



Volume III Transportation Context

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Transportation Context



Prepared by:



For:



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INTRODUCTION

Montana's transportation network and its users are directly influenced by the state's economic, demographic, development, environmental, and security context. Conversely, the timing, location, and modes associated with the movement of people, goods, and services influence those contextual factors. Volume III of TranPlanMT, Transportation Context, discusses these interrelationships.



Plan Summary

Volume I: Assets

Volume II: Users

Volume III: Context

Volume IV: Management

Although the Montana Department of Transportation (MDT) directly manages transportation assets throughout the state, it often has little to no control over the broader context within which it carries out its functions. Through its planning processes, MDT must continue to be adept at anticipating and responding to changes. The base year for data is 2015 unless otherwise noted.

WHAT WE KNOW

Montana's Economy

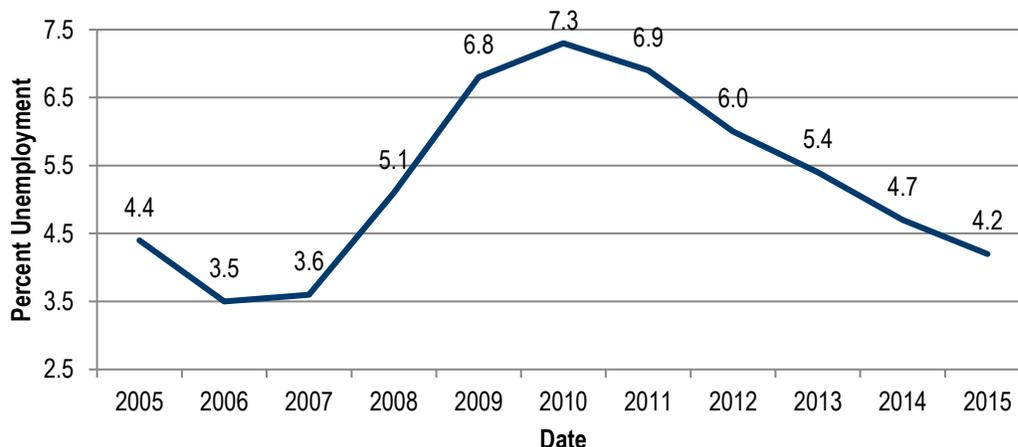
A well-maintained, adequate transportation network of all modes allows people, goods, and services to move smoothly and enables the economy to thrive. Montana's economy is closely tied to transportation because of the vast distances between population centers within the state and the distance to regional economic drivers.

The following sections describe several elements used to evaluate the state's overall economy. In general, Montana's economy is solid. The state weathered the Great Recession and the recent slump in oil prices relatively well, with low unemployment and tourism revenues continuing to provide sustained support. Areas for improvement include college-educated workforce earnings and continued economic diversification.

Unemployment

As shown in Figure 1, Montana unemployment was close to 3.5 percent prior to the Great Recession.

Figure 1: Unemployment in Montana



Source: Montana Department of Labor and Industry Research and Analysis Local Area Unemployment Statistics 2015; Fehr & Peers 2016; DOWL 2017.

During the recession, unemployment in Montana rose sharply to 7.3 percent and then dropped steadily to 4.2 percent in 2015. Throughout these periods, Montana fared better than the nation overall, as shown in Table 1.

Montana's 2015 unemployment rate was 3.4 percentage points below its peak of 7.4 percent in April 2010.

Table 1: Montana Unemployment Rate

Time Period	Montana	United States
April 2010 (Great Recession)	7.4%	10.0%
December 2015	4.0%	5.0%

Source: U.S. Bureau of Labor Statistics; DOWL 2017.

In 2015, Montana's unemployment rate was 13th lowest in the nation. The neighboring states of North Dakota and Idaho fared better at 2.7 percent, first lowest, and 3.9 percent, eleventh lowest, respectively. Wyoming had a higher unemployment rate of 4.3 percent, ranking 17th in the nation. The national average, seasonally adjusted, was 5.0 percent as of December 2015.

Jobs

Montana businesses added 1,800 jobs in 2015, as presented in Table 2. This compares with an increase of 3,960 jobs in 2014, which reflects a cooling of the state economy.

Table 2: Montana Job Growth

Private-Sector Jobs Added	Montana	United States
In 2015	1,800	2.6 million
Feb. 2010 through 2015	33,900	14.1 million

Source: 2015 Year In Review: Montana, Joint Economic Committee, U.S. Congress 2015; DOWL 2017.

From February 2010, the national low point for private-sector employment, through December 2015, Montana businesses added 33,900 jobs (an increase of 10.1 percent). Nationally, the number of private jobs increased by 13.1 percent over this time.

Income

According to the US Census Bureau, the median household income in Montana increased from \$39,301 in 2005 to \$49,509 in 2015, as shown in Table 3 below. This represents a 26 percent increase over the ten-year period, which is nine percentage points greater than the U.S. increase of 17 percent.

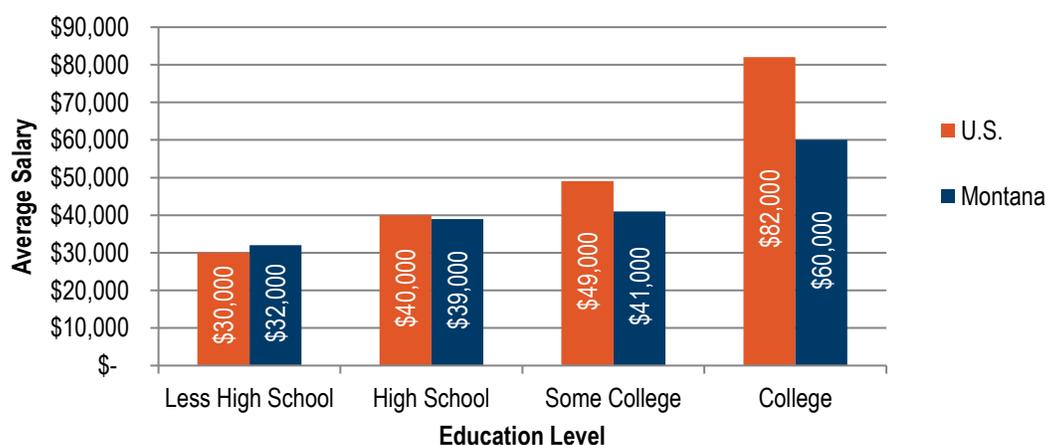
Table 3: Montana Household Income

Median Household Income	Montana	United States
2005	\$39,301	\$46,242
2015	\$49,509	\$53,889

Source: U.S. Census Bureau Fact Finder; Fehr & Peers 2016; DOWL 2017.

Figure 2 illustrates average salary according to the educational level in Montana and across the country. The data indicate salaries in Montana are comparable with national earning for lower educational levels. However, the salary associated with college education is lower than the national average.

Figure 2: Average Salary by Highest Level of Education



Source: Montana Bureau Business and Economic Research Analysis of American Community Survey, 2008-2012; Fehr & Peers 2016; DOWL 2017.

Gross Domestic Product

A state's gross domestic product (GDP) is the monetary value of all finished goods and services produced within a state's borders in a specific time period, usually expressed annually. According to the U.S. Department of Commerce Bureau of Economic Analysis, Montana's current-dollar GDP grew from approximately \$30.6 billion in 2005 (with a ranking of 47th in the United States) to approximately \$45.2 billion in 2015 (ranked at 48th nationally). This represents nearly a 48 percent increase over a ten-year period. The overall U.S. economy, by contrast, grew from close to \$13 trillion in 2005 to nearly \$18 trillion in 2015, for a 38 percent increase during this period.

The 2005-2015 compound annual growth rate for Montana real GDP was approximately four percent; the compound annual growth rate for the nation for that same period was approximately three percent.

According to the Montana Department of Labor and Industry, in 2015 Montana had the fifth fastest (although not necessarily highest) GDP growth in the US. As shown in Table 4, the top five Montana sectors in 2015 were Finance/Insurance/Real Estate, Government, Education/Health Care, Professional/Business Services, and Manufacturing.

Table 4: Montana Gross Domestic Product by Sector

Montana GDP by Sector (<i>millions of \$ per year</i>)	2015
Private Industry	38,452
Finance, Insurance, Real Estate, Rental, & Leasing	8,071
Educational Services, Health Care, & Social Assistance	4,381
Professional & Business Services	3,352
Manufacturing	3,050
Retail Trade	2,967
Construction	2,720
Wholesale Trade	2,622
Arts, Entertainment, Recreation, Accommodation, Food & Other Services	2,290
Transportation & Warehousing	2,186
Mining	2,065
Agriculture, Forestry, Fishing, & Hunting	1,814
Other Services (except Government)	1,018
Information	957
Utilities	957
Government	6,786
Total (Private & Government)	45,237

Source: US Department of Commerce, Bureau of Economic Analysis; Montana Department of Commerce, Census & Economic Information Center (<http://ceic.mt.gov/Economics/IndustryDashboard.aspx>) 2015; Fehr & Peers 2016; DOWL 2017. Note: Data is automatically updated on an annual basis. Figures for previous periods may be revised.

Housing

According to the U. S. Census Bureau's American Community Survey, there were approximately 494,000 housing units in Montana in 2015. Of these units, 67 percent were owner occupied. New housing starts is a common indicator of economic health. Housing starts in 2005 were 4,803 and 4,826 in 2015 – a difference of 0.5 percent.

Median home value in Montana increased by 59 percent between 2005 and 2015 (from \$131,600 to \$209,500, respectively). Montana's median value and percentage increase during this period were both higher than the national average, where the value in 2005 was \$167,500 and \$194,500 in 2015, a 16 percent increase.

Exports

In Montana, \$60 billion of total goods were exported to both domestic and international markets in 2015, according to the Freight Analysis Framework Data Tabulation Tool, (FAF) from the US Department of Transportation. In 2015, Montana's top five exports in terms of value were crude petroleum, coal, gasoline, fuel oils, and cereal grains.

The value of these five exports was \$35.6 billion in 2015, accounting for approximately 59 percent of export value.

Economic Diversity

As the nation and most states learned during the Great Recession, economic diversity is important to provide greater resiliency during economic downturns. It can be difficult to make statewide economic projections on key elements that affect transportation, such as tax revenue, if the economy is reliant on a few volatile industries.

Montana is making strides in diversifying its economy. Historically, Montana's economy relied heavily on agriculture, energy, and extractive industries. Efforts are underway to support areas such as health care, technology, and biosciences, help connect entrepreneurs with needed investment capital, and to nurture high-tech industries – both recruitment and startups. These will take time to grow and mature, but are laudable efforts to continue to diversify Montana's economy.

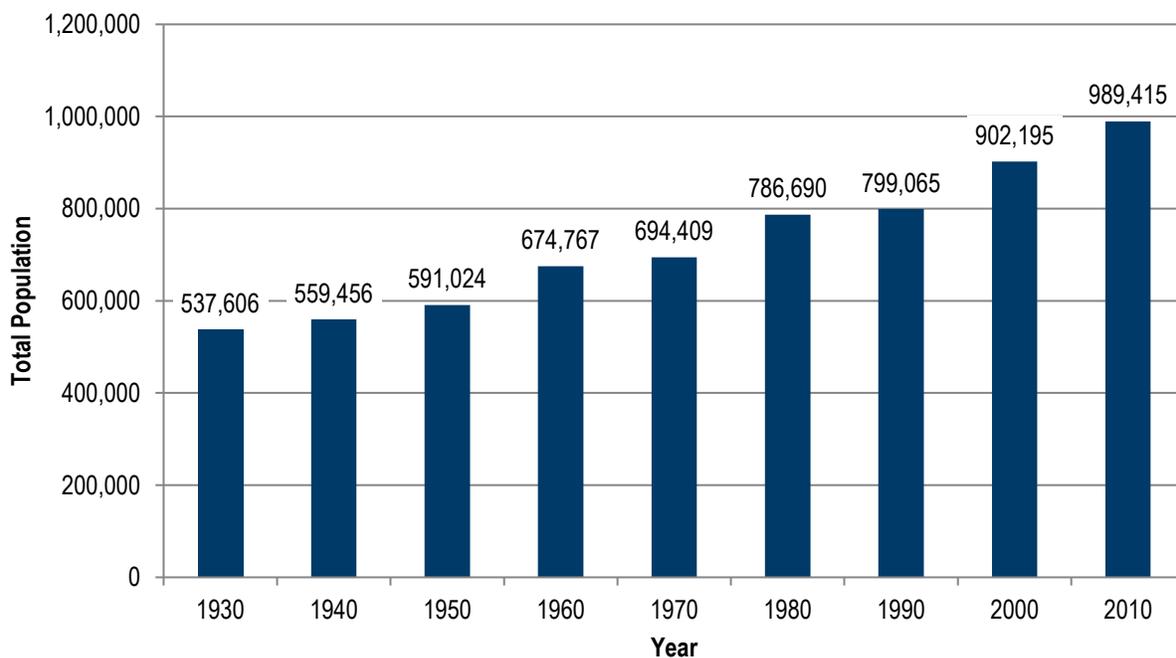
Demographics

Demographic trends offer insight into potential future transportation demand. Although the future is uncertain and can be influenced by many factors, demographic trends in Montana will likely affect transportation user travel patterns and mode choice. Evaluating these changes can help MDT understand shifting transportation needs and inform future management and investment decisions.

Population Growth

The population of Montana was reported at 989,415 in the 2010 census. Population estimates produced by the Montana Department of Commerce, Census and Economic Information Center (CEIC) indicate the population of Montana surpassed one million people in 2011. Figure 3 lists historic decennial populations of Montana.

