Box Elder 2025 Master Transportation Plan

November 2025

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2025 Master Transportation Plan

Prepared for:

City of Box Elder
420 Villa Dr
Box Elder, South Dakota 57719

Funded by:

U.S. Department of Defense Local Defense Community Cooperation

2231 Crystal Drive, Suite 520

Arlington, VA 22202

Prepared by:

Felsburg Holt & Ullevig
6400 S Fiddlers Green Circle, Suite 1500
Greenwood Village, CO 80111
303.721.1440
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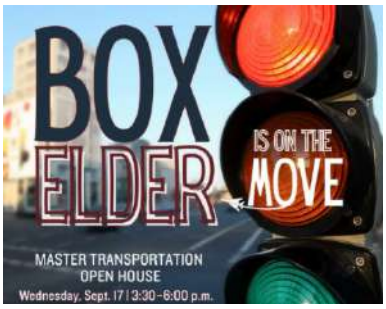
1. Executive Summary

Box Elder is proud to introduce the 2025 update to its Master Transportation Plan (MTP), a planning document that will serve as a strategic blueprint to guide infrastructure development through the year 2040 and beyond. Box Elder's strategic location within the Rapid City Metropolitan Area and its proximity to Ellsworth Air Force Base have contributed to significant population growth and increased demands on infrastructure. The Box Elder MTP responds to these pressures by promoting a multimodal approach that balances roadway improvements with active transportation options, such as trails, sidewalks, and transit connections.

What We Heard



The community feedback received played a vital role in shaping the priorities of this plan. Residents highlighted several strengths of the current transportation system, including low noise levels, clear signage and navigation, as well as convenient access to key destinations. At the same time, however, residents identified several challenges such as congested intersections, issues with school pick-up and drop-off locations, unsafe conditions for those who walk and bike, heavy truck traffic near homes, and need for turn lanes and signals in certain areas.

Priority Projects

Roadway	Sidewalks & Trails
Tower Rd. from Liberty Blvd. to 225th St	N. Ellsworth Rd. from Liberty to 225th St.
Cheyenne Blvd. Extend from Northern Lights Blvd. to Radar Hill Rd.	Liberty Blvd. Main St to Tower Rd.
N. Ellsworth Rd. from Liberty Blvd. to 225th St.	Liberty Blvd. Tower Rd. to Prairie Rd.
E. Mall Dr. from Seger to realign with Bennett Rd.	225th St. Gaps in Sidewalk System
Liberty Rd. & Reagan Ave Intersection	S. Ellsworth from Prairie View to Hwy. 1416
Elk Vale Rd. & E Mall Dr. Intersection	Box Elder Creek Nature Trail System

These LARGE PROJECTS are important priorities, but require additional funding:

- **Highway 1416 Corridor** from I-90 to 151 Ave.
- **Radar Hill Road** from Highway 1416 south to new Cheyenne Blvd. Extension and the Southern City Boundary.

Looking Ahead:

Plan for Growth: As the city experiences rapid population growth and economic expansion, the transportation system must evolve to meet future needs. This priority focuses on forecasting growth patterns and proactively designing infrastructure that accommodates increased traffic volumes, new residential neighborhoods, and emerging commercial hubs.

More Local Services: Improving access to local services, such as schools, healthcare, retail, and recreation, is essential for enhancing quality of life and reducing the need for long commutes. This priority encourages improvements that connect neighborhoods and foster a self-sufficient, vibrant community.

Secure Infrastructure Funding: Reliable funding is essential for implementing the recommendations of this plan. This priority emphasizes the need to identify and pursue diverse funding sources and prioritize projects based on cost-effectiveness, community impact, and readiness to ensure that resources are used efficiently and effectively.

Align Transportation and Land Use: Coordinating transportation planning with land use policies helps create cohesive, well-functioning communities. This priority ensures that new developments are supported by appropriate infrastructure and that improvements reinforce the vision for smart growth.

Update Road Design and Codes: Modernizing design standards and development codes is essential for building a safe, inclusive transportation system. This priority includes revising design guidelines to support multimodal travel and updating regulations to reflect best practices in safety, accessibility, and sustainability.

School Analysis

The planning team worked with the Douglas School District to identify solutions that can be implemented in the **near term** (2-5 years) and the **long term** (5+ years) to improve traffic flow and safety surrounding the schools. Project completion is subject to availability of funding:

1. Reconfigure Don Williams Drive to better serve the campus
2. Reconstruct Tower Rd, to provide 3-lane section with drop off areas, sidewalks, curb & gutter
3. Provide westbound right turn lane at Prairie Rd./ Liberty Blvd. intersection
4. Add sidewalk from along Tower Rd and 225th St to Westwind Dr.
5. Consider potential added connections and/or parking north of Don Williams Dr.
6. Improve Briggs St to provide wider sidewalks, consistent road section, curb & gutter
7. Add Sidewalk to 225th Street from Tower to Ellsworth

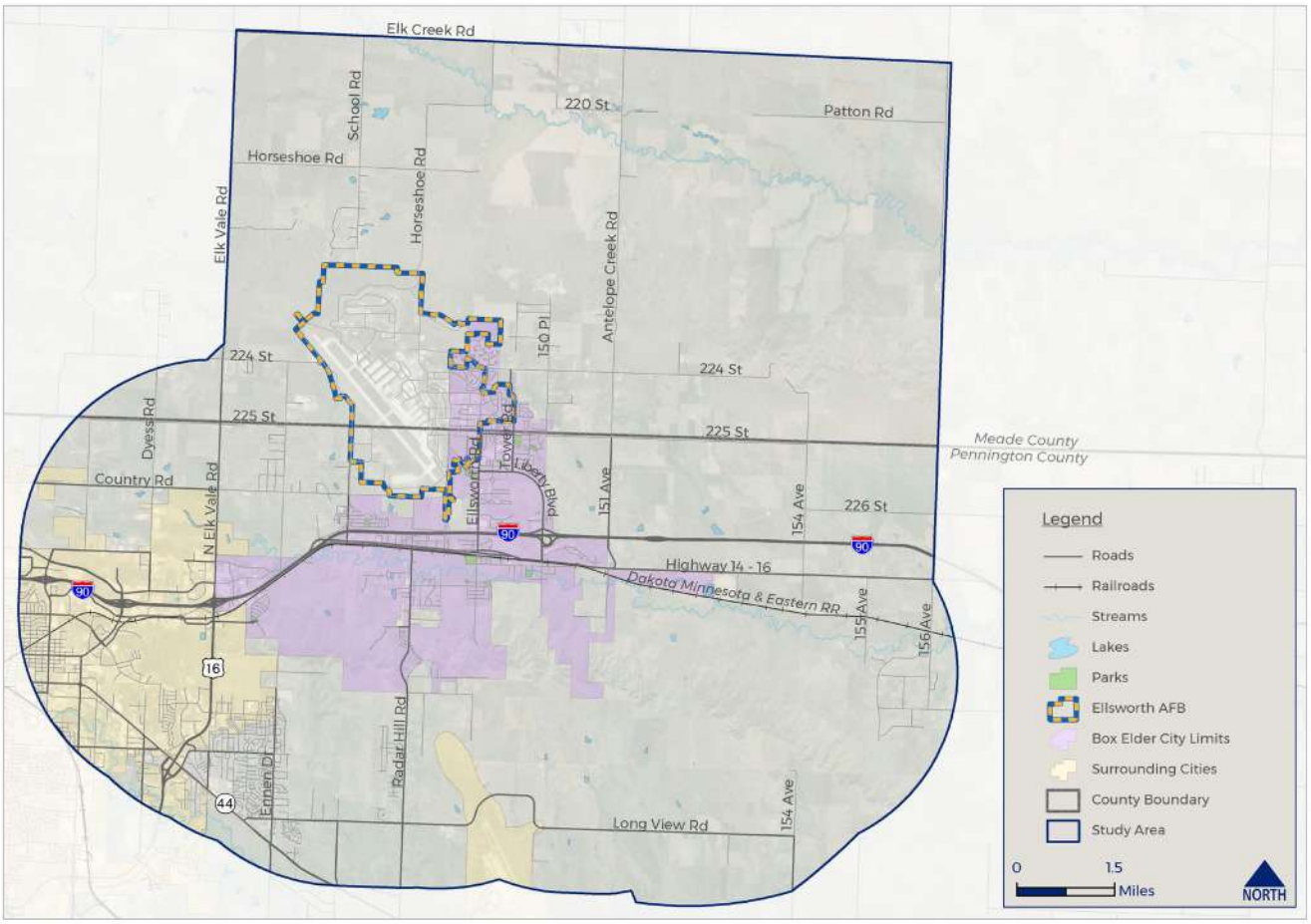
2. Introduction

As Box Elder continues to grow and evolve, the city is happy to present this forward-looking blueprint designed to guide infrastructure development through 2040 and beyond. Building on the foundation of the 2014 Box Elder Strategic Transportation (BEST) Plan and aligned with the Comprehensive Plan, adopted in 2025, this update reflects the community's vision for a safer, more efficient, and better-connected transportation system. With a focus on improving access to Ellsworth Air Force Base, enhancing school traffic flow near the Douglas School District (DSD), and supporting smart growth for residential and commercial expansion, the plan integrates public feedback and data-driven strategies to ensure the community's mobility keeps pace with progress. Box Elder is a growing community with an ideal location northeast of Rapid City and within the Rapid City Metropolitan Area. The Community lies within two counties: Pennington and Meade. With its proximity and accessibility to Rapid City and EAFB, a significant portion of Box Elder residents commute to their jobs outside the community. In recent years, the area's quality of life has resulted in a high rate of population growth, and demands on the City's transportation infrastructure are increasing.

The development of this Master Transportation Plan includes stakeholder engagement with city departments, other city and county jurisdictions, the Douglas School District, the South Dakota Department of Transportation (SDDOT) and the Rapid City-Area MPO. This is to ensure that the Plan takes into account other plans and Box Elder is coordinating with other partners in the region.

The MTP is funded thanks to a grant through the U.S. Department of Defense through the Office of Local Defense Community Cooperation (OLDCC). Ellsworth Air Force Base representatives participated in the development of the MTP, and were vital participants that provide strong partnership between the City of Box Elder and the Base.

Figure 1. Base Map Study Area



Planning Context

The Master Transportation Plan will build upon recent planning work completed by the City of Box Elder. Additional plans from within the region also address transportation and mobility in the area. Integration of these plans is essential to guide the City's future.

City of Box Elder Plans

City of Box Elder Comprehensive Plan (2025)

The City of Box Elder Comprehensive Plan serves as the community's long-range vision and guiding document for growth and development. The latest update of this plan uses data and public input to establish goals and policies for land use, infrastructure, housing, parks, and transportation. It builds on early versions of the plan, which emphasized the importance of coordinating land use, facilities, and transportation planning to ensure balance, efficient growth in the community.

Transportation plays a central role in the Comprehensive Plan as the movement of goods and people directly supports the city's economic vitality and quality of life. The plan provides a vision for land use that identifies where residential, commercial, and industrial

growth are anticipated to inform where transportation improvements are needed. This Transportation Master Plan translates land use and growth patterns into strategic infrastructure investments. Transportation recommendations include arterial and collector road improvements, sidewalk and trail expansions, and major street reconstructions such as Cheyenne Boulevard, N Ellsworth Road, E Mall Drive, Tower Road, and Briggs Street. Critical areas of concern include street crossings at I-90 and Highway 1416, which require safety upgrades for pedestrians and bicyclists. Additional multimodal plans prioritize safe routes for school children and non-vehicular mobility. Implementation strategies involve updating design standards, securing grants, collaborating with regional partners, and adopting policies like Complete Streets to ensure inclusive and sustainable transportation development.

Safe Streets for All (SS4A) Safety Action Plan (2024)

Box Elder completed a SS4A Safety Action Plan (SAP) in the summer of 2024. The goal of the SAP is to comprehensively address roadway safety for all users by:

- Designing roads and transportation systems to protect all users by considering crash vulnerability, implementing appropriate speed limits, and maintaining infrastructure with improved signage, lighting, and road markings.
- Encouraging the use of advanced vehicle safety technologies and promoting safe behaviors among all road users through education and awareness campaigns.
- Ensuring efficient post-crash medical services while prioritizing safe mobility for all, especially vulnerable road users like pedestrians and cyclists.

Active Transportation Recommendations for Box Elder, SD (2023)

The Active Transportation Recommendations Report for Box Elder, prepared by the South Dakota Department of Health and South Dakota University's Landscape Architecture Program outlines 33 strategies for improving biking, walking, and overall livability in the community. The report emphasizes that active transportation is not only about infrastructure but also about improving public health, safety, and community identity. Its recommendations cover themes such as placemaking and wayfinding, green infrastructure and aesthetics, neighborhood connectivity, multimodal safety, and community engagement. Collectively, these ideas aim to make Box Elder a more walkable, bike-friendly, and visually appealing community while encouraging residents to be active and connected to their environment. The findings from the Active Transportation Report provide on-the-ground strategies that support the broader goals of safe, connected, and healthy growth. For example, its proposals for new crossings, sidewalk networks, and green corridors directly reinforce the city's pedestrian and major street plans. By integrating these active transportation concepts into future planning and design, Box Elder can enhance safety, improve quality of life, and strengthen send of place while preparing for continued growth and development.

Parks and Open Space Master Plan (2022)

The Box Elder Parks and Open Space Master Plan focuses on creating a connected, inclusive, and sustainable recreation system to support the city's growing population. Key transportation projects include developing a comprehensive trail network, improving pedestrian and bicycle infrastructure, and enhancing connectivity between parks, schools, and neighborhoods. Areas of concern include overcoming physical barriers such as I-90, Highway 1416, and the railroad, which limit safe non-vehicular movement, and addressing the lack of sidewalks and trails, particularly for school children. Implementation strategies emphasize phased development, securing funding through grants and city budgets, and policy changes to require new developments to incorporate trails and parks to ensure long-term community accessibility and recreation opportunities. The city is working to update this plan in 2025.

Box Elder Strategic Transportation (BEST) Plan (2014)

Box Elder completed an update of their Transportation Plan in 2014, as the previous plan was nearly 20 years old by then. Changing conditions, such as rapid population growth and the need for transportation improvements, warranted a plan update. The BEST Plan integrated public input, data analysis, and regional planning considerations to support Box Elder's economic, social, and infrastructure goals. Key objectives included enhancing multimodal connectivity, prioritizing funding for projects, coordinating between key stakeholders and providing guidance on future infrastructure improvements. The most critical issues identified in the BEST Plan include congestion at key intersections, limited connectivity across major barriers like I-90 and Highway (Hwy) 1416, and safety concerns at high-traffic locations such as school zones and railroad crossings. Additionally, the plan highlights the need for expanded multimodal infrastructure, including pedestrian and bicycle facilities, to accommodate growing transportation demands.

In all, the BEST Plan identified 19 multimodal (bicycle and sidewalk) and 19 roadway projects that would complete new roadways, upgrade existing roadways, improve interchanges, and provide multimodal connections within and across Box Elder. Over the past decades, this Plan served to guide transportation investments, such as Liberty Blvd., various improvements in the area surrounding Exit 61 as well as new bicycle-pedestrian facilities.

Other Relevant Plans

Pennington County Master Transportation Plan (2024)

Most of Box Elder is located in the north-west central region of Pennington County, referred to as Central Pennington. The Pennington County Plan identifies Box Elder as a future growth area, both in urban growth and rural with the City's subdivision growth areas, as well as EAFB. Corridors specifically mentioned include Hwy 1416 (subdivision) and Radar Hill (subdivision; potential commercial). Recommendations within the Box Elder MTP study area include capacity improvements on Radar Hill Rd, more transit between Rapid City and EAFB, and an intersection safety improvement project at Liberty Blvd and Tower Rd, a high crash intersection.

Meade County Master Transportation Plan (2022)

The portion of Box Elder from 225 St north lies in Meade County. With its municipality status and its relatively small area compared to the overall size of Meade County, Box Elder is not significantly addressed in the Meade County MTP. However, the plan identifies the County's top twenty highest traffic volume locations by estimated 2045 average daily traffic (ADT), and a segment along the 150 Avenue corridor ranked ninth. South Dakota Department of Transportation (SDDOT) traffic count station 552921 at 150 Place between Airway Ct and 225 St in Box Elder recorded a 2021 ADT of 524. The 2045 estimate is 747 ADT and increases to 791 with development factored in.

The plan's Special Projects list includes 150th Avenue from Pennington County Line to North Eagle Ranch Rd, an asphalt paving minor arterial project moved from the County's list of long-range projects as this road was deemed to be of greater importance to the City of Box Elder and Pennington County, even though the landfill at the end of this corridor is in Meade County. Coordination is needed to determine jurisdictional responsibilities and to prioritize implementation.

Population and Mobility Demographics

Based on the latest US Census Bureau Decennial Survey (2020), Box Elder has a population of 11,746[1]. The 2020 Decennial Census also indicated 4,373 total housing units in the City.

The 2023 American Community Survey 5-Year Estimates provide additional insights into the community:

- Employment rate: 63.4 percent
- Education (Bachelor's degree or higher): 29.8 percent
- Residents without health care coverage: 10.1 percent

Regional Context

Box Elder is a member agency of the Rapid City Area Metropolitan Planning Organization (RCAMPO), the designated regional planning agency for an area centered around Rapid City and including surrounding portions of Pennington County and Meade County. The RCAMPO is the primary transportation policymaking organization for the region; it consists of representatives from local jurisdictions and transportation authorities that work together to produce plans for all aspects of transportation. Federal funding for transportation projects and programs in the region is channeled through RCAMPO.

Key responsibilities of the RCAMPO include regularly updating a regional-scale transportation plan and a regional Transportation Improvement Program (TIP), a four-year prioritized list of transportation improvements with an accompanying financial plan.

[1] City of Box Elder population is based on 2024 Census Population Estimates.

The latest version of the regional transportation plan, the 2045 Metropolitan Transportation Plan, includes several observations and recommendations relevant to Box Elder:

- 3 of the 20 intersections with the highest crash rates in the region are located along Highway 1416 in Box Elder
- Improvements to the I-90/Highway 1416 interchange are included in the fiscally constrained plan for implementation between 2026 and 2030
- Construction of Deegest Drive from Cheyenne Blvd. to Berniece Street is included in the fiscally constrained plan for implementation between 2036 and 2045 (Box Elder, in cooperation with Rapid City has constructed Hotel Way, which on alignment with Deegest Drive to the north, from Cheyenne Blvd. to the I-90 Service Rd)

The 2025-2028 TIP project list includes $63,500,000 worth of projects in Box Elder, primarily street and sewer improvements, as shown in **Table 1.**

Table 1. Box Elder Non-Federally Funded Capital Improvements Program, Fiscal Years 2025-2028

Fiscal Year	Project Types	Total Funding ($M)
2025	Bridge Replacement Street and Drainage Street and Sewer	5.8
2026	Extension to Bennet Road Intersection Improvements – Liberty/225th Street and Drainage-Urban Street and Drainage-Rural	14.1
2027	Street and Sewer Street and Drainage-Urban	31.6
2028	Street and Drainage-Urban Street and Drainage-Rural	12.0

The TIP also indicates the projected Box Elder Operations and Maintenance (O&M) costs will range from $295,000 to $405,000 annually over the same timeframe.

Purpose

The purpose of the Box Elder 2025 Master Transportation Plan is to ensure that the city's transportation network can safely and efficiently support anticipated growth through 2040 and beyond. Building on the 2014 Box Elder Strategic Transportation Plan and aligning with the 2025 Box Elder Comprehensive Plan, this update provides a roadmap for creating a connected, multimodal transportation system that meets the needs of residents, businesses, and regional partners. The plan focuses on improving access to

major roadways, enhancing mobility across the city, and providing safer routes for pedestrians and cyclists.

In addition to connectivity and safety, the plan emphasizes smart growth, ensuring that transportation infrastructure is designed to support future development in a coordinated way. It promotes a balanced approach that integrates roadway improvements with active transportation options, such as trails, sidewalks, and transit connections. Ultimately, this plan translates the land use and growth vision outlined in the Comprehensive Plan into actionable strategies that promote safety, accessibility, and sustained community vitality.

Project Governance

The Project Team supervised the effort to develop *Box Elder 2025 Master Transportation Plan*. The following individuals representing the City of Box Elder formed the Project Team:

- Scott Lange, City Engineer
- Lauralee Patton, Planning and Zoning Director
- Bruce Martin, Public Works Director
- Robert Timm, Government Affairs Director
- Rebecca Bader, Public Information Officer

The Project Team convened monthly throughout the planning process to facilitate key project decisions, provide input on major deliverables, and develop and oversee the public involvement process.

Public Engagement

The public, agency, and stakeholder input process began in January 2025 with a face-to-face project kickoff meeting to confirm project goals and objectives and identify critical concerns for the project. Monthly coordination meetings were held with the Project Team throughout the project's duration. Public Engagement was split into three rounds:

- **Round 1-March-April 2025:** To understand the transportation needs, issues, and values of those who live, work, and recreate in Box Elder.
- **Round 2-Summer 2025:** To inform plan priorities and project prioritization.
- **Round 3- Fall 2025:** To confirm with the public that the draft plan reflects what was heard and that it responds to community stated values and priorities.

The Round 1 engagement received the highest level of input, which is not surprising as that when the public survey was conducted. The website received more than 700 unique visitors, which represents 5% of the total population of Box Elder as of 2024. During the public engagement process, 232 survey responses were received.

The major public involvement activities during these rounds of engagement are described as follows:

- **Project Website:** The project website, https://fhu.mysocialpinpoint.com/box-elder-2025-transportation-study , initially published in Spring 2025, provides basic information about the *Box Elder 2025 Master Transportation Plan*, including project contacts, public meeting materials, and opportunities to provide feedback and ask questions.

- **Interactive Comment Mapping:** The Project Team used Social Pinpoint's interactive commenting map to collect feedback throughout the project. The map incorporated GIS layers, as available, to display existing transportation components such as sidewalks and trails, traffic signals, and stop signs, etc.
- **Project Survey:** The Project Team developed an online survey to collect feedback on how the community uses the current transportation system and what improvements they would like to see in the future.
- **Stakeholder Meetings:** The Project Team held meetings with the following stakeholders in 2025:
  - Ellsworth Air Force Base: March 14, September 17
  - Box Elder Police Department: May 9
  - Pennington County: June 25
  - SDDOT, Rapid City Area MP, Meade County: June 27

- **Douglas School District Engagement:** DSD's Peach Jar communications platform and its Facebook page were utilized to invite the public to take the survey and provide comment on the transportation plan in Spring 2025. Several meetings were held with school district staff regarding the school traffic analysis throughout the course of the study in 2025. In addition, a site visit was made to observe traffic conditions in April.
- **Social Media:** The project leveraged the City's social media channels (Instagram, Facebook, and LinkedIn) to promote the virtual feedback period and public meetings.
- **Public Meeting:** TA Public Meeting was held on September 17, 2025, for the public to review the draft MTP and DSD campus traffic study information. The meeting was

advertised through a utility bill insert to all customers as well as the City's social media and communications, such as engaging the public at the Water Warz event in August 2025.

Approach

The Project Team curated an approach to accomplish the fundamental objects identified at the beginning of the project, which include:

- **Improve Access:** Better connections to Ellsworth AFB and major roadways.
- **Safe School Routes:** Address traffic flow near Douglas School District
- **Smart Growth**: Support business expansion and residential development
- **Enhanced Mobility**: Explore multi-modal (sidewalk and trail) improvements
- **New Roadways**: Identify needed roadway improvements and new connections

The planning process followed a structured phased methodology:

- **Analyze Existing Network (January-March 2025):** Assessment of current road classifications, traffic volumes, safety conditions, and multimodal infrastructure.
- **Engage the Community (January-October 2025):** Public input gathered through surveys, stakeholder meetings, and interactive comment mapping to understand the transportation needs, issues, and values of those who live, work, and recreate in Box Elder.
- **Develop Recommendations (March-July 2025):** Strategies for improvement proposed based on the data analysis and public feedback.
- **Draft Study Development (August-October 2025):** Comprehensive draft compiled integrating technical analysis and public priorities.
- **Master Transportation Plan (MTP) Finalization (November-December 2025):** Final plan published and adopted by the City to guide transportation system improvements until 2050.

How to Use the MTP

The 2025 Master Transportation Plan (MTP) will serve as a strategic framework for guiding the city's transportation investments and policy decisions through 2040 and beyond. City engineers, planners, and elected officials will use the MTP to prioritize infrastructure projects that enhance safety, connectivity, and mobility across the community. By aligning with the Comprehensive Plan and incorporating public and stakeholder input,

the MTP ensures that the transportation improvements that are prioritized reflect the values of the community and support anticipated growth.

The MTP will inform decisions related to roadway and intersection enhancements as well as multimodal transportation options, with special considerations for improving access to the Ellsworth Air Force Base and managing traffic near the Douglas School District campus. This plan will also be used to ease coordination across jurisdictions and between counties to support grant applications and funding strategies, providing data-driven justification for projects. The MTP is a living document that will evolve alongside the city, ensuring transportation infrastructure aligns with development and enhances quality of life for all residents.

3. Inventory of Existing Conditions

Traffic Conditions

Traffic volumes were reviewed in light of the capacity of the roadway network based on recent traffic count data. Analysis shows that capacities along roadways (at a link-level, as distinct from analysis of intersection service levels) are generally adequate for current traffic volumes at the daily level.

That said, peak hour conditions introduce congestion in some areas, particularly in specific intersections. Public engagement cited concerns about frequent accidents and poor traffic flow such as near schools and Ellsworth Air Force Base. Long lines to make left turns were noted by many as a source of frustration.

