Appendix C:

Recommendations and Implementation

C-1: Planning-Level Cost Estimates

Gallatin County

Safe Streets For All

Action Plan

RECOMMENDATIONS AND IMPLEMENTATION

May 6, 2025

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Recommendations and Implementation

1. Introduction

Gallatin County was awarded funds from the Safe Streets and Roads for All (SS4A) discretionary grant program to complete an Action Plan identifying the most significant safety concerns in the community with implementation steps for projects and strategies to address those issues and reduce fatalities and serious injuries within the county. Completion of the *Gallatin County SS4A Action Plan* will enable the county to apply for other grant funds under the SS4A program to complete supplemental planning, future demonstration activities, or project implementation as needed to fulfill the identified needs of the Action Plan.

The purpose of this *Recommendation and Implementation* memorandum is to identify and recommend strategies, projects, programs, and policies to address historic crash trends and proactively address other potential safety risks in the transportation system. The identified actions consider and include recommendations and ideas included in past planning documents, stakeholder input, as well as best practices from a variety of industry-accepted sources.

1.1. Crash Analysis Background

For this effort, the Montana Department of Transportation (MDT) Traffic and Safety Engineering Bureau provided crash records for all crashes occurring within Gallatin County SS4A planning area over the 5-year period from January 1, 2019, to December 31, 2023. The data included a total of 6,739 crashes involving 13,116 people. About 20 percent of crashes resulted in some level of injury and about 3 percent were severe (38 total fatalities and 192 total serious injuries). Crash records were analyzed to identify trends contributing to crashes including temporal trends, behavioral characteristics, roadway and environmental characteristics, demographics, and other circumstances to determine commonalities between crashes. This review helped the County understand how and why crashes occurred in the past and predict where crashes are likely to occur in the future so conditions can be proactively addressed. A detailed analysis of crash data is provided in the *Baseline Data Summary*. An abbreviated summary of key findings is provided below.

- Temporal trends appear to indicate a possible trend with regular commuting patterns and generally higher traffic exposure on weekdays. However, more severe crashes occurred on weekend days. Approximately 27 percent of crashes occurred in the fall months (September through November) while 31 percent occurred in the winter months (December through February).
- Geospatial mapping shows higher concentrations of crashes in the triangle area between Bozeman, Belgrade, and Four Corners. This area has greater traffic volumes and is typically more congested than other areas of the county, leading to greater traffic exposure and a higher risk of conflicts. Similarly, about a quarter of severe crashes occurred on I-90 which carries the highest traffic volumes and has the highest speed

limits which contribute to both higher risks of conflicts as well as higher risks of injury when a crash occurs.

- Single-vehicle crashes accounted for 59 percent of all reported crashes, while multi-vehicle crashes made up the remaining 41 percent. The most common types of crashes were fixed-object collisions, rollovers, and rear-end collisions.
- Approximately 59 percent of crashes occurred on routes owned and maintained by MDT, while 23 percent occurred on routes owned by Gallatin County. Of the severe crashes, 66 percent occurred on MDT routes while 20 percent occurred on locally owned routes. These findings point out the importance of interagency coordination.
- About 41 percent of crashes occurred under adverse road conditions (snowy, icy, frost-covered, or wet roads) and 17 under adverse weather conditions (snow or rain). Crashes occurring under adverse road or weather conditions could potentially indicate a lack of maintenance of roadway facilities or a lack of skill, experience, or care driving in adverse conditions. About 34 percent of crashes occurred when it was dark outside, with only 14 percent of those crashes occurring in locations where street lighting was present.

Based on the baseline data analysis, it was determined that 4 focus areas would be selected to investigate in further detail. Due to similarities in the strategies to address certain focus areas, some of the focus areas were combined into broader categories. The focus areas aligning with the total number of crashes and the highest severities were selected as the focus areas that could have the greatest impact on safety within the community. The selected focus areas include: Run-off-the-road Crashes, Intersection Crashes, Driver Age (Younger and Older Drivers), and High Risk Behaviors (Speed Related Crashes, Unrestrained Occupants, Impaired Drivers, and Inattentive Drivers).

- **Run-off-the-road:** Run-off-the-road crashes in the study area are mainly driven by weather conditions and driver behavior. Winter weather, including icy and wet roads, increases crash risk, especially when drivers don't adjust their speed. Distractions and inattentiveness worsen the problem, as do speeding and rushing during commuting hours. Nighttime crashes are more common due to reduced visibility, particularly in poorly lit areas. Alcohol impairment also contributes significantly.
- **Intersection Crashes:** Crashes at intersections and intersection-related crashes are a significant concern, particularly at high-traffic locations with heavy turning movements. These crashes often involved a higher proportion of right-angle collisions, which tend to be more severe. Distracted and impaired driving were also prevalent in intersection crashes.
- **Driver Age:**
    - **Younger Drivers:** Crashes involving younger drivers often involved risky driving behaviors and environmental factors. Most result in property damage, with fewer leading to serious injuries or fatalities compared to other focus areas. These crashes were more common at non-junction locations, in poor weather conditions, and at night. Spikes in crashes occurred during winter months and commuting hours. Male drivers were more frequently involved, and key contributing factors included impairment, distraction, and speeding.
    - **Older Drivers:** Crashes involving older drivers were mostly rear-end, right-angle, or fixed-object collisions, with most resulting in property damage only. These incidents often occurred at non-junction locations, during daylight hours, and between 10 AM and 4 PM. Weather played a smaller role in these crashes

compared to other focus areas, with fewer occurring in snow or rain. Impairment was a minor factor.

- **High Risk Behaviors:**
  - **Speed Related:** Speed related crashes in Gallatin County were mostly non-junction incidents, often occurring on high-speed roads like I-90. These crashes frequently resulted in fixed-object collisions and rollovers, with winter weather, especially snow, ice, and frost, often playing a key role. Speed related crashes were more common in winter and during daylight hours. Younger drivers, particularly those aged 16 to 35, were most often involved, with contributing factors like running off the road, over-correcting, and distraction being common.
  - **Unrestrained Occupants:** Unrestrained occupants were more likely to be involved in crashes with impaired drivers, a trend linked to clustered high risk behaviors. These crashes often involved male and younger adult occupants, with distraction and reckless driving as common contributing factors. The severity of these crashes is notably higher, with a greater chance of fatal or serious injuries.
  - **Impaired Drivers:** Impaired drivers, especially young males aged 22 to 35, were over-represented in severe crashes, often resulting in fatal or serious injuries. These crashes were more common under ideal weather and road conditions, suggesting, perhaps, that the decision to drive impaired may be deterred by adverse environmental conditions.
  - **Inattentive Drivers:** Distracted driving crashes often resulted in rear-end and fixed-object collisions, with some resulting in rollovers or right-angle crashes. Drivers in these crashes were typically younger, with many under 35. Most crashes resulted in property damage only, though a few lead to serious or fatal injuries. Impaired driving was a factor in some inattentive driver crashes.

1.2. Planning Area

The planning area for this effort is coincident with the Gallatin County Limits excluding the areas within the city limits of Bozeman and Belgrade. Each of these municipalities are conducting their own city-specific SS4A efforts, so they were excluded from the County's SS4A planning area. This will help avoid overlap and allow for a more focused approach on the rural areas of the county. However, ongoing coordination will occur with Bozeman and Belgrade's SS4A planning teams to ensure consistency across the broader regional goals.

A geospatial exercise was conducted to select all crashes occurring within the planning area. The crash locations are based on the reports filed by the responding officer and crash reports were not reviewed to verify crash location. **Figure 1.1** provides a map of the planning area.

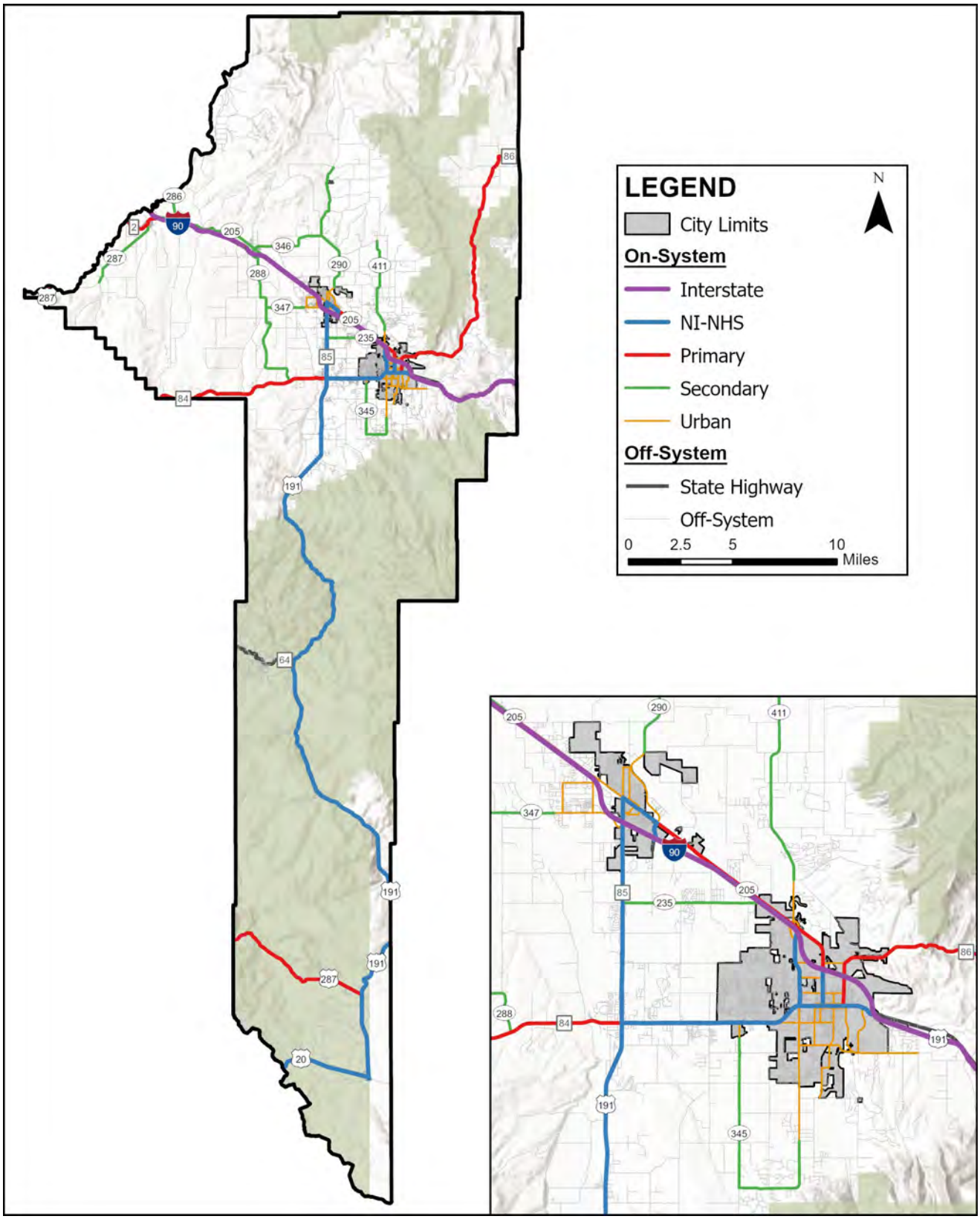


Figure 1.1: SS4A Planning Area

1.3. County Safety Goal

The overarching goal of the SS4A program is to zero out roadway fatalities and serious injuries. Accordingly, a requirement of the grant program is for the entity receiving funding to make an official public commitment to an eventual goal of zero roadway fatalities and serious injuries. The commitment must include a goal and timeline for eliminating roadway fatalities and serious injuries achieved through one, or both, of the following:

(1) the target date for achieving zero roadway fatalities and serious injuries, OR
(2) an ambitious percentage reduction of roadway fatalities and serious injuries by a specific date with an eventual goal of eliminating roadway fatalities and serious injuries.

It is common practice in safety performance tracking to set goals, or targets, based on multi-year rolling averages. The rolling average provides a better understanding of the overall data over time without eliminating outlier years with significant increases or decreases and provides a mechanism for accounting for regression to the mean or moving closer to an average value. FHWA recommends using the average of the most recent 5 years of data. The analysis period for the plan spans the 2019 to 2023 time period and, at the time of writing, 2024 data is not available. Accordingly, the 5-year average number of combined fatalities and serious injuries from the 2019 to 2023 period was used as a starting point for goal setting. A target of 46 combined fatalities and suspected serious injuries will be set for 2025.

Gallatin County is committed to zero fatalities and serious injuries on its roadways. As a reflection of this commitment, Gallatin County has adopted the following interim goal (**Figure 1.2**):

Reduce the number of combined fatalities and suspected serious injuries on roadways in the Gallatin County SS4A planning area by half, from 46 in 2025 to 23 in 2034, through implementation of the SS4A Action Plan.

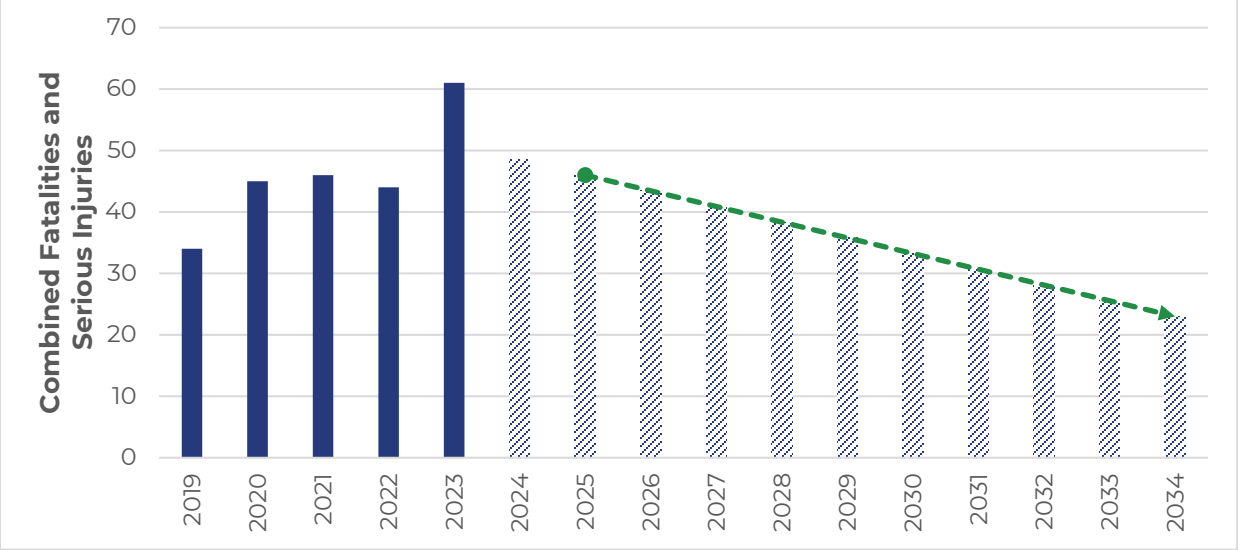


Figure 1.2: Interim Safety Goal

2. Relevant Programs, Policies, and Procedures

A key component of SS4A Action Plan is an assessment of the County's current programs, policies, procedures, plans, guidelines, and standards to identify opportunities to improve how established processes prioritize transportation safety. A review of the County's past planning efforts was included in the *Baseline Data Summary*. The following sections provide a summary of additional County programs, policies and standard procedures as they pertain to transportation safety, and more specifically, the identified focus areas.

2.1. Relevant Supporting Documents

The following sections provide a review of Gallatin County's various development standards and regulations which guide the design, placement, and operation of new developments. Only relevant information related to transportation safety is discussed.

2.1.1. Gallatin County Transportation Design and Construction Standards

The *Gallatin County Transportation Design and Construction Standards*[1] (GCTDCS) establish a comprehensive framework for transportation design and construction within the County, aiming to promote orderly development and ensure the public health, safety, and general welfare of County residents. These standards are designed to provide for a safe and efficient transportation system, ensure that infrastructure meets the needs of all users, ensure the acquisition of necessary right-of-way for future development, and ensure adequate improvement of the transportation system as development occurs. The following sections of the GCTDCS directly relate to how the County promotes safety in its standard roadway development procedures.

Chapter 2: Transportation System Administration

This chapter outlines the steps and procedures for establishing new county roads, as well as other related administrative requirements. It provides a detailed process for developers, landowners, and local authorities to follow when proposing new roads to be included in the County's transportation system.

Section 2.7: Design Exceptions

Designs that deviate from the Gallatin County Transportation Design and Construction Standards are considered on a case-by-case basis by the County Road/Bridge/Engineering Department. Deviations from the standards will only be approved where expressly noted as allowable design exceptions. To be considered, alternative designs must demonstrate that no reasonable, feasible, and practical solution can be found to meet the standard values and granting the exception will not be detrimental to public health, safety, or general welfare.

Section 2.8: Variances

The County Commission may grant reasonable variances from the Gallatin County Transportation Design and Construction Standards when it is determined that strict adherence to the standards would result in undue hardship. In making this determination, the Commission will assess whether the proposed variance still ensures that the overall objectives of the transportation system—such as safety, efficiency, and community welfare—are met, even if the design deviates from the established standards. This allows for flexibility in situations where rigid application of the standards may cause unnecessary burdens without compromising the broader goals of the County.

Chapter 3. Traffic Impact Analysis

Any commercial or industrial development, or any development expected to generate more than five (5) trips per peak hour, is required to complete a traffic impact analysis to assess its potential effects on the surrounding transportation network. The County Commission or the Road/Bridge/Engineering Department may also require an analysis for developments generating fewer trips if the development is located in areas with specific traffic safety concerns or congestion issues. All analyses must include a safety analysis of the site access, evaluating factors such as sight distance and the operational characteristics of the proposed access points. This ensures that the development does not create safety hazards for vehicles or pedestrians, and that the transportation infrastructure remains safe and efficient. The goal of the traffic impact analysis is to identify and mitigate any negative impacts on traffic flow or safety and ensure that developments are compatible with the existing transportation system and anticipated future traffic conditions.

Chapter 4. Access Standards

The purpose of this chapter is to provide a framework for effective access management, with the primary goals of reducing the number of vehicle and pedestrian conflict points, thereby minimizing both the number and severity of collisions, and ensuring that the types and volumes of traffic can be safely and adequately accommodated. This includes managing current traffic volumes as well as any future increases resulting from permitted uses. The location, number, and configuration of all access points to County roads must be approved by the County Road/Bridge/Engineering Department. At a minimum, each development is entitled to one means of physical access for motorized vehicles to County roads. While dead-end roads should be avoided where possible, they may be permitted on local roads if unavoidable, provided they include an approved turnaround that accommodates emergency service vehicles. A dead-end road will not be allowed if it serves twenty-six (26) or more units. These standards are designed to maintain safety, functionality, and efficient traffic flow across the County's transportation network.

Chapter 5: Transportation Design Standards

All new roads, and improvements to existing roads, within the County must be designed in accordance with established standards, such as American Association of State Highway and Transportation Officials (AASHTO) and federal accessibility standards, while also meeting the County's minimum design criteria. Designs must ensure safe and adequate passage for both vehicular and non-motorized traffic. Developments located within the Growth Policy area of an incorporated city or town must comply with the city or town's road design standards, as well as all applicable requirements in the adopted Transportation Plans, Trails Plans, Growth Policies, and Capital Improvements Plans. For developments that impact a State highway, MDT's minimum road design standards must be followed.

Roadways within the County should be designed to either urban or rural standards, as defined in adopted Transportation Plans. Furthermore, roadways within recognized urbanized areas, must always be designed to urban standards while roadways located in the urban fringe or areas with expected high-density growth should also be designed to urban standards. In all other areas, roadways may be constructed to rural design standards, though the County Road/Bridge/Engineering Department reserves the right to amend the rural designation if increased traffic due to development necessitates a shift to urban standards to accommodate the higher traffic volumes. These design criteria ensure roads are appropriately planned to

meet current and future transportation needs, maintaining safety, functionality, and compatibility with long-term growth projections.

Section 5.5: Parking

Generally, developments are required to provide off-street parking. If on-street parking is required, it is only permitted on Interior Development or Access Roads and must be designed to ensure that parked vehicles do not obstruct adjacent roads, access points, non-motorized facilities, or circulation within the development. Adequate space must be provided to allow for safe and efficient movement of both vehicles and pedestrians. Angle parking is generally not allowed unless it is determined that the roadway is sufficiently wide to accommodate angle parking without hindering the free flow of traffic. The County has the authority to prohibit or restrict the stopping, standing, or parking of vehicles on highways if such activity is deemed dangerous to road users or interferes with the free movement of traffic.

