastructure improvements to ensure residents can access essential services and amenities. Planning for appropriate infrastructure in tandem with land

use decisions is essential to meet the needs of the growing community and provide an efficient transportation network for all.

Decision-Making Process

A process for decision-making was created to help the city determine higher priority transportation needs to pursue. For each need, a goals analysis was completed based on community priorities identified through the community survey, while a risk analysis was completed to assess the ease of implementation. Each listed need includes a matrix table that outlines these two analysis processes to guide the city in determining the best course of action when prioritizing transportation projects. An overview of the methodology on which projects were analyzed is shown below.

Goal Analysis

Community goals were identified through a combination of the results of the community survey and input from the transportation planning committee. The four goals listed provide a foundation for decision-making to maintain and enhance the Bolivar transportation system.

- **Safety**: Promotes safety and security for all users of the transportation network.
- **Economic Impact**: Encourages economic growth and vitality by providing transportation infrastructure that ensures job accessibility and opportunities.
- **Congestion**: Supports an efficient transportation system that addresses congestion relief. One of the main metrics used to evaluate these areas is the Annual Average Daily Traffic (AADT) which is the total volume of vehicle traffic on a street or road. This document uses 2022 AADT data obtained from MoDOT.
- **System Maintenance**: Maintains and repairs the transportation system i.e., restriping, repaving, filling potholes, etc.

Risk Analysis

It is important to assess the ease of implementation for each need. While all these needs are feasible, some can be implemented more easily than others for a variety of reasons. The following factors should be assessed when considering the feasibility of new projects or needs:

- **Right-of-Way**: Right-of-Way (ROW) is a type of easement granted over land for transportation purposes. ROW acquisition is a complex process and may involve many participants. The cost and duration of ROW acquisitions are influenced by various factors such as related laws and regulations, project characteristics, relationships with property owners, and parcel characteristics.
- **Financing Partnerships**: Depending on the project type and location, there are a variety of potential funding and financing options that are available through federal and state programs and grants. A lack of funding opportunities may impact the city's financial ability to complete a project.
- **Phasing Options**: Many projects can be implemented over time to align with the city's financial capacity. However, a lack of phasing options due to construction or design may influence the city's ability to implement a project.

- **Permitting**: The city may be required to complete environmental clearances and receive state or other permits. The permitting process may impact the length of time for project implementation.

Decision-Making Matrix

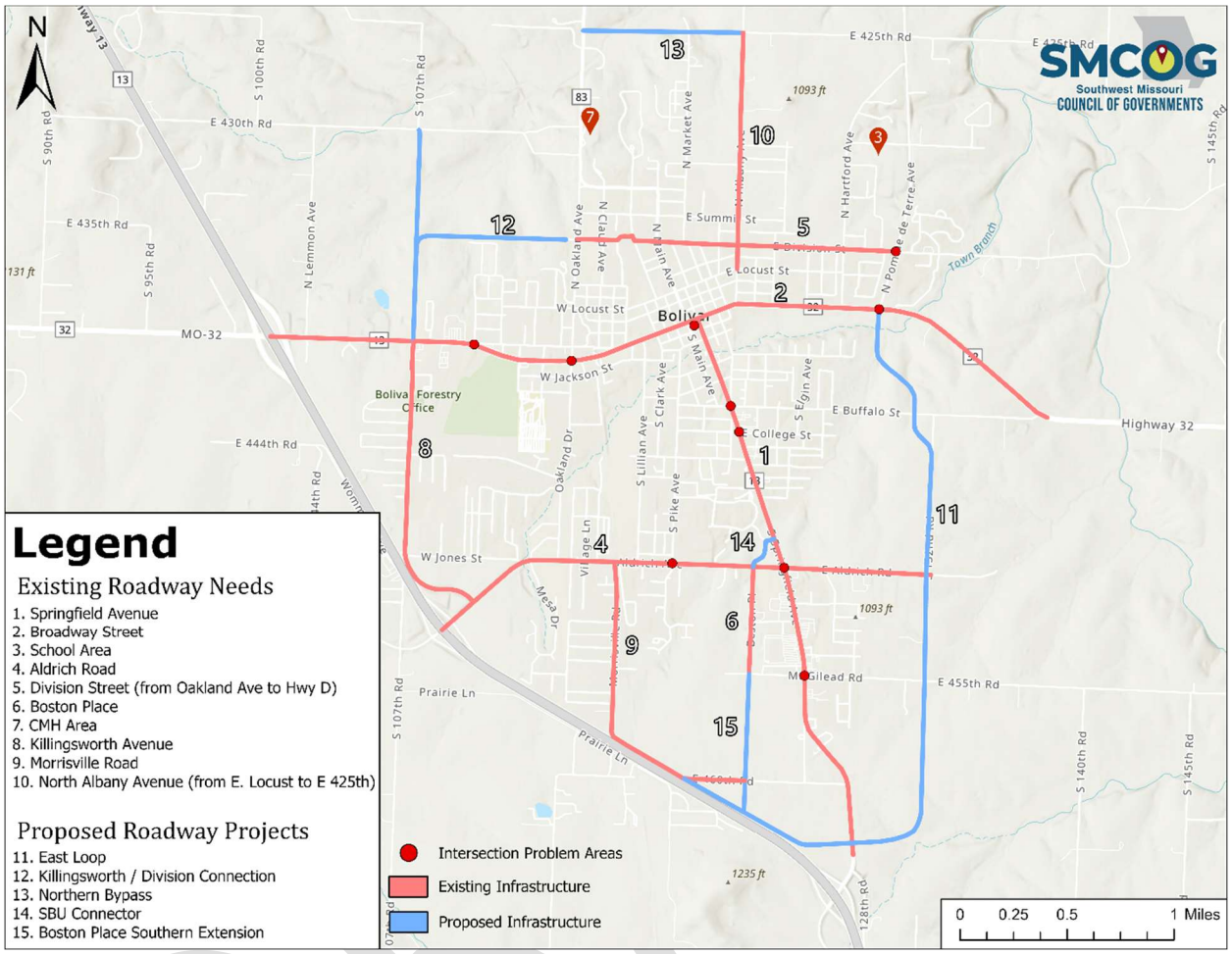
A matrix table was created to evaluate each need brought forward by the community survey and the Transportation Planning Committee (TPC) to assess how well they meet community goals while considering possible risks for each transportation need. These needs are given a numerical score in each section, which is then used to create a composite score. This score gives each project a value denoting how well it meets the goals of the community and the likelihood of the project being implemented easily. This total score should not be the only thing considered when evaluating a need, as some needs that best address the goals of the community may have risks involved. This score is meant to help guide the decision-making process by providing a value that combines these factors together.

