BILLINGS · YELLOWSTONE COUNTY
MPO
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Recommended for approval by a vote at Billings' City Council meeting on June 26, 2023 as agenda item 1G:

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DRAFT

2023 BILLINGS URBAN AREA LONG RANGE TRANSPORTATION PLAN

July 2023

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BILLINGS, MONTANA

DRAFT

Prepared for:

City of Billings

Prepared by:

Kittelson & Associates, Inc. and DOWL

July 2023

2023 BILLINGS URBAN AREA LONG RANGE TRANSPORTATION PLAN

The Plan received local approvals as follows:

AGENCY	DATE
Technical Advisory Committee (TAC)	June 8, 2023
Billings City Council	June 26, 2023
Yellowstone County Commissioners	June 27, 2023
Yellowstone County Board of Planning	June 27, 2023
Policy Coordinating Committee (PCC)	

ACKNOWLEDGMENTS

The Billings Urban Area Long Range Transportation Plan was developed under the guidance of a Steering Committee. Additional input and guidance were provided through the plan development process by many local and regional governing bodies, including the Policy Coordinating Committee, City of Billings Mayor and City Council, City of Billings/ Yellowstone County Planning Board, Yellowstone Board of County Commissioners, and Technical Advisory Committee. Thank you to all of the members for their instrumental involvement with the development of the Billings Urban Area Long Range Transportation Plan.

Many thanks also to the individuals, groups, agencies, and participating members of the public that provided information, comments, suggestions, and/or their valuable time to the planning process and development of this Plan. Thank you for your commitment to the community!

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Debi Meling

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01 WHAT IS AN LRTP?

The Billings Planning Area Long Range Transportation (LRTP) is a framework to guide the continued development and implementation of multimodal transportation system projects for the Billings planning area. The LRTP is updated every **five** years, and the previous iteration was completed in 2018. This LRTP assesses today's (2023) land use and transportation conditions to forecast the future (year 2045) conditions, which aids in identifying and strategizing transportation improvements for the region.

The Yellowstone County Board of Planning is the designated Metropolitan Planning Organization (MPO) and oversees transportation planning for the Billings planning area. The planning area for the Long Range Transportation Plan encompasses the City of Billings, as well as an area extending approximately 4.5 miles outside the city limits into Yellowstone County, which includes Lockwood. Figure 1 illustrates the planning area.

The Billings planning area lies at the western edge of the northern High Plains. It serves as a central hub for a large region comprised of Montana, northern Wyoming, and the western Dakotas. Due to its location, Billings has developed as an important urban area in the region for economic, cultural, educational, and transportation activities, as the largest city in Montana. Billings is in Yellowstone County, in the south central area of Montana, a crossroads of major cities to the north, south, east, and west.

Transportation is a vital element to the residents and businesses of Billings and connects commerce from the Billings planning area to other parts of Montana and metropolitan areas via road, rail (freight), and air. The regions transportation infrastructure is robust and includes streets, highways, the Interstate, rail, transit, sidewalks, bicycle facilities, trails, and an airport. Given the importance of the transportation infrastructure, this document plans for transportation facilities and services to ensure mobility and accessibility throughout the Billings planning area.

Plan Development

The development of the 2023 LRTP was guided by a Steering Committee (SC), which consisted of representatives from the following agencies:

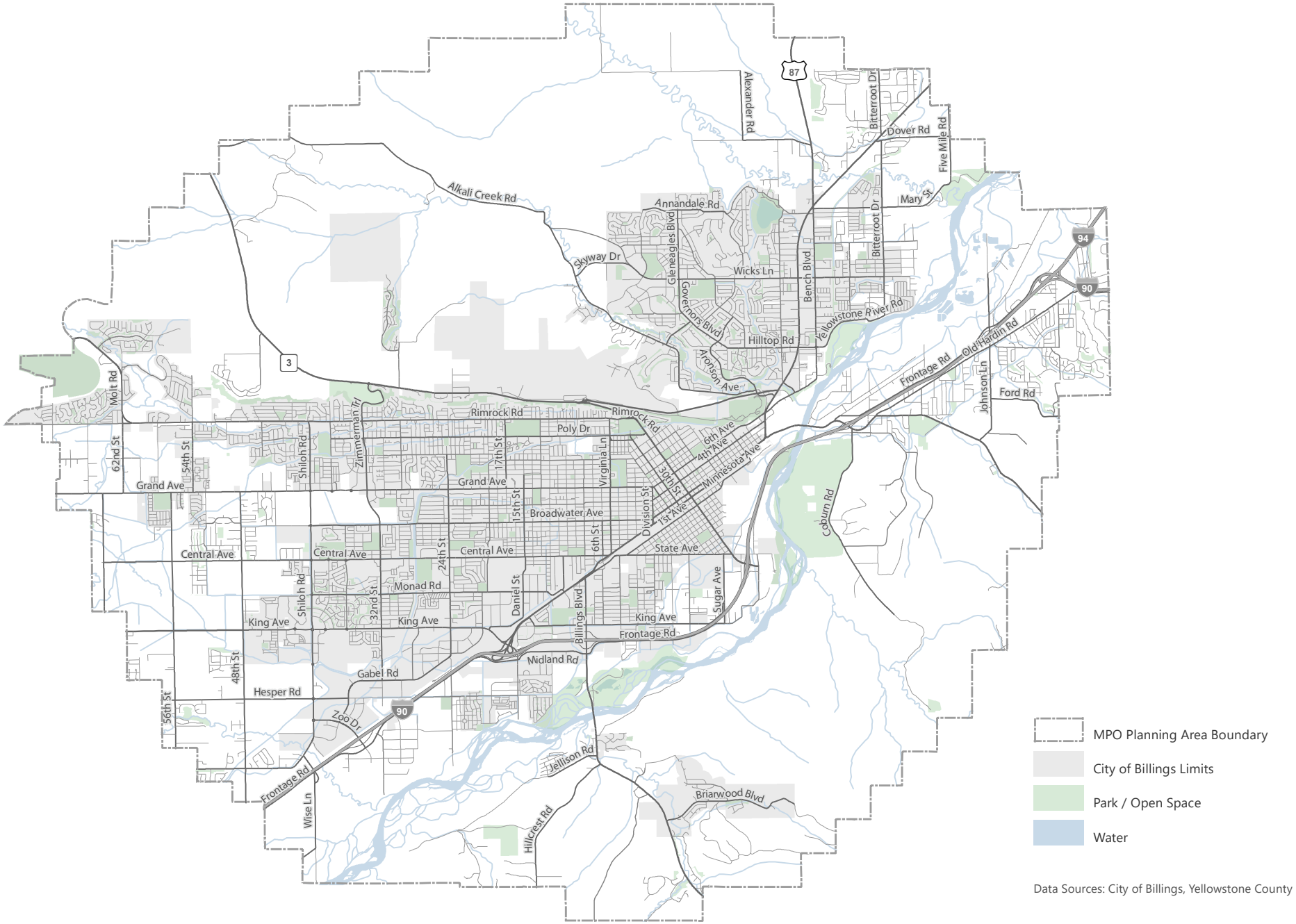
- Billings City Council
- Billings/Yellowstone County Planning Board
- Billings/Yellowstone County MPO
- City of Billings Planning Department
- City of Billings Public Works Department
- Federal Highway Administration
- Healthy By Design
- Lockwood Steering Committee
- Billings Metropolitan Transit (MET Transit)
- Montana Department of Transportation (MDT)
- Yellowstone Board of County Commissioners
- Yellowstone County Public Works

Additional input was received from many other agencies, neighborhood groups, advocacy organizations, and members of the public throughout the planning process.

What topics are covered in the LRTP?

- Goals, objectives, performance measures, and targets
- Public and stakeholder engagement
- Existing multimodal transportation and land use conditions
- Forecasts of population, households, and employment expected in 2045
- Inventory of needs, deficiencies, and opportunities for transportation improvements
- Funding sources and projected revenues
- Project recommendations, prioritization and implementation strategies

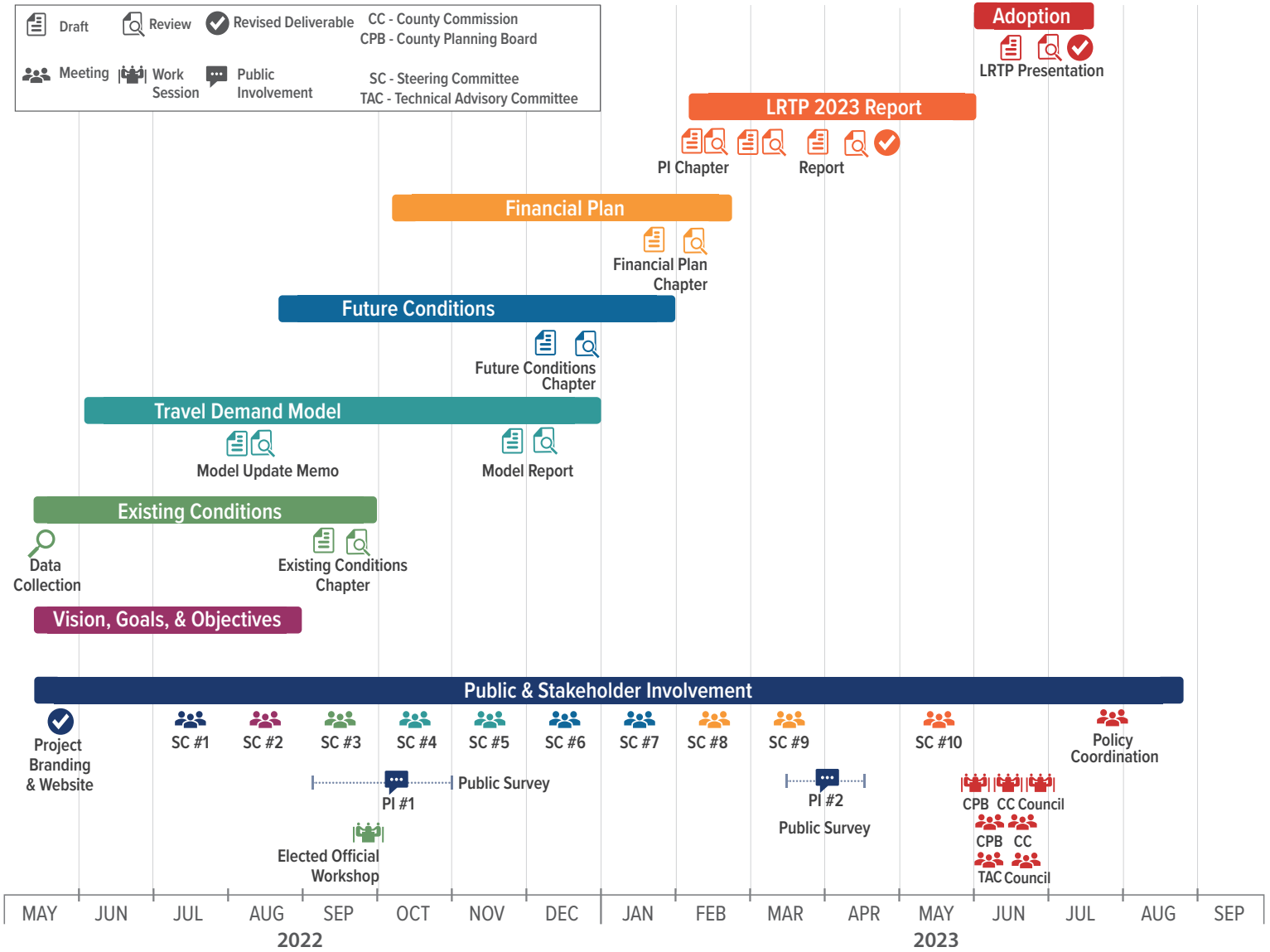
FIGURE 1. BILLINGS PLANNING AREA



PLAN PROCESS

The LRTP planning process was initiated in May 2022 and completed with plan adoption in July 2023. Figure 2 illustrates the plan development process, which is described in more detail throughout the document.

FIGURE 2. LRTP PLANNING PROCESS



Plan Requirements

As discussed in the next chapter, the vision of the LRTP is to encompass all transportation modes of the Billings planning area and to strategize how these modes can be improved through the planning horizon year of 2045. Throughout the development of the LRTP, several federal, state, and local planning requirements were addressed to ensure compliance and consistency with transportation planning regulations.

FEDERAL REQUIREMENTS

An MPO is federally required for any city with a population greater than 50,000. The Billings-Yellowstone Planning Board has represented the Billings planning area as an MPO since 1964. The scope of the planning process for an MPO is outlined in several sections of federal code, which is amended every so often to include new requirements.[1] At its core, the MPO is responsible for four documents:

- **Long Range Transportation Plan:** Outlines the community's vision for the multimodal transportation system and priorities for improvements.
- **Transportation Improvement Program:** Delineates how federal, state, and local funds will be dedicated to projects over a five-year period, to implement the vision of the LRTP.
- **Unified Planning Work Program:** Specifies the annual programs, budget, and priorities to implement the TIP for the MPO on a one-year basis.
- **Public Participation Plan:** Outlines the MPO's framework for facilitating public participation in the transportation planning process.

The LRTP forms the basis for the three subsequent documents, as it employs a performance-driven, outcome-based approach to planning for the metropolitan area, through a continuous, cooperative, and comprehensive process. Federal code also states that this planning process should address the ten planning factors listed in Chapter 2. These factors were established by the Moving Ahead for Progress in the 21st Century Act (MAP-21), and expanded upon by the Fixing America's Surface Transportation Act (FAST Act) and the Infrastructure Investment and Jobs Act (IIJA), passed in November 2021.

In addition to these factors, the the Infrastructure IIJA introduces new focus areas for transportation planning, including climate resiliency, environmental justice, and equity. The planning factors, as well as the new focus areas, are supported by various Federal-aid programs, including:

- Carbon Reduction Program
- Congestion Mitigation and Air Quality (CMAQ) Improvement Program
- Highway Safety Improvement Program (HSIP)
- National Electric Vehicle Infrastructure (NEVI) Program
- National Highway Performance Program (NHPP)
- Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Formula Program
- Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Program
- Reconnecting Communities Pilot Program
- Safe Streets and Roads for All Program

1 United States of America. (ND). *Code of Federal Regulations, Title 23 Part 450 Subpart C.* https://www.ecfr.gov/current/title-23/chapter-I/subchapter-E/part-450

STATE REQUIREMENTS

TranPlanMT, Montana's long-range transportation plan, was last amended in 2017.[2] TranPlanMT identifies key transportation priorities and outlines long-range policy goals and strategies to assist MDT in addressing aging infrastructure, changing environmental conditions, and ongoing funding challenges. It also provides a framework for MDT to advance and manage its transportation programs in compliance with evolving federal requirements. In support of MDT and national goals, MDT conducts performance-based planning in the following key areas mandated through federal regulations:

- Safety
- Infrastructure Condition
- Transit Asset Management
- System Reliability
- Freight Movement and Economic Vitality
- Environmental Sustainability

TranPlanMT cites safety as an overarching goal which is applied in nearly every MDT decision-making process for all projects and programs. The vision and priorities of TranPlanMT were influential in the update of the Billings Planning Area LRTP.

The **Montana Comprehensive Highway Safety Plan** (CHSP) was updated in 2020 in accordance with FAST Act requirements. The goal of the CHSP is Vision Zero- zero fatalities and zero serious injuries on Montana's roadways. The CHSP is intended to be a working document to guide the State of Montana in effectively address the state's safety issues. The CHSP interim goal is to to reduce fatalities and serious injuries by half from 952 in 2018 to 476 in 2030.[3] The CHSP aligns with the development of the **Billings Community Transportation Safety Plan**, adopted in 2023, as well as the development of the 2023 LRTP.[4]

Selection of State and local plans used to inform the LRTP

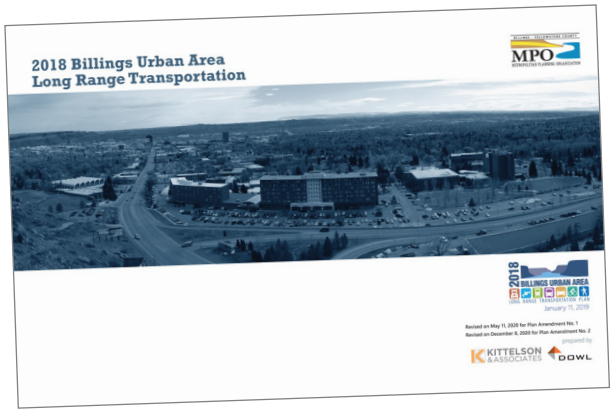
2 Montana Department of Transportation. (2017). *TranPlanMT: Moving Montana Forward Together.* https://www.mdt.mt.gov/tranplan/

3 Montana Department of Transportation. (2020). *Montana Comprehensive Highway Safety Plan*. https://www.mdt.mt.gov/visionzero/plans/docs/chsp/current-chsp.pdf

4 Billings-Yellowstone County Metropolitan Planning Organization. (January 2023). *Billings Community Transportation Safety Plan.* https://billingsctsp.com/wp-content/uploads/2023/02/Billings-CTSP-Update-Final.pdf

LOCAL REQUIREMENTS

Several local plans, studies, and policies were reviewed to inform the process and elements to be considered in development of the plan. It is important to review and incorporate these documents into the planning process, as to ensure that the integrity and value discussion of past planning efforts are carried forward into today's planning effort. Development of this plan was coordinated with guidelines developed in the Yellowstone County Board of Planning Public Participation Plan (2018)[5], the 2018 Billings Urban Area Long Range Transportation Plan[6], and past transportation and land use plans/studies/policies highlighted in the following sections.



Billings 2018 Urban Area Long Range Transportation Plan

AIR QUALITY

In compliance with the requirements of the Clean Air Act of 1990, the Billings-Yellowstone MPO and its partners monitor air quality in the Billings planning area. The Billings planning area is a former non-attainment area for the Carbon Monoxide (CO) National Ambient Air Quality Standard. Since the 2018 LRTP, it has been determined that the Billings planning area is no longer a non-attainment area. Additional information on air quality conformity is available in Appendix I.

Transportation Planning & Implementation Since 2018

The previous LRTP, completed in 2018, addressed several key elements:

- Facilitated robust public and stakeholder involvement.
- Maintained a planning horizon year of 2040.
- Assessed existing and future transportation and land use conditions, including an update of the regional travel demand model.
- Evaluated related topics such as safety, security, freight, and air quality conformity.
- Prioritized a fiscally constrained project list that includes committed, recommended, and illustrative projects.

The 2023 LRTP seeks to continue to incorporate these important elements, while expanding the depth and breadth of the long-range transportation planning process.

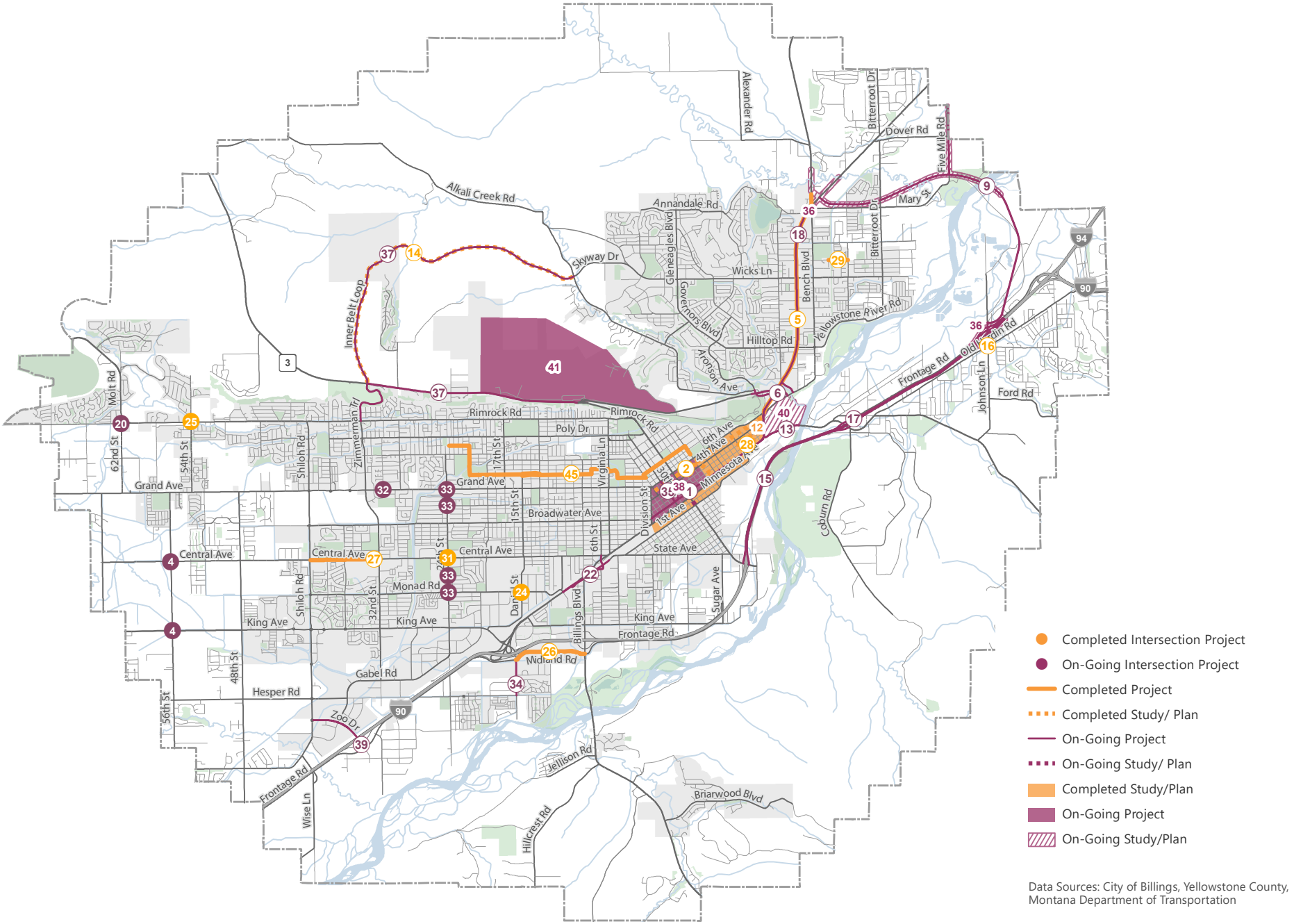
ONGOING & RECENTLY COMPLETED PLANS, PROJECTS, & STUDIES

To benchmark the work completed since the adoption of the 2018 LRTP, recently completed and on-going plans, studies, and projects were reviewed and the existing transportation network within the planning boundary was inventoried. These documents provide information regarding the roadway and active transportation networks, zoning and land use, deficiencies, and planned projects. Table 1 delineates these documents in alphabetical order, along with a brief description, while Figure 3 shows the locations of the planning, study, or project area. The number associated with each document indicates its location on the figure.

5 Billings-Yellowstone County Metropolitan Planning Organization. (August 2018). *2018 Billings Urban Area Public Participation Plan*. https://www.billingsmt.gov/DocumentCenter/View/37536/Public-Participation-Plan_final-08-30-2018

6 Billings-Yellowstone County Metropolitan Planning Organization. (October 2018). *2018 Billings Urban Area Long Range Transportation Plan*. https://www.billingsmt.gov/DocumentCenter/View/45535/Final-Billings-Urban-Area-LRTP-Update-Oct-2020_Low-1

FIGURE 3. ONGOING & RECENTLY COMPLETED PLANS, PROJECTS & STUDIES



Data Sources: City of Billings, Yellowstone County, Montana Department of Transportation

TABLE 1. RECENTLY COMPLETED AND ON-GOING PLANS, STUDIES, AND PROJECTS

#	DOCUMENT	YEAR / STATUS	DESCRIPTION
1	1st Ave N Design	On-Going	On-going MDT project to reconstruct 1st Ave N from Division St to N 9th St, with sidewalk upgrades and ADA pedestrian ramps, storm water management, vehicular parking, and lighting modifications. ROW acquisition is planned for 2023-2024 and the construction timeline will be determined.
31	24th St W and Central Ave Signal	2022	Installation of a southbound turn lane and signal improvements at 24th St W and Central Ave.
33	24th St W Signal Improvements	2023	Signal improvements along 24th St W at the Grand, Lewis, Mall, and Monad Intersections.
3	27th St Railroad Crossing Study	On-Going	This project is analyzing alternatives to remove and mitigate conflicts at the 27th St at-grade railroad crossing.
35	29th St and 30th St Traffic Improvements	2022	N 30th St (between Montana Ave and 6th Ave): This project implemented a two-way traffic restoration, with back-in angle parking conversion and sharrows. N 29th St (between Montana Ave and 6th Ave): This project implemented a two-way traffic restoration, with back-in angle parking conversion.
4	56th St Roundabouts: King Ave and Central Ave	2022	Construction of single lane roundabouts at King Ave and 56th Street W and Central Ave and 56th St W.
2	5th Ave N Corridor Feasibility Study	2021	Feasibility study for re-development of 5th Ave N railroad spur into a multimodal corridor. Provides potential corridor recommendations and the next step is a conceptual design for both the western and eastern segments.
6	Airport Rd and Main St Intersection Design	On-Going	Capacity and safety improvements to the Airport Rd and Main St intersection. Conceptual layout has been approved, and design is currently underway.
41	Airport Terminal Expansion Project	On-Going	The Terminal Expansion Project is necessary to support current needs and future growth potential of Billings Logan International Airport operations, City of Billings residents and the outlying communities served by our air service. Planning and design began in 2018, with progression into construction starting in 2019 and continuing today. The construction portion of this project was anticipated to extend for three years, and the project is roughly halfway complete at the start of 2022. The project is divided into phases to minimize the impact to business and operations during construction and is currently in Phase III.
42	Billings Area Public Transit Survey	2020	To gather feedback on transit service improvement priorities, as well as to understand whether Billings and Yellowstone County resident support additional levies to support transit, MET Transit conducted a public survey between 2019 – 2020.
8	Billings Bike and Scooter Share Feasibility Study	2021	To understand how shared micromobility could be implemented in Billings, the Billings Bike & Scooter Share Feasibility Study was completed to determine if and how a bicycle or scooter share system would operate.

#	DOCUMENT	YEAR / STATUS	DESCRIPTION
36	Billings Bypass Corridor Study	2023	The Billings Bypass Corridor Study evaluated the proposed alignment that ultimately connected Lockwood and the Heights. This corridor study was a step toward thoughtful planning in anticipation of the new Billings Bypass corridor and related development. The study addressed future access options as development occurred along the roadway, potential intersections, stormwater and utility management, bicycle and pedestrian access, and transportation safety along the corridor.
9	Billings Bypass Final Design	On-Going	The Billings Bypass is a multi-phase MDT project that will connect the Johnson Ln/I-90 Interchange to the Heights neighborhood via a new roadway and Yellowstone River Crossing. The initial phase of the project (Five Mile Rd and the Yellowstone River Bridge) has been constructed. The tentative completion date for all portions of the project is 2025.
10	Billings Community Transportation Safety Plan (CTSP) Update	2022	The CTSP presents local crash data analysis to identify effective strategies for reducing crashes and mitigating risk in the city of Billings and Yellowstone County. The 2022 update to the CTSP focuses on a collaborative approach towards reaching the goal of a reduction in fatalities and serious injuries by 20% over the rolling five-year period.
11	Billings Complete Streets Report	2020	Report that examines progress made since the Complete Streets Policy was adopted in 2011. Updated every three years.
12	Billings Downtown Traffic Study	2019	Study that developed and evaluated six alternatives for the downtown transportation network, including road reallocations, one-way to two-way conversions, and road closures.
12	Billings Downtown Traffic Study Alternative Prioritization and Public Preference	2021	Study that focused on public outreach effort for the six alternatives presented in the Billings Downtown Traffic Study.
27	Central Ave Widening	2019	Construction project to improve the streetscape on Central Ave between 32nd St and Shiloh Rd while widening the roadway from two to five lanes. Roundabouts at 38th St and 36th St were constructed.
38	Downtown 2-Way Street Conversion	On-Going	The City of Billings is currently converting one-way streets in downtown to two-way. 29th Street and 30th Street were recently converted and the City has begun the design process to convert additional streets to two-way.
28	EBURD Reconstruct	2018	Construction project to improve streetscape on 2nd Ave and 3rd Ave, between N 13th St to N 10th St, including sidewalks. This project was identified in the 2018 LRTP.
13	Exposition Dr & 1st Ave N Intersection Design	On-Going	Capacity improvements at 1st Ave N and Main St and 4th Ave N and Main St. Includes extensive pathway improvements and coordination with MetraPark. Design is underway.
43	FY22/23 Billings Area Transportation Coordination Plan (TCP)	2022	As required by MDT and federal regulations, the TCP provides an overview of the structure and practices of the Billings Area Public Transportation Coordination Group and Technical Advisory Committee along with a summary of current and anticipated coordination efforts in the Billings, MT area including prioritized projects for the current funding cycle.

#	DOCUMENT	YEAR / STATUS	DESCRIPTION
32	Grand Ave and 32nd St W Signal	2023	Signal construction at Grand Ave and 32nd St W Signal.
14	Inner Belt Loop Corridor Study	2020	This new, 6-mile roadway will connect the Heights and west Billings neighborhoods, constructed with a Better Utilizing Investments to Leverage Development (BUILD) transportation grant. The project will also feature a new multi-use pathway. This study examined the access, land use, landscape, and utilities of the corridor.
15	Interstate 90 Yellowstone River Project	On-Going	This project is widening I-90 from two to three lanes between the Lockwood interchange to the 27th St interchange. It also includes lighting, signage, and ramp upgrades.
16	Johnson Ln Signal Retiming	2019	Retiming signals along Johnson Ln to align with the Billings Bypass Project.
29	Kyhl Ln Improvements	2019	Between Billings Bench Water Association (BBWA) and Hawthorne Ln, Kyhl Ln has had sidewalk and pathway improvements completed. This project was identified in the 2018 LRTP.
17	Lockwood Interchange Reconstruction	On-Going	Reconstruction of the Lockwood interchange to a diverging diamond interchange, in addition to the widening of I-90 from two to three lanes between the Lockwood interchange and the Johnson Ln interchange. The design phase of the project will occur from 2020 through 2023, with construction anticipated in 2024.
18	Main St Billings Improvement Project	2022	The project includes a mill and overlay of the asphalt roadway in addition to guardrail, signing and pavement markings, medians, storm drain, and Americans with Disabilities Act (ADA) (improvements. Construction is on-going and anticipated to be completed by Fall 2022.
5	Main St Timing	2019	Retiming signals along Main Street between 1st Avenue N and US 87.
19	MET Transit – Transit Development Plan	2022	Updated every five years, the TDP documents existing conditions, collects public feedback on services, and identifies improvements for MET to endeavor towards in the coming years.
40	MetraPark Master Plan	On-Going	MetraPark will mark 50 years of serving Yellowstone County in 2025. In anticipation of this milestone, the MetraPark Advisory Board and MetraPark leadership began a process in early 2020 to develop a new Master Plan for MetraPark. The Master Planning process is designed to reimagine the complete 189-acre campus, adding new facilities and amenities, improving upon the assets already in place, and creating a world-class experience that sets MetraPark apart as a unique destination and tourism magnet for the region.
26	Midland Rd Streetscape Improvements	2018	Construction project to improve the streetscape on Midland Road between S Billings Blvd and Mullowney Ln, including sidewalks, curb and gutter, and widening from two to three lanes. This project was identified in the 2018 LRTP.
24	Monad Rd and Daniel St Traffic Signal	2019	Traffic signal construction at Monad Rd and Daniel St. This project was identified in the 2018 LRTP.
34	Mullowney Ln Improvements	On-Going	Reconstruction of Mullowney Ln from Midland Rd to Elysian Rd.

#	DOCUMENT	YEAR / STATUS	DESCRIPTION
37	Northwest Billings Connector and Skyline Trail BUILD Grant	On-Going	The City of Billings was awarded a FY20 BUILD Transportation Grant in September of 2020. The project consists of completing the construction of the Northwest Billings Connector (Inner Belt Loop) from Skyway Dr and Alkali Creek to Highway 3 and the Skyline Trail from the existing multi-use path on the west side of 27th St pedestrian underpass west to Zimmerman Trail.
44	Public Transit Agency Safety Plan	2020	This annually reviewed and updated plan outlines operational needs, updated regulations, safety goals, employee and public feedback, and other recent safety findings.
20	Rimrock Rd & 62nd St W Intersection	On-Going	Construction of a single-lane roundabout at Rimrock Rd and 62nd St, with an anticipated construction starting in 2023.
25	Rimrock Rd & 54th St W Traffic Signal	2019	Traffic signal construction at Rimrock Rd and 54th St. This project was identified in the 2018 LRTP.
21	Safe Routes to School Plan Update	2022	Completed in July 2022, the Safe Routes to School Plan Update is a comprehensive analysis of the existing barriers that prevent kids from walking and bicycling to school, coupled with systemic safety treatments to mitigate and remove the barriers. The Billings MPO conducted significant outreach with school administrators, planning partners, parents, and children to understand the challenges that exist and how to address them through policy, programs, and projects.
22	Underpass Ave	On-Going	Reconstruction of intersections to add new traffic signals, storm drain, lighting, and pedestrian facilities along Underpass Ave, with construction anticipated in 2023.
23	Wayfinding Signage Plan	2020	This plan outlines the City of Billings' approach to implement wayfinding signage throughout the planning area.
39	Zoo Dr Improvements	On-Going	MDT is designing improvements for Zoo Drive between Shiloh Road and S Frontage Road. The improvements include adding a second through lane in each direction on Zoo Drive, turn lane improvements, and signal enhancements.
45	Neighborhood Bikeways	2022	The City of Billings established its first Neighborhood Bikeway that stretches from the North Park area to Rose Park and Lyman Avenue. The Neighborhood Bikeway is designated by signs and markers along the route.

Source: Billings-Yellowstone County Metropolitan Planning Organization, MDT, City of Billings, MET Transit, Yellowstone County

02 WHAT IS IMPORTANT TO THE BILLINGS PLANNING AREA?

This chapter describes the goals, objectives, performance measures, and targets that will be used to measure the Billings MPO's success in developing a transportation system that 1) improves safety and aligns with federal requirements and 2) addresses community safety issues and needs. The establishment of these goals and objectives is to foster accountability, encourage measurement of progress, and create actionable steps for the MPO to take to improve transportation in the Billings planning area. The targets to which the Billings MPO area plans adhere are presented in this chapter, followed by specific Billings planning area goals, objectives, and performance measures created by the MPO. Together, these metrics ensure the Billings planning area establishes a transportation system that both meets federal and state criteria and reflects the unique needs and desires of the community it serves.

Federal & State Targets

As discussed in the Federal Requirements section of the Introduction, federal code requires MPOs shall develop long-range transportation plans through a performance-driven, outcome-based approach to planning for metropolitan areas of the State. Over the years, this has grown to include the reporting on for various performance metrics to assess the performance of the transportation system. The Montana Department of Transportation (MDT) has implemented these national performance measures with exceptions made based on Montana's urban population sizes and lack of public transportation rail assets.

ADOPTED STATEWIDE TARGETS

Adopted state performance measure targets are summarized in the following sections. As of September 9th, 2020, the MPO has formally agreed to support the statewide targets.[7] MDT has implemented the five required performance measures with the following exceptions:

- Per 23 CFR 490.703, MDT is not required to implement the *Annual Hours of Peak Hour Excessive Delay Per Capita* Measure or the *Percent of Non-SOV Travel* Measure because the state of Montana lacks urban areas with populations exceeding 1 million.[8]

Key Terms

GOAL

Intended downstream outcomes of accomplishing the proposed objectives.

OBJECTIVE

Desired outcome or action that aligns with overall goal.

PERFORMANCE MEASURE

Meaning an expression based on a metric that is used to establish targets and to assess progress toward achieving the established targets.

PERFORMANCE TARGET

A quantified and measurable data point that benchmarks progress for a performance measure.

7 Scott Walker. (September 9th, 2020). *Email Correspondence: Mid-Term Performance Reporting*. Billings-Yellowstone Metropolitan Planning Organization.

8 United States of America. (ND.). *Code of Federal Regulations, Title 23 Part 490 Subpart G 703*. https://www.ecfr.gov/current/title-23/chapter-I/subchapter-E/part-490

- The *Percent of the Interstate System Where Peak Hour Travel Times Meet Expectations* and *Percent of the Non-Interstate National Highway System (NHS) Where Peak Hour Travel Times Meet Expectations* measures are not applicable to Montana.
- The performance measure for rail fixed guideway, track, signals, and systems is not applicable because the state lacks rail fixed guideway public transportation assets.

MDT, along with the Federal Highway Administration (FHWA) published the performance reporting for these measures utilizing 2020 data during the LRTP development, which informed the development of the 2022/2023 targets delineated in the following sections.

Safety

Safety performance measure targets are based on a rolling 5-year average and updated annually. Table 2 delineates the safety performance targets. Montana met or made significant progress on all safety performance measure targets in 2020.

TABLE 2. SAFETY PERFORMANCE TARGETS

PERFORMANCE MEASURE	2019 TARGET 5-YEAR AVERAGE	2020 PROGRESS	2023 TARGET 5-YEAR AVERAGE
Number of Fatalities	187.4	212	223.2
Fatality Rate	1.462	1.753	1.693
Number of Serious Injuries	892.8	730	715.6
Serious Injury Rate	6.968	6.037	5.593
Number of Combined Non-Motorized Fatalities and Non-Motorized Serious Injuries	73.2	59	61.9

Source: Montana Department of Transportation[9], Federal Highway Administration[10]

Pavement & Bridge Condition

To ensure the efficient operation of the NHS, pavement and bridge conditions are monitored. Table 3 presents the pavement and bridge condition performance targets.

TABLE 3. NHS PAVEMENT & BRIDGE CONDITION PERFORMANCE TARGETS

PERFORMANCE MEASURE	2-YEAR TARGET	4-YEAR TARGET	2020 PROGRESS (MDT)
Interstate Pavement	50% = Good Condition	50% = Good Condition	51.7%= Good Condition
	2% = Poor Condition	2% = Poor Condition	0.3% = Poor Condition
Non-Interstate Pavement	40% = Good Condition	40% = Good Condition	41.0%% = Good Condition
	3% = Poor Condition	3% = Poor Condition	1.5% = Poor Condition
NHS Bridge Deck Area	16% = Good Condition	16% = Good Condition	20.7% = Good Condition
	9% = Poor Condition	9% = Poor Condition	5.8% = Poor Condition

Source: Federal Highway Administration[11]

9 Montana Department of Transportation. (May 2022). *2023 Safety Performance Targets.* https://www.mdt.mt.gov/visionzero/plans/docs/chsp/PerformanceMeasuresTargets-2023.pdf

10 Federal Highway Administration. (2020). *State Highway Safety Report – Montana.* Transportation Performance Management. https://www.fhwa.dot.gov/tpm/reporting/state/safety.cfm?state=Montana

11 Federal Highway Administration. (2020). *State Highway Infrastructure Report – Montana.* Transportation Performance Management. https://www.fhwa.dot.gov/tpm/reporting/state/condition.cfm?state=Montana

Travel Time Reliability

To promote economic vitality, travel time reliability (TTR) is monitored. Table 4 shows the TTR performance targets.

TABLE 4. TRAVEL TIME RELIABILITY PERFORMANCE TARGETS

PERFORMANCE MEASURE	2-YEAR TARGET	4-YEAR TARGET	2022 PROGRESS (MDT)
Interstate Travel Time Reliability (TTR) (% Reliable Person Miles)	98%	98%	99.7%
Non-Interstate NHS TTR (% Reliable Person Miles)	n/a	80%	88.0%
Interstate Truck TTR (TTTR) (Truck Travel Time Reliability Index)	1.30	1.30	1.22

Source: Federal Highway Administration[12]

Emissions

As an important aspect of the Congestion Mitigation Air Quality (CMAQ) Program, On-Road Emissions Sources including carbon dioxide (CO), particulate matter 10 (PM10), and particulate matter 2.5 (PM2.5) are monitored. Table 5 delineates emissions performance targets.

TABLE 5. EMISSIONS PERFORMANCE TARGETS

PERFORMANCE MEASURE	2-YEAR AND 4-YEAR TARGET	2019 PROGRESS (MDT)
CO Emissions	>0 kg/day	105.391 ppm
PM10 Emissions	>0 kg/day	1.174 ppm
PM2.5 Emissions	>0 kg/day	0.843 ppm

Source: Federal Highway Administration[13]

Transit Asset Management

The Federal Transit Administration (FTA) requires federally funded public transportation providers to develop and implement transit asset management (TAM) plans with asset inventories, condition assessments of inventoried assets, and a prioritized list of investments to improve the state of good repair of their capital assets. The final rule (effective as of October 1, 2016) also established "state of good repair" (SGR) standards and four associated performance measures including:

- The percentage of non-revenue, support-service, and maintenance vehicles that have either met or exceeded their useful life benchmark (ULB);
- The percentage of rolling stock vehicles that have either met or exceeded their ULB;
- The percentage of track segments with performance restrictions for rail fixed guideway, track, signals, and systems; and
- The percentage of facilities rated below condition 3 on the Transit Economic Requirements Model (TERM) scale.

MET Transit completed its first Transit Asset Management (TAM) Plan in 2019 and has updated the TAM Plan in 2023.[14] This plan includes a summary of the current state of MET Transit assets and is intended to be used as a tool supporting state of good repair. The performance targets and measures set by the MET Transit Fiscal Year 2023 TAM Plan are shown in Table 6.

12 Federal Highway Administration. (2020). *State Highway Reliability Report – Montana.* Transportation Performance Management. https://www.fhwa.dot.gov/tpm/reporting/state/reliability.cfm?state=Montana

13 Federal Highway Administration. (2020). *State On-Road Mobile Source Emissions Reductions Report – Montana*. Transportation Performance Management. https://www.fhwa.dot.gov/tpm/reporting/state/emissions.cfm?state=Montana

14 MET Transit. (January 2023). City of Billings MET Transit – Transit Asset Management Plan. https://www.billingsmt.gov/DocumentCenter/View/48607/FY23-Transit-Asset-Management-Plan

TABLE 6. TRANSIT PERFORMANCE TARGETS

ASSET CATEGORY – PERFORMANCE MEASURES	ASSET CLASS	TARGETS 2024	2025	2026	2027	2028
Revenue Vehicles						
Age - % of Revenue Vehicles within a Particular Asset Class that have Met or Exceeded their ULB	BU – Bus	0%	16%	12%	8%	4%
	CU – Cutaway Bus	27%	7%	7%	20%	7%
Equipment						
Age - % of Vehicles that have Met or Exceeded their ULB	Non-Revenue / Service Automobile	25%	25%	25%	0%	0%
	Trucks and other Rubber Tire Vehicles	100%	100%	100%	50%	50%
	Facility Maintenance Vehicle	43%	29%	29%	29%	29%
Facilities						
Condition - % of Facilities with a Condition Rating Below 3.0 on the FTA TERM Scale	Passenger Facilities	0%	0%	0%	0%	0%
	Administration and Maintenance	0%	0%	0%	0%	0%

Vision, Goals, Objectives, & Performance Measures

VISION

Support a livable and economically vibrant community through a safer and more equitable multimodal transportation system.

WHAT IS A LIVABLE COMMUNITY?

A livable community is an innovative, equitable, and inclusive place that fosters connection and celebrates diversity.

Through this, a livable community provides a mix of transportation, housing, employment opportunities, and land uses interspersed in a clean and green landscape. Livable communities are safe, secure, and affordable for residents of all ages, abilities, and backgrounds.

In addition to the federal performance measures detailed above, the MPO created the following goals, objectives, and performance measures tailored specifically to the Billings planning area. The goals established by the MPO are designed to align with federal and state programs and plans to ensure a consistent and unified approach to transportation planning and programming, while also reflecting community needs and safety issues. Both focus on a long-term vision for a safe, efficient, and sustainable transportation system. The MPO's goals reflect the Billings community public stakeholder feedback, as well as align with other adopted plans within the Billings planning area.

Safety – Develop a safer transportation system for all users.

Resiliency – Optimize, preserve, and enhance the existing transportation system to adapt with climate change, protect the natural environment, and promote a healthy and sustainable community.

Mobility – Create a transportation system that supports the use of transit, walking, bicycling, rolling, shared mobility, and vehicles

Equity & Accessibility – Address the needs of transportation-disadvantaged populations[15] through the provision of affordable, accessible, and reliable travel options.

Economic Vitality – Provide transportation facilities to support the local economy and connect the Billings planning area to local, regional, and national commerce.

Table 7 summarizes the 2023 LRTP goals, objectives, and performance measures. Additionally, the associated Federal Planning Factors are detailed for each objective. Table 8 shows how the adopted state targets intersect with the LRTP goals established by the MPO.

The Federal Planning Factors are outlined in 23 CFR Part 450, and guide the metropolitan transportation planning process. They include:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
2. Increase the safety of the transportation system for motorized and non-motorized users;
3. Increase the security of the transportation system for motorized and non-motorized users;
4. Increase accessibility and mobility of people and freight;
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
7. Promote efficient system management and operation;
8. Emphasize the preservation of the existing transportation system;
9. Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation; and
10. Enhance travel and tourism.

15 Transportation Disadvantaged Populations include persons with disabilities, older adults, and people experiencing poverty (FTA, 2013), and additionally people under age 18 and zero vehicle households, among others.
Federal Transit Administration. (February 2013). *Transportation Needs of Disadvantaged Populations: Where, When, and How?*. FTA Report No. 0030. https://www.transit.dot.gov/sites/fta.dot.gov/files/FTA_Report_No._0030.pdf

TABLE 7. LRTP GOALS, OBJECTIVES, & PERFORMANCE MEASURES

2023 LRTP GOAL	OBJECTIVE	PERFORMANCE MEASURE(S)	DATA SOURCE	RELATED FEDERAL PLANNING FACTORS	SUPPORTIVE PLAN / POLICY
 Safety	Reduce the rolling five-year average number of fatal and serious injury crashes by 20% by the end of 2024 to 47. (CTSP Objective) Reduce the rolling five-year average number of fatal and serious injury crashes by 35% between 2023 – 2027 (by the end of 2027).	Fatal and serious injury crashes	MDT / City of Billings	1, 2, 3, 4, 6, 7, 8, 9, 10	Billings Community Transportation Safety Plan; Safe Routes to School Plan Update 2022; Billings / Yellowstone County Growth Policy 2016; Lockwood Growth Policy 2016
	Reduce the rolling five-year average rate of fatal crashes and serious injury crashes per 100 million vehicle miles traveled by 20% between 2023 and the end of 2027.	Fatal and serious injury crashes; Vehicle Miles Traveled	MDT / City of Billings		
	Reduce the rolling five-year average number of fatal crashes and serious injury crashes involving non-motorized modes by 20% between 2023 and the end of 2027.	Non-motorized fatal and serious injury crashes	MDT / City of Billings		

2023 LRTP GOAL	OBJECTIVE	PERFORMANCE MEASURE(S)	DATA SOURCE	RELATED FEDERAL PLANNING FACTORS	SUPPORTIVE PLAN / POLICY
	Shift commute mode share 15% to low-carbon travel modes (walking, bicycling, riding transit, carpooling) between 2023 and the end of 2027.	Mode share	MDT / City of Billings	2, 3, 4, 5, 6, 7, 8, 9	Bike & Trail Master Plan 2016; Billings Bike & Scooter Share Feasibility Study; Billings-Yellowstone Household Travel 2017; Complete Streets Progress Report 2020; Downtown Traffic Study 2021; Rims to Valley Non-Motorized Study 2016; West End Multi-Modal Transportation Study 2016; Montana Electric Vehicle Infrastructure Deployment Plan 2022; Safe Routes to School Plan Update 2022; Billings / Yellowstone County Growth Policy 2016; Lockwood Growth Policy 2016
 Resiliency	Increase Electric Vehicle Registrations 50% over 2022 levels by the end of 2027.	Vehicle registrations	MDT / Montana Department of Environmental Quality	7, 9	Montana Electric Vehicle Infrastructure Deployment Plan 2022
	Reduce overall vehicle miles traveled by 10% between 2023 and the end of 2027.	Vehicle miles traveled	MDT / City of Billings / Yellowstone County	2, 3, 4, 5, 6, 7, 8, 9	Billings-Yellowstone Household Travel 2017; Complete Streets Progress Report 2020; Safe Routes to School Plan Update 2022; Billings / Yellowstone County Growth Policy 2016; Lockwood Growth Policy 2016
	Convert transit vehicle fleet to zero-emission vehicles through new vehicle purchases beginning in 2024.	New transit fleet vehicles	MET Transit	7, 9	MET Transit Development Plan 2022
	Adopt a Green Infrastructure Policy by end of 2025.	Policy adoption	City of Billings / Yellowstone County	3, 5, 9	Billings / Yellowstone County Growth Policy 2016; Lockwood Growth Policy 2016
	Update the regional emergency response plan at least once by end of 2025.	Regional emergency response plan	City of Billings / Yellowstone County	1, 3, 4, 6, 7, 8, 9, 10	Functional Classification Map; Corridor and Intersection Studies; Emergency Operations Plan; Multi-Jurisdictional Pre-Disaster Mitigation Plan Update

2023 LRTP GOAL	OBJECTIVE	PERFORMANCE MEASURE(S)	DATA SOURCE	RELATED FEDERAL PLANNING FACTORS	SUPPORTIVE PLAN / POLICY
Mobility	Increase annual transit ridership 10% between 2023 and the end of 2027.	Total annual ridership	MET Transit	2, 3, 4, 6, 10	MET Transit Development Plan 2022
	Decrease number of routes and increase headways (from 60 minutes to 30 minutes) on routes between 2023 and end of 2028, as outlined in the MET Transit Development Plan.	Number of routes, length of headways			
	Increase number of bikeway miles by 20% between year 2023 and the end of 2027.	Number of bikeway miles	City of Billings / Yellowstone County	2, 3, 4, 5, 6, 7, 10	Bike & Trail Master Plan 2016; Billings Bike & Scooter Share Feasibility 2021; Billings-Yellowstone Household Travel 2017; Complete Streets Progress Report 2020; Downtown Traffic Study 2021; Rims to Valley Non-Motorized Study 2016; West End Multi-Modal Transportation Study 2016; Safe Routes to School Plan Update 2022; Billings / Yellowstone County Growth Policy 2016; Lockwood Growth Policy 2016
	Increase number of shared-use trail miles by 20% between 2023 and the end of 2027.	Number of trail miles			
	Incorporate bicycle or pedestrian facilities on 95% of non-Interstate projects between 2023 and the end of 2027.	Number of projects with bicycle or pedestrian facilities incorporated			
	Increase bicycle and pedestrian volumes by 20% between 2023 and the end of 2027.	Number of bicyclists, number of pedestrians			
	Increase bicycle and pedestrian count locations by 20% between 2023 and the end of 2027.	Number of count locations			
	Reduce the number of intersections identified as operating at LOS E or worse during the peak hour in the 2018 LRTP by 10% between 2023 and the end of 2027.	Intersection level of service (LOS)		1, 3, 4, 6, 7, 8, 9, 10	Various Corridor and Intersection Studies

2023 LRTP GOAL	OBJECTIVE	PERFORMANCE MEASURE(S)	DATA SOURCE	RELATED FEDERAL PLANNING FACTORS	SUPPORTIVE PLAN / POLICY
 Equity & Accessibility	Develop an ADA Transition Plan to address deficient transportation infrastructure.	Plan creation	City of Billings / Yellowstone County / MDT	2, 3, 4, 5, 6	MDT ADA Transition Plan Update 2021; Billings / Yellowstone County Growth Policy 2016; Lockwood Growth Policy 2016
	Prioritize transportation investments in Transportation-Disadvantaged Population areas2.	Percent of TIP projects in Transportation-Disadvantaged Population areas			
	Adopt Pedestrian and Bicycle Detour Standards Policy for roadway closures to provide adequate walking, bicycling, and transit facilities during all roadway construction projects.	Adopt policy			
	Implement Safe Routes to School projects.	Number of SRTS projects implemented			Safe Routes to School Plan Update 2022; Billings / Yellowstone County Growth Policy 2016; Lockwood Growth Policy 2016
 Economic Vitality	Address gaps and deficiencies in emerging technology readiness.	Develop Electric Vehicle Infrastructure Plan	City of Billings / Yellowstone County / MDT	1, 5, 10	Billings Bike & Scooter Share Feasibility 2021; Montana Electric Vehicle Infrastructure Deployment Plan 2022
	Many other objectives included for other goals promote Economic Vitality, especially those listed for Safety and Mobility goals.				