Section 5.8: Pedestrian, Bicycle and Transit Facilities

Non-motorized facilities constructed within public Rights-of-Way must adhere to the standards outlined in the US Access Board's Public Right-of-Way Accessibility Guidelines (PROWAG) and applicable AASHTO pedestrian and bicycle guidelines. These facilities include sidewalks, on-street bicycle facilities, shared use paths, trails, and transit facilities, ensuring that roadway infrastructure supports safe and accessible movement for all users.

In urban areas where curb and gutter are provided, sidewalks are required on both sides of interior development roads, while in rural areas, pedestrian facilities are determined by the development type and density. Bicycle facilities, such as bike lanes or widened shoulders, may be required to align with adopted Transportation Plans, Trails Plans, Growth Policies, or County Capital Improvements Plans. Shared use paths and trails, which are also governed by these plans, must be constructed with a minimum width of ten (10') feet with varying degrees of separation from the roadway based on the adjacent roadway's functional classification. Developers are also required to ensure ongoing maintenance commitments for these facilities. In areas within designated Urban Transportation Districts (UTDs), additional transit facility requirements may apply, and developers must collaborate with transit providers to determine whether improvements are necessary.

Chapter 6: Drainage, Snow Storage, and Water Crossings

All developments, except for single-family residential lots, that include areas to be plowed for vehicle access, such as parking lots and driveways, are required to provide designated snow storage areas. It is essential to ensure that snow removal does not obstruct pedestrian or vehicle access or compromise visibility. Snow storage areas must be strategically located to avoid interference with traffic flow, sightlines, and access to the development during winter months.

2.1.2. Gallatin County Subdivision Regulations

The *Gallatin County Subdivision Regulations*[2], authorized by the Montana Subdivision and Platting Act (MSPA), provide a comprehensive framework for land development and the creation of subdivisions, ensuring that County growth aligns with public health, safety, and general welfare objectives. These regulations mandate that subdivisions conform to adopted growth policies, comprehensive plans, and zoning requirements. Additionally, all roads, bridges, and pedestrian, bicycle, trail, or transit facilities within a subdivision must adhere to the *Gallatin County Transportation Design and Construction Standards*, ensuring that transportation infrastructure within the subdivision supports both safety and accessibility. For

certain developments, a summary of probable impacts, environmental assessment, community impact report, and/or traffic impact study, may be required to evaluate the effects of the subdivision on the surrounding environment and community infrastructure.

2.1.3. Gallatin County Zoning Regulations

The established *Gallatin County Zoning Regulations*[3] are minimum requirements that apply uniformly to structures and land throughout a designated Zoning District to protect and promote public health, safety and general welfare. Land Use and Conditional Use Permits require conformity with applicable requirements of the Zoning Regulations in addition to necessary approvals and permits from other authorities, including approved encroachment permit for any access coming off a road under County or MDT jurisdiction. There are 22 distinct Zoning Districts within Gallatin County.

2.1.4. Gallatin County Code of the West

The *Gallatin County Code of the West*[4] aims to help preserve the land and Old West values of integrity, self-reliance and accountability. The code warns that newcomers should be prepared for rural living encouraging consideration of transportation, communication, education, health care, employment and public services, recognizing that county and small-town governments are often unable to provide the same level of service that large city governments provide. The code emphasizes road conditions and accessibility considerations, especially during winter months or flood events. Overall, the principles outlined in the *Code of the West* can be translated to a culture of road safety through responsible driving, vigilant maintenance, and consideration for others in the community.

2.2. Relevant Safety Programs

Gallatin County is already committed to improving transportation safety and has developed various programs aimed at reducing crashes and severe injuries. While there may be room for improvement or expansion of these programs, it is important to understand what efforts are already being implemented. The following sections describe existing safety programs within the County. Many other programs are conducted at the state level by MDT and local partners.

2.2.1. Gallatin County DUI Task Force

The Gallatin County DUI Task Force was established as a result of a mother's effort to raise awareness about the dangers of driving under the influence after her daughter was killed in a drunk-driving incident in 1978. The task force was initially called Montanans Against Drunk Driving. In 1983, the task force was successful in encouraging the state legislature to pass a law authorizing county governments to create local DUI task forces funded by license reinstatement fees. The Gallatin County DUI Task Force was officially created on March 1, 1984, by the Gallatin County Commission to develop and/or fund public education, awareness, and enforcement projects to reduce the number of alcohol and/or drug related crashes and deaths in Gallatin County.

The Gallatin County DUI Task Force receives funds from Driver's License Reinstatement Fees collected in Gallatin County pursuant to Montana Code Annotated (MCA) § 61-2-107 & 108. Individuals convicted of a DUI and other traffic violations pay a $200 Reinstatement Fee to the State of Montana to get their Driver's License back. Half of the fees are deposited into the State's General Fund and the other half is disbursed on a quarterly basis to DUI Task Forces throughout the State.

Political and community support for the task force has waxed and waned over the years, prompting fluctuations in both funding and leadership. In 2022, the Task Force Coordinator departed and shortly thereafter all leadership positions were vacated and new leaders were voted into office. Membership has continued to decline since COVID, resulting in a loss of momentum. The current coordinator is attempting to reinvigorate the Task Force though progress appears to be slow moving.

CEASE Awards

The DUI Task Force grants funds ranging from $100 to $3,000 to projects that support the character and mission of the DUI Task Force through the Community Education Activity Support & Enforcement (CEASE) Award program. The grant awards can be used to fund for DUI overtime patrols, officer trainings, safety and compliance checks, educational programs, DUI-related equipment purchases, and other projects aimed at decreasing DUIs in Gallatin County.

Education and Outreach

The Task Force has historically, and continues to, conduct prevention and outreach at various community events including Music on Main, Three Forks Rodeo, Run to the Pub, National Night Out Against Crime, Big Sky Pond Skim, BZN Film Celebration, West Yellowstone Rod Run, Manhattan Potato Festival, MSU's Catapalooza, Gallatin Speedway, MSU Football, and Bozeman's Christmas Stroll. The Task Force also sets up the annual Holiday Empty Dinner Table Campaign at the Bozeman Public Library and the Gallatin Valley Mall. Numerous interactive presentations have also been presented to the Bozeman and Belgrade High School's Drivers Education programs in conjunction with the Bozeman and Belgrade Police Departments. The Task Force also maintains coordination with various other area organizations such as the Bridger Canyon Fire Station, the Rock Youth Center, the Elks Drug Awareness Program, C-CODA, MSU's Office of Health Advancement, Bozeman's SAFE Coalition, and others.

Think Twice

Think Twice is a breathalyzer education program funded by the Gallatin County DUI Task Force to help patrons who are not visibly impaired understand their risk before driving. The program provides single-use breathalyzers that inform the user if they are within a range between 0.00% - 0.08% breath-alcohol-content (BAC). This allows patrons who are not apparently intoxicated to know when they should not drive. The Task Force makes it free for alcohol serving establishments in the County to provide breathalyzers. The breathalyzers can also be accompanied by signage approved by management like posters in restrooms, table tents, checkbook inserts, and bar coasters with the objective to be a long-term Drink Responsibly campaign. There are about 25 participating bars and restaurants in Gallatin County, according to the Task Force website.

2.2.2. Gallatin County Court Services

Gallatin County Court Services was created from three existing departments – Pretrial Services, Community Corrections and Treatment Court – to jointly assist the criminal justice system in both the pre-trial and post-adjudication phases of criminal cases. Court Services' programs provide the courts an array of options with regard to bail conditions, alcohol and drug testing and sentencing options. The mission of Court Services includes the implementation of evidence-based programs including diversion, pre-sentence and post-sentence programs, specialty courts, and community-based solutions such as the DUI Task Force.

Treatment Court

The Gallatin County Treatment Court is a voluntary post-conviction adult treatment that provides an alternative to traditional sentencing. The 18-month program requires participants to attend addictions counseling, mental health therapy and support group meetings, undergo frequent drug and alcohol testing, participate in community service, and report weekly to a case manager. The Treatment Court uses the Ohio Risk Assessment System (ORAS) to identify dynamic factors that drive a person toward negative or criminal behaviors. The evidence-based tool helps staff assess offenders, target interventions and inform responses to behavior.

Electronic Monitoring

Electronic Monitoring (EM) is a pretrial and a post-trial program. EM offers the courts the option of allowing the defendant to be in the community, be able to work, and to be responsible for themselves and their families while providing a level of public safety to the community. Continuous Alcohol Monitoring (CAM) allows for the monitoring of a defendant's compliance with conditions restricting alcohol consumption. In response to the COVID 19 pandemic, Gallatin County increased its use of SCRAM CAM bracelets which provide 24/7 transdermal alcohol testing and allow completely remote data downloads for case supervisors. The County also deployed over 150 CheckBAC breath testing devices to allow remote management of probation compliance.

Community Corrections

Community Corrections offers the courts evidence based alternative sentencing programs. The program provides the defendants the opportunity to give back to our community by performing work hours at non-profit organizations, governmental agencies, and other community events. Defendants must be 18 years of age or over and have entered a guilty plea before a judge or have been found guilty at trial. To reduce the risk to the community, many pretrial and post-trial defendants are ordered to participate in the random alcohol and drug testing program. Defendants may also be subject to electronic monitoring, including CAM.

Misdemeanor Probation

The purpose of the Misdemeanor Probation Program is to promote the safety and well-being of the citizens of Gallatin County through case management, sentencing compliance and the referral of defendants to appropriate programs to address the root cause of their criminality. DUI cases are eligible for the misdemeanor probation program. While on misdemeanor probation, offenders may be required to submit to drug and other alcohol tests, maintain employment, attend counseling and/or classes, perform community service, and pay fines, fees and restitution.

Victim Impact Panel

The panel, presented by Mothers Against Drunk Driving (M.A.D.D.), offers defendants an opportunity to listen to a panel of speakers to become aware of the impaired driving's ripple effect on families, friends and members of the community. Some defendants come to "own" the potential tragedy their actions may have caused and reinforce better judgments in the future with regard to impaired driving.