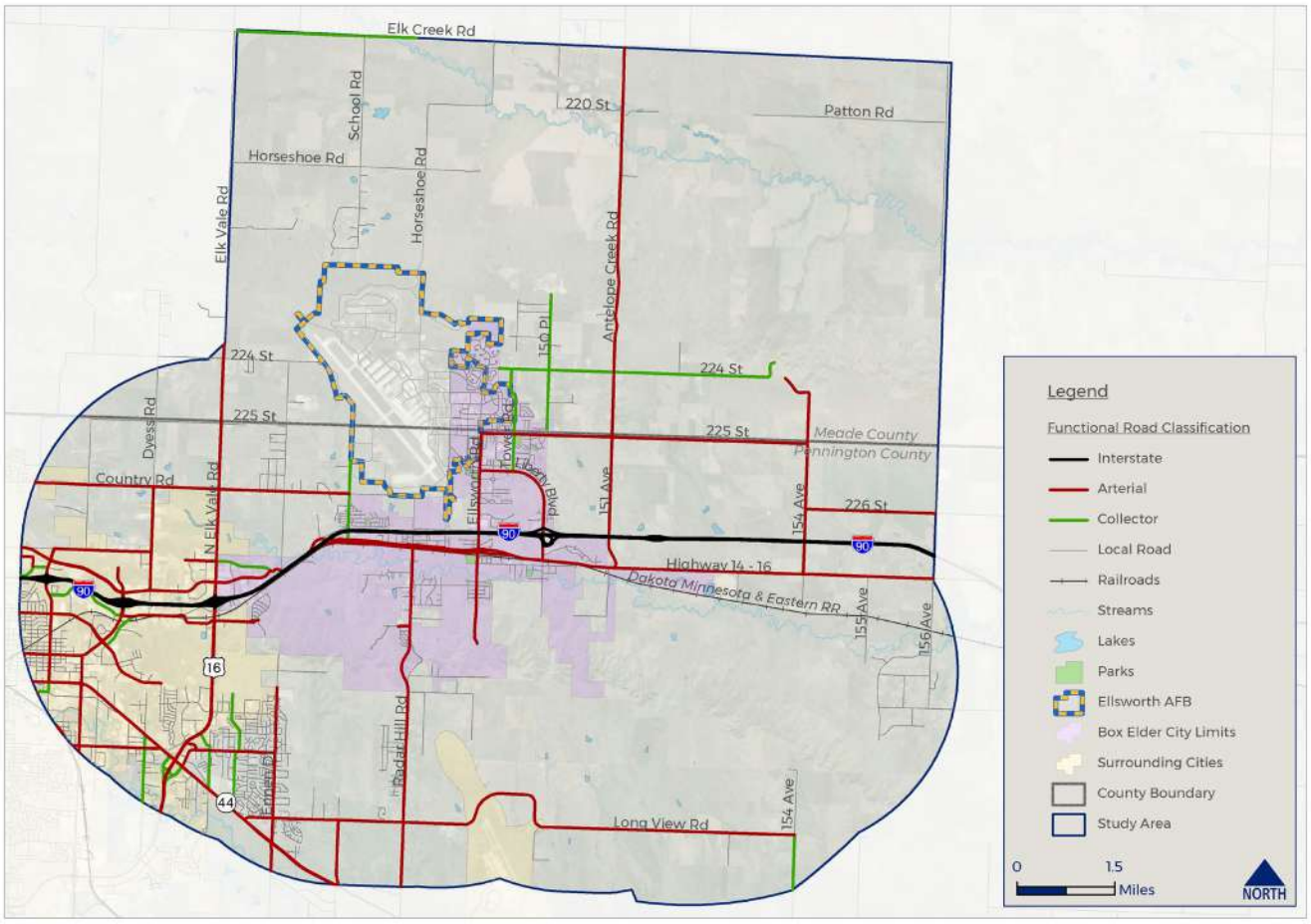
The following intersections were noted as experiencing heavy traffic during peak periods of the day (in no particular order):

- Liberty Blvd. & Tower Rd.
- Liberty Blvd. & N. Ellsworth Rd.
- Liberty Blvd. & Reagan Ave.
- Hwy 1416 & W. Gate Rd.
- Hwy 1416 & Radar Hill Rd.
- Hwy 1416 & S. Ellsworth Rd.
- N. Elk Vale Rd. & E. Mall Dr.
- N. Elk Vale Rd. & Cheyenne Blvd. / Eglin St.

Land Use and Roadway Network

The roadway network is the primary component of Box Elder's transportation system. The hierarchy of roads is known as Functional Classification and is based on characteristics such as number of lanes, posted speed limits, spacing of access points, and more. **Figure 2** shows Box Elder's roadway network and functional classification of key corridors.

Figure 2. Roadway Network



The map in **Figure 3** shows the number of vehicle travel lanes on roadways in Box Elder. As the green lines represent, most streets provide two lanes of travel, one in each direction. Liberty Blvd and N. Ellsworth are primary corridors for travelers seeking to access EAFB.

Figure 3. Number of Lanes

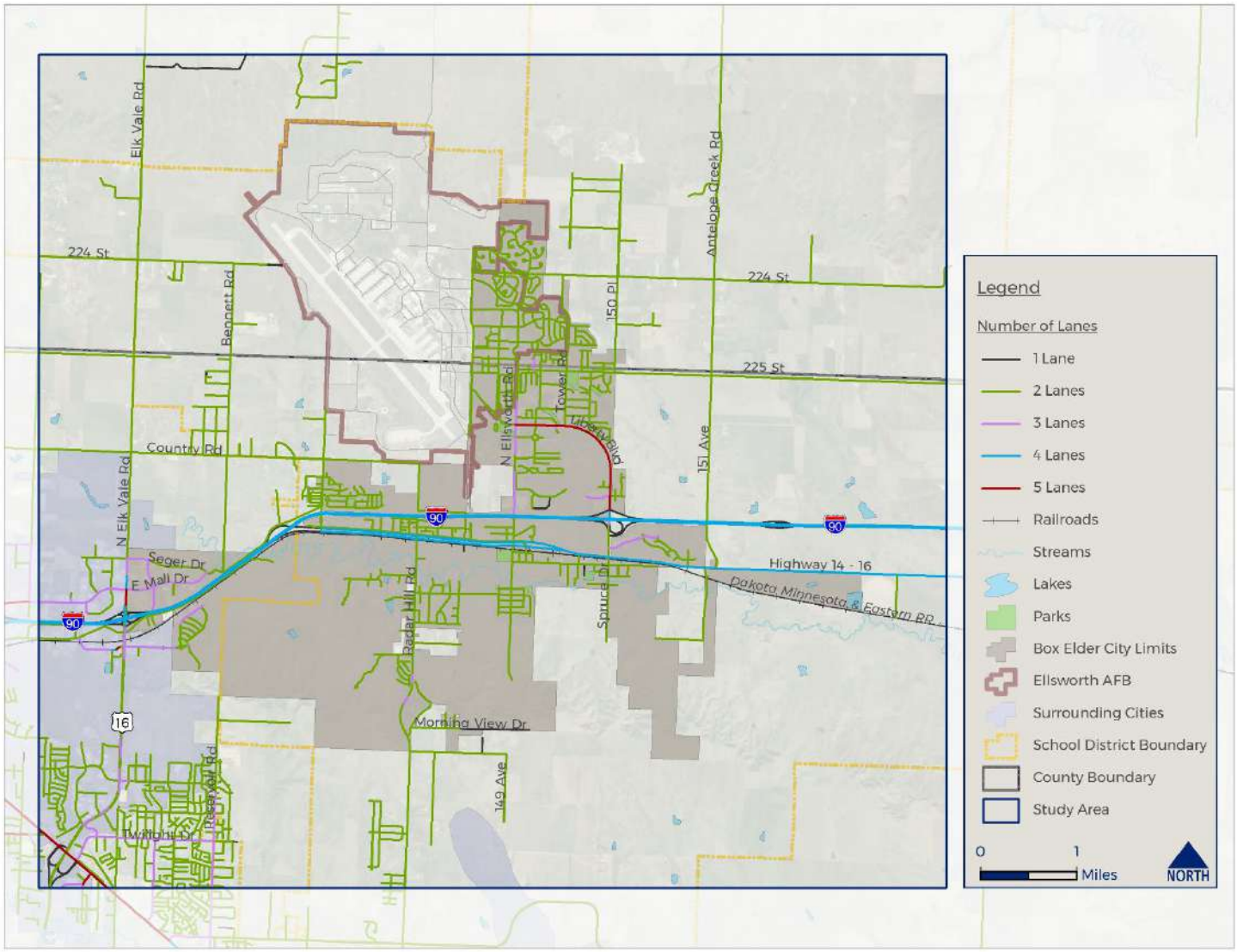
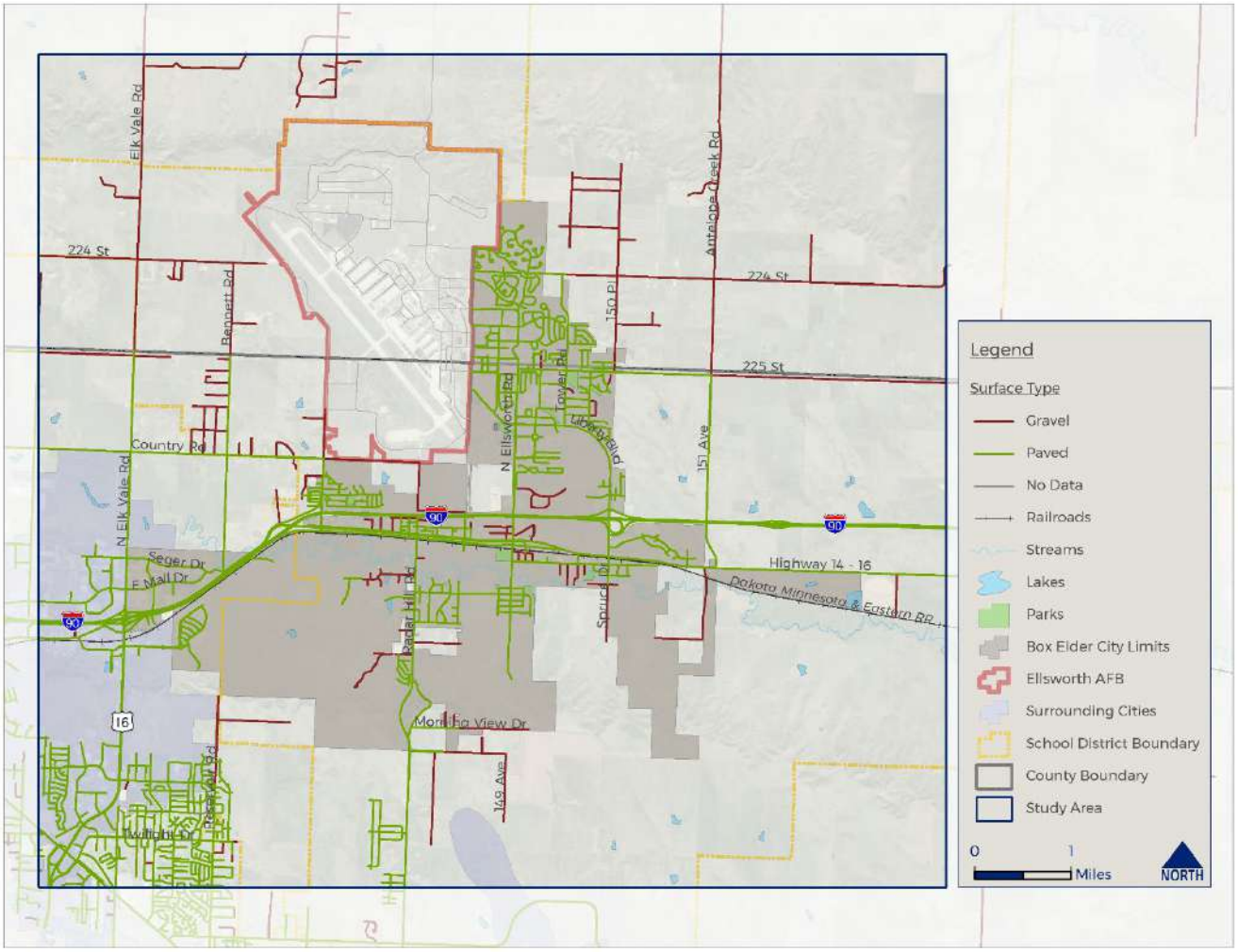


Figure 4 shows the presence of paved and gravel streets within the study area. While most of the longer segments of gravel road are outside of city limits, there are numerous sections of gravel roads within the city.

Figure 4. Surface Type



Travel Patterns

The largest traffic generator in Box Elder is Ellsworth Air Force Base. Traveling to and from the Base greatly influences travel patterns within and into the City of Box Elder. The prevailing travel pattern for many trips originates in the Rapid City and Black Hills that are going to Ellsworth AFB along I-90 and access Box Elder via Exit 67 (Liberty Blvd.) or Exit 63 via Highway 1416.

The three gates currently operating at Ellsworth AFB are the Main Gate (Liberty), School Gate (Patriot), and Commercial Gate (Bismarck). The former two gates are accessed via N. Ellsworth Rd. and Liberty Blvd., and the latter is accessed via Commercial Gate Dr. / Ellsworth St., which further south is S. Gate Dr. Ellsworth AFB occasionally closes gates or

adjusts hours of operation. Therefore, providing flexibility to access the Base via different routes is critical.

Another major traffic generator is the Douglas School District campus, which is discussed in detail in a later section of the Plan. As the home for Douglas High School, Douglas Middle School, as well as Badger Clark and Francis Case Elementary Schools, the campus is a major destination and experiences significant traffic challenges.

The other areas of Box Elder are described in the Comprehensive Plan as a "patchwork" of street types, subdivisions and older developments. Arterial streets serve as connectors that allow traffic to funnel from these dispersed housing and commercial developments throughout the community, including:

- South: Radar Hill Road and Spruce Drive (Liberty Blvd.)
- Northeast: Tower Road, 225th Street, and Centennial Drive
- Northwest: Country Road, and Bennet Road
- West: Elk Vale Road, East Mall Drive, and Cheyenne Blvd. / Eglin Street

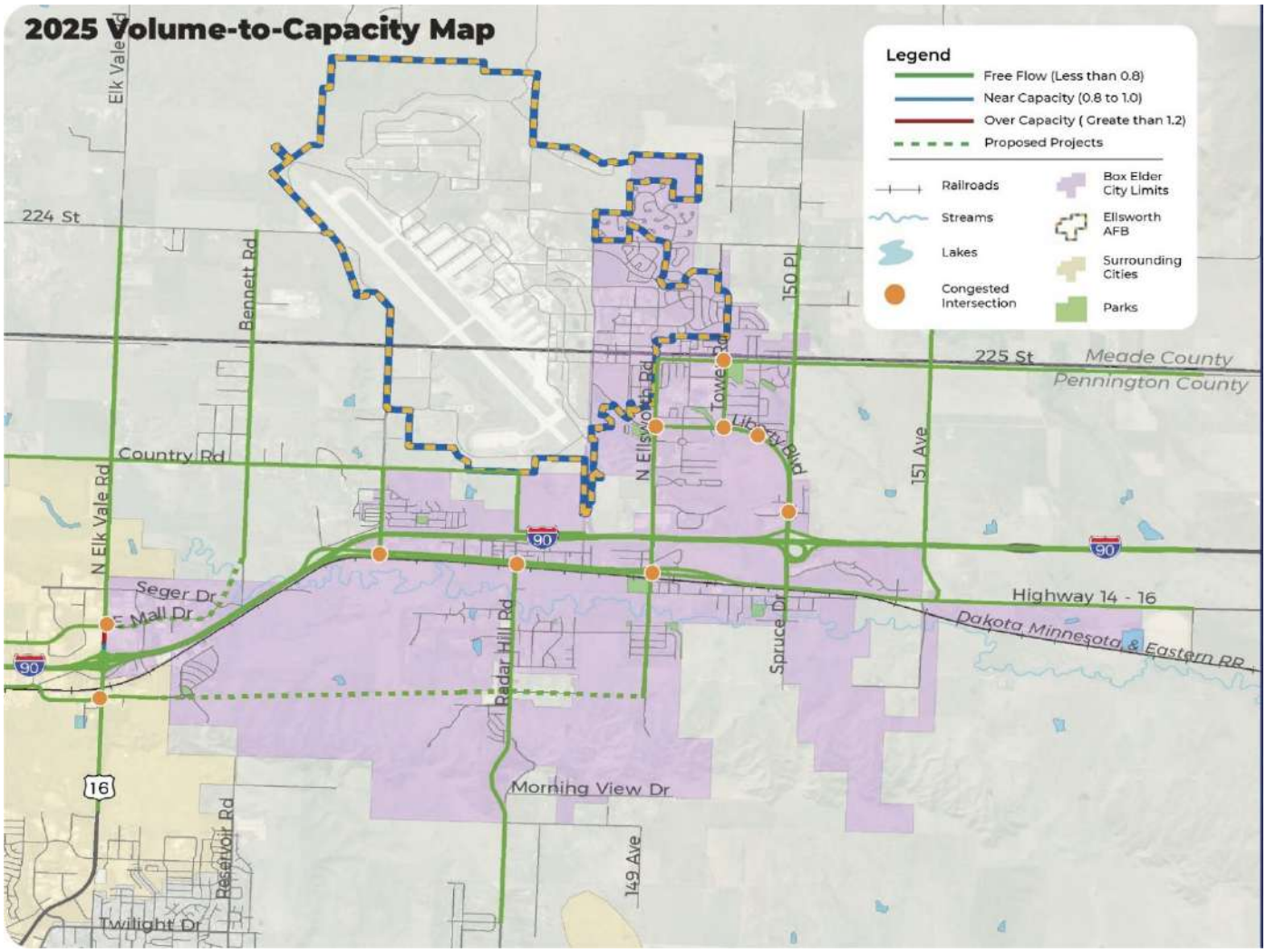
As the new growth development and future street connections create a larger, more seamless community over the next two decades, travel patterns will adjust and shift to a more holistic roadway network.

Traffic Volumes

Analysis indicates that based on Box Elder's current traffic volumes, roadways generally have sufficient capacity to accommodate daily traffic volumes. That is, the annual average daily traffic (AADT) along roadways is not high enough to warrant widening roadways based on daily traffic alone. However, congestion becomes a significant issue during *peak travel hours*, especially at key intersections including Tower Road at Liberty Boulevard and several junctions along Elk Vale Road, Ellsworth Road, and Highway 1416. These locations are identified in **Figure 5** as congestion hotspots where volume-to-capacity ratios exceed acceptable thresholds, indicating delays and reducing efficiency during busy periods.

Community feedback reinforces these findings, highlighting congested intersections, school drop-off and pick-up challenges, and heavy truck traffic near residential areas as top concerns. Residents also noted poor access to I-90 and a lack of turn lanes, sidewalks, and traffic signals as factors contributing to congestion and mobility issues in the community.

Figure 5. 2025 Traffic Conditions



Safety

SDDOT maintains a Geographic Information Systems (GIS) crash database to monitor crash trends across the state. As part of this Transportation Plan, crash data for the study area were compiled and analyzed for the five-year period 2020–2024. This analysis was used to identify high-crash intersections, crash types, and contributing factors.

Crash History Overview

Between 2020 and 2024, a total of 405 crashes were reported within the study area (excluding I-90). Of these, 251 crashes (62%) involved property damage only (PDO), 150 crashes (37%) resulted in injuries, and 4 crashes (1%) were fatal. **Table 2** summarizes crash history by severity.

Table 2. Annual Crash History by Severity

Year	Property Damage Only	Injury	Fatal	Total
2020	54	35	2	91
2021	51	46	1	98
2022	48	26	0	74
2023	72	33	1	106
2024	26	10	0	36
Total	**251**	**150**	**4**	**405**

Note: Crashes involving wild animals were categorized within PDO crashes. These accounted for approximately 3% of PDO crashes.

Crash frequency has fluctuated over the study period, peaking in 2023 with 106 crashes. The sharp decline in 2024 may reflect lower traffic volumes but should be interpreted cautiously given the discrepancy from past years. Most crashes occurred at intersections, while others involved a motorist under the influence of alcohol or collisions with wild animals. **Figure 6** depicts a heat map of severe crashes (fatal and injury), and **Figure 7** illustrates annual crashes by severity (property damage only, injury, and fatal).

Figure 6. Crash Heatmap

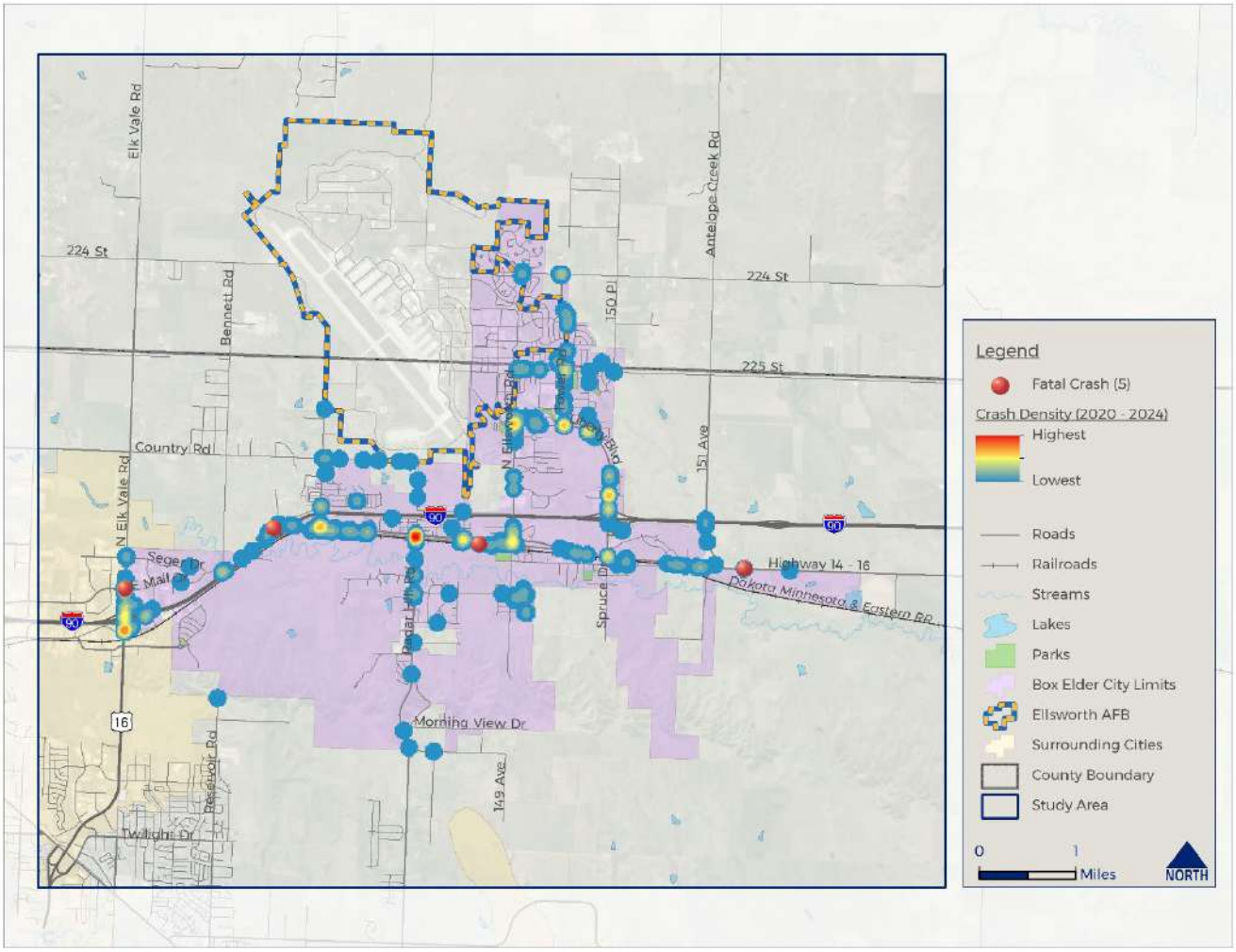
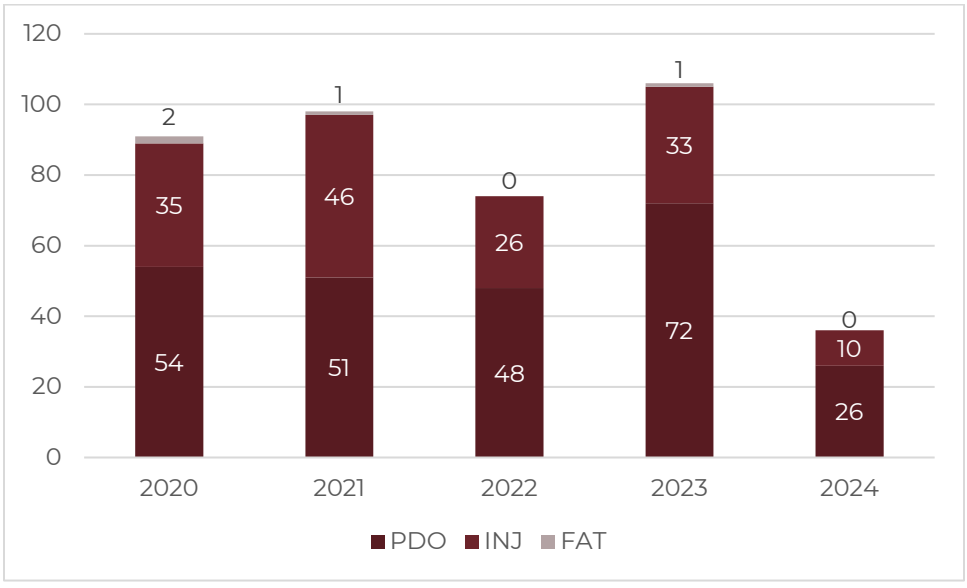
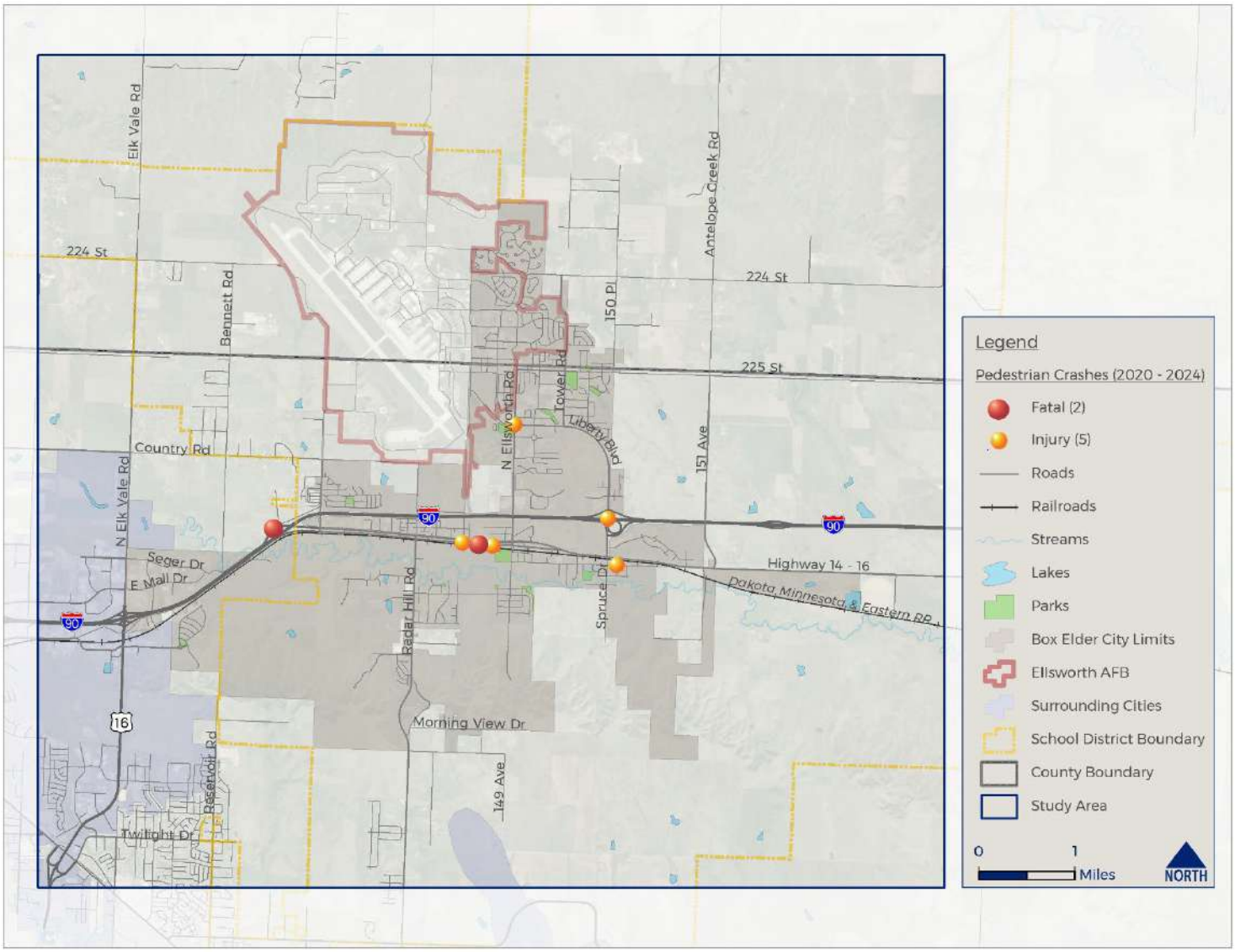


Figure 7. Total Crashes by Severity



Vulnerable community members, including low-income individuals, people who experience disabilities, minorities, older adults, and younger children tend to be disproportionately impacted by severe crashes. This may be due to a greater reliance on more affordable forms of transportation, such as walking, biking, or public transportation. This may also be due to a lack of investment over time in certain facilities. As a percentage of total crashes, collisions involving pedestrians, bicyclists, and motorcyclists, disproportionately result in fatalities or serious injuries compared to crashes involving other types of vehicles or forms of transportation. **Figure 8** shows the location of pedestrian crashes in Box Elder during the same five-year period, 2020 through 2024. There were seven injury crashes and two pedestrian fatalities. Both fatalities occurred along Highway 1416, as did three of the injury crashes.