Figure 3: Montana Population

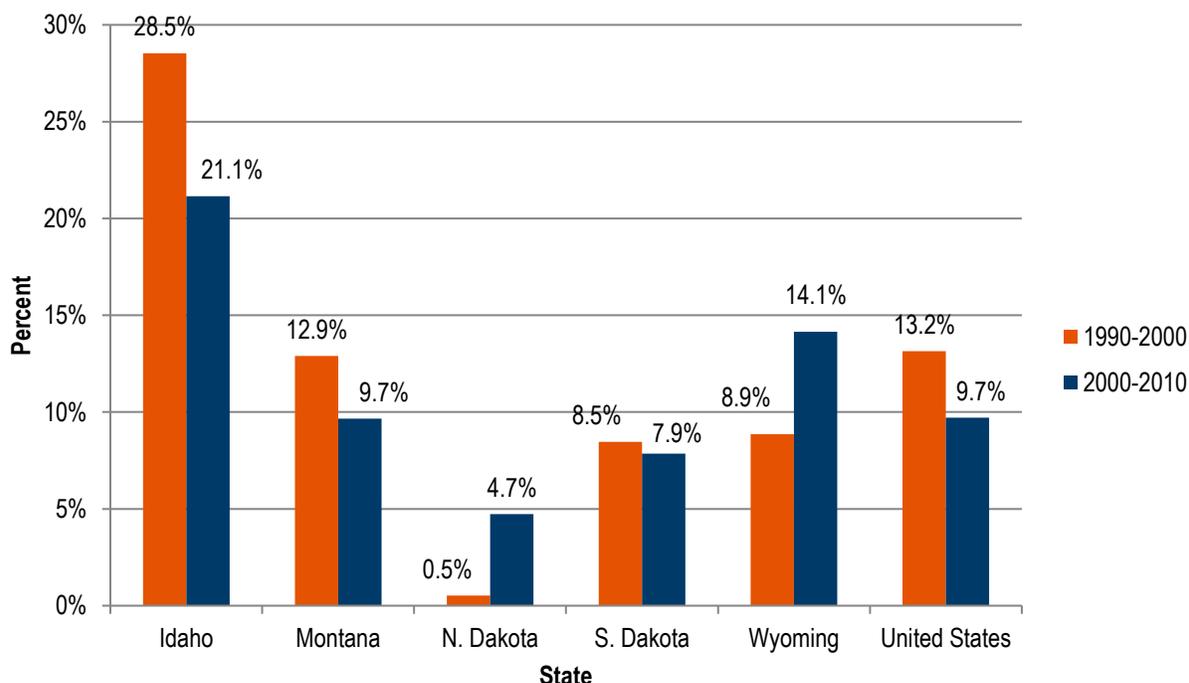


Sources: U.S. Bureau of the Census. Decennial Censuses of Population (Title varies per Census) 1930-2010. Compiled June 2013 by the Census & Economic Information Center, MT Department of Commerce (www.ceic.mt.gov); DOWL 2017.

One of the largest growth rates occurred during the baby boom era of the 1950s. Other relatively high growth rates occurred during the 1970s and 1990s. The growth pattern of the past six decades appears to reflect a decade of higher growth followed by a decade of lower growth.

Figure 4 depicts recent decennial growth rates of Montana, nearby states, and the United States. Montana's growth trends are similar to Idaho (although Idaho rates were much higher) and the United States as a whole, with slower rates in the 2000s compared to the 1990s. North Dakota and Wyoming experienced the opposite trend.

Figure 4: Population Growth of States in the Region



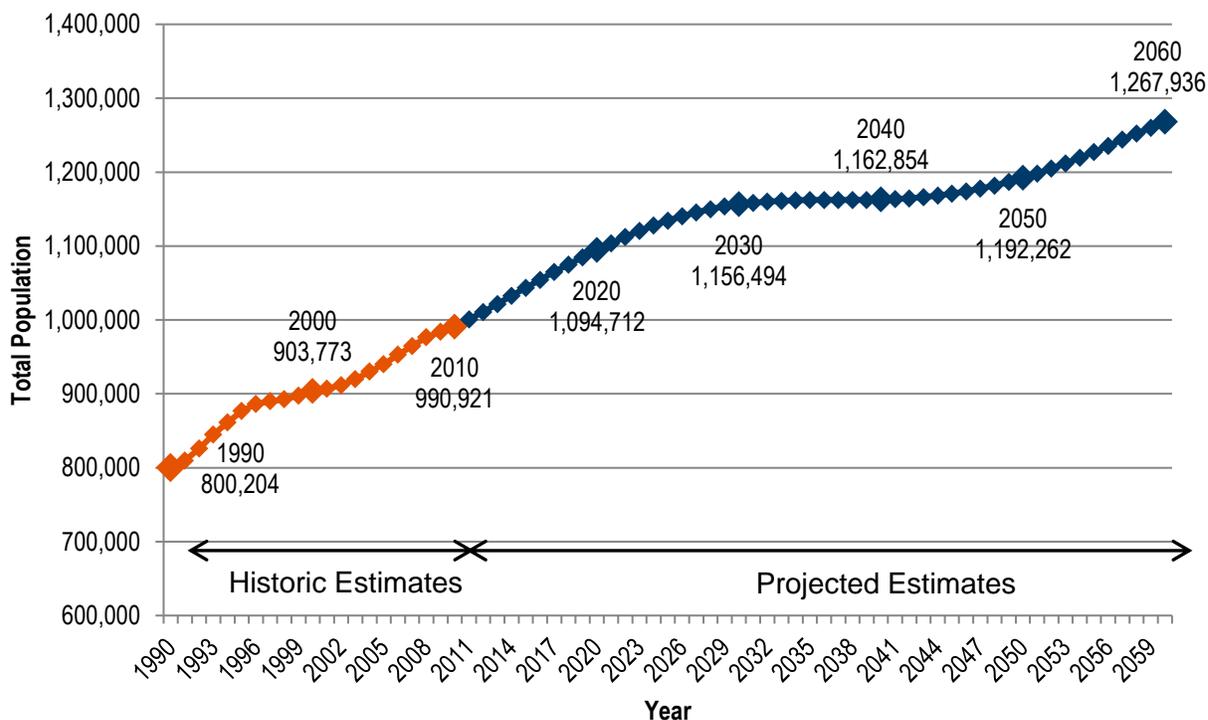
Sources: U.S. Census Bureau. DOWL 2017.

The slower 2000-2010 growth in Montana can be attributed to factors such as reduced economic migration and lower birth rates. Despite the fact that growth rates are declining, overall growth of the Montana population is expected to continue over the next 20 years.

Population change is affected by the number of births, deaths, and migration into and out of the state. According to CEIC population projections, the ratio of births to deaths are expected to decline to below one around the year 2034, meaning that deaths will begin to overtake births, causing a decline in population growth. The CEIC population projections also consider migration into and out of the state. Migration related to economic opportunity is expected to decrease over the next 20 years while retired migration and international migration are expected to increase. Retired migration substantially increases into the future while international migration occurs at a much slower rate. The end result of the population analysis predicts Montana's population will continue to increase but at a decreased rate.

Figure 5 depicts Montana's historic and projected population. Growth rates are anticipated to vary over the projected time frame, generally decreasing until approximately 2035, and then increasing out to year 2060.

Figure 5: Historic and Projected Montana Population



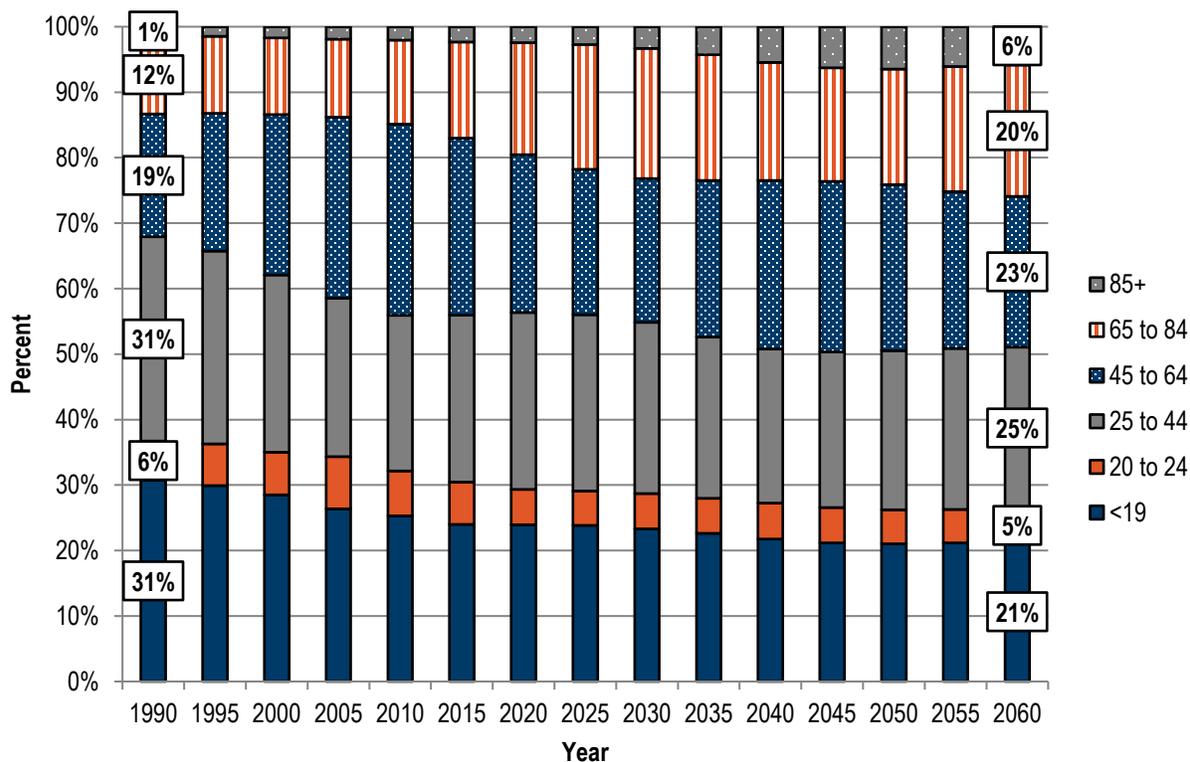
Sources: eREMI – a product of Regional Economic Models, Inc. (www.remi.com) – Released April 2013. Compiled by the Census and Economic Information Center, MT Dept. of Commerce (www.ceic.mt.gov); DOWL 2017.

Population Age

The CEIC population projections for Montana include age categories for each year within the historic and projected population analysis. Figure 6 displays this data in five-year increments with age grouped into six categories. The group aged 44 and younger will decline into the future while the population aged 45 and older will increase over time. In 1990, approximately 30 percent of the population was age 45 and older compared with 50 percent predicted in 2060.

Population aging can be attributed to factors such as extended life spans and lower birth rates. The baby boom generation also contributes significantly to population aging. Baby boomers, born between 1946 and 1965, represent a generation where birth rates were high. Large numbers of baby boomers are entering retirement age and will continue to do so over the next ten to 20 years.

Montana is also one of the oldest states in the U.S. in terms of population age. Montana has a median age of 39.8 and ranks eighth in terms of the oldest population states. States neighboring Montana such as Idaho, South Dakota, North Dakota, and Wyoming, rank much lower in terms of median age. The older age of Montana's population could be attributed to the large number of retirees in the state or younger populations leaving the state to find jobs elsewhere.

Figure 6: Montana's Projected Population – Percent Age Group of Total Population

Sources: eREMI – a product of Regional Economic Models, Inc. (www.remi.com) – Released April 2013. Compiled by the Census and Economic Information Center, MT Dept. of Commerce (www.ceic.mt.gov). DOWL 2017.

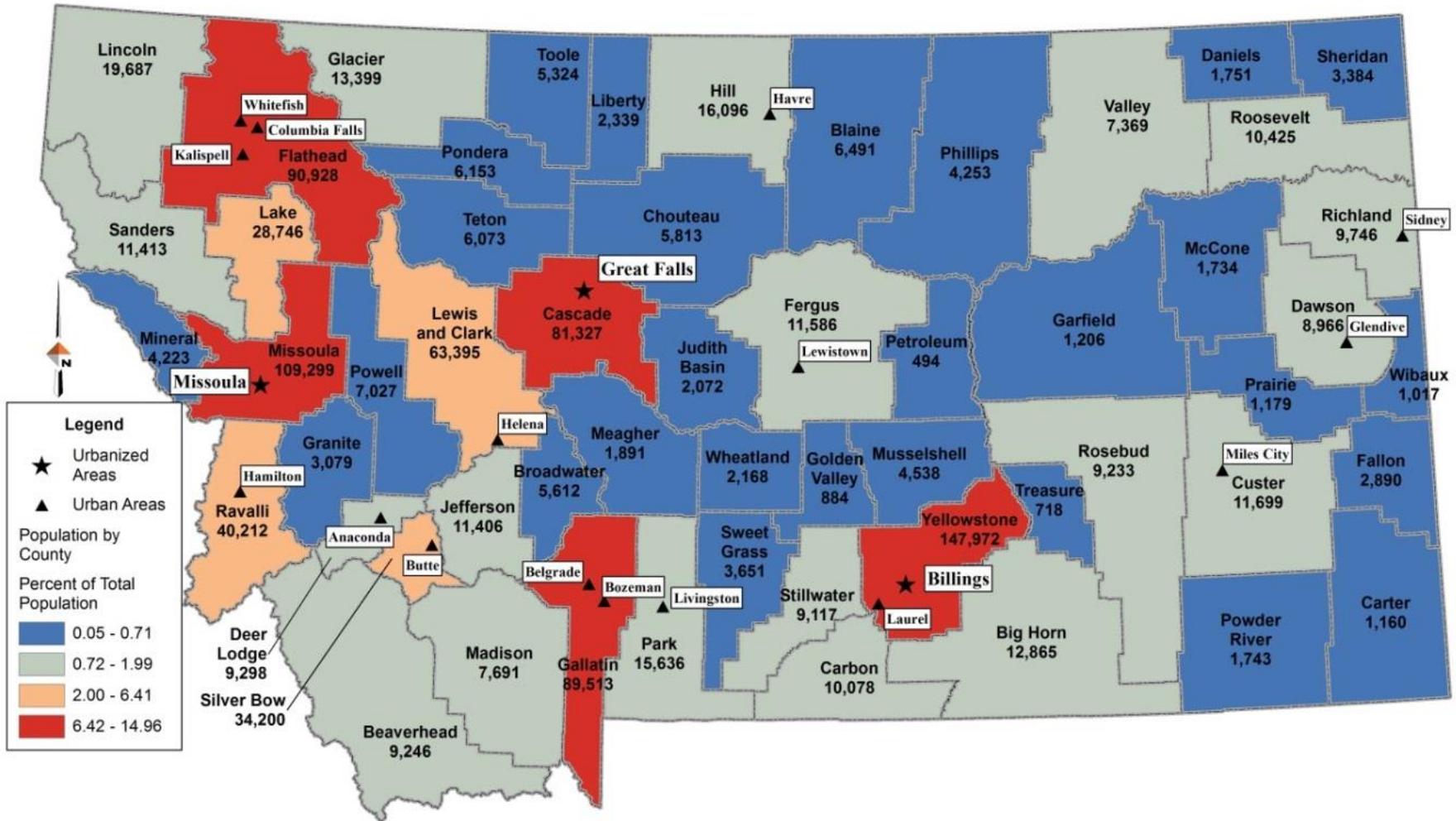
Population Location and Density

Compared to other states, Montana has a comparatively low population, large land area, and low population density. Alaska and Wyoming are the only two states with lower densities.