TABLE 8. STATEWIDE TARGETS & LRTP GOALS

STATEWIDE TARGETS		LRTP GOALS				
		SAFETY	RESILIENCY	MOBILITY	EQUITY & ACCESSIBILITY	ECONOMIC VITALITY
Safety	Number of Fatalities	✓				
	Rate of Fatalities Per Vehicles Miles Traveled (VMT)	✓				
	Number of Serious Injuries	✓				
	Rate of Serious Injuries per VMT	✓				
	Number of Combined Non-Motorized Fatalities and Serious Injuries	✓				
Pavement and Bridge Condition	Percentage of Pavement on the Interstate System in Good Condition	✓	✓	✓		✓
	Percentage of Pavement on the Interstate System in Poor Condition	✓	✓	✓		✓
	Percentage of Pavement on the NHS (excluding the Interstate System) in Good Condition	✓	✓	✓		✓
	Percentage of Pavement on the NHS (excluding the Interstate System) in Poor Condition	✓	✓	✓		✓
	Percentage of NHS Bridges classified as in Good Condition	✓	✓	✓		✓
	Percentage of NHS Bridges classified as in Poor Condition	✓	✓	✓		✓
Travel Time Reliability	Percent of Reliable Person-Miles Traveled on the Interstate			✓		✓
	Percent of Reliable Person-Miles Traveled on the Non-Interstate NHS			✓		✓
	Percentage of Interstate System Mileage Providing for Reliable Truck Travel Time (Truck Travel Time Reliability Index)			✓		✓
Emissions	Total Emissions Reductions for Applicable Pollutants		✓		✓	
Transit Asset Management	Percentage Of Non-Revenue, Support-Service and Maintenance Vehicles that have Either Met or Exceeded Their Useful Life Benchmark (ULB)			✓	✓	✓
	Percentage Of Rolling Stock Vehicles that Have Either Met or Exceeded Their ULB			✓	✓	✓
	Percentage of Facilities Rated Below Condition 3 on the Transit Economic Requirements Model (TERM) Scale			✓	✓	✓

MONITORING PROGRESS

The MPO will continue to incorporate adopted statewide targets and MPO goals, objectives, and performance measures into the LRTP and discuss how the targets will be advanced and linked to investment priorities. The MPO will continue to coordinate with partner agencies for monitoring each performance measure, in particular with MDT to obtain routinely collected data from the agency about the condition of roadway pavement and bridges, safety performance, and the overall operation of the transportation system within the Billings planning area. This information will help the MPO identify and advance projects in the LRTP which support adopted statewide targets and MPO goals, objectives and performance measures.

To document the successes of the MPO and its partner agencies, as well as recognize areas that need increased attention, a 2018 LRTP Report Card was developed for the performance measures included in the 2018 LRTP. This information is available in Appendix A. To promote the practice of performance measurement and monitoring, a similar report card has been developed for the 2023 performance measures, and is available in Appendix B.

03 WHO WAS INVOLVED IN CREATING THE LRTP?

This chapter details the engagement that took place throughout the LRTP process. Public involvement and agency coordination is critical for plan development, acceptance, and adoption by the following groups:

- Policy Coordinating Committee (PCC), which is comprised of a representative from the Yellowstone County Planning Board, Yellowstone Board of County Commissioners, City Council, and Montana Department of Transportation
- Federal Highway Administration (FHWA)
- Montana Department of Transportation (MDT)
- City of Billings
- Yellowstone Board of County Commissioners
- Yellowstone County Planning Board (YCPB)

The Public Involvement Plan (PIP) for this LRTP was developed based on past public involvement efforts for the 2018 LRTP[16] and to be consistent with the public involvement elements of the YCPB 2018 Public Participation Plan[17] in conjunction with this LRTP, and the MDT 2018 Public Involvement Plan[18]. The PIP is available for reference in Appendix C.

A collaborative and context-appropriate public engagement process was employed in the development of the LRTP. The objectives of the engagement conducted for the 2023 LRTP include:

- Facilitate open communication regarding community desires, needs, and challenges.
- Meet the stakeholders and public where they're comfortable.
- Solicit relevant engagement through educational and informative messaging.

Public engagement was targeted during key points in the LRTP process, and stakeholder engagement occurred throughout the development of the plan to best coordinate with standing meetings and events. The following sections outline engagement and feedback received throughout the LRTP process. All public and stakeholder engagement materials are available in Appendix D.

Engagement Overview

The public and stakeholder engagement activities for plan development reflected a multi-faceted approach. The outreach methods were created to facilitate communication between the public and consultant team and gather insights and direction for plan development. These engagement methods are delineated in Table 9.

Thank You

Over 520 comments were received from the public to inform the development of the LRTP. This input is critical towards shaping a more livable Billings for the entire community!

16 Billings-Yellowstone Metropolitan Planning Organization. (October 2018). *Billings Urban Area Long Range Transportation Plan.* https://www.billingsmt.gov/DocumentCenter/View/45535/Final-Billings-Urban-Area-LRTP-Update-Oct-2020_Low-1

17 Billings-Yellowstone Metropolitan Planning Organization. (August 2018). *Public Participation Plan.* https://www.billingsmt.gov/DocumentCenter/View/37536/Public-Participation-Plan_final-08-30-2018

18 Montana Department of Transportation. (2018). *Public Involvement Plan.* https://www.mdt.mt.gov/publications/docs/manuals/pubinvhb.pdf

TABLE 9. PUBLIC & STAKEHOLDER ENGAGEMENT METHODS OVERVIEW

ENGAGEMENT METHOD	DESCRIPTION
Branding & Logo	A logo, color scheme and reporting templates were developed and implemented with this LRTP. These items established brand awareness and cohesiveness with plan materials through the development and adoption of the plan.
LRTP 2023 Website	The project website (provided at URL www.BillingsLRTP. com) was maintained by the consultant team and served as the primary, public, 24-hour source for information on the plan. The website included maps, purpose, public involvement contacts, agency involvement, project schedule, documents, meeting information, and a place for the public to provide input, comments, or questions to the team.
Media Coordination	Outreach was conducted to appropriate media outlets to disseminate information regarding information on the plan and advising the community of public involvement opportunities. Media releases were provided to local media outlets in October 2022 and March 2023 regarding the plan development.
Email Updates	The consultant team provided email updates to the MPO, which summarized the following: ■ Consultant work tasks associated with the LRTP, which included a summary of completed and on-going work tasks of the consultant's responsibility. ■ Action Items for MPO - Requests for guidance or materials review for the MPO from the consultant team ■ Upcoming Meetings - Location, date, and time for any upcoming meetings The goal of the updates was to keep a consistent line of communication between the MPO and the consultant team throughout the LRTP process. Additionally, the email updates were forwarded on to other agencies, committees, and elected officials to keep them apprised of the LRTP schedule.
Social Media	Social media content and graphics were developed and provided to the MPO and partner agencies to publish on their existing social media networks. This information was used to provide updates on the plan and to promote meetings and opportunities for online engagement.
Interactive Map Surveys	Between October – November 2022 and March – April 2023, interactive online maps were created to gather public and stakeholder input in a collaborative, crowdsourced manner. In the first round of engagement in Fall 2022, the interactive online map asked respondents to select areas where they have concerns or ideas to share, and categorize the comment by mode or type of concern. These comments influenced the identification of needs, deficiencies, and opportunities outlined in Chapter 6. In the second round of engagement in Spring 2023, the online interactive map was used to collect feedback on the Project List, outlined in Chapter 8. Stakeholder and public comments influenced the project prioritization for each project.

Steering Committee

Prior to kicking off the Plan, the MPO formed a Steering Committee (SC) that represented agencies within the Billings planning area to help guide the plan development. The SC served as the primary sounding board for the development of the plan. The SC's responsibilities included reviewing project deliverables, providing guidance to the consultant team, and promoting the plan development to the public. The SC included staff from:

- City of Billings Administration
- City of Billings City Council
- City of Billings Planning
- City of Billings Public Works
- Healthy By Design
- Lockwood Steering Committee
- MDT Billings District
- MDT Planning
- MET Transit
- Yellowstone County Commission
- Yellowstone County Planning Board
- Yellowstone County Public Works

The consultant team, with assistance from the MPO, scheduled and led ten SC meetings throughout the duration of the project. The goal of the SC meetings was to solicit feedback concerning the development of project deliverables and determine next steps for the consultant team. The consultant team provided materials to the SC, prior to the meeting, for review and comment. All meeting agendas and materials are included in Appendix E.

Stakeholder Engagement

Key stakeholders in the development of the LRTP include various community groups, special interest organizations, and public leaders. This section outlines how Billings planning area stakeholders were involved throughout the plan development process.

STAKEHOLDER MEETINGS

One-on-one meetings were held with various individuals and groups who have a key interest or stake in the LRTP. The purpose of these meetings included:

- Introduce the planning process and components, the LRTP purpose, and the planning timeline.
- Identify existing transportation deficiencies, needs, and opportunities that should be addressed with the plan.
- Gather input on the proposed projects included in the plan.

Throughout the planning process, the consultant team met with the following stakeholders:

- Bicycle & Pedestrian Advisory Committee
- Bike Walk Montana
- Healthy By Design
- Joint All-Task Force
- Living Independently for Today & Tomorrow (LIFTT)
- Lockwood Pedestrian Safety District
- Lockwood Steering Committee
- Pioneer Park Task Force
- Southside Task Force
- Healthy by Design
- Billings Industrial Revitalization District (BIRD)
- Midtown Community Collaborative

ELECTED OFFICIALS WORKSHOPS

To facilitate broader understanding of the long-range planning process among elected officials, the consultant team conducted two workshops during the planning process, in October 2022 and April 2023. Both workshops coincided with the public open houses described in the following section, to provide an additional opportunity for elected officials to interact with the consultant team and provide comments.

Elected Officials Workshop #1

- Held in October 4th, 2022 at the Billings Public Library.
- Topics included the plan development process, an overview of existing conditions, and a discussion of regional priorities regarding transportation, land use, and growth.
- Elected officials from the City of Billings Council, Yellowstone County Commission, Lockwood Steering Committee, Yellowstone County Public Works, Billings MET Transit, and the Billings-Yellowstone County MPO attended the workshop.

Elected Officials Workshop #2

- Held in April 5th, 2023 at the Billings Public Library.
- Topics included the plan development and adoption process, public and stakeholder outreach, and a discussion of the project list.
- Elected officials from the City of Billings Council, Yellowstone County Commission, Lockwood Steering Committee, Yellowstone County Public Works, Billings MET Transit, City of Billings Public Works, the Billings-Yellowstone County MPO, and Riverstone Health / Healthy by Design attended the workshop.

Public Engagement

Public input and involvement is crucial towards the development of a relevant, comprehensive, and federally-compliant LRTP. This section outlines how and when public input influenced the direction of the 2023 LRTP.

PUBLIC OPEN HOUSE #1

The first public open house was held on October 6th, 2023 from 5:00 pm to 6:30 pm at the Billings Public Library in the Community Room. There were 20 attendees who signed in at the front desk. Media coverage leading up to this public open house included Q2, KSVI/yourbigsky.com, and Northern News Network. The discussion at this open house included an update for the community on progress since the last LRTP. Present and existing conditions were also discussed. Feedback on transportation challenges and needs was gathered using laptops with an interactive map that collected comments and was available for two weeks following the public open house on the project website.

While active, the interactive, online map collected 278 comments, organized by self-selected category. These categories, and the number of comments received in each category, are depicted in Figure 4. Additionally, Figure 5 displays the location of each comment received. The feedback provided by the public through the open house and online comment map were crucial towards developing the needs, deficiencies, and opportunities discussed in Chapter 6, which formed the basis for the project list discussed in Chapter 8.

FIGURE 4. PUBLIC OPEN HOUSE #1 COMMENTS BY CATEGORY

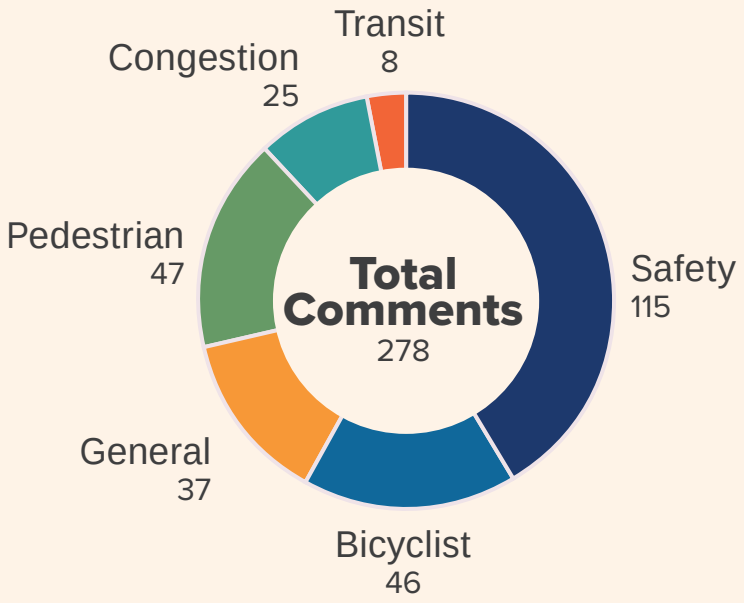
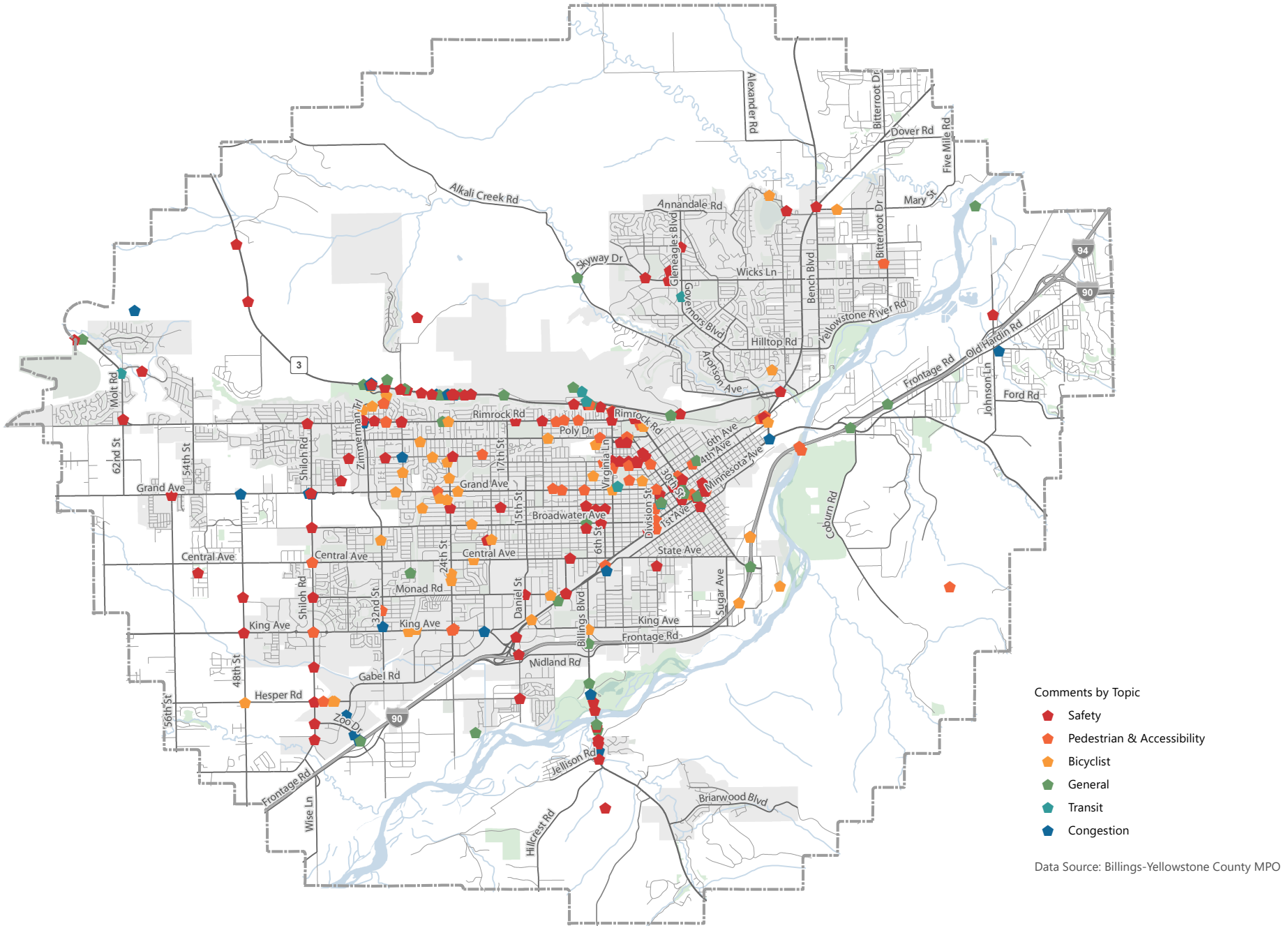


FIGURE 5. PHASE 1 PUBLIC & STAKEHOLDER COMMENTS



PUBLIC OPEN HOUSE #2

The second public open house was held on April 5th, 2023 from 5:00 pm to 6:30 pm at the Billings Public Library in the Community Room. There were 10 attendees who signed in at the front desk. Media coverage leading up to this public open house included YPR and the Billings Gazette. The discussion at this open house included an update for the community on progress since public open house #1. Future conditions, the identified needs, deficiencies, and opportunities, and the project list were also discussed. Feedback on the project list was gathered using laptops with an interactive map that collected comments, with the ability to "Like" another comment and respond to it. The online, interactive map was available for two weeks prior to the public open house and two weeks following the public open house on the project website.

While active, the interactive, online map collected 243 comments with 332 likes on the projects. Figure 6 displays the location of each comment received. The feedback provided by the public through the open house and online comment map were crucial towards refining and finalizing the prioritization of the project list, as discussed in Chapter 8.

FIGURE 6. PUBLIC OPEN HOUSE #2 COMMENTS BY CATEGORY

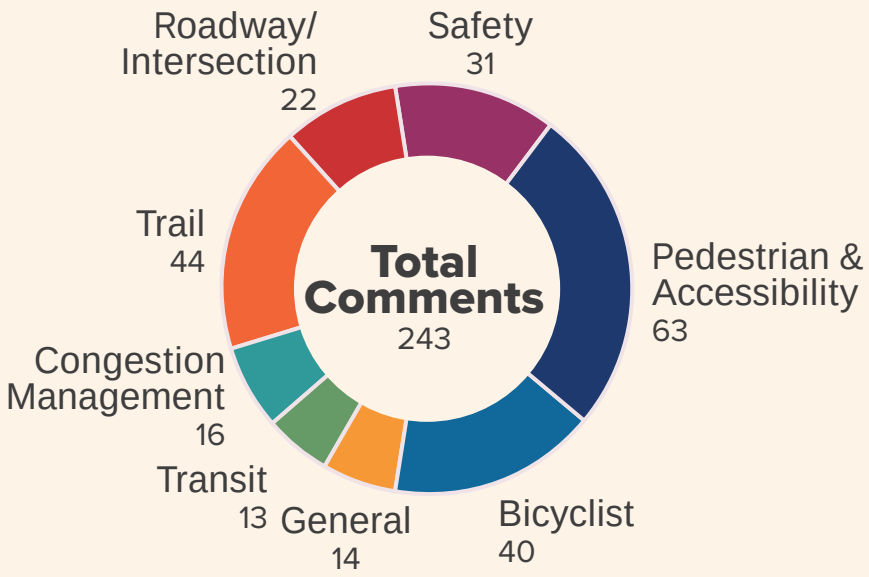
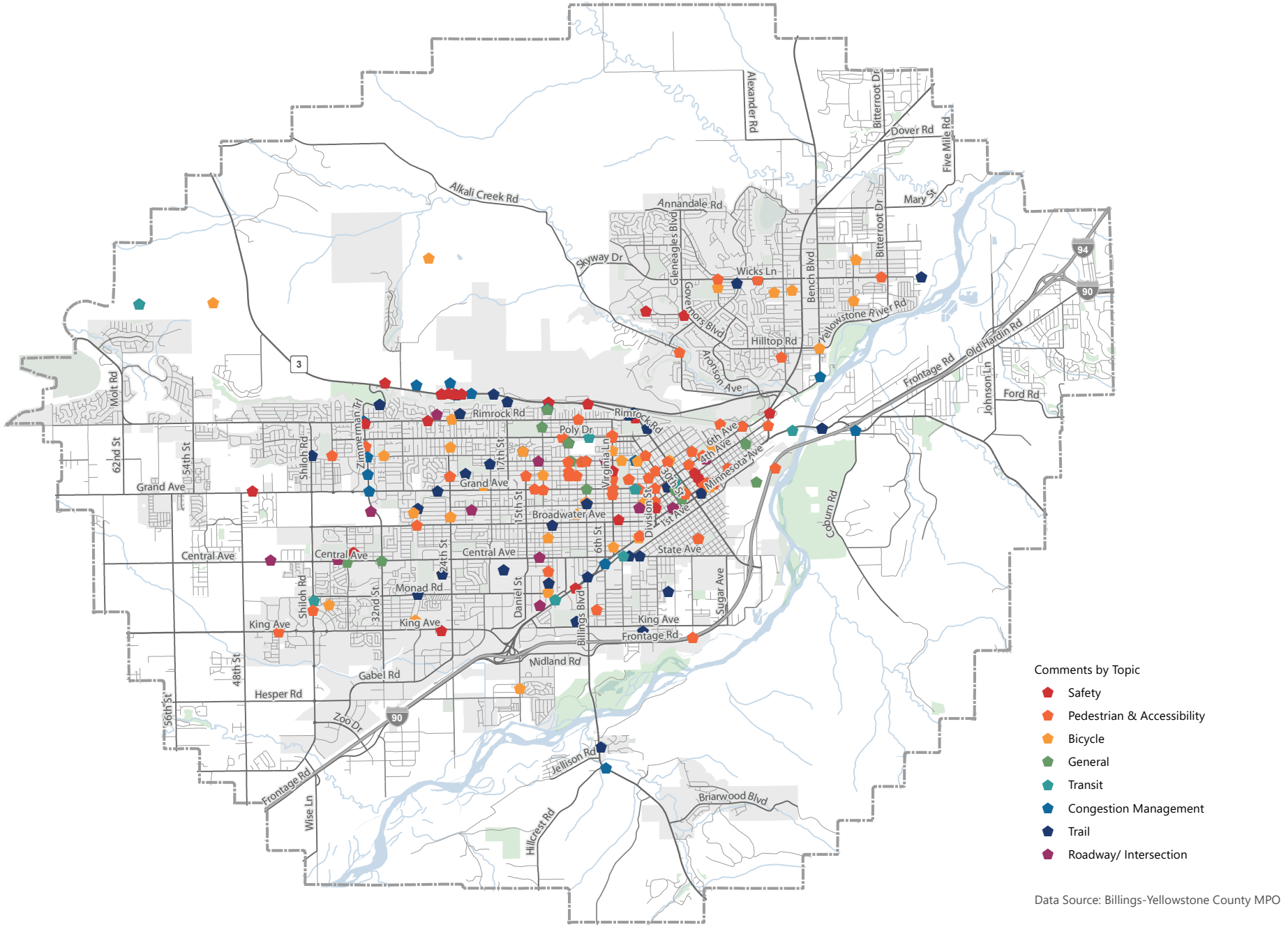
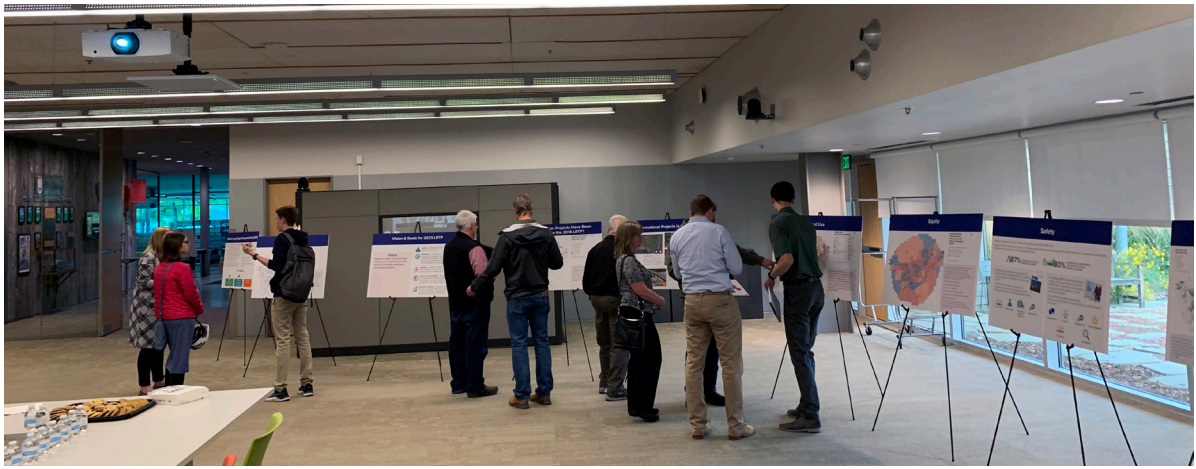


FIGURE 7. PHASE 2 PUBLIC & STAKEHOLDER COMMENTS



Plan Review & Approval

THIS SECTION TO BE UPDATED FOLLOWING PLAN ADOPTION IN JULY 2023.



04 WHAT IS THE TRANSPORTATION SYSTEM LIKE TODAY?

Billings is located in Yellowstone County and is the largest city in Montana by population. Due to its location in south-central Montana, near Wyoming and the Dakotas, Billings has developed as an important economic, cultural, educational, and transportation urban center for the entire region. Transportation is a vital element to the residents and businesses of Billings and connects commerce via road, rail (freight), and air. The region's transportation infrastructure is robust and includes streets, highways, Interstate, rail, transit, sidewalks, bicycle facilities, trails, and an airport. This chapter details the existing conditions of these system elements, to identify needs and deficiencies that are further discussed in Chapter 6.

Community & Land Use

Understanding the current land use patterns and opportunities envisioned for growth is a critical part to developing a long range transportation plan. Through this understanding, the transportation system and land use vision can be integrated to effectively match future infrastructure and system management projects with the desires of the community. Relevant documents to land use and growth in the Billings planning area include:

- Billings Urban Area Long Range Transportation Plan (2018)
- City of Billings Growth Policy (2016)
- Lockwood Growth Policy (2016)

ZONING

The Billings planning area encompasses approximately 151.2 square miles and includes the City of Billings (44.9 square miles) and Lockwood, as well as a planning area extending 4.5 miles outside of the city limits and into Yellowstone County. Figure 8 shows the existing zoning map and key destinations within the planning area. Since the 2018 LRTP, the City of Billings and Yellowstone County have modified their zoning ordinances to include several types of mixed use zoning, including:

- Corridor Mixed Use and Commercial Centers
- Neighborhood Mixed Use
- Mixed Residential (varying between 3 – 8+ units per structure)

The relationships between land-use development and the effects on generating travel demand are well-defined. Established land uses in the planning area have influenced the travel patterns that exist today. Understanding the relationship between the distribution of population/housing and the resulting regional travel patterns is key to projecting future transportation demand, which is discussed in Chapter 5.

POPULATION & HOUSEHOLDS

Yellowstone County has the highest population of any county in Montana with a reported 2020 population of 160,390 persons, an increase of 8% over the 2010 population (147,972).[19] Billings remains the largest city in Montana with a 2020 population of 117,116, a 12% increase over the 2010 population

19 United State Census Bureau. (2020). *Decennial Census – Total Population: Table B01003.* www.data.census.gov

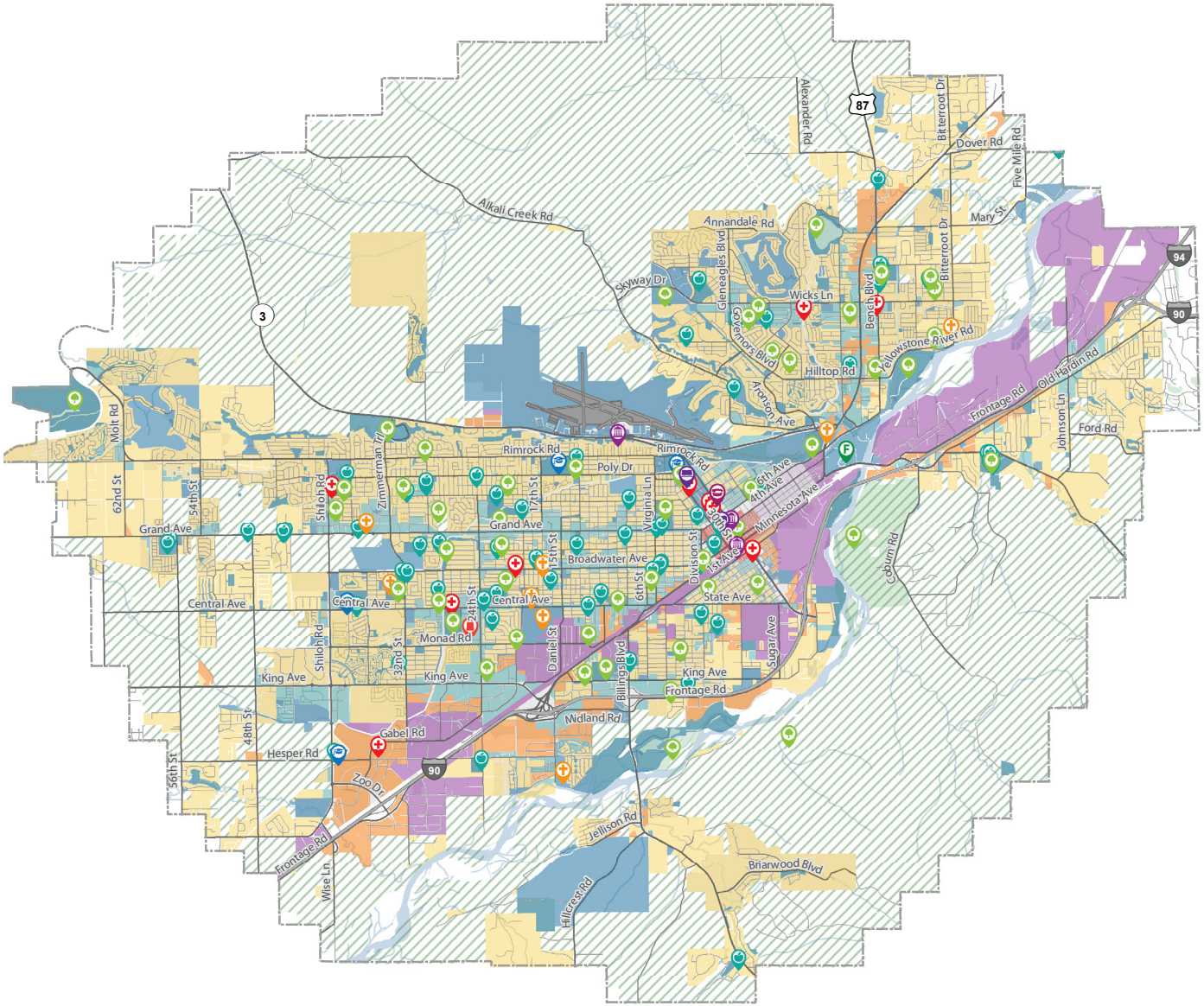
(104,170). Figure 9 displays the 2020 population density of the Billings planning area, and Figure 10 shows the 2020 housing density. The population of the Billings planning area at the 2020 Decennial Census was 128,787 and the housing units were 57,343.[20]

EMPLOYMENT

As the driver of the local and regional economy, understanding employment patterns is crucial towards understanding transportation needs. Figure 11 shows the current geographic concentrations of employment centers in the Billings planning area. As shown in Figure 11, employment concentrations are greatest around the major employment centers including Billings Airport, Downtown Billings, Saint Vincent and Billings Clinic Hospitals, Rimrock Mall, and industrial facilities to the south of the Zoo Drive Interchange on Interstate 90, as well as the Grand Ave, Central Ave, and King Ave corridors.

20 United States Federal Register. (December 29, 2022). *2020 Census Qualifying Urban Areas and Final Criteria Clarifications.* https://www.federalregister.gov/documents/2022/12/29/2022-28286/2020-census-qualifying-urban-areas-and-final-criteria-clarifications

FIGURE 8. EXISTING ZONING AND MAJOR ACTIVITY CENTERS



ZONING AND MAJOR ACTIVITY CENTERS

Existing Zoning

- Residential
- Commercial
- Core Business District
- Public
- Mixed Use
- Industrial
- East Billings Urban Renewal District
- Agricultural
- Billings Logan International Airport

Major Activity Centers

- Stadium
- Library
- Park
- Museum
- Fairgrounds
- Shopping Mall
- Cemetary
- College
- Schools
- Hospital

Data Source: City of Billings, Yellowstone County

FIGURE 9. 2020 POPULATION DENSITY

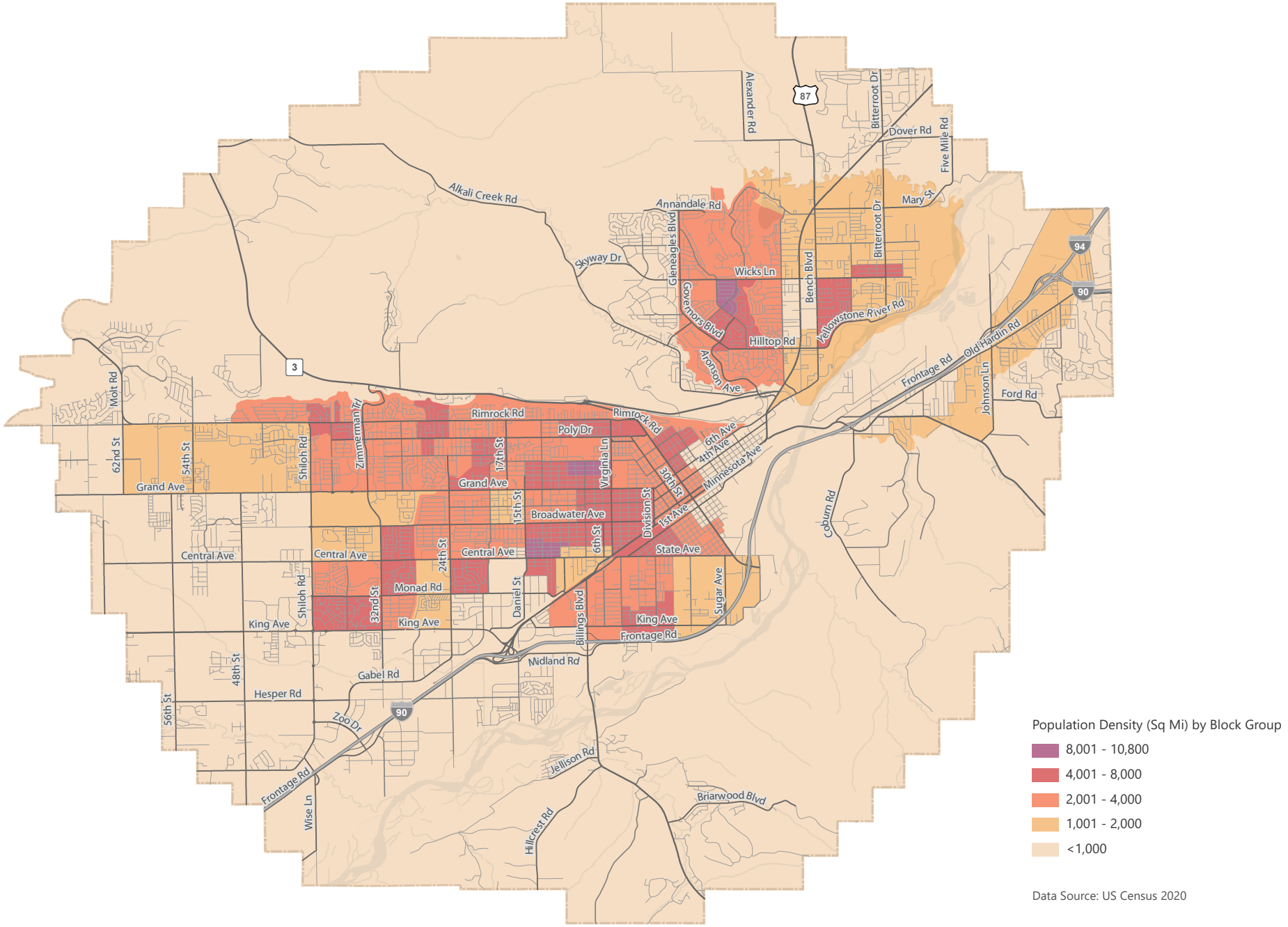


FIGURE 10. 2020 HOUSING DENSITY

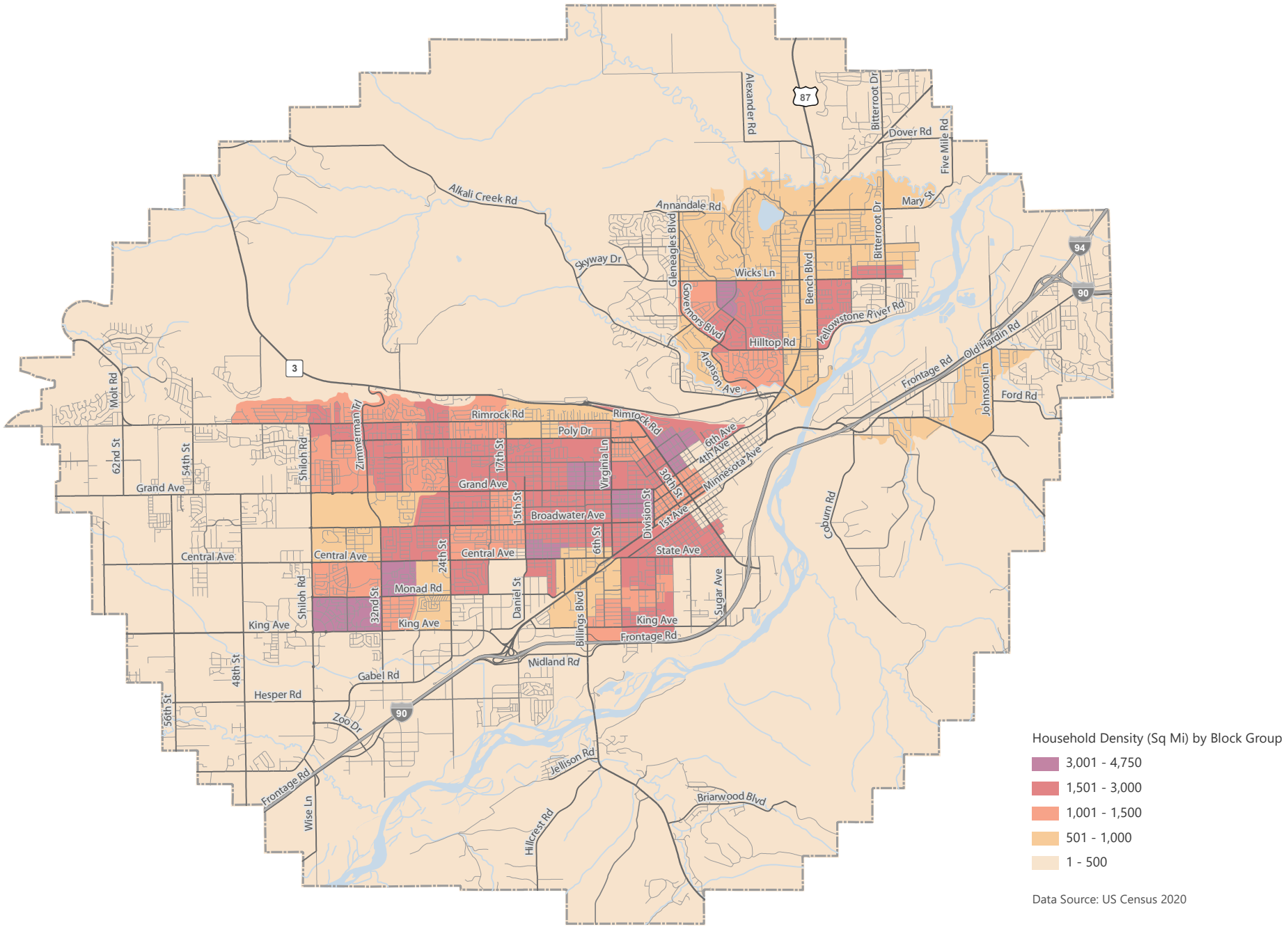
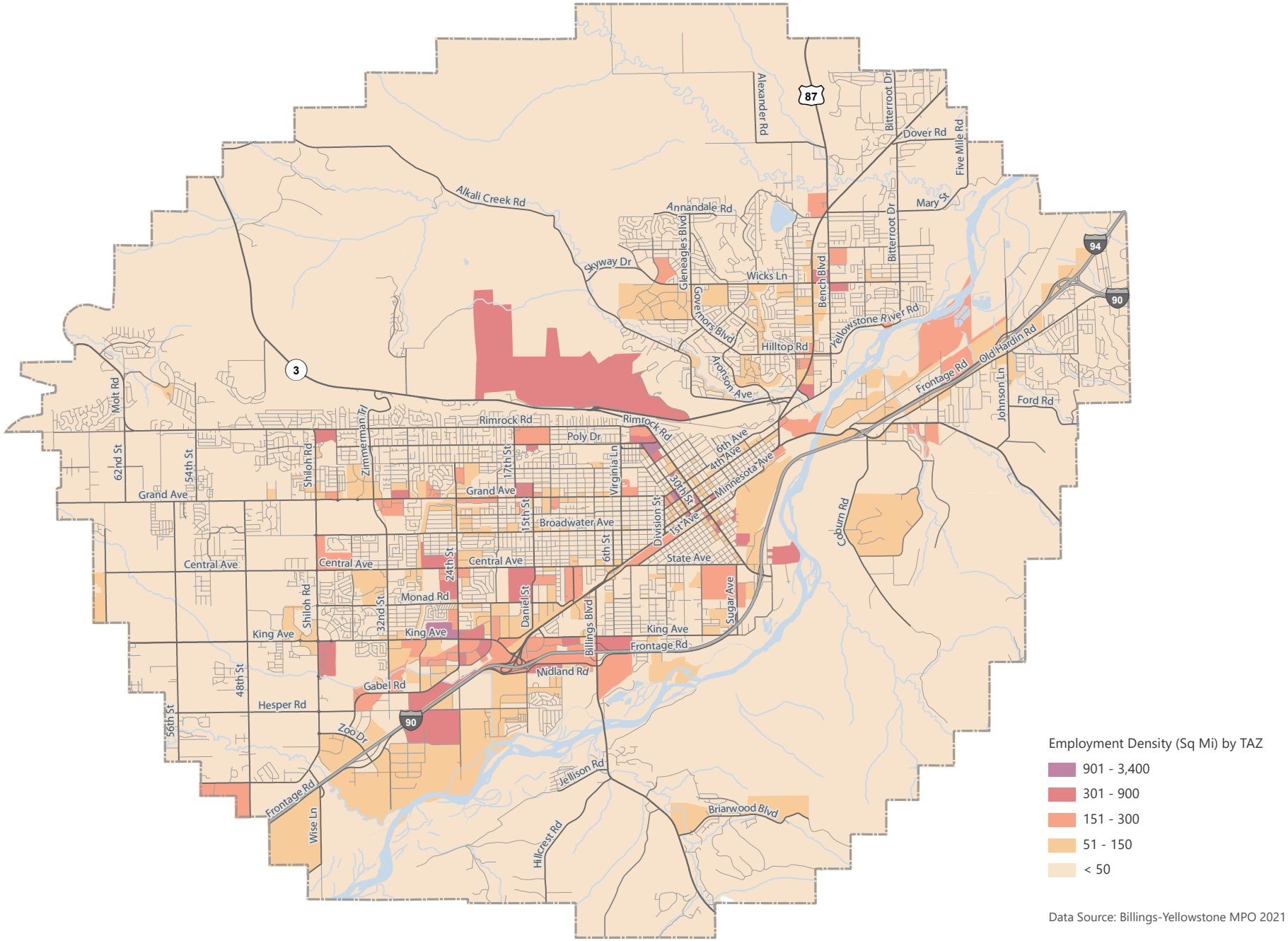


FIGURE 11. 2020 EMPLOYMENT DENSITY



COMMUTE MODE SHARE

Year 2020 mode share data was obtained through the American Community Survey (ACS), a product of the United States Census Bureau. Table 10 displays the commute mode share data for Billings, Yellowstone County, and the state of Montana.

Of all modes, most residents of the City of Billings and Yellowstone County commute by driving alone – 82.3% and 82.5%, respectively. The MPO has a higher percentage of commuters driving alone than the state of Montana as a whole, at 75.2%. The City of Billings and Yellowstone County have a lower percentage of walking and bicycling commuters than the state of Montana.

In the City of Billings, the 2018 LRTP reported ACS 2016 data, with walk mode share at 3.2% (compared to 2.5% in 2020) and bicycle mode share at 0.8% (compared to 1.5% in 2020), which indicates an increase in bicycling and a decrease in walking to work. Public transit, which relies on the active transportation network for many of its users to begin and end their trips, accounts for 1.0% of commute mode share in 2020, a slight decrease from 1.1% in 2016. Additionally, the City of Billings and Yellowstone County have slightly higher percentages of transit riding than the state of Montana, but lower percentages of telecommuters. Additionally, in the City of Billings in 2016, 4% of residents reported telecommuting, compared with 4.9% in 2020. Across Montana, the percentage of people reporting telecommuting as their mode to work increased 2%, from 6.4% in 2016 to 8.4% in 2020. Telecommuting increased to 9.6% in 2021.[21] These increases could potentially relate to the increase of telework due to the COVID-19 pandemic.

EQUITY

In accordance with directives from the Justice40 Initiative[22] and guidance from the IIJA passed in November 2021, the US Department of Transportation has adopted a definition and methodology for Areas of Persistent Poverty ("APPs")[23] and Historically Disadvantaged

TABLE 10. 2020 COMMUTE MODE SHARE IN THE CITY OF BILLINGS, YELLOWSTONE COUNTY, AND MONTANA

TRAVEL MODE	CITY OF BILLINGS		YELLOWSTONE COUNTY		MONTANA	
	NUMBER OF COMMUTERS	PERCENT OF COMMUTERS	NUMBER OF COMMUTERS	PERCENT OF COMMUTERS	NUMBER OF COMMUTERS	PERCENT OF COMMUTERS
Walk	1,382	2.5%	1,829	2.3%	23,670	4.6%
Bicycle	801	1.5%	938	1.2%	11,242	2.2%
Public Transit	533	1.0%	628	0.8%	3,729	0.7%
Telecommute	2,678	4.9%	4,203	5.2%	41,108	8.0%
Carpool	4,428	7.9%	6,526	8.1%	47,247	9.2%
Drove Alone	45,428	82.3%	66,395	82.5%	385,206	75.2%
Total	55,174	100%	80,519	100%	512,202	100%

Source: American Community Survey 2020 5-Year Estimates, Table DP03 Selected Economic Characteristics

21 United States Census Bureau. (2021). T*able SO801: Commuting Characteristics by Sex, ACS 1-Year Estimates for the Billings Urban Area.* American Community Survey. https://data.census.gov/table?q=S0801:+COMMUTING+CHARACTERISTICS+BY+SEX&g=400XX00US07705&y=2021&tid=ACSST1Y2021.S0801

22 United States Department of Transportation. (July 29, 2022). *Justice40 Initiative.* https://www.transportation.gov/equity-Justice40

23 United States Department of Transportation. (May 10, 2022). *Areas of Persistent Poverty (APP) Project and Historically Disadvantaged Community (HDC) Status Tool.* https://datahub.transportation.gov/stories/s/tsyd-k6ij

Communities ("HDCs")[24], also known as transportation-disadvantaged populations. Both APPs and HDCs are measured at the Census tract level. HDCs are measured using 22 indicators grouped into six categories of transportation disadvantage, including:

- **Transportation access disadvantage** identifies communities and places that spend more, and take longer, to get where they need to go.
- **Health disadvantage** identifies communities based on variables associated with adverse health outcomes, disability, as well as environmental exposures.
- **Environmental disadvantage** identifies communities with disproportionately high levels of certain air pollutants and high potential presence of lead-based paint in housing units.
- **Economic disadvantage** identifies areas and populations with high poverty, low wealth, lack of local jobs, low homeownership, low educational attainment, and high inequality.
- **Resilience disadvantage** identifies communities vulnerable to hazards caused by climate change.
- **Equity disadvantage** identifies communities with a with a high percentile of persons (age 5+) who speak English "less than well."

One Census tract in the Billings planning area is designated as an APP, displayed in Figure 12. While no Census tracts within the Billings planning area are designated as HDCs, it is still important to acknowledge the communities in Billings that likely need more equitable and accessible transportation investments. For this reason, demographic data from the 2020 Census was analyzed to understand the population density of Billings communities in terms of:

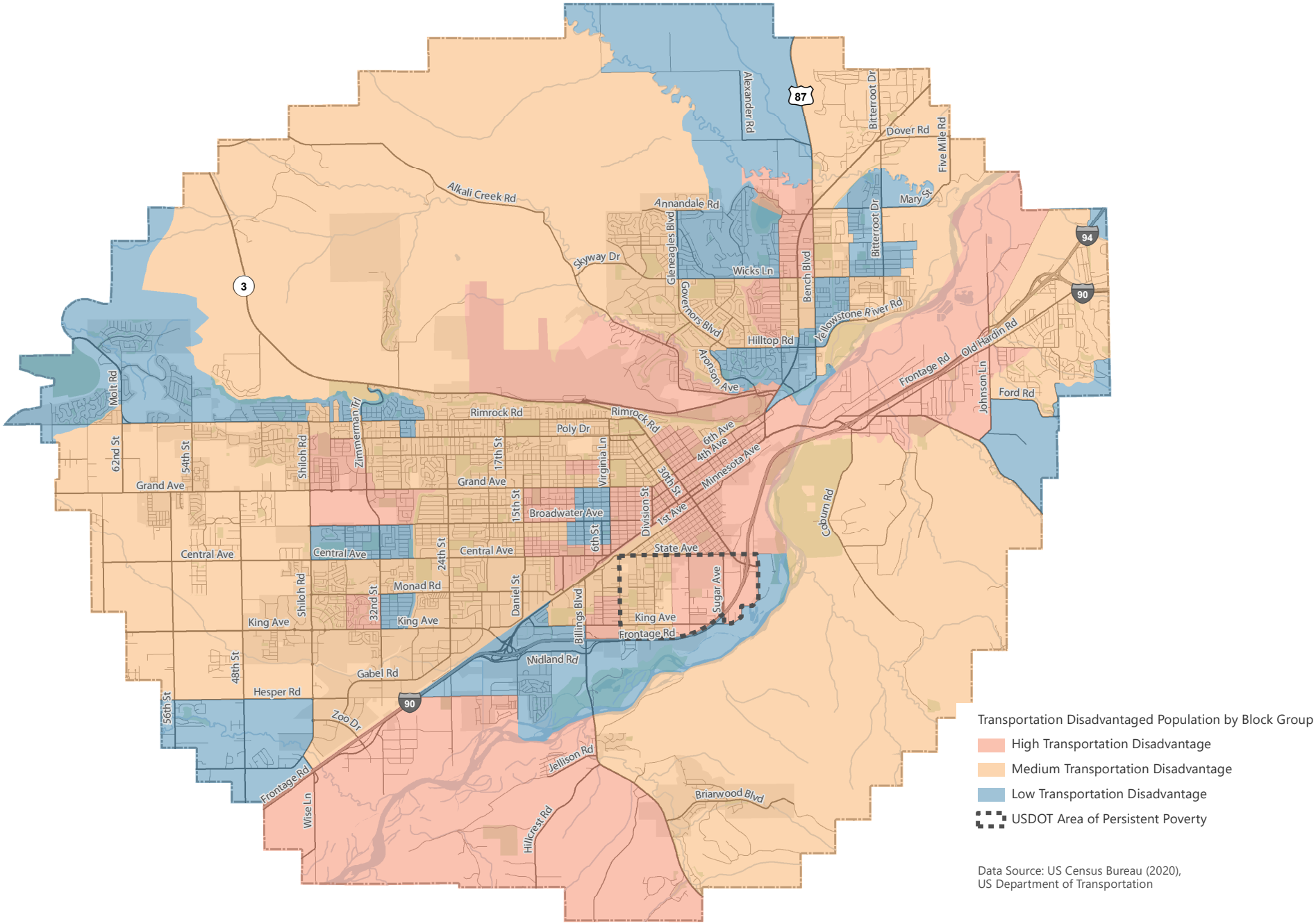
- People with Disabilities
- Households Experiencing Poverty
- Households with Limited English Proficiency
- Households without Cars

Areas identified as having High Transportation Disadvantage tend to cluster around the I-90 corridor, with pockets in west Billings, Lockwood, the Heights, and near the airport. Most Census block groups in the planning area are identified as either high or medium disadvantage, with a few areas exhibiting low disadvantage in the Heights and west Billings.