Figure 8. Pedestrian Crashes (SDDOT Data)



Crash Type

Of the four fatal crashes, two were angle crashes at stop-controlled intersections, one involved a fixed object (guardrail), and one involved a pedestrian. Across all reported crashes, angle crashes represented the most common crash type (45%), followed by rear-end crashes (17%) and fixed object crashes (16%). Severe crashes mirrored this trend, with angle crashes accounting for nearly half (47%). Overturning crashes represented 5% of total crashes but increased to 12% of severe crashes. **Figures 9 and 10** illustrate the distribution of crash types for all crashes and for severe crashes respectively.

Figure 9. Total Crashes by Crash Type

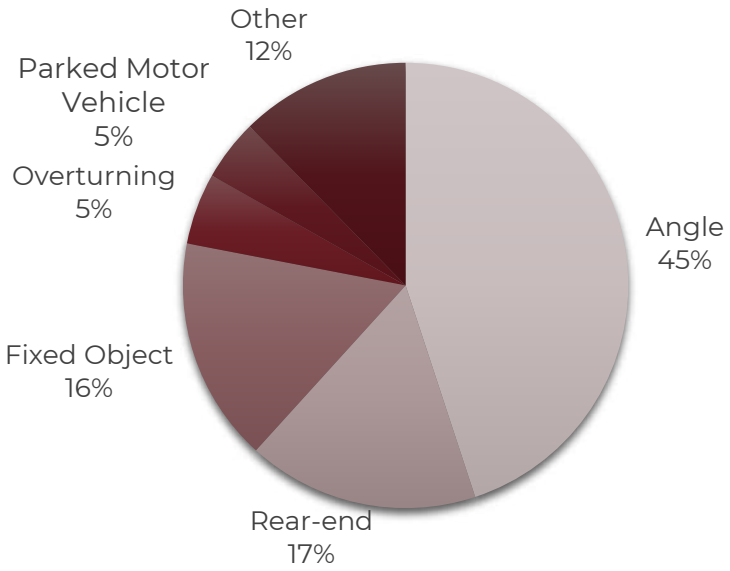
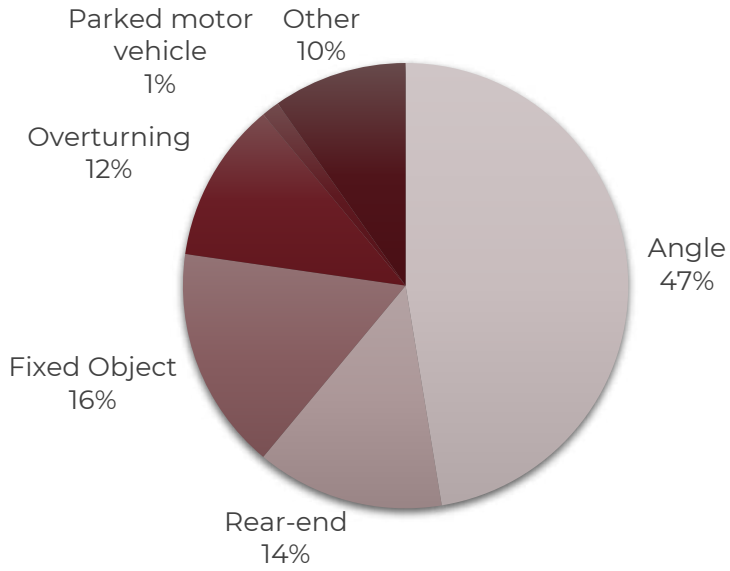


Figure 10. Severe Crashes by Crash Type



High Crash Intersections

Intersection crashes were a primary contributor to overall crash totals. Many involved angle-type collisions at unsignalized intersections, particularly where vehicles attempted left turns or crossed high-volume corridors.

Table 3 identifies the top ten intersections for crashes during the study period. Notably, intersections along Highway 1416 comprise five of the top ten intersections.

Table 3. Top Crash Intersections in Study Area (2024-2024)

Rank	Intersection	Number of Crashes 2020-2024			Prominent Crash Types
		Total	Property Damage Only	Injury and Fatal	
1	Hwy 1416 / Radar Hill Rd	43	22	21	Angle, Rear-end
2	Elk Vale Rd / Mall Dr	38	17	21	Angle
3	Elk Vale Rd / Frontage Rd	35	24	11	Angle
4	HWY 1416 / Westgate Rd	27	13	6	Rear-end, Angle
5	Liberty Blvd / Reagean Ave	16	13	3	Angle
6	Liberty Blvd / Tower Rd	14	7	7	Angle
7	Liberty Blvd / Ellsworth Rd	13	9	4	Angle, Rear-end
8	Hwy 1416 / Ellsworth Rd	13	8	5	Angle
9	Hwy 1416 / S Gate Dr	11	6	5	No clear crash pattern
10	Hwy 1416 / Liberty Blvd	8	3	5	No clear crash pattern

Importantly, six of these intersections were also identified as high-crash locations in the Safety Action Plan (for crashes from years 2013–2022), and eight were included in the prior BESTPlan (for crashes between 2008 and 2012). This consistency suggests persistent safety concerns.

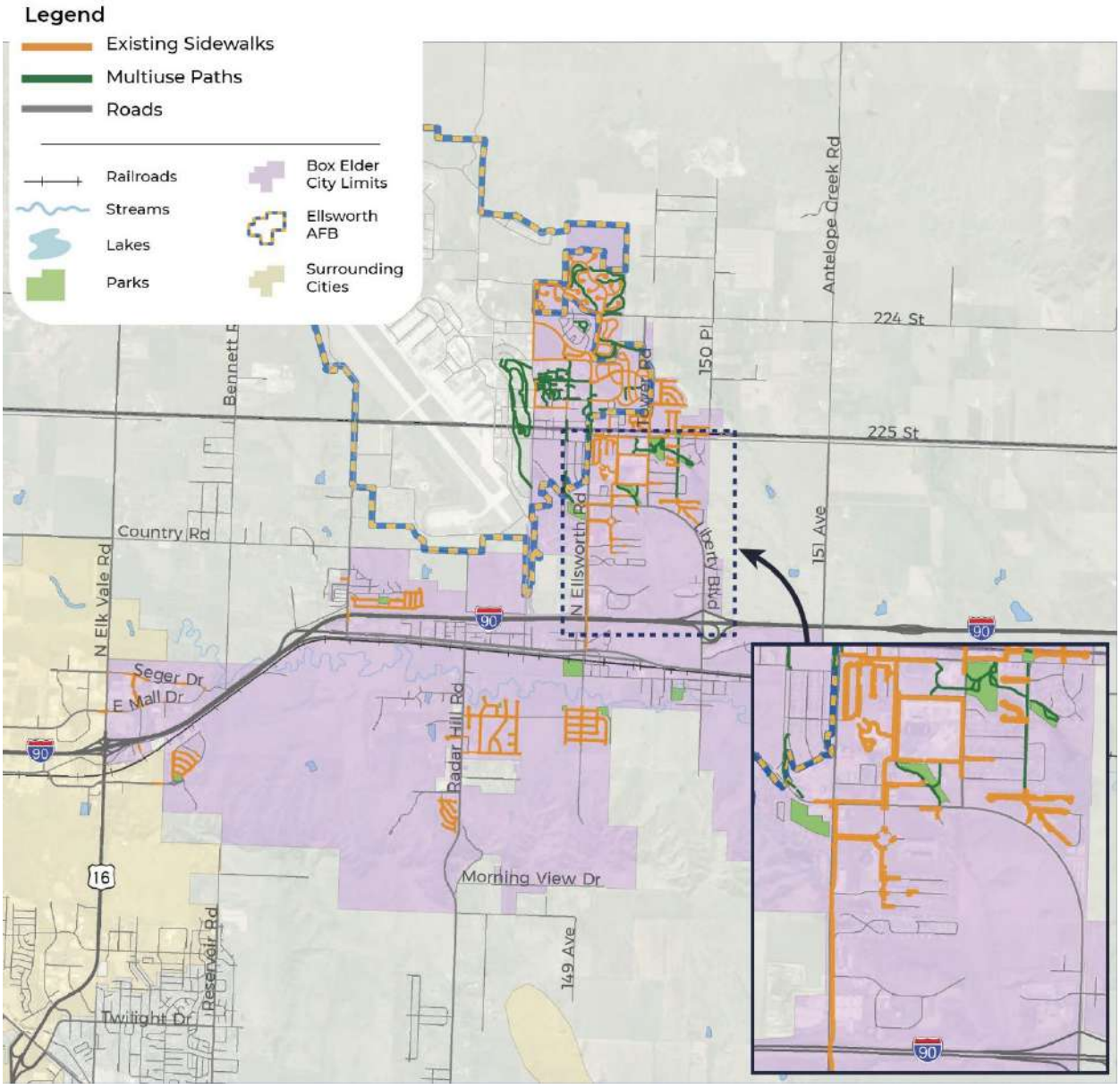
The crash analysis demonstrates that angle crashes at unsignalized intersections, recurring high-crash sites along Highway 1416, and pedestrian and fixed-object crashes represent the most pressing safety concerns. Fatality crashes occurred along Highway

1416 west of Ellsworth and east of Liberty Blvd, and at the intersection of Mall Drive with Elk Vale Road.

Pedestrian and Bicycle Facilities/Walkability

The City's active transportation network consists primarily of sidewalks in residential areas and along some of the collector and arterial roadways. **Figure 11** maps the sidewalks in the City, showing a concentration near the DSD campus. South of I-90, the housing developments along Radar Hill Road and Ellsworth Road generally have existing attached sidewalks; Homestead Mobile Home Park and Line Road do not have any existing sidewalks.

Figure 11. Sidewalks



There are no dedicated bicycle facilities, and the existing sidewalks are generally not wide enough to accommodate bicyclists; however, most local streets in Box Elder are low-volume and low-speed enough to provide a low-stress bicycling experience without dedicated space.

Due to the gaps in the existing active transportation network, connectivity for pedestrians and bicyclists – especially north-south connectivity – is a challenge. A recently constructed sidewalk along the east side of Ellsworth Road runs from Liberty Boulevard to I-90, but it does not extend beyond the interstate to provide a link between the north and south portions of the city.

North of I-90, the lack of sidewalks along one side of most collector roads means many pedestrians need to make extra crossings of roadways to access a facility, regardless of which side of a street their origins and destinations are. There are several designated midblock crossing locations surrounding the Douglas School District campus, but all are just standard crosswalks and warning signage.

Many of the collector roads also have posted speed limits in excess of 35 miles per hour, meaning they do not qualify as low-stress for most bicyclists. The 2014 Box Elder Strategic Transportation Plan includes numerous recommendations for shared-use paths that would enhance active transportation connectivity, including segments along 225th Street, Liberty Boulevard, and Briggs Streets; however, none of these recommendations have yet been implemented.

Wayfinding

In a transportation planning context, wayfinding is a term used to describe formal signage programs that help guide people towards destinations of interest in a community. Wayfinding signs often have unique branding and are oriented toward pedestrians and bicyclists, with typical information including destination names, directional arrows, and travel distances represented by walking times. There is currently no formal existing wayfinding program in Box Elder.

4. Forecasted Growth

The City of Box Elder continues to experience rapid growth. From its genesis as a small community in the shadow of Ellsworth Air Force Base to its current status as a fast-growing suburban community, Box Elder is poised to continue to develop in the years ahead.

The most recent Census population estimate as of fall 2025 is the 13,887 residents. This is a significant increase from the 2020 Census count of 11,746, which indicates a continuation of the growth trend experienced during the 2010s, when Box Elder averaged nearly 5% annual growth and nearly doubled in population from 2010 to 2020. In the foreseeable future, a 2.5% annual growth rate is anticipated, so that Box Elder's 2045 population is projected to approach 25,000 residents.

Driven in part by the continued growth in missions and employment at the Ellsworth Air Force Base, the addition of new households and commercial growth in Box Elder will continue indefinitely. To accommodate the anticipated future growth, it is imperative that Box Elder plan for future investments in transportation and other key infrastructure.

As part of the Rapid City Area MPO (RCA-MPO), A travel demand model was developed for the Master Transportation Plan (MTP)

Land Use

Based on the *City of Box Elder Comprehensive Plan 2025,* future land use changes are driven by the community's rapid population growth and evolving role as a regional hub, particularly due to the expansion of the Ellsworth Air Force Base. Over the coming years, the city will transition from its traditional rural-residential landscape to a more thoughtfully diverse land-use composition. The plan envisions a future shaped by intentional growth, community resilience, and thoughtful land use. At the heart of this vision lies six guiding principles: economic prosperity, quality of life, responsible resource management, infrastructure investment, sustainable development, and placemaking.

Future land use goals reflect these principles through a strategic reorganization of the city's physical landscape. The plan calls for the creation of vibrant mixed-use nodes that are designed to foster economic vitality and community interaction, such as a new Town Center and Neighborhood Commercial Zones. Positioning these areas in alignment with residential neighborhoods, commercial districts, and civic spaces not only supports economic growth but also encourages walkable, engaging environments and enhanced placemaking. To guide responsible growth, the plan emphasizes compact development and strategic infill, aiming to make the most of existing infrastructure while limiting urban sprawl where possible. Higher-density housing is designated closer to the city's core; whereas, lower-density zones are placed on the outskirts. The intent of this is that development intensity will match infrastructure capacity while preserving the community's character.

The plan designates buffer zones to protect quality of life, especially near the Ellsworth Air Force Base and industrial areas, helping to reduce noise, traffic, and land use conflicts. The plan also prioritizes conservation and green space, integrating natural areas and parks into the city's framework for growth to support flood mitigation, environmental health, and recreation.

Together, these goals form a cohesive strategy that aligns with the plan's guiding principles, ensuring that Box Elder grows not just in size, but in strength, sustainability, livability to build a future that reflects the values and aspirations of all residents.

Future Traffic Volumes

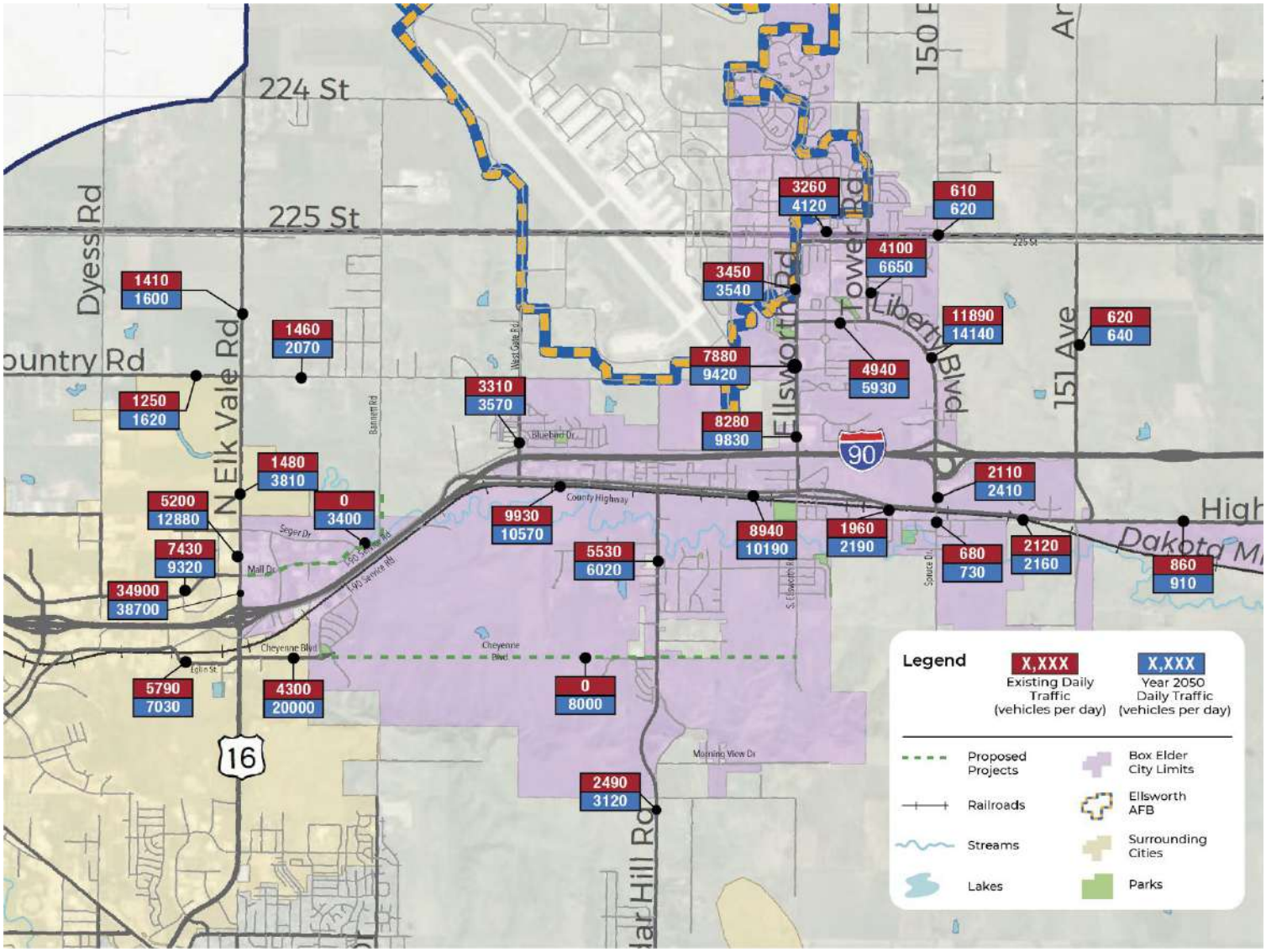
Proximity to Ellsworth Air Force Base and general growth of the Rapid City Metropolitan Area is anticipated to result in continued growth in residential and commercial development as well as school expansion over the coming decades. The city is already facing increasing pressure on its transportation infrastructure. To proactively address these challenges, the project team conducted a comprehensive traffic forecast through 2050.

Future roadways will attract new trips, such as the new Cheyenne Blvd. that will extend from Northern Lights Blvd. to the east and ultimately connect to Radar Hill Rd. Traffic and population forecasts indicate that this new facility will attract between 6,000 and 10,000 vehicles per day in 2050. Radar Hill Road will experience increased traffic, particularly once the Cheyenne Blvd. connection is completed.

Other streets that are forecasted to have significant future traffic growth include Elk Vale Road and a realigned East Mall Drive in western Box Elder. Traffic models suggest Liberty Blvd. and N. Ellsworth Road traffic is like to grow by 20-percent. Highway 1416 traffic will also continue to grow, particularly following improvements to Exit 63 and the Highway 1416 corridor itself.

The recommended projects in the following chapter are expected to accommodate future traffic growth and provide a reasonable level of service for Box Elder residents and businesses.

Figure 12. 2025 and 2050 Daily Traffic Volumes



5. Future Roadway Plan

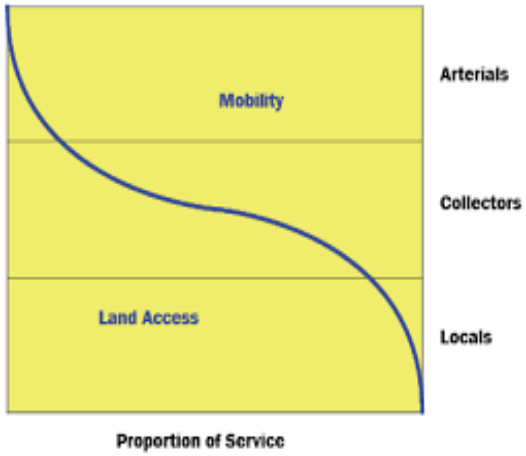
The City of Box Elder includes more than 200 roadway lane miles that form the core of the city's transportation system.[2] Box Elder's rapid growth over recent years and the anticipated future growth highlight the need to continue to preserve and expand the roadway system.

Through the public survey, residents indicated that they drive privately owned vehicles for most of their trips, including work, shopping, health and wellness, school, and other trip purposes, while smaller numbers occasionally walk, bike or carpool. Therefore, providing for safe and efficient automobile travel will remain the dominant mode of transportation for the foreseeable future.

This section identifies the projects that have been identified for future planning, design and construction. When implemented, these investments will advance the city's progress toward its future goals.

Road Classification

Box Elder's roadway network encompasses a range of facilities, from those designed to facilitate the efficient movement of traffic, to others that prioritize access to adjacent properties.



The Mobility – Land Access graphic illustrates the balance between mobility and access within the roadway system:[3]

Based on these distinct but complementary purposes, the roadway system can be grouped into a variety of classifications. For purposes of the Master Transportation Plan, a classification system based primarily on the character and usage of the roadway will be employed, which differs from the federal functional classification of roadways that is

[2] This number (220 lane miles, to be exact) accounts for all roadways within city limits, including facilities on the state highway system that are owned and operated by SDDOT.
[3] Source: FHWA Office of Highway Policy

utilized for Federal-aid programs and planning. At the highest classification are interstates and other freeways and expressways, which are characterized by access control with a priority on mobility. The City of Box Elder does not own or operate freeways, Interstate 90 which traverses the city is owned and operated by the SDDOT.

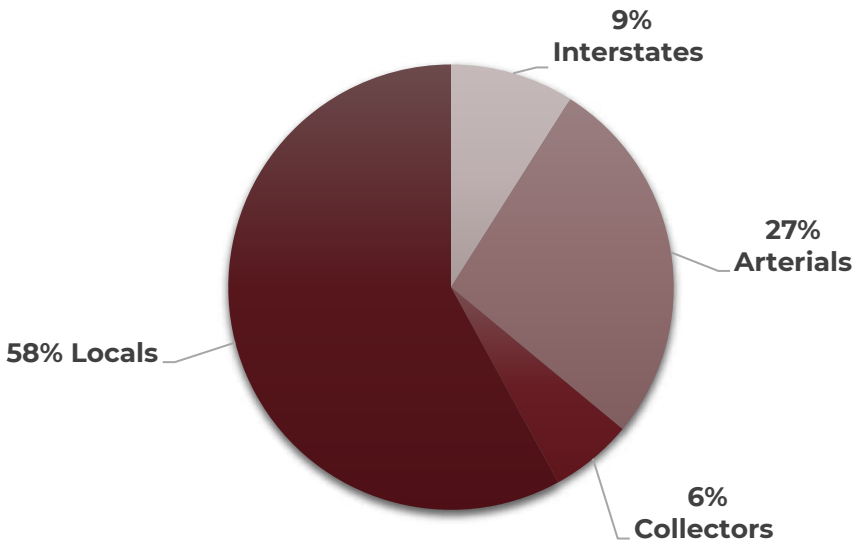
Arterial roadways move vehicles over longer distances at higher speeds (e.g. Liberty Blvd, Radar Hill Rd). Typically, arterials are divided into categories of Principal Arterials that serve to move higher volumes of traffic and serve the major activity centers along the highest volume corridors. Minor Arterials carry significant traffic levels but are designed for trips of moderate length and serve geographic areas that are smaller than Principal Arterials.