Needs should be reevaluated over time, as some needs which may be considered a risk now, due to a lack of financial partnerships or issues with permitting, may change with time as more financing options open and policies change. This table provides a basic metric with which to evaluate needs and is subject to change as the city continues to grow and evolve. Additional comments on reasonings for scores are provided when necessary. An example of a matrix table is provided below.

Example Project		
Safety	1	History of accidents at this intersection.
Economic Impact	1	Provides access to major commercial corridor.
Congestion	0.5	AADT: 14,462
System Maintenance	0.5	Area in need of restriping and signage.
Right-Of-Way/Easements	1	City has the ROW on this road.
Financing Partnerships	0	No financing partnerships are available.
Phasing Options	0.5	Could possibly be implemented over time.
Permitting	1	Does not require any permits.

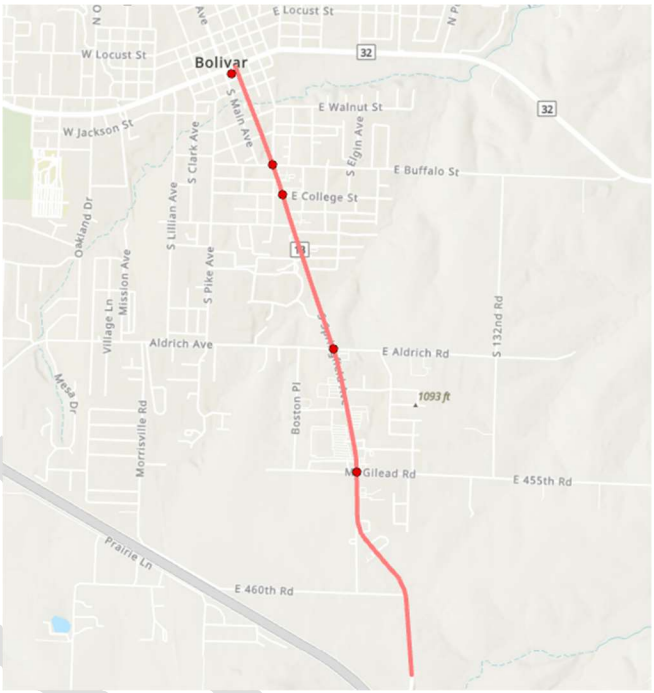
Goals Analysis Values:
0: Doesn't meet the goal
0.5: Partially meets the goal
1: Meets the goal

Risk Analysis Values:
0: Difficult to implement
0.5: Partially easier to implement
1: Easier to implement


N
SMCOG
Southwest Missouri
COUNCIL OF GOVERNMENTS
Legend
Existing Roadway Needs
1. Springfield Avenue
2. Broadway Street
3. School Area
4. Aldrich Road
5. Division Street (from Oakland Ave to Hwy D)
6. Boston Place
7. CMH Area
8. Killingsworth Avenue
9. Morrisville Road
10. North Albany Avenue (from E. Locust to E 425th)
Proposed Roadway Projects
11. East Loop
12. Killingsworth / Division Connection
13. Northern Bypass
14. SBU Connector
15. Boston Place Southern Extension
Intersection Problem Areas
Existing Infrastructure
Proposed Infrastructure
0 0.25 0.5 1 Miles
E 425th Rd
E 430th Rd
E 435th Rd
E 444th Rd
E 455th Rd
MO-32
Highway 32
W Locust St
E Locust St
E Summit St
W Jackson St
E College St
E Buffalo St
W Jones St
E Aldrich Rd
MO Gilead Rd
Prairie Ln
N Market Ave
N Hartford Ave
N Pomme de Terre Ave
N Oakland Ave
N Clark Ave
S Main Ave
S Clark Ave
S Lillian Ave
S Pike Ave
S Elgin Ave
Oakland Dr
Village Ln
Mesa Dr
S 107th Rd
S 100th Rd
S 90th Rd
S 95th Rd
N Lemmon Ave
S 140th Rd
S 145th Rd
128th Rd
Town Branch
1093 ft
1235 ft
131 ft
Bolivar Forestry Office