An index based on the 50th percentile for each of these criteria was created to identify transportation-disadvantaged communities in the Billings planning area. These communities are displayed in Figure 12. Supporting figures are available in the Existing Conditions Supporting Figures Appendix.

24 United States Department of Transportation. (July 2022). Transportation Disadvantaged Census Tracts (Historically Disadvantaged Communities) Online Mapper. https://www.arcgis.com/apps/dashboards/d6f90dfcc8b44525b04c7ce748a3674a

FIGURE 12. TRANSPORTATION-DISADVANTAGED POPULATIONS AND AREAS OF PERSISTENT POVERTY



Data Source: US Census Bureau (2020),
US Department of Transportation

Safety

A variety of federal, state, and local requirements and guidelines address incorporating safety into the transportation planning process. This section presents background information, analysis, and strategies to address safety within the Billings planning area, including specific modal analyses for pedestrian, bicycle, heavy vehicle, and railroad crashes. Overall, safety is a key element in the transportation planning process.

MPOs must comply with federal requirements associated with the transportation planning process as outlined in the 23 CFR Part 450 for Metropolitan Transportation Planning and Programming. The planning process should address increasing the safety of the transportation system for motorized and nonmotorized users. The metropolitan transportation planning process should be consistent with the Strategic Highway Safety Plan, as specified in 23 U.S.C. 148, and other transit safety and security planning and review processes, plans, and programs, as appropriate. With new research and available data, safety can be incorporated in planning, project development, and operation/maintenance activities to effectively identify and implement countermeasures to reduce crashes and crash severity for the Billings community.

The Billings LRTP builds from the important work completed in the state and locally to improve safety, including:

- TranPlanMT, Montana's Long Range Transportation Plan[25]
- Montana Comprehensive Highway Safety Plan[26]
- Billings Community Transportation Safety Plan[27]
- Billings Safe Routes to School Plan[28]

Further details about each of these plans are available in the Existing Conditions Supporting Figures & Content Appendix.

CRASH DATA SUMMARY

Crash data was obtained from the Montana Department of Transportation (MDT) for the period from January 1, 2016, to December 31, 2020, to identify crash trends over the five-year period. Crash data was unavailable for years 2021 and 2022 at the time of plan development. The data used for this analysis corresponds with that used in the *Community Transportation Safety Plan (2022)*. The dataset received was at the "crash" level – meaning that information about the entire crash is included; the "vehicle" level – meaning that information was provided for each motor vehicle (or pedestrian, bicycle, train, or equestrian) involved in a crash; and the "person" level – meaning that information was provided for each person involved in the crash. For this analysis, the "crash" level data was utilized. Crashes are categorized into crash severity levels described below.

- **Property Damage Only (PDO)** – Any crash in which there was property damage incurred to any one person but no injuries or fatalities.
- **Possible Injury (C)** – Any injury reported or claimed which is not a fatal injury, incapacitating injury, or non-incapacitating non-evident injury.
- **Suspected Minor injury (B)** – Any injury, other than a fatal injury or incapacitating injury, which is evident to observers at the scene of the crash in which the injury occurred.
- **Suspected Serious Injury (A)** – Any injury, other than a fatal injury, which prevents the injured person from walking, driving, or normally continuing the activities the person was capable of performing before the injury occurred.
- **Fatal Injury (K)** – Any injury that results in the death of a person within 30 days of the crash in which the injury was sustained.

25 Montana Department of Transportation. (2017). *TranPlanMT: Moving Montana Forward, Together.* https://mdt.mt.gov/tranplan/

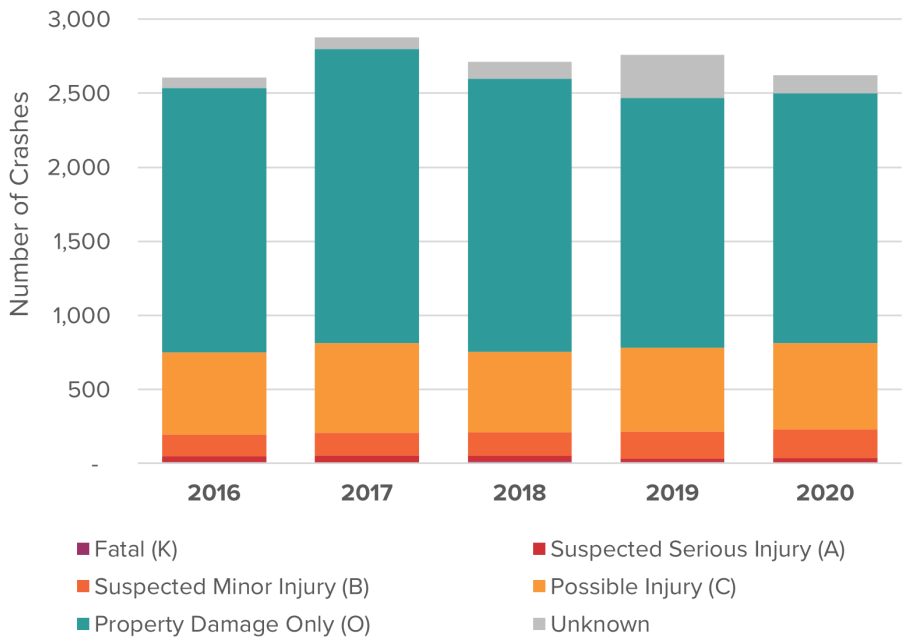
26 Montana Department of Transportation. (2020). *Montana Comprehensive Highway Safety Plan - 2020 Update.* https://www.mdt.mt.gov/visionzero/plans/docs/chsp/current-chsp.pdf

27 Billings-Yellowstone County Metropolitan Planning Organization. (2022). *Community Transportation Safety Plan - 2022 Update*.

28 Billings-Yellowstone County Metropolitan Planning Organization. (2022). *Safe Routes to School Plan - 2022 Update.* https://ci.billings.mt.us/DocumentCenter/View/47663/Billings-SRTS-Study-07262022_final

A total of 13,574 crashes occurred in the Billings planning area during the five-year period. A summary of total crashes by severity is shown in Table 11 and displayed in Figure 13. Additionally, these crashes are mapped in Figure 16.

FIGURE 13. CRASHES BY SEVERITY BY YEAR



Source: Montana Department of Transportation

In the five-year period, the total number of crashes remained relatively steady. However, there was a slight decrease in fatal and serious injury crashes in this time period, as displayed in Figure 14. Both 2019 and 2020 show a decrease in fatal and suspected serious injury crashes, from a high in 2018. These fatal and serious injury crashes are displayed in Figure 17.

FIGURE 14. FATAL AND SUSPECTED SERIOUS INJURY CRASHES BY YEAR

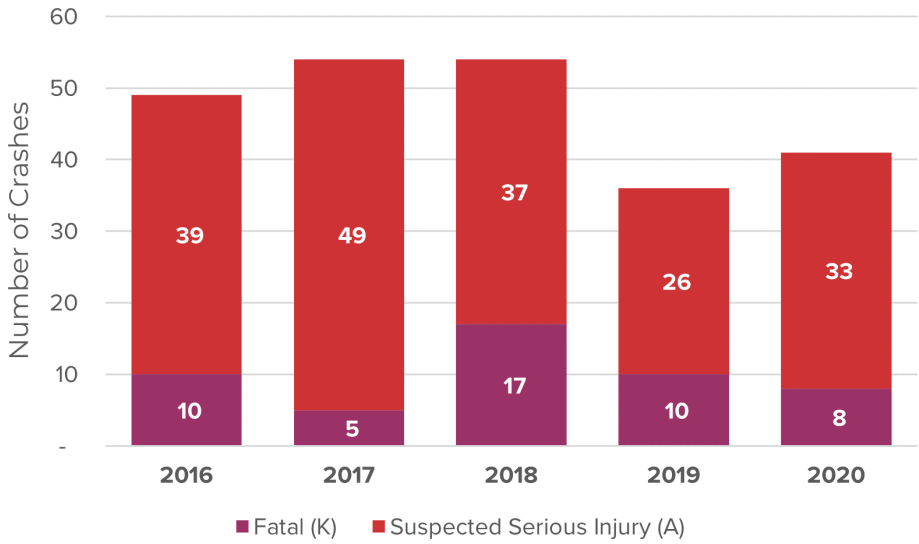


TABLE 11. CRASHES BY SEVERITY (2016-2020)

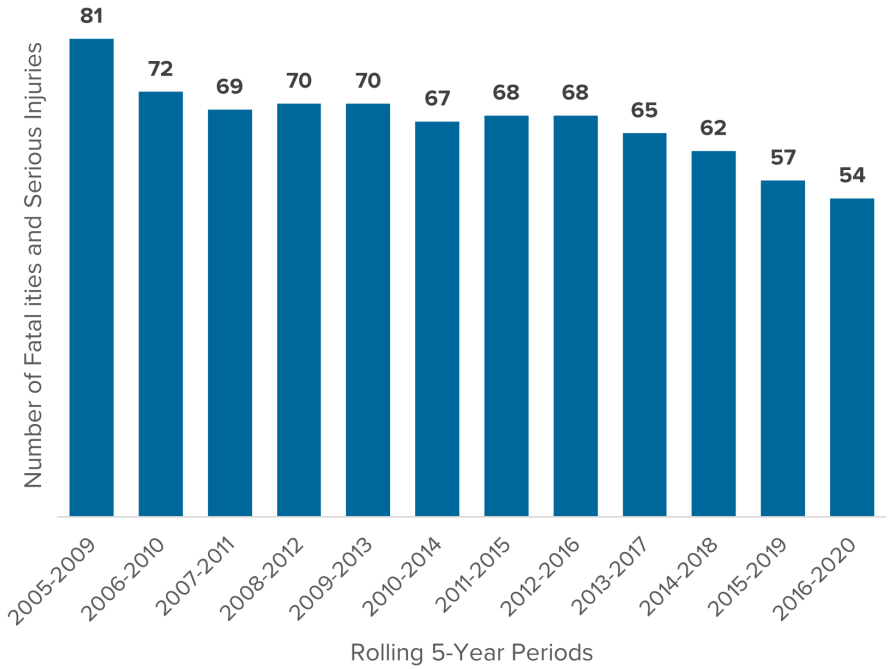
YEAR	FATAL (K)	SUSPECTED SERIOUS INJURY (A)	SUSPECTED MINOR INJURY (B)	POSSIBLE INJURY (C)	PROPERTY DAMAGE ONLY (O)	UNKNOWN (U)	TOTAL
2016	10	39	148	552	1,785	73	2,607
2017	5	49	153	605	1,988	76	2,876
2018	17	37	159	542	1,841	114	2,710
2019	10	26	180	567	1,684	291	2,758
2020	8	33	192	579	1,688	123	2,623
Total	50	184	832	2,845	8,986	677	13,574

Source: Montana Department of Transportation

The 2016 CTSP set a goal of reducing fatalities and serious injuries by 20% from 70 people in the 2009 – 2013 period to 56 people in the 2016 – 2020 period (based on a five-year rolling average). As shown in Transportation Planning & Implementation Since 2018, the five-year rolling average from 2016 – 2020 was 54 total fatalities and serious injuries, which achieves the CTSP goal.

Note that Figure 14 displays data at the crash level, while Figure 15 displays data at the person-level, which corresponds with the CTSP goal. In 2023, the MPO updated the CTSP, and has established a goal of reducing the rolling five-year average number of fatalities and serious injuries by 20% to 47 by the end of 2024.

FIGURE 15. ROLLING 5-YEAR AVERAGE OF FATALITIES AND SERIOUS INJURIES



Source: Montana Department of Transportation

FIGURE 16. CRASHES BY SEVERITY (2016-2020)

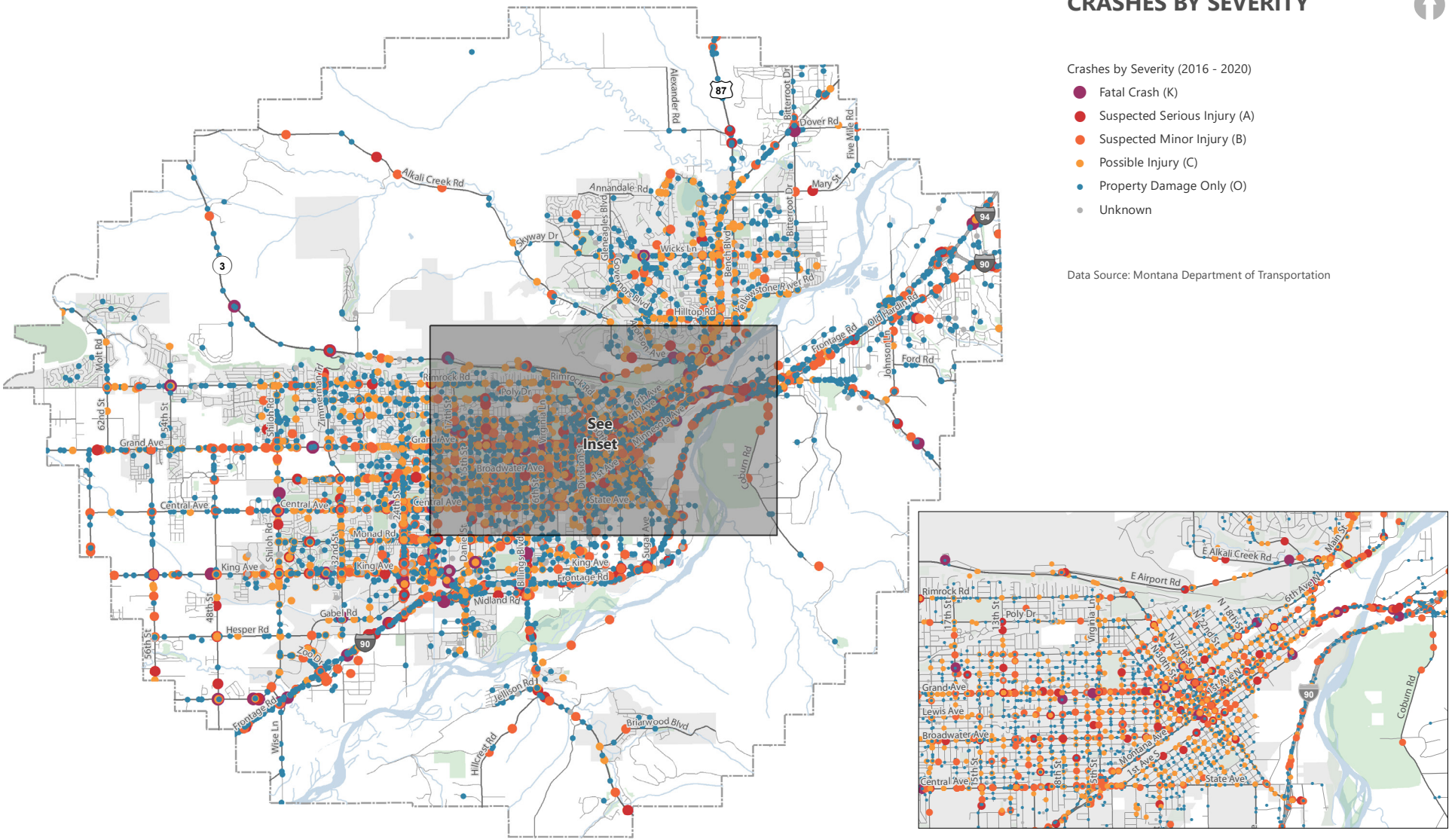
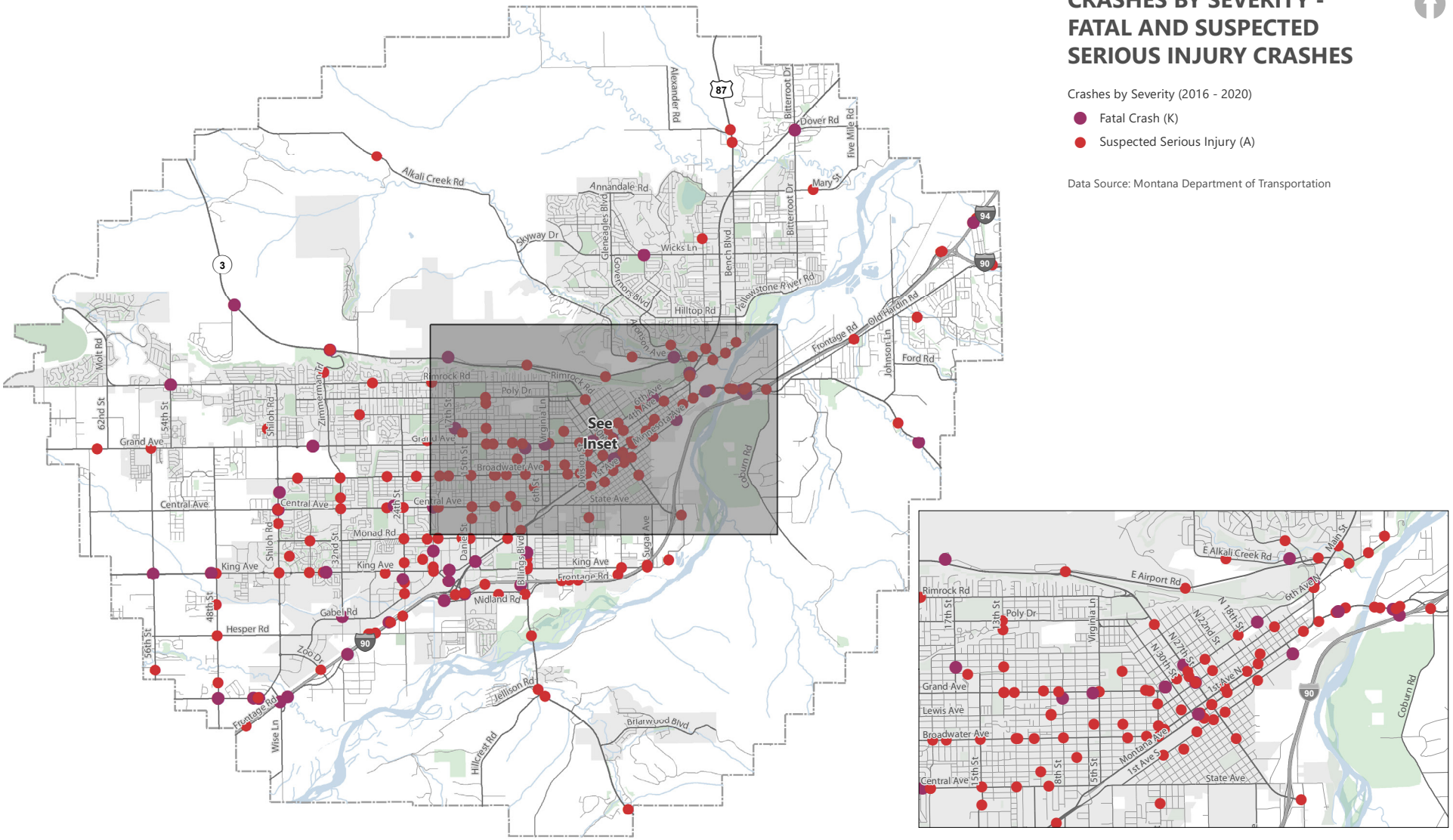


FIGURE 17. FATAL AND SUSPECTED SERIOUS INJURY CRASHES (2016–2020)



Equivalent Property Damage Only (EPDO) Analysis

The Equivalent Property Damage Only (EPDO) analysis method is one of the safety network screening performance measures included in the *Highway Safety Manual*.[29] The following analysis employs the KABCO Injury Classification Scale, a system recognized by the Federal Highway Administration which defines injury severity as:[30]

- K – Fatal Crash
- A – Suspected Serious Injury Crash
- B – Visible Injury Crash
- C – Possible Injury Crash
- O – Property Damage Only Crash

An EPDO analysis is used here because the MPO's goals and targets are related to Fatal Injury (K) and Suspected Serious Injury (A) crashes and this method considers crash severity, unlike using crash rates of frequency alone. The EPDO method assigns societal costs to each crash by KABCO severity level to develop an equivalent property-damage only value (i.e., all crashes are scored based on their relative magnitude to a PDO crash) that can be used to evaluate and compare intersections and roadway corridors by number of crashes and crash severity.

Table 12 shows the values assigned to each crash by severity. These values were used to develop the weighting factors for crashes by dividing the cost for each severity by the value of a PDO crash (e.g., $77,200 [Cost of Injury C Crash] / $3,900 [Cost of PDO Crash] = 19.79 [EPDO Value for Injury C Crash). These costs were selected using guidance from the *USDOT (United States Department of Transportation) Benefit-Cost Analysis Guidance for Discretionary Grant Programs*.[31] The USDOT guidance lists the monetized value for Fatal Injury (K) crashes as $11,600,000 and for Suspected Serious Injury (A) as $554,800.

In the Billings planning area, the USDOT-recommended value for Fatal Injury (K) crashes skewed EPDO values upward for any intersection or segment with fatal injury crashes. For purposes of this analysis, the monetized value for (K) and (A) crashes was developed by calculating a weighted average of total Fatal Injury (K) and Suspected Serious Injury (A) crashes over the five-year period. The weighted average reduces the influence of a single fatal injury crash on EPDO values. Additionally, MDT crashes classified as "Unknown" severity were assigned the same monetized value as a PDO crash.

TABLE 12. EPDO VALUES BY SEVERITY

SEVERITY (KABCO)	MONETIZED VALUE (2020 $)	EPDO SCORE
Property Damage Only (O) / Unknown	$3,900	1
Possible Injury (Injury C)	$77,200	19.79
Visible Injury (Injury B)	$151,100	38.74
Suspected Serious Injury (A)	$2,884,167	739.53
Fatal Injury (K)	$2,884,167	739.53

Source: US Department of Transportation

The economic costs of crashes in the Billings planning area for the five-year period between 2016 – 2020 is summarized in Table 13. The average annual EPDO value for the 2016 – 2020 time period was $211.56 million, with the highest annualized EPDO value in 2017 at $233.62 million.

29 Association of American State Highway Transportation Officials. (2010). *Highway Safety Manual.* https://www.highwaysafetymanual.org/Pages/default.aspx

30 Federal Highway Administration. (N.D.). *KABCO Injury Classification Scale and Definitions by State.* https://safety.fhwa.dot.gov/hsip/spm/conversion_tbl/pdfs/kabco_ctable_by_state.pdf

31 US Department of Transportation. (March 2022). *Benefit-Cost Analysis Guidance for Discretionary Grant Programs.* https://www.transportation.gov/sites/dot.gov/files/2022-03/Benefit%20Cost%20Analysis%20Guidance%202022%20%28Revised%29.pdf

FIGURE 18. TOTAL CRASH COSTS BY YEAR IN MILLIONS OF DOLLARS ($)

An EPDO analysis was conducted for the Billings planning area in the five-year period at both the intersection- and roadway segment-level, detailed in the following sections.

EPDO ANALYSIS – INTERSECTIONS

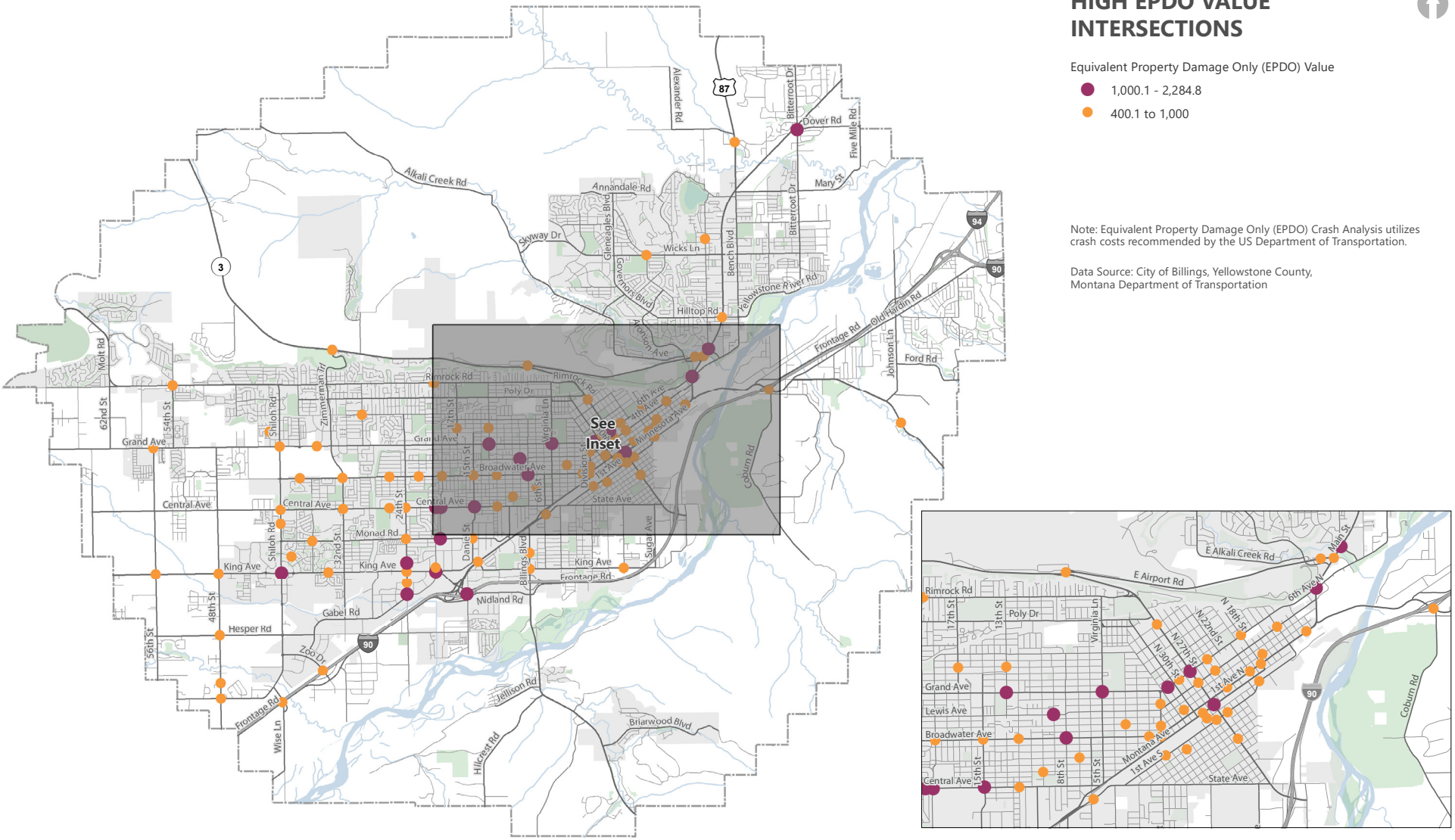
The intersection EPDO analysis calculated the total EPDO value of crashes at each intersection by selecting crashes within 250 feet of each intersection and assigning an EPDO value based on crash severity (as delineated in Table 12), then summing the values per intersection. Figure 19 shows intersections by EPDO value and Table 13 shows high EPDO value intersections. Four of the listed high-EPDO intersections are on Central Avenue, and three on 6th Avenue N. Of the twenty highest scoring intersections, sixteen are signalized intersections. With the exception of Bitterroot Drive & Dover Road, all of the highest scoring intersections are within the city limits of Billings.

TABLE 13. HIGHEST EPDO VALUE INTERSECTIONS (2016 – 2020)

RANK	INTERSECTION	CONTROL TYPE	TOTAL CRASHES	K AND A INJURY CRASHES	EPDO VALUE
1	Main Street & 6th Avenue N	Signal	74	3	2,284.8
2	Lake Elmo Drive & Main Street	Signal	109	2	1,779.5
3	Mullowney Lane & Exit 446	Signal	40	2	1,476.7
4	Grand Avenue & 13th Street W	Signal	47	2	1,467.4
5	Montana Avenue & N 27th Street	Signal	37	2	1,415.8
6	Central Avenue & S 19th Street W	Signal	31	2	1,396.4
7	N 31st Street & 6th Avenue N	Signal	15	2	1,354.7
8	Grand Avenue & 5th Street W	Signal	43	2	1,317.7
9	Monad Road & S 19th Street W	Signal	24	2	1,302.9
10	Overland Avenue & Gabel Road	Signal	22	2	1,301.3
11	S 20th Street W & King Avenue W	Signal	100	2	1,255.6
12	Lewis Avenue & 9th Street W	Stop Control	9	1	1,247.2
13	Bitterroot Drive & Dover Road	Stop Control	6	2	1,200.9
14	Birchwood Drive & Central Avenue	Stop Control	6	2	1,171.4

RANK	INTERSECTION	CONTROL TYPE	TOTAL CRASHES	K AND A INJURY CRASHES	EPDO VALUE
15	S 24th Street W & Rosebud Drive	Signal	76	2	1,090.2
16	Shiloh Road & King Avenue W	Roundabout	157	1	1079.8
17	15th Street W & Central Avenue	Signal	49	1	1,025.3
18	27th Street & 6th Avenue N	Signal	81	1	1,006.1
19	Broadwater Avenue & 8th Street W	Signal	41	1	1,004.6
20	24th Street W & Central Avenue	Signal	71	1	998.2

FIGURE 19. HIGH EPDO VALUE INTERSECTIONS (2016 - 2020)



EPDO ANALYSIS - ROADWAY SEGMENTS

The roadway segment EPDO analysis was conducted with roadway crashes, excluding any crashes within 250 feet of an intersection, and using the 'sliding window' method, as recommended by the Highway Safety Manual, to effectively compare roadway segments of equal length. The sliding window method calculates EPDO by evaluating total EPDO in 0.5-mile segments (i.e., "windows"), and then sliding the window along the roadway 0.1-miles at a time, as demonstrated in Figure 20. This method reduces the possibility of splitting locations with high concentrations of crashes into separate segments, which would reduce the EPDO value for segments that start and end in high-crash spots. Figure 21 depicts roadway segments by EPDO and Table 14 shows the roadway segments in the Billings planning area with the highest 0.5-mile EPDO value. A 1.4-mile segment of US-87 includes the highest EPDO values across its 0.5-mile sections. Additionally, the roadway segment EPDO analysis revealed a mix of urban and rural locations with high EPDO values, with a range of total crashes due to the presence of fatal and suspected serious injury crashes. This trend tends to be more common in less-urbanized areas where posted speeds are higher.

FIGURE 20. EPDO SEGMENT 'SLIDING WINDOW'

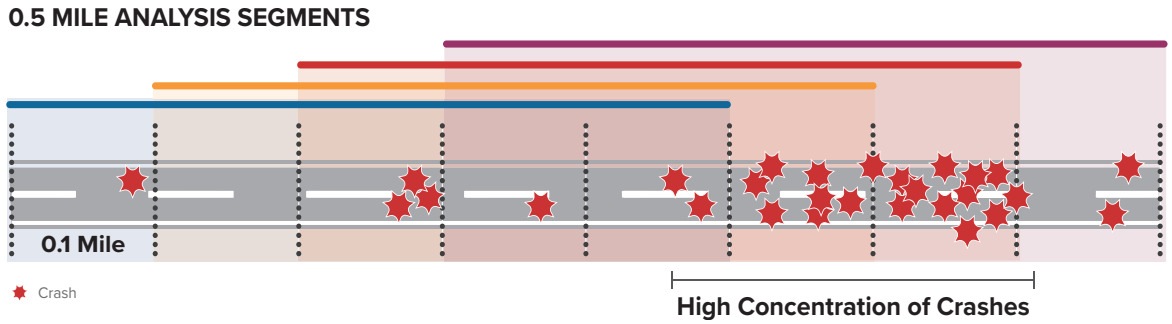


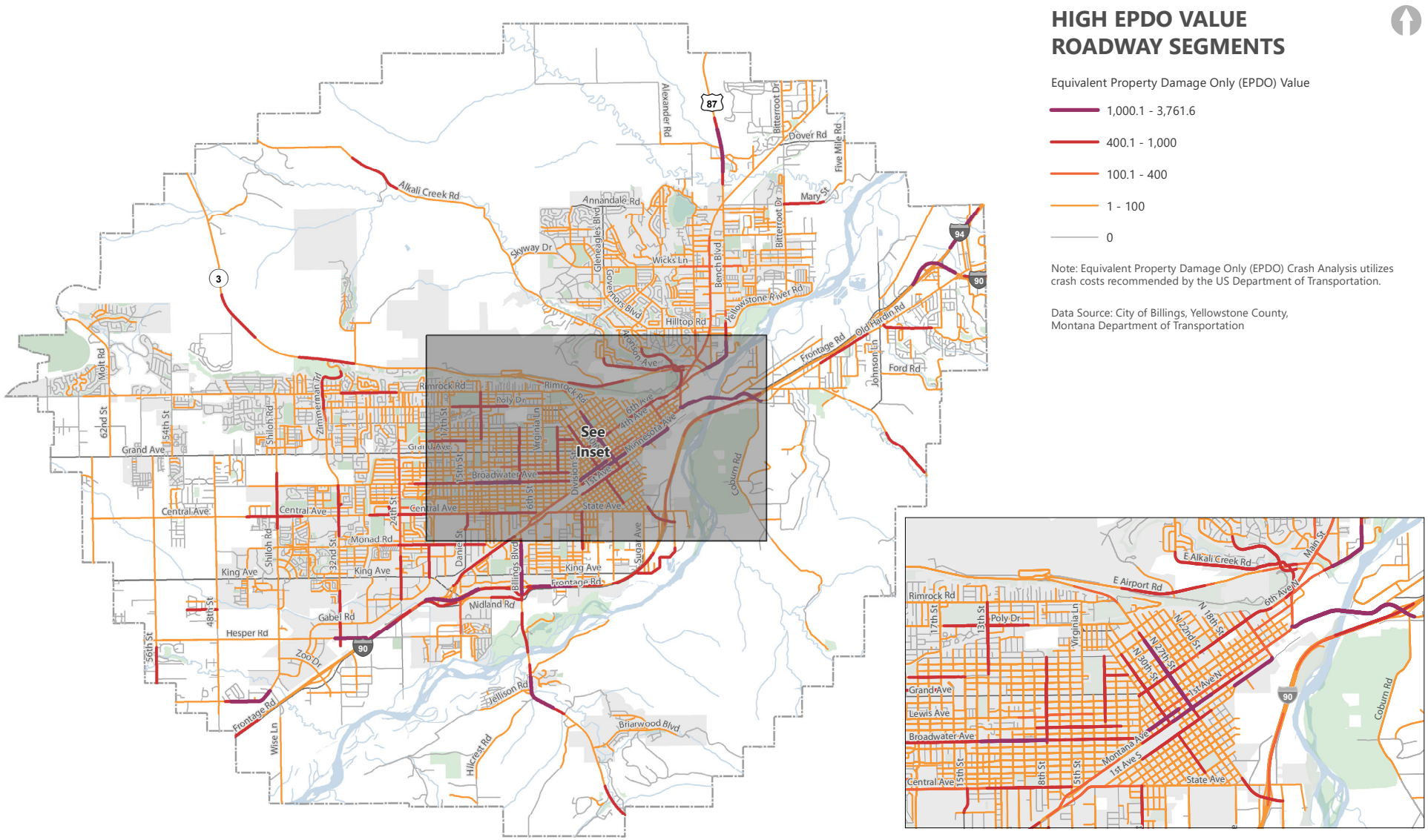
TABLE 14. HIGHEST EPDO VALUE ROADWAY SEGMENTS (2016 – 2020)

RANK	ROADWAY	EXTENT	ADT[1]	LENGTH (MI)	TOTAL CRASHES	K AND A INJURY CRASHES	EPDO VALUE
1	US-87	1st Avenue N to Coburn Road	15,895	1.4	198	6	3,761.6
2	27th Street	11th Avenue N to Montana Avenue	16,563	0.9	59	6	2,017.5
3	Neibauer Road	Autumn Lane to Harvest Lane	2,832	0.7	7	5	1,763.1
4	Montana Avenue	N 31st Street to N 23rd Street	11,612	0.5	47	4	1,336.4
5	Broadwater Avenue	14th Street West to 8th Street W	21,709	0.6	26	4	1,299.9
6	Bench Boulevard	Lake Elmo Drive to 603 Bench Boulevard Driveway	12,208	0.6	18	4	1,285.3
7	Minnesota Avenue	1st Avenue S to N 13th Street	9,444	0.5	18	3	1,239.6
8	1st Avenue N	Division Street to N 29th Street	9,749	0.5	28	3	1,232.6
9	I-90 Westbound	Mile Post 445.6 to Mile Post 446.5	34,200	0.9	20	3	1,224.24
10	I-90 Eastbound	Mile Post 444.4 to Mile Post 445	34,200	0.6	8	3	1,216.3

RANK	ROADWAY	EXTENT	ADT[1]	LENGTH (MI)	TOTAL CRASHES	K AND A INJURY CRASHES	EPDO VALUE
11	S Billings Boulevard	I-90 Eastbound Ramp to 430 Billings Boulevard Driveway	12,538	0.8	21	3	1,208.7
12	I-90	Mile Post 456.1 to Mile Post 457	31,200	0.9	15	3	1,192.5
13	I-94	East of I-90 Interchange from I-94 Mile Post 0.5 to I-94 Mile Post 1.1	31,200	0.6	12	3	1,190.0
14	Blue Creek Road	Santiago Boulevard to 2504 Blue Creek Road Driveway	6,694	0.7	11	3	1,189.3
15	Hesper Road	3242 Hesper Road Driveway to End of Hesper Road (East)	413	0.5	7	3	1,172.2
16	US-87 (Roundup Road)	2811 US-87 Driveway to 3415 US-87 Driveway	5,974	0.7	6	3	1,156.8
17	I-90	Reference Marker 447.4 to Reference Marker 448	28,700	0.6	6	2	1,156.0

[1]*Average ADT across the high-EPDO segment.*

FIGURE 21. HIGH EPDO VALUE ROADWAY SEGMENTS (2016 - 2020)



Pedestrian & Bicycle Crashes

The LRTP is focused on addressing safety for all transportation modes, including active transportation modes. Table 15 delineates pedestrian and bicycle crashes by severity. Between 2016 – 2020, there were a total of 205 pedestrian related crashes, ten of which resulted in fatalities and 21 of which were suspected serious injuries. In the same time period, there were a total of 130 bicyclist related crashes, two of which were fatal and seven of which were suspected serious injuries.

Figure 22 displays pedestrian crashes by severity between 2016 – 2020. While 2017 had the highest number of total crashes (47), with no fatal crashes and six suspected serious injury crashes, 2018 had only 40 total crashes but the highest number of fatal and suspected serious injury crashes (8). Pedestrian crash frequency has remained relatively stable over the five-year period.

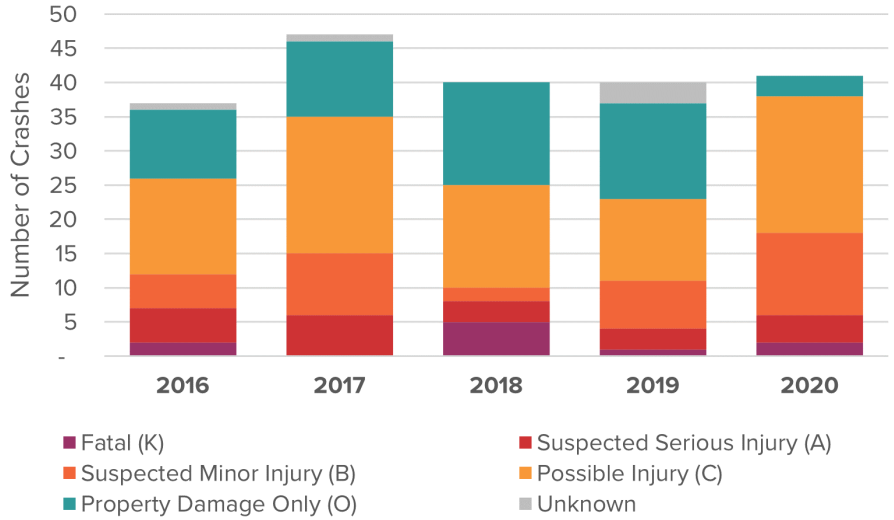
Figure 24 shows bicycle crashes by severity during the five-year period. Since experiencing highs in 2018, fatal and serious injury crashes for pedestrians and bicycles decreased in 2019 and 2020.

TABLE 15. PEDESTRIAN AND BICYCLE CRASHES BY SEVERITY (2016 – 2020)

TYPE	FATAL (K)	SUSPECTED SERIOUS INJURY (A)	SUSPECTED MINOR INJURY (B)	POSSIBLE INJURY (C)	PROPERTY DAMAGE ONLY (O)	UNKNOWN (U)	TOTAL
Pedestrian	10	21	35	81	53	5	205
Bicyclist	2	7	32	57	29	3	130
Total	12	28	67	138	82	8	335

Source: Montana Department of Transportation

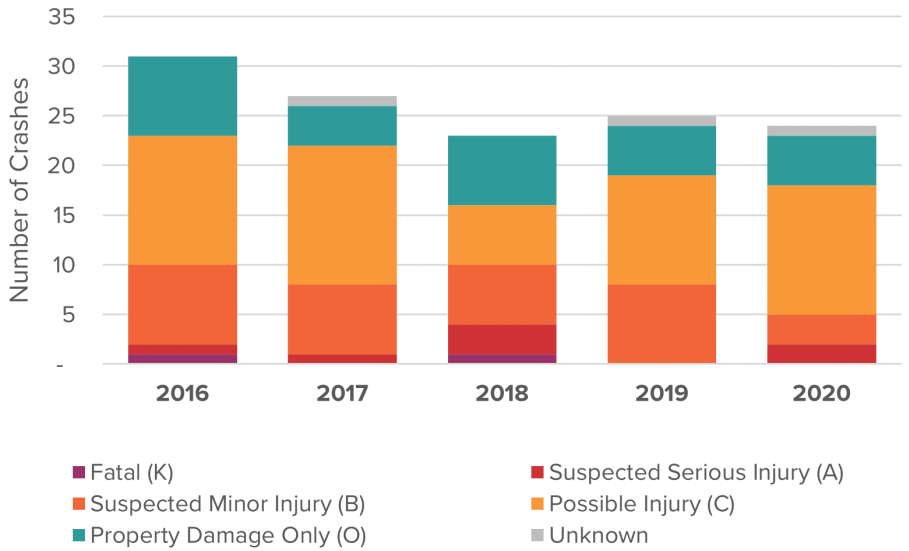
FIGURE 22. PEDESTRIAN CRASHES BY SEVERITY (2016-2020)



Source: Montana Department of Transportation

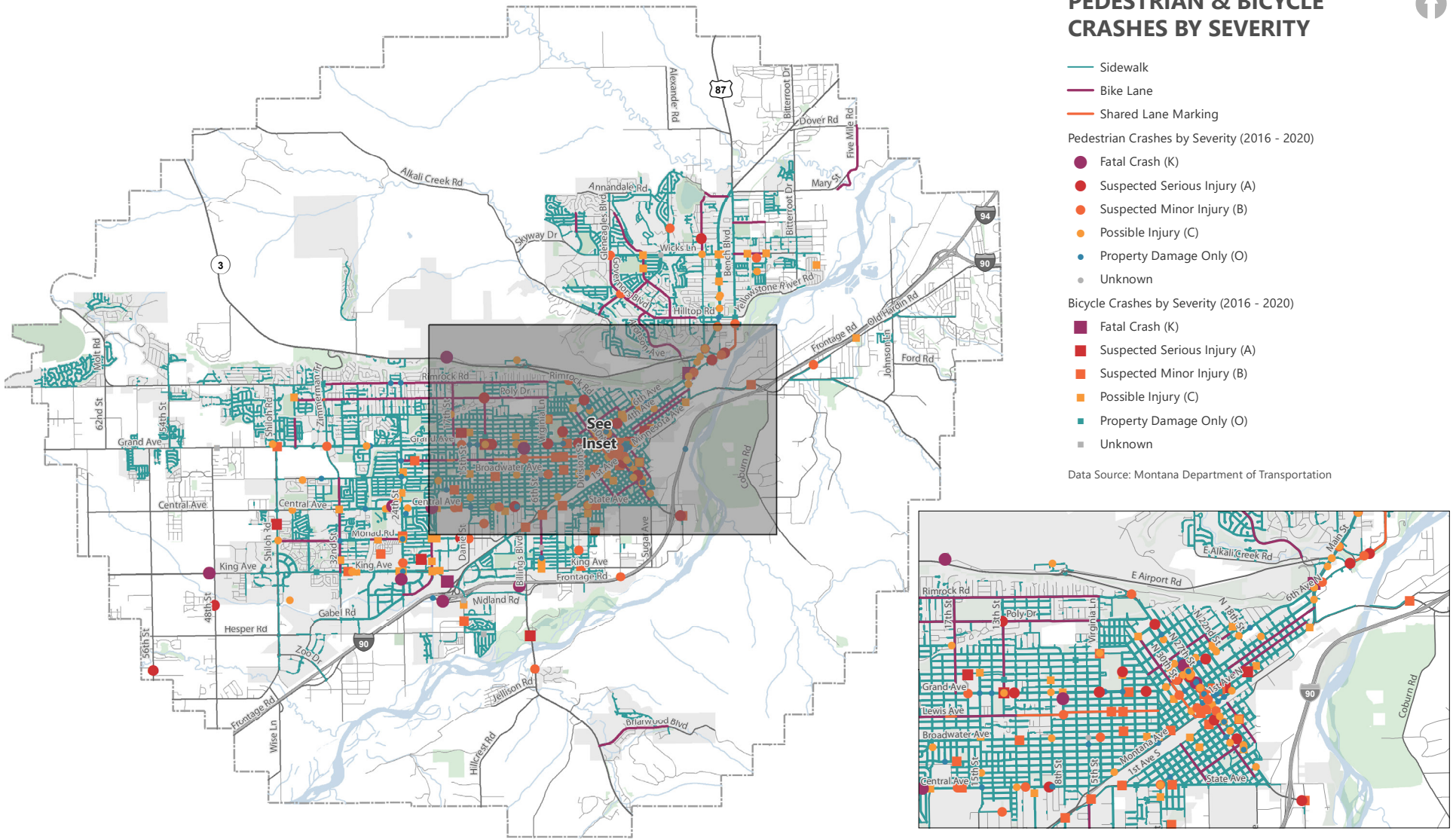
Figure 24 maps pedestrian and bicycle crashes by severity over the five-year period. While both pedestrian and bicycle crashes occur throughout the MPO region, crashes tend to cluster in the downtown Billings area, as well as along Bench Boulevard, 24th Street, Grand Avenue, and Central Avenue.

FIGURE 23. BICYCLE CRASHES BY SEVERITY (2016-2020)



Source: Montana Department of Transportation

FIGURE 24. PEDESTRIAN & BICYCLE CRASHES BY SEVERITY (2016-2020)



Heavy Vehicle Crashes

Heavy vehicle crashes are classified as any type of crash involving a vehicle over 9,999 pounds, which were identified utilizing crash details collected by MDT. Table 16 summarizes crashes with heavy vehicles by severity in the five-year period. Of the 432 heavy vehicle crashes, there were four fatal crashes and nine serious injury crashes between 2016 - 2020. Similar to overall crash trends, heavy vehicle crashes peaked in 2018, and are lower in 2019 and 2020. Figure 25 shows all heavy vehicle crashes in the Billings planning area. Heavy vehicle crashes tend to cluster on freight routes such as I-90, Montana Highway 3, and US Highway 87, in addition to 1st Avenue N, Bench Boulevard, and King Avenue.

Railroad Crashes

Table 17 summarizes crashes located at at-grade rail crossings and with railway vehicles (trains) in the Billings planning area, which were identified utilizing crash details collected by MDT. Between 2016 – 2020, there were four railway vehicle crashes and nine railroad crossing crashes, for a total of 13 crashes. Two of the thirteen crashes were possible injury (C) crashes, and eleven were property damage only (PDO) crashes. Figure 26 shows crashes with railway vehicles or at at-grade rail crossings in the Billings planning area. Most rail-related crashes occurred in or near downtown Billings, along rail spurs.

TABLE 16. HEAVY VEHICLE CRASHES BY SEVERITY (2016 – 2020)

YEAR	FATAL (K)	SUSPECTED SERIOUS INJURY (A)	SUSPECTED MINOR INJURY (B)	POSSIBLE INJURY (C)	PROPERTY DAMAGE ONLY (O)	UNKNOWN (U)	TOTAL
2016	-	3	5	10	62	1	81
2017	1	2	5	8	75	3	94
2018	3	2	5	12	78	3	103
2019	-	2	5	9	54	3	73
2020	-	-	10	11	57	3	81
Total	**4**	**9**	**30**	**50**	**326**	**13**	**432**

Source: Montana Department of Transportation

TABLE 17. AT-GRADE RAIL CROSSING AND RAILWAY VEHICLE CRASHES BY SEVERITY (2016 – 2020)

YEAR	FATAL (K)	SUSPECTED SERIOUS INJURY (A)	SUSPECTED MINOR INJURY (B)	POSSIBLE INJURY (C)	PROPERTY DAMAGE ONLY (O)	UNKNOWN (U)	TOTAL
2016	-	-	-	-	2	-	2
2017	-	-	-	1	3	-	4
2018	-	-	-	1	2	-	3
2019	-	-	-	-	3	-	3
2020	-	-	-	-	1	-	1
Total	**-**	**-**	**-**	**2**	**11**	**-**	**13**

Source: Montana Department of Transportation

FIGURE 25. HEAVY VEHICLE CRASHES BY SEVERITY (2016-2020)

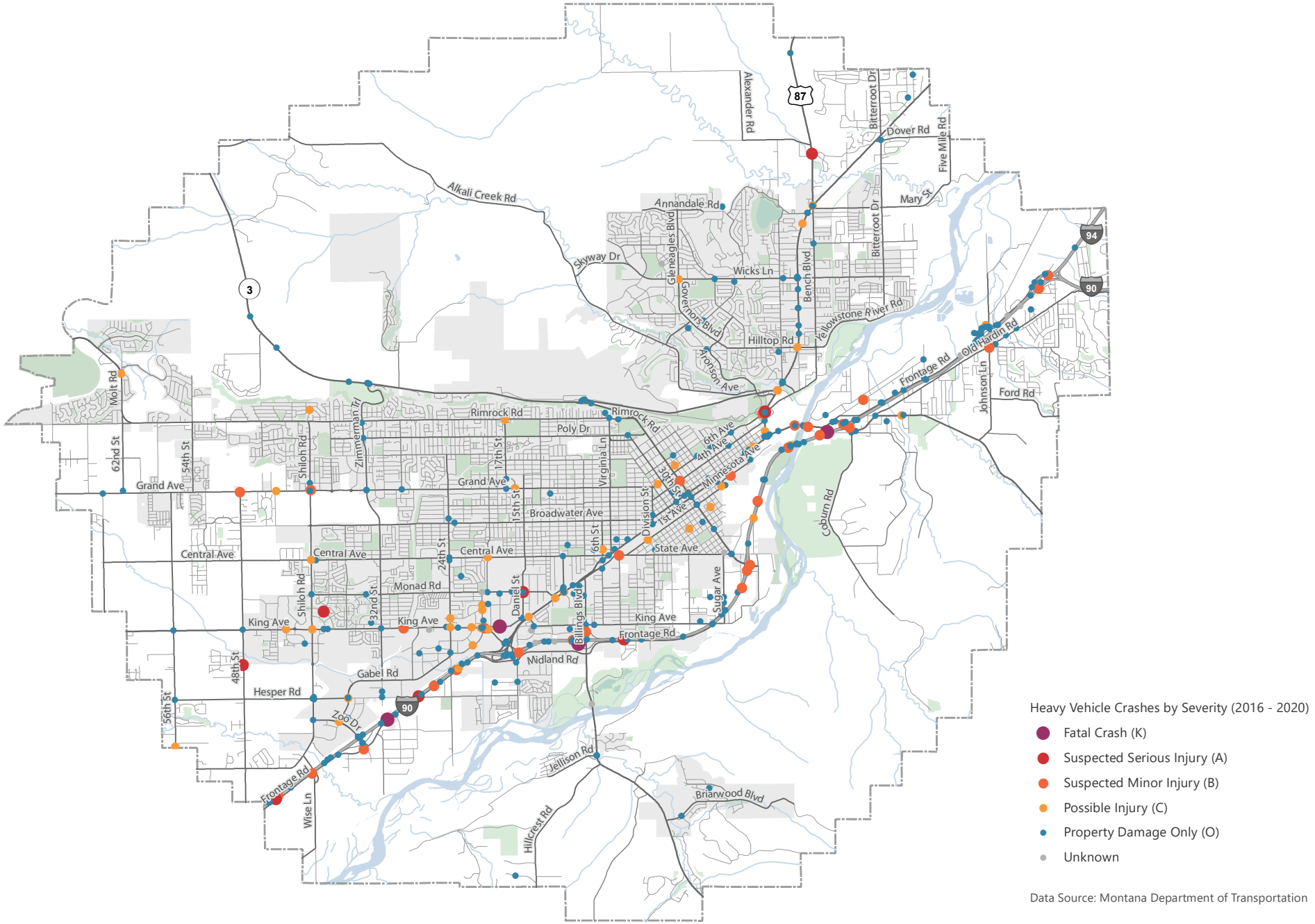
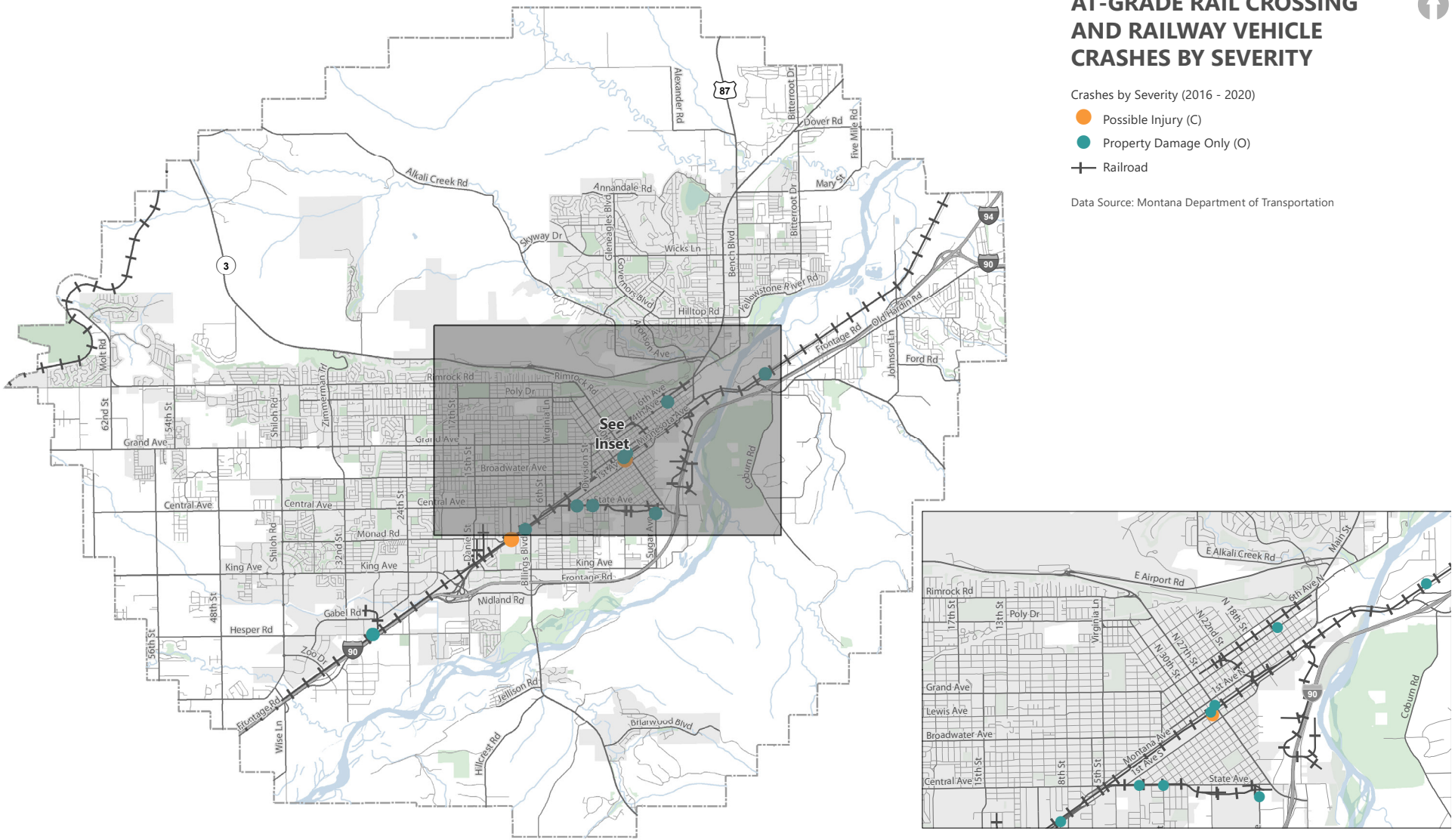


FIGURE 26. AT-GRADE RAIL CROSSING AND RAILWAY VEHICLE CRASHES BY SEVERITY (2016-2020)



Transportation

The Billings transportation system both influences and is influenced by the land use decisions in the planning area, including the zoning, population, employment, and equity considerations discussed in the previous sections. The movement of people – by foot, mobility device, bicycle, bus, or car – and the movement of freight – by truck, plane, or rail – depends on a complex, interwoven system of infrastructure and services that connect residents and businesses with one another, the state, and the country. This section provides details about the work being done to improve this system, documents the existing facilities, volumes, and services; and creates a framework for understanding what is important to Billings planning area residents in the coming years, for each mode.