Collector roadways serve to distribute traffic from the arterial roadways (e.g., Tower Rd., Seger Dr.) to local streets or to their ultimate destination. They serve to provide land access and traffic circulation within residential neighborhoods as week as commercial and industrial areas.

Local roads provide direct access to properties and service short-distance trips at lower speeds (e.g. Partridge Ln, Falcon Dr). Local roads account for the largest percentage of roadways in terms of mileage. All facilities that are not freeways/expressways, arterials, collectors are classified as local roads.

When the roadway mileage for each functional classification is compared to the total system, each category has the following percentages. These are in line with typical percentages, although each community is different. Freeways are typically less than five percent, but this makes sense given the prominence of I-90. As Box Elder grows and adds mileage to its local street system, the interstate will comprise an increasingly small percentage of the overall system.

Figure 13. Box Elder Roadway Mileage by Functional Classification



Roadway Project Plan

The City of Box Elder identifies the following projects for future development of the roadway system. Projects have been grouped into near-term (red, approximately 2026-2028), mid-term (gold, 2029-2031), and long-term (blue, 2032-2050) categories. Note that these categories are utilized for general planning purposes and are dependent upon funding commitments. This plan does not indicate a firm funding commitment by the City of Box Elder or other jurisdictions. Specific funding allocations are made through the City's annual budgeting process, in coordination with state and regional partners.

Potential projects were reviewed by the study committee and considered for inclusion in the MTP. The criteria utilized included project cost, strategic importance (Ellsworth AFB, School service), feasibility, and transportation need (congestion relief, safety, roadway condition, current or anticipated development pressure).

Public engagement indicated strong support for the proposed projects generally. The feedback indicated consensus that transportation needs are high, and that expanding Box Elder's roadway system is a priority.

Highest Ranked Projects Based on Public & Stakeholder Feedback:

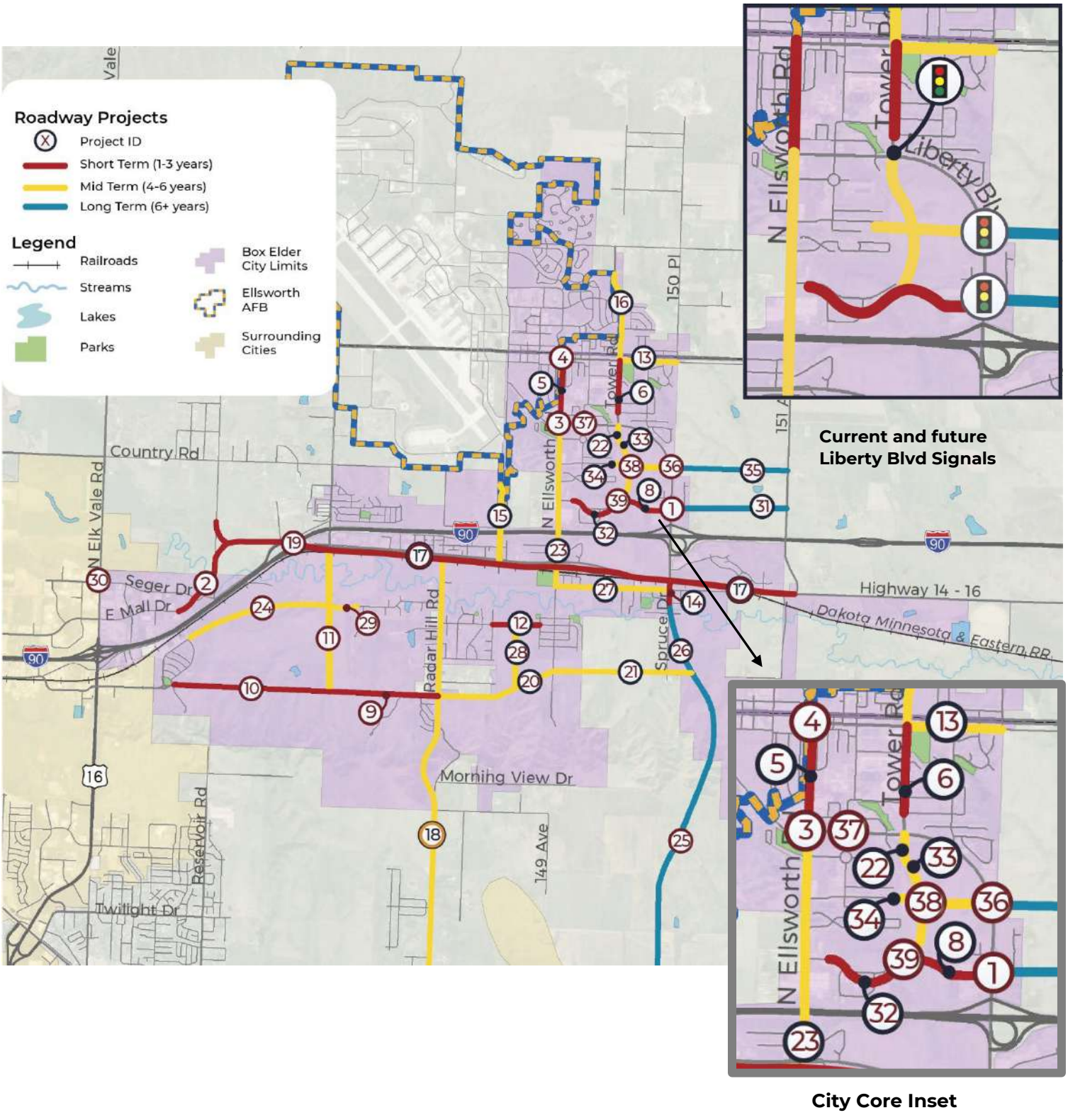
- **Intersection**
  Liberty Road and Reagan Avenue
  Elk Vale Rd. & E. Mall Dr.
  N. Ellsworth Rd. & Liberty Blvd. / N. Ellsworth Rd. & 225th St.
- **New Construction**
  Cheyenne Blvd. from Northern Lights Blvd. to W. Gate Rd.
  E. Mall Drive Extension From Seger to realign with Bennett Rd.
  Creekside Connector from Coyote Trail to Morgan Rd.
- **Reconstruction**
  Tower Road north of Liberty Blvd.
  N. Ellsworth Road from Liberty to 225th St.
  Radar Hill Road from Highway 1416 to the South

PRIORITY	ID	INTERSECTIONS
1	1	**Liberty Road & Reagan Ave.**
3	3	**N. Ellsworth Road & Liberty Blvd.**
3	4	**N. Ellsworth Road & 225th St.**
2	30	**Elk Vale Rd. & E. Mall Dr.**
	37	**Liberty Blvd. & Main St.**
	39	**Frontage Rd. & Cimarron Dr.**
	36	**Liberty Blvd. & New Constructed roadway to 151 Ave. signals**
	38	**Tower Rd. Extension & Yelner Dr.**

PRIORITY	ID	NEW CONSTRUCTION
2	2	**E. Mall Drive Extension** From Seger to realign with Bennett Rd.
	8	**Cimarron Dr.** Extension Chisholm Dr. to Reagan Ave.
1	10	**Cheyenne Blvd.** From Northern Lights Blvd. to W. Gate Rd.
3	12	**Creekside Connector** From Coyote Trail to Morgan Rd.
	32	**Cimarron Dr.** From Chisholm Dr. to W of Liberty Blvd.
	9	**Cheyenne Blvd.** From W. Gate Road to Radar Hill Rd.
	11	**W. Gate Rd.** Hwy 1416 to Cheyenne Blvd.
	20	**Cheyenne Blvd. Extension** From Radar Hill Rd. to Ellsworth Rd.
	21	**Cheyenne Blvd. Extension** From Ellsworth Rd. to 151 Ave.
	22	**Tower Road Extension** From Cimarron Blvd. to Liberty Blvd.
	24	**Northern Lights Blvd.** From Denali Dr. to W. Gate Rd./Sunnydale
	28	**New School Connector** From Creekside Dr. to Cheyenne Extension
	29	**Northern Lights Blvd.** From Alpha Ave. to Westgate Rd./Sunnydale
	33	**Tower Rd.** From Frontage Rd. to Liberty Blvd.
	34	**Yelner Dr.** From Donald Smith St to the new roadway, between Frontage Rd. and Liberty Blvd.
	25	**Airport Connector** From Cheyenne Blvd. to Airport
	26	**Spruce Drive (Realigned)** From Harmony Rd. to Cheyenne Blvd.
	31	**Reagan Ave.** From Dorchester Ave. to 151 Ave.
	35	**New Road** From Liberty Blvd. to 151 Ave.

PRIORITY	ID	RECONSTRUCTION
2	5	**N. Ellsworth Road** From Liberty Blvd. to 225th St.
1	6	**Tower Road** From Liberty Blvd. to 225th St.
	14	**Spruce Dr.** Hwy 1416 to Harmony Rd.
	15	**Repair Haul Roads**
	17	**Highway 14-16** (Mega-Project) From W. Gate Rd to 151 Ave.
	19	**I-90 Exit 63** (SDDOT)
	13	**225th St.** From Tower Rd. to 150 Ave.
	16	**Tower Road** 225th Street to 224th Street
	18	**Radar Hill Road** (Mega-Project) From Hwy 1416 to South City Boundary
	23	**Ellsworth Road** From Hwy 14-16 to Liberty Blvd.
	27	**Line Rd./Ellsworth Rd.** From Hwy 1416 to Line Rd. at Spruce Dr.

Figure 14. Future Roadway Projects



Long-Range Major Street Plan

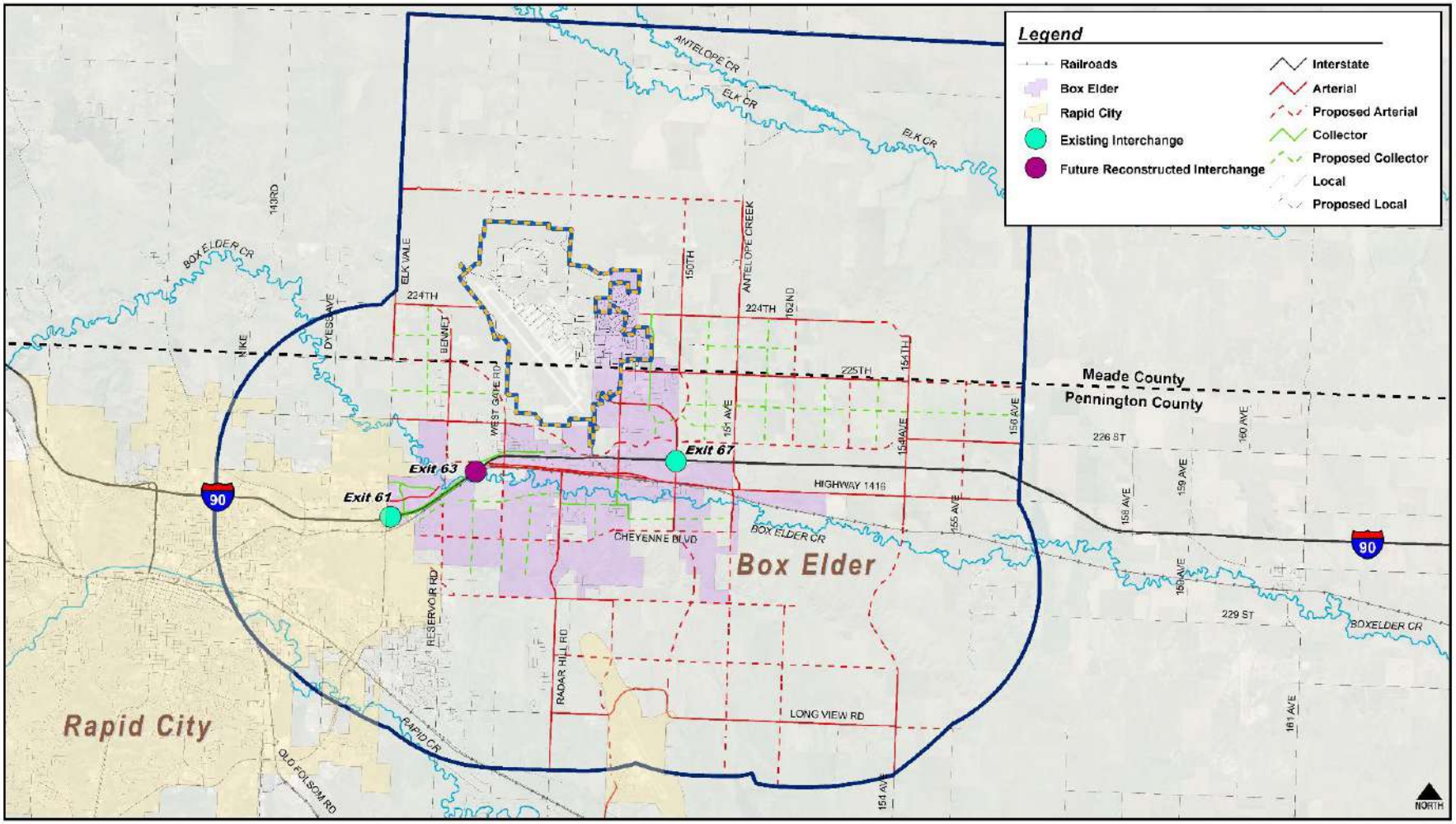
The Major Street Plan identifies a future conceptual framework of arterial and collector roadways that includes the projects identified in the foregoing section as well as longer-range projects where the construction date is unknown. The roadways are beyond existing city limits, but are anticipated to ultimately become part of the City of Box Elder as future growth areas are likely to be annexed by the City in decades ahead.

This Major Street Plan represents a reduced footprint in terms of the geography covered compared to similar plans in the previous Master Transportation Plan. This does not mean that Box Elder will never continue to grow beyond the extent of this network, but it is beyond the foreseeable and useful horizon year. This plan represents a roadway network likely to be developed over the next two decades.

In addition, the terrain south of Box Elder includes a ridge line that divides watersheds, and challenging topography for development. Therefore, city staff members envision a less dense arterial roadway network in this area as future growth extends southward.

The Major Street Plan shows the future arterial and collector network to distribute traffic throughout the roadway system. Additional minor collector streets would be determined through shorter range planning and the development review and approval process.

Figure 15. Long-Range Major Streets Plan

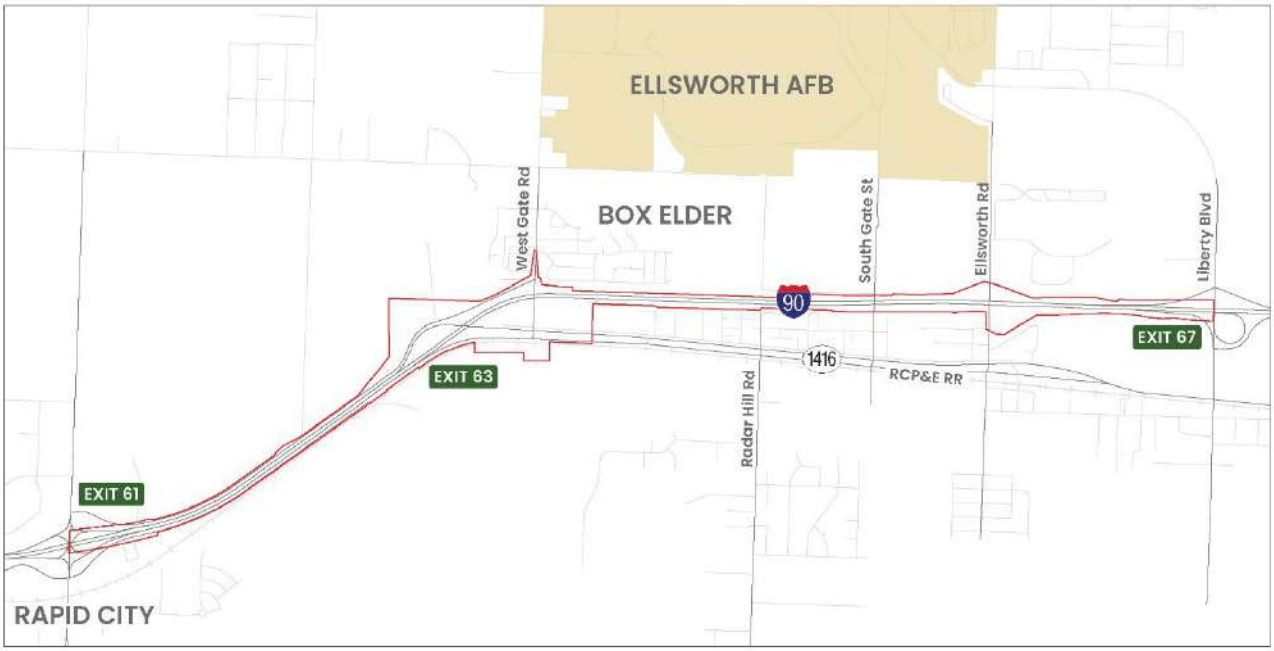


Interstate 90 and Regional Transportation

The City of Box Elder is currently served by three interchanges along I-90:

Exit 61:	▪ Elk Vale Road
Exit 63:	▪ Hwy 1416 (westbound entrance and eastbound exit only)
Exit 67:	▪ Liberty Blvd. / Ellsworth Air Force Base

Figure 16. Interstate 90 Box Elder Exits



Exit 63 is currently under design by the SDDOT that will provide a full interchange with enhanced traffic flow and access. While final design has not been completed, based on preliminary designs indicate the interchange will provide a direct connection to the street network to the north and west of the interchange.

When asked about regional transportation, "difficulty accessing I-90" was listed as the top concern, only behind "gaps in bike and pedestrian trail connections". In discussions with staff, the lack of a full access interchange at Exit 63 may be the primary concern underlying these responses. For instance, residents stated that travel patterns to and from I-90 vary depending on the location and time of day. The Exit 63 project is being designed to improve these concerns.

While the City of Box Elder does not directly control or operate the interstate, providing smooth and convenient interstate access is critical to the quality of life and economic prosperity for Box Elder residents and businesses. The City should continue to work closely with SDDOT and regional entities such as Rapid City and the Rapid City Area-MPO to ensure that regional transportation is a priority in the planning process and duly considered for future project programming.

6. Future Sidewalks and Trails Plan

Active Transportation Network

The City of Box Elder's Active Transportation Network provides for pedestrian and bicycle trips for recreational and transportation purposes. The rapid growth of E-bike and E-scooters in recent years has increased the demand for expanding systems for these modes of transportation throughout the country, and Box Elder has followed this trend as public input through the development of this Plan indicated high interest in additional sidewalks and trails.

As described in the Existing Conditions section, the city's bicycle and pedestrian network as it currently exists consists primarily of sidewalks in residential areas and some of the key arterial and collector roadways. An extensive sidewalk system exists in the core of Box Elder and near the DSD campus. Housing developments and mobile home parks vary in terms of sidewalk coverage, and crossing Highway 1416 presents a significant barrier due to the lack of pedestrian infrastructure.

Based on the public input received through the planning process, expanding and strengthening the active transportation network is a key goal for the MTP. Gaps in bicycle and pedestrian trail connections were the top concern related to regional transportation. Lack of sidewalks and hiking/biking trails was a common theme throughout public input. Where sidewalks exist in housing developments, they frequently end at the edge of the subdivision with no community-wide network to accommodate connections to other areas of the city. Residents in the surveys noted neighborhoods like Northern Lights, Thunderbird, and Westwind. Also cited were concerns about children playing in the streets due to nonexistent or unsafe pedestrian options.

Recently, Box Elder constructed a sidewalk along the east side of Ellsworth Road that connects from Liberty Blvd. south to Highway 1416, south of I-90. This represents a significant enhancement of connectivity. The City plans to continue to expand the sidewalk and trail system to meet the growing demand in these amenities for both transportation and recreational purposes. There are plans to extend sidewalks along Ellsworth Road north of Liberty Blvd. to 225th Street.

For purposes of this Master Transportation Plan, the following terminology is used:

Sidewalk – A separated walkway along a roadway that serves people within the public right-of-way. The recommended width for sidewalks is at least six feet.

Shared Use Path - Sometimes referred to as a "sidepath," these are multimodal routes designed for pedestrians, bicyclists and people using other mobility devices. Sidepaths are located in the same public right-of-way as the street, and the recommended width is a minimum of eight feet.

Trail –In coordination with the Comprehensive Plan, trails in the MTP refer to bicycle-pedestrian facilities that are typically gravel or rustic hiking trails ("nature trails"), although concrete paths are not precluded. They may follow along creeks, rivers, or former rail corridors, or be built on top of underground utilities for a secondary purpose of utility maintenance access. The minimum recommended width is at least ten feet.

An example of a shared-use path or sidepath (source: Western Transportation Institute)

Throughout the public and stakeholder input, the following projects received strong support:

Sidewalk:	▪ 225th Street from N. Ellsworth Road to Tower Road ▪ Tower Road from Liberty Blvd. to the Antelope Ridge development
Shared-Use Path:	▪ Radar Hill Rd. from Highway 1416 to Cheyenne Blvd. ▪ Liberty Blvd. from Main St. to Tower Rd. & from Tower Rd. to Prairie Rd.
Trail:	▪ Box Elder Creek Trail following the creek in southern Box Elder

Sidewalks & Trails Project Plan

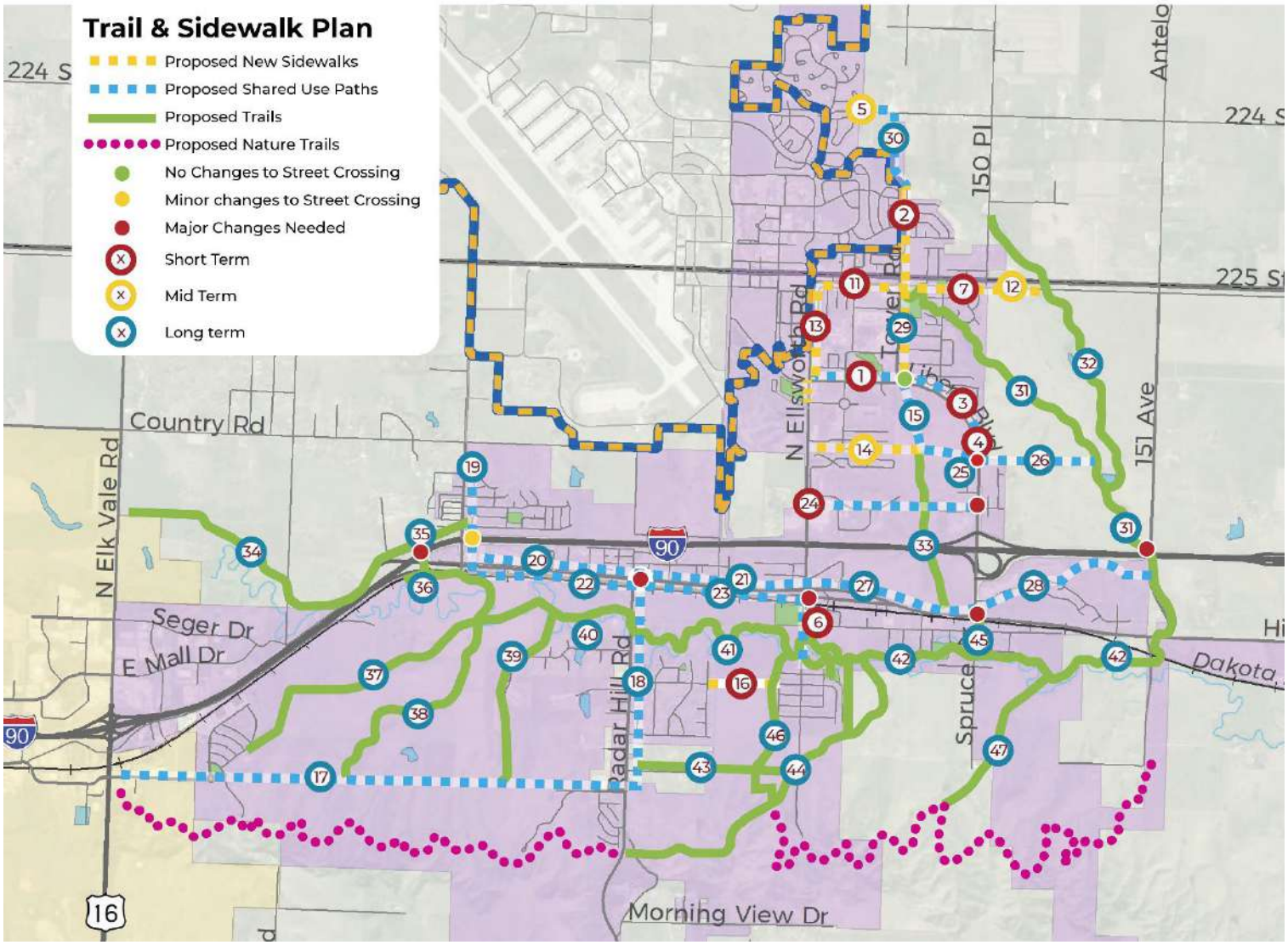
The City of Box Elder identifies the following projects for future development of the active transportation system. Projects have been grouped into near-term (red, approximately 2026-2028), mid-term (gold, 2029-2031), and long-term (blue, 2032-2050) categories. Note that these categories are utilized for general planning purposes and are dependent upon funding commitments. This plan does not indicate a firm funding commitment by the City of Box Elder or other jurisdictions. Specific funding allocations are made through the City's annual budgeting process, in coordination with state and regional partners.