Existing Roadway Needs

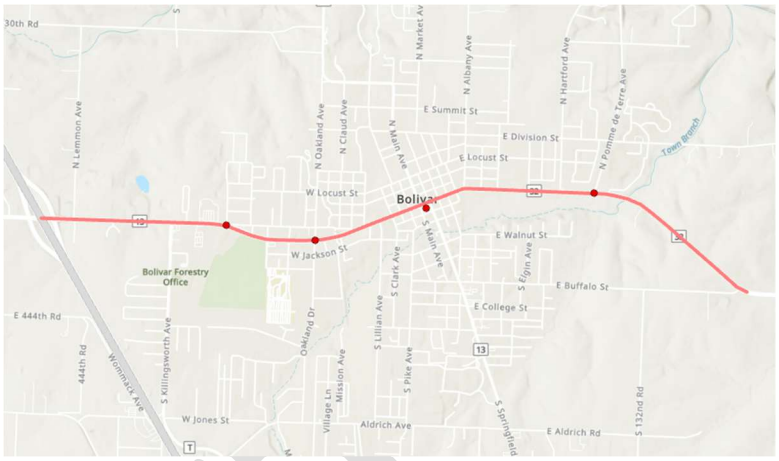
1. Springfield Avenue



Springfield Avenue, a part of MO-83 under the jurisdiction of the Missouri Department of Transportation, facilitates the bulk of the north-south traffic through Bolivar. The road has an Average Annual Daily Traffic (AADT) of 14,463 and a speed limit ranging from 20 to 55 MPH. Between 2018 and 2022, 387 accidents occurred on Springfield Avenue, including one fatal crash, one crash causing disabling injury, 7 causing suspected serious injuries, and 67 causing minor injuries. Concerns have been raised addressing the congestion of the road and issues at several intersections along the corridor, including Broadway Street, Buffalo Street, College Street, Aldrich Road, and Mt. Gilead Rd. Residents have also voiced a need for additional curb cuts and the construction of a north/south bypass for the area. The intersection at Springfield Avenue and Aldrich Road received multiple complaints regarding the timing of the light and general congestion that builds up around rush hour. Extensions to the turn lanes have been requested, as has the implementation of a stoplight at the intersection of Springfield Avenue and Mt. Gilead to accommodate traffic flow.

Safety	1	387 accidents occurred on this corridor between 2018 and 2022, including one fatal crash, one crash causing a disabling injury, 7 causing suspected serious injuries, and 67 causing minor injuries.
Economic Impact	1	Major commercial corridor
Congestion	1	AADT: 14,462
System Maintenance	0	MoDOT maintained
Right-Of-Way/Easements	0	Significant ROW acquisition required from MoDOT
Financing Partnerships	0.5	May partner with MoDOT
Phasing Options	1	Projects can be phased
Permitting	0	Significant process with MoDOT, environmental review

2. Broadway Street

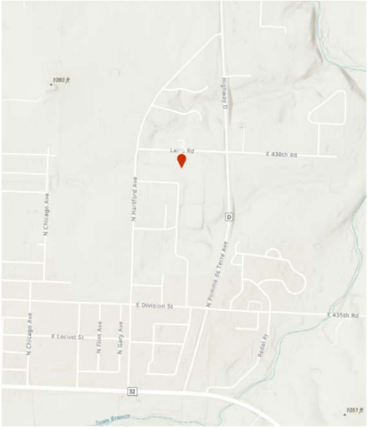


Broadway Street, a part of MO-32 under the jurisdiction of MoDOT, facilitates the bulk of the east-west traffic through Bolivar. The road has an Average Annual Daily Traffic (AADT) of 7,152 and a speed limit ranging from 20 to 55 MPH. Between 2018 and 2022, 202 accidents occurred on Broadway Street, including 3 causing suspected serious injuries, and 40 causing minor injuries. Residents have requested changes to the road itself, as well as specific intersections along the corridor. The chief concern in the area is general congestion along the road, with many residents wanting the corridor widened. A number of traffic lights have also been requested to assist with congestion, including the intersections of Broadway and Highway D, Broadway and Oakland Avenue, and the intersection leading to the Bolivar Recreation Center and Polk County Library.

Another primary concern along the Broadway Street corridor is the area surrounding the Square, where Broadway Street intersects with Springfield Avenue and Main Avenue. “The Square” is the common name used to refer to a collection of streets within the Bolivar Downtown area surrounding the Bolivar Court House. This area received more comments in the community survey than any other area in the city, with 183 comments mentioning the area by name as the place most in need of attention. 59 crashes have occurred in this area between 2018 and 2022, 14 of which are included in the previously mentioned 202 accidents occurring on Broadway Street. Of these 59 crashes, 5 resulted in minor injuries. While MoDOT made changes to the area in the last few years in response to citizen concerns, residents are still unhappy with the state of the intersection and have suggested a variety of possible changes, including the reintroduction of traffic lights, converting the area into a roundabout, or routing traffic away from the Square.