PEDESTRIAN & BICYCLE

The Billings planning area has been upgrading sidewalk facilities, enhancing crossings, constructing trails, and building bicycle facilities throughout the region over the last 30 years. Recently, important efforts to improve walking, rolling, and bicycling conditions in the area include:

- Investigating how bicycle share and scooter share systems could operate, through the *Billings Bike & Scooter Share Feasibility Study* in 2021,
- Assessing the evolution of creating streets that are safe and comfortable for people of all ages and abilities, through the *Complete Streets Progress Report* in 2020,
- Planning for elementary school students to commute through the *Safe Routes to School Plan Update* in 2022, and
- Including pedestrian or bicycle infrastructure in 93% of projects since 2018.

Much of the work completed to date dovetails and supports the goals and strategies outlined in the *Billings Bikeway and Trails Master Plan* goals and strategies:[32]

- **Complete Streets:** Improve, expand, and consider active transportation and recreation facilities within the Billings planning area.
- **Implementation:** Consider the implementation of active transportation facilities at all levels of government and through all related policies, processes, and standards that encourage and enhance walking, bicycling, and other trail-related activities in the Billings area.
- **Evaluation:** Monitor the implementation of the *Billings Area Bikeway and Trails Master Plan*.
- **Transit Integration:** Integrate bicycle and walking into the MET Transit system.
- **Maintenance:** Ensure bicycle and trail facilities are clean, safe, and accessible.
- **Education and Encouragement Programs:** Implement comprehensive education and encouragement programs targeted at all ages and abilities.
- **Enforcement:** Increase enforcement on city/county streets, trails, and bikeways to make interactions between motorists, bicyclists, and pedestrians safer.
- **Health and Safety:** Encourage healthy activities through increased access and safe infrastructure for bicyclists and pedestrians.

32 Billings-Yellowstone County MPO. (2016). *Billings Area Bikeways and Trails Master Plan Update.* https://ci.billings.mt.us/DocumentCenter/View/34091/Billings-Bikeway-and-Trails-Master-Plan

Facilities

The Billings planning area has a robust network of pedestrian and bicycle facilities, including crossings, sidewalks, multi-use trails, and bicycle lanes.

PEDESTRIAN FACILITIES

For people walking and rolling, the Billings planning area has 670 miles of sidewalks, in addition to 85 miles of multi-use trails, depicted in Figure 29. These multi-use trails are delineated by type and length in Table 18. The City of Billings has tracked the expansion of the shared use path network since 1997, starting with just two miles of pathways and growing to 50 miles in 2021, as displayed in Figure 27.

BICYCLE FACILITIES

Development of the City's bicycle facilities has steadily increased and notably mostly occurred over the last ten years, including 8.1 miles of new bicycle lanes constructed between 2017 – 2021, an increase of 31%. The overall rate of bicycle lane implementation has remained essentially constant at a rate of close to two miles per year over this time. The City of Billings currently maintains 40.5 miles of bikeway facilities, classified as bicycle lanes, neighborhood bikeways, shared roadways.

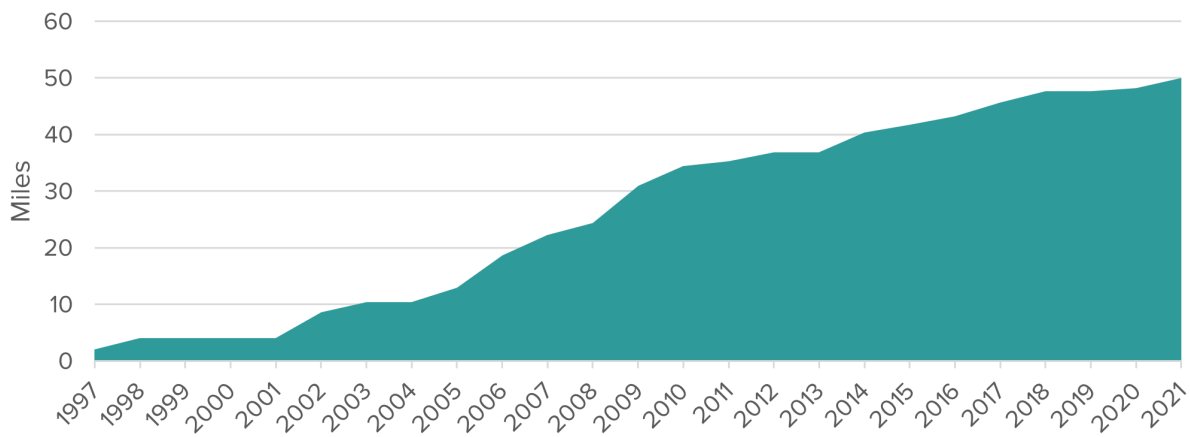
- **Bicycle Lanes:** This type of facility provides a dedicated space within the roadway for bicyclists to travel and uses signage and striping to delineate the right-of-way assigned to bicyclists. Billings currently has 33.5 miles of bicycle lanes in its transportation system.
- **Neighborhood Bikeways:** This type of facility is located on local streets and designated with signs and shared lane markings. The intent of a neighborhood bikeway is to provide a low-stress connection between neighborhoods. Billings currently has 4.5 miles of neighborhood bikeways in its transportation system.
- **Shared Lane Markings:** Shared roadways are designated by signage and/or shared lane markings on collector or arterial roadways. Shared lane markings are pavement markings that indicate the position within a roadway where bicyclists should ride, and they also provide wayfinding guidance to bicyclists while alerting motorists to be aware of bicyclists. Streets marked with shared lane markings, or sharrows, are intended to be shared streets, with motorists and bicyclists sharing the travel lane. Billings currently has 2.5 miles of shared roadways in its transportation system.

TABLE 18. TYPE AND LENGTH OF EXISTING TRAILS

TYPE	LENGTH (MI)
Shared Use Path	50
Neighborhood Trail	11
Unpaved Trail	25
Total	86

Source: City of Billings

FIGURE 27. SHARED USE PATH MILEAGE (1997 - 2021)



Source: City of Billings

Source: DOWL

Source: City of Billings

Source: DOWL

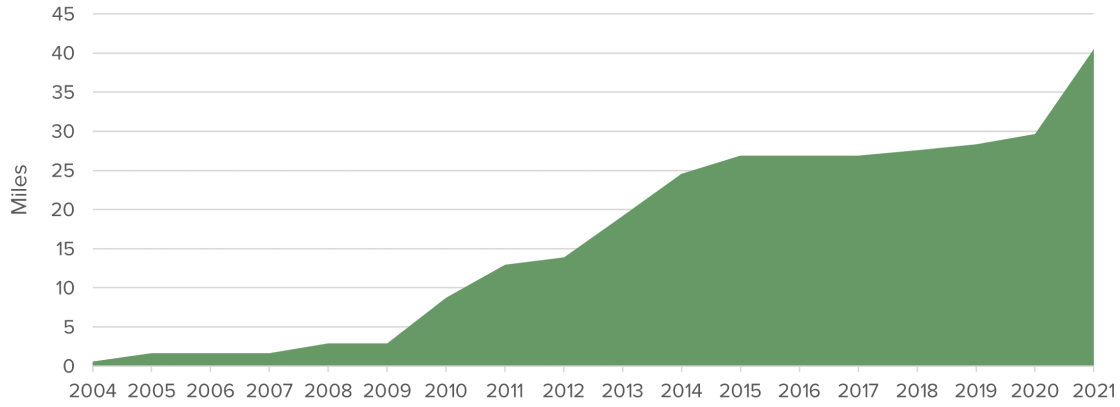
These facilities are delineated in Table 19 and depicted in Figure 30. Existing bikeway and trail facilities work together to provide good connectivity around the city. As shown in Figure 30 the bikeway and trail system almost provide a complete "loop" around Billings, as well as north-south connectivity in the Heights and the west end on Shiloh Road. To promote the construction of consistent facilities, the City of Billings has adopted specific design standards for all types of bikeway facilities, included in their *Design Standards for Trails & Bikeways.*[33] The City of Billings has constructed bicycle facilities since the early 2000's, with substantial increases in the 2010's, as displayed in Figure 28.

TABLE 19. TYPE AND LENGTH OF BICYCLE LANES

TYPE	LENGTH (MI)
Bicycle Lane	33.5
Shared Lane Marking	2.5
Neighborhood Bikeway	4.5
Total	40.5

Source: City of Billings

FIGURE 28. BICYCLE LANE NETWORK MILEAGE (2004 – 2021)



33 City of Billings. (N.D.). *Design Standards for Trails & Bikeways.* https://www.billingsmtpublicworks.gov/DocumentCenter/View/202/Design-Standards-or-Trails-and-Bikeways-PDF?bidId=

FIGURE 29. EXISTING COUNT LOCATIONS, SIDEWALKS, AND TRAIL FACILITIES

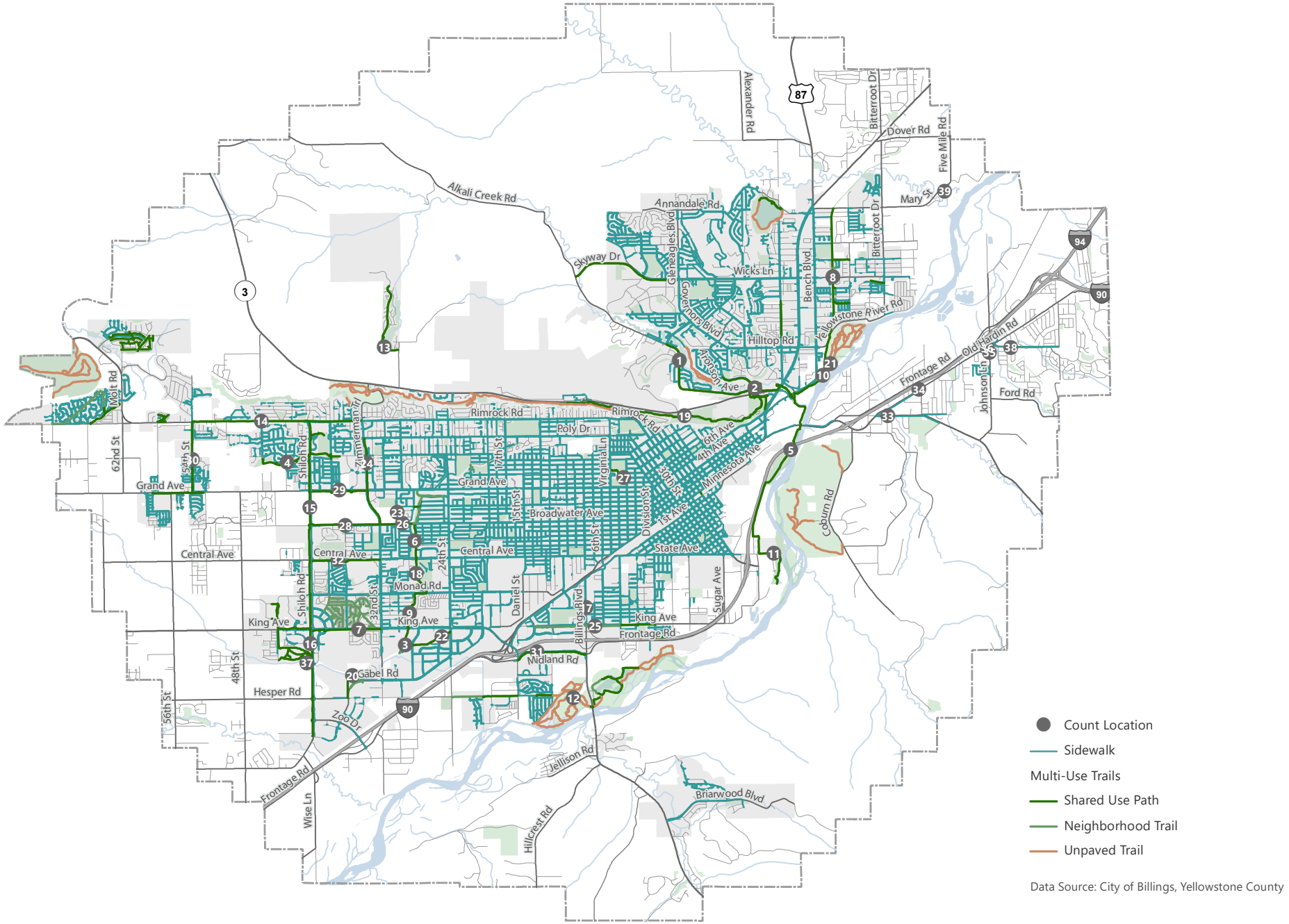
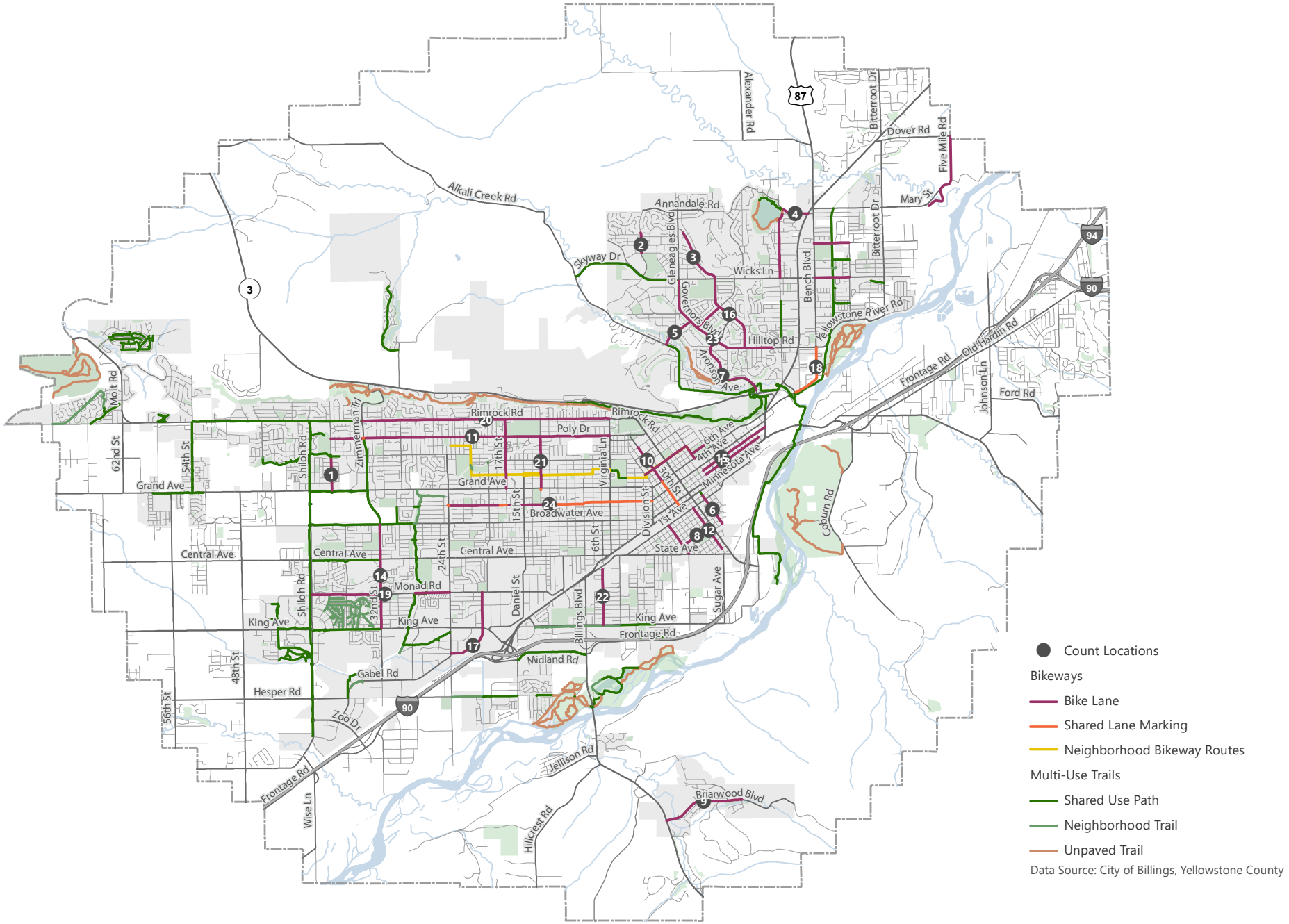


FIGURE 30. EXISTING COUNT LOCATIONS, BICYCLE LANES, AND TRAIL FACILITIES



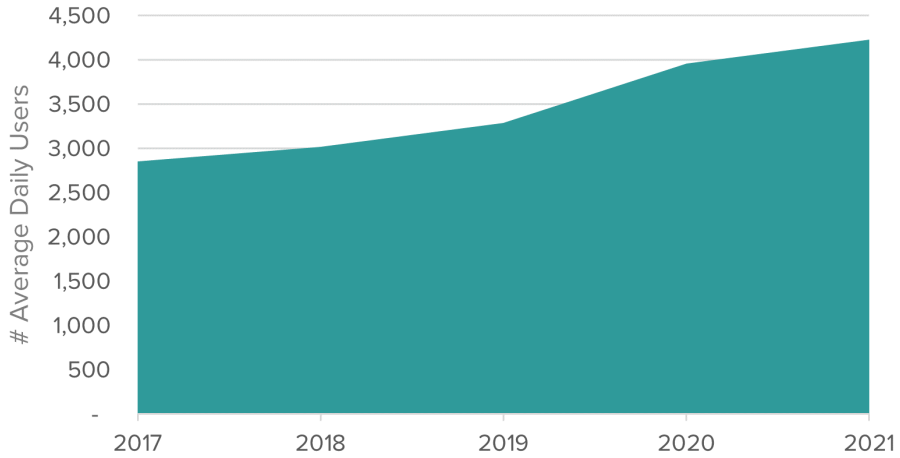
Volumes

As the Billings planning area has increased its walking and bicycling infrastructure, pedestrian and bicycle average daily volume data has been collected at select multi-use trail locations since 2008, and at select bicycle lane locations since 2017. For the most part, automated counters are utilized to collect this volume data, by conducting counts alongside a trail for one week and then rotating the counter to a new location to create an average daily volume for the location. Currently, the City of Billings owns three counters and rotates them such that the same location is counted during the same time frame each year, allowing for the year-to-year comparisons included here. The 39 multi-use trail count locations are displayed in Figure 31 and the 24 bicycle lane count locations are displayed in Figure 32. Each figure also depicts how volumes have increased at select locations over the past five years. System-wide, walking, bicycling, and rolling along the multi-use trail system and bicycle lane network has continued to grow, with trail system average daily volumes augmented by 48% (a change from 2,850 in 2017 to 4,225 in 2021) and bicycle lane system average daily volumes increased by 89% in the past five years (a change from 299 in 2017 to 517 in 2021), as displayed in Transportation Planning & Implementation Since 2018 and Figure 32, respectively.

Safe Routes to School

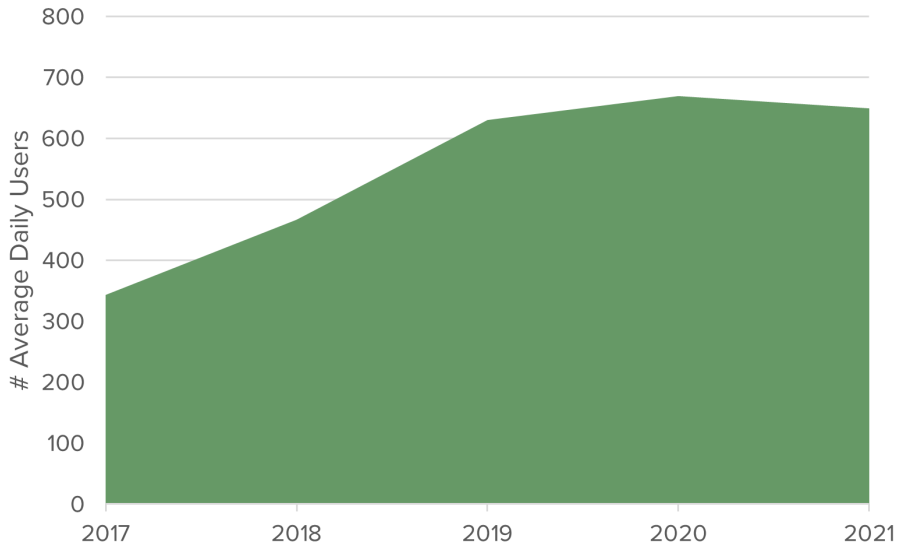
Completed in July 2022, the *Safe Routes to School Plan Update* is a comprehensive analysis of the existing barriers that prevent kids from walking and bicycling to school, coupled with systemic safety treatments to mitigate and remove the barriers. The Billings MPO conducted significant outreach with school administrators, planning partners, parents, and children to understand the challenges that exist and how to address them through policy, programs, and projects. Figure 33 displays the locations of infrastructure recommendations to improve walking and bicycling conditions for elementary school students throughout the Billings Public School system. The Billings MPO is working on the Phase 2 Safe Routes to School effort, which includes an additional 18 schools.

FIGURE 31. MULTI-USE TRAIL SYSTEM DAILY AVERAGE VOLUME (2017 - 2021)



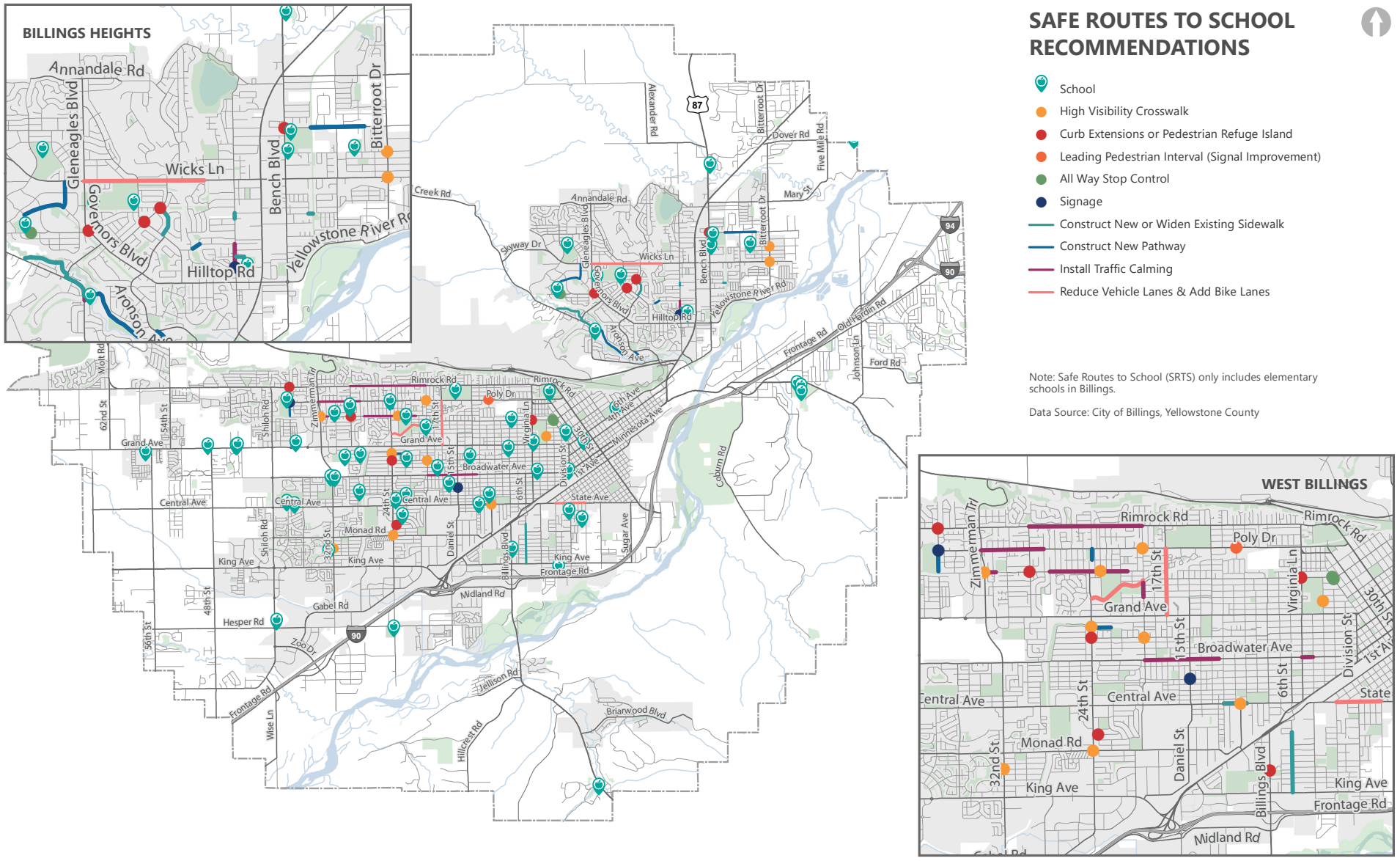
Source: City of Billings

FIGURE 32. BICYCLE LANE NETWORK DAILY AVERAGE VOLUME (2017 – 2021)



Source: City of Billings

FIGURE 33. SAFE ROUTES TO SCHOOL PLAN RECOMMENDATIONS



SAFE ROUTES TO SCHOOL RECOMMENDATIONS

- School
- High Visibility Crosswalk
- Curb Extensions or Pedestrian Refuge Island
- Leading Pedestrian Interval (Signal Improvement)
- All Way Stop Control
- Signage
- Construct New or Widen Existing Sidewalk
- Construct New Pathway
- Install Traffic Calming
- Reduce Vehicle Lanes & Add Bike Lanes

Note: Safe Routes to School (SRTS) only includes elementary schools in Billings.

Data Source: City of Billings, Yellowstone County

STREETS & HIGHWAYS

As noted in the 'Mode Share' section, approximately 90.2% of Billings residents carpool or drive along to commute to work, which indicates the primacy of cars in the Billings planning area. This section explores the existing conditions of the region's streets and highways.

Functional Classification

The roadway functional classification system defines a road's role in the overall context of the highway transportation system. In addition, it helps to define which standards are generally desirable for roadway width, right-of-way needs, access spacing, pedestrian and bicycle facilities, and other specifications. The functional classification system is typically established by the following hierarchy:

- **Freeways** serve high speed, long distance travel movements and provide limited access to adjacent lands. Often included in the arterial classification, freeways are unique in that they provide access to other arterial roadways via grade-separated interchanges. In the Billings planning area, the freeways are classified as Interstate. Typically, roadway access to these facilities is restricted from pedestrians and bicyclists.
- **Arterials** are intended to serve higher volumes of traffic, particularly through-traffic, at higher speeds. They also serve truck movements and should emphasize traffic movement over access to adjacent property. Arterial roadways are further designated as principal arterials and minor arterials. To accommodate pedestrians on arterial roadways, detached sidewalks or shared use paths should be provided. To accommodate bicyclists on arterial roadways, separated bicycle lanes should be provided.
- **Collectors** represent the intermediate class. As the name suggests, these roadways collect traffic from the local street system and link travel to the arterial roadway system. These roadways provide a balance between through-traffic movement and property access and provide extended continuity to facilitate traffic circulation within an urban community or rural area. To accommodate pedestrians on collector roadways, attached or detached sidewalks should be provided. To accommodate bicyclists on collector roadways, bicycle lanes or neighborhood bikeways should be provided.
- **Local Roads and Streets** are the lowest classification. Their primary purpose is to carry locally generated traffic at relatively low speeds to the collector street system and to provide more frequent access to individual businesses and residential property. Local streets provide connectivity through neighborhoods, but generally should be designed to discourage cut-through vehicular traffic and encourage lower vehicle speeds. To accommodate pedestrians on collector roadways, attached or detached sidewalks should be provided. To accommodate bicyclists on collector roadways, bicycle lanes or neighborhood bikeways should be provided.

As part of the LRTP planning process, the existing functional classification map was updated to reflect completed roadway projects, new connections, and future connections. Figure 35 illustrates the updated functional classification map for the Billings planning area. The functional classification map is used for local planning purposes by the MPO and does not represent the federally approved system. A map of the federally approved system can be accessed through the MDT website. In the Billings planning area, 4% of roadways are classified as Interstate, 14% as Principal Arterials, 5% as Minor Arterials, 8% as Collectors, and 70% as Local Street as shown in Figure 34.

FIGURE 34. SUMMARY OF ROADWAYS BY FUNCTIONAL CLASSIFICATION

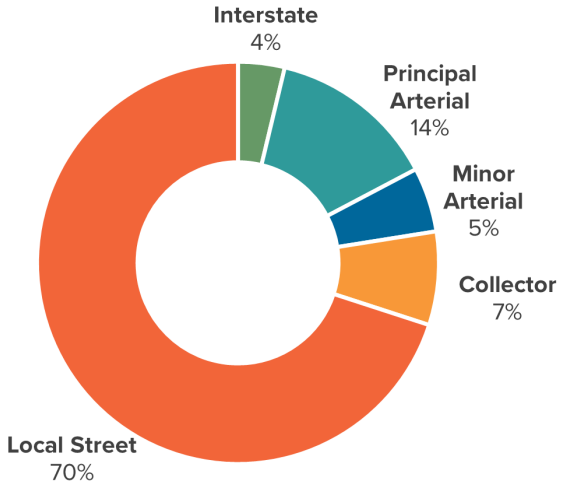
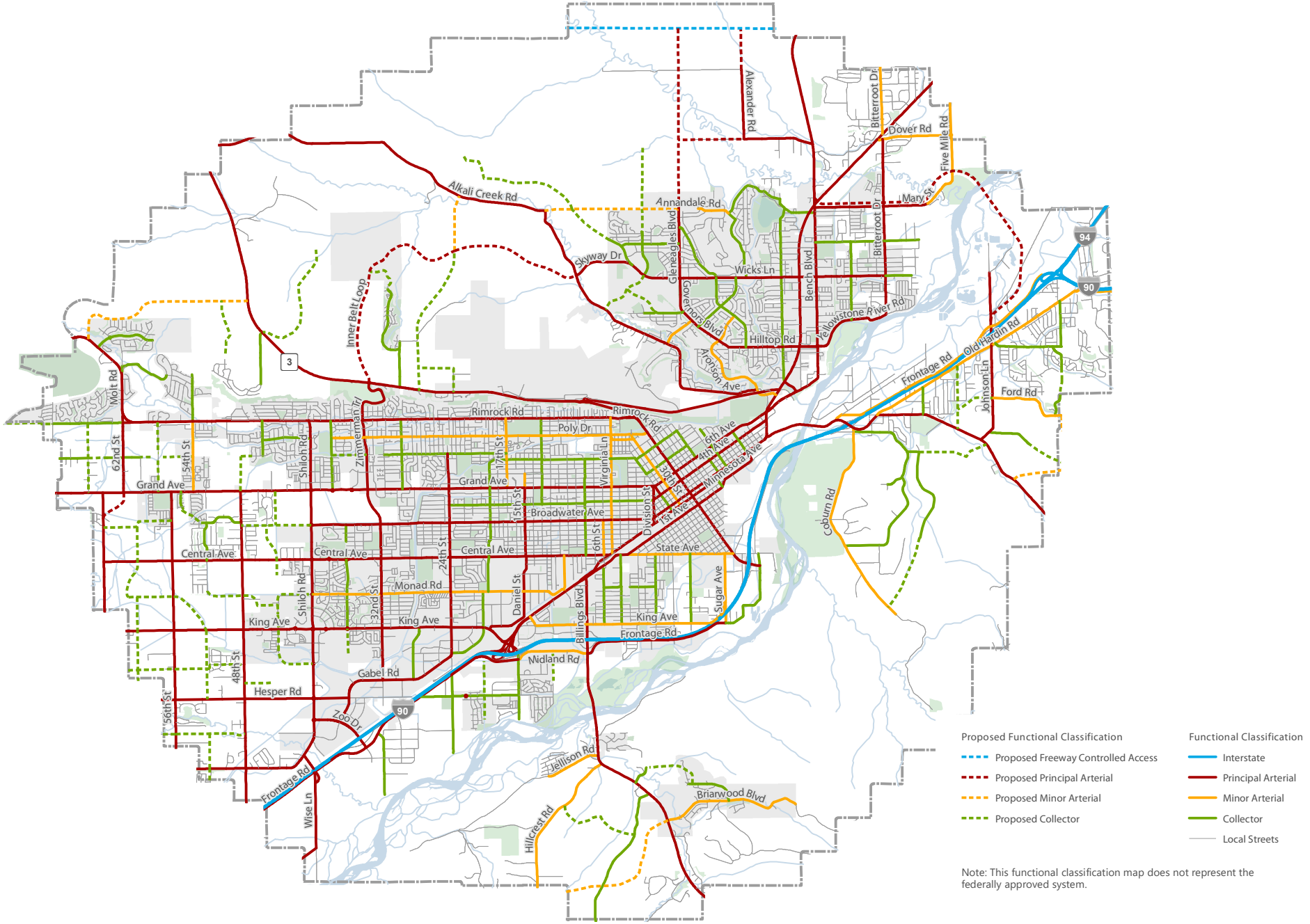


FIGURE 35. FUNCTIONAL CLASSIFICATION



Proposed Functional Classification

- Proposed Freeway Controlled Access
- Proposed Principal Arterial
- Proposed Minor Arterial
- Proposed Collector

Functional Classification

- Interstate
- Principal Arterial
- Minor Arterial
- Collector
- Local Streets

Note: This functional classification map does not represent the federally approved system.

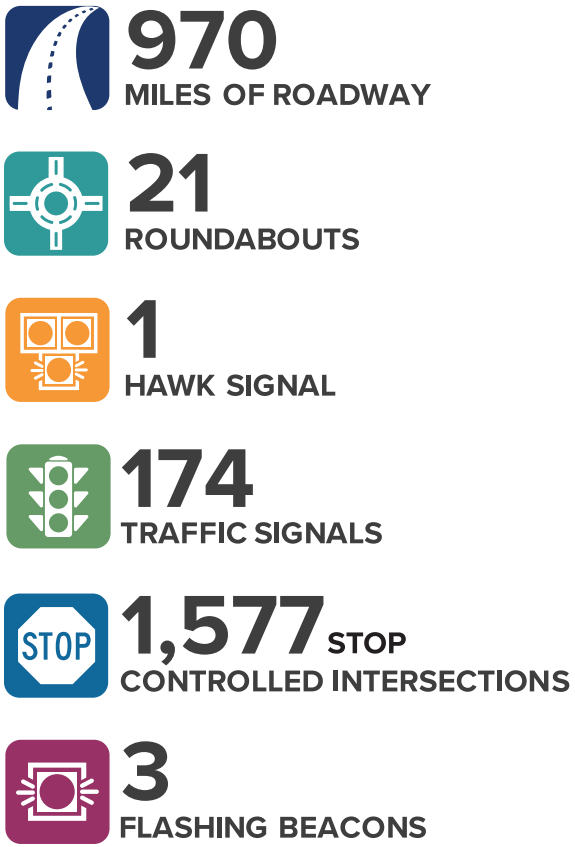
Facilities

Several major highways and roadways serve the Billings planning area, including Interstate 90, Interstate 94, US Route 87, and Montana Highway 3. Billings also lies along the Camino Real Corridor, a high priority corridor on the National Highway System and part of the North American Free Trade Agreement (NAFTA) that connects Canada, the United States, and Mexico. In total, the Billings planning area encompasses 970 miles of roadway, 174 signalized intersections, and 21 roundabouts. As shown in Figure 37, Interstate 90, Montana Highway 3, and US Route 87 are the three major roadways that converge near downtown Billings. Critical roadways that are part of the National Highway System (NHS) in the Billings planning area include:

- Interstate 90 (NHS, Eisenhower Interstate System) – Busiest truck route in the state
- Interstate 94 (NHS, Eisenhower Interstate System)
- Montana Highway 3 (NHS, STRAHNET Route)
- US Route 87 (NHS, Other NHS Route)
- King Avenue (NHS Principal Arterial)
- Zoo Drive (NHS Principal Arterial)
- Laurel Road (NHS Principal Arterial)
- 1st Avenue N (NHS Principal Arterial)
- 1st Avenue S (NHS Principal Arterial)
- Montana Avenue (NHS Principal Arterial)

For additional figures showing roadway facility characteristics, please reference the Existing Conditions Supporting Figures & Content Appendix. Additionally, in the Billings planning area, there are a variety of intersection control types, as displayed in Figure 36.

FIGURE 36. SUMMARY OF ROADWAY FACILITY TYPES



Traffic Volumes

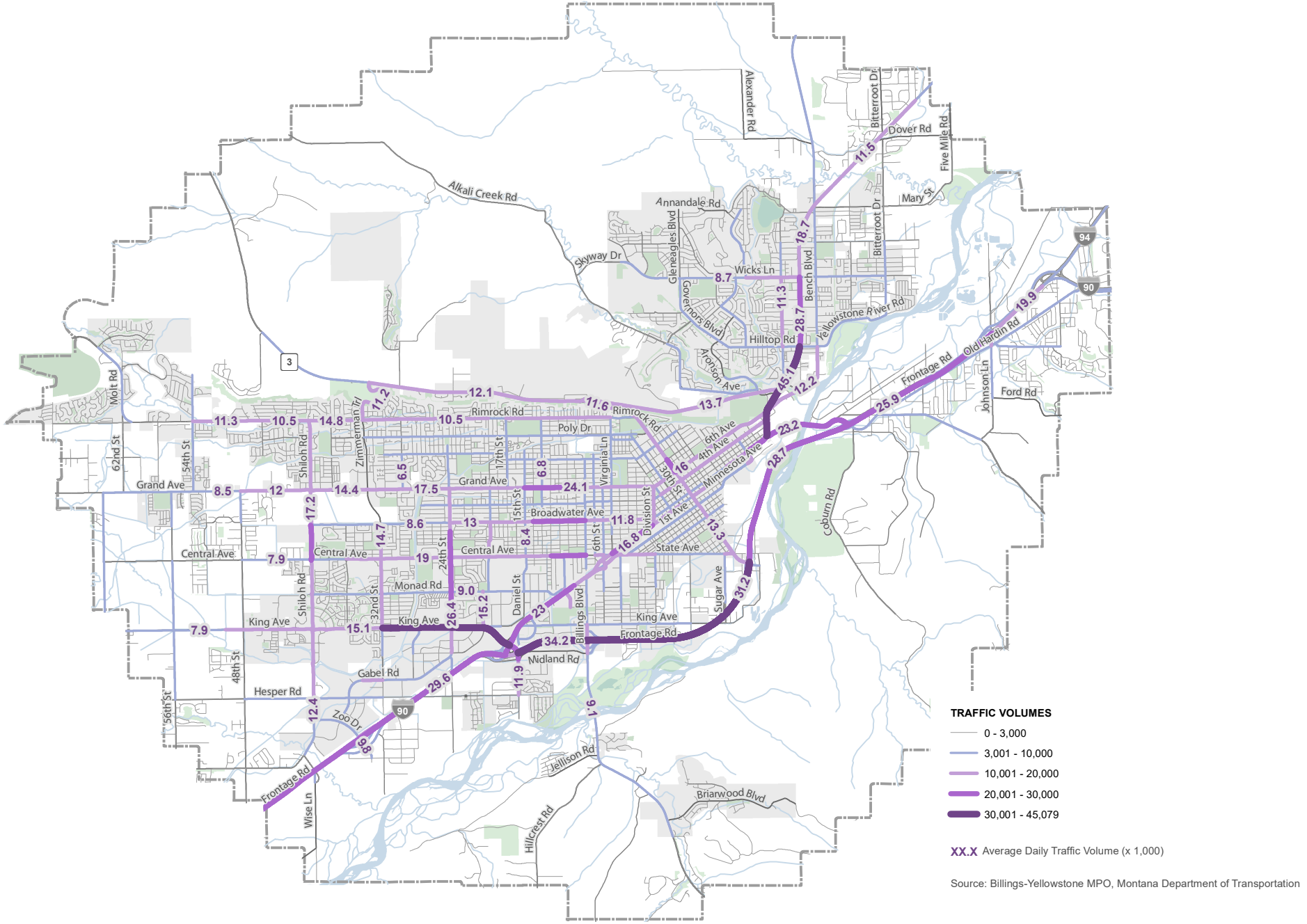
Figure 37 shows average annual daily traffic (AADT) volumes on roadways in the study area for year 2021 conditions. MDT collects traffic counts on roadways and provides an estimated AADT annually. These estimates are based on seasonally adjusted 48 hour sample counts. In the event a traffic count is not taken, current year change factors from continuous count stations in the region are applied to reflect positive or negative growth.

MDT also maintains a series of permanent, continuous traffic count locations and locations where data is collected daily, year-round. Traffic data at these locations was analyzed to determine traffic volume growth from year 2017 to year 2021. MDT traffic count data from 2017 to 2021 was analyzed from other count locations and indicated that the average annual growth rate for traffic volumes in the study area is approximately 1.3%.

In conjunction with the 2018 LRTP, the MPO developed a travel model for use in estimating traffic volumes and travel mode splits within the Billings planning area. The Billings travel model is a conventional travel demand forecasting model that is similar in structure to most other current area-wide models used for traffic forecasting. The model uses socioeconomic, land use, and network data to estimate travel patterns and roadway traffic volumes. The planning area is represented by 21 gateway zones at major road crossings of the planning area. For the 2023 LRTP, the travel demand model has been updated from the base year of 2017 to a base year of 2021, and the future year has been updated from 2040 to 2045.[34]

34 Billings-Yellowstone Metropolitan Planning Organization. (2022). *Billings Urban Area Travel Demand Model Update Report.*

FIGURE 37. YEAR 2021 AVERAGE ANNUAL DAILY TRAFFIC (AADT)



Traffic Operations

Intersection turning movement count data from a variety of sources[35] informed evening (4 - 6pm) peak hour level of service estimates at approximately 365 intersections throughout the Billings planning area. The traffic operations analysis was conducted utilizing *Highway Capacity Manual (HCM) 6th Edition and 2000* methodology[36,37]. The *Highway Capacity Manual* methodology calculates average vehicle delay (which corresponds with level of service) and capacity at intersections based on traffic volume patterns. The level of service estimates included most intersections featuring both approaches with collector or higher roadway functional classification. Turning movement counts were normalized to 2022 levels by assuming a 1.3% annual, compounding growth rate. Turning movement counts located on Shiloh Road (north of King Avenue) and to the west of Shiloh Road were normalized to 2022 levels by assuming a 3.0% annual, compounding growth rate due to higher growth occurring in this area based on review of historical traffic count data. Figure 38 shows existing intersection PM peak hour level of service. Intersections operating at a critical peak hour level of service E or F are shown in Table 20.

Level of service (LOS) has traditionally been the primary metric for evaluating roadway performance and impacts to transportation users. More recently, there's been an increased focus on reevaluating traditional metrics such as LOS that are used to assess the performance of transportation systems due to the limitations of those metrics for capturing multiple factors across the entire transportation network. LOS is focused on evaluating performance of motorized vehicles and does not consider alternative modes of transportation, which can lead to adverse consequences in long-term planning when LOS is used as the primary performance measure. Active transportation projects such as bicycle lanes or separated pedestrian paths do not result in a significant change in LOS despite the benefits of such facilities to the overall transportation network, particularly related to safety and accessibility. Additionally, roadway projects that are necessary to improve LOS can be very costly and could potentially induce demand, increase speeds, and ultimately compromise safety of all transportation modes.

Overall, vehicular LOS is an important metric to capture performance of motorized travel. For the Billings planning area, additional performance measures that focus on safety, mobility, and other community goals are identified in Chapter 2.

TABLE 20. CONGESTED INTERSECTIONS (LOS E AND LOS F) DURING PM PEAK HOUR (YEAR 2022)

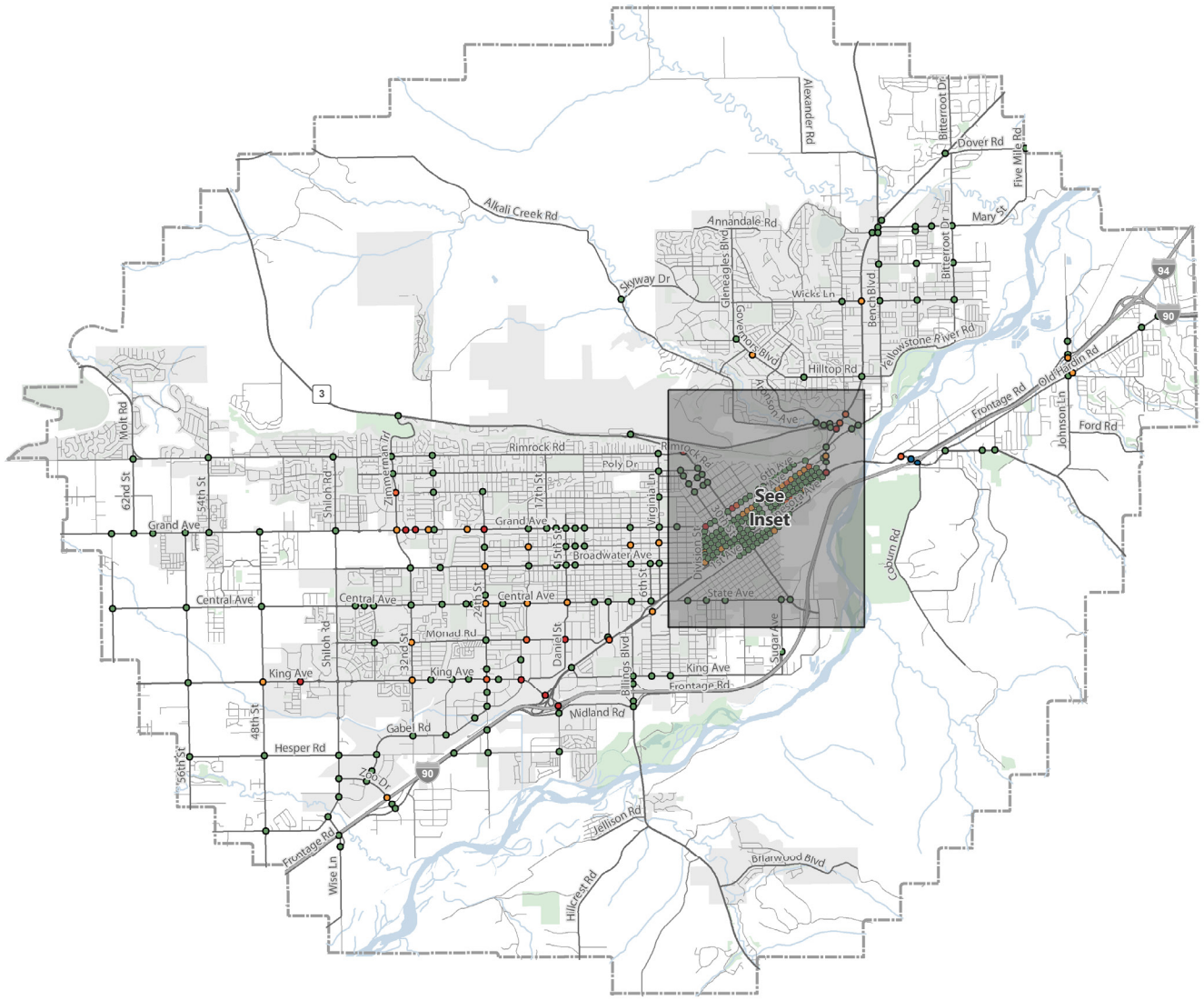
Intersections Operating at LOS E	Intersections Operating at LOS F
1st Ave N & 16th St (Stop Controlled)	1st Ave N & Main St (Traffic Signal)
1st Ave N & 17th St (Stop Controlled)	6th Ave N & 26th St (Stop Controlled)
4th Ave N & 10th St (Stop Controlled)	Aronson Ave & Main St (Stop Controlled)
4th Ave N & 15th St (Stop Controlled)	Grand Ave & 24th St (Traffic Signal)
6th Ave N & 25th St (Stop Controlled)	Grand Ave & 32nd St (Traffic Signal)
Airport Rd & Main St (Traffic Signal)	Grand Ave & Golden Blvd (Stop Controlled)
Colton Blvd & Zimmerman Trail (Stop Controlled)	Grand Ave/6th Ave N & 32nd St (Traffic Signal)
King Ave & 24th St (Traffic Signal)	King Ave & 44th St (Stop Controlled)
Lake Elmo Dr & Main St (Traffic Signal)	King Ave & I-90 Ramps (Traffic Signal)
Monad Rd & 19th St (Traffic Signal)	King Ave & Laurel Rd (Traffic Signal)
Moore Ln & Laurel Rd (Traffic Signal)	King Ave & Overland Ave (Traffic Signal)
US 87 & N Frontage Rd (Traffic Signal)	Monad Rd & Daniel St (Stop Controlled)
	Rimrock Rd & 27th St (Stop Controlled)

35 Intersection turning movement count data was obtained from MDT's Miovision database, the City of Billings, and transportation impact studies that have been conducted within the study area between 2017 and 2022.