PRIORITY	ID	SHARED USE PATH
1	1	**Liberty Blvd.** From Main Street to Tower Road (north side), connect to walk on west side of Tower
2	3	**Liberty Blvd.** From Tower Road to Prairie Road (north side), connect to walk on west side of Prairie
3	4	**Liberty Blvd.** From Prairie Rd. to Reagan (north and east side), connect to walk on Reagan (to east)
	17	**Cheyenne Blvd. (Future)** From Elk Vale Rd. to Radar Hill Rd.
	18	**Radar Hill Rd.** From Cheyenne Blvd. (Future) to Hwy. 1416
	19	**W. Gate Rd.** From Cheyenne Blvd. (Future) to Hwy. 1416
	20	**Highway 14-16** From W. Gate Rd. to Radar Hill Rd.
	21	**Highway 14-16** From Radar Hill Rd. to Ellsworth Rd.
	22	**Line Road** From W. Gate Rd. to Radar Hill Rd.
	23	**Line Road** From Radar Hill Rd. to Ellsworth Rd.
	25	**Cimarron Rd.** From Tower Rd. Extension to Liberty Blvd.
	26	**New Roadway** From Liberty Blvd. to Trail
	27	**Highway 1416** From Ellsworth Rd. to Liberty Blvd.
	28	**Highway 1416** From Liberty Blvd. to Trail (Future)
	29	**Tower Rd.** From Liberty Blvd. to 225th St.
	30	**Tower Rd.** From Bull Run to 224th St.
	43	**Cheyenne Blvd. (Future)** From Radar Hill Rd. to Creek
	45	**Spruce Dr.** From Box Elder Creek Trail to Hwy 1416

PRIORITY	ID	SIDEWALK
1	6	**S. Ellsworth** From Prairie View neighborhood to Hwy 1416 (currently in design)
2	7	**225th** From Tower to Westwind (in design)
3	2	**Tower Road** From Ballista to Bull Run (west side)
4	11	**225th Street** From N. Ellsworth Rd. to Tower Rd.
5	13	**N. Ellsworth Rd.** From Liberty Blvd. to 225th St.
	16	**Creekside Connector** From Coyote Trail to Morgan Rd.
6	24	**N. Ellsworth Rd**. From Liberty Blvd. to Terrace on the Greens
	5	**224th Street** From Tower Rd. to Antelope Ridge (not all in current city limits)
	12	**225th Street** From Westwind to Creek east of 150 Pl.
	14	**Cimarron Rd.** From Ellsworth Rd. to Tower Road Extension

ID	TRAILS
15	**Tower Road Extension (Creekside)** From Cimarron Rd. to Liberty Blvd.
31	**New Trail** From Foxborough Trail near Prairie Rd. to Hwy. 1416
32	**New Trail (East Side)** From 150th Ave. to New Trail Connection
33	**Tower Road South Extension** From Cimmaron Rd. to Hwy 1416
34	**Box Elder Creek Trail** from Elk Vale Rd. to W. Gate Rd.
35	**New I-90 Crossing** From Line Rd. to Bennet Rd.
36	**Box Elder Creek Trail** From east of I-90 to W Gate. Rd.
37	**Southwest Trail** From Cheyenne Blvd. (Future) to Creek
38	**New Creekside Trail** From Cheyenne Blvd (Future) to Creek
39	**New Trail** From Cheyenne Blvd. (Future) to Creek
40	**Box Elder Creek Trail** From Creek to Radar Hill Rd.
41	**Box Elder Creek Trail** From Radar Hill Rd. to Ellsworth Rd.
42	**Box Elder Creek Trail** From Ellsworth Rd. to Eastern Creek Nexus
44	**Southern Creekside Trail** From Radar Hill Rd. to Box Elder Creek
46	**New Trail** From Southern Trail (Future) to Box Elder Creek Trail
47	**New Trail** From Southeast Limits (future) to Box Elder Creek Trail

Figure 17. Future Trails & Sidewalks



7. School Campus Traffic Plan

The City of Box Elder and the Douglas School District (DSD) initiated a School Campus Traffic Plan to address traffic and safety issues in the vicinity of the DSD campus as part of this Master Transportation Plan. It is recognized that transportation in and around the campus is an ongoing challenge and opportunity for improvement. This was reiterated through the MTP's public engagement process, wherein school zones were frequently cited as a concern. For example, some comments described these areas as "overwhelmed and chaotic," especially during pickup and drop-off times.

To address these concerns, the MTP planning process engaged with DSD staff to develop the following summary of observations, needs and opportunities to enhance the traffic and safety for school families, employees and all residents. The planning exercise that was conducted for traffic conditions in and around DSD campus, which includes the Douglas High School as well as the Douglas Middle School and two elementary schools (see **Table 4**). School circulation and critical issues were reviewed as part of this process. Field observations were undertaken in April 2025 in collaboration with DSD Staff, which resulted in a needs identification. While several areas emerged for potential projects, the most critical need focused on Don Williams Drive.

Current Conditions

The DSD campus joins multiple schools into a single campus in Central Box Elder. The schools and enrollments as of the 2024/2025 academic year are summarized in **Table 4**.

Table 4. Douglas School District Schools

School	Grades	Bell Schedule	Enrollment (2024/2025)
Francis Case Elementary	K-3	8:00 AM/3:00 PM	1,402
Badger Clark Elementary	K-3	8:00 AM/3:00 PM	
Vandenburg Elementary	4-5	7:50 AM/2:45 PM	
Carrousel School	Pre-K & Special Services	NA	NA
Douglas Middle School	6-8	7:55 AM/3:05 PM	633
Douglas High School	9-12	7:55 AM/3:10 PM	739

Summarized observations are as follows:

- Inadequate curb space for private (non-bus) student drop off and pick up leads to hazardous maneuvers, including illegal/improvised parking and students crossing traffic at irregular locations.
- There are inconsistencies in plans within the campus. For instance, different morning and afternoon usage, lack of designated areas for curbside drop and parent "walk-in," etc.
- The surrounding streets, such as 225th Street, Tower Rd., and Patriot Dr. have incomplete sidewalk networks.
- Don Williams Drive serves many purposes so that it has been referred to as a "lack of identity" which leads to congestion and safety concerns, including bus/vehicle crossovers leaving the parking lot and potential conflict points between students crossing the parking lot and vehicles. Congestion and parking issues observed along Briggs Street and Tower Road likely stem from drivers avoiding having to travel along Don Williams Drive.

Figure 18 graphically summarizes the Needs Assessment for the DSD Campus area.

Figure 18. Summary of Needs

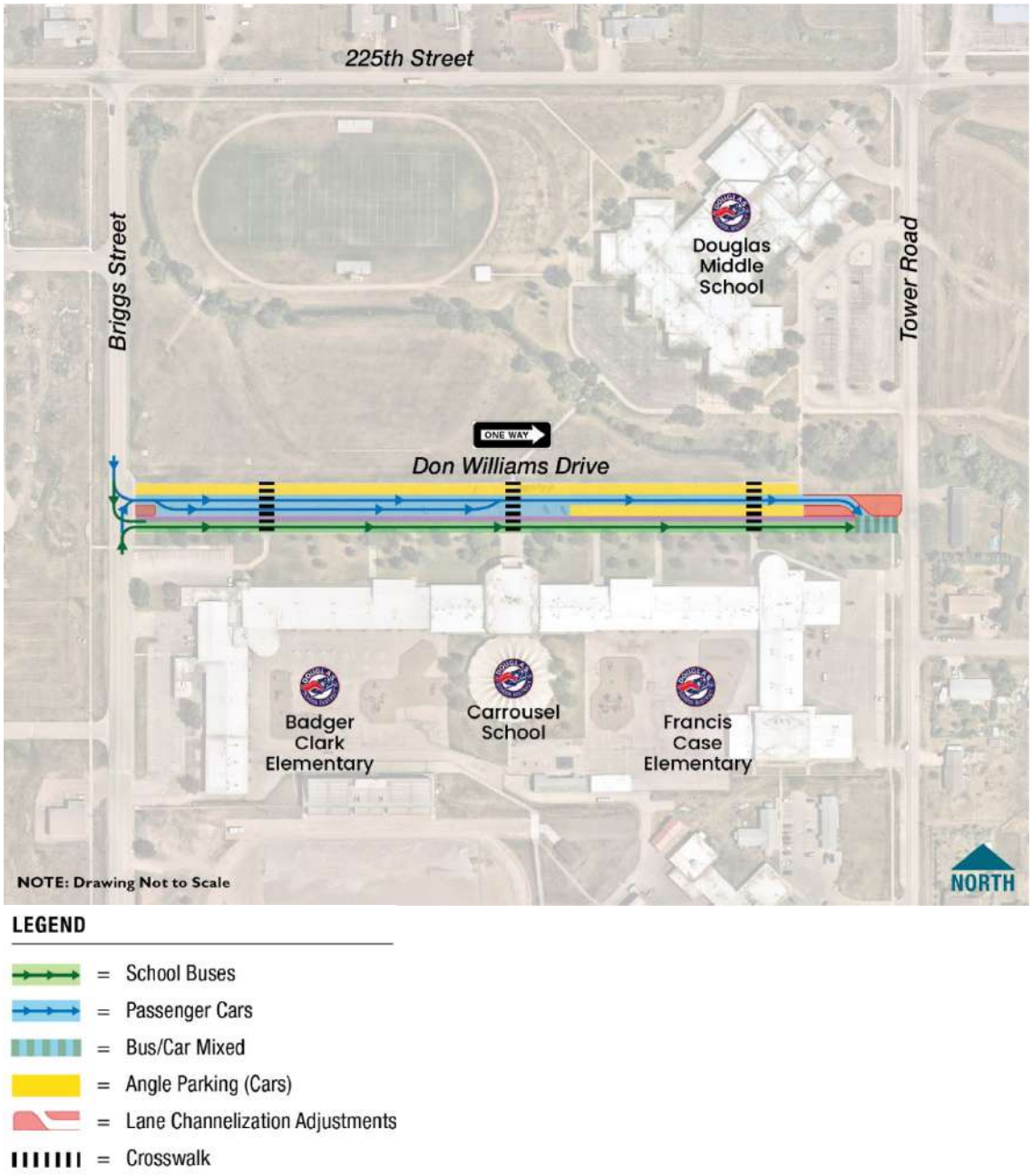
Don Williams Drive Alternatives

Multiple alternatives were drafted to address the issues along Don Williams Drive, which serves as the bus drop-off road and traverses the heart of the DSD campus from Briggs Street to Tower Road.

Figure 19. Don Williams Drive Option 1 - Channelization

Option 1 would funnel traffic exiting to Tower Road into a single exit point to correct the current bus/vehicle crossover movements that occur at the east end of Don Williams Drive.

Figure 20. Don Williams Drive Option 1a – Channelization with Drop-Off

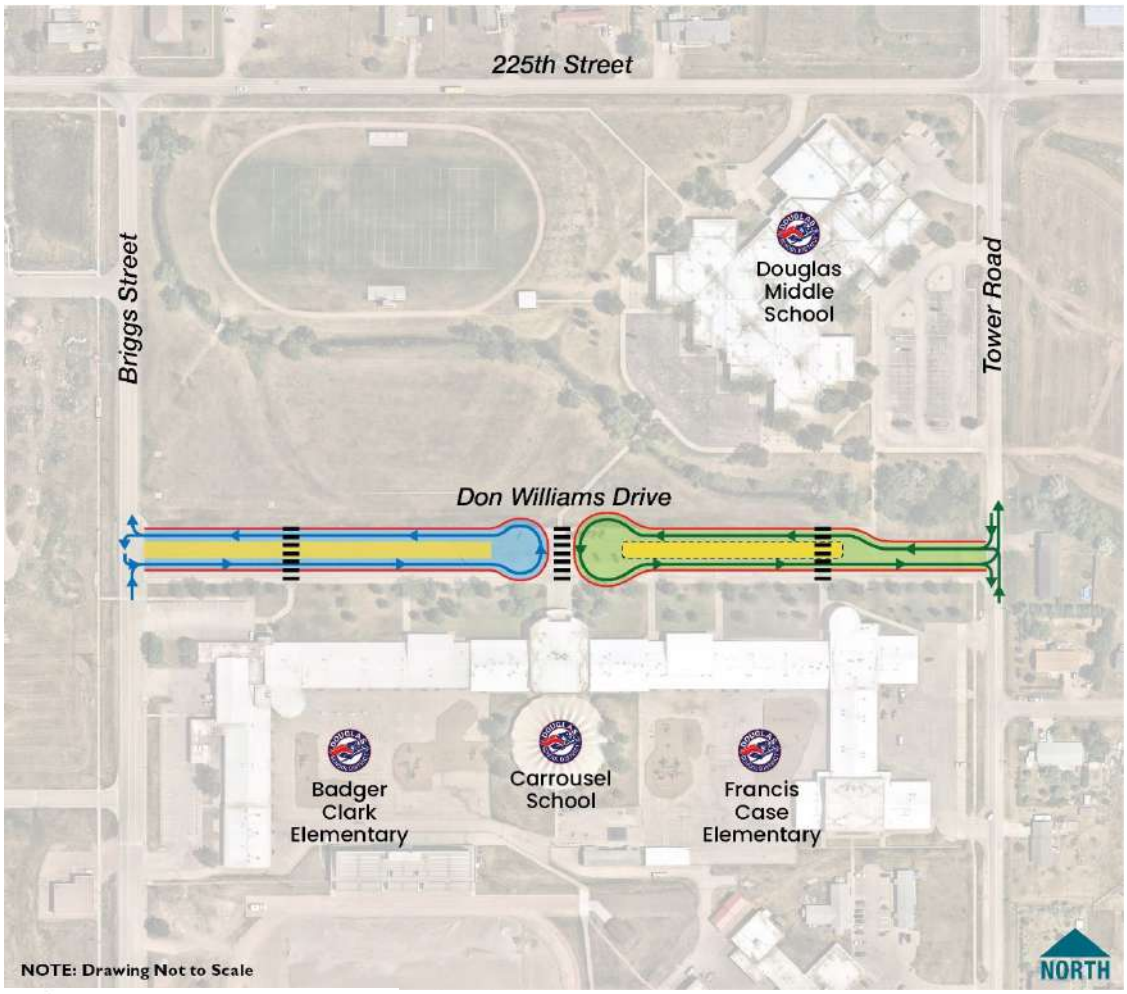


Similar to Option 1 with the channelized exit point, Option 1a would add a drop off lane for eastbound passenger cars to separate parking and drop-offs from other traffic.

Figure 21. Don Williams Drive Option 2 – New Connection

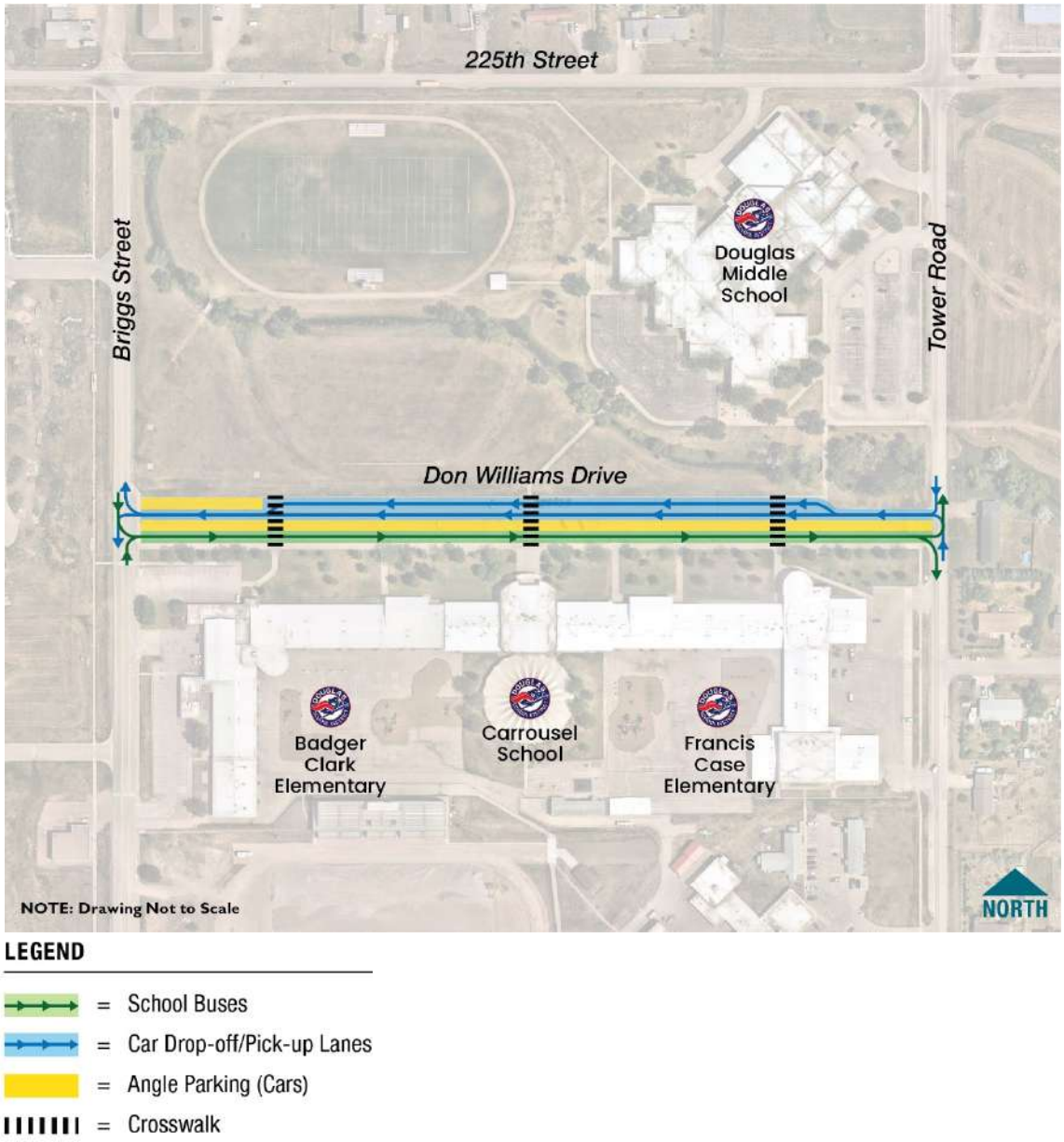
Option 2 would add a one-way street connection from Don Williams Drive to 225th Street to distribute traffic throughout the campus and reduce the volume exiting on Tower Road. This would cross an existing sidewalk and be located somewhere between the football/soccer field and Douglas Middle School.

Figure 22. Don Williams Drive Option 3 – Dual Cul-de-Sac



Option 3 separates bus traffic from car drop-off and pick-up traffic with the buses entering and exiting from Briggs Street, and the cars entering and exiting from Tower Road. This option received the largest amount of support from stakeholders, who preferred separating bus and vehicle traffic.

Figure 23. Don Williams Drive Option 4 – Two-Way Traffic



This option school bus traffic would maintain the eastbound direction, but car traffic would switch to a westbound direction, with the addition of a car drop-off lane.

Upon consideration and discussion of these options with DSD Staff, it was determined that Option 3 sets the appropriate vision for the future of Don Williams Drive by separating bus and vehicular traffic and enhancing curb space for pick up and drop off activity.

Recommendations: Near-term (2-5 Years)

Figure 24 provides a summary of DSD campus recommendations for future implementation.

❶ Don Williams Drive

Option 3 is recommended as the preferred alternative for Don Williams Drive redesign. This option has the advantages of:

- ✓ Separates bus and vehicular traffic
- ✓ Minimizes the need for student crossing of traffic, including the current bus lane
- ✓ Provides dedicatd pick up and drop off curb space

❷ Tower Road

Reconstruct Tower Road from Liberty Blvd. to 225th Street. Design should be done in coordination with #1. Finished section will provide:

- ✓ 3-lane section
- ✓ Sidewalks
- ✓ Curb and gutter

❸ Prairie Road & Liberty Blvd. Intersection

Provide a westbound right turn lane at Prairie Road for traffic distributing away from the campus and city core area, where significant queuing currently occurs.

❹ 225th Street Sidewalks East of Tower Road

Add a sidewalk from on 225th St., from Tower Rd. to Westwind Drive, to fill in gaps.

Recommendations: Long-term (5+ Years)

❺ Don Williams Drive Connector Street or Parking

Consider adding a connector street north of Don Williams Dr. and/or parking.

❻ Briggs Street Improvements

Improve Briggs Street with wider sidewalks, consistent road section, and curb and gutter.

❼ 225th Street Sidewalk Gaps

Add sidewalk along the north side of 225th Street as well as the gaps on the south side of 225th Street from Tower Road to N. Ellsworth Road.

Figure 24. School Area Recommendations

8. Transportation Standards

Proposed Roadway Cross Sections

Figure 25 and **Figure 26** depict typical cross sections for arterial, collector and local roadways. The MTP provides typical sections specific to the Box Elder area that can be used as a starting point for design of arterials and collectors in various contexts. Typical sections for arterial, collector and local classifications are not divided into 'Urban' or 'Rural' categories. This is done to provide the City with flexibility to implement particular sections when deemed appropriate. Typical sections for trails and paths are not included in this document, but the *Rapid City Area Bicycle and Pedestrian Master Plan* may be used as a design reference for trails and paths. In addition, minimum sidewalk and side path widths are depicted on **Figures 25 and 26. Table 5** provides summary information for each cross section.

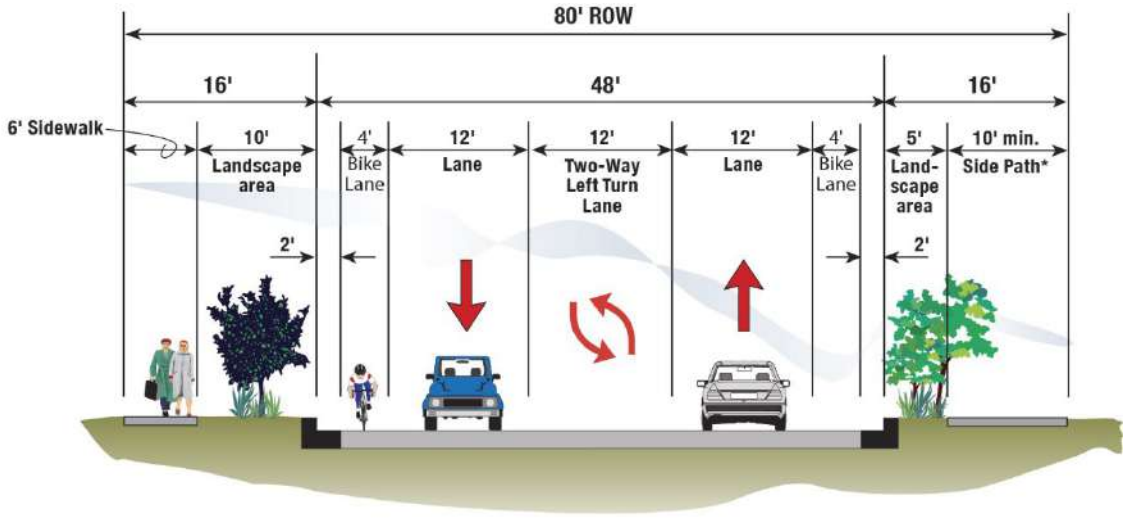
REASONS FOR THIS STANDARD:

- Reminds City staff of elements that can be incorporated into roadway design
- Provides ROW widths for preservation
- Helps with cost estimating/budgeting
- Clear guidance for developers
- Enhances identity and unity of Box Elder

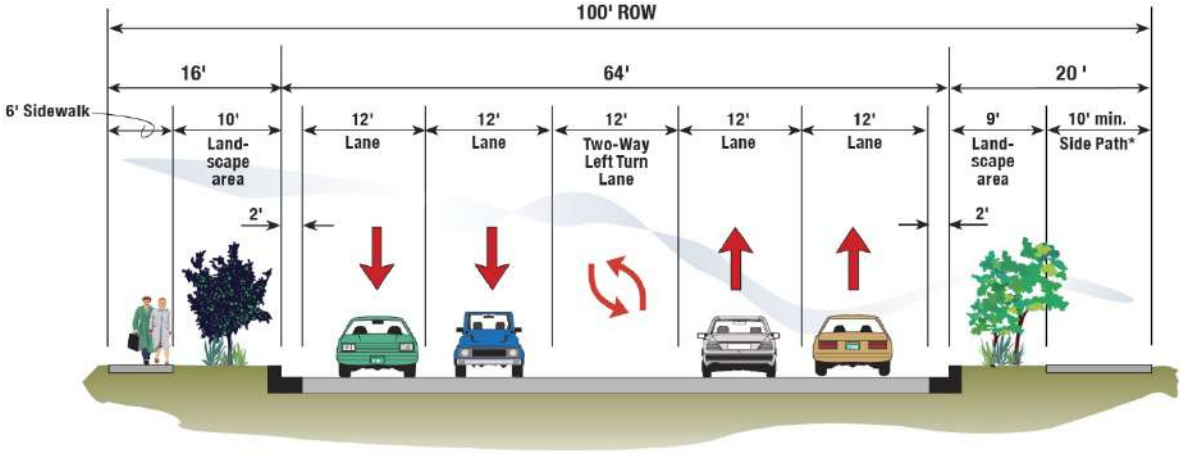
Table 5. Typical Section Characteristics

Classification	ROW (ft.)	Traveled Way (ft.)	Amenity Zone (ft.)	Number/ width of Travel Lanes	Speed (mph)		Shoulder/ Bike Lane
					Design	Posted	
Arterial (2-3 lane)	80	48	16	2+Center Left Turn Lane / 12 ft.	50	30-45	4 ft Bike Lane
Arterial (4-5 lane)	100	64	20	4 / 12 ft.	50	35-45	N/A
Collector	66	46	10	2 / 11 ft.	35	30-35	4 ft. Bike Lane
Collector with on-street parking	66	46	10	2 / 11 ft.	35	30-35	6 ft. On-Street Parking
Local-Residential (Attached Walk)	50	32	9	2 / 10 ft.	25	25	6 ft. On-Street Parking
Local-Residential (Detached Walk)	60	32	14	2 / 10 ft.	25	25	6 ft. On-Street Parking