2.2.3. Montana Bar Fairies

Montana Bar Fairies is a local nonprofit which began as a grassroots effort to decrease DUI-related incidents in Kalispell in 2023. In November 2024, a Bar Fairies chapter was started in Bozeman. Early in the morning, volunteers patrol the parking lots of local gathering spots and bars, searching for cars that have been left overnight. The volunteers leave $5 gift cards to local

coffee shops on cars that have been left overnight as a token of gratitude for choosing not to drive home under the influence. The program is currently in the beginning stages of implementation and is focused only on the Bozeman area to start. In the future, there could be opportunities to expand the program into other areas of the County.

2.2.4. Gallatin County Community Notification System

Gallatin County Emergency Management operates a Community Notification System to effectively communicate with the community in both emergency and non-emergent situations. The system uses a variety of methods to distribute messages, including over the phone by voice, to phones and email by text, utilizing downloaded apps, and to a variety of social media tools. Users must register for the system and input information about how they wish to receive communications and for which areas they want alerts. Opting into the system automatically enrolls users in emergency alerts and users can voluntarily choose to receive information about other events such as on-going incidents, road closures, and weather-related hazards in their area. Although this system encompasses a large range of emergency situations, it can be helpful to notify drivers of adverse driving conditions or crashes to promote roadway safety.

2.2.5. Car Seat Safety Checks

The Gallatin City-County Health Department offers free car seat safety checks to community members. Certified technicians will inspect car seats free of charge and show users how to correctly install and use the car seats. Spanish speaking technicians are also available. Safety checks are performed on certain days each month, but appointments outside these days are also available. Funding is available to provide families in need with free car seats.

2.3. Relevant Montana Laws

In the United States, roadway safety laws are primarily set at the state level, meaning each individual state legislature creates and enforces traffic laws within their jurisdiction, including regulations regarding speed limits, distracted driving, impaired driving, seatbelt usage, and more. The following summarizes Montana laws relevant to the County's focus areas.

2.3.1. Driving Age

Montana uses a Graduated Driver Licensing (GDL) program to reduce the risk for new drivers. The legal driving age is 16 years old, however, drivers can get a learner's permit at age 14.5 if enrolled in a state-approved driver education program, or at age 15 without a driver's education class. Drivers must hold a learner's permit for at least 6 months and must complete 50 hours of supervised driving, including at least 10 hours at night, before attempting the driving test for a First-Year Restricted License. Within the first 6 months of obtaining a license, a teenage driver may have only one unrelated passenger under age 18 in the vehicle, and for the second 6 months may have no more than three unrelated passengers under age 18 in the vehicle. Teenage drivers may not drive between 11:00 PM and 5:00 AM, with some exceptions.

People aged 18 and over must pass written, vision, and road tests to obtain a license. A Montana Commercial Driver License is based on where the vehicle is driven, Interstate or Intrastate, and is classified by the size of the vehicle driven. Additional endorsements may be required.

In Montana, the standard renewal period for a driver's license is 8 years, but for drivers aged 75 and older, the renewal period is 4 years. Drivers between the ages of 21 and 63 can renew their license online if they are within the renewal timeframe, the license has not been revoked or

suspended, and the driver did not renew online or by mail the last time. When renewing in person, drivers must pass a visual acuity test, visual fields test, and contrast sensitivity test.

Referrals to licensing agencies are essential for ensuring that drivers at risk to public safety undergo necessary evaluations. Establishing clear referral procedures can help increase these referrals. Physicians in Montana have the option to report medically at-risk drivers to the drivers licensing agency for evaluation if they feel the driver is not fully capable of driving. However, physicians are not required to report at-risk drivers. Law enforcement officers can identify drivers who may need further evaluation through direct observation at traffic stops or crashes. It is unclear if Montana physicians and law enforcement officers receive specific training to identify and report medically at-risk drivers. Friends and family members can also report concerning drivers by completing a form available at local driver's licensing offices. Montana law mandates reexamination or medical evaluation if there is reliable evidence that a licensed driver lacks the ability to safely operate a vehicle (MCA 61-5-207). Based on the evaluation or testing, the department may impose restrictions, suspend the license, or take no action.

2.3.2. Impaired Driving

A DUI in Montana means that the individual's ability to operate a motor vehicle was diminished due to alcohol and/or drugs. DUI can be established through driving behavior, field sobriety testing, blood testing, and breathalyzer results. A DUI results if the concentration of alcohol in a driver's blood, breath, or other bodily substance is greater than 0.08%, or 0.04% for commercial drivers. For drivers under the age of 21, the limit is 0.02%. A BAC of 0.16 or higher is considered an aggravated DUI. Impairment of marijuana is defined as exceeding a 5 nanogram (ng)/ml threshold for tetrahydrocannabinol (THC) in blood for anyone operating a motor vehicle.

If there is probable cause to believe a driver is driving under the influence, law enforcement officers can require a breath or blood test. Refusal of a test will result in a suspension of the driver's license for 6 months to 1 year and ineligibility for a probationary license. Repeat offenders will pay more fines, serve longer incarceration time, undergo court ordered treatment, enroll in drug/alcohol monitoring programs, and be supervised by the court. Fourth and subsequent DUI Convictions are felonies.

In Montana, social hosts can be held liable under the state's Dram Shop law, which applies to both entities and individuals. This means that social hosts can be personally liable for the consequences of their actions, such as if a guest causes a crash or injury after consuming alcohol. Liability applies if the host continues to serve a visibly intoxicated person, serves alcohol to a person under the age of 21, and allows a visibly intoxicated person to drive.

2.3.3. Speed Limits

In Montana, speed limits are set by the Montana Transportation Commission. Standard speed limits are outlined in MCA § 61-8-303. For interstates, the speed limit is 80 miles per hour (mph) outside an urban area of 50,000 people or more and 65 mph within an urban area of 50,000 people or more. All other public highways have a speed limit of 70 mph during the daytime and 65 mph at night. Slower speed limits are applicable for heavy trucks on Montana highways.

Concerns about posted speed limits are handled either by MDT or local governments. MDT handles requests when the roadway is state- or federally funded. Speed limit changes for MDT routes are posted only after a traffic and safety engineering study has been conducted and (where applicable) approved by the Transportation Commission.

County Commissions have the authority to set or change speed limits on roads under their jurisdiction but may not decrease the limit outside an urban area to less than 35 mph on a paved road or 25 mph on an unpaved road. Speed limits in school zones or senior citizen centers may also be reduced to no less than 15 mph. If warranted by an engineering and traffic investigation, a local authority may also adopt variable speed limits for local roads to adapt to traffic conditions by time of day.

2.3.4. Distracted Driving

Montana is the only state in the U.S. without a statewide ban on texting and driving but several municipalities in the state do have local bans. Bozeman is one of those municipalities whose ordinance prohibits the use of handheld cell phones while operating a motor vehicle, motorcycle, quadricycle, or a bicycle on a public highway. Silver Bow and Deer Lodge Counties are the only Montana Counties with county-wide bans on handheld cell phone use while driving.

2.3.5. Seatbelts and Helmets

Montana law (MCA § 61-13-103) requires that all occupants of a vehicle wear a seatbelt or be in a child safety restraint. Montana law requires all children under age six and weighing less than 60 lbs. to be in an appropriate child safety seat or booster seat. The law places the responsibility on the driver to ensure that everyone is properly buckled up. Law enforcement can only stop a vehicle to ticket a driver for not wearing a seatbelt if they have already been stopped for another traffic violation. A driver in violation of this law can be fined, but the violation may not be recorded or charged against the driver's record.

Seatbelt laws do not apply to motorcyclists, however, Montana's helmet law requires that motorcycle operators and passengers under 18 years old wear a helmet that meets standards set by the Department of Justice and the Department of Transportation. Violation of the helmet law results in a fine of $5. Montana previously had a universal helmet law, which applied to all motorcyclists regardless of age, but it was repealed in 1977. Additionally, motorcyclists in Montana are permitted to filter, or lane split, between stopped or slow-moving vehicles at speeds of no more than 20 miles per hour.

3. Strategy Identification

Individual strategies outlined in this memorandum were identified with the intention of reducing fatalities and serious injuries in Gallatin County and generally improving transportation safety. The descriptions and attributes associated with each strategy can be used by local authorities to inform investment decisions as available funding is applied to achieve community goals. The strategies are not intended to provide specific implementation actions, but rather to provide example projects, programs, and policies for reference as Galatin County and its partners work towards safer streets for all users. These strategies can be used to assist in the future identification, development, and implementation of specific projects in the County, including those listed in **Section 4.2**.

3.1. Overview of Strategy Attributes

Strategies are broad action categories intended to help achieve community transportation safety goals. Strategies are organized according to the key focus areas identified in the *Baseline Data Summary Memorandum* (Run-Off-The-Road Crashes, Intersection Crashes, Driver Age, and High Risk Behaviors). Strategies are also classified according to multiple attributes, which are intended to help agencies select appropriate strategies to address identified needs. The attributes indicate relevant safety framework elements, implementation examples, and supporting references to guide and inform future project identification and development.

E's of Safety

Improving transportation safety requires a comprehensive approach that employs multiple approaches. A common framework is referred to as the "E's of Safety" which includes Education, Enforcement, Engineering, and Emergency Medical Services (EMS). For each strategy, the relevant E's of Safety are identified to indicate the field of technical expertise, related program of example actions, and the coordinated approach necessary to effectively implement the strategy.

Safe Systems Approach

The strategies were selected based on the Safe Systems Approach (SSA), a national framework that aims to improve transportation safety by reinforcing multiple layers of protection to both prevent crashes from happening and minimize the harm caused to those involved when crashes do occur.[5] It is a holistic and comprehensive approach that prioritizes the elimination of crashes that result in death and serious injuries. The approach recognizes that humans are vulnerable and make mistakes, the responsibility for roadway safety is shared, safety partners should be proactive and address deficiencies before crashes occur, and redundancy in the transportation system is crucial. To support these objectives, the SSA is categorized according to the five elements below.

- **Safe Road Users**: Encourage safe, responsible behavior by people who use Montana's roads and create conditions that prioritize their ability to reach their destination unharmed. This element focuses on the behaviors of both drivers and non-motorists.
- **Safe Vehicles**: Expand the availability of vehicle systems and features that help to prevent crashes and minimize the impact of crashes on both occupants and non-occupants.
- **Safe Roads**: Design roadway environments to mitigate human mistakes and account for injury tolerances, to encourage safer behaviors, and to facilitate safe travel by the most vulnerable users.