36 Transportation Research Board. *Highway Capacity Manual 6th Edition*. 2016.

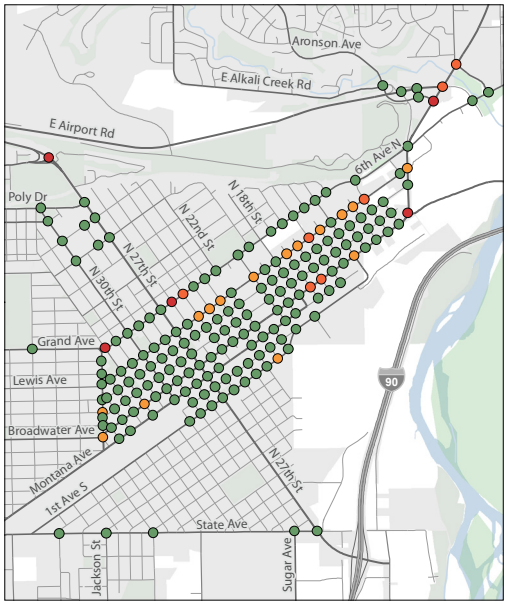
37 Transportation Research Board. *Highway Capacity Manual 2000*. 2000.

FIGURE 38. EXISTING (YEAR 2022) PM PEAK PERIOD INTERSECTION LEVEL OF SERVICE



YEAR 2022 INTERSECTION LEVEL-OF-SERVICE (LOS)

- LOS A, B, or C
- LOS D
- LOS E
- LOS F
- No Data



TRANSIT

Service Overview

Billings Metropolitan Transit, known as MET Transit (herein referred to as MET) is the public transit system serving the Billings planning area through fixed-route and paratransit bus services since 1973. MET is operated by the City of Billings. The METroplex is a 31,000 square-foot facility located at 1705 Monad Road in Billings. This complex, built in 1983 with renovations in 1998, 2000, and 2016 provides a centrally located facility for MET operations that includes administration, dispatch, vehicle maintenance, washing, and fueling. MET operates all routes through two transfer centers that operate a “pulse” system where buses arrive and depart from the transfer center simultaneously:

Source: DOWL

- **Stewart Park Transfer Center** – This transfer center was constructed in 1993 and renovated in 2003. It is located south of Central Avenue and adjacent to the Rimrock Mall. This transfer center has ten bus parking spaces, passenger shelters and benches, and a driver break area.
- **Downtown Transfer Center** – This transfer center was constructed in 2008 (opened in 2009) and is located at 220 N 25th Street in Billings. This transfer center has fifteen bus parking spaces, passenger shelters and benches, a covered passenger pavilion, and a driver break area.

Recently, MET has been implementing several technology upgrades to improve convenience and ease of use, including on-board Wi-Fi, an electronic fare system, new paratransit dispatching and scheduling software, real-time bus tracking software, and automatic passenger counters. Along with this, MET updated its Transit Development Plan in 2022, which includes a redesign of the transit network that is further discussed in Chapter 5. Additional details about transit planning in the Billings area are available in the Existing Conditions Supporting Figures & Content Appendix.

FLEET

MET directly owns and operates a fleet of twenty-five buses to provide service on its fifteen fixed routes. Seventeen of MET’s fixed-route fleet are recently purchased 32-foot buses to replace the aging fleet using federal grants and other sources (in 2021). MET’s fleet also includes 15 body-on-chassis small buses to provide service on 10 paratransit demand-response routes. MET’s fleet is delineated in Table 21.

TABLE 21. MET FIXED ROUTE FLEET

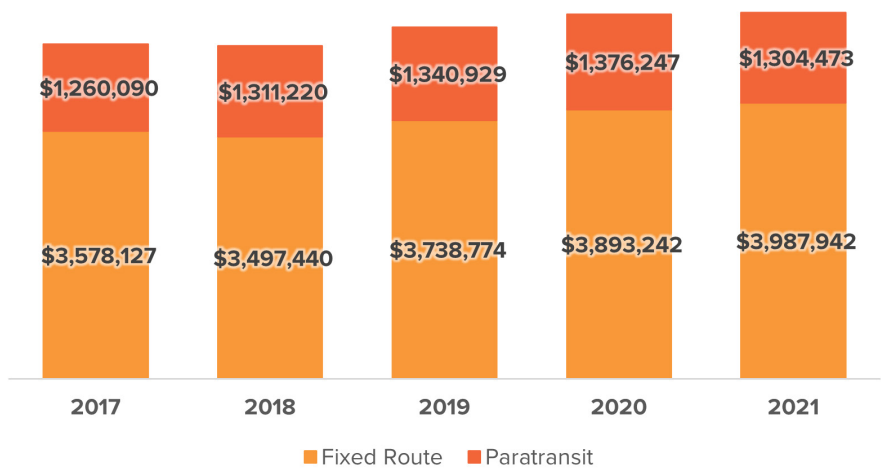
VEHICLE SERVICE TYPE	NUMBER OF VEHICLES
Fixed Route	25
Paratransit	15
Support (Staff Fleet Vehicles)	3

Source: MET Transit

FINANCES

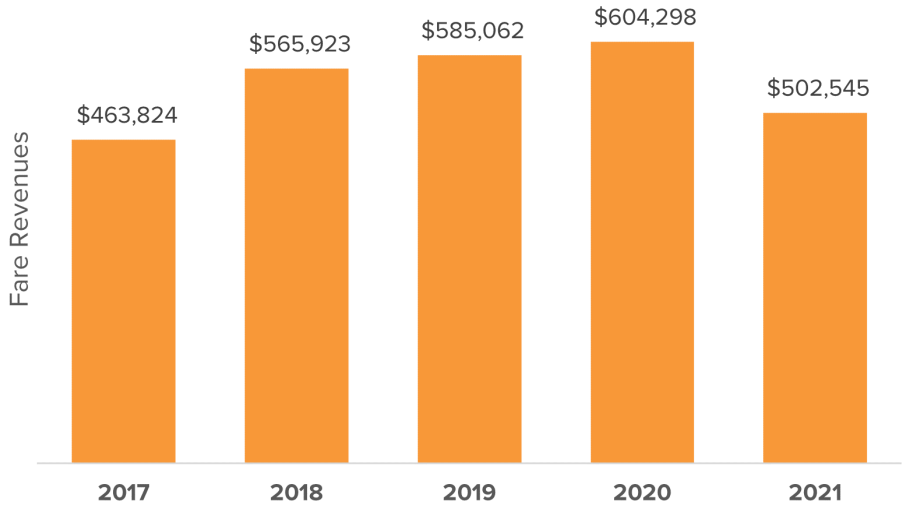
MET operates using several funding sources including FTA grants, MDT grants generally passed through from FTA funding sources, local mills, advertising, and fare revenues. The average annual operating expense budget is approximately $5 million. MET is set up as an "enterprise" fund, meaning MET does not receive funding from the City of Billings general fund; similarly, other City departments and operations do not have access to the transit division funds as the operating mills and revenue are designated specifically for transit use only. Figure 39 depicts the total operating cost for MET between 2016 – 2020, which has increased slightly and steadily over the past five years.

FIGURE 39. MET TOTAL OPERATING COSTS (2017 - 2021)



Source: MET Transit, National Transit Database

FIGURE 40. MET TOTAL FARE REVENUES (2017 - 2021)



Source: MET Transit, National Transit Database

MET offers a variety of fare options for riders, including on-bus cash payments, UMO Mobility app-based digital payments, and card-based TouchPass payments, which are available for purchase at Billings City Hall and participating school offices. For fixed route service, MET offers one-way fares, single day passes, 10-ride passes, and unlimited monthly passes – these fares vary in price, with discounts for youth (6-18 years), seniors (62 years and up), and disabled citizens. Additionally, MET offers the Veterans with Service Connected Disabilities program, which provides free fares for qualified veterans. MET offers fare-capping, a benefit that automatically upgrades riders to an unlimited monthly pass once their fare purchases of one-way fares, single day passes, or 10-ride passes equals the cost of the unlimited monthly pass. For paratransit service (MET Plus), the fare is $3.50 for each one-way ride. Total fare revenue for both fixed route and paratransit services is depicted in Figure 40. Fare revenue provides funding for approximately 8 – 12% of the operating cost.

COVID-19 IMPACTS & RESPONSE

The COVID-19 global pandemic substantially impacted MET ridership, decreasing 30% from a high in 2016 to a low in 2020. To respond to the needs of the Billings community, MET implemented several modifications to help alleviate both the risk and financial hardships, including:

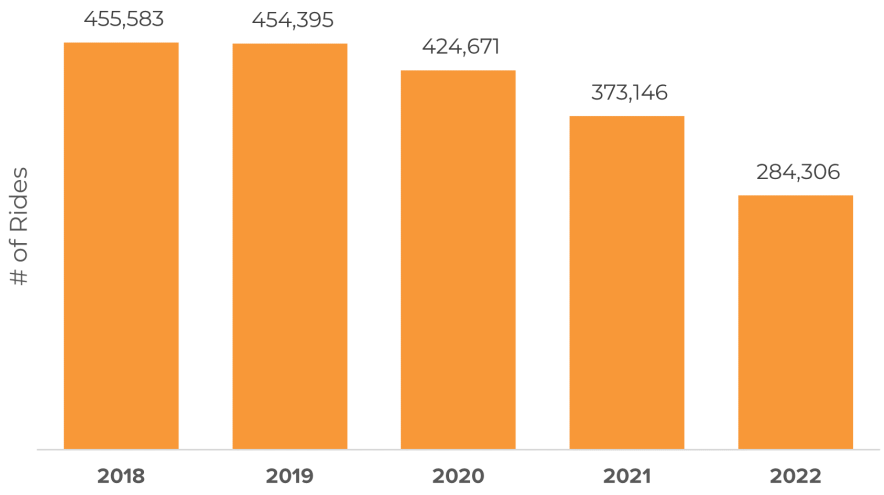
- Fare free operation from mid-March 2020 – May 2020.
- Creation of Transit Police to ensure rider safety.
- Rear door boarding during business closures (MET has since returned to front door boarding).
- On existing fleet vehicles, driver barriers were installed (newly purchased vehicles do not include barriers, as drivers did not prefer them).
- Digital fare payment system implemented in Fall of 2020 to minimize the contact between operators and riders, in addition to allowing online or phone fare purchases.
- Due to driver shortages, MET eliminated many of its school tripper routes in Fall of 2021 and redirected students to fixed route services, which maintained student ridership.

Fixed Route Transit Service

MET offers fifteen routes on weekdays (service hours between 5:50 AM – 6:40 PM), and seven routes on Saturdays (8:10 AM – 6:10 PM). Figure 43 displays MET routes and transfer centers. Most routes operate at one-hour service frequency in a "pulse" setup with buses simultaneously arriving to and departing from the two MET Transit Transfer Center locations: Downtown Transfer Center and Stewart Park Transfer Center. MET operates a modified flag stop system, with 101 designated bus stops and a ridership that can flag down buses at any intersection along the route deemed safe enough to board or alight. Twenty-four of these stops have bus shelters – mostly along higher ridership routes, and many have benches. All fixed route buses are equipped with automated passenger counters (APCs) to collect data on popular boarding and alighting locations. MET is currently working with the Billings MPO to improve the coordination and development of pedestrian and bicycle infrastructure that connects with MET routes.[38]

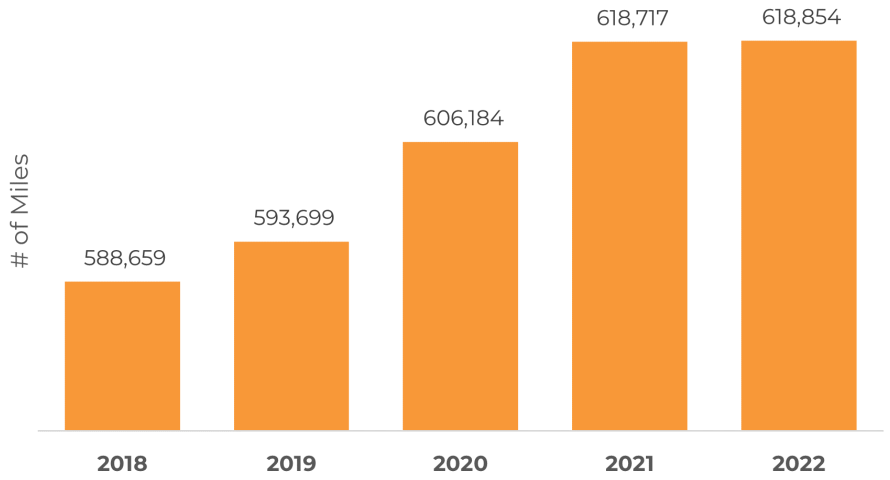
Figure 41 depicts the fixed route ridership between 2018 – 2022, which shows a steady decrease over the past five years, with a substantial decline in 2020 (likely due to the COVID-19 pandemic). Figure 42 shows the service miles for fixed routes, which have steadily increased over the past five years, likely due to service changes implemented in 2018. Figure 44 displays fixed route service hours, which have remained relatively steady over the past five years.

FIGURE 41. MET FIXED ROUTE RIDES (2018 - 2022)



Source: MET Transit, National Transit Database

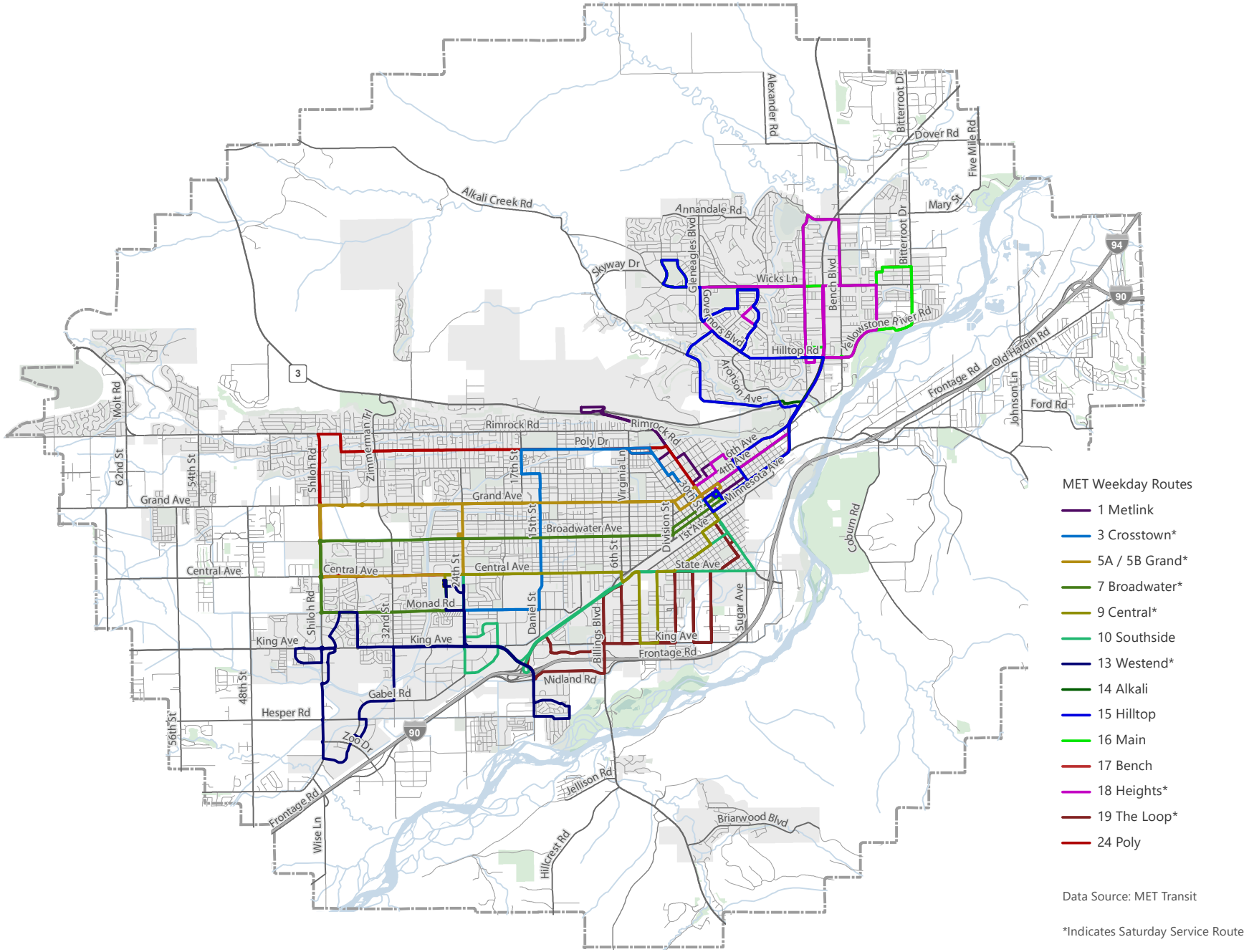
FIGURE 42. MET FIXED ROUTE SERVICE MILES (2018 - 2022)



Source: MET Transit, National Transit Database

38 R. Logan (electronic communication, August 18, 2022).

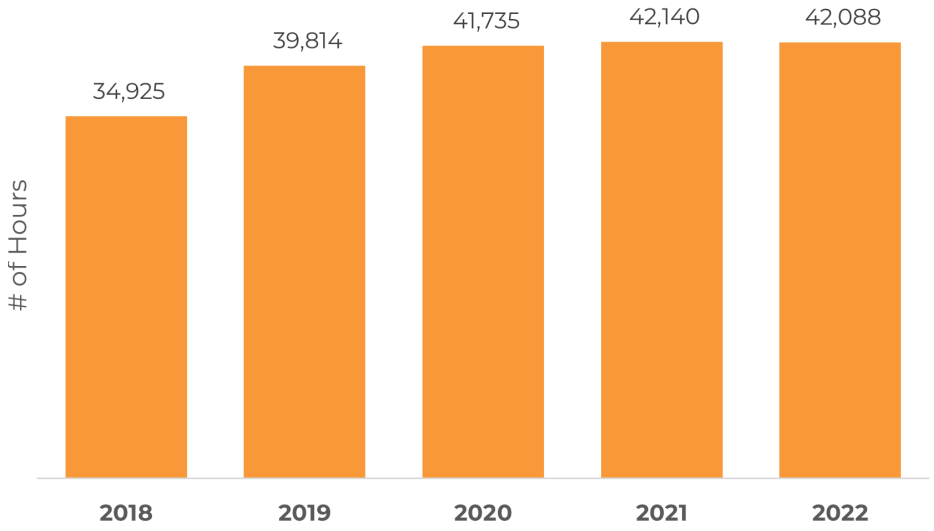
FIGURE 43. MET ROUTES AND TRANSFER CENTERS



Data Source: MET Transit

*Indicates Saturday Service Route

FIGURE 44. MET FIXED ROUTE SERVICE HOURS (2018 - 2022)

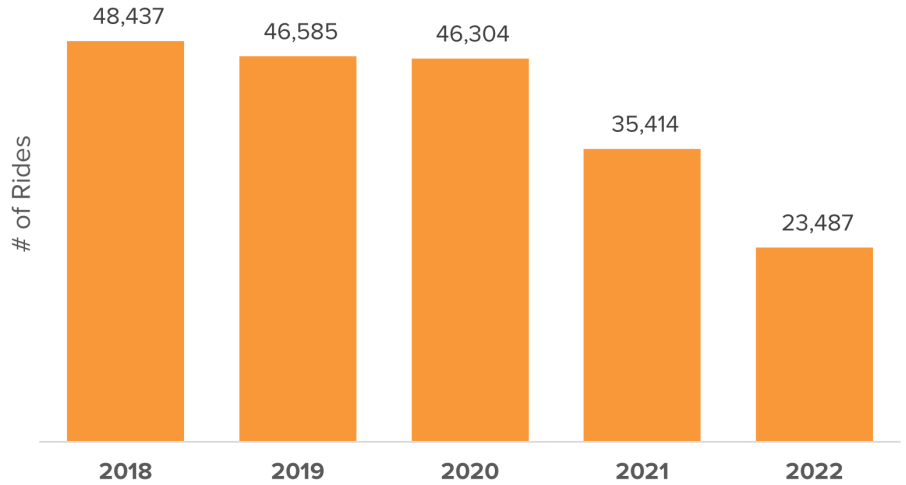


Paratransit Service (MET Plus)

MET directly provides complementary paratransit service for riders unable to use the fixed route service due to a disability. The paratransit service was rebranded as MET Plus in the summer of 2019. MET Plus is an origin to destination service for persons certified as eligible through an application process. The MET Plus service area includes the Billings city limits and within ¾ mile of a MET fixed route service. MET Plus service hours operate on weekdays between 5:50 AM to 6:40 PM and on Saturdays between 8:10 AM – 6:10 PM. MET Plus is a curb-to-curb service typically, but riders can request door-to-door service as well. Riders may request rides through a dispatch service (between 7:00 AM – 5:00 PM, Monday through Friday), the Ecolane Mobile App, or the Ecolane Self Service web portal. Rides are scheduled on a first-come, first-served basis. Additionally, MET contracts with both the Adult Resource Alliance as well as the State of Montana Developmental Disabilities Bureau to provide subscription services and expanded services outside of minimum required paratransit services.

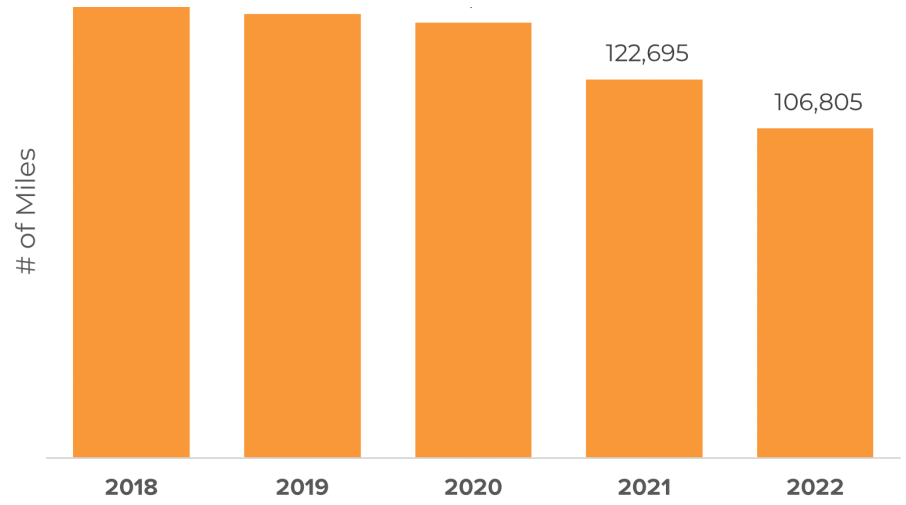
Figure 45 depicts paratransit ridership between 2018 – 2022, which shows a steady decrease over the past five years, with a substantial decline in 2020 (likely due to the COVID-19 pandemic). Figure 46 shows the service miles for fixed routes, which have also steadily decreased over the past five years. Figure 47 displays fixed route service hours, which have remained relatively steady over the past four years, with a substantial decline in 2020.

FIGURE 45. MET PARATRANSIT RIDES (2018 – 2022)



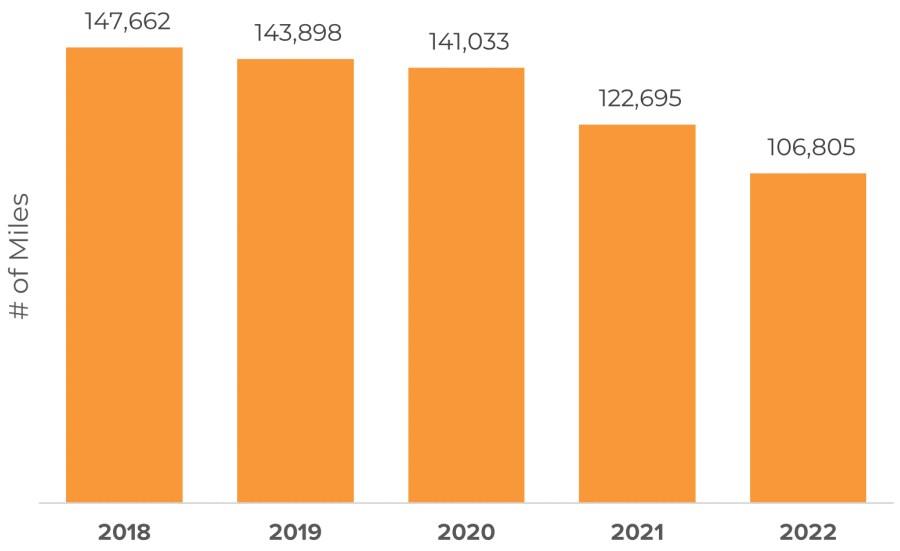
Source: MET Transit, National Transit Database

FIGURE 46. MET PARATRANSIT SERVICE MILES (2018 - 2022)



Source: MET Transit, National Transit Database

FIGURE 47. MET PARATRANSIT SERVICE HOURS (2018 – 2022)



Source: MET Transit, National Transit Database

Private Transit Service

Private for-profit public transportation providers operating in and through the Billings planning area include intercity bus lines, charter and rental bus services, and taxicab services. Jefferson Lines provides the most extensive service in the Billings planning area, connecting with *Whitefish, Kalispell, Lakeside, Polson, Pablo, Saint Ignatius, Ravalli, Arlee, Evaro, Missoula, Butte, Bozeman, Miles City, and Glendive*. Additionally, Greyhound Lines operates services that connect Billings with other destinations along the I-90 corridor. Billings also has several transportation network companies and private taxi services available, including:

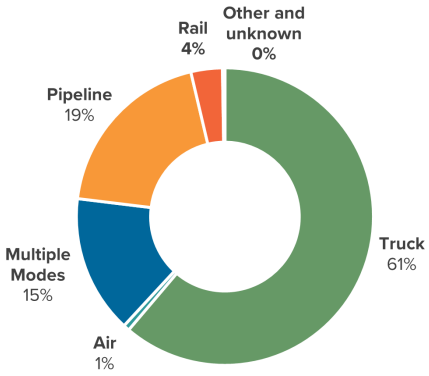
- Uber
- Lyft
- Billings Yellow Cab
- Total Transportation (A Plus Limos)
- Billings Limousine Service
- Red Lodge Tour and Taxi

FREIGHT

The movement of goods and services is an economic driver for the City of Billings. As the largest city in Montana, Billings experiences a significant amount of freight traffic on its roadway system, at its airport, and on its railways due to the geographic location and proximity to other major hubs. This chapter will outline existing conditions for freight movement in trucking, aviation, and rail in the Billings planning area.

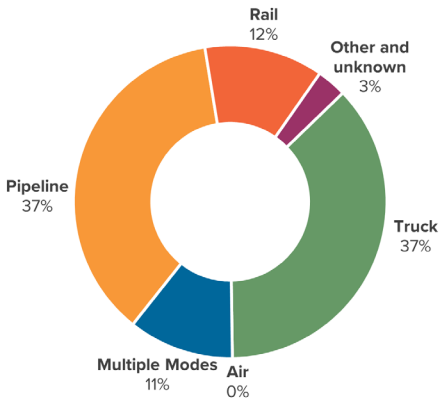
Utilizing the Federal Highway Administration Freight Analysis Framework, 5th Edition (FAF5), the existing (Year 2020) multimodal freight movement for the state of Montana is shown by value and by tonnage in Figure 48 and Figure 49. Trucking accounted for 61% of freight by value and 37% by tonnage in 2020, where rail accounted for 4% of freight by value and 12% of freight by tonnage. Overall, aviation comprises a small percentage of the total freight movement by value (1%) and by tonnage (0%).

FIGURE 48. MONTANA FREIGHT MOVED BY MODE - VALUE (2020)



Source: Federal Highway Administration Freight Analysis Framework 5th Edition

FIGURE 49. MONTANA FREIGHT MOVED BY MODE - TONNAGE (2020)



Source: Federal Highway Administration Freight Analysis Framework 5th Edition

Trucking

This section includes a summary of existing truck facilities, routes, and high freight activity zones within the Billings planning area. A brief operations analysis is included to identify trends related to truck traffic along key corridors and at key intersections. Highways that traverse the Billings planning area are included on the National Highway System (NHS), which qualifies these roadways for additional federal funding and stipulates additional performance measurement. In the Billings planning area, there are corridors included on both the Interstate NHS and non-Interstate NHS, which are displayed in the Existing Conditions Supporting Figures & Content Appendix. NHS roadways in the Billings planning area include:

- Interstate 90
- Interstate 94

Non-Interstate NHS roadways in the Billings planning area include:

- US Highway 87 / Main Street / Roundup Road
- MT Highway 3 / Airport Road
- Laurel Road / Montana Avenue
- State Avenue
- 1st Avenue
- 27th Street
- King Avenue / Mullowney Lane
- Shiloh Road / Zoo Drive

FACILITIES

The primary truck routes in the study area are Interstate 90 (I-90), Interstate 94 (I-94), US Route 87 (US 87), and Montana Highway 3, as shown in Figure 51. The Camino Real, which is a North American Free Trade Agreement (NAFTA) designated transportation corridor connecting Mexico to Canada through the United States, traverses Billings along Montana Highway 3 and I-90. MDT and the City of Billings have identified or are constructing projects that are anticipated to have a significant impact to freight mobility within the study area:

- **1st Avenue N and Exposition Drive:** This on-going MDT project will provide safety and capacity improvements at the 1st Avenue N and Exposition Drive (Main Street) intersection and adjacent intersections. The 1st Avenue N and Exposition Drive intersection is on the Camino Real corridor and provides a connection between the Lockwood Interchange and the City of Billings.
- **Airport Road and Main Street:** This on-going MDT project will provide safety and capacity improvements at the Airport Road and Main Street intersection and adjacent intersections. The Airport Road and Main Street intersection is on the Camino Real corridor and provides a connection between the airport, downtown, and Heights neighborhoods.
- **Billings Bypass:** The Billings Bypass is a multi-phase MDT project that will connect the Johnson Lane/I-90 Interchange to the Heights neighborhood via a new roadway and Yellowstone River Crossing. This project will provide a new route that may be utilized by freight traffic between I-90 and US 87 or Highway 312 and will allow freight traffic to bypass congested corridors in the vicinity of Main Street and 1st Avenue N. The initial phase of the project (Five Mile Road and Yellowstone River Bridge) has been constructed.

- **Interstate 90:** MDT has three ongoing projects to widen I-90 and improve interchanges from Johnson Lane to 27th Street. These projects will improve freight movement and reliability on this segment of I-90 through the Billings community.

These truck routes, along with major freight activity generators and freight route restrictions, are displayed in Figure 51.

FREIGHT MOVEMENT

Billings

Within the Billings planning area, freight movement by truck is mostly concentrated on the facilities discussed in the previous section. The heavy vehicle percentage for planning area roadways, calculated from the 2021 average annual daily traffic volumes, is available in the Existing Conditions Supporting Figures & Content Appendix.

Montana

Freight movement by truck was assessed using the most recent data for the state of Montana from the FHWA FAF5. Table 22 summarizes trucking demand by location-destination category for Year 2020 in millions of tons and millions of dollars. As shown, trucking plays a significant role in transporting freight within the state and to the state, with a slightly lesser role in transporting freight from the state (both by tonnage and by value).

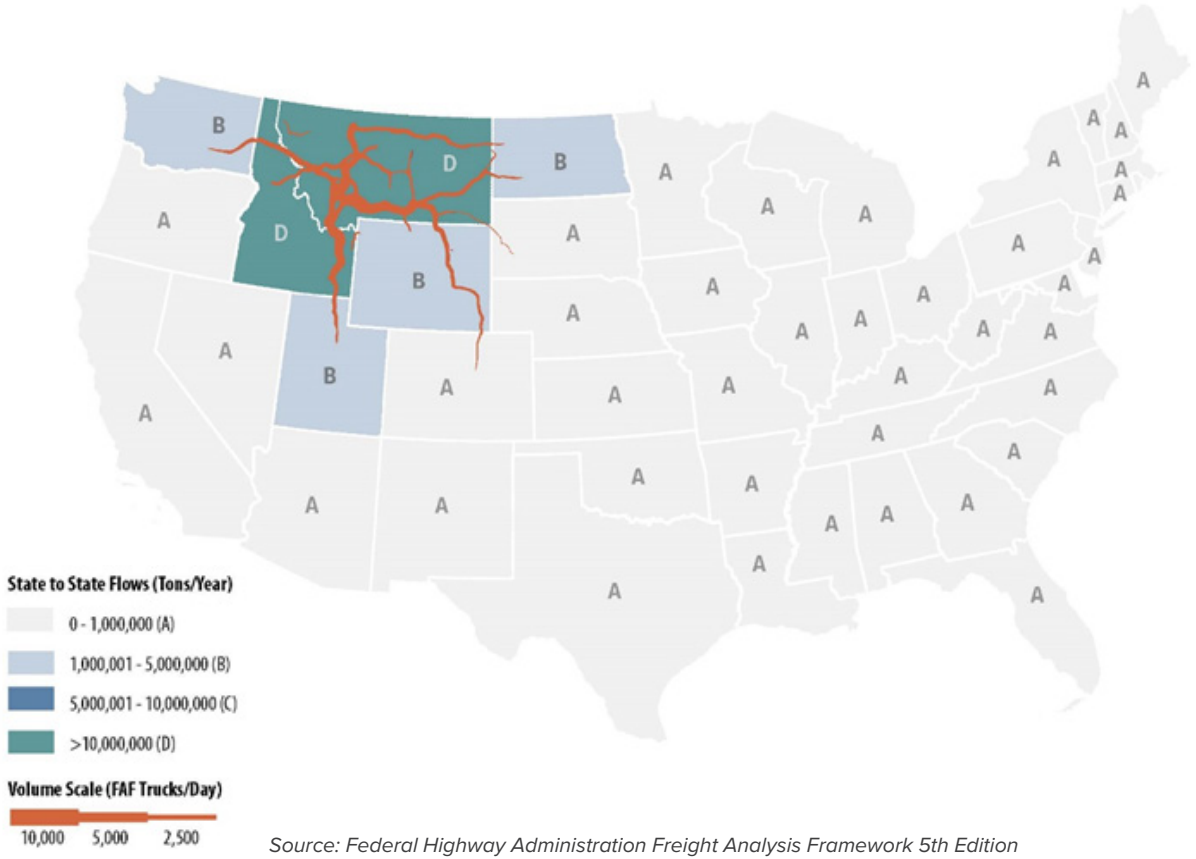
Utilizing regional FAF5 data, the major freight flows by truck for Year 2017 are depicted in Figure 50. As a statewide hub, Billings is expected to continue serving the highest volumes of trucking traffic in the state. As demand continues to increase in the state and region, it is important for Billings to invest in infrastructure maintenance, capacity, and safety on designated trucking routes to address anticipated future needs.

TABLE 22. YEAR 2020 TOTAL FREIGHT MOVED BY TRUCK

MONTANA TRUCK SHIPMENTS	WITHIN STATE	FROM STATE	TO STATE
In Millions of Tons (% Moved by Truck)	33.7 (46%)	13.4 (19%)	14.7 (65%)
In Millions of Dollars (% by Truck)	14,635 (60%)	9,892 (46%)	24,377 (72%)

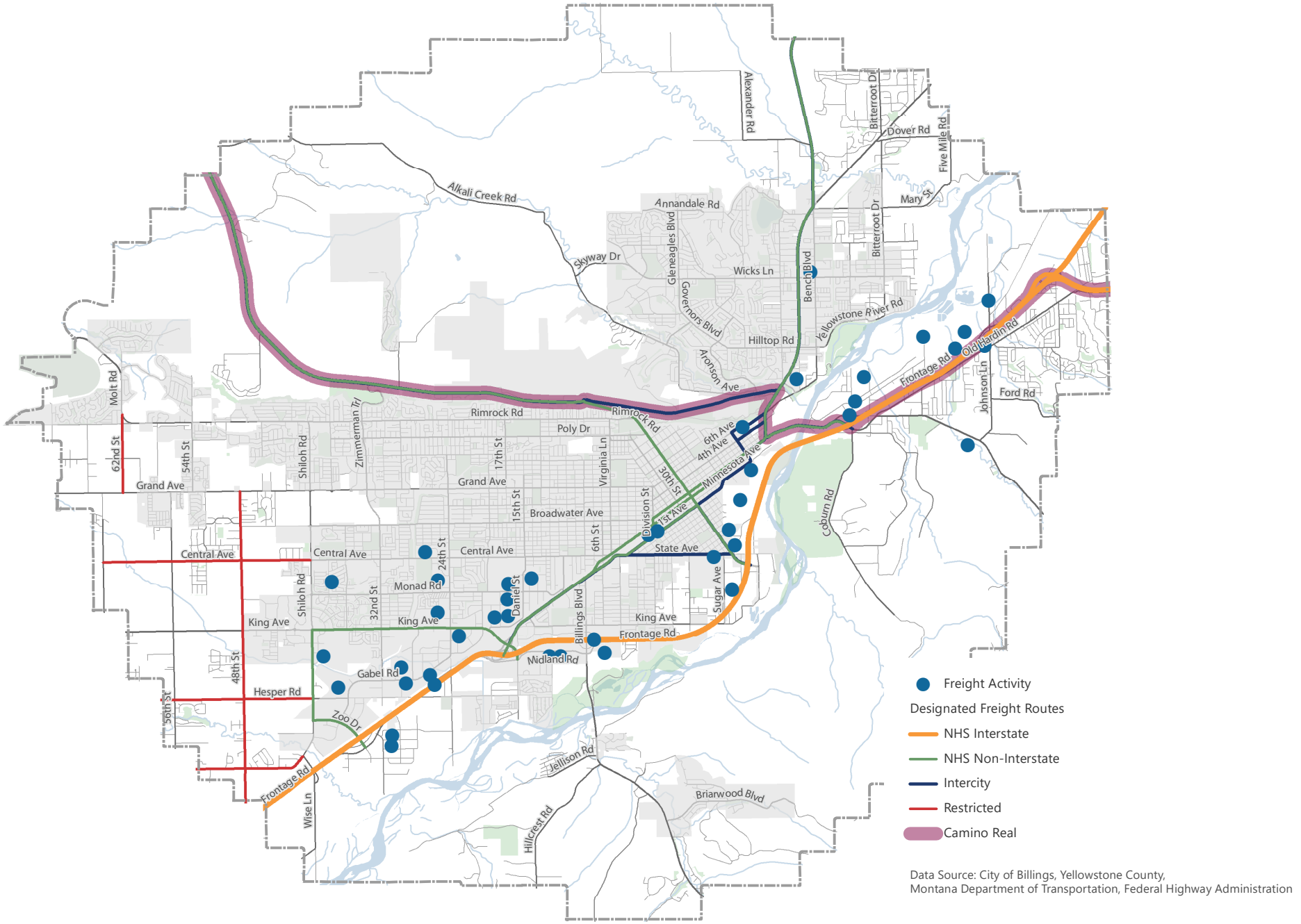
Source: Federal Highway Administration Freight Analysis Framework 5th Edition

FIGURE 50. MAJOR FLOWS BY TRUCK TO, FROM, AND WITHIN MONTANA (2017)



Source: Federal Highway Administration Freight Analysis Framework 5th Edition

FIGURE 51. TRUCK ROUTES, RESTRICTIONS, AND LOCAL GENERATORS

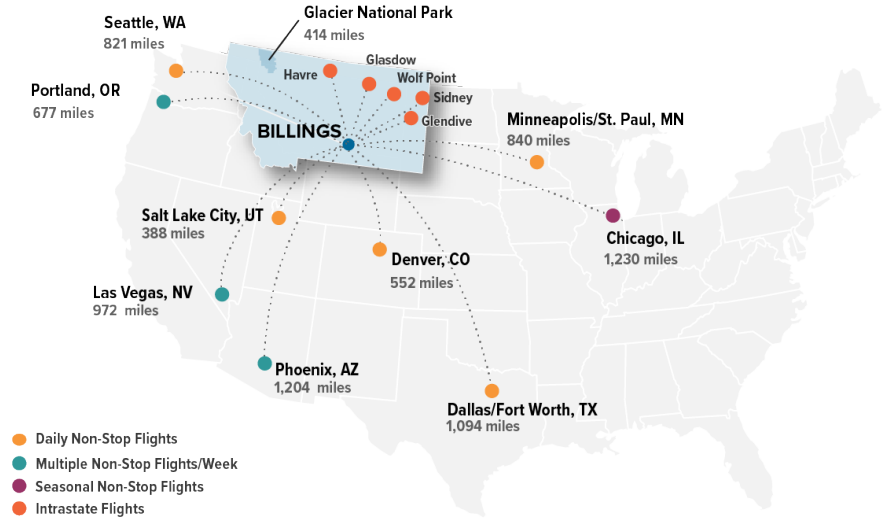


Data Source: City of Billings, Yellowstone County,
Montana Department of Transportation, Federal Highway Administration

Aviation

The Billings Logan International Airport (BIL) serves as a regional air traffic hub for travel within the state of Montana and outside of Montana to several major US cities, shown in Figure 52. The airport officially opened in 1927 as the Billings Municipal Airport and has since undergone several major terminal expansions in 1958, 1972, 1992, and 2022 to accommodate growing demand. The management of BIL is housed within the City of Billings Aviation and Transit Department, along with MET.

FIGURE 52. BIL DIRECT COMMERCIAL AIR SERVICES



The *Airport Master Plan* was completed in March 2010 and serves as a 20-year development plan for BIL. The next Master Plan update is scheduled to begin in 2024. The BIL Airport's 2022-2026 Five-Year Capital Improvement Plan (CIP) identifies construction projects for the next five years and is updated yearly. In June 2022, Phase 1 and Phase 2 of another major terminal expansion project

were completed. The expansion included constructing the new A Concourse. Phases 3, 4, and 5 include the construction of a new TSA queuing area, building the new B concourse, and remodeling the existing C concourse. These construction projects are expected to be complete by Summer 2024. Upon completion of the project, the expansion will add 8 new gates/hold rooms with the ability to feasibly add additional gates as the need for capacity arises.

SERVICE

The available commercial airline services at BIL are summarized in Table 23. However, the addition of 8 new gates/hold rooms as part of the BIL expansion project will allow BIL to offer more air passenger services upon completion scheduled for 2024.

TABLE 23. PRIVATE OPERATOR CONNECTIONS

AIRLINE	DIRECT SERVICES	DAILY DEPARTURES	WEEKLY DEPARTURES
Delta/ Skywest	Minneapolis, MN and Salt Lake City, UT	5	-
United/ United Express	Denver, CO and seasonal to Chicago, IL	3	-
Frontier	Seasonal to Denver, CO	-	-
Alaska	Portland, OR and Seattle, WA	2 (Seattle, WA)	1 (Portland, OR)
American	Dallas, TX and seasonally to Chicago, IL and Phoenix, AZ	3 (Chicago, IL and Dallas, TX)	1 (Dallas, TX)
Allegiant	Phoenix, AZ and Las Vegas, NV	-	5
Cape Air	Glasgow, Glendive, Havre, Sidney, Wolf Point, MT	8	-

Source: Billings Logan International Airport as of July 2022

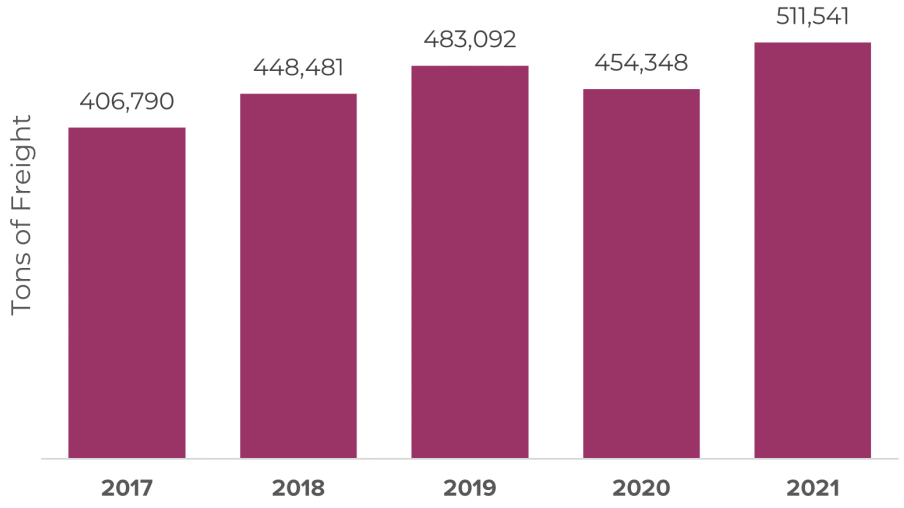
FREIGHT MOVEMENT

Annual freight tonnage moved by air through BIL is shown in Figure 53. Freight tonnage has increased 26% between 2017 – 2021, growing steadily except for a slight dip in 2020, likely due to the COVID-19 pandemic.

PASSENGER ENPLANEMENTS

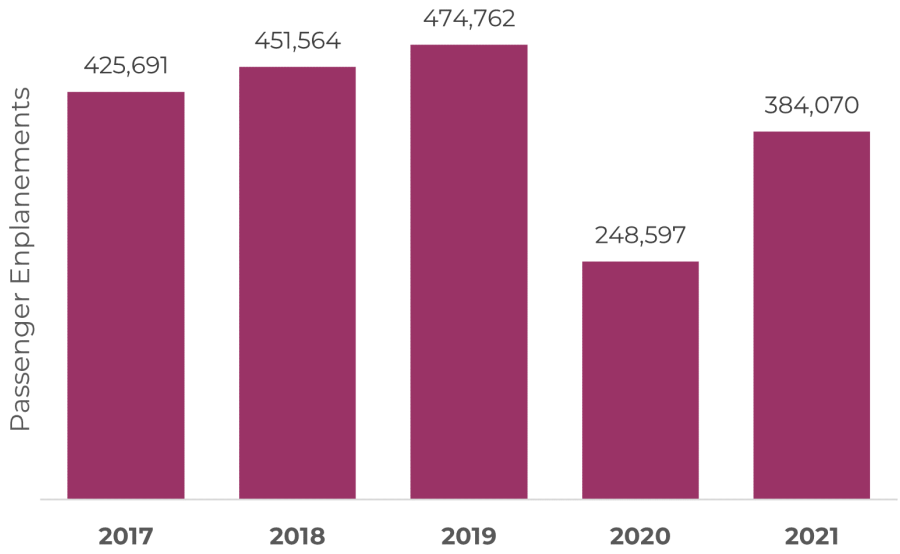
Annual passenger enplanements at BIL are shown in Figure 54. In 2019, annual passenger enplanements reached a peak of 474,762 enplanements, however, in 2020, enplanements decreased by nearly half (248,597) due to a significant decrease in air passenger travel because of the COVID-19 pandemic. In 2021, enplanements have increased (384,070), but are still approximately 90,000 less than pre-2020 enplanements.

FIGURE 53. BIL ANNUAL FREIGHT TONNAGE (2017 - 2021)



Source: Billings Logan International Airport

FIGURE 54. BIL ANNUAL PASSENGER ENPLANEMENTS



Source: Billings Logan International Airport

Rail

FACILITIES AND OPERATORS

At present, Burlington Northern Santa Fe Corporation (BNSF) operates all rail lines in the planning area, except for multiple privately operated spurs for industrial use, as shown in Figure 55. At the close of 2022, BNSF and MRL ended the existing lease on MRL-operated rail lines. This change eliminates the need for interchange between different railroads and does not impact operations and maintenance of railroads in the Billings planning area.[39]

BNSF now operates a 33.7-mile main line connecting main lines between Laurel and Huntley, MT. There are seven stations along the route, two of which are in the Billings planning area. BNSF railroad tracks generally follow on the north side of I-90, south side of Montana Avenue, along I-94, and along Montana Highway 3.

There are 19 railroad crossings on the BNSF main lines within the Billings planning area, as shown in Figure 55. Further information on railroad crossings is available in the Existing Conditions Appendix.

FREIGHT MOVEMENT

Rail shipment demand was assessed using the most recent data for the state of Montana from the FHWA FAF5. Table 24 summarizes rail demand by location-destination category in existing year 2020 in millions of tons and millions of dollars. As shown, most railroad freight tonnage in Year 2020 moves from Montana to other regions.

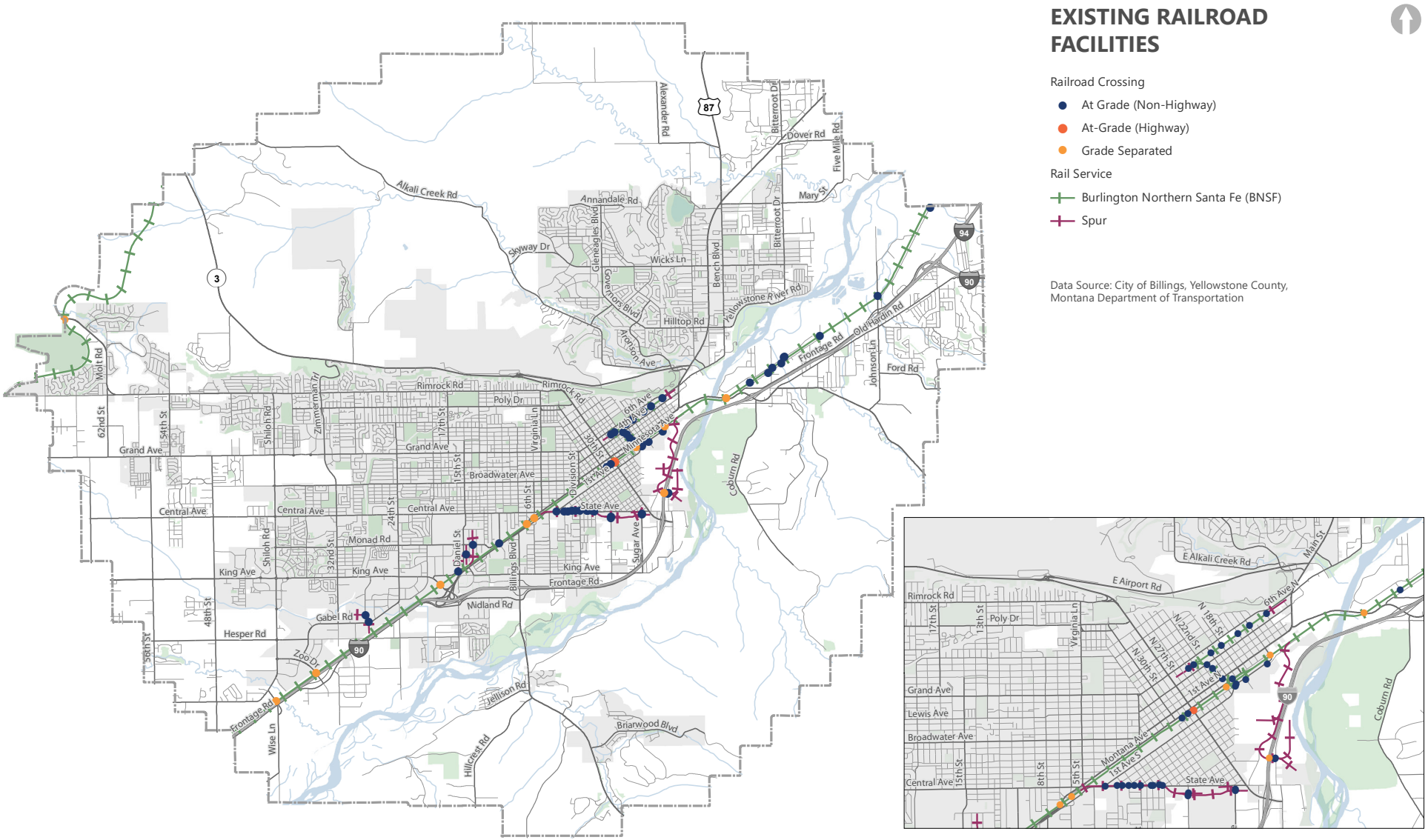
TABLE 24. YEAR 2020 TOTAL FREIGHT MOVED BY RAIL

MONTANA RAIL SHIPMENTS	WITHIN STATE	FROM STATE	TO STATE
In Millions of Tons (% Moved by Rail)	2 (2%)	16.7 (24%)	2.1 (9%)
In Millions of Dollars (% by Rail)	357 (1%)	1,786 (8%)	600 (2%)

Source: Federal Highway Administration Freight Analysis Framework 5th Edition

39 BNSF Railway. (February 2022). *Montana Rail Link and BNSF Announce Agreement to Terminate Lease*. https://bnsfnorthwest.com/news/2022/02/01/montana-rail-link-and-bnsf-announce-agreement-to-terminate-lease/

FIGURE 55. EXISTING RAILROAD FACILITIES

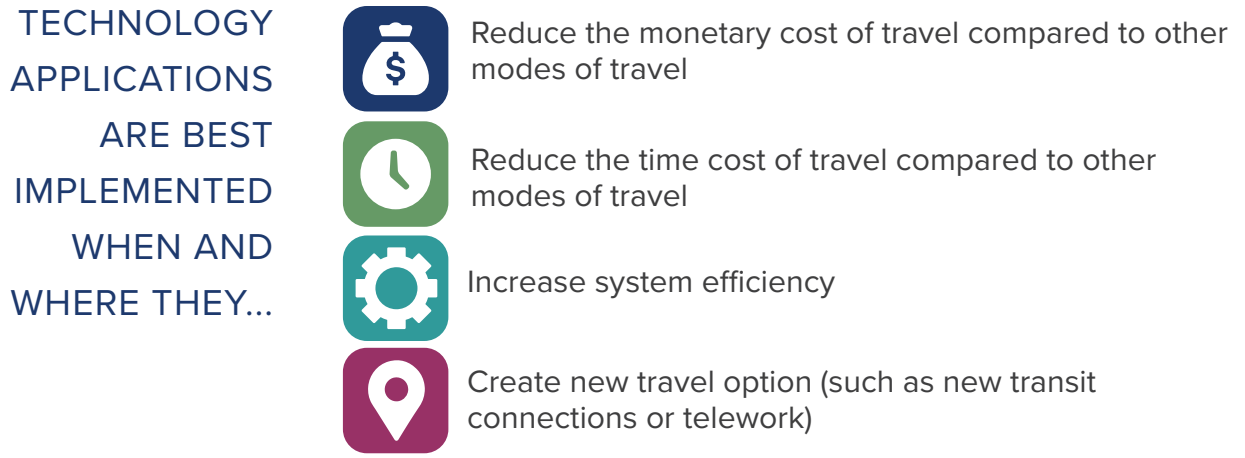


Emerging Technology Readiness

Emerging transportation technologies encompass a broad range of evolving applications of science, engineering, and social organization that have the potential to transform how people and institutions use land and transportation systems in urban and rural settings.[40] Examples of emerging technologies include fiber optic networks and 5G communications, connected and automated vehicles, mobility as a service, big data analytics, and electrification. Individually and together, these emerging technologies are changing the ways people, goods, and information move.