Figure 25. Arterial and Collector Cross Sections

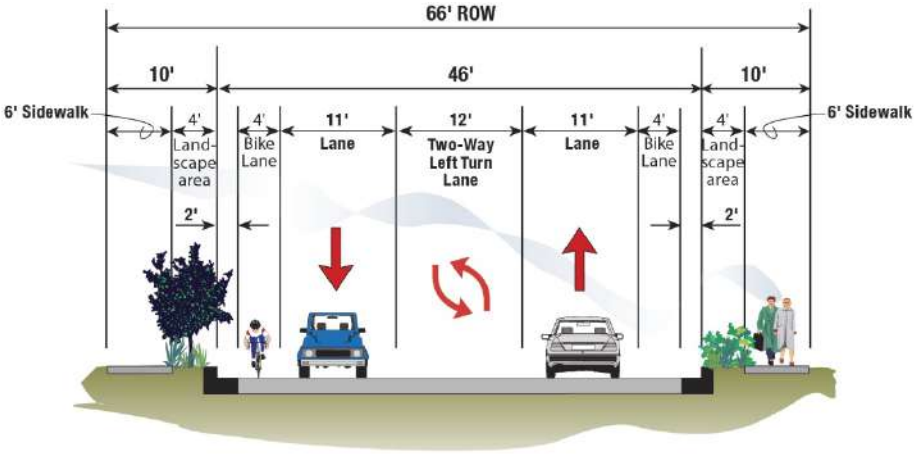


Two - Three Lane Arterial
(e.g. Ellsworth Road)



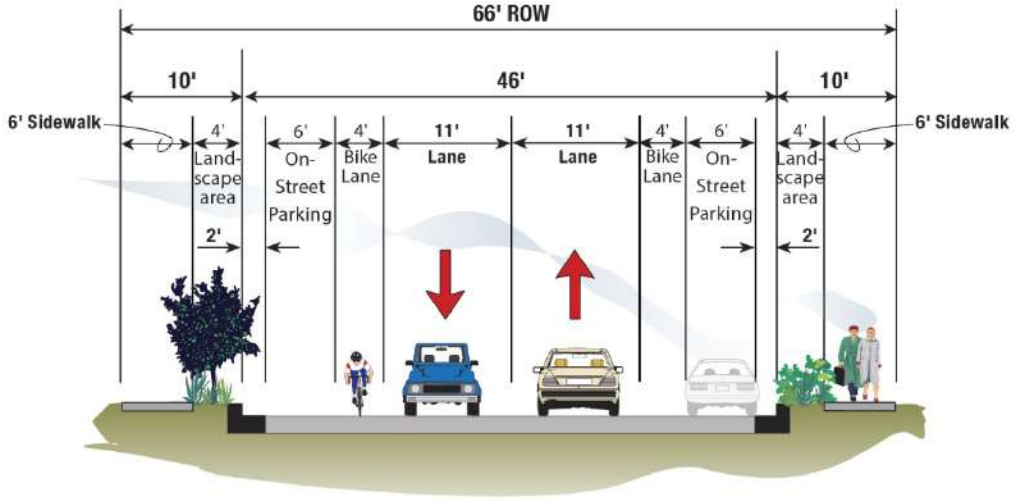
Four Lane Arterial
(e.g. Liberty Boulevard)

*Side Paths should be at least 5' away from edge of curb

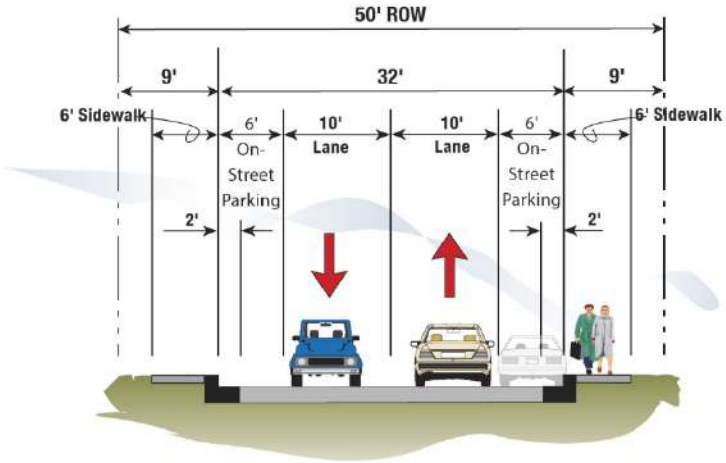


Collector

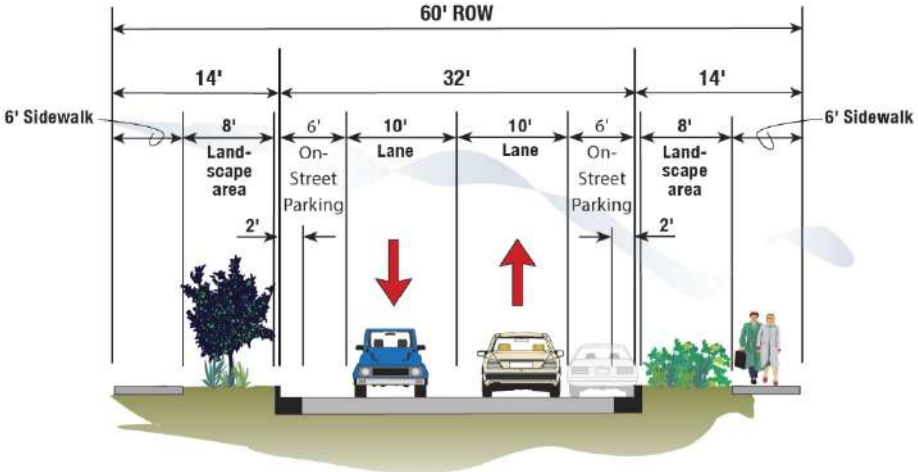
Figure 26. Collector (With Parking) and Local Road Cross Sections



Collector With On-street Parking



Local-Residential Attached Walk



Local-Residential Detached Walk

The roadway cross sections shown reflect a 'Complete Streets' philosophy of designing streets to accommodate all roadway users. Providing detached walks and bicycle lanes are two distinctive aspects of the Complete Streets approach, which is intended to help build a road network that is safer, more livable, and welcoming to everyone (www.completestreets.org). While the City of Box Elder has not officially adopted a Complete Streets policy, the typical sections included in the MTP are intended to accommodate all users.

Transportation Development Review

Box Elder is currently known as a development-friendly community, which will continue to help the community to grow and develop economically. To ensure that transportation needs are met as growth happens, this plan provides a process by which new development and redevelopment efforts will address transportation needs.

Level of Service Standard

Consistent with the Rapid City Infrastructure Design Criteria Manual, it is recommended that Level of Service C serve as the design objective for the peak hour. Levels of Service are defined in the *Highway Capacity Manual*.

REASONS FOR THIS STANDARD:

- Ensures that developers are mindful of transportation needs when planning
- Helps to provide a basis for requests to the developer for improvements
- Maintains acceptable operating conditions as growth happens

Traffic Studies

New development in the study area generates vehicle-trips and associated new demands on the roadway system. The impacts of different developments vary from a small number of trips for a single new home to a large number of trips for a major residential subdivision or commercial development. *Many municipalities require applicants for major developments to fund and submit a traffic impact study as part of the application process.* A traffic impact study estimates the number of trips expected to be generated and the expected distribution of those trips onto the surrounding road network, as well as identifies major road improvements needed to accommodate the traffic.

Jurisdictions typically establish a threshold for the size of development that would trigger the requirement to do a traffic impact study (TIS). The traffic volume thresholds shown in **Table 6** are recommended in consideration of the need for a traffic impact study:

Table 6. Traffic Impact Study Requirements

Daily Traffic Volume Generated by Proposed Development (Vehicle-trips per day)[4]	Study Requirements
1,000 or more	Traffic Impact Study Required
0-1,000	Traffic Impact Study may be required at the discretion of the City of Box Elder

The City of Rapid City has published guidelines for conducting a TIS. These guidelines could be utilized as a reference for Box Elder when requesting that a developer provide a TIS. Box Elder could also consider formally adopting similar guidelines.

Other Development Review Considerations

In order to ensure that the development review process fully captures the transportation priorities of Box Elder, it is recommended that the following issues also be incorporated into the review:

Access Management: The type and spacing of accesses should be permitted in a manner consistent with standards for Access Management and the classification of the roadway being accessed. Access Management techniques are to be incorporated with the development plan, such as:

- Providing opportunities for interconnectivity and circulation between adjacent parcels and sharing of accesses
- Limiting access movements to right-turn only or ¾ movement in order to enhance safety and efficiency
- Avoiding offset intersections that create the potential for interlocking left turns
- Providing appropriately-sized turn lanes for movements entering the site
- Ensuring that adequate separation from adjacent accesses is provided

Sidewalk provision: Development and redevelopment plans should include sidewalk linkages across the property, even when such connections are not well-developed outside of the property. ADA accessibility should be provided in accordance with Federal law.

Multi-modal accommodations: Development and redevelopment plans should take advantage of opportunities to enhance the safety and efficiency of multi-modal travel, including bicycle parking, on-site walking paths, and parking lot pavement markings.

[4] Daily Traffic Volume generated by development may be calculated based on proposed land uses using Trip Generation, Twelfth Edition (Institute of Transportation Engineers, 2025). Using these rates, 1,000 vehicles per day corresponds to approximately 20,000 Square Feet of Shopping Center Retail or approximately 90 single-family detached homes.

New development should occur only where existing transportation facilities are adequate or where necessary improvements will be made as part of the development project.

Development should pay its equitable share for necessary improvements to the City transportation system.

City of Box Elder **ordinances** should require construction of improvements identified through a traffic impact study.

Access Management

REASONS FOR THIS STANDARD:

- Secure safe and efficient flow of traffic into the future
- Preserve functionality of roadway network
- Provide guidance to developers on number and location of accesses
- Provide objective, uniform standards for access to prevent constant need for re-interpretation

The establishment of access management guidelines is intended to guide the City in determining allowance of access to a particular property, and under what circumstances or restrictions that an access might be allowed. The guidelines are not intended to be a full comprehensive access manual, but rather some principles to determine if access would be allowed and references to determine the need for auxiliary turn lanes. It is recognized that City staff would look at each access on a case-by-case basis to determine any need for acceleration/deceleration lanes.

Access guidelines will be specific to the functional classification of the roadway being accessed, with the following guidelines:

Access Permitting - It is recommended that access permit applications be required for gaining access to any City roadway. A permit application will also be required when there are changes to the property that increase the traffic volume to the site by 20 percent or more.

Arterial Roads - Direct access to abutting land is subordinate to providing service to the through traffic movements. Access will normally not be granted to individual property which has a reasonable alternative means of access to a lower classification of roadway. Consideration of reasonable alternative access will take into consideration the function of the alternative roadway, its purpose, capacity, operation, safety, and means of improving the alternative roadway. Ideally, accesses should be limited to only arterial and collector cross-streets.

Intersections with the potential for eventual signalization should be spaced at one-quarter-mile intervals based on section lines where feasible and subject to the roadway's grade and to the driver's entering sight distance. Allowed accesses or intersections spaced at intervals other than one-quarter mile will be restricted to right-in/right out only unless an engineering study clearly demonstrates that there are benefits to allowing additional movements and that the access location would not be a significant detriment to the integrity of the arterial roadway.

All necessary means shall be pursued to ensure that any access granted to an arterial roadway serves as many properties as possible; this may require the stipulation of cross access through the subject property to serve neighboring properties. Additional access will not be provided to parcels along the arterial which are subdivided or are under a common ownership. Single family homes will not be allowed to front onto an arterial.

Collector Roads - Direct access onto a collector roadway is reasonably balanced with the roadway's mobility function. A minimum of one access will be allowed to serve each property provided that it does not create a hazard or a detriment to the roadway's integrity and is at least 500 feet from another existing or future access or intersection. Access will normally be full movement, unsignalized unless such access creates an operation or a safety problem. In such a case, a restriction of movements may be required. A second access to individual properties may be granted if this access is not detrimental to existing or future access serving the adjacent property or to the operation of an existing or a planned cross-street intersection.

Local Roads – The intent of local roads within developing areas is to provide direct access to abutting properties. Minimum spacing between access/intersections should be 50 feet; greater or lesser spacing may be required in unique circumstances subject to specific traffic conditions.

Table 7 outlines the spacing requirements for access to roadways of various functional classification categories.

Table 7. Access Spacing Standards

Functional Classification	Distance between Full Movement Accesses	Distance between limited Movement Accesses
State / US Highway	See SDDOT Standards	See SDDOT Standards
Arterial	¼ mile (1,320 feet)	660 feet
Collector	500 feet	250 feet
Local Road	50 feet	50 feet

It is recognized that some access drives will be used very little, such as those serving agricultural purposes or oil and gas purposes. If the access is to experience very little use (no more than twice a month), the policy stated above may be waived barring any other unusual circumstances.

Roadway Surfacing

The decision to pave a gravel roadway is complex, requiring consideration of multiple factors. Based on a review of available resources and referring to the Meade County Transportation Plan, the following elements should be considered in making the decision to pave a gravel roadway.

REASONS FOR THIS STANDARD:

- Provide rationale for making decision to pave
- Allocate funding to surfacing projects
- Minimize dust impacts of gravel roads

- Daily traffic volumes and type of traffic along the roadway. Past data from SDDOT indicate that it is economically viable to provide surface treatment to gravel roads carrying in excess of 250 to 300 vpd. Roads carrying in excess of 660 vpd are typically reviewed to determine whether an alternate roadway surface should be considered.

- The continuity and functional classification of the roadway should be considered. Arterial roads should generally be paved before collector or local roads. As another consideration, a local street may be economically sealed or paved while a road with heavy truck usage may best be surfaced with gravel and left unpaved until sufficient funds are available to place a thick load-bearing pavement on the road.

- The tendency of drivers to divert away from gravel surfaces and onto paved surfaces to make their trip should be considered. If the new paved roadway would provide the first paved surface serving a particular demand pattern within the area, it should be designed to accommodate higher levels of traffic and routes leading to it may require some improvement to provide adequate traffic safety.

- Traffic safety should be addressed. Paved roads encourage higher travel speeds, and sight distance, curvature, lane width, surface friction and superelevation should be tailored to the anticipated travel speed. As stated in the Gravel Roads Manual, it makes no sense to pave a gravel road which is poorly designed and hazardous.

- It is important to build up the road base and improve drainage before paving. If water is not drained away from the road, the pavement fails.

- The decision to pave a gravel road is ultimately based on economic considerations. Accordingly, SDDOT published a research report in June 2004 intended to assist local governments with the roadway surfacing decision. The report provides a detailed cost model addressing the agency and user costs associated with various roadway surfaces.

- Public opinion should be weighed in the decision process and leaders should inform the public about the factors considered in the decision process.

Intersection / Pedestrian Crossing Design

Standards should address methods for determining whether any special crossing treatment is necessary, determining the type of treatment that is most appropriate (if needed), and design elements of pedestrian crossings.

1. Needs Assessment

REASONS FOR THIS STANDARD:

- Enhance pedestrian safety in Box Elder
- Provide guidance for designers on proper midblock and intersection crossing protocols

The initial assessment of whether any special crossing treatment is necessary should be undertaken as an analytical study of crossing conditions to see if crossing treatment(s) is/are needed. Among the technical items that a need study should address for a given potential pedestrian crossing treatment are:

Data Collection

• Number of pedestrians crossing	• Records of traffic crashes
• Traffic volumes and vehicle types	• Review of sight distance for peds seeking to cross
• Vehicular travel speeds	• Collect data regarding available gaps in traffic

Analysis

An engineering study should be prepared documenting the above data collected and providing an assessment of whether current and/or future conditions justify installation of a pedestrian crossing signal or a different special treatment. Resources for supporting this need include the *Manual on Uniform Traffic Control Devices* (MUTCD) and the City and County of Denver's *Uncontrolled Pedestrian Crossing Guidelines*.

2. Selection of Treatment

There are numerous existing means and methods to provide pedestrian crossing of a roadway. These include installation of crosswalks, pedestrian-actuated signals, standard intersection traffic signals, raised pedestrian refuge islands, in-pavement lit crosswalks, curb "bulb-outs", and curb ramps. **Table 8** provides a partial listing of crossing treatments for consideration by the City. It is recommended that these treatments and other innovative ideas be considered for implementation at locations with a demonstrated need. Many more crossing treatments are provided in other resources, such as *Alternative Treatments for At-Grade Pedestrian Crossings* (Lalani, 2001).

Table 8. Pedestrian Crossing Treatments

Pedestrian Crossing Treatment	Description
Crosswalk	Common intersection treatment. Use only when can be protected in some fashion, such as at signalized intersection or locations with pedestrian-actuated crossings.
Pedestrian Actuated Signalized crossing	Use at midblock locations with high pedestrian and vehicular traffic. Consult Manual on Uniform Traffic Control Devices
Raised pedestrian refuge islands	Use in combination with pedestrian-actuated traffic signals or other traffic warning devices. Creates two-stage crossing, a helpful safety measure
Bulb-outs	Use when crossing distance is excessive and improved pedestrian visibility is needed. Can be combined with landscape enhancements to help with pedestrian visibility
Curb ramps	All pedestrian crossings should have curb ramps available for use by disabled individuals.
Grade Separation	Construction of tunnel or overpass exclusively for pedestrian use

3. Crossing Design

Design of pedestrian crossing treatments should be developed using available industry resources. Design components include elements such as pavement marking dimensions, appropriate roadway and pedestrian signage, signal placement and indications, Americans with Disabilities Act (ADA) components, visibility enhancements, and material selection.

Truck Routes

The City is setting new Gross Vehicle Weight (GVW) standards for all streets that supersede the former designation of truck routes. The truck routes in the past went outside city limits. Going forward standards will allow for equitable enforcement and road specifications.

Development should pay its equitable share for necessary improvements to the City transportation system.

City of Box Elder ordinances should require construction of improvements identified through a traffic impact study.

City of Box Elder ordinances should include a traffic improvement fee to support other future improvements to the City and County transportation system made necessary by the impact of the development, including cumulative impacts.

City of Box Elder ordinances should establish a mechanism to allow a party who initially funds an improvement to be reimbursed by future developments that also impact that facility.

9. Implementation Plan

The Master Transportation Plan recommends an ambitious set of projects for roadway, sidewalk and trail improvements. Projects will require proactive approach to project planning, phasing and funding to implement the plan successfully. The following recommendations envision a blueprint for action to realize the Plan.

Priority Projects:

The following projects have been identified as top priorities for the short-term. These projects are programmed in the City's Capital Improvements Plan. These projects address critical issues related to safe traffic near the school campus in the city core as well as providing additional transportation network and connectivity in the western side of Box Elder. Project cost estimates are the latest available and subject to change:

- **Tower Rd.** from Liberty Blvd. to 225th Street ($4,100,000)
- **Cheyenne Blvd**. from Radar Hill Rd. west to Northern Lights Blvd. ($21,000,000)
- **N. Ellsworth Rd**. from Liberty Blvd. to 225th Street ($10,600,000)
- **E. Mall Drive** from Seger to realign and connect with Bennett Rd. ($2,500,000)
- **Liberty Rd. & Reagan Ave** Intersection (Cost Estimate pending)
- **Elk Vale Rd. & E Mall Dr.** Intersection (Cost Estimate pending)

These projects represent a total of $38,200,000 in priority investments.

Recommended Phasing Plan

Box Elder's identified project needs include two projects with large price tags that exceed the community's ability to fund on its own. These projects include Highway 1416 and Radar Hill Road, both of which have been analyzed in detail through corridor studies. The ability to design and construct these "mega-projects" will necessarily include partnership with SDDOT and the RCA-MPO to secure federal and potentially other funding sources.

An interesting opportunity exists to kick-start the Highway 1416 projects that extend from the Exit 63 Interchange at I-90 four miles to the east. The Interchange project will include new traffic signals at West Gate Road as part of the overall project. In addition, when Cheyenne Blvd. project identified above is constructed, travel patterns are forecast to increase traffic at the intersection of Highway 1416 and Radar Hill Rd. Therefore, the first section that will require attention will be along Highway 1416 from the intersection at W. Gate Rd. to Radar Hill Rd. This is a large project but is a manageable distance of one mile.

Following the initial segment, the work on Highway 1416 can proceed further to the east another mile to Ellsworth Road. Next, the corridor could be completed with another mile-long segment from Ellsworth Road to Liberty Blvd. Lastly, the corridor could be improved from Liberty Blvd. to 151 Avenue.

Highway 1416 Recommended Project Phasing

1. Radar Hill Rd. /Hwy 1416 Intersection
2. W. Gate Rd. Signals (Exit 63 Project)
3. W. Gate Rd. to Radar Hill Rd.
4. Radar Hill Rd. to Ellsworth Rd.
5. Ellsworth Rd. to 151 Ave.

Another large, planned corridor for improvements is Radar Hill Road south of Highway 1416. The aforementioned Cheyenne Blvd. extension will result in increased Radar Hill Road traffic. Therefore, interim, short-term improvements may be required to accommodate heavier traffic volumes and deteriorating roadway conditions. The first portion of the ultimate improvements along this corridor will be the intersection with Highway 1416. Then the section to the south from the Highway to Cheyenne Blvd. will be ready to tackle. Finally, additional improvements further to the south will need to be constructed, although these may be outside of Box Elder's jurisdiction.

Radar Hill Rd. Corridor Phasing

1. Hwy. 1416 Intersection Improvements
2. Interim Improvements upon opening of Cheyenne Blvd. extension
3. Ultimate Improvements from Hwy 1416 to new Cheyenne Blvd.
4. South of Cheyenne Blvd. (if necessary)

Funding Opportunities

Implementing the vision and priorities outlined in this plan will require a proactive and strategic approach to funding. Box Elder has a variety of potential funding sources to draw upon, ranging from local revenues to highly competitive state, regional, and federal grant programs A clear understanding of these opportunities, paired with a well-structured pipeline of projects, will position the City to secure the external funding needed to bring this plan to life. Partnership will be critical to identifying funding opportunities to address the extent of the current and future transportation needs for Box Elder. The following represent some of the best opportunities for transportation funding sources:

Federal Funding

Federal transportation funding plays a vital role in supporting major infrastructure investments across the country. Programs administered by agencies such as the U S Department of Transportation (USDOT), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA) provide critical resources for improving mobility, safety, and infrastructure resilience These funding streams are highly competitive and

often require projects to demonstrate regional significance, multimodal benefits, and strong community support. Box Elder can leverage federal grants to advance large-scale or innovative projects that align with national transportation goals

Table 9. Federal Funding Opportunities

Name	Description
USDOT Reconnecting Communities:	Addresses legacy infrastructure that divides neighborhoods Funds pedestrian bridges, cap parks, underpasses, and street redesigns. Requires community engagement and equity justification.
USDOT Charging & Fueling Infrastructure:	Supports EV charging stations in rural and urban areas Must demonstrate need, site readiness, and community benefit.
USDOT Safe Streets and Roads for All (SS4A):	Supports planning or implementation of Vision Zero and Safety Action Plans Emphasizes equity, public engagement, and data-driven risk analysis The Infrastructure Investment and Jobs Act (IIJA) established the SS4A competitive grant program, with $5 billion in appropriated funds between FY 2022–2026.
USDOT Strengthening Mobility and Revolutionizing Transportation (SMART):	Provides grants for smart mobility pilots such as connected intersections, autonomous vehicle shuttles, and data sharing platforms. Requires measurable outcomes and scalability. Approximately $100 million will be available between FY 2022–2026.
Federal Highway Administration (FHWA) Carbon Reduction Program:	Provides formula funding through CDOT for emission-reducing projects such as trail systems, signal optimization, and electric infrastructure. Requires documentation of greenhouse gas impact.
Federal Transit Administration (FTA) 5310 Enhanced Mobility of Seniors and Individuals with Disabilities:	This formula fund supports public transportation for seniors and individuals with disabilities by funding eligible capital, purchased service, and preventive maintenance projects for transportation providers. Eligible projects include vehicle purchases, passenger shelters, purchased services, preventive maintenance, travel training, marketing programs, development of centralized call centers, and other equipment that support transportation to meet the special needs of seniors and individuals with disabilities.

Federal Highway Safety Improvement Program (HSIP):	Eligible projects in this category include improvements or corrections to safety issues on any local or regional public roads and trails or paths Typical projects include rumble strips, improved signage, lighting, and road restriping. Funded activities must be consistent with the state's Strategic Highway Safety Plan. Projects are selected competitively through the SDDOT.
Infrastructure for Rebuilding America (INFRA):	The FAST (Fixing America's Surface Transportation) Act established the Nationally Significant Freight and Highway Projects (NSFHP) program to provide financial assistance via competitive grants, known as INFRA grants, or credit assistance to nationally and regionally significant freight and highway projects that align with program goals to improve safety, efficiency and reliability of freight; improve global competitiveness; reduce highway congestion; improve connectivity; and address growing demand for freight.
USDOT Better Utilizing Investments to Leverage Development (BUILD) Grant Program:	Since 2009, USDOT has distributed grants for planning and capital investments in surface transportation infrastructure (formerly called RAISE and TIGER) Grants are awarded on a competitive basis for projects that will have a significant local or regional impact. BUILD funding can support roads, bridges, transit, rail, ports, or intermodal transportation.
Surface Transportation Block Grant:	A formula grant distributed to states, which then distribute it through discretionary grants. This grant primarily funds improvements on any federal aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals.
Public Transportation Innovation Program:	The program is a competitive grant process that provides funding to develop innovative products and services assisting transit agencies in better meeting the needs of their customers. It funds research, development, demonstration and deployment projects, and evaluation of technology of national significance to public transportation.
Transportation Infrastructure Finance and Innovation Act (TIFIA):	TIFIA financing includes direct loans, loan guarantees, and standby lines of credit to projects of national or regional significance. Minimum project costs are $10M for transit-oriented development, local, and rural projects, $15M for intelligent transportation system projects, and $50M for all other surface transportation projects. It can finance up to 33 percent of total project costs.