The population of Montana is unevenly distributed throughout the state. According to the U.S. Census Bureau, just over half of Montana's population resides within urban and urbanized areas and approximately 35 percent of Montana's population resides within the seven largest cities of Billings, Bozeman, Butte, Great Falls, Helena, Kalispell, and Missoula. Urbanized areas with at least 50,000 people include the cities of Billings, Missoula, and Great Falls. An additional 16 urban areas contain between 5,000 and 50,000 people each. Montana is a largely rural state with 41 out of the 56 counties lacking an urban or urbanized area. Figure 7 displays 2010 county populations in addition to urban and urbanized areas. Figure 8 depicts population density in Montana. The vast majority of land area in Montana is considered frontier as defined by containing less than two people per square mile.

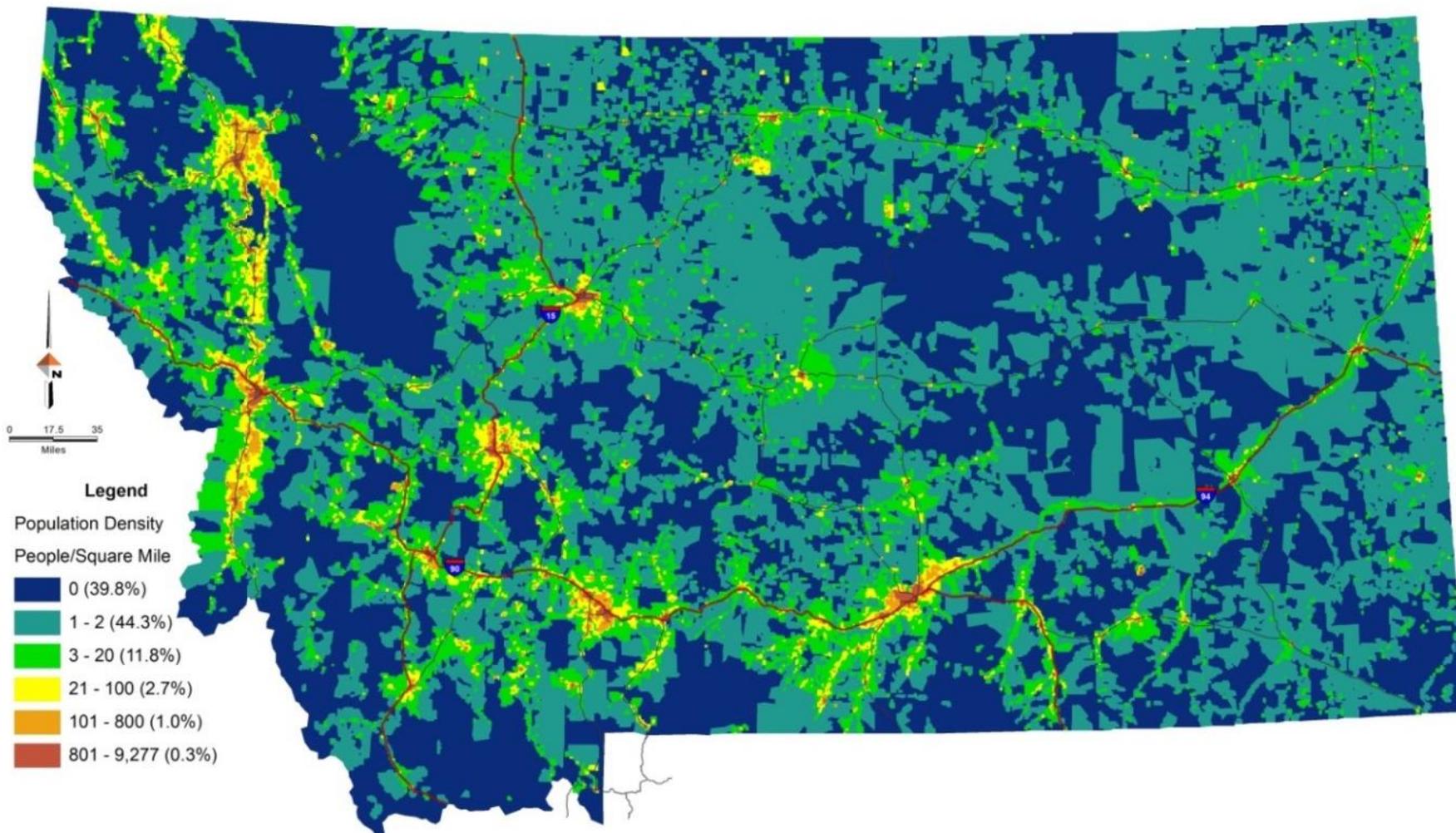
Population growth was also unevenly distributed throughout the state according to 2000 and 2010 decennial census information (Figure 9). Gallatin, Broadwater, and Flathead counties saw the highest growth between 2000 and 2010 while many counties lost population, especially in rural eastern Montana. In general, western Montana and the area including and surrounding Billings grew while population in central and eastern Montana diminished. The Butte area population also declined during this time period.

Figure 7: Population by County



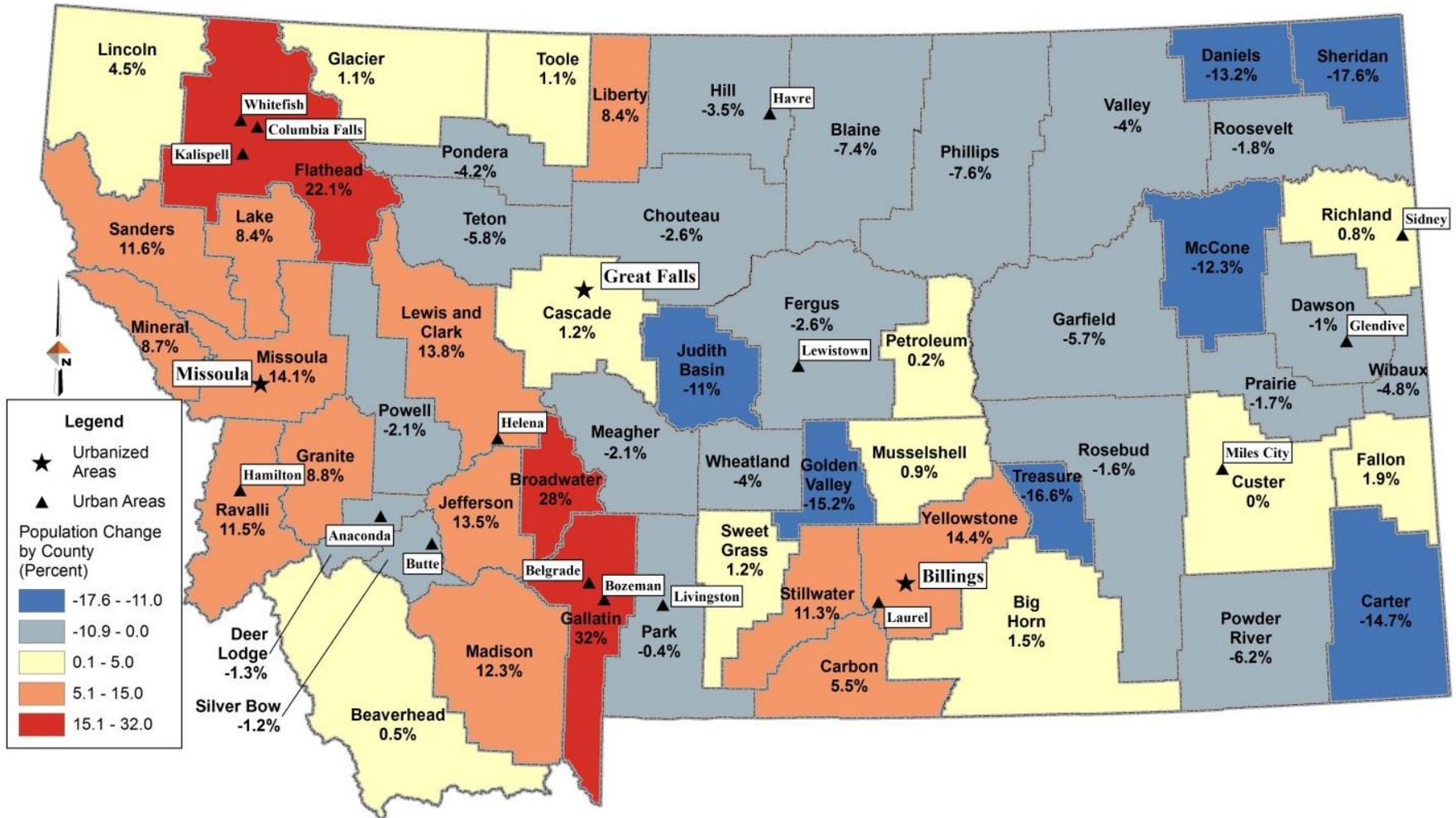
Sources: U.S. Census Bureau 2010. DOWL 2017.

Figure 8: Population Density



Sources: Montana State Library 2010. DOWL 2017.

Figure 9: Population Change by County



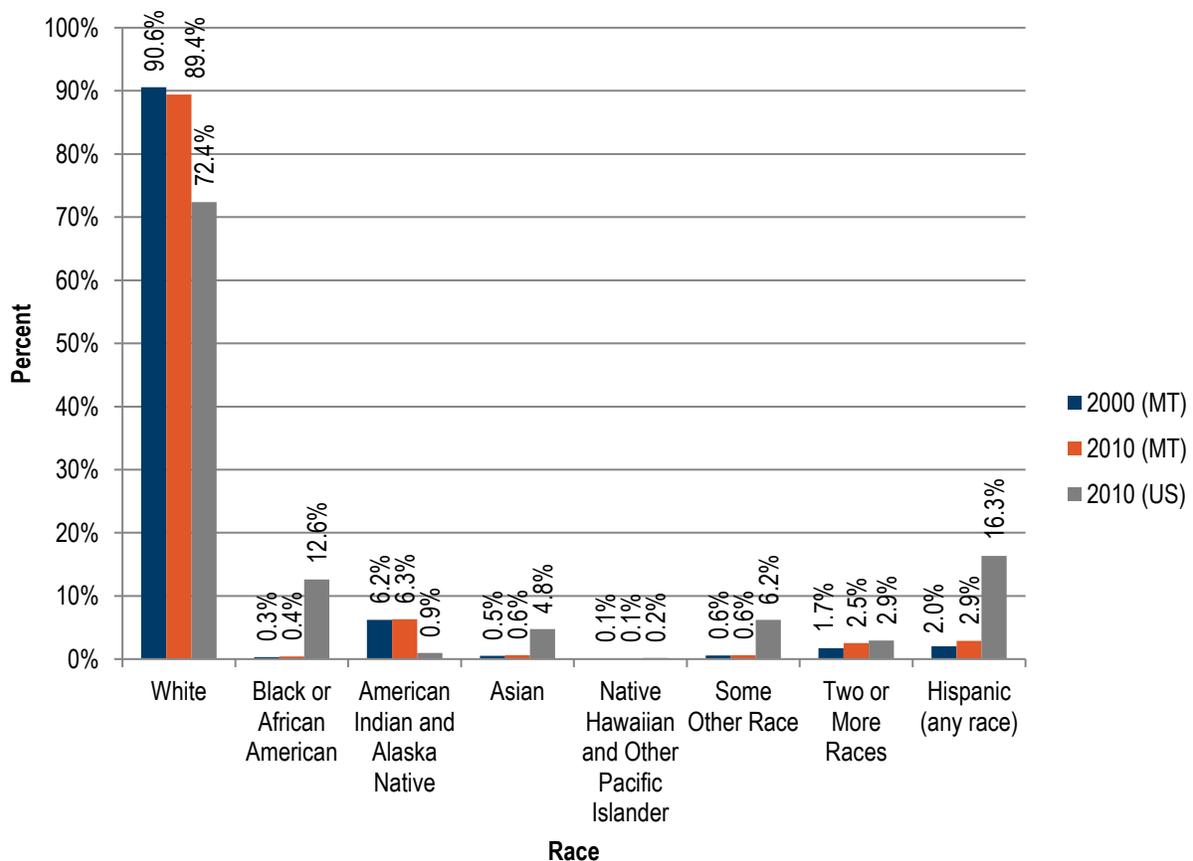
Sources: U.S. Census Bureau 2000-2010. DOWL 2017.

Population Race and Ethnicity

Figure 10 presents statistics on race and ethnicity in Montana and the United States according to the 2000 and 2010 census.

Approximately 90 percent of the population in Montana is white and six percent is American Indian or Alaska Native. Small percentages of other races make up the remaining four percent of the population. Racial diversity in Montana has remained relatively unchanged between 2000 and 2010, although the white population has shown a slight decline and other races have shown slight increases. The nation as a whole is becoming more diverse with white populations growing more slowly than other race groups. Montana is less diverse when compared to the United States as a whole although Montana does have a higher American Indian and Alaska Native population as compared to the United States.