Understanding emerging technologies and accounting for them in the long-range planning process enables the Billings planning area to develop reasonable expectations for the types, timelines, and impacts of technologies that are expected to impact the region. The potential impacts are subject to technology development, market direction, and policy guidance. The transportation planning process must adapt as technologies develop and markets evolve. Technology applications are best implemented when and where they are used to achieve MPO goals, as described in Figure 56.

FIGURE 56. EMERGING TECHNOLOGY BEST PRACTICES



Additional details about the ways that the Billings planning area is preparing for emerging transportation technologies is available in the Existing Conditions Supporting Figures & Content Appendix, including a Plan & Policy Review and an overview of existing applications of these technologies.

ELECTRIC VEHICLES

The passage of the IIJA placed a big spotlight on electric vehicles (EVs) and the role they will play in mitigating climate change in the coming years. In Yellowstone County, there were 299 EVs on the road in 2022, which represents about 10% of the statewide total (2,895).[41] The state of Montana is expected to receive $43 million over the next five years to expand the state's EV charging network. Along I-90 and I-94, the designated Alternate Fuel Corridors (AFCs) that traverse the Billings planning area, there are no locations in the planning area that have been identified by the Montana DEQ for National Electric Vehicle Infrastructure (NEVI) formula funding in FY2022. However, the existing charging infrastructure in Billings has been identified as lacking NEVI-compliant station locations, and will likely be included in subsequent funding rounds. Table 25 details the existing charging infrastructure in the Billings planning area.

40 Transportation Research Board (2019). *NCHRP Report 924: Foreseeing the Impact of Transformational Technologies on Land Use and Transportation.*

41 Atlas EV Hub. (October 2022). *State EV Registration Data. Open Vehicle Registration Initiative*. https://www.atlasevhub.com/materials/state-ev-registration-data/

TABLE 25. EXISTING ELECTRIC VEHICLE CHARGING INFRASTRUCTURE IN THE BILLINGS PLANNING AREA

STATE EV CHARGING LOCATION ID	CHARGER LEVEL	AFC	LOCATION	NUMBER OF EV CONNECTORS	EV NETWORK
74624	L2	I-90 & I-94	Billings	1	Non-networked
82168	L2	I-90 & I-94	Billings	1	Non-networked
170726	L2	I-90 & I-94	Billings	2	Non-networked
186599	L2	I-90 & I-94	Billings	4	Non-networked
206370	L2	I-90 & I-94	Billings	2	ChargePoint
214084	L2	I-90 & I-94	Billings	6	EVGateway

Source: Montana Electric Vehicle Infrastructure Deployment Plan

Security & Resiliency

Transportation security and resiliency planning can reduce the negative impacts to the regional transportation system from major natural or human-made harmful events. Some examples of these events include:

- Natural disasters, such as tornadoes, wildfire, flooding, or blizzards;
- Attempts to destroy elements of the regional transportation network to cause disruption;
- Use of an element of the transportation system as a weapon, such as crashing a truck through a wall to deliver explosive materials; or
- Large, planned events, such as a state fair or parade.

The impacts of major events can be mitigated through preparation; expediting responses; and aiding the recovery to normal services. In addition to preparing against, expediting responses to, and aiding in recovery from major events, transportation security and resiliency planning helps keep people and goods moving, protects public health and life safety, supports economic productivity, and minimizes impacts of major events on the environment.

Contextual information, including an overview of federal requirements, statewide planning efforts, and local planning efforts, are detailed in the Existing Conditions Supporting Figures & Content Appendix.

CRITICAL INFRASTRUCTURE

The entire multimodal transportation system plays a role in providing for local, regional, and national security. Billings serves as a critical transportation hub in central and southern Montana and is connected to other urban areas via major roadway corridors, airports, and railways. Facilities that are considered critical or vital to security include elements of the system that are perceived or known to be most vulnerable. These tend to be at specific points and on connecting segments of the transportation system. Examples of connecting segments are evacuation routes, state and interstate highways/freeways, transmission lines, and mainline freight and passenger rail lines. Incorporating resiliency into any transportation improvements for these critical infrastructure components will be crucial moving forward, as natural and human-made disasters continue to proliferate.

The National Highway System (NHS) consists of roadways important to the nation's economy, defense, and mobility. The NHS includes the following categories within the Billings planning area:

- **Interstate:** The Eisenhower Interstate System of highways retains its separate identity within the NHS.
- **Other Principal Arterials:** These are highways in rural and urban areas which provide access between an arterial and a major port, airport, public transportation facility, or other intermodal facility.
- St**rategic Highway Network** (STRAHNET): This network of highways provides defense access, continuity, and emergency capabilities for defense purposes in support of the United States' strategic defense policy.

I-90 directly serves the Billings area and is the busiest truck route in the state. Major east-west corridors include I-90 and I-94. U.S. Highway 87 and MT-3 provide the only north-south connections, which are limited due to geographic constraints of the surrounding rimrocks.

As shown in Figure 57, critical roadways that are part of the NHS in the Billings planning area include the following:

- Interstate 90 (NHS, Eisenhower Interstate System) – Busiest truck route in the state
- Interstate 94 (NHS, Eisenhower Interstate System)
- Montana Highway 3 (NHS, STRAHNET Route)
- US Route 87 (NHS, NHS Principal Arterial)
- King Avenue (NHS Principal Arterial)
- Zoo Drive (NHS Principal Arterial)
- Laurel Road (NHS Principal Arterial)
- 1st Avenue N (NHS Principal Arterial)
- 1st Avenue S (NHS Principal Arterial)
- Montana Avenue (NHS Principal Arterial)

Additional critical infrastructure includes bridges, culverts, interchanges, railroads, and intermodal facilities. Within the MPO boundary, there are approximately 100 bridges to operate and maintain. As displayed in Figure 57, significant intermodal facilities within the Billings planning area include:

- Billings Logan International Airport
- Burlington Northern Santa Fe railroad facilities
- MET Transfer Centers (Stewart Park and Downtown)
- Montana Rail Link railroad facilities

POTENTIAL HAZARDS

The geographic characteristics of the Billings planning area makes it susceptible to a range of natural and human-caused hazards. Natural hazards include floods, tornadoes, wildfires, winter storms, droughts, earthquakes, volcanic ash and other severe weather events. As the largest metropolitan area in Montana, human-caused events like major transportation incidents (hazardous chemicals, utility outages, etc.), war-related incidents, and public health emergencies (i.e., pandemics) could have severe impacts on the lives and property.

The Yellowstone County Multi-Hazard Mitigation Plan (MHMP) conducted a risk assessment and vulnerability analysis to determine hazards that present the greatest risk to the County. Based on this analysis, the MHMP ranked potential natural and human-caused in a list of prioritized hazards. Table 26 shows the County's prioritized hazards and describes potential impacts specific to transportation infrastructure. The MHMP also identified earthquakes, urban fire, enemy attack, expansive soils, and volcanic ash as potential hazards. However, these potential hazards were de-emphasized in the 2019 plan because they are not considered a large risk in Yellowstone County and wouldn't affect a large portion of the population.

In Yellowstone County, three hazards are highlighted as for the substantial risk they present in the coming years: climate change, floods, and wildfires. Additional details about these hazards and the risks they presented are available in the Existing Conditions Support Figures & Content Appendix.

TABLE 26. IDENTIFIED HAZARDS AND IMPACTS TO TRANSPORTATION IN YELLOWSTONE COUNTY

2018 RANK	HAZARD	IMPACTS TO TRANSPORTATION IN YELLOWSTONE COUNTY
1	Severe Weather and Drought	■ Unprecedented precipitation events or sudden warming of snow in the spring could induce significant flooding events that impact drainage and damage transportation assets. ■ Extreme heat or cold could significantly impact alternative modes of transportation such as walking, bicycling and transit since they require users to travel outside. ■ Severe wind could damage or knock down power lines which are typically located along roadways.
2	Wildfire	Damage to transportation assets; road closures during wildfire events impact mobility.
3	Ditch and Drain Failure	Damage to transportation assets; road closures due to flooding impact mobility.
4	Haz-Mat and Transportation Incidents	Billings is a major transportation hub and industrial base within the region which puts the area at a higher risk for these human-caused incidents; Risks of transportation incidents and haz-mat incidents will increase as the population of the Billings planning area continues to increase; Damage to transportation infrastructure by the secondary effects of other potential hazards (storms, flooding, earthquakes, landslides, etc.) could contribute to increased risks of future transportation/mobile incidents
5	Terrorism / Violence / Civil Unrest / Cyber Security	Human-caused events could disrupt transportation services and put roadway, transit, rail, and active transportation users at risk of harm; Cyber security
6	Flooding and Dam Failure	The Yellowstone River is a major physiographic feature that flows east to west in south-central Montana. In recent years, flooding events along the Yellowstone River led to significant damage to roads, bridges, stormwater systems, and other critical infrastructure throughout Montana.
7	Communicable Disease	In 2020, the COVID-19 pandemic led to significant uncertainty in long-term transportation planning, performance, and funding. Public health concerns significantly disrupted air and transit ridership during the pandemic.
8	Landslide / Rock Fall	Damage to transportation assets; road closures due to flooding impact mobility.

Source: Yellowstone County Multi-Hazard Mitigation Plan

"Resilience is the ability to prepare and plan for, absorb, recover from, and more successfully adapt to adverse events"

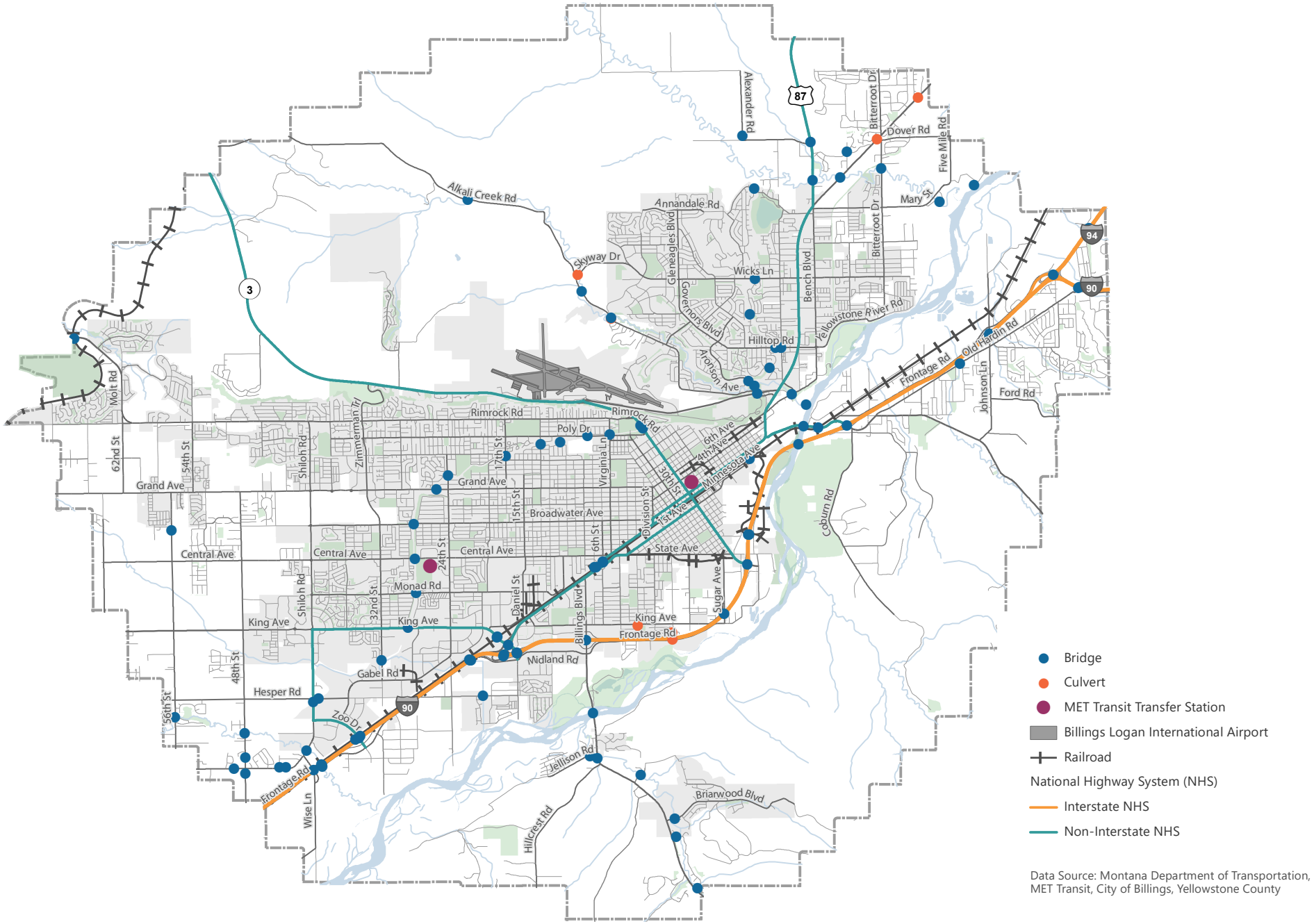
- National Research Council (NRC)

RESILIENCY

Transportation planning is essential for preparation and response to disasters. In addition to physical assets such as roadways, bridges, railways, and airports, transportation planning also includes the facilitation of evacuations and communication during extreme events. As climate events become more frequent and intense, it is important that planners focus on building resilient transportation networks that can mitigate impacts and costs, adapt to emergent conditions, and allow communities to recover efficiently and effectively.

With each of the potential hazards, it is critical to provide connectivity and alternate routes and maintain this infrastructure throughout the regional transportation system. A major unprecedented disaster would warrant the coordination of a multi-agency response from local, state, regional, and national entities to protect lives and property effectively and efficiently. Additional information regarding resiliency is available in the Existing Conditions Supporting Figures & Content Appendix.

FIGURE 57. CRITICAL INFRASTRUCTURE



Data Source: Montana Department of Transportation, MET Transit, City of Billings, Yellowstone County

05 WHAT COULD THE TRANSPORTATION SYSTEM BE LIKE IN 2045?

Planning Horizon: 2045

The Billings planning area, like the state of Montana, and the US, will face challenges in the next 25 years due to changing populations, aging transportation infrastructure, natural disasters, and cutting-edge technologies. Looking ahead to the future empowers better planning to help achieve the Billings vision.

The federal statutes that govern MPOs outline the requirements for the LRTP, which includes forecasting transportation and land use trends using a minimum of a 20-year planning horizon. This LRTP plans for the year 2045 by building from past patterns, understanding current conditions, and envisioning potential futures based on public and stakeholder input.

Land Use

Changes in population and land use over time place greater demand on public services and infrastructure, including the multimodal transportation system. The planning area of the Billings-Yellowstone MPO includes the city limits of Billings as well as 4.5 miles in each direction. This area encompasses approximately 151.2 square miles (including the City of Billings, Lockwood, and part of Yellowstone County). Since the 2018 LRTP, the planning area of the Billings-Yellowstone MPO has grown to over 140,000 people, an increase of 10% over the 2018 population of 127,000. In 2016, both the City of Billings and the Lockwood community adopted Growth Policies to outline the urban area's approach to managing growth in a manner that aligns with community values.

BILLINGS GROWTH POLICY (2016)

In the next 20 years, Billings will manage its growth by encouraging development within and adjacent to the existing City limits, but preference will be given to areas where City infrastructure exists or can be extended within a fiscally constrained budget and with consideration given to increased tax revenue from development. The City will prosper with strong neighborhoods with their own unique character that are clean, safe, and provide a choice of housing and transportation options.

LOCKWOOD GROWTH POLICY (2016)

Lockwood is a community that will evolve with a Main Street-style Town Center surrounded by a range of housing options that support and sustain, both fiscally and socially, the community investments in schools, public water and sewer, transportation, recreation, and public safety while providing economic opportunities in general commercial and light and heavy industry businesses in areas shown on the preferred land use map.

Within the Billings planning area, there is a clear community desire and commitment to develop in a fiscally and socially responsible manner that provides a high quality of life for residents. Strategies and actions that can support careful growth include, but are not limited to:

- Higher Density Zoning
- Mixed Use Zoning
- Flood Zone Restricted Development
- Resource Conservation Zoning
- Targeted Economic Development Districts
- Multimodal Transportation Design Standards
- Infill Development
- Complete Streets Design Standards
- Transit Oriented Development
- Safe Routes to School Network

As land use and transportation are intertwined, the LRTP acknowledges both Growth Policies in analyzing future conditions in the Billings planning area.

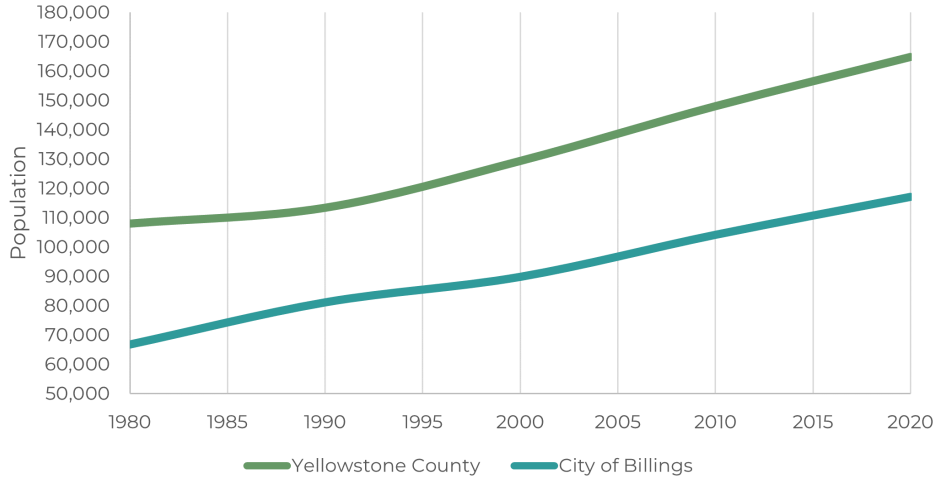
FORECAST DEMOGRAPHICS

Using historical growth patterns and discussions with the MPO and Steering Committee (SC), future population, housing, and employment concentrations were developed for the horizon year 2045 to help determine where future travel demand may occur on the roadway network.

Historical Population Growth

New residents are attracted to Billings by its quality of life, economic and recreational opportunities, and small-town atmosphere with the amenities of a large urban center. Figure 58 shows historical growth of the Billings planning area between 1980 and 2020.

FIGURE 58. BILLINGS PLANNING AREA POPULATION GROWTH (1980 – 2020)



Source: Billings-Yellowstone Metropolitan Planning Organization

From 1980 to 2020, the population of Yellowstone County (including the City of Billings) grew by 52% with an average annual (compounding) growth rate of 1.1%. From 2000 to 2020, the population of Yellowstone grew by 27% with an average annual (compounding) growth rate of 1.2%. The City of Billings experienced slightly higher growth rates over both time periods.

Population & Housing Projections

In 2021, the Billings planning area population was approximately 142,358 persons residing in 58,815 dwelling units. By 2045, the population is expected to grow to approximately 190,986 persons in 78,814 dwelling units. This correlates with an annual average growth rate of 1.2%, which is consistent with the growth rate of Yellowstone County from 2000 to 2020. The growth in population and housing between 2021 and 2045 within the Billings planning area is summarized in Figure 59.

TABLE 27. BILLINGS PLANNING AREA POPULATION & HOUSING (2021 – 2045)

DEMOGRAPHIC	2021	2045	CHANGE	PERCENT CHANGE	ANNUAL AVERAGE GROWTH RATE
Population	142,358	190,986	48,628	+34%	1.2%
Housing (Dwelling Units)	58,815	78,814	20,000	+34%	1.2%

Source: Billings-Yellowstone Metropolitan Planning Organization

Figure 59 and Figure 60 shows the population and household growth between 2021 and 2045, respectively. As depicted in Figure 59, population growth is mostly expected to reach westward towards the urban area boundary, particularly west of Shiloh Road. Additionally, more population growth is expected to occur along Highway 3 and Alkali Creek Road to the north of the city limits. There are some pockets of growth projected to occur in the southern areas outside the city limits, Lockwood, the Heights neighborhoods, and the area surrounding I-90 in the southwest urban area around Zoo Drive. As shown in Figure 60, residential growth is projected to have similar trends to population growth, with the strongest concentration of growth west of 24th Street and north of Highway 3.

Future Employment

With growth in population, the employment sector within the Billings planning area is also expected to grow. As of 2021, the estimated total employment in the Billings planning area was approximately 74,848 jobs. By 2045, employment is projected to add another 32,171 jobs to result in an approximate 107,171 jobs in the Billings planning area. Table 28 summarizes the projected employment growth from 2021 to 2045.

TABLE 28. BILLINGS PLANNING AREA EMPLOYMENT (2021 – 2045)

DEMOGRAPHIC	2021	2045	CHANGE	PERCENT CHANGE	ANNUAL AVERAGE GROWTH RATE
Employment (Retail)	14,656	21,155	6,822	+48%	1.6%
Employment (Non-Retail)	60,192	85,863	26,849	+45%	1.6%
Total Employment	74,848	107,019	32,171	+43%	1.6%

Source: Billings-Yellowstone Metropolitan Planning Organization

Figure 61 shows the comparison between 2021 and 2045 employment distributions. Employment growth within the Billings planning area is expected to expand generally within current commercial areas and to “densify” current employment locations. These commercial areas include S. 24th Street, Shiloh Road, the airport, downtown, Lockwood, and near the I-90 interchanges.

FIGURE 59. POPULATION GROWTH (2021 – 2045)

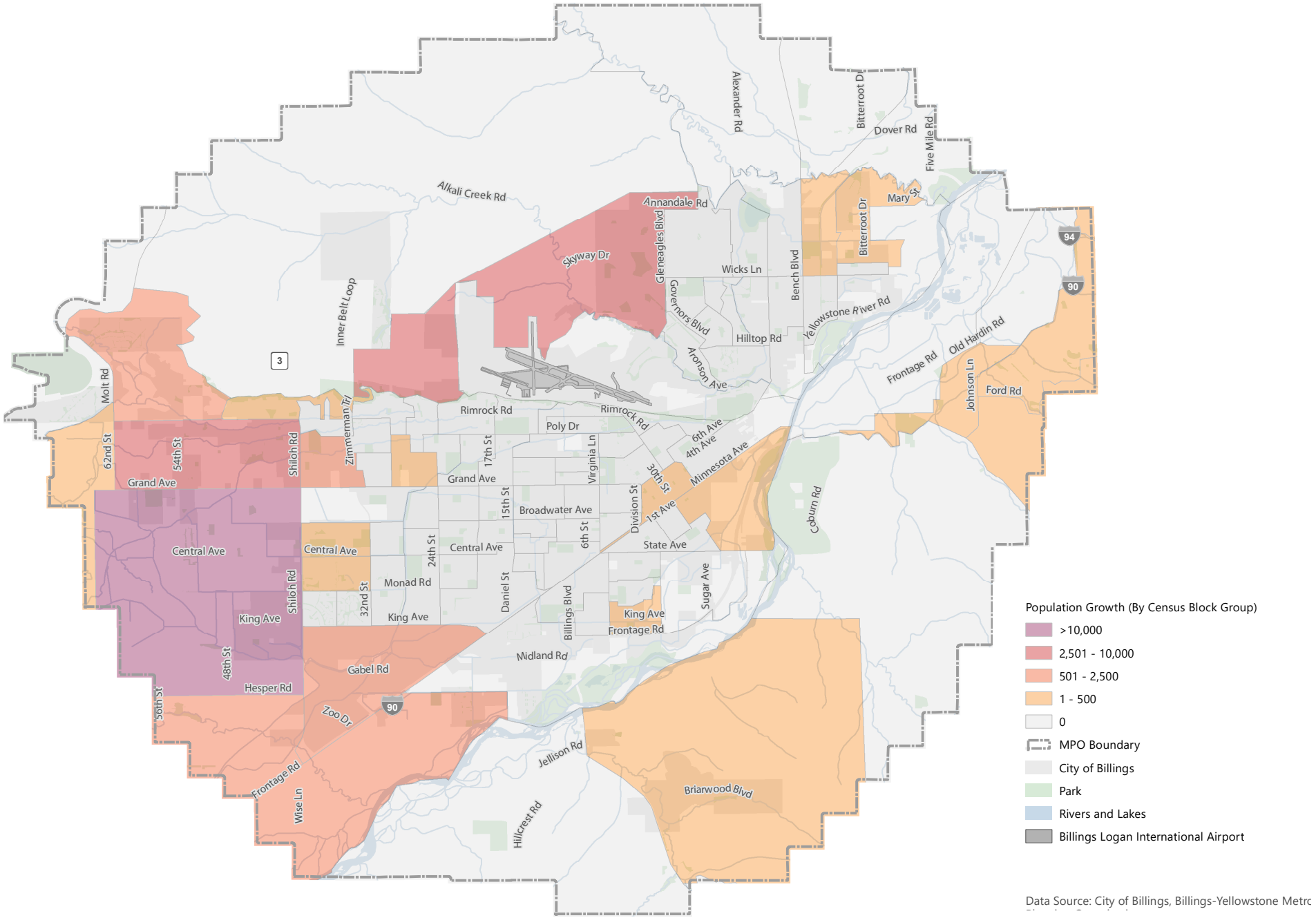


FIGURE 60. HOUSING GROWTH (2021 – 2045)

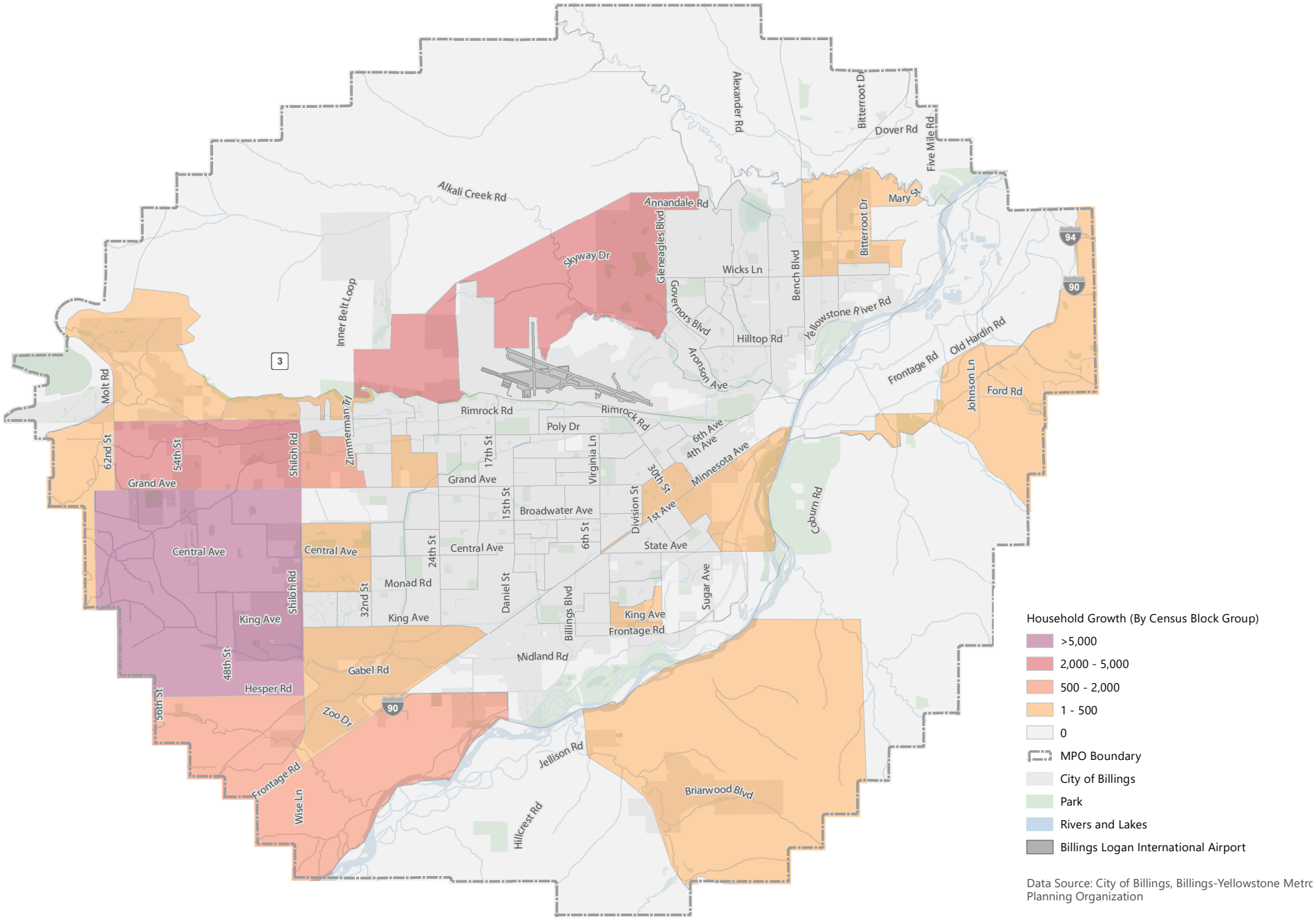
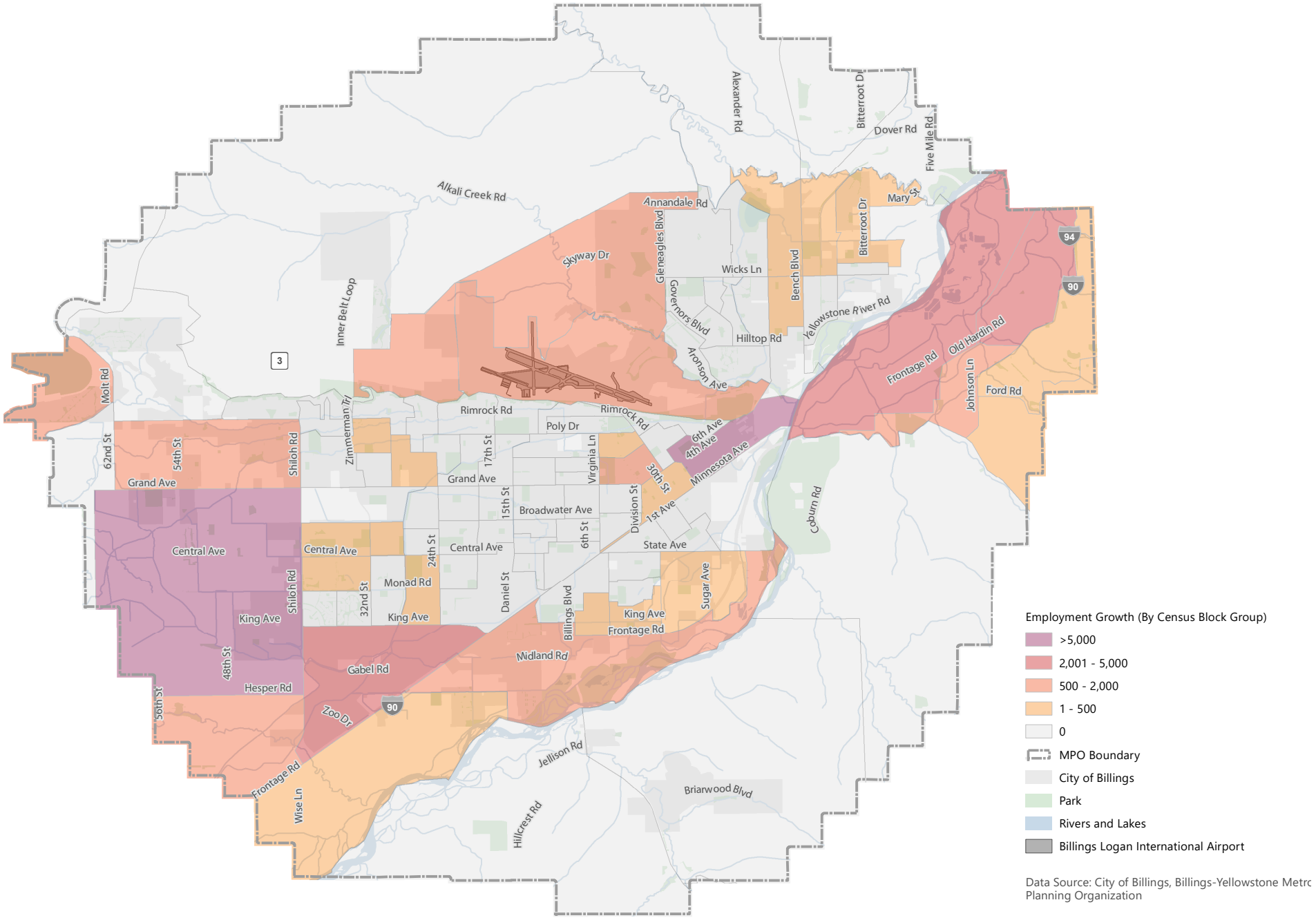


FIGURE 61. EMPLOYMENT GROWTH (2021 – 2045)



Employment Growth (By Census Block Group)

- >5,000
- 2,001 - 5,000
- 500 - 2,000
- 1 - 500
- 0
- MPO Boundary
- City of Billings
- Park
- Rivers and Lakes
- Billings Logan International Airport

Data Source: City of Billings, Billings-Yellowstone Metro Planning Organization

POTENTIAL EFFECTS OF GROWTH ON THE MULTIMODAL TRANSPORTATION SYSTEM

While the western, northern, and eastern portions of the planning area are expected to grow in population, these areas are expected to be relatively stagnant in terms of employment growth, apart from the Shiloh Road corridor, the airport, and Lockwood. Continued residential growth without co-located employment opportunities can force longer commute distances, likely by driving, as the existing walking and bicycling facilities do not provide the necessary connectivity to facilitate these trips.

This type of growth pattern results in urban sprawl. Urban sprawl can reduce quality of life for Billings planning area residents, increase pollution in the air and water, and inflate municipal costs such as water, sewage, and electrical utility provisions. The Billings-Yellowstone MPO, along with its partner agencies, have worked towards integrating land use and transportation decision-making to discourage sprawl and encourage intentionally designed active and dense areas. In 2016, both the City of Billings and Lockwood adopted their Growth Policies, which encourage responsible development in the urban areas. Recently, the City of Billings modified its zoning code to allow for mixed use areas, which encourage a mix of residential, commercial, and institutional buildings within the same area. These elements should be continued with an emphasis on integrating land use and transportation to provide options and enhance the quality of life in the region. Additional policies to consider that can reduce sprawl in the urban area include:

- Removing parking minimums from zoning codes
- Incentivizing transit-oriented development
- Updating traffic impact analysis guidelines to incorporate multimodal traffic

Safety

This Plan was developed to align with safety goals and policies outlined in partner agencies' plans, including *TranPlanMT, Montana Comprehensive Highway Safety Plan, Billings Community Transportation Safety Plan, Billings Safe Routes to School Plan Update,* and *Billings Area Bikeway and Trails Master Plan*. All the agencies involved in these plans are endeavoring towards a safer system for all transportation users and modes.

As outlined in *NCHRP Report 1036,* developing a transportation network with safety as the top priority goes beyond the physical design of transportation facilities.[42] A clear decision-making framework structured with a vision that encompasses community priorities is necessary to achieve a safe system for all users. Additionally, robust community engagement, aligned leadership, quantitative performance measures, and strong policy enable communities to achieve long-term visions of transforming communities into safe, livable, and accessible networks for all users. As the Billings planning area continues to work towards a safer multimodal system, incorporating these national best practices will continue to be important.

The project recommendations presented in this Plan are derived from an in-depth analysis of crash data, completed as part of Chapter 4. Framing the results of the analysis in the context of local, regional, and state safety goals illuminates opportunities for the City of Billings to prioritize safety in long-term planning and project prioritization.

Transportation

This section outlines projected multimodal transportation conditions in 2045. These future conditions, along with the key findings of the existing conditions analysis will aid in identifying needs and deficiencies for future projects.

FUTURE TRAFFIC VOLUMES

The Billings-Yellowstone County MPO travel demand model was utilized to forecast vehicular traffic volumes for year 2045. To develop the forecast volumes, the travel demand model was updated to include roadway modifications anticipated to be implemented by year 2045 within the Billings planning area. The roadway modifications were identified based on major, committed projects or projects that would be anticipated to coincide with the forecasted growth outlined in the previous sections. The year 2045 roadway network in the travel demand model was confirmed with the SC and is available in the Future Conditions Supporting Figures & Content Appendix G.

42 Transportation Research Board. (September 2022). *NCHRP Report 1036: Roadway Cross Section Reallocation.* https://www.trb.org/Publications/Blurbs/182870.aspx

Modifications to the roadway network for year 2045 include:

- Billings Bypass Project (On-Going MDT Project)
- Inner Belt Loop (City of Billings Project)
- Downtown Two-Way Conversions (City of Billings Project)
- New Collector Roadways (roadways that would be constructed via new development)

The purpose of including these modifications in the roadway network is to capture the traffic pattern shifts that occur with major roadway reconfigurations and new regional connections. The year 2045 forecast demographics shown in Figure 60 and Figure 61 and the year 2045 roadway network were input into the travel demand model to develop year 2045 volume forecasts. The resulting daily volume forecasts are displayed in Figure 62.

FUTURE VEHICULAR LEVEL OF SERVICE

Based on a comparison between year 2022 and 2045 traffic volume projections from the travel demand model, growth rates were identified for regions of the Billings planning area and then applied to the existing peak hour intersection volumes to calculate year 2045 peak hour turning movement projections at the intersections. Growth rates ranged between 1-2% per year based off the results of the travel demand model. The year 2045 intersection volumes were used to calculate year 2045 level of service (LOS) at each intersection.

Figure 63 shows year 2045 LOS estimates at approximately 300 intersections throughout the Billings planning area and Table 29 delineates intersections projected to operate at LOS E or F in year 2045, apart from stop controlled intersections that are under capacity. Intersections reported as operating at LOS E or LOS F under existing conditions are bolded in the table.

The year 2045 LOS results reflect year 2045 no-build conditions. No-build conditions assume that no improvements or changes to lane configurations are implemented, except for improvements related to the Billings Bypass/ Johnson Lane Interchange, the Inner Belt Loop, and the two-way roadway conversions in Downtown Billings. These projects were assumed due to the significant effect that they will have on regional traffic patterns.

TABLE 29. SUMMARY OF LOS E AND LOS F INTERSECTIONS DURING CRITICAL PEAK HOUR IN YEAR 2045

INTERSECTIONS PROJECTED TO OPERATE AT LOS E
1st Ave N & 13th St (Traffic Signal)
4th Ave N & 10th St (Stop Controlled)
4th Ave N & 15th St (Stop Controlled)
6th Ave N & 25th St (Stop Controlled)
Central Ave & 19th St W (Traffic Signal)
Central Ave & 32nd St W (Traffic Signal)
Grand Ave & Forest Park Dr (Stop Controlled)
Lewis Ave & 13th St W (Stop Controlled)
Rimrock Rd & Rehberg Ln (Stop Controlled)
Rimrock Rd & Shiloh Rd (Traffic Signal)
Rimrock Rd & Zimmerman Trail (Traffic Signal)
US-87 & N Frontage Rd (Traffic Signal)

INTERSECTIONS PROJECTED TO OPERATE AT LOS F
1st Ave N & Main St (Traffic Signal)
1st Ave N & 16th St (Stop Controlled)
1st Ave N & 17th St (Stop Controlled)
6th Ave N & 26th St (Stop Controlled)
6th Ave N & N 32nd St (Traffic Signal)

INTERSECTIONS PROJECTED TO OPERATE AT LOS F
Airport Rd & Main St (Traffic Signal)
Broadwater Ave & 24th St W (Traffic Signal)
Central Ave & 15th St W (Traffic Signal)
Gabel Rd & Brosso Park (Stop Controlled)
Grand Ave & 24th St (Traffic Signal)
Grand Ave & 30th St W (Stop Controlled)
Grand Ave & 48th St (Stop Controlled)
Grand Ave & Golden Blvd (Stop Controlled)
Grand Ave & Rehberg Ln (Traffic Signal)
Grand Ave & Shiloh Rd (Roundabout)
Grand Ave & Zimmerman Trail (Traffic Signal)
King Ave & 20th St/Overland Ave (Traffic Signal)
King Ave & 24th St (Traffic Signal)
King Ave & 44th St (Stop Controlled)
King Ave & 48th St (Stop Controlled)
Laurel Rd & Moore Ln (Traffic Signal)
Lewis Ave & 8th St W (Stop Controlled)
Lewis Ave & 19th St W (Stop Controlled)
Monad Rd & S 19th St (Traffic Signal)
Main St & Aronson Ave (Stop Controlled)
Main St & Lake Elmo Dr (Traffic Signal)
Rimrock Rd & 27th St (Stop Controlled)

INTERSECTIONS PROJECTED TO OPERATE AT LOS F
Zimmerman Trail & Colton Blvd (Stop Controlled)
Zoo Dr & Gabel Rd/Pierce Pkwy (Traffic Signal)
I-90 EB Ramps & King Ave W (Traffic Signal)
I-90 WB Ramps & Zoo Dr (Traffic Signal)
I-90 Ramps & US-87 (Traffic Signal)

Source: Billings-Yellowstone MPO

*Note: **Bolded** text indicates intersections operating at LOS E or LOS F under existing conditions (Year 2023).*

FIGURE 62. FUTURE CONDITIONS AVERAGE DAILY TRAFFIC (2045)

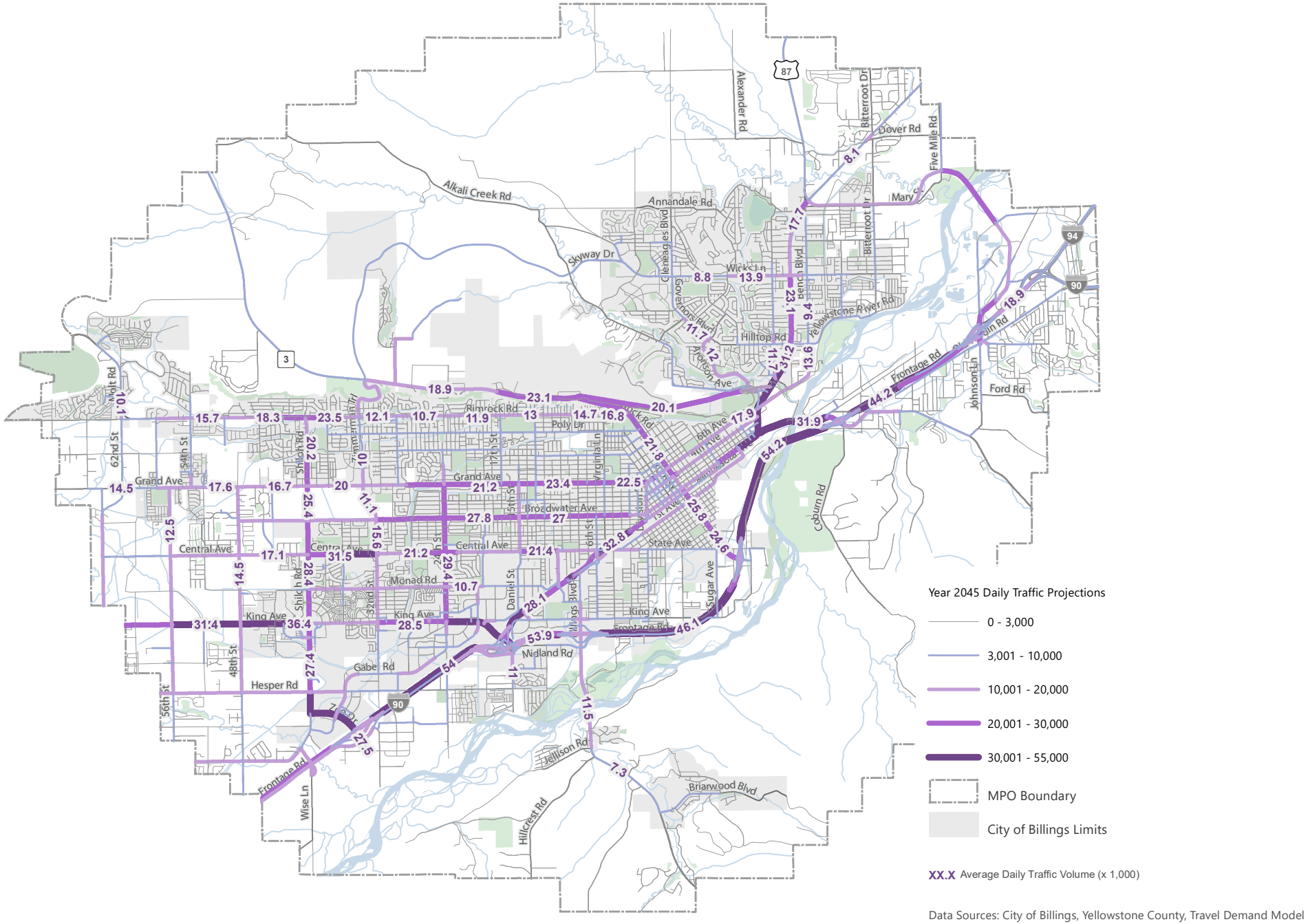
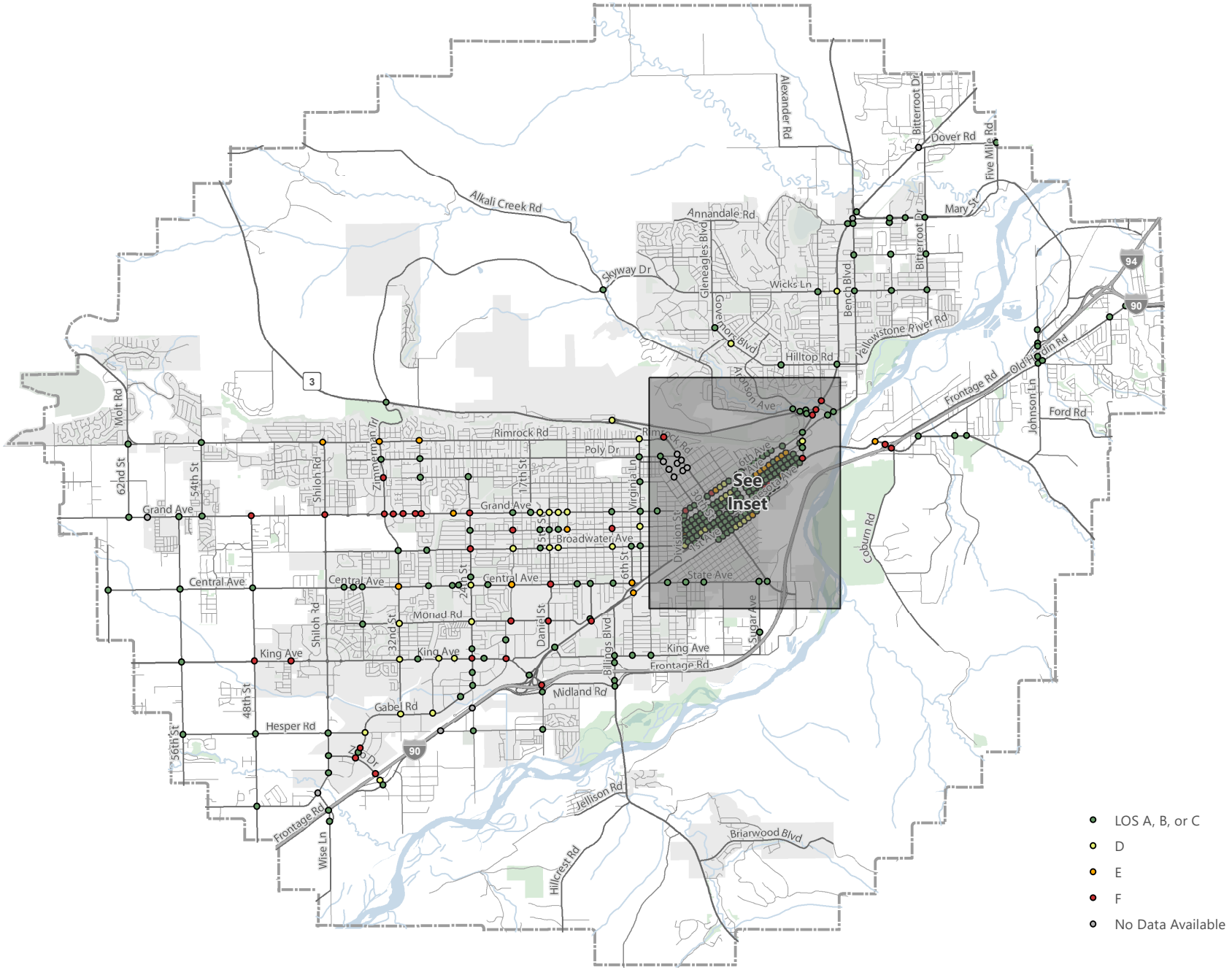


FIGURE 63. FUTURE CONDITIONS VEHICULAR LEVEL OF SERVICE (2045)



FUTURE PEDESTRIAN, BICYCLE, & TRAIL SYSTEM

In the future, the active transportation system in the Billings planning area will connect neighborhoods and provide crucial access to schools, jobs, and other essential destinations. This section outlines the recommended facilities improvements from a range of regional planning efforts.