Safety	1	202 accidents occurred in this corridor between 2018 and 2022, including 3 causing suspected serious injuries and 40 causing minor injuries.
Economic Impact	1	Major commercial corridor
Congestion	1	AADT: 7,152
System Maintenance	0	MoDOT maintained.
Right-Of-Way/Easements	0	Significant ROW acquisition required from MoDOT
Financing Partnerships	0.5	May partner with MoDOT
Phasing Options	1	Projects can be phased
Permitting	0	Significant process with MoDOT, environmental review

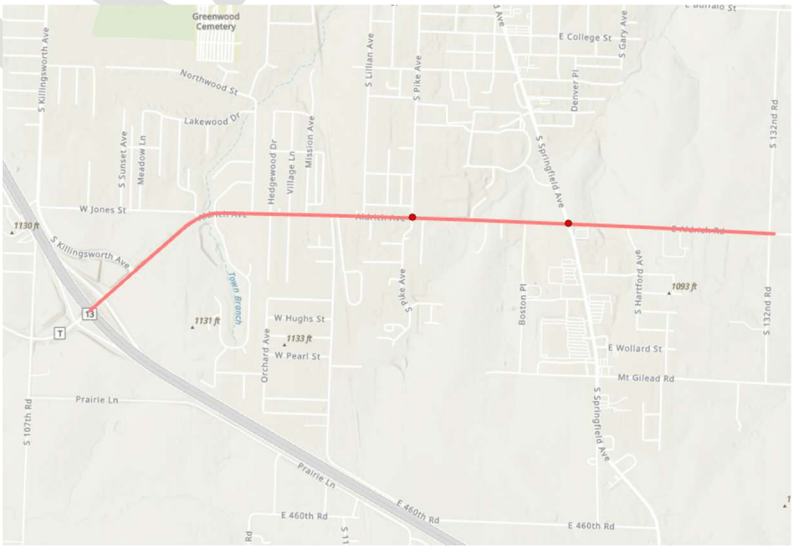
3. School Area



The School Area refers to the roads and intersections surrounding Bolivar High School, Bolivar Intermediate School, and the Early Childhood Development Center. This includes North Pomme De Terre Avenue/Highway D, North Hartford Avenue, Division Street, East Laird Street, and all intersections contained within these roads. Congestion has become a chief concern in this area, especially during drop-off and pick-up times when the problem becomes especially apparent. The intersection at Division Street and North Pomme De Terre has been especially problematic during peak hours and requires the implementation of additional traffic calming measures, such as a streetlight.

Safety	1	24 crashes have occurred in the area surrounding the school between 2018 and 2022, one causing suspected serious injuries and 8 causing minor injuries.
Economic Impact	0	Doesn't provide direct access to commercial area.
Congestion	0.5	
System Maintenance	0.5	Improvements needed.
Right-Of-Way/Easements	1	City has ROW
Financing Partnerships	0.5	Traffic calming grants?
Phasing Options	1	Projects can be phased
Permitting	0.5	There might be issues with acquiring permits.

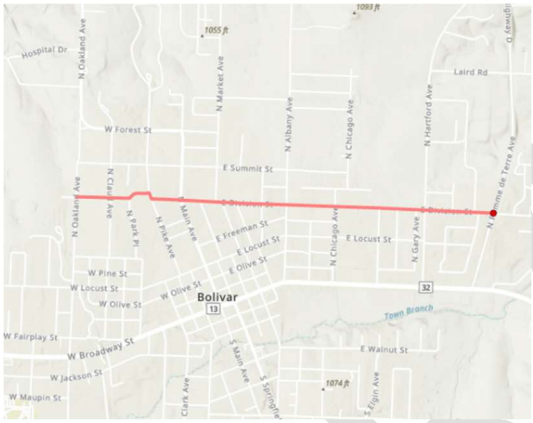
4. Aldrich Road



Aldrich Road is a road under the jurisdiction of the City of Bolivar and acts as a minor arterial road facilitating east-west travel in southern Bolivar. The road has an Average Annual Daily Traffic (AADT) of 4,113 and a speed limit ranging from 40 to 45 MPH. Between 2018 and 2022, 81 crashes occurred on Aldrich Road, including one causing a disabling injury and 16 causing minor injuries. Residents have requested additional lanes be added to the corridor, as well as the construction of additional lights along the road (i.e., Aldrich Road and Boston Place). Residents have also requested the road be resurfaced and repaved.

Safety	0.5	81 crashes occurred on this corridor between 2018 and 2022, including one causing a disabling injury and 16 causing minor injuries.
Economic Impact	1	Provides direct access to the dense commercial area.
Congestion	1	AADT: 4,113
System Maintenance	1	Need resurfacing and repaving.
Right-Of-Way/Easements	1	City has ROW
Financing Partnerships	0.5	Potential cost-share opportunities
Phasing Options	1	Projects can be phased
Permitting	0.5	There might be issues with acquiring permits.

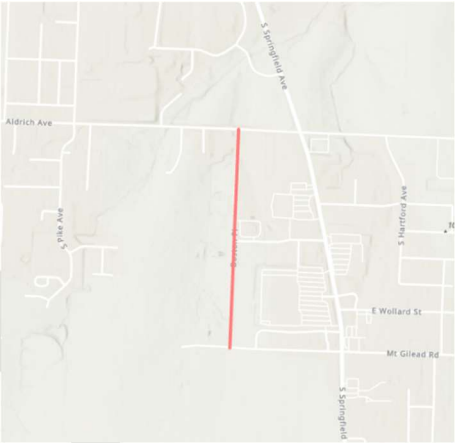
5. Division Street (from Oakland Avenue to Highway D)



Division Street is under the jurisdiction of the City of Bolivar and acts as a major collector road, connecting residential neighborhoods to arterial roads like Pomme De Terre Avenue and North Main Avenue. Division Street is also one of the main roads that facilitate travel to the schools in northeast Bolivar. The road has an Average Annual Daily traffic (AADT) of 1,336 and a posted speed limit of 30-MPH (Division also includes a section with a speed limit of 15 MPH within the School Zone). Between 2018 and 2022, 22 crashes occurred on Division Street, 6 of which caused minor injuries. Residents have noted the need for maintenance on this road and voiced concerns regarding the intersection of Division Street and Highway D, where a traffic light has been requested to assist with congestion during school drop-off and pick-up hours. There has also been discussion of road widening along this corridor to accommodate additional traffic, essentially converting the road into an alternative east-west arterial.