Figure 10: Montana and US Populations by Race and Ethnicity



Sources: U.S. Census Bureau. DOWL 2017.

Household Characteristics

Table 5 presents data on household characteristics in Montana. Households refer to occupied housing units.

Table 5: Montana Household Characteristics

Household Characteristic	2000 Census	2010 Census
Family Households with Own Children Under 18 (%)	31.2	25.9
Householders Living Alone (%)	27.4	29.7
Average Household Size	2.45	2.35

Sources: U.S. Census Bureau. DOWL 2017.

Montana statistics are generally comparable to national trends. Households with children are decreasing, single households are increasing, and the average household size is decreasing.

Changes in household composition can be attributed to many factors influenced by the economy or generational preference. Current trends indicate that millennials, born between 1981 and 1997, are choosing to have fewer children, delay marriage, and may potentially remain at home with family members for longer periods of time. Aging and the large number of baby boomers in the state may also contribute to overall smaller households.

Transportation Implications

With Montana's population anticipated to grow at a slower rate into the future, the result may be a continuing increase in vehicle miles traveled (VMT) but a possible decline in VMT per capita. As populations shift from rural to urban areas, roadway capacity concerns may be amplified in more congested urban corridors. Those that continue to remain in rural areas may have to drive further to access services.

Population aging may result in a reduction of the workforce as the baby boom generation retires and fewer members of younger generations fill the void. Workforce reduction may result in lower VMT as fewer people drive to work each day. The silent generation (born from 1928 to 1945) may also have decreased capability to drive and may rely more on public transportation. The effects of lower VMT due to workforce reduction and aging may, however, be negated by the fact that baby boomers are living longer, continue to be active, and continue to drive long distances across Montana. Tourism opportunities in Montana may also influence and potentially increase VMT, especially as more baby boomers retire.

As baby boomers age, the millennial generation will begin to dominate the workforce. Millennials' views on transportation and household characteristics may impact VMT. Households with children generally contribute to higher VMT due to frequent trips to school, extracurricular activities, and shopping. As households with children decline, VMT may also decrease. The millennial generation is highly engaged in digital activities such as social networking. The shift toward more people performing activities remotely may decrease the need to drive to engage in social or professional activities.

Land Use Coordination & Access Management

Land use and development patterns are closely linked to the effective function of the transportation system. Moving Ahead for Progress in the 21st Century Act (MAP-21), the 2012 federal transportation authorization act, maintained federal emphasis on the need for consistency between transportation improvements, planned growth, and economic development patterns through statewide and metropolitan transportation planning. The Fixing America's

Surface Transportation (FAST) Act, signed into law in 2015, has provided new programs and priorities with implications for land use planning. It added a new emphasis on state involvement in regional transportation planning to coordinate land use, transportation, and economic development within regions.

MDT is focused on working with local partners and developers to minimize adverse impacts to the transportation system resulting from new development, ensure compatibility of land use and transportation options, and support mode choices as Montana communities continue to develop.

Land Use Management in Montana

Authority for land use decision making in Montana lies in the hands of local jurisdictions. As a transportation authority, MDT does not have legislative power over decisions concerning land use. Land use planning in Montana is carried out by local jurisdictions through the following authorities.

Growth Policies

The Local Planning Enabling Act (76-1-101 through 76-1-607 Montana Code Annotated 2015) gives authority to local government to prepare a growth policy and sets out required procedures. In 2013, Montana Legislature amended the act to enable local governing bodies to use growth policies to coordinate and cooperate with federal land management agencies. Montana municipalities and counties are increasingly developing and adopting growth policies to address land use challenges and constraints.

Subdivision Ordinances

Subdivision ordinances provide a process for platting a parcel of land into separate independent sub parcels. In Montana, subdivision regulations are required for all cities, counties, and towns. The ordinances require the anticipated service needs, impacts, and safety of proposed subdivisions to be reviewed and approved by local authorities. Subdivision ordinances can be a useful tool for promoting efficient land use strategies, such as cluster development and preservation of open space. Two of the most popular ordinances are Form-Based and Smart Codes which establish zones of building types based on pedestrian accessibility and the scale and character of surrounding development.

Zoning and Development Permits

Zoning is a legal tool local governments use to protect public health, safety, and welfare by dividing jurisdictions into use districts (zones). Zoning can restrict various uses to certain zones, and impose requirements that permitted uses must meet. In Montana, statutes authorize local governments to enact zoning regulations; however, zoning is not mandated.

Some Montana communities have expressed interest in alternatives to zoning for regulating land use. Development permit regulations, which focus on physical elements such as building height and lot size, are commonly used as an alternative to zoning. Development permit regulations affect the character and quality of new development as opposed to zoning, which only affects the location.

Development permit regulations may be used to implement a jurisdiction's land use plan and mitigate transportation impacts by varying requirements for different areas in a county. For example, development permit regulations could create parking ordinances that call for differences in parking in denser, multimodal urban and suburban places compared to industrial or commercial areas.

MDT's Role in Land Use Coordination

MDT recognizes that land use has a significant impact on the state's transportation system. Despite lacking authority for making land use decisions, MDT takes an active role working with local jurisdictions through the following mechanisms.

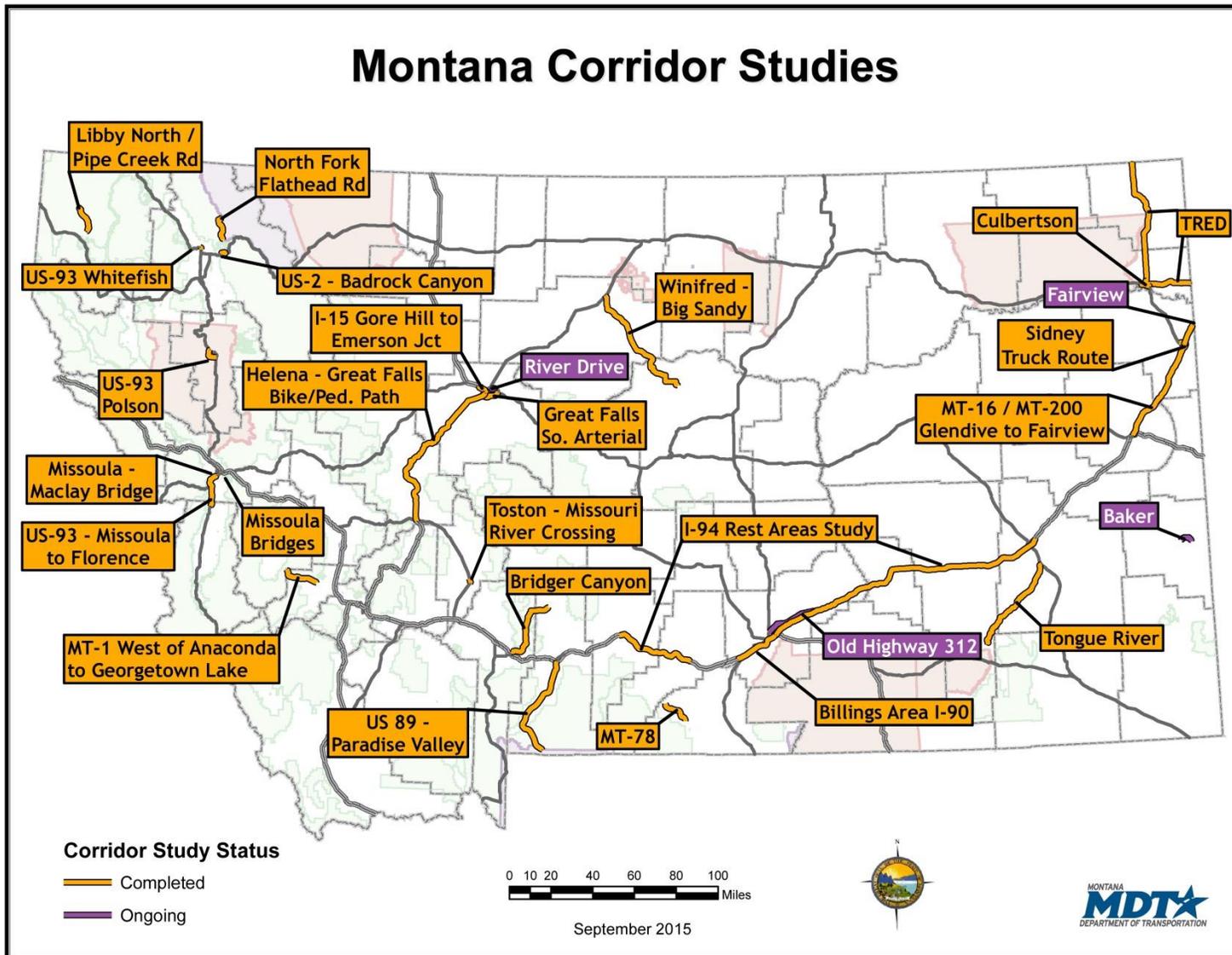
Transportation and Corridor Plans

Transportation plans provide state, local, and tribal governments with a valuable way to determine and address future transportation needs in their jurisdictions based on public input and technical analysis. Transportation plans provide an opportunity to capture the future vision, policy direction, and desired improvements for the localities involved.

Metropolitan Planning Organizations (MPOs) are cooperative policy-making bodies for areas with a population over 50,000 people. Under Title 23 USC, MPOs must develop long-range transportation plans to prioritize projects, allocate federal funding, and meet regional objectives. Smaller communities may also develop transportation plans to address transportation needs. MDT provides financial and technical assistance in the development of long-range transportation plans for Montana communities.

Corridor plans complement long-range plans by identifying needs within a specific transportation corridor before project development and implementation. They bridge the gap between priorities outlined in Montana's statewide and local long-range transportation plans and project-level Montana and National Environmental Policy Act (MEPA/NEPA) processes. Corridor plans consider land uses and development patterns when identifying corridor needs, opportunities, constraints, and potential improvements. As illustrated in Figure 11, MDT has partnered with local agencies throughout Montana to develop plans for numerous urban and rural transportation corridors.

Figure 11: Corridor Planning Studies in Montana



Source: MDT Multimodal Planning Bureau 2015.

Access Management

MDT manages access on Montana's highway facilities to enhance public safety, maintain traffic flow, preserve highway investments, and reduce the costs of future maintenance and expansion.

Effective access management requires MDT to balance the needs of local residents and businesses to access transportation corridors with the need to maintain safe and efficient traffic flow along those corridors. Generally, less access is given to higher-speed, higher-traffic corridors and more access is provided on slower, lower-traffic corridors.

MDT uses access management strategies to coordinate land uses and developments with physical connections and other access points. While access points are integral in allowing users to reach their destinations, if not implemented correctly they can increase the risk of crashes and lead to bottlenecks and reduced capacity. Access spacing, intersection and traffic signal spacing, roadway classification, driveway permitting, and geometric design standards are some of the tools commonly used by MDT for access management.

Access management in Montana can be initiated at the local or statewide level depending on whether the corridor is developed and managed by local or statewide authorities and whether the corridor has statewide or national significance.

Responsibility for statewide access management issues in Montana lies with the Montana Transportation Commission, a five-member decision making authority appointed by the governor. The Commission adopted an Access Management Plan in 1992. The document mainly clarified the process by which an access control regulation could be modified to allow access at points not granted at the time access rights were originally acquired.

The Commission may designate the number and location of allowable access points to a highway or facility through an Access Control Resolution. Adopting an Access Control Resolution requires a project to be nominated for consideration as a limited access facility, a public review and comment process, right-of-way acquisition, and the development of a formal access control plan. MDT maintains a series of access control process criteria (described fully in the *Montana Right-Of-Way Operations Manual*), and every reasonable effort is made by the Commission to adhere to these criteria in managing access on Montana's highways and facilities.

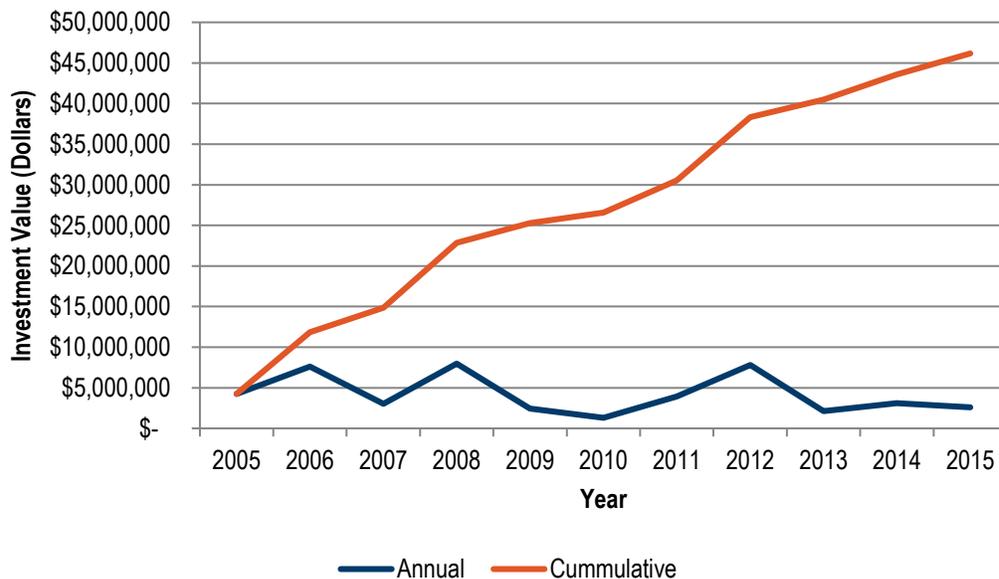
System Impact Action Process (SIAP)

MDT uses the SIAP to coordinate review of projects initiated outside of MDT that may substantially and permanently impact the transportation system. The SIAP provides MDT with the opportunity to:

- review access requests from private developers,
- identify reasonable accommodation of the developer needs,
- preserve the safety and operational efficiency and integrity of Montana's transportation system,
- ensure MDT permitting does not precede an environmental process (NEPA/MEPA), and
- protect taxpayer investments by recovering costs from developers for their project's impacts to the transportation system.