Pedestrian Facility Types

Recommended pedestrian improvements were identified from the Lockwood Pedestrian Safety District *Draft Pedestrian & Bicycle Plan (2022)*[43], the Billings MPO *2016 Billings Area Bikeway and Trails Master Plan Update*[44], and the Billings *Safe Routes to School (SRTS) Plan Update*[45]. These focus areas, which include new sidewalks, enhanced crossings, and maintenance needs, are shown in Figure 63. The Lockwood Pedestrian Safety District has identified several locations in the Lockwood area for additional sidewalks to enhance pedestrian safety and connectivity, including pedestrian facilities along the new Billings Bypass. The *SRTS Plan Update* identifies improvements near all 22 elementary schools in the City of Billings to enhance pedestrian and bicycle safety. These projects include new and enhanced sidewalks along identified segments as well as spot-specific treatments such as:

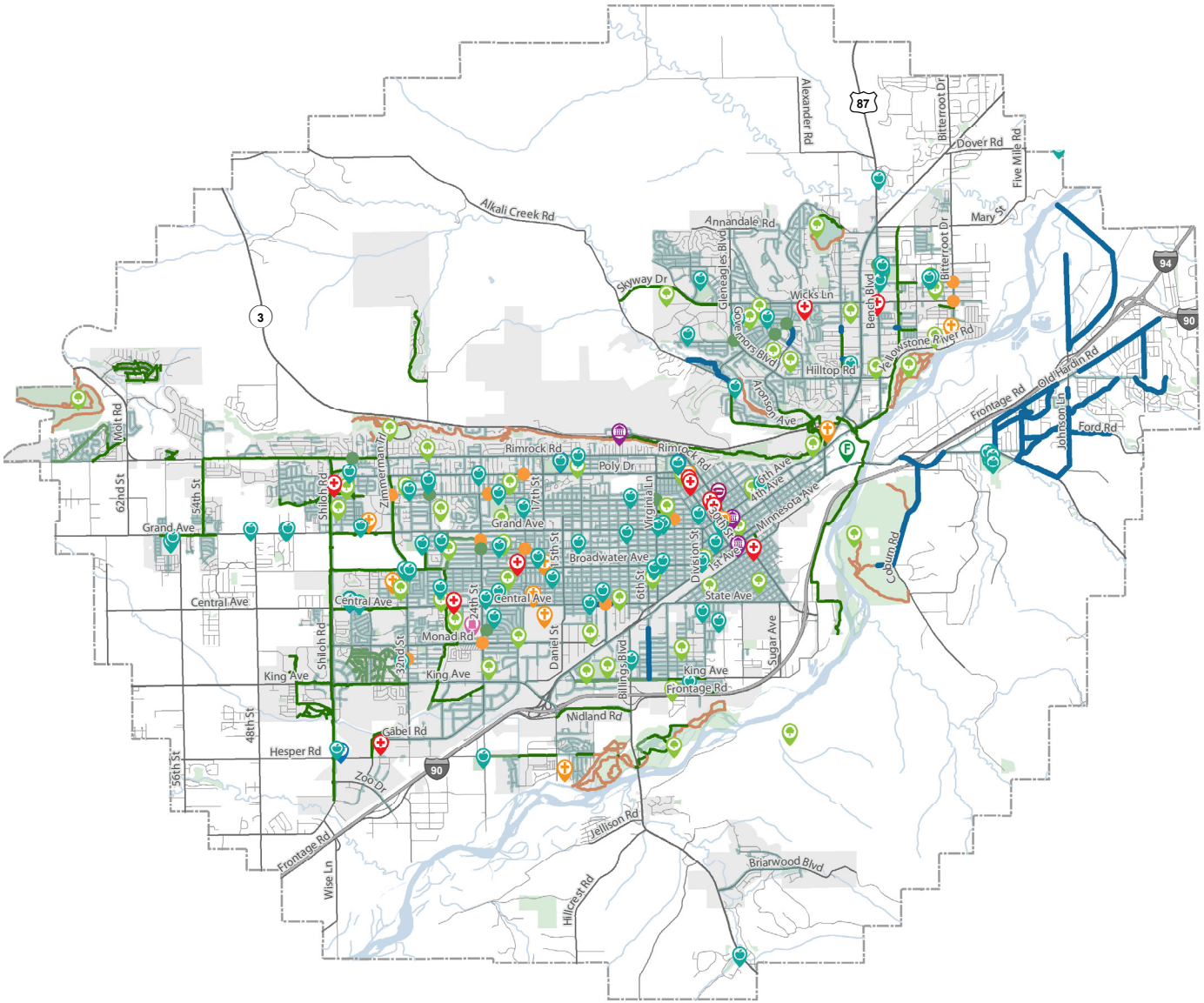
- **Rectangular Rapid Flashing Beacons (RRFBs):** RRFBs are pedestrian-activated flashing yellow lights on the side of the street that make a crosswalk more visible to people driving and alert them to the presence of a person trying to cross the street.
- **Pedestrian Hybrid Beacons (PHBs):** PHBs are pedestrian-activated traffic control devices which help pedestrians safely cross major roadways where there is no traffic signal. After displaying brief flashing of two red lights and then steady intervals of yellow lights, the device displays a steady red indication to drivers and a "WALK" indication to pedestrians, allowing them to cross while traffic is stopped.
- **Curb Extensions:** Curb extensions are created by extending the curb line into the roadway at a corner or mid-block. They shorten the distance for people walking across the street and improve visibility between people walking and driving. By visually and physically narrowing the roadway, curb extensions also help reduce speeding.
- **Pedestrian Refuge Islands:** Pedestrian refuge islands are delineated or raised areas in the middle of the street at intersections or mid-block crossings that provide a designated place for people walking and bicycling to wait for an opportunity to cross the other half of the street.

Rectangular Rapid Flashing Beacon (RRFB). Source: City of Billings

Pedestrian Hybrid Beacon (PHB). Source: DOWL

43 Lockwood Pedestrian Safety District. (2022). *Draft Pedestrian & Bicycle Plan*.
44 Billings-Yellowstone County Metropolitan Planning Organization. (2016). *Billings Area Bikeway and Trails Master Plan Update*.
45 Billings-Yellowstone County Metropolitan Planning Organization. (2022). *Billings Safe Routes to School Plan Update*.

FIGURE 64. FUTURE PEDESTRIAN FACILITIES



FUTURE PEDESTRIAN FACILITIES

Existing Infrastructure

- Sidewalk
- Shared Use Path
- Neighborhood Trail
- Unpaved Trail

Major Activity Centers

- Stadium
- Library
- Park
- Museum
- Fairgrounds
- Shopping Mall
- Cemetary
- College
- Schools
- Hospital

Recommended Projects from SRTS & LPSD

- New or Enhanced Sidewalk
- High Visibility Crosswalk
- Curb Extensions or Pedestrian Refuge Island

Data Source: City of Billings, Billings-Yellowstone MPO, Lockwood Pedestrian Safety District

Note: SRTS is the Safe Routes to School Plan Update (2022) and LPSD is the Lockwood Pedestrian Safety District Pedestrian and Bicycle Draft Plan (2022)

Buffered bicycle lane. Source: DOWL

Separated bicycle lane. Source: Kittelson & Associates, Inc.

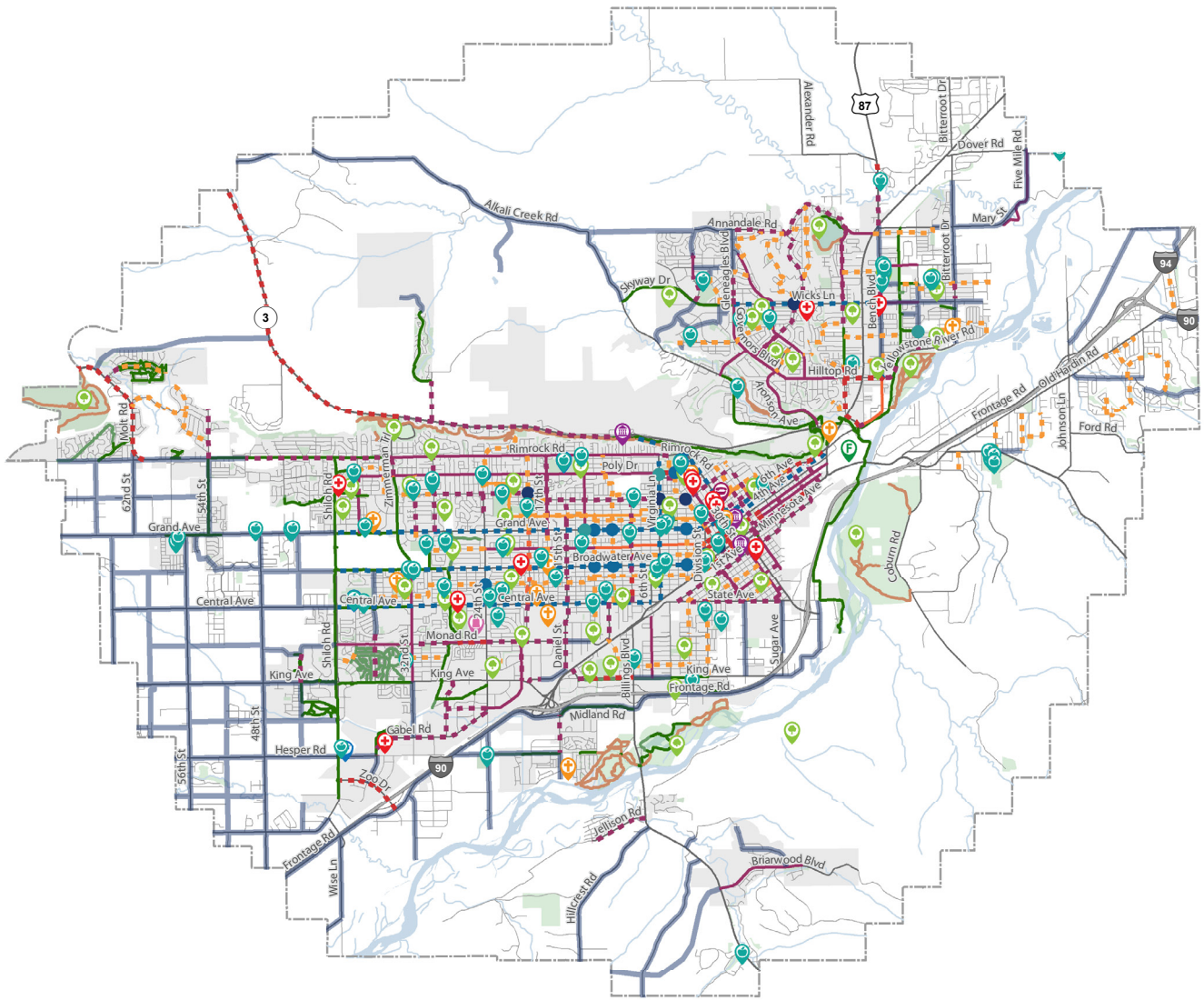
Bicycle Facility Types

The *2016 Billings Area Bikeway and Trails Master Plan* Update identifies recommendations to enhance bicycle and trail facilities in the Billings planning area. These focus areas are shown in Figure 65. The Plan defines several facility types for both trails and bicycles, including:

- **Spot Treatments:** There is a range of spot treatments that can be implemented to facilitate safer facilities for bicyclists. These include intersection treatments, enhanced crossings, or bicycle facility maintenance.
  - **Intersection Treatments:** Bicycle boxes or enhanced traffic control.
  - **Enhanced Crossings:** Rectangular Rapid Flashing Beacons (RRFBs) or Pedestrian Hybrid Beacons (PHBs) with striped bicycle crossings
  - **Bicycle Facility Maintenance:** Paving or striping treatments
- **Neighborhood Bikeways (Bicycle Boulevards):** Neighborhood bikeways are local streets with low motorized traffic volumes and speeds that have been designated as bicycle routes.
- **Buffered Bicycle Lanes:** Buffered bicycle lanes are conventional bicycle lanes that are enhances the application of a diagonally striped buffer space. While not providing physical separation, this creates a wider buffer area between vehicles and bicyclists than a conventional six-inch bicycle lane stripe.
- **Separated Bicycle Lanes:** Bicycle facilities that are physically separated from motor vehicle traffic by a painted buffer and physical barriers such as flexible delineators, curbs, or planters. Eight feet is the minimum recommended total width for a protected bicycle lane (5 feet of bicycle lane and 3 feet of physical buffer zone). At this time, this treatment is not recommended for any roadways based on the 2016 Billings Area Bikeway and Trails Master Plan Update. However, it is identified as a viable treatment that is to be considered as future bicycle lanes are developed in Billings and in future updated to the Billings Area Bikeway and Trails Master Plan.
- **Visionary Bikeway:** Constrained corridors where future conditions would need to change to permit implementation.

The recent update of the Plan recommends a network of neighborhood bikeways (also known as bicycle boulevards) as comfortable alternatives to collector and arterial roadways. As depicted in Figure 65, there are several recommended segments for bicycle boulevards in the Heights area, Lockwood, and downtown. The downtown area and directly west of downtown to Shiloh Road also include recommended segments for bicycle lanes, future bicycle lanes, and shared lane markings. Future bicycle facilities are also recommended west of Shiloh Road as roads are built and expanded to accommodate projected growth.

FIGURE 65. FUTURE BICYCLE FACILITIES



Data Source: City of Billings, Billings-Yellowstone County MPO

FUTURE BICYCLE FACILITIES

Existing Infrastructure

- Shared Lane Marking
- Bike Lane
- Neighborhood Bikeway
- Shared Use Path
- Neighborhood Trail
- Unpaved Trail

Major Activity Centers

- Stadium
- Library
- Park
- Museum
- Fairgrounds
- Shopping Mall
- Cemetary
- College
- Schools
- Hospital

Recommended Projects from 2016 Bikeway & Trails Master Plan Update

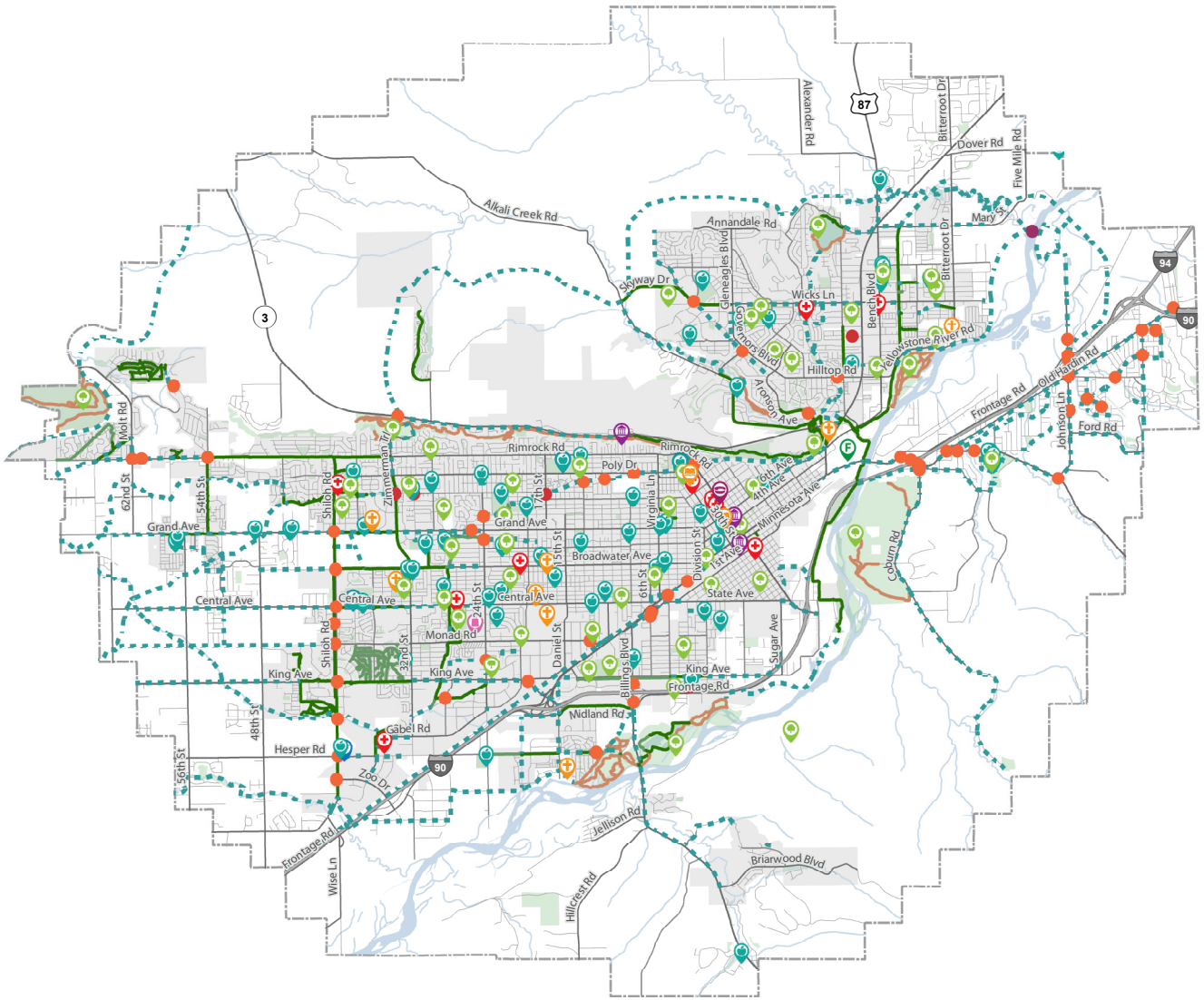
- Bike Intersection Treatment
- Enhance Bike Crossing
- Bike Facility Maintenance
- Buffered Bike Lane
- Bike Lane
- Shared Lane Marking
- Neighborhood Bikeway
- Visionary Long-Range Bikeway
- Bike Facilitiy Upon Roadway Widening or Construction

Trail Facility Types

As shown in Figure 66, there are multiple trails improvements recommended by the Billings Area Bikeway and Trails Master Plan Update that extend beyond the City of Billings limits, including a network of trails west of Shiloh Road, north of downtown along Rimrock Road and the Heights area, and in Lockwood. These proposed trails contribute to the broader non-motorized network by providing shared-use facilities for bicycles, pedestrians, and other modes. The types of trails recommended for the Billings planning area include:

- **Shared Use Paths (SUPs):** Shared-use paths are wide, hard-surface trails frequently found in parks, along rivers, in linear greenways, and besides roadways that typically have few conflicts with motor vehicles. They allow for two-way, off-street travel by bicyclists, pedestrians, skaters, wheelchair users, runners, persons with limited mobility, and other non-motorized users.
- **Neighborhood Connector Trails:** Paved trails less than 8 feet wide, making them too narrow for comfortable passing of multiple user groups. These trails complement the network of multi-use trails and are useful connections for a variety of users, especially for neighborhood residents.
- **Unpaved Trails:** Dirt, mulch, and gravel trails. These trails tend to be more narrow and rugged than the other types of trails.

FIGURE 66. FUTURE TRAIL FACILITIES



FUTURE TRAIL FACILITIES

Existing Infrastructure

- Shared Use Path
- Neighborhood Trail
- Unpaved Trail

Major Activity Centers

- Stadium
- Library
- Park
- Museum
- Fairgrounds
- Shopping Mall
- Cemetary
- College
- Schools
- Hospital

Recommended Projects from 2016 Bikeway & Trails Master Plan Update

- Build Trail Bridge
- Create Trail Access Point
- Enhance Trail Crossing
- Trail

Data Source: Billings-Yellowstone County MPO

FUTURE TRANSIT SYSTEM

As discussed in the *Transit Development Plan 2022*, MET Transit has begun transitioning its current service to a redesigned system that includes fixed stops along each route.[46] The intent of this redesign is to continue to grow ridership while improving efficiency, convenience, and sustainability of the transit system. This redesigned system is outlined in the Future Conditions Supporting Figures & Content Appendix, and displayed in Figure 66. MET is also actively working towards implementing a stop-based system for its fixed routes. In addition to these redesign changes, MET Transit will continue to work with stakeholders in the Lockwood community to evaluate and implement transit service to Lockwood. The *Transit Development Plan* studied potential alternatives and recommended a concept route that would traverse 1St Avenue N in Billings, I-90 across the Yellowstone River, and north along Old Hardin Road to service the residential neighborhoods along Noblewood Drive and Becraft Lane.

Additionally, the Future Conditions Supporting Figures & Content Appendix contains an evaluation of the future transit routes that coincide with projected congested intersections.

Passenger Rail Service

The Federal Rail Administration (FRA) is currently studying the feasibility of implementing or re-implementing a variety of Amtrak routes throughout the United States, due to funding provided by the Infrastructure Investment & Jobs Act (IIJA).[47] The Amtrak North Coast Hiawatha Route is one of the routes under study by the FRA, as it was discontinued in 1979. The North Coast Hiawatha Route could provide passenger rail service from Chicago to Seattle/Portland through southern Montana. Locally, to support this study, the Big Sky Passenger Rail Authority (BSRPA) was formed via the joint resolution of multiple Montana counties, cities, and tribal nations.[48]

FUTURE FREIGHT DEMAND

Future freight demand by truck, rail, air, and pipeline was assessed using the most recent data for the state of Montana from the FHWA FAF5 base scenarios.[49] The FAF5 also analyzes other freight modes that are not within the scope of the LRTP (such as mail and other unknown modes), and so are not included in this report. Transportation Planning & Implementation Since 2018 summarizes expected changes in freight demand by location-destination category between Year 2020 and Year 2050.

46 MET Transit. (September 2022). *Transit Development Plan 2022*. https://www.billingsmt.gov/DocumentCenter/View/47800/Billings-TDP_Draft_081112022
47 Congressional Research Service. (February 2022). *Passenger Rail Expansion in the Infrastructure Investment and Jobs Act (IIJA)*. https://crsreports.congress.gov/product/pdf/IF/IF11920
48 Big Sky Passenger Rail Authority. (N.D.). *Who We Are*. https://www.bigskyrail.org/whoweare
49 Federal Highway Administration. (July 2022). *Freight Analysis Framework 5th Edition.* https://ops.fhwa.dot.gov/freight/freight_analysis/faf/faf5/FAF5FHWAWebinarJuly282022final.pdf

FIGURE 67. FUTURE MET TRANSIT SYSTEM

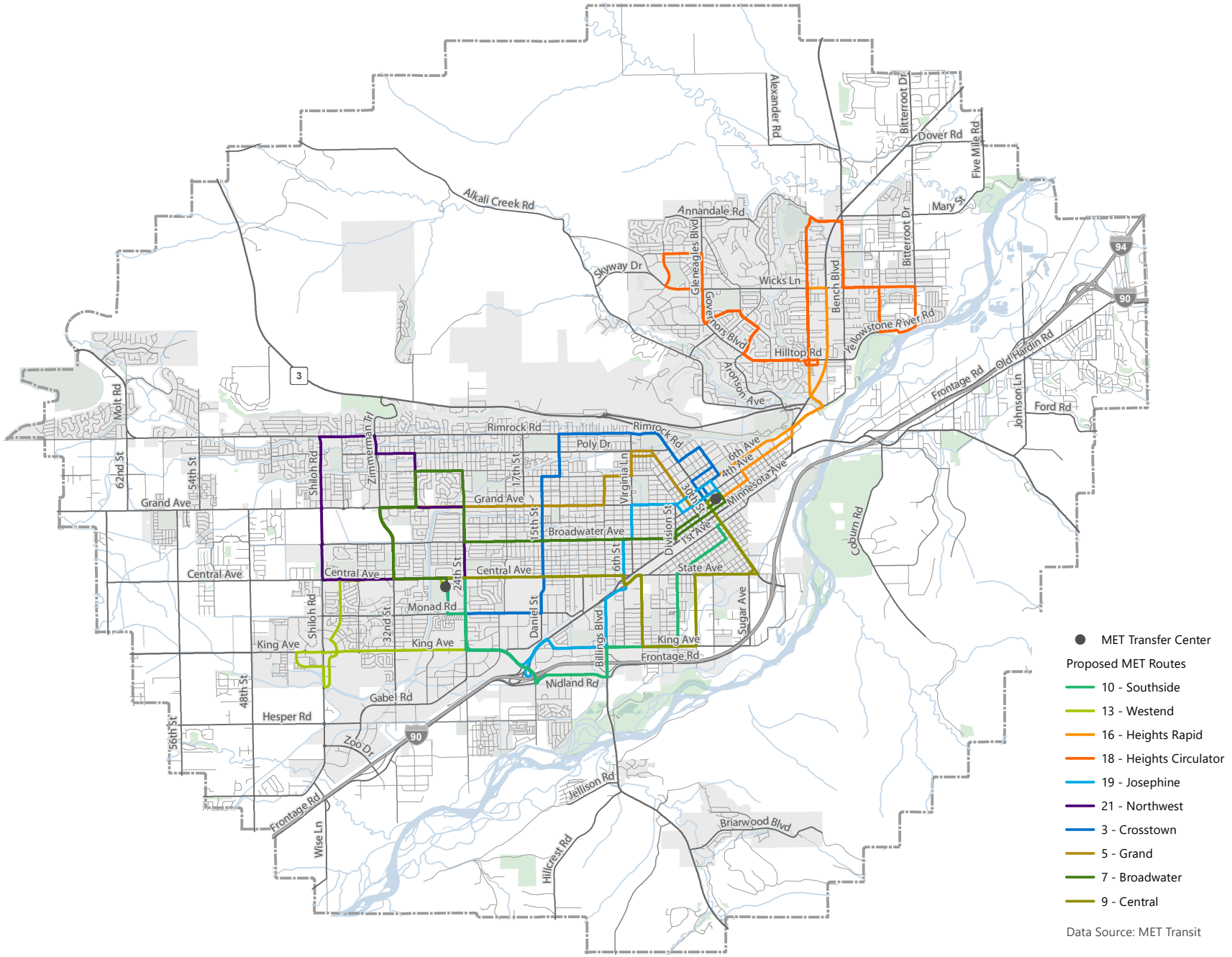


TABLE 30. YEAR 2020 AND YEAR 2050 TOTAL FREIGHT MOVED BY MODE

MONTANA FREIGHT MOVEMENT	WITHIN MONTANA			FROM MONTANA			TO MONTANA		
	2020	2050	% CHANGE	2020	2050	% CHANGE	2020	2050	% CHANGE
In Millions of Tons (% Moved by Truck)	33.7 (46%)	50.1 (46%)	+49%	13.4 (19%)	21.2 (24%)	+58%	14.7 (65%)	24.8 (69%)	+68%
In Millions of Dollars (% Moved by Truck)	14,635 (60%)	24,526 (60%)	+68%	9,892 (46%)	20,676 (52%)	+109%	24,377 (72%)	50,367 (71%)	+100%
In Millions of Tons (% Moved by Rail)	1.7 (2%)	2.9 (3%)	+65%	16.7 (24%)	13.3 (15%)	-21%	2.1 (9%)	3.3 (9%)	+60%
In Millions of Dollars (% Moved by Rail)	356.6 (1%)	570.8 (1%)	+60%	1786.4 (8%)	2866.0 (7%)	+60%	599.9 (2%)	1155.6 (2%)	+93%
In Millions of Tons (% Moved by Air)	0.03 (<1%)	0.15 (<1%)	+357%	1.8 (<1%)	3.6 (<1%)	+100%	3.0 (<1%)	6.0 (<1%)	+100%
In Millions of Dollars (% Moved by Air)	10.3 (<1%)	44.8 (<1%)	+335%	283.0 (1%)	567.5 (1%)	+100%	246.7 (1%)	566.6 (1%)	+130%
In Millions of Tons (% Moved by Pipeline)	32.6 (40%)	55.7 (51%)	+71%	23.6 (33%)	43.4 (48%)	84%	5.2 (23%)	6.4 (18%)	+25%
In Millions of Dollars (% Moved by Pipeline)	8,241 (34%)	13,904 34%	+69%	5,666 (26%)	10,812 (27%)	91%	1,572 (5%)	1,976 (3%)	+26%

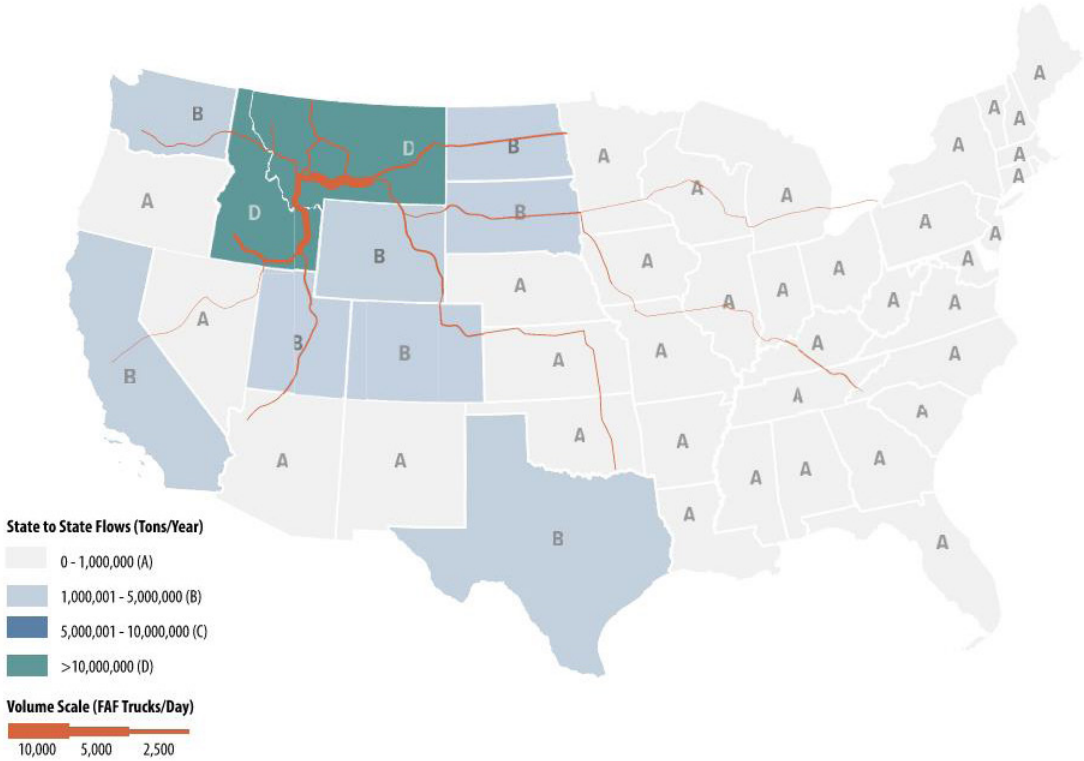
Source: Federal Highway Administration Freight Analysis Framework 5

Freight moved by air, which makes up the smallest amount of freight by weight and monetary value, is expected to increase between 2020 and 2050 within, to, and from Montana. Due to its smaller contribution to overall freight movement, increases in these categories seem relatively large in comparison to rail and trucking.

Freight moved by rail will continue increasing within Montana and to Montana from other states. While freight moved by rail from Montana to other states is expected to decrease by 21%, the monetary value of freight is projected to increase by 60%, which indicates that rail is projected to be responsible for moving higher-value goods.

Trucking currently makes up the highest percentage of tonnage and monetary value and is expected to continue increasing between 2020 and 2050. During this period, the monetary value of freight moved by trucks between Montana and other states is expected to increase by approximately 100%. As shown in Figure 68, trucking flows are expected to increase both by volume and by distance, with projected interstate trade stretching from Washington and California to Texas, the Carolinas, and Pennsylvania.

FIGURE 68. INTERSTATE TRUCK FLOWS IN 2050



Transportation Planning & Implementation Since 2018 shows the projected weight (in thousands of tons) and value (in millions of dollars) of freight moving within, to, and from Montana. Overall, total freight volume for all modes by weight is expected to increase by 32% from 178,348 to 235,444 (in thousand tons) between 2020 and 2050. Total freight volume by monetary value is expected to increase by 81% from $83,646 to $151,781 (in millions of dollars) in this period. The expected increase in tonnage and monetary value of freight moved throughout the state of Montana is an important consideration for long-term transportation planning and project prioritization in the City of Billings. The construction of the Billings Bypass will introduce additional links to the freight network in the City of Billings. As such, the current freight network within the urban area may potentially change upon completion of the project. Additionally, working with state and federal partners to ensure that the best freight routes are designated through the Billings planning area will be important.

The *2022 Montana Freight Plan*[50] provides guidance for long-term freight investments and projects and identifies statewide freight system needs, strategies, and innovative technologies that could support the increasing movement of freight. Some of the innovative technologies proposed in the Plan include the implementation of Intelligent Transportation Systems (ITS) technologies to support credentials and vehicle clearance, ramp screening, road condition monitoring, route planning, traffic control, emergency response, and safety aspects of road, rail, and air transport. Partnerships between the City of Billings, Yellowstone-Billings MPO, MDT, in addition to other local, regional, and national agencies will be critical to supporting the efficient and safe movement of freight throughout Montana.

Emerging Technology

The past twenty years have brought a variety of technologies to the cityscapes and transportation systems across the country, including in the Billings planning area. While it is impossible to predict which types of technologies will shape the landscape in the future, understanding the developments occurring today will help the community prepare for tomorrow and beyond. This section explores a few transportation technology topics and is by no means exhaustive (further details are provided in the Future Conditions Supporting Figures & Content Appendix). To best prepare the Billings planning area for emerging technologies, a readiness and feasibility study would help guide decision making in the coming years.

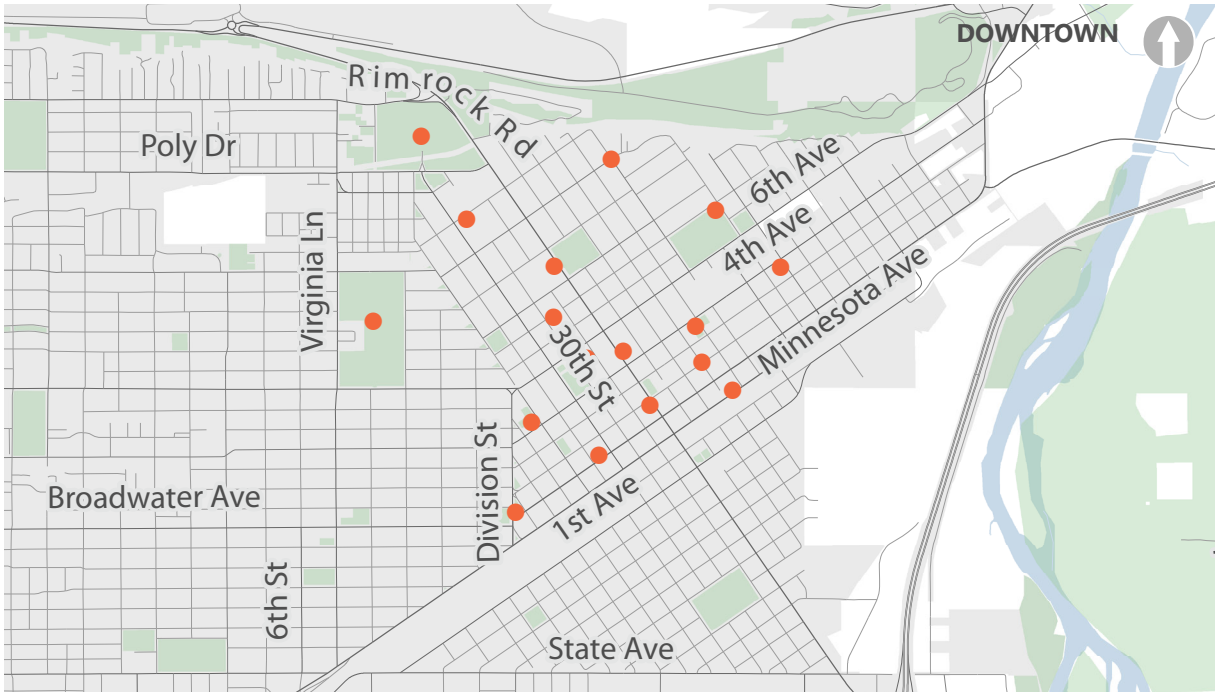
50 Montana Department of Transportation. (2022). *2022 Montana Freight Plan*. https://www.mdt.mt.gov/freightplan/docs/2022-Montana-Freight-Plan.pdf

SHARED MOBILITY & MICROMOBILITY

Over the past decade, advances in technology have contributed to the rise in popularity of transportation modes that expand accessibility and mobility to urban transportation networks. More recently, the rise of micromobility, which refers to any small, low-speed, human or electric-powered transportation device (i.e., bicycles, scooters, e-bikes, e-scooters), has introduced a variety of innovative transportation options to incorporate into a broader network of multimodal options.

The rapid growth of shared mobility and micromobility provides more mobility choices that enhance accessibility and mobility for all users, offer first- and last-mile links to transit networks, and offer cost-efficient options for those who do not have access or the physical ability to operate a personal vehicle. In 2021, the Billings-Yellowstone MPO completed the *Bike & Scooter Share Feasibility Study,* which outlined how shared micromobility could be implemented in the Billings planning area. The Study recommended pilot bicycle and scooter share station locations, which are displayed in Figure 69

FIGURE 69. RECOMMENDED BIKESHARE AND SCOOTERSHARE STATION LOCATIONS



ELECTRIC VEHICLES

In the *Electric Vehicle Infrastructure Prioritization Study,* the Montana Department of Environmental Quality (DEQ) estimates that by 2040, 9% of registered vehicles in Montana will be electric vehicles (~87,000 vehicles). This would equate to about 8,700 EVs in Billings in 2040, which will likely require substantial local investments in charging infrastructure.[51] To prepare for the charging needs of EV drivers and EV fleets, working with partner agencies such as the Montana Department of Transportation, the Montana Department of Environmental Quality, and local energy providers to complete a charging infrastructure assessment will be key towards successfully competing for National Electric Vehicle Infrastructure funding and implementing infrastructure in the Billings planning area. In addition to locally driven EVs, the DEQ also anticipates that most of the EVs travelling in Montana in 2040 will be driven by out-of-state visitors, which indicates the importance of charging infrastructure to support tourism and recreation in the area while boosting the local and regional economy.

51 Montana Department of Environmental Quality. (June 2022). *Electric Vehicle Infrastructure Prioritization Study.* https://deq.mt.gov/files/Energy/Transportation/MDEQ_EV_InfastructurePrioritizationStudy_Final.pdf

06 WHAT ARE THE TRANSPORTATION SYSTEM NEEDS, OPPORTUNITIES, & DEFICIENCIES?

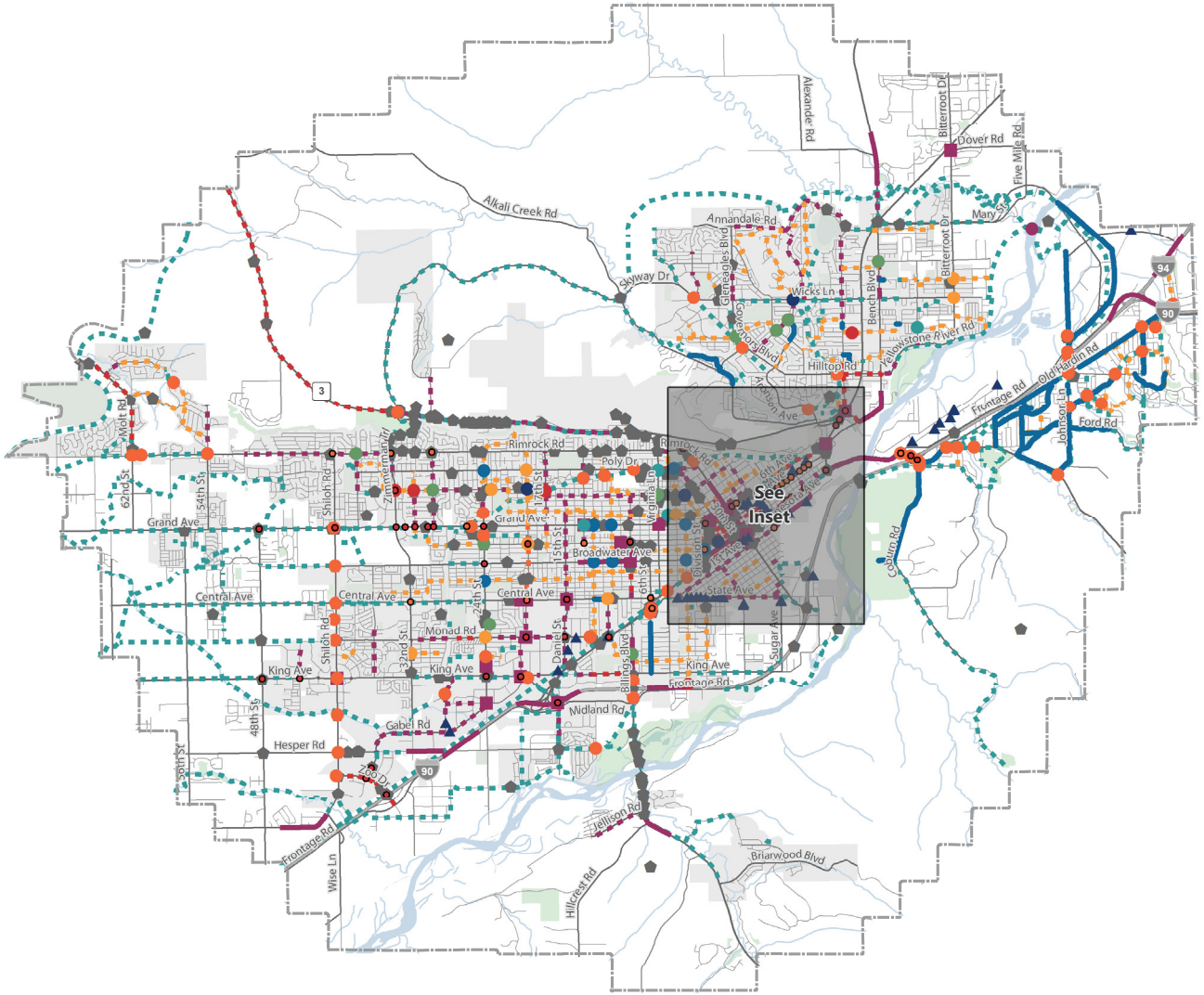
This chapter summarizes the multimodal transportation system needs and deficiencies of the Billings planning area. To better understand the barriers and issues faced by Billings planning area residents, the consultant team reviewed existing plans, held discussions with stakeholders, and collected public input. Additionally, this summary includes findings from both the Existing Conditions and Future Conditions analyses to paint a full picture of the needed improvements to the regional infrastructure looking forward to 2045. These high-level needs, opportunities, and deficiencies are delineated in Table 31 and depicted in Figure 70.

Figure 70 informed discussions with stakeholders, the public, and the Steering Committee in developing the Project List for the 2023 LRTP.

TABLE 31. BILLINGS PLANNING AREA MULTIMODAL TRANSPORTATION SYSTEM NEEDS & DEFICIENCIES

MODE / AREA	NEEDS, OPPORTUNITIES, & DEFICIENCIES
Safety	■ Address High Equivalent Property Damage Only (EPDO) Intersections ■ Address High EPDO Segments ■ Address ADA Issues
Pedestrian	■ Construct New Sidewalks ■ Maintain Existing Sidewalks ■ Enhance Crossings ■ Implement Safe Routes to Schools
Bicycle	■ Construct New Bikeways ■ Enhance Crossings ■ Implement Safe Routes to Schools
Trail	■ Build New Trails ■ Implement Safe Routes to Schools
Transit	■ Implement Stop-Based Fixed Route Service ■ Partner with MET Transit to Improve Pedestrian and Bicycle Access to Transit Stops
Congestion	■ Address LOS E Intersections ■ Address LOS F Intersections
Freight	■ Explore At-Grade Railroad Crossing Elimination ■ Explore Freight Route Designation
Emerging Technology	■ Explore Scooter and Bikeshare Pilot Program ■ Partner with MDT on Electric Vehicle Charging Infrastructure

FIGURE 70. NEEDS, DEFICIENCIES, & OPPORTUNITIES



NEEDS, DEFICIENCIES, & OPPORTUNITIES

Other Identified Concerns
- Public Comment Location
- At-Grade Railroad Crossing

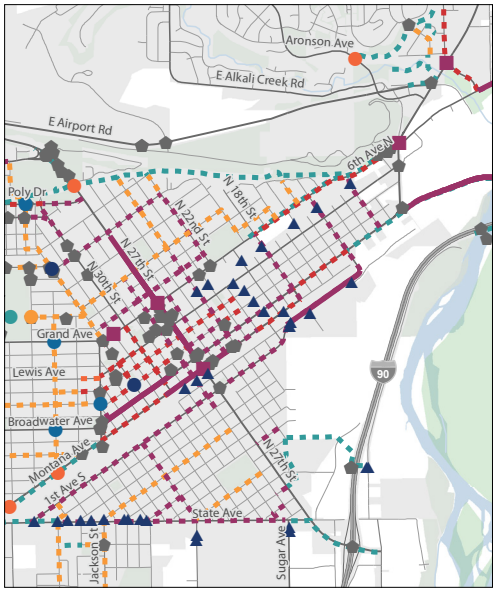
Safety
- High EPDO Intersection
- High EPDO Segment

Recommended Trail Projects
- Build Trail Bridge
- Create Trail Access Point
- Enhance Trail Crossing
- Trail

Recommended Pedestrian Projects
- High Visibility Crosswalk
- Curb Extensions or Pedestrian Refuge Island
- New or Enhanced Sidewalk

Recommended Bike Projects
- Bike Intersection Treatment
- Enhance Bike Crossing
- Bike Facility Maintenance
- Buffered Bike Lane
- Bike Lane
- Shared Lane Marking
- Neighborhood Bikeway

Projected 2045 Intersection Operations
- LOS E
- LOS F



07 WHAT ARE THE FUNDING OPTIONS?

This chapter discusses the financial plan for the 2045 LRTP. Federal legislation requires that the LRTP be "financially constrained"; in other words, the cost of implementing and maintaining transportation improvements should be within a funding amount that can reasonably be expected to be available during the life of this Plan.

Federal regulations establish the requirements for the financial plan in Title 23, Section 450.324(f)(11), of the Code of Federal Regulations.[52] To summarize, the regulations state that the financial plan should include the following:

- Estimates of costs and revenue sources needed to operate and maintain federal-aid highways and public transportation.
- Estimates of funds that will be available to support the LRTP implementation and that are agreed upon by the MPO, public transportation operator(s), and the state.
- Recommendations on any additional financing strategies to fund projects and programs included in the LRTP.
- Account for all projects and strategies proposed for funding under Title 23 U.S.C., Title 49 U.S.C. Chapter 53 or with other Federal funds, State assistance, local sources, and private participation.
- Revenue and cost estimates that use an inflation rate to reflect "year of expenditure dollars" and that have been developed cooperatively by the MPO, state, and public transportation operator.

Funding to implement the LRTP committed, recommended, and illustrative projects comes from federal, state, and local sources. This chapter includes estimates of costs that would be required to implement the LRTP as well as estimates of existing and contemplated sources of funds available to pay for these improvements. Different sets of revenue assumptions apply for capital, for operations and maintenance (O&M), and for each mode—active transportation (pedestrian, bicycle, and trail facilities); public transit; and streets and highways.

The following references and documents were used to develop this chapter:

- Montana Department of Transportation
- Billings Urban Area Transportation Improvement Program (TIP) FY 2020-2024
- City of Billings FY 2023-2027 Capital Improvement Program (CIP)
- City of Billings Proposed FY 2024-2028 CIP

The infographic on the next page depicts how the Project List, discussed in Chapter 8, is funded.

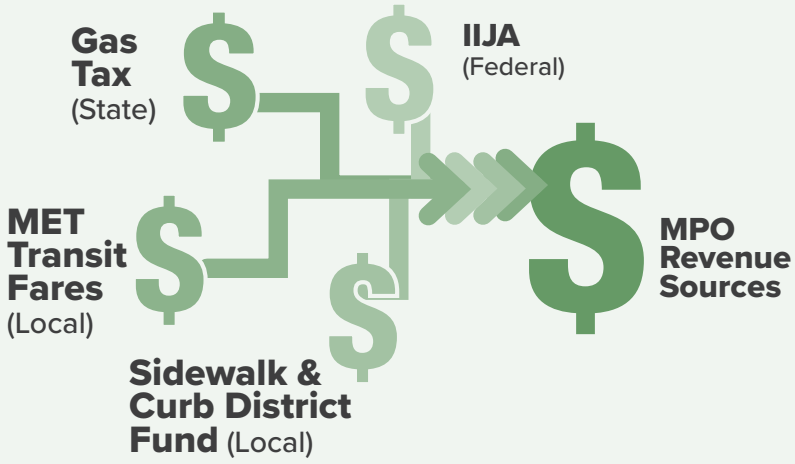
52 United States of America. (ND). Code of Federal Regulations: Title 23, Chapter I, Subchapter E, Part 450, Subpart C, Section 450.324: Development and content of the metropolitan transportation plan. https://www.ecfr.gov/current/title-23/chapter-I/subchapter-E/part-450/subpart-C/section-450.324

HOW IS THE PROJECT LIST FUNDED?

The Billings-Yellowstone County MPO receives funding from a variety of federal, state, and local sources, such as:

- Federal Programs authorized by the Infrastructure Investment & Jobs Act (IIJA)
- Montana Gas Tax
- City of Billings Sidewalks and Curb District Fund
- MET Transit Fares

Specific project types or activities are eligible for each of these funding sources.



Note: There are more available funding sources than those displayed here.

Each project has a cost estimate that includes the anticipated costs of studying, planning, designing, and/or building the project.

The Project List is sorted into categories based on eligibility for each revenue source.

The MPO revenues are matched to project costs of the prioritized projects.

Resulting in a spending plan that is fiscally constrained.

This chapter provides an overview of the various funding sources available to the Billings-Yellowstone County MPO for transportation projects. It is important to note that this summary is not exhaustive and represents a starting point for funding. Additionally, MDT administers several programs that are funded from State and Federal sources. Each year, in accordance with 60-2-127, Montana Annotated Code (MCA), the Montana Transportation Commission allocates a portion of available Federal-aid highway funds for construction purposes and for projects located on the national highway system, primary highway system, secondary highway system, urban highway system, and state highways.

Federal Funding

The Infrastructure Investment and Jobs Ac (IIJA) and the Inflation Reduction Act (IRA) continued many existing federal formula funding programs and created new federal formula funding programs. This section outlines many of these opportunities as they are relevant to the Billings-Yellowstone County MPO. Additionally, new competitive funding opportunities were also created by the IIJA and IRA that are summarized. These competitive programs could be potential sources of funding for innovative, unique, or large projects in the planning area.

NATIONAL HIGHWAY PERFORMANCE PROGRAM (NHPP)[53]

The NHPP provides funding for the National Highway System, including the Interstate System and National Highways system roads and bridges to support the condition, performance, and resiliency of the NHS. NHPP funds are Federally apportioned to Montana and allocated to Districts by the Montana Transportation Commission. Since the 2018 LRTP, updates to this program include:

11. Providing support for activities to increase the resiliency of the NHS to mitigate the cost of damages from sea level rise, extreme weather events, flooding, wildfires, or other natural disasters' is now a programmatic purpose of the NHPP.
12. 'Prioritizing Safety in All Investments and Projects' is now the stated safety goal of the NHPP through the FHWA National Roadway Safety Strategy.[54]
13. The program now encourages the Design and Construction of 'Complete Streets' , which provide comfortable and safe multimodal facilities for people of all ages and abilities.
14. Program funds can and should be used to implement ADA Transition Plans to ensure accessibility of pedestrian facilities in public right-of-way.
15. NHPP funds can be used to support the Justice40 Initiative, to meet the goal that at least 40% of the benefits of federal investments are distributed to disadvantaged communities.

Related MDT programs include:

- NH - National Highway System (Non-Interstate)
- IM - Interstate Maintenance
- NHPB - National Highway System Bridge Program

NATIONAL HIGHWAY FREIGHT PROGRAM (NHFP)[55]

The National Highway Freight Program invest in projects on the Primary Highway Freight System portion of the National Highway Freight Network, as that is what is eligible for NHFP funding in Montana. This program is apportioned to States by formula

53 Federal Highway Administration. (May 2022). *National Highway Performance Program Implementation Guidance.* https://www.fhwa.dot.gov/specialfunding/nhpp/bil_nhpp_implementation_guidance-05_25_22.pdf ; https://www.fhwa.dot.gov/bipartisan-infrastructure-law/nhpp.cfm

54 United States Department of Transportation. (January 2022). *National Roadway Safety Strategy.* https://www.transportation.gov/sites/dot.gov/files/2022-02/USDOT-National-Roadway-Safety-Strategy.pdf

55 Federal Highway Administration. (February 2022). *National Highway Freight Program Bipartisan Infrastructure Law Fact Sheet.* https://www.fhwa.dot.gov/bipartisan-infrastructure-law/nhfp.cfm

and provides funding for construction, operational improvements, freight planning, and performance measures. The State share is typically funded through the Highway State Special Revenue Account (HSSRA) for projects on state highways and local governments provide the match for local projects. There are no other related MDT programs included with this funding source. Since the 2018 LRTP, updates to this program include:

1. The program increases the eligibility to 30% (vs. 10% under the FAST Act) on the amount of NHFP funding that a State may use on freight intermodal or freight rail projects.
2. The program increases the maximum number of miles that may be designated as critical urban freight corridors in a State to 150 miles of highways (vs. 75 under the FAST Act) or 10% of the PHFS mileage in the State, whichever is greater.