- **Safe Speeds**: Promote safer speeds in all roadway environments through a combination of thoughtful, equitable, context-appropriate roadway design, appropriate speed-limit setting, targeted education, outreach campaigns, and enforcement.
- **Post-Crash Care**: Enhance the survivability of crashes through expedient access to emergency medical care, while creating a safe working environment for vital first responders and preventing secondary crashes through robust traffic incident management practices.

Given Gallatin County's jurisdictional capacity and the identified focus areas for this effort, emphasis was placed on the Safe Road Users, Safe Roads, and Safe Speeds elements of the SSA. Post-crash care is a vital component of roadway safety but outside of the County's direct control. The County will continue to work with health care providers and first responders to further the community's goals while also ensuring timely emergency response and care. The Safe Vehicles element is also outside the purview of the County. In the *National Road Safety Strategy*, this element is mainly targeted at vehicle manufacturers and rulemaking at the Federal level.[6] For the SS4A Action Plan, efforts to address this element focus primarily on educating the public about available vehicle technologies that can help improve safety.

Example Actions

A variety of example projects, programs, policies, actions, and other efforts that may relate to the proposed strategy were provided to indicate how the strategy could be applied to achieve safety goals. Ranging from educational campaigns to investments in infrastructure projects, new technologies, maintenance practices, policies, enforcement, and training, strategies are intended to address safety from numerous angles. The list of examples is meant to be illustrative as opposed to exhaustive. Other projects or actions not listed in the examples could be applicable to the strategy. Not all example actions will be suitable in all cases or at all locations. Additional studies may be necessary to determine the most appropriate solution for each individual project location.

Resources and Guidance

Several of the proposed strategies were developed based on national guidance and proven safety countermeasures. Where applicable, references to the Federal Highway Administration's (FHWA) *Proven Safety Countermeasures*[7] and the NHTSA *Countermeasures that Work*[8] are provided. Additionally, various resources are provided to assist partners with implementation efforts.

3.2. Run-Off-The-Road Strategies

Run-off-the-road crashes are a significant safety concern, often resulting in serious injuries and fatalities. These crashes occur when a vehicle unintentionally leaves its lane, either crossing the centerline or veering off the roadway, due to a range of factors such as poor weather conditions, low visibility, or the presence of an animal on the road. Additionally, issues like road design flaws or high-risk driving behaviors—such as distraction, speeding, or impairment—can further increase the likelihood of a vehicle leaving the roadway. Given the complex nature of these incidents, reducing the occurrence of run-off-the-road crashes requires a multifaceted approach that addresses both human and environmental factors. Key strategies include enhancing road infrastructure, improving road design, and incorporating safety technologies that help prevent these crashes. In addition, addressing high-risk driving behaviors, such as those discussed in **Section 3.5**, is crucial in reducing the likelihood of vehicles departing from the roadway. Together, these strategies form a comprehensive framework for improving road safety and minimizing the impact of run-off-the-road crashes.

3.2.1. Improve Curve Design

Improving curve design is an essential strategy in reducing run-off-the-road crashes, particularly in areas with sharp or poorly delineated curves. A range of potential curve delineation treatments that can be applied in advance of or within horizontal curves to improve driver awareness and safety. These treatments aim to alert drivers to the presence of an upcoming curve, indicate the direction and sharpness of the curve, and recommend the appropriate operating speed to safely navigate the turn. By providing clearer, more consistent guidance, enhanced curve delineation can help prevent drivers from losing control or veering off the road. A systemic approach can be used to identify high-risk curves and implement these treatments where they are most needed.

- **E's of Safety**: Engineering
- **Safe Systems Approach**: Safe Roads
- **Example Actions:**
    - Enhanced Visibility
        - In-Lane Curve Warning Pavement Markings
        - Transverse Rumble Strips
        - Roadside Delineators
        - Retroreflective Strips on Sign Posts
        - Enhanced Sign Conspicuity (Retroreflectivity, Size, etc.)
        - Slow Speed Zones Near Curves
    - Intelligent Transportation Systems (ITS)
        - Dynamic Curve Warning Signs
        - Speed Radar Feedback Signs
        - Sequential Dynamic Chevrons
    - Roadside Design Improvements
        - Increase and Maintain Clear Zones
        - Slope Flattening
        - Add or Widen Shoulders
        - Roadside Barriers (Cable Rail, Guardrail, Concrete Barriers)
- **Resources and Guidance:**
    - *Proven Safety Countermeasures*: *Enhanced Delineation for Horizontal Curves*[9], *Roadside Design Improvements at Curves*[10] (FHWA)
    - *Reducing Roadway Departure Crashes at Horizontal Curve Sections on Two-lane Rural Highways*[11] (FHWA)
    - *Low-Cost Treatments for Horizontal Curve Safety*[12] (FHWA)

3.2.2. Improve Roadside Design

Implementing effective roadside design strategies is crucial in reducing the occurrence and severity of run-off-the-road crashes. When a vehicle leaves the roadway, strategically designed roadside elements can provide drivers with an opportunity to regain control and safely re-enter the roadway or come to a stop before encountering a fixed object or rolling over. Features such as an added or widened shoulder, flattened sideslopes, and a widened clear zone can significantly improve the likelihood of a safe recovery. Since not all roadside hazards can be removed or relocated, installing roadside barriers to shield unmovable objects or steep embankments is another important measure. Additionally, rumble strips, both on the centerline and along the shoulder, serve as an effective countermeasure by providing audible and tactile warnings to drivers who drift out of their lane, alerting them to the potential danger

and giving them a chance to correct their course. By incorporating these design improvements, the risk of severe crashes can be reduced when drivers depart from the roadway.

- **E's of Safety**: Engineering
- **Safe Systems Approach**: Safe Roads
- **Example Actions:**
  - Wider Edge Lines
  - Widen Shoulders
  - Improve Shoulders
    - SafetyEdge Shoulder Design
    - Traversable Roadside Slopes
  - Edge Line, Shoulder, and Centerline Rumble Strips
  - Roadside and Median Barriers
    - Cable Rail
    - Guardrail
    - Concrete Barriers
  - Increase and Maintain Clear Zones
  - Breakaway Signs and Poles
- **Resources and Guidance:**
  - *Proven Safety Countermeasures*: *Longitudinal Rumble Strips and Stripes on Two-Lane Roads*[13], *Wider Edge Lines*[14], *SafetyEdge SM*[15], *Median Barriers*[16] (FHWA)
  - *Guidance for the Design and Application of Shoulder and Centerline Rumble Strips*[17] (NCHRP)
  - *Pavement Markings – Implementation Tools*[18] (FHWA)
  - *Roadside Design Guide*[19] (AASHTO)

3.2.3. Improve Roadway Visibility and Surfacing

Improving roadway visibility and surfacing is a critical strategy in reducing run-off-the-road crashes, particularly in areas prone to high travel speeds and challenging road conditions. At nighttime, drivers may struggle to stop in time when encountering a hazard or a sudden change in the road ahead, especially at higher speeds where visibility is limited by headlights. To address this, continuous lighting along road segments and targeted illumination at key locations, such as curves, can significantly enhance visibility and reduce the likelihood of crashes. In addition, measuring, monitoring, and maintaining pavement friction—particularly at intersections, curves, and areas where vehicles frequently slow, turn, or stop—can help prevent many roadway departure incidents. By improving both visibility and road surface conditions, these strategies work together to enhance driver awareness and vehicle control, ultimately reducing the risk of run-off-the-road crashes.

- **E's of Safety**: Engineering
- **Safe Systems Approach**: Safe Roads
- **Example Actions:**
  - Roadway Lighting
  - High-Visibility/High Durability Pavement Markings/Signage
  - High Friction Surface Treatment
  - Regular Roadway Maintenance
  - Vegetation Management

- Timely Snow and Ice Removal
- Variable Speed Limits (VSL) / Variable Messaging Signs (VMS)
- Wrong Way Warning Signs
- Emergency Weather Alert Systems
- Vehicle Safety Features (Lane Departure Warning, Lane Keep Assist, Electronic Stability Control, Automatic Emergency Braking)

- **Resources and Guidance:**
  - *Proven Safety Countermeasures: Pavement Friction Management*[20], *Lighting*[21] (FHWA)
  - *Lighting Handbook*[22] (FHWA)
  - Focus on Reducing Rural Roadway Departures (FoRRRwD)[23] (FHWA)

3.3. Intersection Strategies

Improving safety at intersections is crucial for reducing crashes and ensuring efficient traffic flow, particularly in rural and suburban areas where road conditions and traffic patterns differ significantly from urban environments. Rural intersections can be more hazardous than their urban counterparts due to higher speeds, limited visibility, and a lack of traffic control measures. The absence of urban infrastructure such as traffic signals, pedestrian crossings, and bike lanes, combined with long stretches of open road, can lead to unsafe driving behaviors and heightened crash risks. Drivers may be less prepared for sudden changes in road conditions, such as unexpected intersections, especially at night or during inclement weather. Furthermore, many rural intersections suffer from inadequate lighting, insufficient signage, or designs that do not account for the diverse mix of road users, including agricultural vehicles, heavy trucks, bicyclists, and pedestrians. Given the cost constraints and the fact that rural areas often do not require the same level of infrastructure as urban centers, addressing intersection safety issues in these regions requires tailored strategies to improve safety, reduce conflicts, and maintain smooth traffic flow without over-engineering the roadway system.

3.3.1. Improve Intersection Visibility

Improving safety and visibility at both signalized and unsignalized intersections involves several targeted strategies to enhance sight distance for both motorized and non-motorized traffic. Clearing obstructions, such as trimming trees, removing on-street parking, and clearing snow, ensures that sightlines are not blocked. Enhancing lighting with well-placed intersection- and pedestrian-scale lights improves visibility in low-light conditions. Design adjustments like curb extensions and maintaining clear sight distance triangles help improve visibility and reduce conflicts between users. Reflective materials, such as high-visibility signage and pavement markings, make critical information more noticeable. Complementing these physical improvements with public education and enforcement efforts also helps reinforce the importance of these measures and ensures compliance. By combining these strategies, intersections become safer and more navigable, ensuring all road users can see and react to potential risks effectively.