Since 2005, the SIAP recorded more than \$40 million spent on developer-funded impact mitigations to the state's transportation system. As illustrated in Figure 12, peak impact years occurred in 2008 and 2012, with impacts tapering off in more recent years.

Figure 12: Developer-funded Transportation System Impact Mitigations



Source: MDT Policy, Program & Performance Analysis Bureau 2015; DOWL 2017.

Training, Assistance, and Technical Support

MDT recognizes the importance of offering training, best practices, case studies, technical support, and other resources for local agencies to effectively coordinate land use, transportation access, and related decisions. MDT provides multiple areas of assistance for local decision makers, including data collection, traffic analysis, and transportation analysis tools and resources; travel demand model updates; and technical support relating to transportation planning and funding agreements.

Montana's Environment

MDT is responsible for providing leadership and ensuring regulatory compliance for actions that affect the built and natural environment during planning, project development, construction, and maintenance activities. MDT evaluates environmental resources; identifies potential impacts; and determines measures to avoid, minimize, or mitigate impacts in compliance with local, state, federal, and tribal laws, regulations, and policies.

MDT works to optimize planning and design decisions by balancing transportation needs with responsible, cost-effective stewardship of the environment. This process involves regulatory compliance with the intent to incorporate environmental sensitivity and sustainability as integral aspects of project decisions and design.

MDT is responsible for complying with a host of regulations addressing documentation and disclosure of decisions and protection of the built and natural environment. It must avoid, minimize, and mitigate impacts to a range of resources, including protected parks and other public sites, fish and wildlife species, vegetation, wetland and aquatic resources, farmlands, air

quality, sensitive noise receptors, and cultural resources. MDT identifies resources within proposed project limits, evaluates potential project impacts, and identifies potential avoidance and minimization measures while meeting its transportation mission. MDT also supports investigations and remediation of hazardous waste, solid waste, and groundwater quality associated with MDT construction projects and MDT maintenance and operations of facilities. Throughout all efforts, MDT coordinates as appropriate with local, state, federal, and tribal regulatory agencies with jurisdiction and interest in these issues.

To address regulatory requirements, MDT has outlined its practices and procedures in a series of manuals.

- The *MDT Environmental Manual* provides guidance for performing environmental investigations and preparing environmental documents for MDT projects. The manual outlines the National and Montana Environmental Policy Act (NEPA/MEPA) process, provides guidance on conducting environmental analyses and complying with applicable environmental laws and regulations, and provides information on developing and tracking mitigation measures and meeting environmental permitting obligations.
- The *MDT Erosion and Sediment Control Best Management Practices (BMP) Manual* assists MDT with Clean Water Act compliance during construction and post-construction phases of MDT projects. It assists contractors in identifying appropriate temporary erosion and sediment control measures, aids MDT oversight of contractors, and assists MDT in achieving final project stabilization following completion of contractor responsibilities.
- The *MDT Permanent Erosion and Sediment Control (PESC) Manual* describes procedures and methods to address long-term erosion that could potentially result from highway construction and sedimentation resulting from highway storm water runoff.
- The *MDT Storm Water Management Plan (SWMP)* describes the procedures and practices MDT uses to protect water quality by minimizing the discharge of potential pollutants from storm water systems associated with MDT facilities and permitting activities to the “maximum extent practicable” within each small Municipal Separate Storm Sewer System (MS4).
- The *Montana Wetland Assessment Method Manual* provides a means of rating wetlands to facilitate the prioritization of impact avoidance and minimization measures. It assists regulatory agencies in evaluating permit applications for wetland disturbance resulting from MDT projects and determining appropriate compensatory mitigation requirements.
- MDT’s *Traffic Noise Analysis and Abatement Policy* describes MDT’s program for implementing federal requirements for highway projects, including noise analysis, impact assessment, noise abatement evaluation, noise abatement criteria, and requirements for informing local officials.

The following sections address some of the key environmental trends and challenges affecting Montana’s transportation system.

Wildlife Habitat and Corridor Connectivity

The continued growth of Montana’s population and economy present challenges to preserving wildlife populations and natural ecosystems throughout the state as infrastructure is built or improved to meet demands. Changing land use and land use decisions impact wildlife

populations and ecosystems including the loss of habitat and the creation of barriers that isolate wildlife populations, fragment habitat, and prohibit wildlife movement and migration.

MDT recognizes the effects of wildlife-vehicle collisions to both wildlife populations and highway safety. MDT continues to coordinate with resource agencies, stakeholders, local governments, private landowners, and other entities with jurisdiction over adjacent land uses when making decisions affecting habitat connectivity to identify potential important wildlife habitats, wildlife movement corridors, and linkage zones to maintain wildlife movement throughout the state.



Source: Montana Department of Commerce.

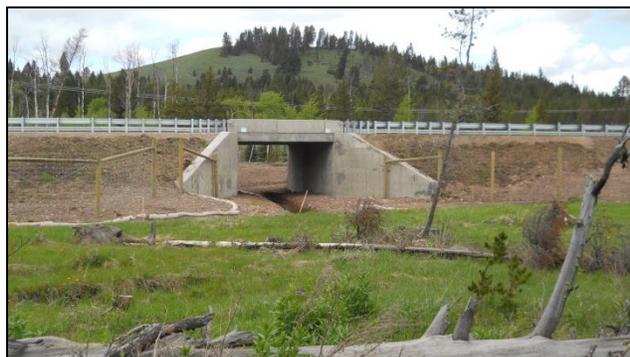
Wildlife-Vehicle Collisions

Wildlife-vehicle collisions are a safety concern, resulting in human deaths and injuries, millions of dollars in property damage, and loss of game and non-game animals.

MDT maintenance personnel collect information on the number of wildlife carcasses collected on state roadways. Montana law enforcement and Fish, Wildlife, and Parks also collect data on vehicle-wildlife collisions and road-kill carcasses. These separate data collection efforts do not necessarily provide an accurate view of the location and number of wildlife collisions and are supplemented by other data and field investigations, when necessary.

MDT considers a range of management tools to address wildlife conflict locations. Wildlife crossing structures can be an effective treatment to promote wildlife passage across roadways. Given the extremely high cost of structures, MDT focuses on identifying appropriate installation locations, such as critical linkage corridors with documented crash clusters.

Funnel-fencing in conjunction with wildlife crossing structures or designated at-grade crossing locations is a key component to successful wildlife crossing. This type of fencing guides animals to designated crossing locations, while escape mechanisms such as jump-out ramps allow wildlife to exit roadways should they become trapped on the wrong side of the fence.



Source: Montana Department of Transportation.

MDT monitors existing wildlife accommodations to gain insight on successes and lessons learned to inform proper design of future crossings. MDT continues to incorporate new technologies and identify innovative solutions to address wildlife accommodations.

Federally Listed and Montana State Sensitive Species

Key terrestrial and aquatic species legislation that affect transportation projects in Montana include the Endangered Species Act (ESA), the Montana Nongame and Endangered Species Conservation Act, and the Greater Sage Grouse Stewardship Act.

The Endangered Species Act (ESA) provides for the protection of species that are threatened or endangered (T&E) throughout all or a significant portion of its range, and the conservation of the critical habitat on which they depend. The federal list of T&E species is maintained by the U.S. Fish and Wildlife Service (USFWS). The USFWS also designates critical habitat for listed species under the ESA.

The Montana Nongame and Endangered Species Conservation Act provides for the protection of species native to Montana that are at-risk due to declining population trends, threats to their habitat, limited distribution, and other factors. A list of these state species of concern is maintained by the Montana Natural Heritage Program and Montana Fish, Wildlife, and Parks (FWP). These species may or may not also be federally listed T&E species.

In Montana, the state has management authority over sage grouse as outlined under the 2015 Greater Sage Grouse Stewardship Act and Montana Governor's Executive Orders 10-2014, 12-2015, and 21-2015. The Sage Grouse Habitat Conservation Program was created to facilitate implementation of the Executive Orders across state government, by federal land management agencies, and private entities seeking to develop projects in key sage grouse habitats.

Under the Migratory Bird Treaty Act (MBTA), pursuing, hunting, taking, capturing, killing, selling, or possessing any migratory bird, part, nest, or product is unlawful (16 USC 703-712). Birds protected under the act include all common songbirds, waterfowl, shorebirds, hawks, owls, eagles, ravens, crows, native doves and pigeons, swifts, martins, and swallows; feathers, plumes, nests, and eggs are also protected. The Bald and Golden Eagle Act of 1940 prohibits "taking" bald eagles, including their parts, nests, or eggs, without a permit issued by the Secretary of the Interior. MDT considers the presence of protected birds during the planning and project development phases for individual projects and identifies appropriate measures such as timing restrictions to avoid impacts to these species.

MDT plays a key management role as transportation projects can influence plant and animal species and their habitats. MDT focuses on early involvement with USFWS, FWP, and others to identify potential impacts, avoid or minimize these impacts, and identify potential mitigation requirements for impacted areas.

Fish Habitat and Passage

Many state-maintained roadways cross river and stream channels. If not designed appropriately, these crossings can lead to stream instability, changes in natural stream processes, and adverse impacts to populations of fish and other aquatic species.

MDT currently uses design resources such as FHWA Hydraulic Engineering Circulars No. 20 and No. 26, which provide design guidance for Stream Stability at Highway Structures and Culvert Design for Aquatic Organism Passage. These resources help MDT incorporate factors such as stream geomorphology, sediment transport, bank stability, and stream simulation design into the planning and design processes for roadway construction and reconstruction projects. In addition, MDT complies with applicable state requirements, such as the Montana Stream Protection Act (SPA 124 Permit), to minimize adverse project impacts to aquatic resources.

Natural channel alignment and fish passable structures are some of the tools MDT considers to preserve fish habitat and enable aquatic organism passage. MDT continues to incorporate new technologies and identify cost-effective, innovative solutions that allow continued operation and

maintenance of critical roadway infrastructure while helping to avoid and minimize project impacts on aquatic organisms.

Wetlands

Wetlands provide important wildlife and fish habitat, flood and erosion control, water storage, and water quality enhancement. Wetlands are protected at the federal level by the United States Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act and Executive Order 11990, and at the state level by the Montana Department of Environmental Quality (DEQ)

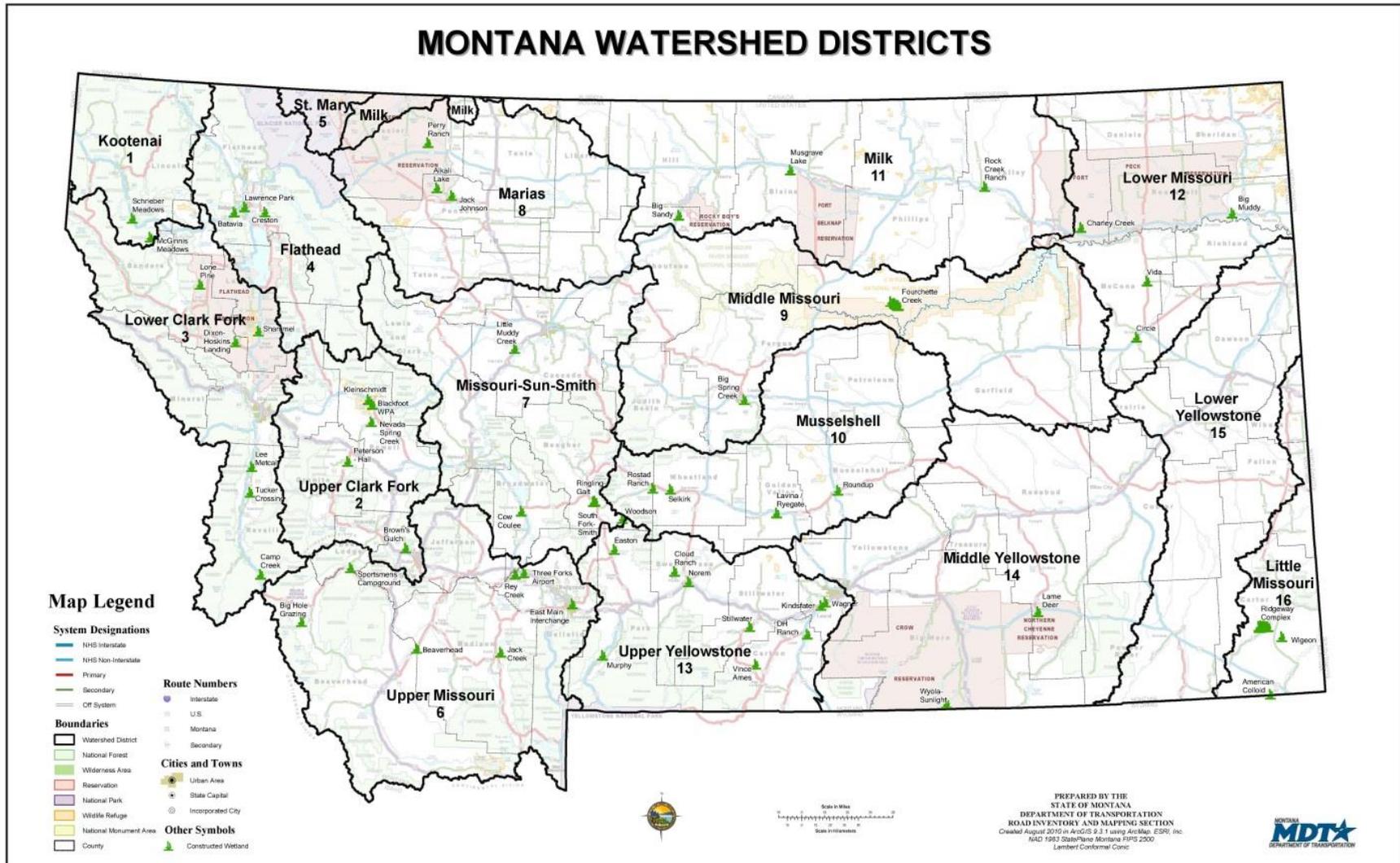


Source: Montana Department of Commerce.

under Section 401 of the Clean Water Act and the 318 Authorization program. All MDT projects are investigated for the location and quality of wetlands within a project area prior to design and construction. Wetland functions and values are assessed using the Montana Wetland Assessment Method (MWAM), created by MDT, which classifies wetlands into four categories, with Category I wetlands providing the highest wetland functions and values, and Category IV wetlands providing the lowest.