State Funding

The State of South Dakota offers a variety of funding programs that support local transportation initiatives, largely administered through the South Dakota Department of Transportation (SDDOT). These programs are intended to improve infrastructure, enhance safety and mobility, and support economic development across rural and urban communities. Many of these opportunities complement federal programs and can be used to support planning, design, and construction phases of transportation projects. Box Elder can strengthen its funding strategy by aligning project goals with statewide transportation priorities and performance measures.

Table 10. State Funding Opportunities

Name	Description
Transportation Economic Development Grants	Supports construction or reconstruction of key access roads that promote economic activity. Funding categories include Community Access (for towns under 5,000 residents), Agri-Business Access (for roads that serve grain elevators, ethanol plants, or similar facilities), and Industrial Park Access (supporting job creation and site development). Applicants must demonstrate that the project supports economic expansion, adheres to state design standards, and includes a feasible local match.
The Bridge Improvement Grant (BIG) Program	Provides funding for the replacement or major rehabilitation of bridges and large culverts owned by local governments. The program is intended to address aging infrastructure and support safe, reliable transportation systems. Funds are distributed annually and are prioritized based on need, safety, and project readiness. Projects must be listed in an approved inventory and meet federal inspection criteria, such as being rated in “Poor” or “Fair” condition.
Transportation Alternatives Program	Uses federal funds to support smaller-scale, community-based transportation improvements, including pedestrian and bicycle facilities, Safe Routes to School, trails, and streetscape enhancements. The program typically funds up to 81.95% of project costs, with a local match requirement of at least 18.05%. Eligible applicants include local governments, school districts, tribal governments, and nonprofits. Projects must demonstrate community engagement and align with multimodal goals.

State Highway Fund/Loan Programs	Provides low-interest loans to local agencies for construction or reconstruction of public roads and bridges, particularly those on the federal-aid system. Loans may also be advanced from Surface Transportation Block Grant Program (STBGP) allocations. Applicants must demonstrate economic benefit, repayment capacity, and alignment with statewide goals. While not grants, these loans are valuable tools for projects that need financing beyond available grant funds or for those seeking to accelerate project delivery.

Appendix A:

Public & Stakeholder Engagement Summary

Table of Contents

1. Public Engagement Approach

A Public Engagement strategy was designed for the Box Elder 2025 Master Transportation Plan (MTP) to establish strategies, tools, tactics, target audiences, and key messaging for the project. The plan was developed in close coordination and in compliance with the Project Work Plan (PWP) to provide consistent processes and effective and uniform communication across the life of the project.

The project approach engaged key stakeholders and a broad cross-section of the public. Public engagement includes providing information to residents, businesses, and those who travel in the project area. For the purposes of this plan, "public" refers to those who live, work and/or travel within Box Elder and nearby Ellsworth Air Force Base (EAFB). The project's public engagement approach will combine digital and in-person activities to ensure that objectives are met.

Communications Goals

The public and stakeholder outreach for the 2025 Master Transportation Plan was developed with the following communication goals:

- Create transparent, user-friendly communications.
- Collect feedback from a wide range of community members and stakeholders including residents of various age groups and demographics, business owners, motorists, pedestrians, cyclists, and users.
- Seek and incorporate public input where appropriate to inform the final outcomes of the 2025 MTP.

To achieve these goals, multiple strategies were implemented:

- Consistent communication distributed through the City of Box Elder.
- Use of a project website and Social Pinpoint (web tool) as a public engagement hub to collect additional feedback from the community.
- The Social Pinpoint page was linked to the City of Box Elder website.

2. Public Engagement Team

The Public Engagement Team (PET) includes City of Box Elder and consultant team members. Meetings were held either as stand-alone public engagement meetings or as part of the larger project coordination team to discuss and review public engagement.

Table 1. Public Engagement Team Members

Name	Organization	Role
Scott Lange	City of Box Elder City Engineer & Project Manager (PM)	▪ Review and approve draft public and stakeholder engagement messaging and materials ▪ Review and approve comprehensive summary report ▪ Coordinate with stakeholders
Rebecca Bader	City of Box Elder Public Information Officer	▪ Review and approve draft social media materials produced by FHU ▪ Post content on City's social media channels ▪ Coordinate with media, as needed
Robert Timm	City of Box Elder Government Affairs Director	▪ Coordinate with other communications and educational efforts from the City of Box Elder, including outreach to state and federal officials
Lauralee Patton	Planning and Zoning Director	▪ Provide consistency with Comprehensive Plan and other planning efforts and policies
Lyle DeVries	FHU Project Manager	▪ Review and approve proposed public engagement and stakeholder outreach materials
Greg Youell	FHU Deputy Project Manager	▪ Develop themes and messaging for public and stakeholder engagement content ▪ Incorporate public and stakeholder feedback into MTP
Amanda Denning	FHU Engagement Lead	▪ Develop public and stakeholder engagement content ▪ Prepare comprehensive public and stakeholder engagement summary
Peyton Saar	FHU Communications Specialist	▪ Monitor virtual engagement ▪ Maintain tracking log of public and stakeholder comments, media coverage, and social media engagement

3. Communications Approach & Tools

Phased Engagement

The planned public engagement encompassed wo primary phases of public outreach. During these outreach periods, in-person meetings and virtual activities were conducted to present information and gather feedback from the public.

- **Round 1** (Spring 2025) focused on understanding the transportation needs, issues, and values of those who live, work, and recreate in Box Elder through an online survey. A project website was launched on April 1, 2025, which included a public survey, project overview, timeline, relevant documents, and interactive tools. The strategy for this initial outreach phase relied heavily on existing communications channels through the City of Box Elder, Douglas School District (Peachjar Flyer Board), and outreach attempts to Ellsworth Air Force Base. The focus of this engagement was on flexibility and accessibility, and was conducted virtually.

- **Round 2** (Fall 2025) was conducted with a focus on presentation of the draft MTP and receiving public feedback. During this phase listening to the public to their feedback to confirm that it responds to community stated values and priorities. Round 2 activities included online access to the public meeting boards that provided a synopsis of the goals and recommendations, will provide the following:
  - online access to the draft report for review and comment
  - a comment tracking spreadsheet to document input and comment reconciliation
  - integration of public comments into the plan, as appropriate

Project Website

A project website was developed and served as the project's engagement hub throughout the development of the 2025 MTP:
https://fhu.mysocialpinpoint.com/box-elder-2025-transportation-study
This website utilized the Social Pinpoint tool to host background information, the project schedule, as well as engagement and feedback tools. The webpage also provided links to online surveys and Social Pinpoint comment maps, where residents could make comments specific to a geographic location.

Notices of public engagement opportunities, project materials, and final deliverables were placed on the page as they were made available over the course of the Plan.

Survey

FHU developed and hosted an online survey to collect feedback on how the community uses the current transportation system and what improvements they would like to see in the future.

The survey consisted of 11 questions, combining multiple-choice formats with opportunities for open-ended feedback Questions focused on what is working for the transportation system, what needs to be improved, what residents would like to see in the future, specific questions around the school area traffic, and an opportunity for general comments.

As seen in the graphic to the right, more than 230 individuals responded to the survey. Nearly 900 unique individuals viewed the project website. This represents a successful amount of participation relative to the total population of Box Elder.

Stakeholder Meetings

The Project Team reached out to a comprehensive list of stakeholders throughout the planning process. These included all Box Elder schools, veterans groups, senior citizens groups, multimodal transportation advocates, and other units of government. In addition, targeted conversations were held with the following stakeholders in 2025. This allowed for more in-depth discussion with representatives from the Air Force Base, law enforcement and emergency services, as well as neighboring jurisdictions to fully understand transportation opportunities and challenges that should be considered in the development of the MTP:

- Ellsworth Air Force Base: March 14, September 17, November 18
- Box Elder Police Department: May 9
- Pennington County: June 25
- SDDOT, Rapid City Area MPO, Meade County: June 27

Public Meeting/ Phase 2 Engagement

An open-house style public meeting was held on Wednesday, September 17 at Box Elder City Hall. The meeting was advertised through a news release, social media posts on the city's social media accounts, an insert included in all utility bills that go to local residents, as well as email and word-of-mouth dissemination.

The second phase of the Public Engagement focused on confirming with the public that the draft plan reflects what was heard during the public engagement process and that it responds to community stated values and priorities. Information boards developed for the meeting were posted on the project website for public comment. See Section 5 for a synopsis of the comments received during this portion of the project.

The Mayor of Box Elder also featured the Master Transportation Plan during his "Briefly Speaking" series on September 15th, which provides information to the public about ongoing events and issues in the City of Box Elder. Mayor Larson was joined by City Engineer Scott Lange on the episode to highlight the transportation planning process and why it is important to the City.

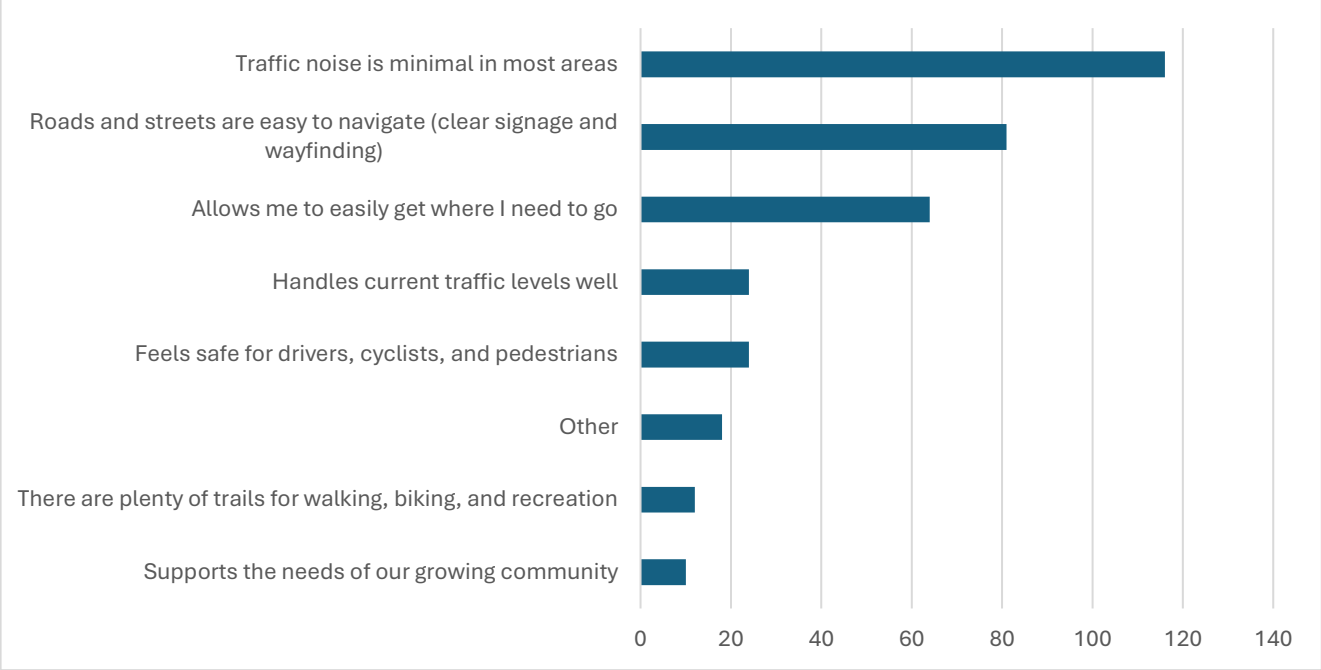
4. Survey Findings

Results from the survey are summarized in the following **key takeaways by question:**

Q1: What do you think is working well in Box Elder's transportation system? Select all that apply.

Top Strengths:

- **Traffic noise is minimal in most areas – 116 responses**: This was the most selected option, with over 110 respondents agreeing—suggesting that noise pollution is not a major concern in much of the community.
- **Roads and streets are easy to navigate – 81 responses**: Clear signage and wayfinding were noted as a strong point, with around 80 selections—indicating that most residents find the existing network intuitive.
- **People can easily get where they need to go – 64 responses:** this shows that despite broader concerns, many residents still feel their personal mobility needs are met.



Summary of open-ended "Other" comments

The overwhelming tone of the responses was negative, with many residents expressing frustration or stating outright that *nothing* is working well. A few noted specific problem areas or partial exceptions.

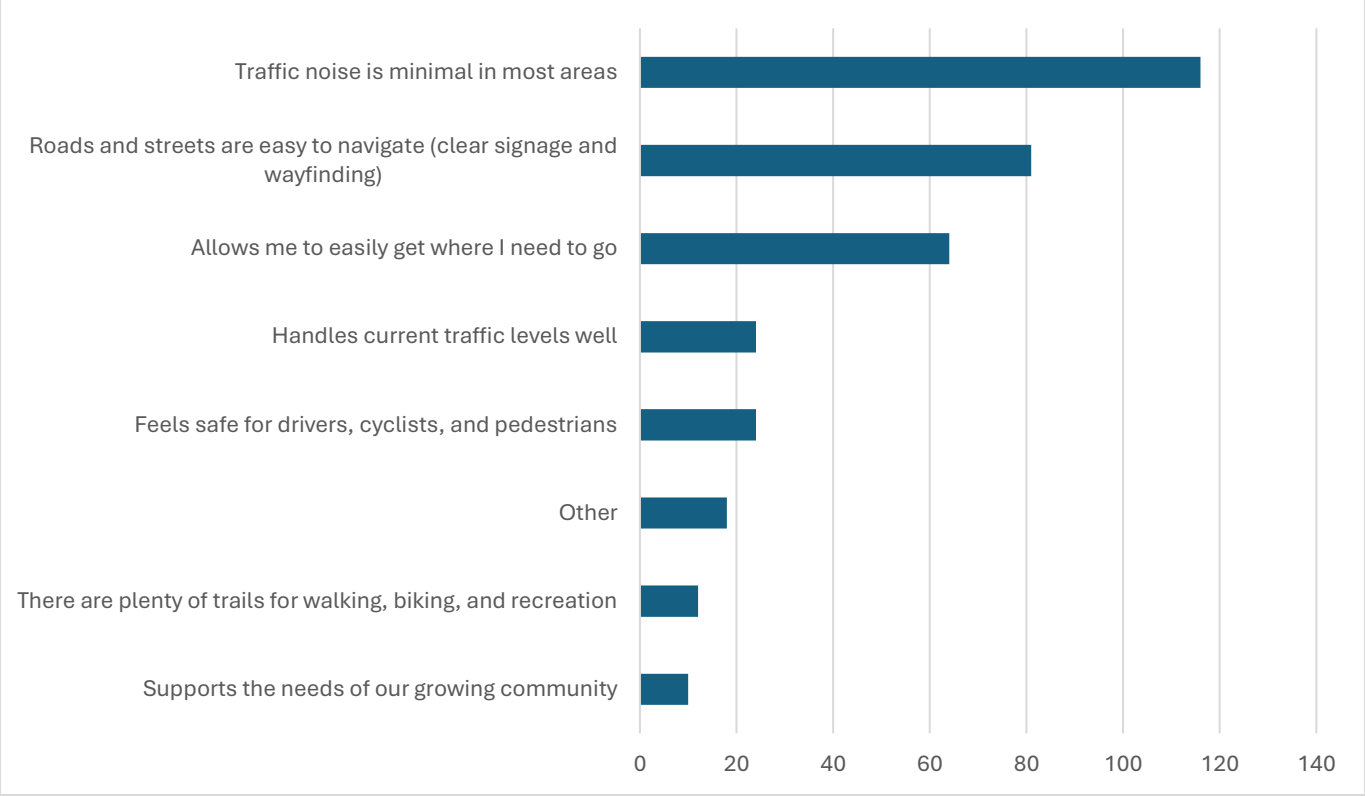
- **General dissatisfaction**: respondents simply said "None," "Nothing," or "Not working at all," signaling a general perception that the system is underperforming.

- **Lack of pedestrian and bike infrastructure**: comments pointed to the absence of sidewalks, bike facilities, and safe routes for schoolchildren.
- **Traffic and safety concerns**: Respondents noted traffic congestion—particularly near schools and Ellsworth AFB—and cited frequent accidents and poor traffic flow.
- **Specific roadway concerns**: Tower Road and N Ellsworth & Hwy 1416 were called out as needing major upgrades. One person noted Liberty Boulevard as the only road that functions well.
- **Enforcement & surface conditions**: Comments referenced the need for speed enforcement, dog control, and improvements to gravel roads in some neighborhoods.

Q2: What are your biggest concerns about Box Elder's transportation system? Select up to three.

Biggest Concerns

- **Traffic congestion at intersections** – 144 respondents: Long wait times and difficulty making left turns are a major source of frustration.
- **Safety concerns related to road and infrastructure design** – 98 respondents: Respondents pointed to missing bike lanes, shoulders, and general design issues.
- **Poor traffic flow at intersections** – 94 respondents: Signal timing issues and inefficient intersection control were frequently noted.



Summary of open-ended "Other" comments:
While individual comments varied in detail and tone, several consistent themes emerged—highlighting resident frustrations with safety, congestion, and the lack of basic infrastructure to support a growing community.

Intersection Safety and Congestion

- **High-traffic areas near Love's, McDonald's, and Starbucks** were repeatedly mentioned as dangerous and poorly managed. Residents called for traffic lights, turning lanes, and better control at these locations.
- **Tower Road**, particularly by schools and Liberty, was flagged as unsafe and overly congested. Comments highlight a need for widening roads and better traffic management tools like turn lanes and stoplights.

School and Residential Access Issues

- School zones described as **overwhelmed and chaotic**, especially during pickup and drop-off times. Residents mentioned considering moving due to the severity of school-area traffic.
- **Antelope Ridge and 224th** areas were highlighted for lack of alternate routes and unsafe conditions due to heavy truck traffic and poor road design.

Infrastructure Gaps

- A **lack of sidewalks and walking trails** is a common theme, especially in neighborhoods like Thunderbird, Westwind, and Northern Lights. Residents noted children playing in the streets due to nonexistent or unsafe pedestrian options.
- **Radar Hill Road and other routes** are called out for potholes, dips, and poor pavement conditions.
- Several noted **insufficient signage** and unclear or missing stop/yield indicators at intersections.

Broader Connectivity and Safety

- Respondents expressed concern about **limited exit routes** in the event of an emergency.
- **Noise from proximity to the airport and base**, and a desire for **public transportation or transit options to Rapid City**, were also mentioned.

Q3 – Q6: Travel Mode, Behavior and Frequency

This grouping of questions was designed to better understand how Box Elder residents typically travel for work, school, appointments, grocery shopping, social outings, and recreation. Knowing the predominant modes of travel helps the city prioritize infrastructure improvements. This information will support the identification of critical corridors and destinations, optimize connections between neighborhoods

and regional hubs and design multimodal systems that support real-world travel behavior. No demographic data was collected in this survey, therefore further analysis about travel behavior as it relates to specific populations may be a focus of the next phase of engagement.

Work

- Most respondents drive regularly, with smaller numbers occasionally walking or biking.

School

- Privately owned vehicles are the dominant school travel mode. A minority of students walk, bike, or carpool.

Key Destinations

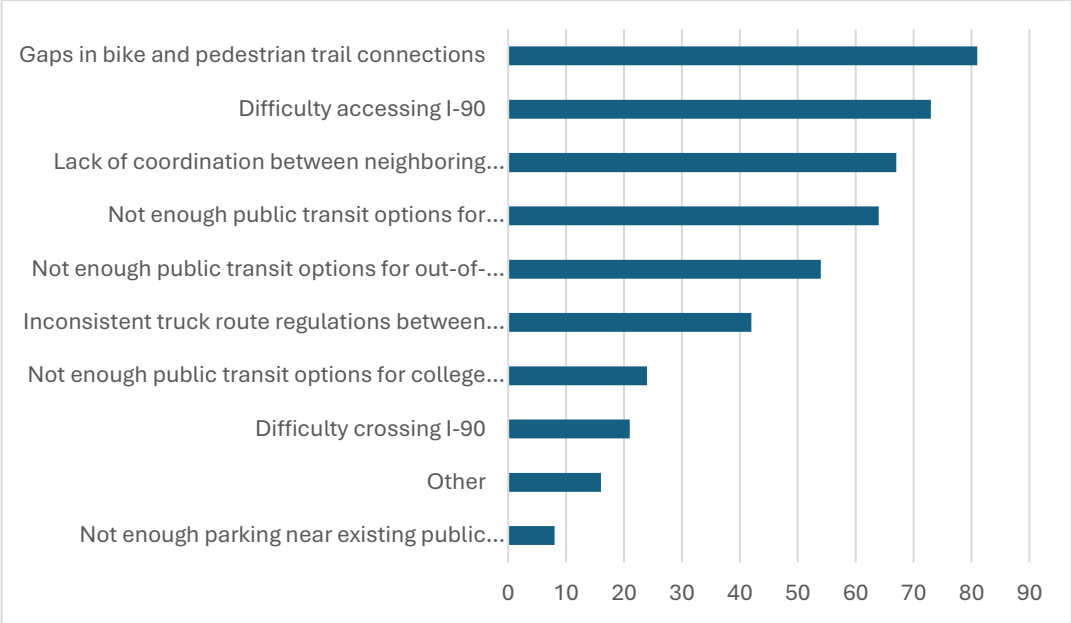
- Driving dominates for shopping and healthcare appointments; while walking and biking are more commonly used for parks and recreation. Shopping centers and schools emerged as the top two trip destinations. Parks and recreational areas followed closely, illustrating the importance of both practical and quality-of-life destinations in daily travel.
    - Health/Wellness (Doctor's office, pharmacy, gym, yoga): **privately owned vehicle**
    - Outdoor Activities (park, playground, trail, creek): **walk**
    - Shopping/Errands (grocery, retail, bank, post office): **privately owned vehicle**
    - Social (Restaurants, coffee shops, recreation center, library): **privately owned vehicle**

Parks and Open Spaces

- Privately owned vehicles were the predominant travel mode to access parks and recreation with 72% of responses. 16% indicated that they walk.

Q7: What are your biggest concerns about regional transportation? Select all that apply.

When asked about regional transportation concerns, residents prioritized gaps in bike and pedestrian trail connections, difficulty accessing I-90, and a lack of coordination between neighboring communities as top challenges. Public transit limitations—particularly for commuting, out-of-town travel, and access for college students—also emerged as major concerns. Additional feedback pointed to issues like inconsistent truck route regulations and difficulty crossing I-90, highlighting the need for a more connected and collaborative regional transportation network.



Summary of open-ended "Other" comments
Lack of Pedestrian and Bike Infrastructure

- Respondents highlighted the absence of sidewalks, trails, and bike lanes, particularly near schools and in neighborhoods like Northern Lights.
- Several mentioned that lack of infrastructure forces people to walk in streets or ditches, limiting mobility for those without cars.

Congestion and Safety at Schools and Truck Routes

- School-area traffic was a recurring issue, especially around Antelope Ridge and Douglas schools.
- The Loves truck stop area was described as dangerous, with calls for alternate routing to reduce semi-truck conflicts.

Poor Connectivity and Limited Access

- Residents expressed frustration over limited entry/exit points in and out of Box Elder, primarily relying on I-90 and Radar Hill Road.
- There were also suggestions for a new access road on the north side to reduce cut-through traffic in residential areas.

Intersection and Traffic Control Needs

- Multiple comments called for dedicated turn lanes, additional traffic lights, and upgraded controls on major corridors like Highway 1416.
- Highway 1416 intersections were noted as needing signalization, and general interest expressed in signalizing intersections/adding channelization to improve congestion and delays.

General Concerns

- A few responses noted poor overall traffic flow in town or expressed that the current system seems fine.

Q8: Do you have a location where you'd like to share a specific concern, experience, or idea for improvement within Box Elder or the broader region? Drop a pin!

138 respondents replied to this question and entered a total of 308 map pins.

Traffic & Intersection Management

- Numerous intersections were identified as high-risk or problematic for turning, crossing, or congestion. Locations like Liberty Blvd, Tower Rd, North Ellsworth Rd, and Highway 1416 were mentioned repeatedly.
- Residents requested roundabouts, dedicated turn lanes, and sensor-based signal timing to improve traffic flow and reduce backups.

School-Related Challenges

- All major school sites (including Francis Case Elementary, Vandenberg Elementary, and the middle school) were flagged for severe drop-off/pick-up congestion, unsafe crossings, and inadequate parking or loading zones.
- Suggestions included traffic officers, better signage, turning lanes, and alternative circulation routes.

Pedestrian and Bicycle Safety

- The lack of sidewalks, crosswalks, and protected bike lanes was a major theme—especially near schools, residential areas, and main thoroughfares.
- Some sidewalks were reported as damaged, obstructed, or abruptly ending, creating hazards for walkers and cyclists.

Truck Traffic and Industrial Impacts

- Residents near Liberty Blvd, Prairie Rd, and 224th Street expressed concern about heavy truck traffic, speeding, and safety risks from commercial vehicles entering residential zones.
- Requests included improved signage, truck route enforcement, and traffic-calming measures.

Connectivity and Access Limitations

- Several comments emphasized the need for new roads or connections, especially to bypass school zones or cul-de-sacs and reduce traffic funneling through residential areas.

- Access to and from I-90, particularly at West Gate and Radar Hill, was repeatedly cited as overloaded or inefficient.