- **E's of Safety**: Engineering, Education, Enforcement
- **Safe Systems Approach**: Safe Roads
- **Example Actions:**
  - Vegetation Management
  - Snow Removal Management
  - No Parking Zones Near Intersections
  - High-Visibility/High Durability Pavement Markings/Signage

- Intersection Lighting
- Curb Extensions
- Daylighting Intersections
- Sight Line Enforcement
- Increased Education/Enforcement (Red Light Running, Stop for Pedestrians, Look Both Ways, etc.)

- **Resources and Guidance:**
  - *Proven Safety Countermeasure*: *Lighting*[21] (FHWA)
  - *Lighting Handbook*[22] (FHWA)
  - *Improving Intersections for Pedestrians and Bicyclists Informational Guide*[24] and *Fact Sheets*[25] (FHWA)
  - *Guidance to Improve Pedestrian and Bicyclist Safety at Intersections*[26] (NCHRP)
  - *Research Report: Street Lighting for Pedestrian Safety*[27] (FHWA)
  - *Pedestrian Lighting Primer*[28] (FHWA)
  - Montana Operation Lifesaver[29]

3.3.2. Enhance Unsignalized Intersections

Most of the intersections in Gallatin County, particularly those solely under County jurisdiction, are unsignalized. While the traffic volumes at these intersections are often lower, safety concerns remain significant. Enhancing safety at unsignalized rural intersections requires targeted strategies that address traffic flow and consider the needs of all road users, including drivers, pedestrians, and bicyclists. By implementing infrastructure improvements and traffic control measures designed specifically for rural settings, such as advanced warning signs, flashing beacons, transverse rumble strips, and enhanced delineation, the County can reduce conflict, improve visibility, and create safer, more predictable intersections. Additionally, increased levels of traffic control, such as two-way or all-way stop control, roundabouts, continuous T, reduced conflict U-turn (RCUT), and signalization (if warranted) can help improve safety at intersections experiencing increasing growth or higher congestion.

- **E's of Safety**: Engineering
- **Safe Systems Approach**: Safe Roads
- **Example Actions:**
  - Intersection Geometry/Layout
    - Improve Sight Lines, Turning Radii, and Skew
    - Dedicated Left/Right Turn Lanes
    - Turn Lane Offsets/Channelization
    - Bicycle/Pedestrian Accommodations
    - Bypass Lanes on Shoulder at T-Intersections
    - Left/Right Turn Acceleration Lanes
  - Restrict/Eliminate Turning Maneuvers
    - Access Control Improvements
    - Reduce Driveways Near Key Intersections
    - Splitter Islands
    - Install Median Barriers
  - Increase Driver Awareness
    - High-Visibility Pavement Markings
    - Stop Bar on Minor Approaches
    - Retroreflective Strips on Sign Posts

        - Larger Regulatory/Warning Signs
        - Supplementary Signs (Double Stop Signs, Overhead Signs, etc.)
        - Flashing Stop Signs
        - Flashing Overhead Beacons
    - Advanced Warning
        - Transverse Rumble Strips
        - Advance Warning Signs
        - Dynamic Warning Signs
        - Pavement Markings (Stop Ahead)
    - Increased Traffic Control
        - Stop Control (Two-Way/All-Way)
        - Roundabout
        - Continuous T
        - RCUT
        - Signalization (If Warranted)
- **Resources and Guidance:**
    - *Proven Safety Countermeasure*: *Systematic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections*[30] and *Roundabouts*[31] (FHWA)
    - *Unsignalized Intersection Improvement Guide*[32] (ITE)
    - *Low-Cost Safety Improvements for Rural Intersections*[33] (FHWA)
    - *Low-Cost Safety Enhancements for Stop-Controlled and Signalized Intersections*[34] (FHWA)
    - *Guide for Addressing Unsignalized Intersection Collisions*[35] (NCHRP)
    - *Intersection Safety: A Manual for Local Rural Road Owners*[36] (FHWA)

3.3.3. Install or Enhance Signalized Intersections

In Gallatin County, outside of MDT routes like Huffine Lane and Jackrabbit Lane, and developed areas such as West Yellowstone and Big Sky, signalized intersections are relatively few. However, with the ongoing growth and development, particularly in the urban fringe areas near Bozeman and Belgrade, the need for additional traffic signals is likely to increase in order to improve traffic flow and ensure safety. As the County encounters existing signalized intersections in need of improvement, or considers new locations for signalization, the following strategies can be implemented to enhance safety and efficiency at these intersections.

- **E's of Safety:** Engineering
- **Safe Systems Approach:** Safe Roads
- **Example Actions:**
    - Intersection Geometry/Layout
        - Improve Sight Lines and Turning Angles
        - Dedicated Turn Lanes
        - Turn Lane Channelization
        - Bicycle/Pedestrian Accommodations
    - Signal Phasing
        - Signal Optimization/Coordination
        - Adaptive Signal Control
        - Increase Yellow Change Intervals

        - Increase All Red Intervals
        - Dedicated Turn Phasing
        - Pedestrian Phasing
    - Increase Driver Awareness
        - High-Visibility Pavement Markings
        - Turn Path Markings
        - Overhead Lane Use Signs
        - Retroreflective Backplates
        - Advance Warning Signs/Signals
- **Resources and Guidance:**
    - *Proven Safety Countermeasure*: *Backplates with Retroreflective Borders*[37], *Dedicated Left- and Right-Turn Lanes at Intersections*[38], *Yellow Change Intervals*[39], *and Leading Pedestrian Intervals*[40] (FHWA)
    - *Intersection Safety Strategies*[41] (FHWA)
    - *Guide for Reducing Collisions at Signalized Intersections*[42] (NCHRP)

3.4. Driver Age Strategies

Addressing crashes involving younger and older drivers requires a multifaceted approach that considers their unique challenges and needs. For younger drivers, who often struggle with inexperience, cognitive overload, and social influences, strategies focus on education, training, and enforcement to build their skills and encourage safe behaviors. For older drivers, whose abilities might be affected by age-related declines in vision, flexibility, and reaction times, the emphasis is on assessing fitness to drive, providing educational resources, and adapting vehicles and road designs to support their continued mobility. By implementing these strategies, we can create a safer driving environment that accommodates the diverse needs of drivers across all age groups.

3.4.1. Educate Young Drivers on Safe Driving Practices

Young, novice drivers are particularly vulnerable to crashes due to a combination of inexperience, physical and emotional immaturity, and external influences such as peer pressure. While learning to drive, young drivers must practice a complex set of skills—such as checking mirrors, steering, and reacting to road conditions—which initially require a great deal of mental focus and attention. This cognitive overload increases the likelihood of errors and distractions. Additionally, young drivers are often motivated by a desire to reach their destination quickly or to impress peers, which can lead to risky behaviors like speeding or reckless driving. Gender differences also contribute to the risk, as young males tend to engage in more sensation-seeking and risk-taking behaviors than females and tend to overestimate their driving abilities. Though gender and age-related factors play a role in crash risk, research consistently shows that increased experience has a greater impact on reducing crashes among youth. As novice drivers gain more experience, they become more competent, automating driving tasks and improving their ability to assess and respond to potential hazards. To reduce severe crashes among young drivers, a multi-faceted approach incorporating education, training, enforcement, and the use of technology is needed to address both the cognitive and social factors influencing safe driving behavior.

- **E's of Safety**: Education, Enforcement
- **Safe Systems Approach**: Safe Road Users, Safe Vehicles
- **Example Actions:**
    - Enforcement of GDL laws

- Increase Access to and Encourage Teen Driver Education Courses
- Other Driver Education Programs
  - Alive at 25[43]
  - Share the Keys[44]
  - What Do You Consider Lethal?[45]
  - Checkpoints[46]
  - Hazard Perception Training (RAPT, ACCEL, SAFE-T)
  - Montana DRIVE Workshops[47]
- Montana Keep Encouraging Young driver Safety (KEYS)
  - Parent/Teen Agreement for Safe Driving Expectations
  - Parent-Teen Homework Assignments to Increase Driver Safety
  - KEYS Teen Driver Rating Form
- Educate New Drivers on Crash Avoidance Advanced Driver Assist Systems (ADAS) Features
  - My Car Does What?
- Multilingual Teen Driver Educational Materials
- University Driver's Education – Montana Driving Laws, Winter Driving, Etc.
- Written Exam for State-to-State Driver's License Transfers
- Share the Road Training

- **Resources and Guidance:**
  - Montana Driver Education[48] (OPI)
  - Impact Teen Drivers[49]
  - TeenDrivingPlan[50]
  - DriveitHOME[51] (NSC)

3.4.2. Ensure Older Drivers are Fit to Drive

The shifting demographics of our population have significant implications, particularly for older individuals whose quality of life is highly dependent on maintaining independence. Mobility is essential for independence, and in our society, the primary mode of mobility is the personal vehicle. This reliance is especially pronounced in rural areas like Gallatin County, where alternatives such as public transit, walking, and biking are limited. Consequently, there will be an increasing number of drivers with declining vision, slower decision-making and reaction times, greater difficulty in dividing attention between traffic demands and other critical information, and reductions in strength, flexibility, and overall fitness. The actions outlined in this strategy help assess whether older adults experiencing these declines are still capable of driving safely. There are also various educational resources and vehicle adaptations available for older drivers who have the ability to drive but may require additional support to know and understand how to adjust for slower reflexes, weaker vision and other changes.

- **E's of Safety**: Education, Enforcement
- **Safe Systems Approach**: Safe Road Users, Safe Vehicles
- **Example Actions:**
  - Licensing Agency Referrals
    - Educate Physicians, Law Enforcement, Caregivers, and the General Public on Referral Procedures
  - Formal Courses for Older Drivers
    - Smart DriverTEK
    - AAA RoadWise Driver
    - AARP Smart Driver Course

        - NSC Defensive Driving for Mature Drivers
        - On-Road Instruction
    - Educate Caregivers/Family Members
        - How to Evaluate Driving Ability
        - How to Approach Driver's License Restrictions
    - Promote Vehicle Adaptive Devices (Seat Belt Extenders, Leg Lifter, Swivel Seats, Adapted Key Holders, etc.)
- **Resources and Guidance:**
    - Model Driver Screening and Evaluation Program Guidelines for Motor Vehicle Administrators[52]
    - Fitness-to-Drive Screening Measure[53]
    - Driver Fitness Medical Guidelines[54]
    - Clinician's Guide to Counseling Older Drivers[55]
    - Understanding Older Drivers[56]
    - Safe Driving for Older Adults[57]
    - CarFit[58]

3.4.3. Design the Transportation System to Ensure Accessibility for Users of All Ages

In the realm of roadway engineering and design, research and guidebooks on addressing the needs of older drivers reveal conflicts between strategies that address the needs of older drivers and those that meet the needs of pedestrians and other road users. For example, some recommendations to improve older driver safety involve widening roadway lanes to allow more room for driving maneuvers. However, wider roads can present a challenge for pedestrians trying to cross the broader streets and may encourage faster driving which can be hazardous for vulnerable road users. As older drivers become unable to drive, and for younger people who may not yet be able to drive, walking and cycling are common alternatives to driving. Balancing the needs of all users across various age groups requires thoughtful design practices that recognize the physical, cognitive, and psychomotor limitations of both younger and older populations. The example actions under this strategy aim to supplement existing standards and guidelines for roadway geometry, operations, and traffic control devices.