Potential impacts to wetlands are considered and reviewed when designing transportation projects. Section 404 of the CWA requires permittees to first avoid impacts to wetlands, minimize impacts where avoidance cannot be accomplished, and mitigate any unavoidable impacts. MDT has successfully created multiple wetland and stream mitigation sites or purchased mitigation credits throughout the state's 16 watersheds (Figure 13). However, not all watersheds have credits available for use, having been exhausted on prior projects. The cost to create wetland mitigation banks or purchase mitigation credits has grown substantially. Furthermore, the permitting process through the USACE and DEQ can add costly impacts to project budgets and schedules.

Figure 13: State Watersheds and Mitigation Sites



Source: MDT Environmental Services Bureau 2015.

Avoidance and minimization of wetland impacts starts in the design process. MDT strives to familiarize design teams with wetland issues to help achieve this. MDT's progressive approach to wetlands, wetland functional assessments, and wetland mitigation is a model for transportation departments in the western U.S. Integrating a culture of avoidance and minimizing impacts, particularly impacts to high quality wetlands, ultimately results in significant cost and time savings to MDT over the course of the project development process.

Water Quality

The Montana Department of Environmental Quality (DEQ) is responsible for maintaining water quality in the state, while the United States Environmental Protection Agency (EPA) and Indian tribes have jurisdiction on tribal lands. DEQ ensures compliance with the federal Clean Water Act, regulates discharges of pollutants from both point and non-point sources, and works to maintain and increase the number of water bodies in the state that can safely be used for drinking, fishing, recreation, and other uses. Under the Montana Pollutant Discharge Elimination System (MPDES), DEQ issues permits for municipal, industrial, and construction wastewater/storm water point-source discharges, including transportation projects and facilities.

MDT must comply with federal and state water quality laws, as transportation can directly affect water quality in several ways. Road construction can increase erosion and contribute to more sediment entering waterways. The creation of impervious surfaces can adversely affect water quality due to faster rates of runoff and lower groundwater recharge rates. Pollutants, such as vehicle exhaust, oil, and dirt, and deicing chemicals, are deposited on roadways and other impervious surfaces and washed into adjacent waterways or storm sewer systems during rain and snow-melt events.

Meeting MDT's storm water runoff requirements, particularly in urban areas as part of MDT's municipal separate storm sewer systems (MS4) permit, is a challenge that MDT continually strives to manage and achieve. A growing trend is an emphasis on green infrastructure, low impact development, and bioengineered solutions as a means to manage storm water due to wide adaptability, low cost, minimal maintenance requirements, and aesthetic value. MDT continues to identify and incorporate new design technologies to best meet program objectives.

Traffic Noise

With continuing transportation development, the potential for conflicts between traffic noise and noise-sensitive land uses is likely to increase. Traffic noise may affect the usefulness of property developments near highways. It can potentially devalue property, cause health problems, and diminish the quality of life for people who live near noise generators.

MDT considers noise effects in all its highway expansion projects and works to address anticipated issues. Land use decisions are, however, matters of local jurisdiction. Noise problems that arise from development and land use changes near transportation corridors are the responsibility of local officials.

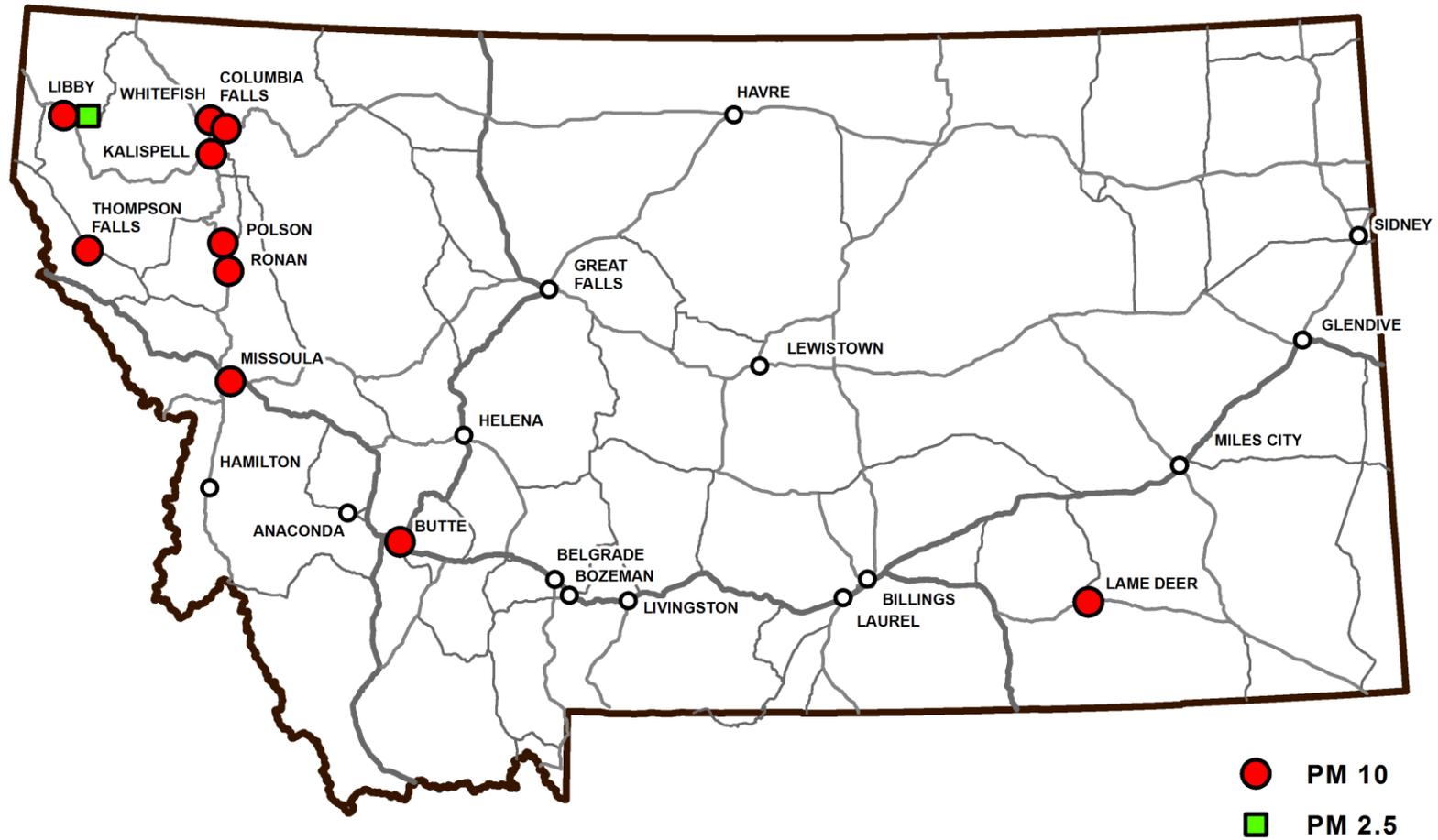
Noise-compatible land use planning may involve a variety of strategies to reduce the impacts of unwanted sound on sensitive uses. In planning practice, consideration of noise requires attention to basic elements of land use design, such as lot layout and setbacks, open spaces, and land use exclusions. It may be dealt with in building design (although addressing noise through building design restrictions may be outside the authority of local governments in Montana). Traffic noise may also be dealt with by landscaping interventions, such as berms, walls, or vegetative buffers.

The local basis for addressing noise may be found in local planning goals and objectives that are common elements of local policies that address public health, safety and welfare, and general quality of life. Integrating noise as a regulatory or programmatic consideration in local land use planning may require modification of local policies and programs. Local decision makers are likely to become increasingly responsible for noise impacts arising from land use decisions.

Air Quality

The Clean Air Act (CAA) is a federal law that regulates air emissions from stationary and mobile sources. It authorizes the EPA to establish National Ambient Air Quality Standards (NAAQS) to protect public health and public welfare, and to designate those areas that have not met the NAAQS as non-attainment and to classify them according to their degree of severity. NAAQS have been established for six criteria pollutants, including carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM₁₀ and PM_{2.5}), sulfur dioxide (SO₂), and lead (Pb). Of these, O₃, CO, PM₁₀, PM_{2.5}, and NO₂ are identified as transportation-related pollutants. In Montana, the vast majority of the state attains the NAAQS for the six criteria pollutants. Locations classified as nonattainment areas relating to transportation pollutants, include: Libby (PM₁₀ and PM_{2.5}), Butte (PM₁₀), Columbia Falls (PM₁₀), Kalispell (PM₁₀), Missoula (PM₁₀), Thompson Falls (PM₁₀), Whitefish (PM₁₀), Lame Deer (PM₁₀), Polson (PM₁₀), and Ronan (PM₁₀). Billings, Great Falls, and Missoula are limited maintenance areas for CO. Figure 14 illustrates the nonattainment areas in the state of Montana.

Figure 14: Designated Air Quality Nonattainment Areas in Montana



Source: MDT Multimodal Planning Bureau 2015.

The CAA also authorizes the EPA to regulate emissions of hazardous air pollutants. Hazardous air pollutants (or air toxics) are pollutants known to cause or suspected of causing cancer or other serious health effects. The CAA lists 188 hazardous air pollutants. In 2001, EPA issued its first Mobile Source Air Toxics Rule, which identified a subset of the 188 hazardous air pollutants that are emitted from highway vehicles and non-road equipment. These 21 mobile source air toxic compounds were listed as being hazardous air pollutants that required regulation.

Transportation conformity regulations require transportation plans, transportation improvement projects, and projects funded by the Federal Highway Administration (FHWA) or Federal Transit Administration (FTA) in areas designated as O₃, CO, PM₁₀, PM_{2.5}, and NO₂ nonattainment or maintenance areas be consistent with air quality goals in the State Implementation Plan (SIP). Transportation conformity to a SIP means the proposed plan/project will not cause or contribute to any new violations of the NAAQS, increase the frequency or severity of NAAQS violations, or delay timely attainment of the NAAQS or any required interim milestone. Transportation conformity only addresses air pollution from on-road mobile sources. Since FHWA/FTA can limit funding for transportation projects if the transportation plan/project is not consistent with the SIP, transportation conformity can have a significant impact on the transportation planning process. MDT must consistently make transportation decisions that meet both air quality and mobility goals, and continually find ways to reduce vehicle emissions.

The Congestion Mitigation and Air Quality (CMAQ) Improvement program is one way for MDT to meet transportation conformity regulations. The CMAQ program supports surface transportation projects and other related efforts that contribute air quality improvements and provide congestion relief. While some CMAQ funds provided to the state of Montana are directed to Missoula due to its classified non-attainment standard under the CAA, MDT has the flexibility to prioritize the remainder of CMAQ funds to statewide projects that provide the greatest benefits in addressing air quality or congestion issues. MDT provides an annual allocation to Billings and Great Falls given their limited maintenance status and planning requirements relative to transportation conformity. In recent years, MDT also utilizes a portion of these discretionary funds to purchase air quality equipment (in PM₁₀ areas) and to improve intersections and signal synchronization in order to reduce CO hotspots. MDT also uses funds for Americans with Disabilities Act (ADA) upgrade projects, primarily bicycle/pedestrian facilities along state routes, to help promote multimodal activities in Montana's urban areas.

Moving forward, a key to successful conformity will be an interactive air quality planning process that considers air pollution reduction and transportation needs at the same time. Ongoing coordination between MDT, DEQ, and local and regional planners can help develop cost-effective transportation strategies to meet conformity requirements; help establish criterion to prioritize CMAQ funds; and ensure that emissions inventories, emissions budgets, and transportation control measures are appropriate and consistent with the transportation vision of a particular area/region.

Hazardous Materials

The transportation of hazardous materials on the nation's highways is regulated under the 1975 Hazardous Materials Transportation Act (HMTA). The HMTA was enacted to improve the uniformity of existing hazardous materials regulations and to prevent spills and illicit dumping which could endanger the public or natural environment. While all areas are susceptible to impact from hazardous materials spills, some areas are more sensitive than others, particularly, areas where transportation routes pass through water supply areas for drinking water. Some states delineate source water/drinking water supply areas and post signs with a dedicated rapid response phone number, or simply direct the public to dial 911 in the event of a spill. Delineation

and notification of sensitive areas would allow for expedited reporting of potential spills in these sensitive areas, potentially enabling early containment and decreased remediation efforts.

Weather Events

Changing weather patterns can present challenges for Montana's transportation operations and infrastructure. MDT considers how or if changing weather patterns impact transportation and transportation infrastructure.

Transportation infrastructure is designed to handle a broad range of impacts based on historic weather patterns; however, extreme weather events can shorten the lifecycle of transportation systems and increase maintenance costs. For example, higher temperatures can cause pavement to soften and expand, leading to rutting, potholes, and increased stress on bridge joints. Flooding from unusually heavy precipitation can disrupt traffic, damage culverts, and also reduce service life of highways. Drought can increase the likelihood of wildfires, which may also threaten transportation infrastructure.

Preparing for extreme weather events is critical to protecting the integrity of Montana's transportation system. Identifying potential scenarios enables MDT to document emergency response protocol, set aside funds for routine emergency response, and work with federal partners to streamline the emergency response process.

Security Conditions

Montana must prepare for and be ready to respond to wildfires, floods, severe storms, earthquakes, avalanches, and landslides. In addition to natural disasters, human-caused events can disrupt lives and cause hazards to public health.