SURFACE TRANSPORTATION BLOCK GRANT PROGRAM (STP)[56, 57]

STP funds are Federally apportioned to Montana and allocated by the Montana Transportation Commission to various programs. Project types vary with each program, but can include roadway reconstruction and rehabilitation, to bridge construction and inspection, to highway and transit safety infrastructure, environmental mitigation, operational improvements, carpooling, and bicycle and pedestrian transportation facilities. Since the 2018 LRTP, updates to this program include:

- 'Prioritizing Safety in All Investments and Projects' is now the stated safety goal of the STP through the FHWA National Roadway Safety Strategy.
- The program encourages the design and construction of 'Complete Streets'.
- The program emphasizes the importance of using funds to implement ADA Transition Plans to ensure accessibility of pedestrian facilities in public right-of-way.

Related MDT programs include:

- Primary Highway System (STPP)
- Secondary Highway System (STPS)
- Urban Highway System (STPU)
- Surface Transportation Program Bridge (STPB)
- Surface Transportation Program for Other Routes - Off-System (STPX)
- Urban Pavement Preservation Program (UPP) Interstate Maintenance

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)[58, 59]

HSIP funds are apportioned to Montana for allocation to safety improvement projects approved by the Montana Transportation Commission and are consistent with the strategic highway safety improvement plan. Projects described in the Montana Comprehensive Highway Safety Plan must correct or improve a hazardous road location or feature or address a highway safety problem. The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads that focuses on performance.

56 Federal Highway Administration. (May 2022). *Surface Transportation Block Grant Program Implementation Guidance.* https://www.fhwa.dot.gov/specialfunding/stp/bil_stbg_implementation_guidance-05_25_22.pdf

57 Federal Highway Administration. (February 2022). *Surface Transportation Block Grant Program Bipartisan Infrastructure Law Fact Sheet.* https://www.fhwa.dot.gov/bipartisan-infrastructure-law/stbg.cfm

58 Federal Highway Administration. (February 2022). *Highway Safety Improvement Program Bipartisan Infrastructure Law Fact Sheet.* https://www.fhwa.dot.gov/bipartisan-infrastructure-law/hsip.cfm

59 Federal Highway Administration. (February 2022). *Highway Safety Improvement Program Eligibility Guidance.* https://safety.fhwa.dot.gov/hsip/rulemaking/docs/BIL_HSIP_Eligibility_Guidance.pdf

Since the 2018 LRTP, updates to this program include:

- The IIJA does not extend the FAST Act prohibition (FAST Act § 1401) on using HSIP funds to purchase, operate, or maintain an automated traffic enforcement system.
- The program is authorized to include additional eligible safety projects including multimodal roundabouts, railway-highway grade separation, traffic calming, multimodal traffic signals, separated bicycle and pedestrian facilities.
- The program requires States to complete a Vulnerable Road User Safety Assessment. Montana Department of Transportation has not yet completed this assessment. Federal guidance was released in October 2022.[60]
- The program specifies the eligibility of both roads and trail facilities.

CONGESTION MITIGATION AND AIR QUALITY IMPROVEMENT PROGRAM (CMAQ)[61]

Federal funds available under this program are used to finance transportation projects and programs to reduce congestion and help improve air quality and meet the requirements of the Clean Air Act. The Montana Transportation Commission allocates funds from the Montana Air & Congestion Initiative (MACI) Guaranteed Program directly to Billings and Great Falls to address carbon monoxide issues. Since the 2018 LRTP, updates to this program include:

- The program requires States to prioritize benefits to disadvantaged communities or low-income populations living in or adjacent to such areas, to the extent practicable.
- The program is authorized to include additional eligible projects such as shared micromobility, zero emission replacements, and alternate fuel vehicles for construction.

Related MDT programs include:

- CMAQ (formula)
- Montana Air & Congestion Initiative (MACI) – Guaranteed Program (flexible)
- Montana Air & Congestion Initiative (MACI) – Discretionary Program (flexible)

60 Federal Highway Administration. (October 2022). *Vulnerable Road User Safety Assessment Guidance.* https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-10/VRU%20Safety%20Assessment%20Guidance%20FINAL_508.pdf

61 Federal Highway Administration. (February 2022). *Congestion Mitigation and Air Quality Improvement Program Bipartisan Infrastructure Law Fact Sheet.*https://www.fhwa.dot.gov/bipartisan-infrastructure-law/cmaq.cfm

TRANSPORTATION ALTERNATIVES PROGRAM (TA)[62,63]

The TA program provides flexible funding to support a variety of Complete Streets projects at the local and regional levels. The TA program is a set-aside from the Surface Transportation Block Grant Program. Funds may be obligated for projects submitted by: Local governments, transit agencies, natural resource or public land agencies, school district, schools, local education authority, tribal governments, and other local government entities with responsibility for recreational trails for eligible use of these funds. Many projects eligible under TA are also eligible under HSIP and STP. There are no other related MDT programs included with this funding source. Since the 2018 LRTP, updates to this program include:

1. The program increased the suballocation for population centers from 50% to 59%.
2. The competitive process used for the suballocation of funds must include prioritization of project location and impact in high-need areas as defined by the State.

TRANSIT CAPITAL AND OPERATING ASSISTANCE

The MDT Transit Section provides federal and state funding to eligible recipients through Federal and state programs. Federal funding is provided through the Section 5307,[64] Section 5310,[65] Section 5311,[66] and Section 5339[67] transit programs and state funding is provided through the TransADE program. There are no other related MDT programs included with this funding source. While these programs have been updated since the 2018 LRTP, there are no relevant updates for the MPO's purposes.

NEW FEDERAL FUNDING SOURCES

The IIJA created several new transportation funding formula programs that are associated with many important elements of the Billings LRTP, including resiliency, sustainability, multimodal systems, and emerging technology. As an important planning area in the state of Montana, Billings is likely to receive an allocation of formula funds from the following new programs.

62 Federal Highway Administration. (February 2022). *Transportation Alternatives Program Bipartisan Infrastructure Law Fact Sheet.* https://www.fhwa.dot.gov/bipartisan-infrastructure-law/ta.cfm

63 Federal Highway Administration. (March 2022). *Transportation Alternatives Program Set-Aside Implementation Guidance as Revised by the Infrastructure Investment and Jobs Act.* https://www.fhwa.dot.gov/environment/transportation_alternatives/guidance/ta_guidance_2022.pdf

64 Federal Transit Administration. (ND). *Urbanized Area Formula Grants 5307.* https://www.transit.dot.gov/funding/grants/urbanized-area-formula-grants-5307

65 Federal Transit Administration. (ND). *Enhanced Mobility for Seniors and Individuals with Disabilities Grants 5310.* https://www.transit.dot.gov/funding/grants/enhanced-mobility-seniors-individuals-disabilities-section-5310

66 Federal Transit Administration. (ND). *Rural Area Formula Grants 5311.* https://www.transit.dot.gov/sites/fta.dot.gov/files/2021-12/Fact-Sheet-Rural-Program.pdf

67 Federal Transit Administration. (ND). *Grants for Buses and Bus Facilities.* https://www.transit.dot.gov/sites/fta.dot.gov/files/2021-12/Fact-Sheet-Buses-and-Bus-Facilities.pdf

New Federal Formula Funding Programs

NATIONAL ELECTRIC VEHICLE INFRASTRUCTURE FORMULA PROGRAM (NEVI)[68]

The NEVI Formula Program provides funds to strategically deploy electric vehicle charging infrastructure and to establish an interconnected network to facilitate data collection, access, and reliability. Eligible projects must directly relate to publicly accessible or authorized commercial charging infrastructure along designated alternative fuel corridors. This Program is administered by the Joint Office of Energy and Transportation (JOET), which will allocate funds that MDT will administer along designated EV corridors.

CARBON REDUCTION PROGRAM (CRP)[69, 70]

The CRP provides funds to projects designed to reduce transportation emissions (specifically carbon dioxide emissions) from on-road highway sources. Funds are apportioned to States, which are required to suballocate 65% of funds based on population and 35% for any part of the state. Eligible projects include congestion mitigation technologies, public transit, all Transportation Alternatives projects, energy-efficient electronics upgrades, intelligent transportation system (ITS), congestion pricing and travel demand management, alternate fuel vehicles and infrastructure, and any other STBG eligible project with demonstrated capacity to reduce emissions. States are required to collaborate with MPOs to develop a statewide Carbon Reduction Strategy that aligns with statewide and metropolitan long range transportation plans. The strategy must support efforts to reduce transportation emissions, identify projects to endeavor towards this aim, quantify transportation emissions at the state and regional levels.

MDT will administer formula funds that align with its Carbon Reduction Strategy, which is currently under development.

PROMOTING RESILIENT OPERATIONS FOR TRANSFORMATIVE, EFFICIENT, AND COST-SAVING TRANSPORTATION (PROTECT) FORMULA PROGRAM[71, 72]

The PROTECT Formula Program provides funds to help make surface transportation more resilient to natural hazards, including climate change, sea level rise, flooding, extreme weather events, and other natural disasters through support of planning activities, resilience improvements, community resilience and evacuation routes, and at-risk coastal infrastructure. Each State is required to use at least 2% of its funds for planning activities. Limits States to use up to 40% of funds to construct new capacity and up to 10% of its funds for development phase activities. Eligible facilities include federal-aid highways, public transit facilities or services, and port facilities. PROTECT funds will be administered by MDT statewide.

68 Federal Highway Administration. (February 2022). *National Electric Vehicle Infrastructure Program Bipartisan Infrastructure Law Fact Sheet.* https://www.fhwa.dot.gov/bipartisan-infrastructure-law/nevi_formula_program.cfm

69 Federal Highway Administration. (February 2022). *Carbon Reduction Program Bipartisan Infrastructure Law Fact Sheet*. https://www.fhwa.dot.gov/bipartisan-infrastructure-law/crp_fact_sheet.cfm

70 Federal Highway Administration. (April 2022). *Carbon Reduction Program Implementation Guidance*. https://www.fhwa.dot.gov/environment/sustainability/energy/policy/crp_guidance.pdf

71 Federal Highway Administration. (February 2022). *Promoting Resiliency Operations for Transformative, Efficient, and Cost-Saving Transportation Program Bipartisan Infrastructure Law Fact Sheet.* https://www.fhwa.dot.gov/bipartisan-infrastructure-law/protect_fact_sheet.cfm

72 Federal Highway Administration. (July 2022). *Promoting Resiliency Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Formula Program Implementation Guidance.* https://www.fhwa.dot.gov/environment/sustainability/resilience/policy_and_guidance/protect_formula.pdf

BRIDGE FORMULA PROGRAM (BFP)[73, 74, 75]

The BFP provides funds to projects that replace, rehabilitate, preserve, protect, and construct highway bridges. Each State is guaranteed at least $45 million for bridges in poor and fair condition and requires a set-aside of 15% for use on "off-system" bridges (for bridges on public roads rather than federal-aid highways). Bridges owned by a local agency are eligible for 100% federal share. There are no other related MDT programs included with this funding source. Eligible bridges include all bridges listed in the National Bridge Inventory. New bridge construction is an eligible program activity. This new program will be integrated into MDT's existing bridge funding program.

New Federal Competitive Grants

Table 32 delineates the new competitive grant programs that the MPO is eligible to apply for in partnership with MDT.

TABLE 32. NEW FEDERAL COMPETITIVE GRANT PROGRAMS

GRANT PROGRAM	DESCRIPTION
Bridge Investment Program (BIP)[76]	The Bridge Investment Program (BIP) includes $2.34 billion in funding for Planning, Bridge and Large Bridge Projects that improve the safety, efficiency, and reliability of the movement of people and freight over bridges; and improve the condition of bridges in the United States by reducing the number of bridges, and total person miles traveled over bridges, that are in poor condition or at risk of falling into poor condition within the next three years. MDT is an active partner in applying for BIP grants.
Low or No Emission Vehicle Program[77]	The Low or No Emission competitive program provides funding to state and local governmental authorities for the purchase or lease of zero-emission and low-emission transit buses as well as acquisition, construction, and leasing of required supporting facilities. Transit agencies are required to have a Zero-Emission Fleet Transition Plan in place to qualify for funds.
Nationally Significant Multimodal Freight and Highways (INFRA)[78]	INFRA awards competitive grants for multimodal freight and highway projects of national or regional significance to improve the safety, efficiency, and reliability of the movement of freight and people in and across rural and urban areas. This program is continued with new eligibilities under the IIJA to improve safety, generate economic benefits, reduce congestion, enhance resiliency, and eliminate freight bottlenecks to improve critical freight movements. MDT is an active partner in applying for INFRA grants.
National Infrastructure Project Assistance (MEGA)[79,80]	The MEGA Program support large, complex projects that are difficult to fund by other means and likely to generate national or regional economic, mobility, or safety benefits. Highway and bridge projects on the NMFN, the NHFN, and NHS, as well as intermodal freight centers, intercity rail, and certain transit projects are eligible. MDT is an active partner in applying for INFRA grants.
Reconnecting Communities Program (RCP)	The RCP is intended to remove infrastructure that has historically divided neighborhoods and deteriorated the urban fabric. Pilot activities include highway closures, "stroads" to boulevards, roadway reallocations, and greenway creations.

73 Federal Highway Administration. (February 2022). *Bridge Investment Program Bipartisan Infrastructure Law Fact Sheet*. https://www.fhwa.dot.gov/bipartisan-infrastructure-law/bfp.cfm
74 Federal Highway Administration. (January 2022). *Bridge Formula Program Implementation Guidance.* https://www.fhwa.dot.gov/bridge/bfp/20220114.cfm
75 Federal Highway Administration. (December 2022). *Bridge Formula Program Questions and Answers.* https://www.fhwa.dot.gov/bridge/bfp/qanda.cfm
76 Montana Department of Transportation. (ND). Bridge Investment Program (BIP) Grant Program. https://mdt.mt.gov/business/discretionarygrants/bip.aspx
77 Federal Transit Administration. (ND). *Low or No Emission Vehicle Program – 5339 (c).* https://www.transit.dot.gov/lowno
78 United States Department of Transportation. (December 2022). *The INFRA Grants Program.* https://www.transportation.gov/grants/infra-grants-program
79 United States Department of Transportation. (January 2023). *The MEGA Grant Program.* https://www.transportation.gov/grants/mega-grant-progra
80 Montana Department of Transportation. (ND). *National Infrastructure Project Assistance (MEGA) Grant Program.* https://mdt.mt.gov/business/discretionarygrants/mega.aspx

GRANT PROGRAM	DESCRIPTION
Railroad Crossing Elimination (RCE)[81]	The Railroad Crossing Elimination Program provides funding for planning and construction grants that focus on highway-rail or pathway-rail grade crossing improvement projects with an emphasis on improving the safety and mobility of people and goods. MDT is an active partner in applying for RCE grants, and the program is administered by the Federal Railroad Administration.
Rebuilding American Infrastructure with Sustainability and Equity (RAISE)	The RAISE Grant program provides funding for capital investments in surface transportation infrastructure for projects that will have a significant local or regional impact and improve transportation infrastructure. Expected impacts of funded projects include those that reduce greenhouse gas emissions, address environmental justice, address racial equity and barriers to opportunity, and create good-paying jobs from modernizing transportation infrastructure making them safer, more accessible, more affordable, and more sustainable. MDT is an active partner in applying for RAISE grants.
Safe Streets & Roads for All (SS4A)	The SS4A Program is administered by the FHWA to award competitive grants for planning, demonstration, and implementation activities that improve multimodal safety. Cities and counties are eligible to apply for Planning & Demonstration Grants or Implementation Grants in partnership with community groups, MPOs, and state DOTs. Planning grants can support the development of a Safety Action Plan, and Implementation grants can be used for capital construction.
Strengthening Mobility and Revolutionizing Transportation (SMART)[82]	The SMART grant program supports demonstration projects focused on advanced smart city/community technologies and systems in a variety of communities to improve transportation efficiency and safety. Projects should focus on using technology interventions to solve real-world challenges and build data and technology capacity and expertise in the public sector. There are both planning and implementation grants available. MDT is an active partner in applying for SMART grants.

State Funding

At the state level, the Montana Department of Transportation allocates funding to the Billings-Yellowstone County MPO for transportation projects. This is primarily funded through the state fuel taxes levied by the state of Montana. As of 2023, the Bridge and Road Safety and Accountability Act (BARSAA) has been repealed and replaced by HB 76, which maintains the allocation of gas tax funding for cities and counties, but removes administrative barriers to accessing these funds. Gas tax funds must be used for the construction, reconstruction, maintenance of rural roads, city streets, and alleys.

The funds may also be used for the share that the city or county might otherwise expend for proportionate matching of Federal funds allocated for the construction of roads or streets that are part of the primary, secondary, or urban system. This tax has increased since the 2018 LRTP and is now assessed at $0.33 per gallon on gasoline and $0.2975 per gallon on diesel fuel used for transportation purposes.[83]

Local Funding

Local governments generate revenue from variety of sources that contribute to the funding of transportation projects in the Billings planning area. Table 33 outlines the local funding sources outlined in the City of Billings Capital Improvement Program.

81 Montana Department of Transportation. (ND). *Railroad Crossing Elimination (RCE) Grant Program.* https://mdt.mt.gov/business/discretionarygrants/rce.aspx

82 Montana Department of Transportation. (ND). *Strengthening Mobility and Revolutionizing Transportation (SMART) Grant Program*. https://mdt.mt.gov/business/discretionarygrants/smart.aspx

83 Montana Department of Transportation (ND). *Fuel Tax Frequently Asked Questions*. https://www.mdt.mt.gov/business/fueltax/faq.aspx

TABLE 33. LOCAL FUNDING SOURCES

FUNDING SOURCE	DESCRIPTION
Arterial Construction Fund	This special revenue fund is managed by the Billings Public Works Department and was used for the construction of new roadway facilities. This fund will expire following Fiscal Year 2023.
Airport Fund	This enterprise fund is used to design, construct, and maintain airport equipment and facilities at the Billings Logan International Airport.
Gas Tax Fund	This special revenue fund is managed by the Billings Public Works Department and implements the City Council's goals relating to maintaining quality streets and street maintenance. Funding for this activity is derived from the City's share of Gas Tax proceeds and a transfer from the Street Maintenance District Fund for maintenance.
Sidewalk and Curb Districts Fund	This fund is used to account for the construction of sidewalks and curbing throughout the City. The Annual Street Reconstruction and Misc., Curb, Gutter, and Sidewalk Programs are part of this fund.
Special Improvement Districts Fund	A SID is a group of properties that become a legal entity in order to construct public improvements. Some improvements that can be constructed through an SID include street paving, curb and gutter, water main, sewer main, and storm drain. Improvement costs are carried by property owners within the SID boundaries.
Street Maintenance District Fund	The street maintenance special assessment districts provide funding to maintain quality streets and street maintenance for the safety of residents and visitors and to continue to improve the city's street network. Street Maintenance District #1 is comprised of the central downtown area and Street Maintenance District #2 is the remainder of the city. This program includes the City's Street Traffic Division operations, PAVER Program, and Street Light Maintenance.
Street and Traffic Fund	This special revenue fund is used to purchase, operate, and maintain the equipment used to ensure the safe and efficient operations of public roadways in the City of Billings.
Tax Increment Financing	Tax Increment Financing (TIF) is a mechanism that allows a local government or redevelopment authority to generate revenues for a group of blighted properties targeted for improvement, known as a TIF district. As improvements are made within the district, and as property values increase, the incremental increases in property tax revenue are captured in a fund that is used for public improvements within the district. The funds generated from a new TIF district could be used to finance projects such as street and parking improvements, tree planting, installation of new bicycle racks, trash containers and benches, and other streetscape beautification projects within the designated area. Billings currently has three active TIF districts: Downtown TIFD, East Billings TIFD, and South Billings TIFD.
Transit Fund	The Transit Fund is a city Enterprise Fund, which means that the agency is operated as a business that provides a service to the public for a fee. MET Transit operates both fixed route and on-demand paratransit services with various fare options, that support MET's operations, along with city and federal funding. The Transit Fund is specifically reserved for transit projects.
Trail Grant Fund	This fund is used to account for the contributions and grants related to the construction of bicycle and pedestrian pathways.

Emerging Funding Sources

As transportation technologies continue to evolve, funding sources that were once lucrative, such as gas taxes, may become less relevant. To supplement and eventually replace obsolete funding sources, there are several funding sources that are emerging, including congestion pricing, mileage-based fees, variable parking fees, and electric vehicle charging taxes.[84, 85] Details about these emerging funding sources are outlined below.

- **Congestion Pricing:** This newer tolling approach prices roadway use to reduce demand in order to use the road's capacity most efficiently and to raise revenue. Congestion pricing is based on the idea that the price of accessing available roadway capacity should be higher at the places and during the times of day when demand is the greatest. This program can be implemented on a lane, a roadway, a bridge/tunnel, or an area (area-wide congestion pricing is also known as cordon pricing). Many states and cities in the US have implemented congestion pricing to fund either the maintenance of the facility or to fund multimodal improvements throughout the jurisdiction.
- **Mileage-Based Fee:** Also known as "Vehicle Miles Traveled" (VMT) fees, this funding source charges drivers directly for each mile traveled, either through odometer readings at annual vehicle registrations or GPS-based systems. This funding source is flexible in that the rate per mile traveled can vary and it can be different for different roadway users (such as commercial vehicles or for-hire vehicles). Because it is applicable for both internal combustion engine and electric vehicles, it is relatively future-proof, in addition to working as an incentive for individuals to drive less. Oregon and California have piloted mileage-based systems since the 2000's, and other states, including Hawaii, Massachusetts, Minnesota, Tennessee, Utah, Vermont, Virginia, and Washington are currently investigating these programs.
- **Variable Parking Fee:** Similar to congestion pricing, variable parking fees price the spaces available for vehicular parking based on location, availability, and the time of day. Variable pricing programs are based on the idea that vehicular parking is one use of on-street space, and should be priced for the opportunity cost of using that space to store cars rather than for potentially more efficient uses, such as bus-only lanes, protected bicycle facilities, commercial loading zones, landscaping, outdoor dining, or wider sidewalks. The District of Columbia has been piloting variable parking fees in select neighborhoods since 2019.
- **Electric Vehicle Charging Tax:** This emerging funding source levies a tax on electricity delivered to public electric vehicle charging stations. The Montana State Legislature passed a kilowatt hours tax in 2023.

The state of Montana is researching replacements for the gas tax. At present, the gas tax is the primary source of non-federal funding for roads, bridges, and other transportation infrastructure. The City of Billings is not currently investigating variable parking fees. For this reason, the following section continues to project revenues emerging from gas taxes.

Revenue Projections

Many of the funding sources detailed in the previous section are included in several important documents that informed the estimation and projection of future MPO revenues, including a current allocation (2023) of available transportation funding for the Billings planning area managed by MDT Statewide and Urban Planning Section, the FY2020 – 2024 MPO Transportation Improvement Program, the FY 2023 – 2027 City of Billings Capital Improvement Program, and the FY 2023 City of Billings Budget. These local, state, and federal revenue sources were compiled and then multiplied by a 3% inflation for each year to project to the five-year (FY 2028), ten-year (FY2033), and twenty-two year (FY2045) revenues for those periods. Table 34 summarizes the current and projected funding (estimated) for the Billings planning area.

The current annual allocation for the Billings-Yellowstone County MPO is $65,587,858. The 22-year revenue projection is $1,251,530,000. Using the 22-year revenue projection, the average annual allocation is estimated at $56,880,000 The average annual revenue projection is anticipated to increase due to changes in federal funding programs. However, it is important to note that federal earmarks, which were a previous revenue source, are no longer expected.

84 National Governors Association. (2021). *Innovative State Transportation Funding and Financing: Policy Options for States.* National Governors Association Center for Best Practices. https://www.nga.org/wp-content/uploads/2021/02/0901TRANSPORTATIONFUNDING.pdf

85 Povich, Elaine. (October 10, 2022). *As Electric Vehicle Shrink Gas Tax Revenue, More States May Tax Mileage.* Pew Trusts: Stateline. https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2022/10/10/as-electric-vehicles-shrink-gas-tax-revenue-more-states-may-tax-mileage

TABLE 34. BILLINGS-YELLOWSTONE MPO PROJECTED REVENUES (2023 - 2045)

FUNDING SOURCE	CURRENT ANNUAL ALLOCATION (FY 2023)	5-YEAR REVENUE PROJECTION (FY 2028)	10-YEAR REVENUE PROJECTION (FY 2032)	22-YEAR REVENUE PROJECTION (FY 2045)
Congestion Mitigation and Air Quality Improvement/ Montana Air and Congestion (CMAQ/MACI)	$1,353,095	$10,512,000	$13,940,000	$30,660,000
Surface Transportation Program Bridge (STPB)	$2,768,028	$14,260,000	$28,510,000	$62,720,000
National Highway System (NHS)	$10,942,487	$56,350,000	$112,710,000	$247,960,000
Interstate Maintenance (IM)	$4,069,307	$20,960,000	$41,910,000	$92,210,000
Highway Safety Improvement Program (HSIP)	$3,403,163	$17,530,000	$35,050,000	$77,120,000
Surface Transportation Program Secondary (STPS)	$369,102	$1,900,000	$3,800,000	$8,360,000
Urban Pavement Preservation (UPP)	$471,430	$2,430,000	$4,860,000	$10,680,000
Maintenance (M)	$998,564	$5,140,000	$10,290,000	$22,630,000
Surface Transportation Program Urban (STPU)	$2,489,770	$12,820,000	$25,640,000	$56,420,000
Transportation Alternatives (TA)	$789,570	$4,852,500	$8,130,000	$17,890,000
National Highway Freight Program (NHFP)	$3,245,550	$16,710,000	$33,430,000	$73,540,000
Federal Discretionary Grant (BUILD)	$9,370,900	$-	$-	$-
Local CMAQ (CMAQ)	$1,658,307	$8,540,000	$17,080,000	$37,580,000
Gas Tax - City (GTB)	$3,998,121	$20,590,000	$41,180,000	$90,600,000
Gas Tax - County (GTY)	$711,389	$3,660,000	$7,330,000	$16,120,000
Sidewalk and Curb Districts Fund (SCD)	$1,370,000	$7,060,000	$14,110,000	$31,040,000
Special Improvement Districts Fund (SID)	$2,400,000	$12,360,000	$24,720,000	$54,380,000
Street Maintenance District Fund (SM)	$4,097,000	$21,100,000	$42,200,000	$92,840,000
Transit Fund - Capital (TF-C)	$6,258,581	$32,230,000	$64,460,000	$141,820,000
Transit Fund - Operations (TF-O)	$3,303,194	$17,010,000	$34,020,000	$74,850,000
Transit Fund - Facilities (TF-F)	$534,301	$2,750,000	$5,500,000	$12,110,000
Total	$65,587,858	$288,764,500	$568,870,000	$1,251,530,000

**The Arterial Construction Fund will expire at the close of Fiscal Year 2023 and is not included in revenue projections.*

***The Street Maintenance District Fund is new in Fiscal Year 2024 and is included in revenue projections.*

08 WHAT ARE THE PRIORITY PROJECTS? HOW WILL WE FUND THEM?

This chapter discusses the development of the project list for the 2023 LRTP and outlines the implementation strategy of the Plan and its projects.

Projects

The LRTP project list enables the prioritization and future implementation of transportation improvements in the Billings planning area. The project list is developed from a combination of past plans and studies as well as analyses conducted in the Existing and Future Conditions analyses. Stakeholder and public outreach are also a key component of project list development and enable the residents of the Billings planning area to provide input on projects and suggest new project ideas. The project list development process is summarized in Figure 71 and further discussed below.

FIGURE 71. PROJECT LIST DEVELOPMENT PROCESS

Project Identification

- Previous LRTP
- Recent Plans and Studies
- Safety Analysis
- Operations Analysis
- Modal Evaluations
- Existing and Future Conditions Analyses
- Stakeholder & Public Input

Project Prioritization

- Apply Criteria to All Projects & Rank
- Incorporate Feedback from Steering Committee
- Incorporate Feedback from the Stakeholders and Public

Project List

- Develop Lists for Committed, Recommended, and Illustrative Projects
- Adopt LRTP

PROJECT IDENTIFICATION

The transportation projects in the LRTP were initially identified from sources and processes summarized in Table 35. After the initial draft project list was identified, there were multiple rounds of review by stakeholders and the public to refine projects and incorporate new projects that align with the vision and goals of the 2023 LRTP.

TABLE 35. PROJECT LIST SOURCES

PROJECT SOURCE	DESCRIPTION
Committed Projects	■ City of Billings FY 2023-2027 Capital Improvement Plan (CIP) ■ Proposed City of Billings FY 2024-2028 CIP ■ Montana Department of Transportation (MDT) 2022-2026 Statewide Transportation Improvement Program (STIP) ■ City of Billings FY 2020-2024 Transportation Improvement Program (TIP)
Recent Plans and Studies	■ Review of Recently Completed and On-Going Plans, Studies, and Projects (see Chapter 1)
2018 LRTP	■ Recommended and Illustrative Projects from the 2018 LRTP
2023 LRTP	■ Needs & Deficiencies Analysis (see Chapter 6) ■ Stakeholder Input ■ Public Outreach (see Chapter 3)

PROJECT PRIORITIZATION

The long-term strategy for funding and implementing projects identified in the LRTP project list is made possible through project prioritization. Project prioritization consists of (1) Defining project criteria based on the 2023 LRTP vision, goals, and objectives; (2) Assigning scores to each project based on the priorities; and (3) Categorizing projects based on these scores. The final score for each project allows decision makers to prioritize implementation of projects based on their alignment with the criteria. The project prioritization process does not have an impact on implementation of projects already committed in the STIP, TIP, or CIP.

The projects were evaluated based on 12 project criteria shown in Figure 72. For each criterion, projects were assigned a score of -1, 0, 1, or 2, based on their alignment with the criterion. The final prioritization score for a project is the sum of the scores for all 12 criteria. Further details about the project prioritization scoring system are available in the Projects & Implementation Appendix.

FIGURE 72. PROJECT PRIORITIZATION CRITERIA

PROJECT LIST

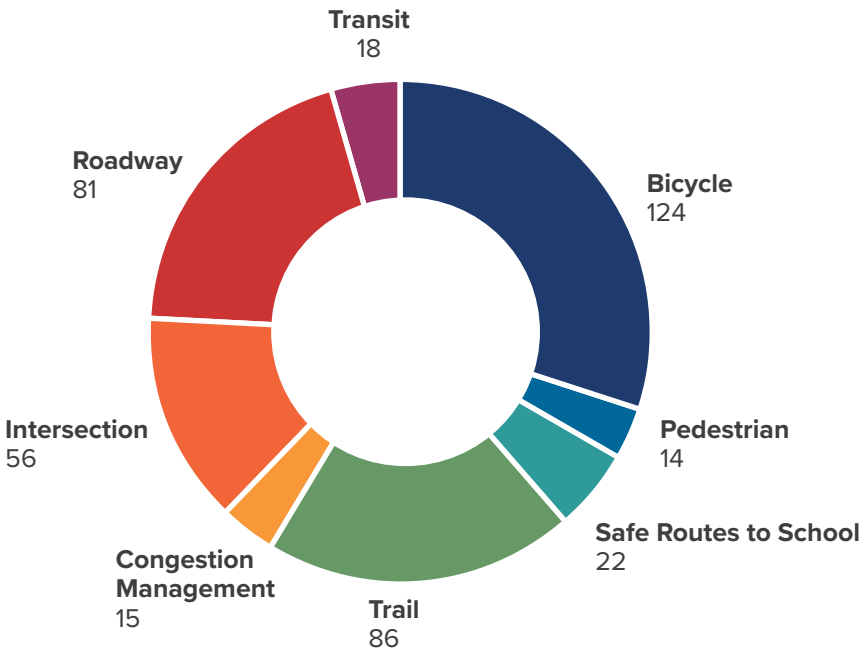
This section presents the projects that comprise the 2023 LRTP Project List, which are categorized as follows:

- **Bicycle:** Includes bicycle lanes, neighborhood bikeways, crossing improvements, trail connections, and facility maintenance.
- **Pedestrian:** Includes sidewalks, side paths, enhanced crossings, trail connections, bridges, underpasses, and facility maintenance.
- **Safe Routes to School (SRTS):** Includes projects identified in the Billings Safe Routes to School Plan Update (2022).
- **Trail:** Includes the construction of new multi-use paths and trails, improvements to existing ones, enhanced crossings, additional access locations, and maintenance activities.
- **Congestion Management:** Includes signal timing, traffic signal equipment upgrades, signs and advanced warning systems, and other intelligent transportation system modifications.
- **Intersection:** Includes operations and safety studies, new stop signs, new traffic signals, new roundabouts, turn lanes, ADA upgrades, and new interchange layouts.
- **Roadway:** Includes road widening, reconstruction, space allocation, pavement preservation, signage, bridge rehabilitation, corridor plans, railroad crossings, shoulder additions, pavement of gravel roads, and other maintenance activities.
- **Transit:** Includes transit facilities improvements, bus replacements, electric vehicle charging infrastructure, other technology upgrades, and route redesign improvements as identified in the 2022 Transit Development Plan.

The Project List includes 416 projects, which are delineated by the project categories to the left and included in the Projects & Implementation Appendix. For each category, the corresponding projects, as well as their prioritization score and the funding sources for which they are eligible, are tabulated. Additionally, maps depicting the project list by category are available in the Projects & Implementation Appendix. Figure 73 depicts the number of projects in each category.

All projects, regardless of type, benefit everyone traveling through the region, and endeavor to continue making the transportation system safer and more accessible.

FIGURE 73. PROJECTS BY CATEGORY



Implementation

Fully realizing the vision of the Billings MPO will require substantial investments over the next twenty years to fund the Project List. The prioritization of each project in the Project List, as well as the revenue projections outlined in Chapter 7, determine whether each project is classified as committed, recommended, or illustrative.

- **Committed projects** are those projects that are included in the Montana STIP, the MPO TIP, or the City of Billings CIP. The plan includes 63 committed projects. These projects are displayed in Figure 74.

- **Recommended projects** are projects that are expected to be fully funded by year 2045, but are not currently committed within the STIP, TIP, or CIP. The plan includes 350 recommended projects. These projects are displayed in Figure 75.
- **Illustrative projects** are those that are not expected to be funded by 2045 due to fiscal constraint but could be included in the adopted LRTP if additional resources become available, beyond those identified in the financial plan. In this iteration of the Billings LRTP, there are 3 illustrative projects.

The costs to design, construct, operate, and maintain all elements of the committed and recommended projects in the LRTP through 2045 are more than $934.2 million. The "plan cost" is only the portion of the project costs that is programmed in the LRTP – committed projects have funding identified to cover their full cost. Table 36 delineates the funding dedicated for each project category.

Project costs were estimated using existing estimates from the MPO Transportation Improvement Program, the City of Billings Capital Improvement Program, and the Montana Department of Transportation Statewide Transportation Improvement Program, as well as through recently completed transportation projects in the region and the state and input from the Steering Committee. As the projects included in the Project List are not fully scoped, the estimated project costs are planning-level estimates. All project costs were converted to year of expenditure (YOE) dollars using a three-percent annual inflation rate to account for how projects will be programmed within the 20-year LRTP horizon. For capital projects, the cost estimate represents the total amount of funding that will be needed to plan, design, and build a project. For some projects that recommend new programs, plans or studies, or other work, the cost estimate represents the cost of completing that item.

TABLE 36. SUMMARY OF LRTP PROJECT COSTS

PROJECT CATEGORIES	COMMITTED	RECOMMENDED	2045 FISCALLY CONSTRAINED TOTAL	2045 REVENUE PROJECTION TOTAL	DIFFERENCE
Pedestrian, Bicycle, Safe Routes to School, Trail	$16,761,400	$143,133,460	$159,894,860	$247,610,000	$87,715,100
Congestion Management, Intersection, Roadway	$265,114,640	$465,775,770	$730,890,400	$775,140,000	$44,249,600
Transit	$18,084,000	$79,288,400	$97,372,370	$228,780,000	$131,407,630
Total	**$299,960,040**	**$688,197,600**	**$988,157,640**	**$1,251,530,000**	**$263,372,360**

FIGURE 74. COMMITTED PROJECTS

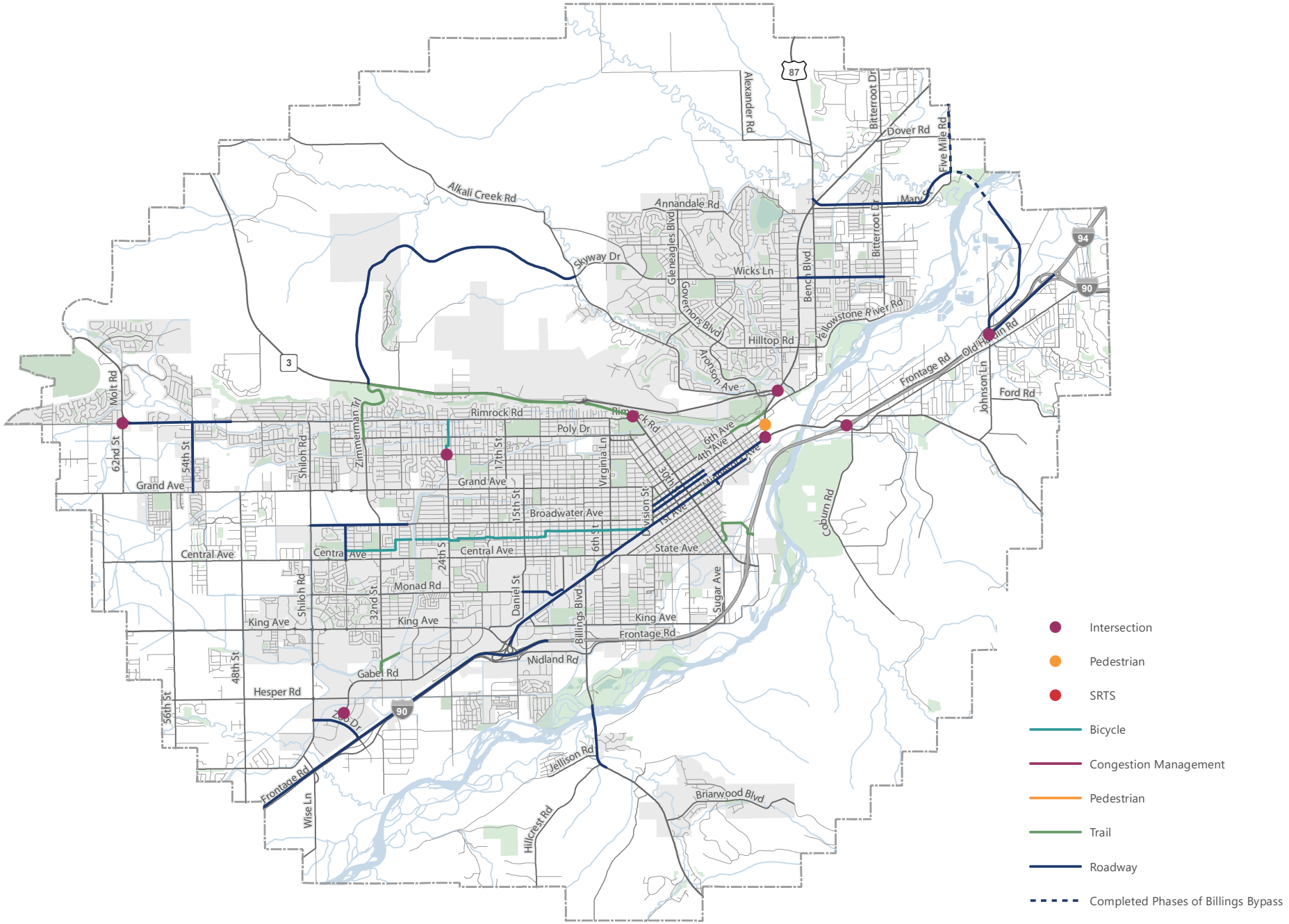
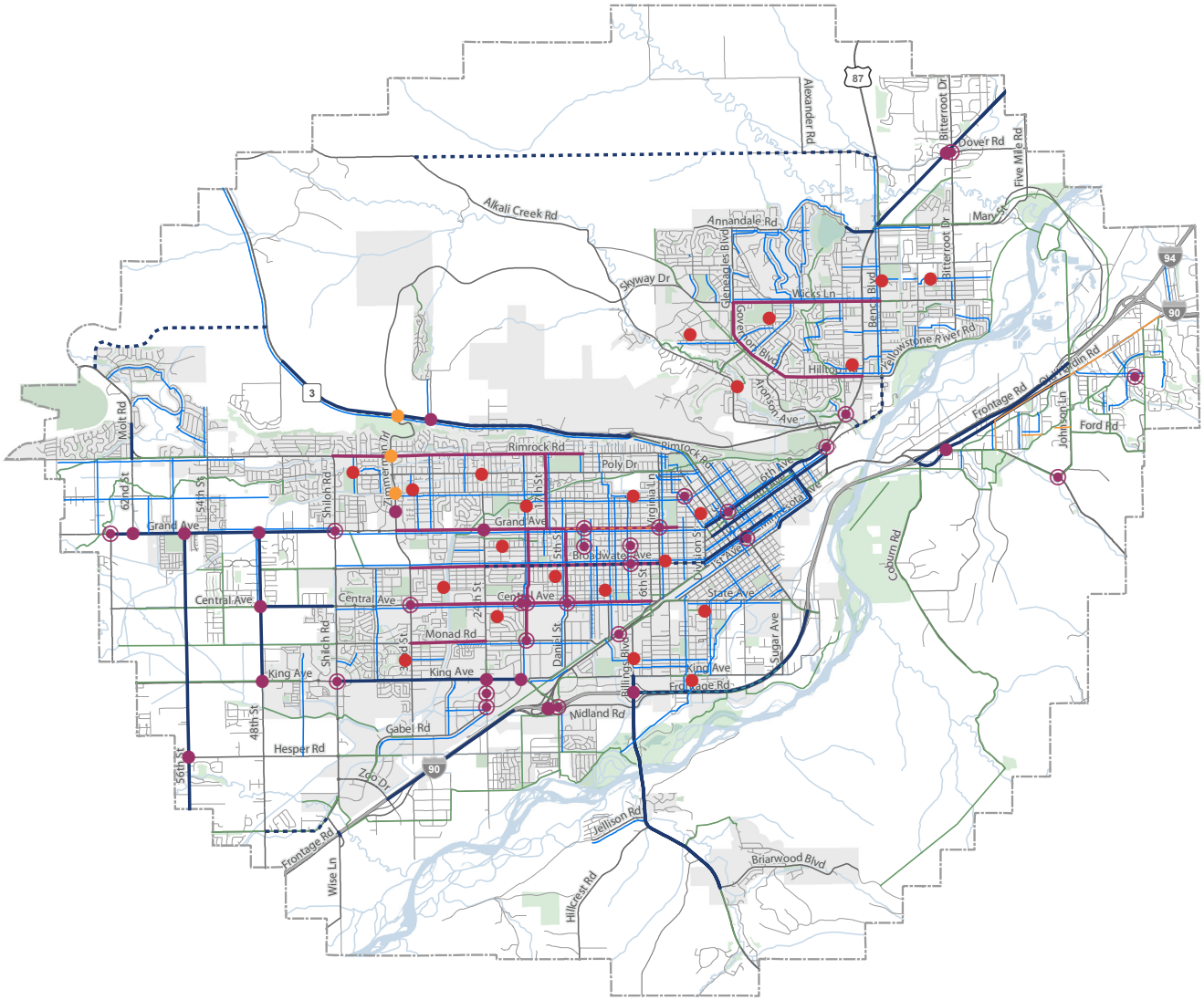


FIGURE 75. RECOMMENDED PROJECTS

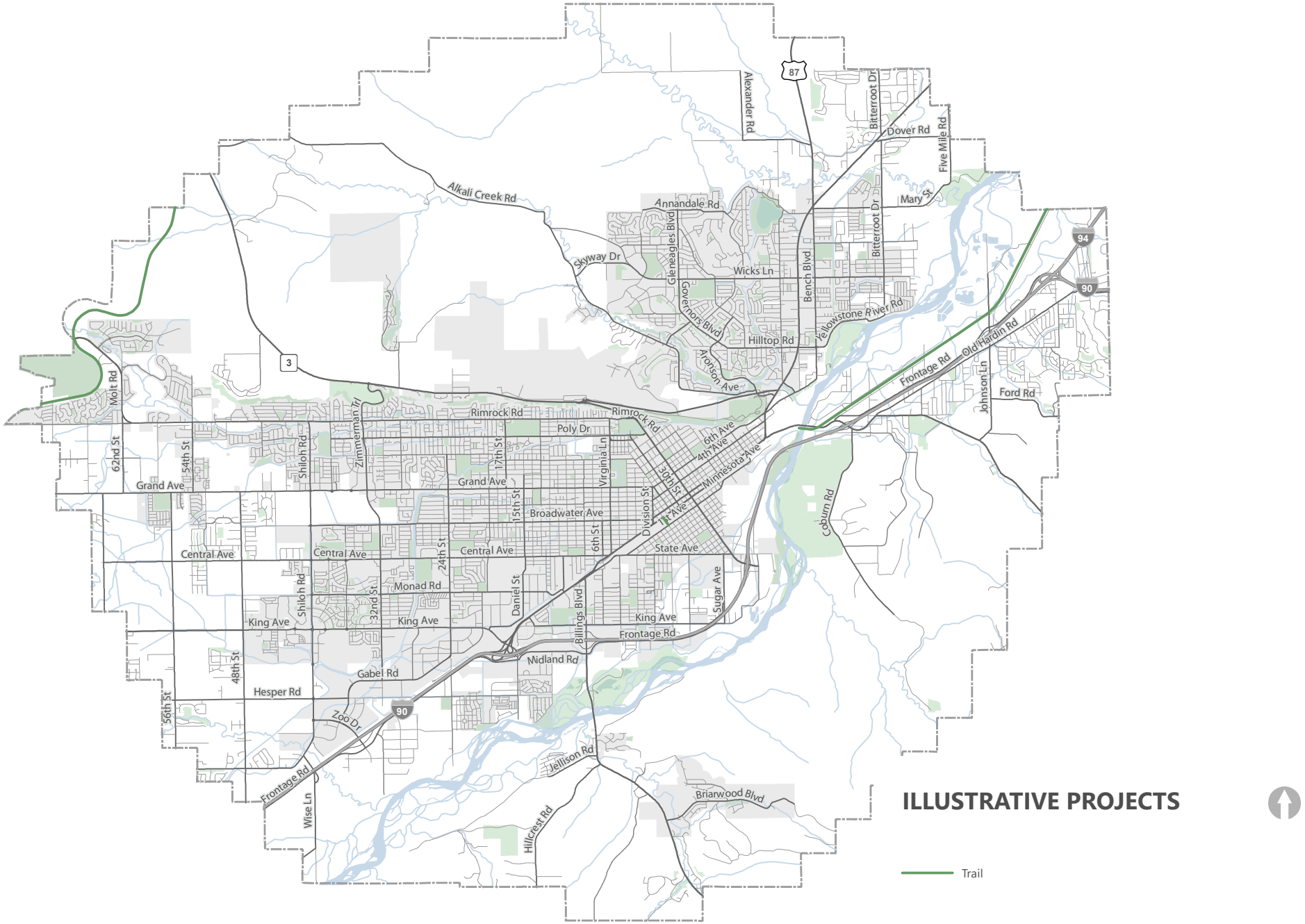


RECOMMENDED PROJECTS AND STUDIES

- Intersection Project
- Intersection Study
- Pedestrian Project
- SRTS Project
- Trail Project
- Pedestrian Project
- Pedestrian Study
- Bicycle Project
- Bicycle Study
- Congestion Management Project
- Roadway Study
- Roadway Project

Note: Projects without a specific location, or that have multiple locations, are not shown in this figure. These projects include: BL_69, BS_01, CM_16, MT_119, MT_120, P_62, P_63, R_93, R_97, R_98, MET_20, MET_21, MET_22, MET_23, MET_24, and MET_25.

FIGURE 76. ILLUSTRATIVE PROJECTS



SPENDING & REVENUE PLAN

The Project List was developed to assist the MPO in creating the upcoming updates of the Transportation Improvement Program. Utilizing the prioritized projects and their associated funding category, the MPO can make informed decisions about the next transportation investments for the Billings planning area. Table 37 summarizes the MPO revenue sources and the total project costs (expenditures) for the prioritized projects allocated funding from each source. Additionally, each funding source has remaining funds that are "carried over" to the following funding period. The funding projections and project allocations are forecasted for the first 10 years of this Plan, and the remaining years until the planning horizon of 2045. Table 37 helps the MPO to make informed decisions about the next transportation investments for the Billings planning area.

As shown in Table 37, the estimated available revenue ($1.251 billion) is greater than the estimated total costs ($934.2 million) to implement the committed and recommended projects for the 2023 LRTP. Therefore, this plan is fiscally responsible and meets the fiscally constrained requirement.

TABLE 37. COMMITTED & RECOMMENDED PROJECTS BY CATEGORY & FUNDING SOURCE

FUNDING SOURCE	2024 – 2033			2034 - 2045		
	Projected Revenues	Expenditures	Difference	Projected Revenues + Carryover	Expenditures	Difference
Congestion Mitigation and Air Quality Improvement / Montana Air and Congestion (CMAQ/MACI)	$13,940,000	$13,877,680	$62,320	$16,782,320	$16,328,893	$453,427
Surface Transportation Program Bridge (STPB)	$28,510,000	$21,714,637	$6,795,363	$41,005,363	$7,221,289	$33,784,074
National Highway System (NHS)	$112,710,000	$112,077,699	$632,301	$135,882,301	$105,863,676	$30,018,624
Interstate Maintenance (IM)	$41,910,000	$35,924,782	$5,985,218	$56,285,218	$35,580,517	$20,704,701
Highway Safety Improvement Program (HSIP)	$35,050,000	$20,760,356	$14,289,644	$56,359,644	$53,546,658	$2,812,987
Surface Transportation Program Secondary (STPS)	$3,800,000	$-	$3,800,000	$8,360,000	$5,556,700	$2,803,300
Urban Pavement Preservation (UPP)	$4,860,000	$2,415,875	$2,444,125	$8,264,125	$2,682,545	$5,581,581
Maintenance (M)	$10,290,000	$4,703,707	$5,586,293	$17,926,293	$-	$17,926,293
Surface Transportation Program Urban (STPU)	$25,640,000	$22,483,524	$3,156,476	$33,936,476	$33,704,334	$232,141
Transportation Alternatives (TA)	$8,130,000	$6,386,826	$1,743,174	$11,503,174	$9,808,164	$1,695,009
National Highway Freight Program (NHFP)	$25,075,000	$19,802,458	$5,272,542	$45,382,542	$15,137,217	$30,245,325
Federal Discretionary Grant (BUILD)	$18,741,800	$830,000	$17,911,800	$-	$-	$-
Local CMAQ (CMAQ)	$17,080,000	$3,272,436	$13,807,564	$34,307,564	$30,437,628	$3,869,935

FUNDING SOURCE	2024 – 2033			2034 - 2045		
	Projected Revenues	Expenditures	Difference	Projected Revenues + Carryover	Expenditures	Difference
Gas Tax - City (GTB)	$41,180,000	$41,074,396	$105,604	$49,525,604	$33,501,231	$16,024,373
Gas Tax - County (GTY)	$7,330,000	$5,214,720	$2,115,280	$10,905,280	$8,930,805	$1,974,475
Sidewalk and Curb Districts Fund (SCD)	$14,110,000	$14,095,000	$15,000	$16,945,000	$15,923,337	$1,021,663
Special Improvement Districts Fund (SID)	$24,720,000	$24,275,000	$445,000	$30,105,000	$24,000,000	$6,105,000
Street Maintenance District Fund (SM)	$42,200,000	$41,804,000	$396,000	$51,036,000	$47,894,938	$3,141,062
Transit Fund - Capital (TF-C)	$64,460,000	$27,230,731	$37,229,269	$114,589,269	$24,328,827	$90,260,442
Transit Fund - Operations (TF-O)	$34,020,000	$24,144,939	$9,875,061	$50,705,061	$19,735,865	$30,969,196
Transit Fund - Facilities (TF-F)	$5,500,000	$973,958	$4,526,042	$11,136,042	$958,052	$10,177,990
Total	**$579,256,800**	**$443,062,726**	**$136,194,074**	**$800,942,274**	**$491,140,675**	**$309,801,599**

For this analysis, transit fund revenue sources were simplified into three types: funds that support capital projects, funds that support operations, and funds that support facilities projects. Transit Fund – Capital includes state and federal grants as well as FTA Capital Grants. Transit Fund – Operations includes Tax Revenues (Mills Levied) and Operating Revenues. Transit Fund – Facilities includes Intergovernmental Transfers, Investment Interests, Surplus Equipment Sales, and Miscellaneous funds.

2023 BILLINGS URBAN AREA
LONG RANGE TRANSPORTATION PLAN

2018 LRTP REPORT CARD

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