Safety	0.5	22 crashes occurred on this corridor between 2018 and 2022, 6 of which cashed minor injuries
Economic Impact	0	Does not provide access to commercial area.
Congestion	0.5	AADT: 1,336
System Maintenance	0.5	Curb and gutter
Right-Of-Way/Easements	1	City has ROW
Financing Partnerships	0.5	Potential cost-share opportunities
Phasing Options	1	Projects can be phased
Permitting	0.5	There might be issues with acquiring permits.

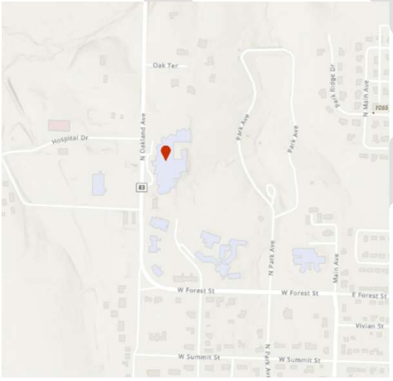
6. Boston Place



Boston Place is a local road under the jurisdiction of the City of Bolivar with a few commercial developments along the corridor. The area is likely to see additional development in the near future. The road has an Average Annual Daily Traffic (AADT) of 3,803 and has a posted speed limit of 30 MPH. Between 2018 and 2022, 22 crashes occurred on Boston Place, with one accident-causing disabling injuries and two crashes causing minor injuries. The primary concern along this corridor is the intersection of Boston Place and Aldrich Road, where residents have noted their desire for a traffic light to accommodate the increased traffic in the area resulting from additional development. 18 of 22 crashes on this corridor occurred at this intersection, highlighting the need for traffic calming measures.

Safety	0.5	11 crashes occurred on this corridor between 2018 and 2022, one of which caused minor injuries.
Economic Impact	1	Provides access to commercial area.
Congestion	0.5	AADT: 3,803
System Maintenance	0.5	Improvements needed
Right-Of-Way/Easements	1	City has ROW
Financing Partnerships	0.5	Potential cost-share opportunities
Phasing Options	1	Projects can be phased
Permitting	0.5	There might be issues with acquiring permits.

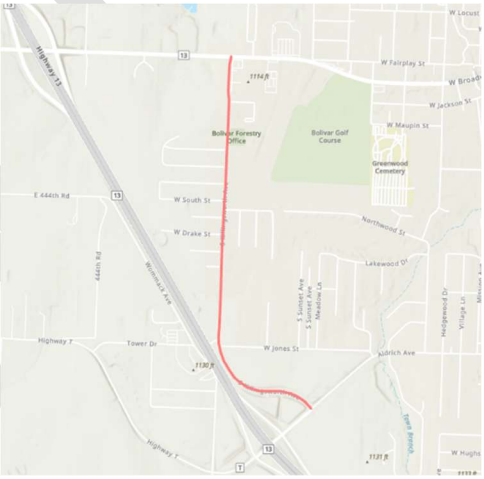
7. CMH Area



The CMH Area refers to the roads and intersections surrounding Citizens Memorial Hospital and the rest of the medical services located on the northwest side of Bolivar. This includes Parkview Street, North Oakland Avenue, West Forest Street, Park Avenue, North Claud Avenue, and all intersections contained within these roads. Residents have noted the need for road maintenance in this area to improve road conditions, as well as issues with the Oakland Avenue/Forest Street intersection. Residents also noted the desire to see a bypass road connecting the CMH area to Highway D and the School Area.

Safety	0.5	42 crashes occurred on this corridor between 2018 and 2022, with 10 causing minor injuries and one causing suspected serious injuries.
Economic Impact	1	Provides access to commercial area.
Congestion	0.5	
System Maintenance	0	City and MoDOT maintained.
Right-Of-Way/Easements	1	City has ROW
Financing Partnerships	0.5	Potential cost-share opportunities
Phasing Options	1	Projects can be phased
Permitting	0.5	There might be issues with acquiring permits.