Montana's transportation system is essential to the movement of emergency vehicles, goods, and services, both during and after a disaster. In the event of an incident, citizens may need to be evacuated and emergency services deployed to disaster sites for damage control and to return sites to normal operations. MDT must be prepared to be involved quickly and effectively in responding to disasters when they arise.

MDT maintains an operational framework for handling emergencies and restoring normal operation of the transportation system in the event of natural or man-made disasters. The framework emphasizes coordination with other agencies to prevent, prepare for, respond to, and recover from disasters. These efforts are critical to safeguarding human life; protecting Montana's infrastructure assets, environment, economy; and maintaining continuity of government operations.

Statewide Emergency Coordination and Planning

MDT emphasizes the importance of statewide coordination and consistency in its security plans and programs. Montana Executive Order 17-04 formally recognizes and adopts the National Incident Management System (NIMS) as the guiding framework for preparing for and responding to disasters in Montana.

MDT coordinates closely with the Montana Department of Military Affairs Department of Disaster and Emergency Services (DES), the lead agency coordinating comprehensive emergency management in the state. Oversight and guidance for DES is provided by the Federal Emergency Management Agency (FEMA) and the Department of Homeland Security. MDT and DES recognize the importance of strong partnerships, both between government agencies and with public, private, and non-profit sectors.

The *Montana Emergency Response Framework* (MERF) is an all-hazards plan outlining the roles, responsibilities and actions of state government agencies during times of emergency or disaster. The MERF identifies state agencies tasked with serving in an emergency support function (ESF). MDT is responsible for leading the Transportation ESF, which includes:

- assessing and reporting damage to transportation infrastructure resulting from a result of a disaster;
- coordinating alternate transportation services and routes for air, surface, and rail modes;
- restoring and repairing transportation infrastructure during the recovery phase following an incident; and
- coordinating prevention, preparedness, and mitigation between state and local transportation partners.

The *State of Montana Multi-Hazard Mitigation Plan and Statewide Hazard Assessment*

complements the MERF by focusing on ways to reduce or eliminate adverse impacts resulting from disasters. The plan identifies hazards, assesses risk and mitigation potential, presents goals and strategies, and outlines plan implementation, monitoring, and evaluation. For each hazard, the plan discusses history, probability, and magnitude of occurrence; vulnerabilities to critical facilities and infrastructure; potential impacts to the human



Source: Montana Department of Transportation.

population, ecologic and social values, and economy; and vulnerability associated with future development. The plan outlines the following MDT responsibilities:

- mitigate damage to the state's transportation infrastructure, and
- evaluate hazard information when designing roads and bridges to mitigate future damages.

The chief responsibility for coordinating statewide transportation emergency management in Montana lies with the MDT Director. However, each MDT division, district, and section is responsible for implementing measures to ensure transportation security within their areas of jurisdiction. The major components of MDT's operational framework to prepare for and respond to emergencies are mitigation, preparedness, response, and recovery. The scale of MDT's response and the need for other state or federal assistance is based on the severity of the disaster.

Surface Transportation Security

MDT has identified surface transportation risks and outlined its emergency practices and procedures in a number of documents.

- The *MDT Emergency Support Function Annex #1 Transportation* serves as a supplement to the MERF. Recognizing that transportation disruptions may result both from direct impact to infrastructure and well as heightened transportation demand due to events in other functional areas, the annex outlines MDT's core capabilities and operational functions and responsibilities.
- The *MDT Transportation Asset Management Plan* (TAMP) outlines a formal process for identifying, assessing, and prioritizing risks to Montana's surface

transportation infrastructure. The TAMP surveyed agency staff across functional areas and drew comparisons of the likelihood and consequence of various risks. The TAMP ultimately produced a register of the highest priority risks and a series of coordinated mitigation strategies to respond to those risks.

- The *MDT Maintenance Manual* outlines MDT procedures and best management practices for responding to incidents affecting state roadways and structures. The manual outlines MDT responsibilities and provides staff-level direction for initial response and follow-up activities.

Public Transportation Security

Members of the public rely on passenger trains, planes, buses, and vans to reach destinations throughout the state. MDT coordinates with local providers to address passenger and operator security and to develop plans for providing emergency transportation services during a disaster event. Multiple service providers stipulate allowable/prohibited items and appropriate/inappropriate behaviors to enhance the safety and security of each trip.

Information Security

MDT is responsible for managing extensive information systems serving both internal department and external public functions. The security of these systems, networks, and associated data is critical to the continued functioning of MDT programs. MDT is focused on developing and implementing an information security program that protects against attacks and outlines recovery strategies in the event of a system breach. Risk management, resource allocation, and deployment of appropriate security controls are key elements of MDT's information security program.

WHAT WE HEARD

Stakeholder and public involvement are crucial elements of TranPlanMT. Communication and collaboration with members of the public and transportation partners provide important feedback to help MDT develop goals and strategies for the plan. To understand the needs and priorities of Montana's transportation system from the perspective of daily users, MDT used multiple methods of outreach including a three-month online survey tool, stakeholder workshops and interviews, a project-specific website, and an open comment period running throughout the entire planning process.

MDT Biennial Survey

Every two years, MDT contracts with a third party to conduct a public involvement survey and a stakeholder survey to examine:

- perceptions of the current condition of the transportation network;
- views about possible actions that could improve the transportation network in Montana; and
- opinions about the quality of service MDT provides to its customers.

In 2015, the survey interviewed 1,039 households and published the results on MDT's website (http://www.mdt.mt.gov/publications/docs/surveys/2015_tranplan21_public_involvement.pdf).

The long-term nature of the surveys allows MDT to track progress and changes in customer expectations over time. In addition to surveying public opinion, MDT conducts a similar survey of transportation stakeholders to assess perceived transportation needs, improvements, and services in Montana.

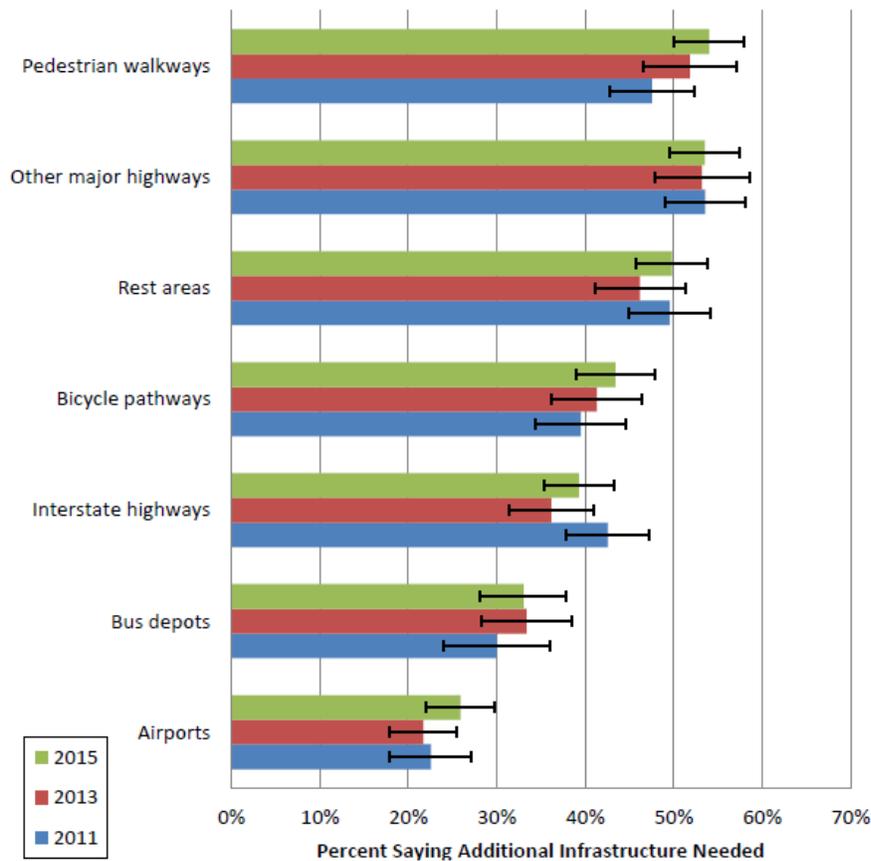
With respect to the transportation context, the biennial survey showed respondents are aware of shifting demographics in both rural and urban areas and wish to see improvements to the transportation system to serve changing populations. While prioritizing maintenance and preservation, respondents also place emphasis on mitigating impacts to Montana's natural environment. Figure 15 presents the perceived need for facilities, equipment, or services.

Figure 16 presents respondent recommendations for improvements to the transportation system. Top priorities include:

- maintaining road pavement condition;
- keeping the public informed;
- including wildlife crossings and barriers;
- maintaining roadside vegetation; and
- improving transportation safety.

These priority areas align with public comments received through the TranPlanMT survey.

Figure 15: Perceived Need for Facilities, Equipment, or Services

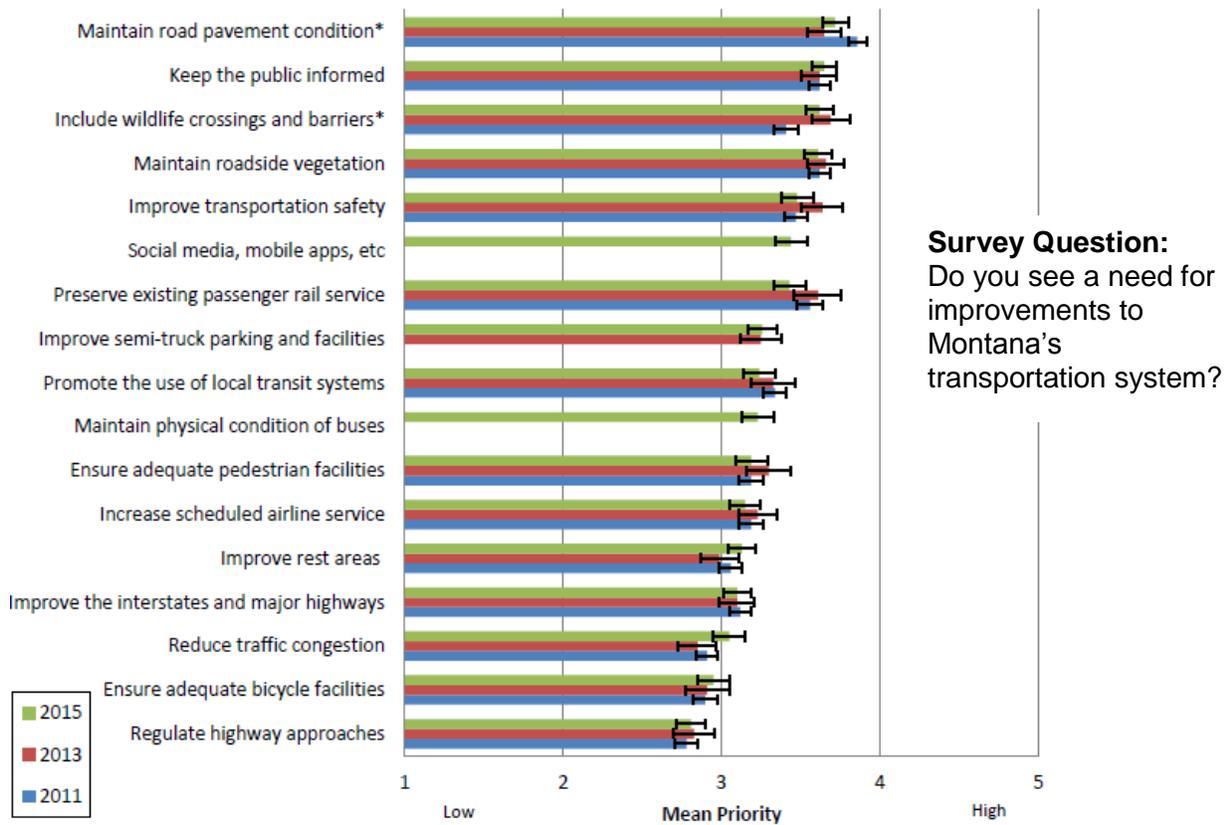


Survey Question:
Do you see a need for additional facilities, equipment, or services?

Note: Survey data are ranges. Error bars (—) represent the upper and lower bounds of the estimate. Differences are significant when error bars do not overlap and are denoted by *.

Source: TranPlan 21 Public Involvement Survey Volume 1 2015.

Figure 16: Possible Improvements in the Trans. System and Roadways



Note: Survey data are ranges. Error bars (—) represent the upper and lower bounds of the estimate. Differences are significant when error bars do not overlap and are denoted by *.

Source: TranPlan 21 Public Involvement Survey Volume 1 2015.

Public Comments

MDT received 24 written comments through email and traditional mail and more than 650 individual comments through the TranPlanMT online survey tool. Comments relating to the transportation context are grouped and summarized in the following sections.

Montana's Economy

A number of comments referenced the need to investigate increases to the fuel tax or other methods to capture revenue from out-of-state visitors. Additionally, respondents strongly supported increased efforts to partner with and support tourism promoters in the state as a viable source of revenue and economic development for Montana communities.

Table 6: Montana's Economy Comments

Topic Area	Comment/Suggestion
Montana's Economy	<ul style="list-style-type: none"> • Maintain the current balance between economic development and transportation system maintenance. • Increase Montana's fuel tax to ensure that funding remains available for sustainable development. • Support tourism development efforts at the state and local level. • Investigate the option of a sales tax to maximize visitor return to Montana's tax base. • Work towards making Montana's roadways more navigable and safer for out-of-state visitors (i.e., increased signage and better rumble strip placement for non-motorized users).

Demographics

Multiple comments focused on Montana's changing demographics in terms of growth both in millennial and aging populations and the transportation demands resulting from those changes. Respondents emphasized providing a variety of transportation options both in and between Montana cities and towns.

Table 7: Demographics Comments

Topic Area	Comment/Suggestion
Demographics	<ul style="list-style-type: none"> • Integrate up-to-date demographic figures during planning and project development. • Provide transportation options to meet increasing demand by changing populations. • Remain aware and sensitive to the transportation needs of the disabled community. • Increase multimodal options for all community types.