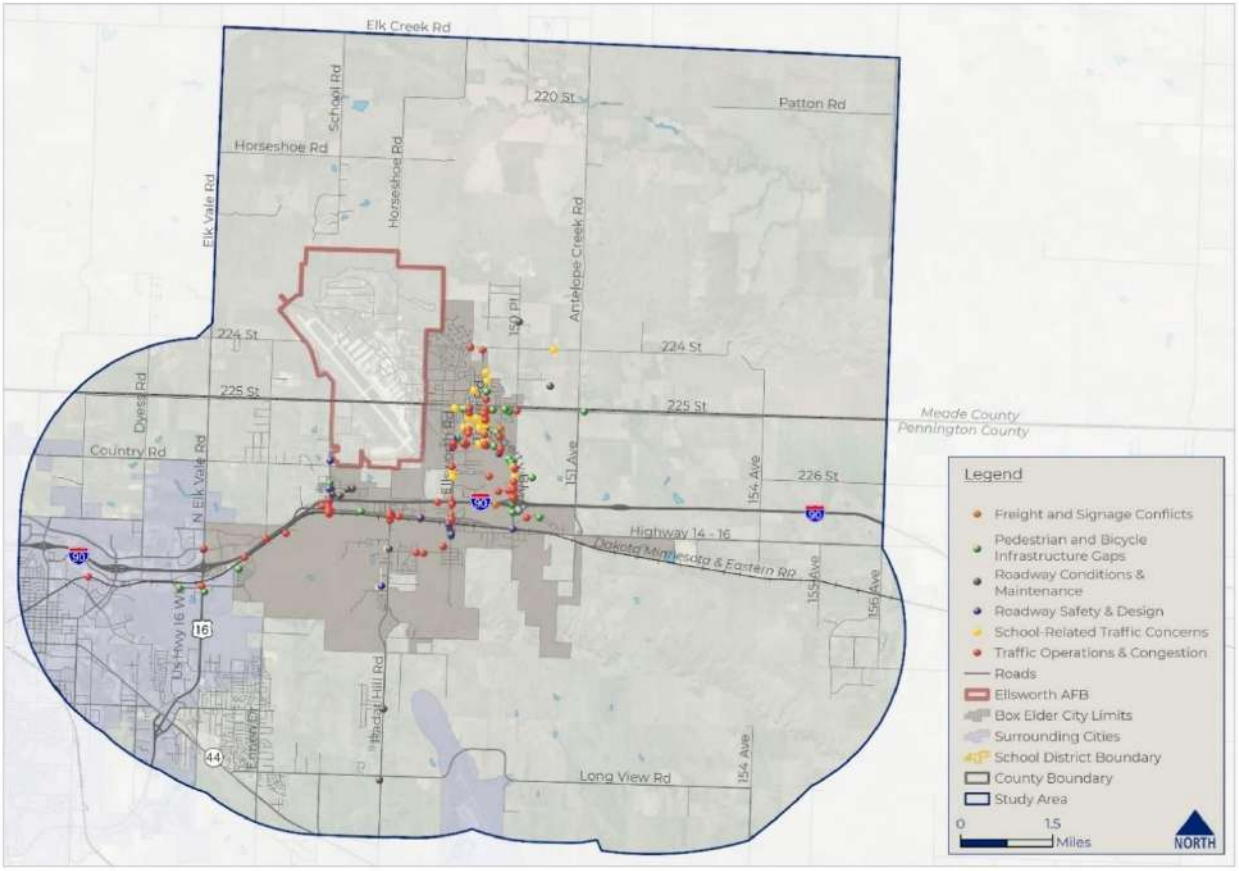
Road Conditions & Maintenance

- Reports of potholes, erosion, and insufficient drainage came from various neighborhoods. Residents also mentioned poorly maintained or gravel roads causing dust, noise, and safety issues.

Parking & Drop-Off Zones

- In and around schools and commercial areas, poorly defined or insufficient parking contributes to backups, illegal parking, and pedestrian conflicts.

Figure 1. Map of Comment locations for Question 8

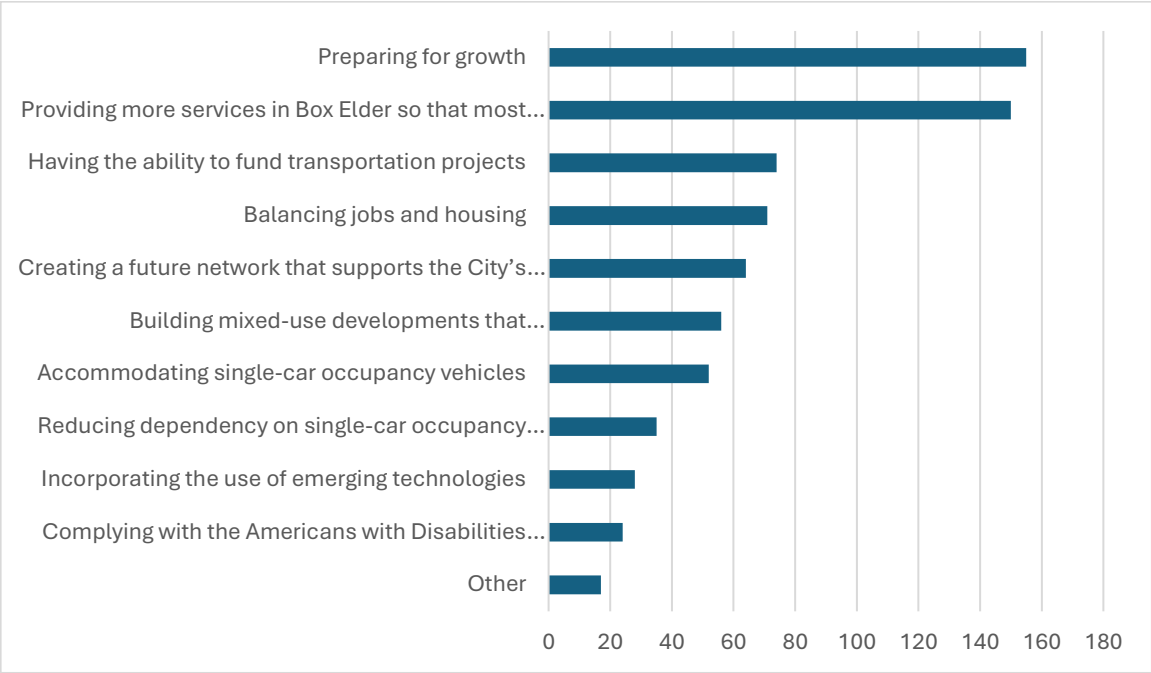


Spatial Clusters of Transportation Concerns

Cluster Location	Primary Issues
Tower Road Corridor (Including 225th Street, Don Williams Dr, and Briggs St)	• Severe school traffic congestion during pick-up/drop-off • Lack of left/right turn lanes and no traffic signalization at key intersections. • Unsafe pedestrian conditions, including missing sidewalks, poor lighting, and cars parking on shoulders. • Confusion and conflict at 4-way stops (Tower at 225th).

Liberty Boulevard & Reagan Avenue Area (Including McDonald's, Starbucks, Loves Travel Stop)	• Commercial truck traffic conflicts with residential traffic • Dangerous turning movements, especially left turns during peak hours. • Lack of traffic lights, dedicated turn lanes, and signal timing • Access issues at business driveways and intersections
North Ellsworth Road / Main Street / Patriot Drive Corridor	• Congestion at 4-way stops (e.g. Liberty/Ellsworth), especially with base traffic and school rush. • Missing sidewalk infrastructure, unsafe walking routes • Requests for traffic lights or roundabouts • Speeding concerns on Patriot and access roads
Highway 1416 / West Gate Road / Box Elder Rd West Area	• I-90 access congestion, especially during evening commutes. • Poor flow at 4-way stops, leading to backups and shortcut traffic through neighborhoods. • Lack of multi-directional on/off ramps and coordination with commercial traffic • Calls for roadway redesign, signal upgrades, and intersection simplification.
Radar Hill Road / East Box Elder (South of I-90)	• Speeding and accident risks, especially near curved segments • Lack of shoulders, sidewalks, and turn lanes. • Congestion at intersections with Highway 1416 • Road surface deterioration and safety concerns due to heavy vehicle use
Antelope Ridge / 224th Street / 150th Place	• Only one way in and out of Antelope Ridge — emergency access concern • Constant truck/dump traffic on narrow residential roads • Severe dust and safety hazards from speeding trucks • Poor maintenance and erosion on gravel roads
General/Other	
Sidewalk & Pedestrian Safety Gaps (Citywide but concentrated near schools and Liberty Blvd)	• Missing sidewalks throughout neighborhoods (e.g., Bluebird Dr, Meadowlark, Westwind, Yorktown) • Sidewalks abruptly ending, poor ADA compliance, drainage issues. • Unsafe walkability near schools and bus stops
EAFB-Related Comments	• Heavy base traffic, poor signage, and difficult turns • Speeding, no enforcement, and complex 4-way stops • Calls for better management of military and school-related traffic. • Confusion around yield vs. stop signs. • Lack of clear signage for semis and base access • Backups impacting gate entries.

Q9: What do you see as the top travel demand issues facing Box Elder? Select up to five.



When asked to identify the top travel demand issues facing Box Elder, residents overwhelmingly focused on the challenges associated with growth and access to local services. The most frequently selected concerns were:

- Preparing for growth (155 responses)
- Providing more services in Box Elder so that most or all needed commerce and public service needs can be met locally (150 responses)

These results signal strong public awareness of the community's rapid development and a desire to reduce the need for regional travel by strengthening local options for retail, employment, healthcare, and civic amenities.
Other frequently cited issues included:

- Having the ability to fund transportation projects (74 responses)
- Balancing jobs and housing (71 responses)
- Creating a future network that supports the City's Comprehensive Plan (64 responses)

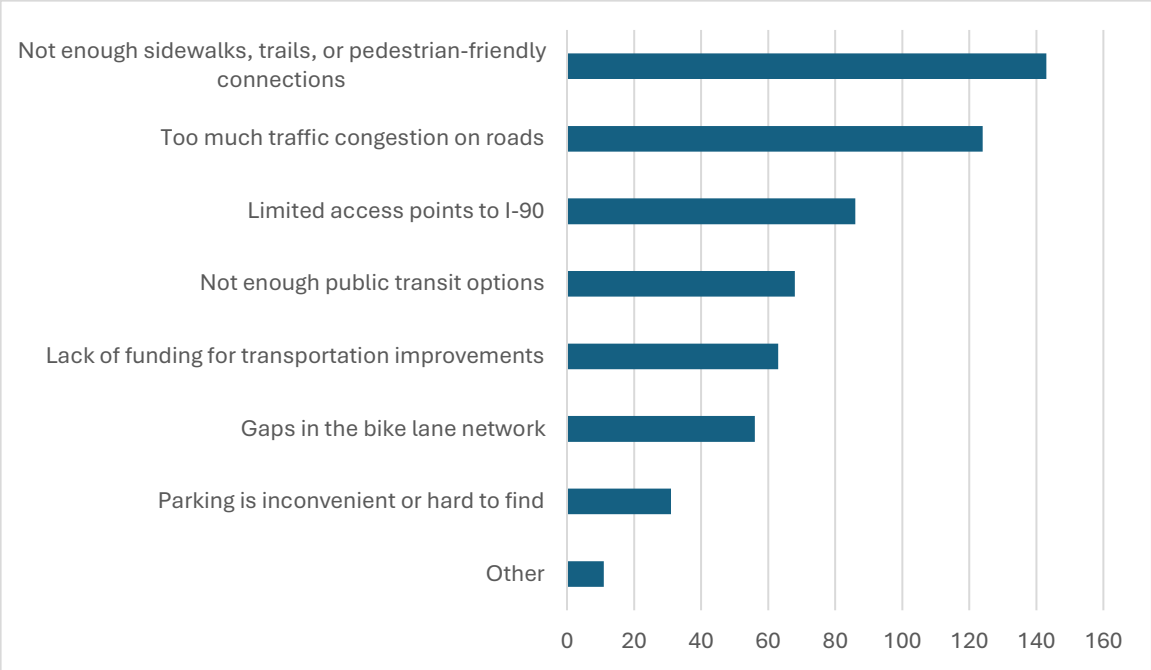
These selections reflect a broader concern with ensuring strategic, well-resourced growth, paired with mobility options that align with future land use and economic goals.
Fewer respondents emphasized:

- Accommodating single-occupant vehicles (52)
- Reducing dependency on single-occupant vehicles (35)
- Incorporating emerging technologies (28)

- Complying with the Americans with Disabilities Act (ADA) (24)
- Other (17)
    - School traffic congestion: fewer stop signs and more stoplights around school zones
    - Fix existing infrastructure rather than focus solely on future expansion.
    - Install wider shoulders or sidewalks for shared safety.
    - Bus or train service/transit connections to Rapid City
    - Connectivity beyond the base
    - Revitalization of commercial areas/increase local services and entertainment.

These results suggest that while innovation, equity, and mode-shift remain relevant, they are not currently the public's top priorities. Instead, the community is most concerned about keeping up with growth and meeting daily needs within Box Elder, in response to population increases and limited local infrastructure.

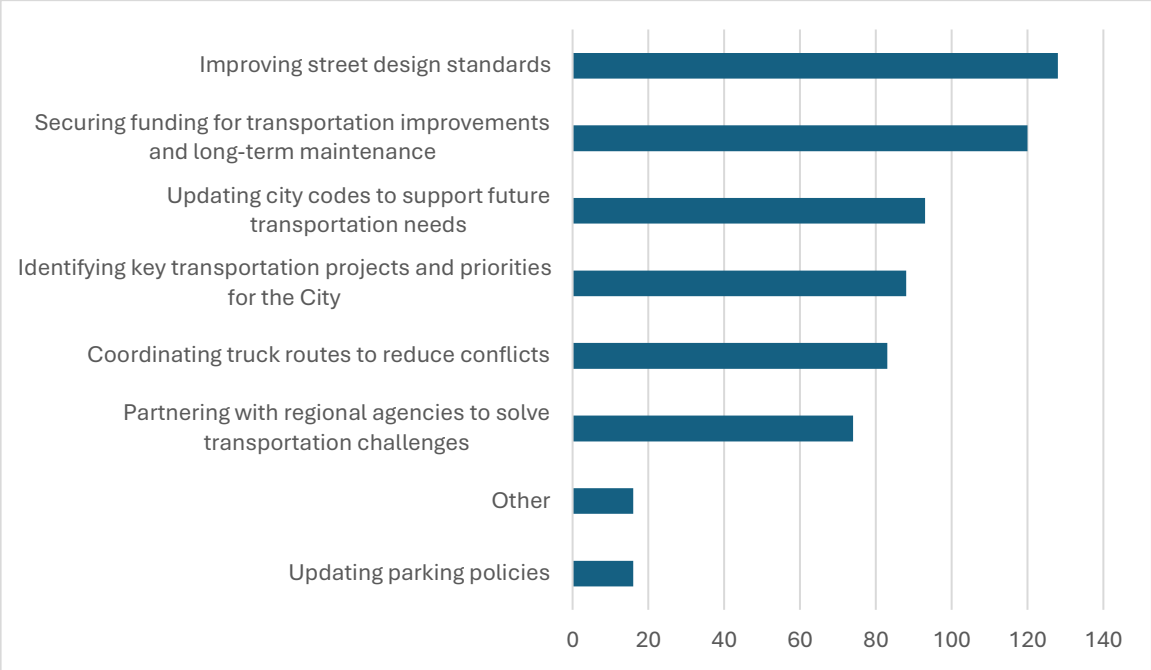
Q10: What are the biggest challenges with transportation options in our area? Select all that apply.



Funding limitations, gaps in the bike network, and inconvenient parking were top challenges. "Other" responses highlighted a range of transportation challenges, with particular concern around poor road conditions, unsafe intersections, and a lack of traffic signals or dedicated turn lanes. School-related traffic was frequently described as chaotic and unsafe, especially during pickup and drop-off times. Heavy commercial truck traffic and the complete absence of bike lanes further limit mobility options. Respondents also

noted that parts of the city, particularly the north side, lack the road infrastructure needed to support growing neighborhoods.

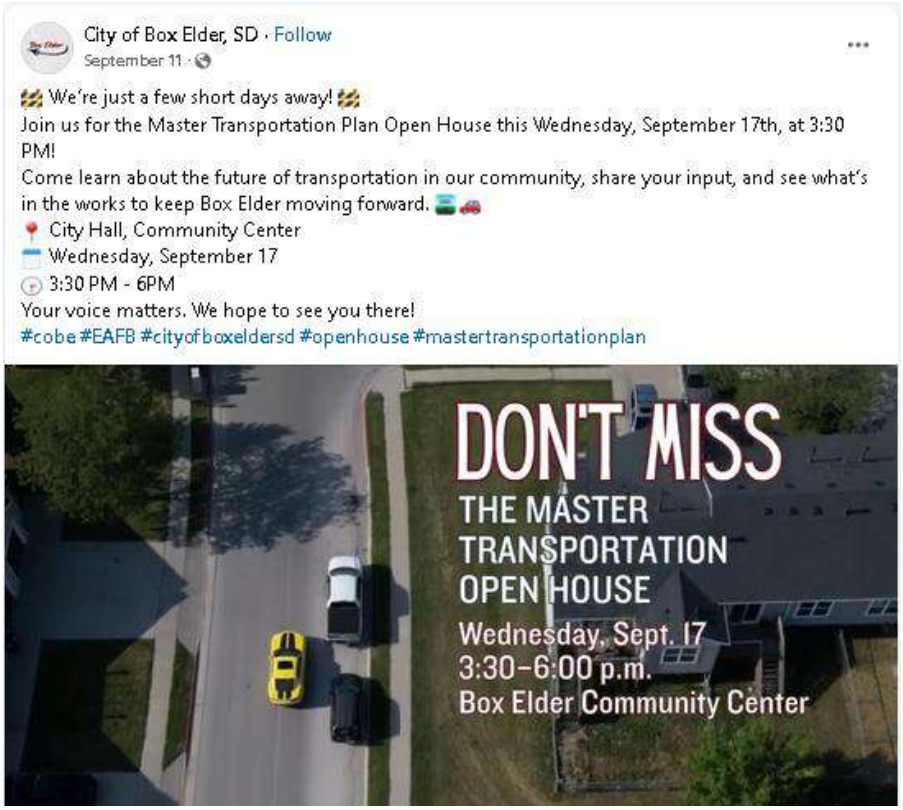
Q11: What outcomes are most important for this transportation plan? Select up to five.



When asked about the most important outcomes for the transportation plan, respondents prioritized improving street design standards and securing funding for transportation improvements, indicating strong support for long-term, well-funded infrastructure investments. Other top selections included updating city codes, identifying project priorities, and coordinating truck routes, reflecting a desire for both policy modernization and practical strategies to reduce conflicts. Parking policy updates and "other" responses received minimal emphasis.

5. Phase 2 Engagement Results

The Public Meeting was held on Wednesday, September 17th at the Box Elder City Hall. Members of the project team and elected officials attended the meeting to discuss the proposed recommendations with residents.



The meeting was attended by approximately 25 residents. The meeting was Open House style and included a series of 14 boards as well as a large city map plot for the public to review. Several boards had post-it notes that allowed the public to make comments on the boards that relate to specific locations and issues. On the Project Recommendation boards, the public was invited to place stickers next to the projects that they considered to be the top priorities.

1. Welcome Board
2. Plan Goals and Context
3. Study Area and Road Network
4. 2020-2024 Transportation Safety Conditions (City Limits)
5. Traffic Volumes
6. Existing Sidewalks and Trails
7. What We Heard (review of public input)

8-9. Recommended Trails and Sidewalks map / Priorities list
10-11. Recommended Roadway Projects map / Priorities list
12. School Area Recommendations
13. Plan Contents and Next Steps
14. Plan contents and next steps
15. Roll Plot (map) of major street plan

Project Rankings

Recommended Trails & Sidewalks Projects Priorities * - highlighting indicates top vote receiver	# of Dots Placed
Shared Use Paths	
Liberty Blvd (From Main St to Tower Rd (north side), connect to walk on west side of Tower)	4
Liberty Blvd (From Tower Rd to Prairie Rd (north side), connect to walk on west side of Prarie)	4
Liberty Blvd (From Prarie Rd to Reagan Ave (north and east side), connect to walk on Reagan (to east)	2
S. Ellsworth (From Prairie View to neighborhood to Hwy 1416 (currently being designed)	4
225th (From Tower to Westwind (in design)	0
Cheyenne Blvd. (Future) (From Elk Vale Rd to Radar Hill Rd)	3
Radar Hill Rd. (From Cheyenne Blvd. (Future) to Hwy. 1416)	5
W. Gate Rd (From Cheyenne Blvd. (Future) to Hwy. 1416)	3
Highway 1416 (From W Gate Rd to Radar Hill Rd)	2
Highway 1416 (From Radar Hill Rd. to Ellsword Rd.)	1
Line Road (From W Gate Rd to Radar Hill Rd)	0
Line Road (From Radar Hill Rd to Ellsworth Rd)	0
Cimarron Rd (From Tower Rd Extension to Liberty Blvd)	4
New Roadway (From Liverty Blvd to Trail)	0
Highway 1416 (From Ellsworth Rd to Liberty Blvd)	1
Highway 1416 (From Liberty Blvd to Trail (Future))	0
Tower Rd (From Liberty Blvd to 225th St)	2
Tower Rd (From Bull Run to 224th St)	2
Cheyenne Blvd. (Future) (From Radar Hill Rd to Creek)	4
Spruce Dr. (From Box Elder Creek Trail to Hwy 1416)	0
Sidewalks	
Tower Road (From Ballista to Bull run (west side))	2
224th Street (From Tower Rd to Antelope Ridge (not all in current city limits))	2
225th Street (From N Ellsworth Rd to Tower Rd)	5
225th Street (From Westwind to Creek east of 150 Pl)	2
N. Ellsworth Rd. (From Liberty Blvd to 225th St)	4
Cimarron Rd. (From Ellworth Rd to Tower Road Extension)	0
Creekside Connector (From Coyote Trail to Morgan Rd.)	3
N. Ellsworth Rd. (From Liberty Blvd to Terrace on the Greens)	0

Trails	
Tower Road Extension (Creekside) (From Cimarron Rd to Liverty Blvd)	0
New Trail (From Foxborough Trail near Prarie Rd to hwy 1416)	1
New Trail (East Side) (From 150th Ave to New Trail Connection)	0
Tower Road South Extension (From Cimmaron Rd to Hwy 1416)	1
Box Elder Creek Trail (From Elk Vale Rd to W Gate Rd)	1
New I-90 Crossing (From Line Rd to Bennet Rd)	1
Box Elder Creek Trail (From east of I-90 to W Gate Rd)	0
Southwest Trail (From Cheyenne Blvd (Future) to Creek)	0
New Creekside Trail (From Cheyenne Blvd (Future) to Creek)	0
New Trail (From Cheyenne Blvd (Future) to Creek)	0
Box Elder Creek trail (From Creek to Radar Hill Rd)	0
Box Elder Creek Trail (From Radar Hill Rd to Ellsworth Rd)	2
Box Elder Creek Trail (From Ellsworth Rd to Eastern Creek Nexus)	1
Southern Creekside Trail (From Radar Hill Rd to Box Elder Creek)	0
New Trail (From Southern Trail (Future) to Box Elder Creek Trail)	1
New Trail (From Southern Limits (Future) to Box Elder Creek Trail)	0

Recommended Roadway Project Priorities	**# of Dots placed**
Intersection	
Liberty Rd & Reagan Ave	9
N Ellsworth Rd & Liberty Blvd	4
N Ellsworth Rd & 225th St	1
Liberty Blvd & New Constructed roadway to 151 Ave	2
Liberty Blvd & Main St	1
Frontage Rd/ Liberty Blvd & Yelner Dr	0
Frontage Rd & Cimmaron Dr	0

New Construction	
E Mall Drive Extension	1
Cimarron Dr Extension (Chrisholm Dr to Reagan Ave)	0
Cheyenne Blvd (From W Gate Road to Radar Hill Rd)	1
Cheyenne Blvd (From Northn Light Blvd to W Gate Rd)	6
W Gate Rd (Hwy 1416 to Cheyenne Blvd)	0
Creekside Connector (From Coyote Trail to Morgan Rd)	1
Cheyenne Blvd Extension (From Radar Hill Rd to Ellsworth Rd)	1
Cheyenne Blvd Extension (From Ellsworth Rd to 151 Ave)	1
Tower Road Extension (From Cimarron Blvd to Liverty Blvd)	0
Northern Lights Blvd (From Denali Dr to W Gate Rd/Sunnydale)	0

Airport Connector (From Cheyenne Blvd to Airport)	3
Spruce Drive (Realigned) (From Harmony Rd to Cheyenne Blvd)	2
Thompson Dr (From Creekside Dr to Cheyenne Blvd Extension)	0
Northern Lights Blvd (From Alpha Ave to Westgate Rd/Sunnydale)	1
Bennett Road (From exisitin gBennett Rd to E Mall Dr extension (#2))	1
Reagan Ave (From Dorchester Ave to 151 Ave)	2
Cimarron Dr (From Chisholm Dr to W of Liberty Blvd)	0
Tower Rd (From Frontage Rd to Liverty Blvd)	0
Yelner Dr (From Donald Smith St to the new roadway, between Frontage Rd and Liberty Blvd)	0
New Road (From Liberty Blvd to 151 Ave)	0

Reconstruction	
N Ellsworth Road (From Liberty Blvd to 225th St)	1
Tower Road (From Liberty Blvd to 225th St)	3
225th St (From Tower Rd to 150 Ave)	0
Spruce Dr (Hwy 1416 to Harmony Rd)	2
Repair Haul Roads (Repair Haul Roads)	0
Tower Road (225th Street to 224th Street)	0
Highway 1416 - Mega-Project (From W Gate Rd to 151 Ave)	4
Radar Hill Road - Mega-Project (From Hwy 1416 to (Hwy 44?))	5
I-90 Exit 63 (SDDOT)	5
Ellsworth Road (From Hwy 1416 to Liberty Blvd)	0
Lind Rd/Ellsworth Rd (From Ellsworth & Hwy 1416 to Lind Rd at Spruce Dr)	1

Comments received at the meeting were generally positive. One comment noted a concern with the potential to increase traffic through a neighborhood with the addition of a planned elementary school that was taken into account. Several comments noted barriers to pedestrian traffic, such as across I-90, and the need for sidewalks to provide for safe pedestrian travel. This is important for children walking to school or at bus stops, people walking dogs and other commonly used purposes. The north I-90 service road near Mall Drive was specifically mentioned as an unsafe area in need of improvement.

Above and Below: Photos of the September 17, 2025 Public Meeting held at Box Elder City Hall