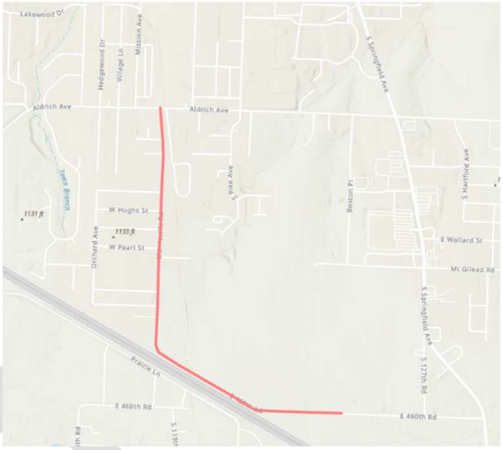
8. Killingsworth Avenue



Killingsworth Avenue is a road under the jurisdiction of the City of Bolivar which acts as a minor arterial road, facilitating north-south travel between Aldrich Road and Broadway Street. The road has an Average Annual Daily Traffic (AADT) of 1,950 and a posted speed limit of 35-MPH. Between 2018 and 2022, 8 crashes occurred on Killingsworth Avenue, with 3 causing minor injuries and one causing suspected serious injuries. In addition to its role in facilitating north-south travel, Killingsworth Avenue also acts as the primary connection to Bolivar Ready Mix & Material and Tracker Marine, both of which are major employers in the area. Some residents have requested additional lanes be built and the road be curbed, with others discussing the need for a traffic signal to be implemented at the intersection of Killingsworth and Aldrich Road.

Safety	0.5	8 crashes occurred on this corridor between 2018 and 2022, with 3 causing minor injuries and one causing suspected serious injuries.
Economic Impact	1	Provides access to commercial area.
Congestion	0.5	AADT: 1,950
System Maintenance	1	Curb and gutter
Right-Of-Way/Easements	1	City has ROW
Financing Partnerships	0.5	Potential cost-share opportunities
Phasing Options	1	Projects can be phased
Permitting	0.5	There might be issues with acquiring permits.

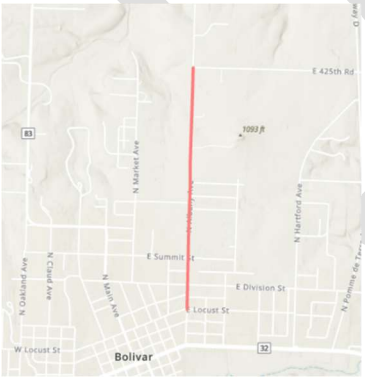
9. Morrisville Road and Hendrickson Street



Morrisville Road and Hendrickson Street are both roads under the jurisdiction of the City of Bolivar that acts as a collector road, connecting residential areas to arterial roads like Aldrich Road and Springfield Avenue. The road has an Average Annual Daily Traffic (AADT) of 1,078 and a posted speed limit of 30-MPH. Between 2018 and 2022, 9 accidents occurred on Morrisville Road, one of which caused suspected serious injuries. With the proposed East Loop Road that would likely connect to Hendrickson Street, there will potentially be commercial development along the southern portion of the corridor. For this reason, there has been discussion of implementing curb and gutter improvements and possibly widening the road to accommodate additional traffic that would result from new developments.

Safety	0.5	9 cashes occurred on this corridor between 2018 and 2022, one of which caused suspected serious injuries.
Economic Impact	0	Does not provide access to commercial area.
Congestion	0.5	AADT: 1,078
System Maintenance	1	Curb and gutter
Right-Of-Way/Easements	1	City has ROW
Financing Partnerships	0.5	Potential cost-share opportunities
Phasing Options	1	Projects can be phased
Permitting	0.5	There might be issues with acquiring permits.

10. North Albany Avenue



North Albany Avenue is a road under the jurisdiction of the City of Bolivar which acts as a major collector road, connecting residential areas to Broadway Street. The road has an Average Annual Daily Traffic of 1,477 and a posted speed limit of 30-MPH. Between 2018 and 2022, 4 injuries occurred on North Albany Avenue, one of which caused minor injuries. There has been discussion of implementing curb and gutter infrastructure along this road, as well as possible road widening to accommodate traffic.

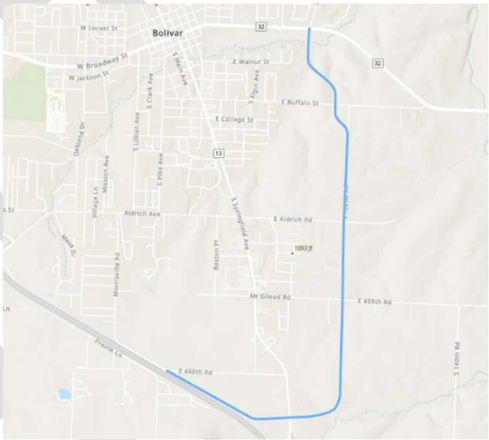
Safety	0.5	4 injuries occurred on this corridor between 2018 and 2022, one of which caused minor injuries.
Economic Impact	1	Does not provide access to commercial area.

Congestion	0.5	AADT: 1,477
System Maintenance	1	Curb and gutter
Right-Of-Way/Easements	1	City has ROW
Financing Partnerships	0.5	Potential cost-share opportunities
Phasing Options	1	Projects can be phased
Permitting	0.5	There might be issues with acquiring permits.

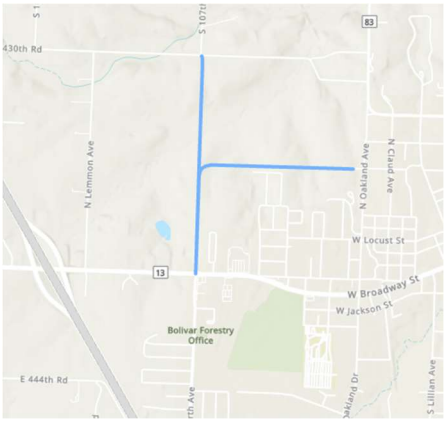
Proposed Roadway Projects

11. East Loop

The East Loop is a proposed road that would act as a bypass for Springfield Avenue by connecting Broadway Street down to Springfield Avenue south of East 460th Road. This road would likely continue on to connect with Hendrickson Street and the Boston Place southern extension, providing an alternative south-west arterial and an additional corridor for future commercial development.