Land Use Planning and Access Management

Respondents strongly emphasized that land use planning and access management were crucial components to decreasing impacts on Montana’s natural environments. They also focused on strengthening local partnerships between local, county, and MDT leaders as a method of ensuring smoother planning efforts. This includes increasing educational opportunities and focusing on using local efforts and networks to gather public feedback.

Table 8: Land Use Coordination and Access Management Comments

Topic Area	Comment/Suggestion
Land Use Coordination and Access Management	<ul style="list-style-type: none"> • Implement responsible planning efforts and land use policies. • Emphasize local partnerships with cities, towns, counties, land owners, and MDT leaders. • Track development on public lands and in expanding urban areas to ensure regulations are followed and proper safeguards are in place. • Ensure that planning efforts are compatible and supportive of public transportation efforts. • Remain aware of non-motorized and alternatives during planning. • Provide educational opportunities to local leaders and community members. • Increase use of local networks in smaller communities to ensure adequate time for public comment and involvement. • Ensure land use plans consider long-term environmental, agricultural, and cultural impacts.

Montana’s Environment

Respondents heavily emphasized the importance of protecting Montana’s natural beauty and striving to minimize impacts to plant and animal species. Additionally, they urged for better treatment of storm water runoff and increased application of wildlife collision preventative measures.

Table 9: Montana’s Environment Comments

Topic Area	Comment/Suggestion
Montana’s Environment	<ul style="list-style-type: none"> • Increase environmental impact mitigation efforts instead of simply meeting minimum requirements. • Increase use of wildlife accommodations such as wildlife crossings. • Increase ability to recognize environmentally sensitive areas. • Focus efforts on decreasing environmental impacts resulting from land use and development. • Decrease vehicle emissions by providing transportation alternatives to single-occupancy vehicles. • Decrease visual impairments to natural beauty (i.e., billboards, signs, and signals). • Develop improved treatment options for storm water runoff. • Implement strategies to decrease wildlife collisions on high traffic corridors. • Ensure native species and other wildlife are included in planning efforts at every level.

Security Conditions

Respondents focused on increasing responsiveness to natural disasters through transparent planning efforts and more redundancy within in the transportation system (especially in remote and rural areas). In terms of national security, comments urged MDT to support national security efforts as much as possible without detracting from what were viewed as more relevant threats to the state's transportation system.

Table 10: Security Conditions Comments

Topic Area	Comment/Suggestion
Security Conditions	<ul style="list-style-type: none"> • Ensure adequate funding for disaster and emergency preparedness plans. • Lead other state agencies in planning and updating emergency plans for all of Montana's communities. • Create system redundancy for communities with limited access points. • Focus on natural disaster preparedness. • Provide support for law enforcement agencies tasked with national security and threat investigation efforts.

Stakeholder Feedback

Transportation stakeholders gathered on June 15, 2016, to discuss the long-range transportation planning process and goals and priorities for Montana. Stakeholders also participated in an interactive voting exercise to assess transportation trends in Montana and predict if these trends would increase, decrease, or remain unchanged during the next twenty years.

Trend areas included: driving age population, vehicle ownership, suburban migration, licensing regulations, congestion and time use, non-auto modes, fuel costs, labor force participation, GDP & real income growth, goods & services delivery, telecommuting/teleconferencing, social networking, shared mobility services, autonomous cars, and driverless vehicles.

Following the forecasting exercise, stakeholders were asked to participate in small group discussions in one of six policy areas: Montana’s Economy, Montana’s Environment, Montana Highway Safety, Preservation and Maintenance, Congestion and Delay Relief, and Transportation Options. For stakeholders unable to attend the workshop, interviews were conducted to provide opportunity for feedback on transportation priorities, goals, and other suggestions or concerns. Stakeholder comments relevant to the transportation context are summarized in Table 11 according to workshop topic areas.

Table 11: Stakeholder Comments on Context

Topic Area	Comment/Suggestion
<p style="text-align: center;">Montana’s Environment</p>	<ul style="list-style-type: none"> • Simplify and streamline the permitting process to reduce project cost and time. • Minimize impacts to natural resources. In particular, stakeholders noted roadway construction often occurs too close to rivers. Increase separation tolerances between road and river corridors, recognizing that reconstruction of existing roadways may be in close proximity to water bodies. Provide stakeholders with early opportunities for input. Examples include opportunity to comment/provide peer review on the wildlife accommodation process (current research project) and during project development. • Continue to facilitate annual meetings with MDT and FWP biologists to enable agency input. • Include “green” technology and bioengineered solutions for bank stabilization and storm water. • Recognize concern for wildlife connectivity. • Consider the human safety aspect of wildlife conflicts. • Further integrate the environmental review and permitting processes. Permitting should apply to the entire project (not just construction limits). • Improve data collection efforts (carcass counts, wildlife collision locations) to make more informed decisions about wildlife accommodations (fencing, crossings, etc.). • Consider land use planning in wildlife accommodation decisions (example – don’t plan crossing right next to a new subdivision). • Consider environmental impacts in freight planning (example – hazardous materials spills). • Develop an overarching mitigation policy outlining avoidance, minimization, and mitigation guidelines. • Develop and support communication lines between disaster and emergency partners to ensure efficient actions and protections

Topic Area	Comment/Suggestion
Transportation Options	<ul style="list-style-type: none"> • Increase/improve data collection efforts regarding walking, biking and transit use. • Develop tools to understand how future uses will lead to increased demand for transportation options, including watching demographic trends since youth and elderly rely more heavily on non-auto facilities.
Montana's Economy	<ul style="list-style-type: none"> • Simplify and streamline the permitting process. Current process is impedance to economic growth as compared with contiguous states/provinces. • Examine additional funding sources to add capacity to the network, including interchanges and stretches of highway. • Increase institutionalized higher level coordination between MDT leadership and other agencies such as the Montana Department of Commerce. • Give higher prioritization to capacity enhancements. Scarce transportation monies are going to bike/ped projects instead of capacity enhancements. • Increase permanent (institutionalized) engagement with the private sector. • Provide a transportation advisory board. State agencies to identify transportation representatives. • Improve air transportation. • Balance support of over-the-road and over-the-rail freight corridors. • Increase support and facilitation of intermodal hubs around Montana. • Support tourism efforts related to air travel and airport improvements. • Increased support for critical corridor improvements (i.e., 511 reader boards, effective traffic operations, and increased connectivity options for commercial travelers) • Focus on providing support for multimodal hubs and opportunities as they provide for economic competitiveness and development • Support efforts for natural resource shippers continued access to corridors in and near communities

MOVING MONTANA FORWARD

Goals and Strategies

MDT has developed a set of goals and strategies reflecting public and stakeholder feedback and analysis of available data.

- **Goals** are statements of desired results for the transportation network.
- **Strategies** are methods and business practices to achieve stated goals.

Goals and strategies provide broad policy guidance to inform and direct MDT decision making during the 20-year planning horizon.

- **Safety** is an overarching goal and is applied in nearly every MDT decision making process for all projects and programs.
- MDT makes roadway investment decisions by prioritizing (1) **system preservation and maintenance**, (2) **mobility and economic vitality**, and (3) **accessibility and connectivity**.
- Sensitivity to the **environment** and cost-effective **management** are underlying goals that inform decisions on a broad, department-wide basis.



Goals and strategies relevant to the transportation context are listed below in order of priority. Strategy numbering reflects the complete set of goals and strategies, which can be viewed in their entirety in the *TranPlanMT Plan Summary*.



Mobility and Economic Vitality (MEV): Facilitate the movement of people and goods recognizing the importance of economic vitality.

[Strategy MEV7: Preserve mobility on the highway system through access management and proactive corridor preservation in coordination with local jurisdictions.](#)

One of MDT's key responsibilities is to facilitate movement and travel on Montana roadways. Proactively managing access on existing state highways and identifying potential corridors for future transportation facilities can assist in maintaining service levels. MDT works with local communities to identify and address current and future mobility needs.

[Strategy MEV8: Consistently apply the System Impact Action Process \(SIAP\) to ensure developers equitably mitigate their impacts to the highway system.](#)

New developments often result in impacts to the state highway system by creating new access points and shifting traffic volumes. MDT works closely with developers to reasonably accommodate development needs while preserving the efficiency and integrity of the transportation network. Equitable application of this process protects taxpayer investment and fairly assigns costs associated with impacts.

[Strategy MEV9: Consider system redundancy to enable access to alternative routes during times of emergency.](#)

During times of emergency, Montana communities require a reliable transportation network to provide multiple access points and travel routes. MDT considers system security needs when evaluating improvements to the transportation network.

[Strategy MEV10: Facilitate and coordinate access to recreational, historical, cultural, and scenic destinations for tourism purposes.](#)

Tourism remains one of Montana's highest-earning sectors and provides support for funding through fuel taxes and other state revenue collection methods. MDT works to preserve and improve the transportation network to provide access to all of Montana's communities and destinations for residents and non-resident visitors.

[Strategy MEV11: Provide support for state and local economic development initiatives to allow for new economic opportunities.](#)

As Montana communities focus on enhanced economic growth, MDT recognizes the transportation system plays a vital role in enabling safe and efficient travel, providing access to destinations, and facilitating movement of goods and services. MDT management works with partners throughout the state to provide transportation support for economic development efforts.



Environmental Stewardship (ES): Support MDT’s transportation mission through regulatory compliance and responsible stewardship of the built and natural environment.

[Strategy ES1: Evaluate environmental constraints and cost-effective opportunities during the planning process.](#)

Early identification of resources within a study area enables MDT to better avoid, minimize, and mitigate potential project impacts. MDT uses planning efforts to determine cost-effective solutions to address transportation needs while enabling sensitivity to the built and natural environment.

[Strategy ES2: Foster positive working relationships with resource agencies and stakeholders through early coordination and consultation.](#)

Agency and stakeholder coordination is an important step in the planning and project development processes. It provides an opportunity for representatives with specific knowledge and interest to offer their expertise, identify needs, and propose creative solutions. Early coordination enables MDT to better understand public needs and prepare for permitting requirements.

[Strategy ES3: Consider context sensitive solutions early in the planning process and through design to avoid and minimize adverse impacts to the built and natural environment while meeting the project purpose and need.](#)

Context sensitive solutions (CSS) is a collaborative, interdisciplinary approach that balances the stakeholder interests in providing a transportation facility that fits its setting. MDT uses this approach to preserve and enhance scenic, aesthetic, historic, community, and environmental resources while improving or maintaining safety, mobility, and infrastructure conditions.

[Strategy ES4: Identify cost-effective mitigation solutions for unavoidable project impacts.](#)

MDT strives to avoid and minimize project impacts to the extent practicable. However, in some instances, project-related impacts to the built and natural environment cannot be avoided. In these cases, MDT endeavors to identify appropriate mitigation solutions that balance short-term and long-term costs and benefits.

[Strategy ES5: Meet regulatory requirements.](#)

One of MDT’s primary responsibilities is to comply with federal, state, and local regulations associated with protection of the built and natural environment. These requirements establish minimum thresholds for MDT actions. In some cases, MDT is able to exceed the minimum thresholds when it is cost effective to do so. MDT complies with all applicable environmental regulations and serves as a steward of Montana’s environmental resources.

[Strategy ES6: Consider transportation planning with tribal, federal, state, and local government management and resource planning efforts](#)

The best transportation planning efforts broadly represent the perspectives of all interested and affected parties. MDT strives to coordinate with tribal, federal, state, and local entities to ensure consistency with plans developed by others and to incorporate relevant data and information.

[Strategy ES7: Streamline environmental reviews through early identification of constraints and opportunities and early public engagement during planning.](#)

The corridor planning process enables MDT to broadly consider a study area and identify creative transportation solutions while avoiding significant impacts to sensitive resources. Planning efforts can streamline subsequent project development and environmental documentation by developing an early understanding of public and stakeholder concerns, environmental considerations, and permitting and regulatory agency coordination requirements



Business Operations and Management (BOM): Provide efficient, cost-effective management and operation to accelerate transportation project delivery and ensure system reliability.

Strategy BOM1: Coordinate with state and federal agencies to support transportation security and enable appropriate response and recovery from emergency and disaster situations.

MDT emphasizes the importance of statewide coordination and consistency in its security plans and programs. MDT works closely with local, state, and federal security partners including the Montana Department of Disaster and Emergency Services (DES) to implement prevention efforts and ensure appropriate response to emergencies affecting the transportation system.

Performance Management

In support of MDT goals and strategies, MDT conducts performance-based planning in several key areas mandated through federal regulations. Performance-based planning is a process focused on data analysis to ensure investment decisions meet established goals.

In April 2016, FHWA issued a notice of proposed rulemaking addressing environmental sustainability and defining the following performance measures.

Table 12: Performance Management Measures

Area	Performance Measure ¹
Environmental Sustainability	Total emissions reduction: 2-year and 4-year cumulative reported emission reductions, for all projects funded by CMAQ funds, of each criteria pollutant and applicable precursors (PM2.5, PM10, CO, VOC, and NOX) under the CMAQ program for which the area is designated nonattainment or maintenance.

Source: Notice of Proposed Rulemaking, National Performance Management Measures; Assessing Performance of the National Highway System, Freight Movement on the Interstate System, and Congestion Mitigation and Air Quality Improvement Program, FHWA, 23 CFR 490, April 2016; 23 U.S.C. 167. ¹Only performance measures applicable to MDT and Montana population thresholds are listed in the table. The federal rules regarding these performance measures have not been finalized and adopted by USDOT. Performance measures in this table may change depending on text contained in the final rule.

The proposed rule requires transportation authorities to establish statewide targets for the performance measures listed in Table 12 within one year of the final rule issued by FHWA. MDT must coordinate with MPOs to ensure consistency in selecting targets. No timeframe for final rulemaking has been set at this time.

Performance Target

“a quantifiable level of performance or condition, expressed as a value for the measure, to be achieved within a time period required by FHWA”



Source: 23 CFR 490.101

FHWA will regularly assess progress in achieving defined performance targets. Significant progress will be demonstrated if condition is equal to or better than the established target or better than the baseline condition.

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