- **E's of Safety**: Engineering, Education
- **Safe Systems Approach**: Safe Roads, Safe Road Users, Safe Vehicles
- **Example Actions:**
    - Intersection Geometry and Layout
        - Reduce Intersection Skew
        - Increase Intersection Sight Distance
        - Widen Roadway Lanes
        - Left and Right Turn Lane Offsets
        - Channelization of Travel Lanes
        - Delineation (Edgelines, curblines, centerlines)
    - High Visibility/Contrasting Pavement Markings
    - Clearly Legible and Visible Signage and Signals
    - Advance Warning Signs / Pavement Markings
    - Directional Signs
    - Intersection / Street Lighting
    - High Friction Surface Treatments

    - Work Zone Visibility
    - Educate Drivers on Crash Avoidance ADAS Features
        - My Car Does What?
    - Promote Ride Share and Transit Options for Those Who Can't Drive
    - Promote Accessibility for Walking and Biking
        - Adjust Pedestrian Signal Walking Speeds to Demographics
        - Accessible Pedestrian Signals
        - Leading Pedestrian Intervals
        - Dedicated / Separated Non-Motorized Facilities
- **Resources and Guidance:**
    - Handbook for Designing Roadways for the Aging Population[59] (FHWA)
    - Planning Complete Streets for an Aging America[60] (AARP)
    - Young Drivers – The Road to Safety[61] (Organisation for Economic Co-Operation and Development)
    - Designing Streets for Kids[62] (NACTO / Global Designing Cities Initiative)

3.5. High Risk Behavior Strategies

Addressing high risk driving behaviors is essential to improving roadway safety and reducing the risks associated with road use. Unsafe driving behaviors such as impaired driving, speeding, distracted driving, and failure to use seatbelts or helmets contribute to a significant number of crashes, injuries, and fatalities in Gallatin County. In fact, nearly 70 percent of the severe injury crashes in Gallatin County involved one or more high risk driving behaviors. By promoting responsible driving habits through targeted education, high-visibility enforcement, and legislative measures, the County and its partners can create a culture of safety that encourages drivers to make safer choices. Improving driving behavior not only protects individuals but also contributes to the well-being of entire communities by reducing the overall burden of traffic incidents, lowering healthcare costs, and enhancing public confidence in road safety.

3.5.1. Promote Safe Driving Behaviors

Promoting safe driving behaviors is essential for reducing traffic-related injuries and fatalities, and a multi-faceted approach is often the most effective way to achieve meaningful, long-term results. Strategies such as high-visibility enforcement campaigns, community outreach programs, employer safety policies, and peer-to-peer education play a critical role in raising awareness and instilling responsible driving habits. Additionally, engaging young people in safety messaging and offering incentives for safe driving can encourage positive behavior across various demographics. These strategies can be effective at addressing multiple high-risk driving behaviors such as impaired driving, speeding, seatbelt and helmet use, and distracted driving. Equally important, lobbying for stronger legislative measures at the state level—such as stricter penalties for DUIs, lower BAC limits, and universal helmet laws—provides a legal framework to deter unsafe practices and reinforce the message of safety. By combining education, enforcement, incentives, and legislative advocacy, these strategies work in tandem to create a safer driving environment and ultimately reduce the risks associated with road use.

- **E's of Safety**: Education, Enforcement
- **Safe Systems Approach**: Safe Road Users
- **Example Actions:**
    - Conduct High Visibility Enforcement Campaigns
    - Multilingual Safe Driver Educational Materials
    - Teen & Adult Defensive Driving Courses

  - Civilian Dash Cams
  - Encourage Safe Driving Behaviors
    - Outreach/Education at Community Events
    - Employer Safety Policies for Company Vehicles
    - Engage School Students in Peer-to-Peer Safety Messaging
    - Incentive Programs
  - Lobby State Legislation for Law Changes
    - Increased Penalties for DUIs and Speeding
    - Lower BAC / Drug Potency Limits
    - Primary Seatbelt Laws
    - Universal Helmet Laws
    - Statewide Cell Phone Laws
    - Red Light / Speed Enforcement Cameras
- **Resources:**
  - High Visibility Enforcement Toolkit[63] (NHTSA)
  - How to Write a Company Vehicle Use Policy[64] (US Chamber of Commerce)
  - Peer-to-Peer Teen Traffic Safety Program Guide[65] (NHTSA)
  - Peer-to-Peer Traffic Safety Campaign Program[66] (MDT)
  - Countermeasures That Work, Impaired Driving: Legislation and Licensing[67] (NHTSA)
  - Primary Seat Belt Law in Montana?[68] (MDT)
  - Countermeasures That Work, Universal Helmet Laws[69] (NHTSA)
  - Gallatin County Sheriff's Office Non-English Speaker PSAs[70]

3.5.2. Eliminate Impaired Driving

The Gallatin County DUI Task Force has been a proactive force in addressing impaired driving in the area for decades, working diligently to reduce incidents of driving under the influence of alcohol and drugs. Despite these ongoing efforts, Gallatin County consistently ranks among the top 5 most dangerous counties in the state for impaired driving, with youth DUI also perceived as a significant issue. In response, the Task Force continues to engage in education, prevention, and outreach activities, while constantly seeking innovative strategies to improve their impact. The following strategy outlines a variety of effective countermeasures that could be implemented to further reduce impaired driving in the County. Many of these countermeasures are already in place, particularly in the urban areas, but expanding their reach to rural communities could further enhance efforts to curb impaired driving across Gallatin County.

- **E's of Safety**: Education, Enforcement
- **Safe Systems Approach**: Safe Road Users
- **Example Actions:**
  - Enforcement
    - Sobriety Checkpoints – *Note: In general, sobriety checkpoints are not used in Montana, however, state statute (MCA 46-5-502) allows law enforcement to establish temporary safety roadblocks in areas where a "significant number of known casual factors of motor vehicle accidents involving fatalities, injuries, or other serious legal violations are known to have occurred," but "may not issue a ticket, citation, or summons for a secondary offense" when conducting a roadblock.*

        - Saturation Patrols
        - Alcohol Measuring Devices
        - Alcohol Vendor Compliance Checks
        - Treatment Court
        - Court Monitoring Programs
        - Drug Recognition Experts / Drug Evaluation and Classification (DEC) program
        - Standardized Field Sobriety Testing (SFST) Training
        - Advanced Roadside Impaired Driving Enforcement (ARIDE) program
    - Education Campaigns
        - Mass Education on Montana Alcohol Laws (Social Host Responsibility, Zero Tolerance, Refusing Field Sobriety Tests, DUI Limits, DUI Penalties, etc.)
        - Think Twice (Expand to County Establishments)
        - Youth Education Programs (Fatal Vision Goggles, Peer-To-Peer Programs, Role Plays, Drunk-Driving Crash Reenactments [e.g., "Every 15 Minutes"], etc.)
        - Victim Impact Panels
        - If you feel different, you drive different
        - Drive High, Get a DUI
    - Promote Sober Rides Home
        - NHTSA SaferRide App
        - Designated Driver Incentive Programs
        - Bar Fairies Program (Expand to County Establishments)
        - Safe Rides Home Program
        - Organized Transportation for Large Community Events
        - Promote & Expand Transit Options
- **Resources:**
    - Visual Detection of DWI Motorists[71] (NHTSA)
    - Countermeasures That Work[72] (NHTSA)
    - *Drug Impaired Driving: Understanding the Problem and Ways to Reduce It: A Report to Congress*[73] (NHTSA)

3.5.3. Manage Vehicular Travel Speeds

Motorists often drive at the speed they feel comfortable, taking into account factors like weather conditions, the surrounding environment, and the complexity of the roadway. In some cases, the posted speed limit or the natural flow of traffic may be higher than what is considered safe for the area, given the surrounding context and usage of the roadway. Lowering speed limits in areas with high pedestrian activity, such as school zones, downtown areas, and residential neighborhoods, can help reduce both the frequency and severity of crashes. However, changing a posted speed limit alone does not automatically lead to slower travel speeds. To ensure that the roadway context aligns with the desired speed, desired speed limits should be paired with education and enforcement efforts in addition to physical improvements that reinforce the intended speed. In situations where simply lowering the speed limit is not feasible or effective, traffic calming measures can be employed. These strategies alter the roadway environment to influence driver behavior and encourage voluntary speed reduction. Measures such as chicanes, speed bumps, roundabouts, and curb extensions can all help achieve this goal. However, it's important to apply these strategies carefully, especially in rural settings. For example, while narrowing travel lanes may work well

in urban areas with curb and gutter infrastructure, it can reduce recovery space and increase the risk of run-off-the-road crashes in rural areas. Similarly, speed bumps can be effective in residential neighborhoods but may be unsuitable for higher-speed county roads. Therefore, the use of these measures must be tailored to the specific context to ensure they are both effective and safe.