Safety	0	None.
Economic Impact	1	Commercial development potential.
Congestion	1	Becomes an addition North/South Corridor
System Maintenance	0	None.
Right-Of-Way/Easements	0.5	Will need to acquire ROW
Financing Partnerships	0.5	Potential cost-share opportunities
Phasing Options	1	Projects can be phased
Permitting	0	There might be significant permitting process.



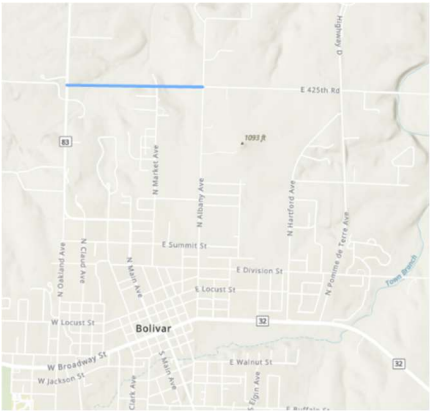
12. Killingsworth/Division Connection

The Killingsworth/Division Connection is a proposed extension to Killingsworth and Division that would connect the two roads, providing direct access from the residential areas in northern Bolivar to Tracker Marine, as well as acting as an alternative route for neighborhoods in the south to access the school area in the northeast.

Safety	0	None
Economic Impact	0.5	Improve connectivity to commercial area
Congestion	0.5	Additional route to the hospital
System Maintenance	0	None.
Right-Of-Way/Easements	0	Significant ROW acquisition needed.
Financing Partnerships	0.5	Potential cost-share opportunities
Phasing Options	1	Projects can be phased
Permitting	0	There might be significant permitting process.

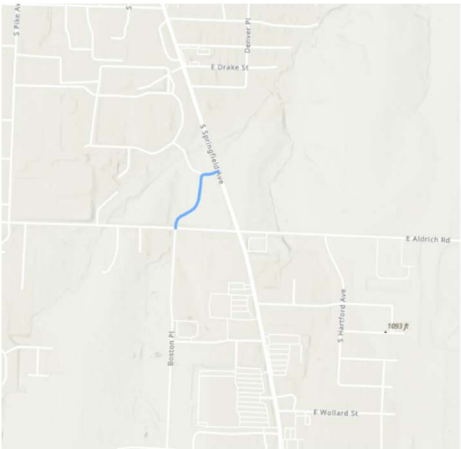
13. Northern Bypass

The Northern Bypass is a proposed route that would connect MO-83/Oakland Avenue to East 425th Road, creating an alternative pathway from the CMH area to the school area. This would create a direct and additional method for residents to travel from the east side of Bolivar to the west, alleviating congestion on Broadway Avenue and allowing a more direct connection for residents in northern Bolivar to access the rest of the city via Oakland Avenue and Highway D.



Safety	1	Safer route for EMS
Economic Impact	0	None
Congestion	0.5	Additional collector route
System Maintenance	0	None.
Right-Of-Way/Easements	0	None

Financing Partnerships	0.5	Potential cost-share opportunities
Phasing Options	1	Projects can be phased
Permitting	0	There might be significant permitting process.



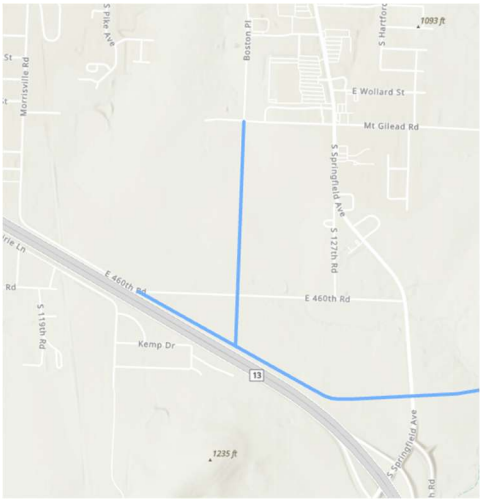
14. SBU Connector

The SBU Connector is a proposed road that would directly connect Springfield Avenue to Boston Place, bypassing the Aldrich Road/Springfield Avenue intersection entirely. This was proposed to alleviate additional congestion that would result from the commercial development on Boston Place and to improve traffic flow at the intersection of Aldrich Road and Springfield Avenue.

Safety	0	None
Economic Impact	1	New business access
Congestion	0	None
System Maintenance	0	None.
Right-Of-Way/Easements	0	Significant ROW acquisition needed.
Financing Partnerships	0.5	Potential cost-share opportunities
Phasing Options	1	Projects can be phased
Permitting	0	There might be significant permitting process.

15. Boston Place Southern Extension

The Boston Place Southern Extension is a proposed road extension that would connect Boston Place to Hendrickson Street, and possibly continue on to the East Loop Road. This extension would help accommodate additional traffic resulting from commercial development along the corridor, as well as provide an alternative route south to MO-13 that bypasses the commercial corridor south of Aldrich Road.



Safety	0	None
Economic Impact	1	Access to commercial area
Congestion	0.5	North/South route - partial
System Maintenance	0	None.
Right-Of-Way/Easements	0	Significant ROW acquisition needed.
Financing Partnerships	0.5	Potential cost-share opportunities
Phasing Options	1	Projects can be phased
Permitting	0	There might be significant permitting process.

Implementing the Plan

Implementation of solutions for the high-priority needs will require the time and commitment of city leadership, city staff, and the support of the community. Projects will require additional studies, partnerships, and funding.

Potential Funding Sources

A key component of the Plan is determining available and potential funding sources that can be used to implement solutions for high-priority needs. Below is a non-comprehensive list of additional funding sources that the city may pursue. This information is subject to change, as programs and program criteria can change regularly.

Transportation Alternatives Program (TAP)

This program provides opportunities for the expansion of alternative modes of transportation. Eligible applicants include local governments, transit agencies, school districts, and others. Some eligible projects for this program include the construction of on-road or off-road facilities, the construction of infrastructure that provides safe routes for non-drivers, and the conversion of abandoned railroad corridors for use by pedestrians, bicyclists, and others.

Rebuilding American Infrastructure with Sustainability and Equity (RAISE)

This is a grant program that enables the Department of Transportation to fund road, transit, rail, and port projects that have significant local or regional impact. Projects are evaluated on a merit-basis to ensure that they promote safety, save on construction costs, and improve infrastructure. Different entities at state and local levels, such as counties, municipalities and others, can receive funding for different multi-modal and multi-jurisdictional projects.

Safe Streets and Roads for All

The Safe Streets and Roads for All program provides funds to support regional and local initiatives that prevent road deaths and serious injuries. Different cities, counties, towns, tribal governments, metropolitan planning organizations, and others can apply for the grant. Activities such as developing or updating a comprehensive safety action plan and carrying out the projects or strategies in the action plan are eligible for this grant. The Safe Streets and Roads for All has two grant types which include action plan grants and implementation grants.

Traffic Engineering Assistance Program (TEAP)

This program provides local public agencies with engineering assistance to perform traffic studies to identify engineering problems. These traffic engineering projects include speed limit review, pedestrian/bike route analysis, parking issues, intersection safety or operation analysis and other traffic studies. Local agencies must provide a 20 percent match for eligible project costs for the traffic study.

Recreational Trails Program

This program funds recreational trails and related facilities for motorized and nonmotorized users. The grant is available to school districts, local or state governments, and nonprofit organizations for recreational trail projects. Projects such as construction of new recreational trails, assessment of trail conditions for accessibility/maintenance, restoration of existing trails, and others are eligible for funding.

Land and Water Conservation Fund

The Land and Water Conservation Fund provides funding for community recreational opportunities by preserving history and protecting natural areas and water resources. The grant is open to local governments, cities, counties, public schools, and others. Eligible projects include trails, camping facilities, golf courses, boating/fishing facilities, and more.

Off-System Bridge Replacement and Rehabilitation (BRO)

This program provides funding to states that aid in the replacement or rehabilitation of deficient bridges. These funds are later given to different counties based on their deficient bridges. The bridges are assessed based on structural, public use, and functional factors. Those that do not meet these factors are awarded the funds.

MoDOT Cost Share Program

This is a collaboration between MoDOT and local entities to create partnerships that contribute resources to help in the development of highways and bridge projects. These projects need to be approved by the Cost Share Committee and MoDOT matches up to fifty percent of the total cost. Eligible projects must be on a state highway system. The total project costs should be in excess of $200,000 and include construction inspection, right-of-way acquisition, incidentals, and others.

Community Development Block Grant Program

This program provides funding for states, cities, and counties to develop different community activities that improve living conditions. Eligible activities include the construction or improvement of public facilities such as streets, neighborhood centers, water, and sewer facilities. Funds may also be used for rehabilitation of residential or nonresidential structures, activities related to energy conservation, relocation, and demolition.

Surface Transportation Block Grant

The Surface Transportation Block Grant provides funding to address local and state transportation needs. Funds are provided as a lump sum for states, which are later calculated based on a percentage and divided among the different programs or projects. Eligible projects include maintenance or restoration of existing recreational trails, projects to enhance travel and tourism, deployment of emerging intelligent transportation technologies, and others.

Community Improvement District

A Community Improvement District (CID) is an economic development that collects revenue within its boundaries to finance different improvements, public facilities, and services. A CID is formed by ordinance of the local government and by property owners within district boundaries signing a petition. A CID generates revenue from imposing sales taxes, collecting special assessments, and through fees or charges for district property. These funds are used for public improvements to better district conditions.

Transportation Development District

A Transportation Development District is a development used to fund various transportation projects such as public bridges, streets, intersections, signals, highways, parking lots, and others. These projects are funded through add-on sales or property taxes and real property special assessments. The district may also impose tolls on users of transportation infrastructure such as highways and bridges with approval of voters in the Transportation Development District. The district may also assist projects in design, construction, and operation of transportation facilities.

Tax Increment Financing

Tax Increment Financing encourages the redevelopment of blighted areas through funding the construction of public infrastructure. A redevelopment plan is adopted and approved by the local TIF Commission with evidence showing that the plan requires TIF supplemental funding. The Tax Increment Financing uses future real estate property taxes and local sales taxes generated by new developments to fund eligible projects.

Appendix A: Survey Results

Appendix B: Acronyms

Appendix C: References