- **E's of Safety**: Engineering, Education, Enforcement
- **Safe Systems Approach**: Safe Roads, Safe Speeds
- **Example Actions:**
  - Review Posted Speed Limits
    - Speed Studies
    - Special Speed Zones
    - Context Sensitive Speeds
  - Traffic Calming
    - Speed Bumps/Humps/Speed Tables/Raised Crosswalks
    - Visual Friction (Paint, Art, Vegetation, Objects)
    - Narrowed Roadways/Curb Extensions
    - Roundabouts/Traffic Circles
    - Horizontal Roadway Shifts (Chicanes)
    - ITS/Dynamic Speed Feedback Signage
    - Variable Speed Limits (Stationary or Trailers)
    - Warning Signage (Reduce Speed, Curve Ahead)
    - Enhanced Multimodal Environment (Bulb-outs, Pedestrian Refuge Islands, Reallocated Roadway Width to Bike Accommodations)
  - Speed Enforcement
  - Education Campaigns
    - Slow Down for School Zones
    - Ice and Snow…Take It Slow
    - Drive Like Your Kids Live Here
  - Intelligent Speed Assistance Technologies in Vehicles
- **Resources and Guidance:**
  - *Measures for Managing Speed*[74] (ITE)
  - *Traffic Calming to Slow Vehicle Speeds*[75] (USDOT)
  - *Traffic Calming ePrimer*[76] (FHWA)
  - *Winter Driving Safety Brochure*[77] (IDOT)
  - Social Media Campaigns for Winter Driving[78] (National Weather Service)
  - School Area Speed Limit and Signing[79] (SRTS Guide)
  - 24/7/365 School Area Speed Limits[80] (City of Bozeman)
  - *Pop-Up Traffic Calming & Placemaking*[81] (WTI)

3.5.4. Decrease Distracted Driving

In recent years, distracted driving has been the focus of many national campaigns due to its increasing prevalence in crashes. These campaigns aim to reduce distracted driving by raising awareness of the issue and consequences, encouraging behavioral changes, and promoting safer driving practices overall. Integrating distracted driving education into school curricula and driver's education programs can be an effective way to target teen drivers. Using simulations, interactive activities, and personal testimonials can make the campaigns and lessons engaging and impactful. There are also many apps and in-vehicle technologies

available that help drivers stay focused by blocking notifications or providing alerts if they're veering off course. Publicizing these tools through educational campaigns can be a good way to promote increased use. Encouraging the community to hold their children, spouses, family members, and friends accountable for distracted driving can also be an effective way to promote safe driving practices.

- **E's of Safety**: Education, Enforcement
- **Safe Systems Approach**: Safe Road Users, Safe Vehicles
- **Example Actions:**
  - Educational Campaigns
    - #IDontDUIT (I Don't Drive Under the Influence of Technology!)
    - Talk, Text, Crash
    - Every Second Matters
    - Put the Phone Away or Pay
    - Eyes Up, Phone Down
    - EyesDrive
  - Promote Technology Solutions
    - Smart Phone Apps/Cell Phone Blocking Technology
    - Advanced Driver Assistance Systems (ADAS) in Vehicles
  - Promote Teen Traffic Safety
    - Increase Education on the Graduated Driver Licensing Law in Montana
    - Encourage Parents/Teens to Sign Teen Driver Contracts
  - Enforcement
    - Cell Phone Ordinances
    - Employer-Based Distracted Driving Policies
    - Law Enforcement Training to Identify and Document Distracted Driving
- **Resources and Guidance:**
  - *Traffic Safety Marketing: Distracted Driving* (NHTSA)[82]
  - *Everything You Need for Distracted Driving Awareness Month* (National Safety Council)[83]
  - *Every Second Matters* (Travelers Institute)[84]
  - *Put the Phone Away or Pay* (NHSTA)[85]
  - *EyesDrive – Awareness Behind the Wheel*[86]
  - *AAA Parent-Teen Driving Agreement*[87]
  - *Employer Distracted Driving Policy*[88,89] (NSC)
  - *Countermeasures That Work – Distracted Driving*[90] (NHTSA)
  - *High Visibility Enforcement (HVE) Toolkit*[91] (NHTSA)
  - Impact Teen Drivers[49]
  - DecideToDrive.org[92]
  - EndDD.org[93]
  - Montana Trucking Association - Safety[94]

3.5.5. Increase Occupant Protection

For this planning effort, the unrestrained occupants focus area was selected as one of the high-risk behaviors to explore in greater detail. The term "unrestrained" typically refers to the lack of or improper use of seat belts and car seats, but this focus area is often expanded to include protections for all vehicle occupants, including motorcyclists, whose vehicles do not offer seat belts. Motorcyclists, in particular, have been found to be overly represented in severe crash data,

highlighting the need for increased attention on this group. Protective measures for motorcyclists include helmets, protective clothing, and reflective devices to enhance both protection and visibility to other road users. Education and enforcement are the most common and most effective tools to change behavior, and there are already many successful programs currently in use across the state. To improve the effectiveness of these efforts, it is helpful to identify and partner with unique organizations that represent low-use groups. These partnerships can help promote the use of seat belts, car seats, and helmets, ultimately improving occupant protection across a variety of high-risk populations.

- **E's of Safety**: Education, Enforcement
- **Safe Systems Approach**: Safe Road Users, Safe Vehicles
- **Example Actions:**
    - Educational Campaigns
        - Seat Belts Save Lives
        - Buckle Up. Every Trip. Every Time.
        - "Walk Under the Bar – Booster Seat in the Car"
        - Respect-A-Cage Exhibit / Room to Live
        - Buckle up Battles
    - Enforcement
        - Click It or Ticket
        - Primary Enforcement Laws
        - Universal Motorcycle Helmet Laws
    - Buckle Up Montana Coalition
    - Seatbelt Surveys
    - Child Passenger Safety Training
    - Child Restraint Inspection Stations
    - Saved by the Belt Program
    - Motorcyclist Protection and Conspicuity
        - Impact-Resistant Clothing
        - Continuous Headlight Use
        - Brightly Colored Clothing
        - Retroreflective Devices
        - Free/Discounted Helmet Distribution through Partnerships with Local Organizations
- **Resources and Guidance:**
    - Buckle Up Montana[95,96] (MDT)
    - National Child Passenger Safety Certification[97] (Safe Kids)
    - Virtual Car Seat Checks for Caregivers[98] (NSC)
    - Traffic Safety Marketing: Seat Belt Safety[99] (NHTSA)
    - Facts About Seat Belt Use[100] (CDC)
    - Choose the Right Motorcycle Helmet[101] (NHTSA)

4. Project, Policy, and Program Identification

This section outlines recommended projects, programs, and policies intended to proactively address identified safety concerns from all angles, including infrastructure improvements, programs targeted at safe behaviors, and operational improvements. The recommendations can be developed as stand-alone efforts, or, in some cases, combined with other efforts as appropriate. There may be cost savings and efficiencies gained by packaging improvements together.

4.1. Recommendation Attributes

All recommendations are categorized according to the implementation type, including projects, programs, and policies. Projects include physical implementation actions which result in changed infrastructure and can range from simple signing or striping to larger-scale reconstruction. Programs include activities meant to incrementally inform or improve transportation safety conditions. Programs are typically the basis for future policy decisions but could also be the outcome of implementing specific policies. Policies are most often established through laws and ordinances but could also take the form of planning documents or procedures adopted by government agencies. Institutionalizing a policy typically requires dedicated funding and comprehensive technical guidance as well as enforcement mechanisms to ensure that there are consequences if the policy is not implemented as intended. Policy changes take time and diligence but can be a powerful way to ensure that adequate staff and resources are being directed toward processes and procedures that will support a safe and healthy community.

A variety of additional information is also provided to assist with future implementation efforts. The following sections provide an overview of the attribute categories outlined for each recommendation to help inform and guide future project, program, and policy development.

Background

The description provides an overview of the identified safety concern(s) that the recommendation is intended to address. In some cases, the safety concern was identified through historic crash data or the HIN, while others were identified through field reviews and public or stakeholder input. Additional background information to give context to the recommendation is also provided where applicable.

Recommendation

Planning-level recommendations are defined broadly to provide flexibility during future implementation phases as additional coordination and investigations occur.

Related Strategies

Recommended projects, programs, and policies employ the focus area strategies outlined in **Section 3**. Relevant strategies are listed for each recommendation. It is intended that the implementing agency can reference the general strategy description for more implementation ideas and guidance.

Past Planning Relation

In many cases, the project, program, or policy recommendations have been identified in past planning efforts. References to past documents and recommendations are provided where applicable to supply additional context and support for the SS4A Action Plan recommendations.

Other Considerations

Project recommendations forwarded from the Action Plan will be subject to the County's standard project development processes. This typically includes project-specific design activities such as stakeholder coordination, environmental impact analysis and permitting, utility conflict mitigation, traffic and safety analysis, hydraulic and geotechnical investigations, and right-of-way acquisition based on project location and design features. For projects that may substantially and permanently impact MDT routes, the MDT System Impact Action Process may apply and additional coordination with MDT may also be necessary. Notable project development considerations are listed for each recommendation such as potential stakeholder interests, possible coordination needs, resources and site features, indirect effects, and other factors to be addressed during project development.

Implementation Partners

Although Gallatin County is serving as the lead agency for implementation of recommendations contained in the Action Plan, implementation of the identified safety strategies, projects, programs, and policies will require cooperation and support from multiple partners. In addition to the County, supportive efforts from partners including MDT, the cities of Bozeman and Belgrade, the towns of Manhattan, Three Forks, Big Sky, and West Yellowstone, law enforcement, school districts, local advocacy groups and organizations, emergency service providers, and individuals/businesses will be needed to successfully improve safety in Gallatin County.

Estimated Cost

Planning-level cost estimates were developed for each of the project recommendations. The estimates include costs for design engineering, mobilization, construction, drainage, utility adjustments, and anticipated easements. Contingencies are provided to account for unknown factors at this planning-level stage. All costs are provided in 2025 dollars since the date of implementation is unknown at this time. **Appendix 1** contains additional planning-level cost estimate information with unit pricing for each option. Estimated costs for program and policy recommendations are not included due to the highly variable nature of these recommendations.

4.2. Project Recommendations

The following project recommendations are designed to address site-specific safety concerns identified through an analysis of historic crash trends and feedback from public and stakeholder outreach. These projects align with previously established planning recommendations and focus on high-benefit, low-cost solutions that maximize safety improvements while also being mindful of funding constraints. There is a targeted emphasis on improving safety on low-volume county roads. It is recognized that safety concerns also exist on higher-volume routes under the jurisdiction of MDT, though there are alternate project nomination processes and funding sources for improvements on these routes that are outside the purview of Gallatin County's jurisdiction. The following recommendations reflect a thoughtful, strategic approach to road safety that prioritizes both immediate needs and long-term, sustainable improvements. **Figure 4.1** illustrates the location of recommended projects within the planning area. Note, project numbering is not indicative of priority or need.

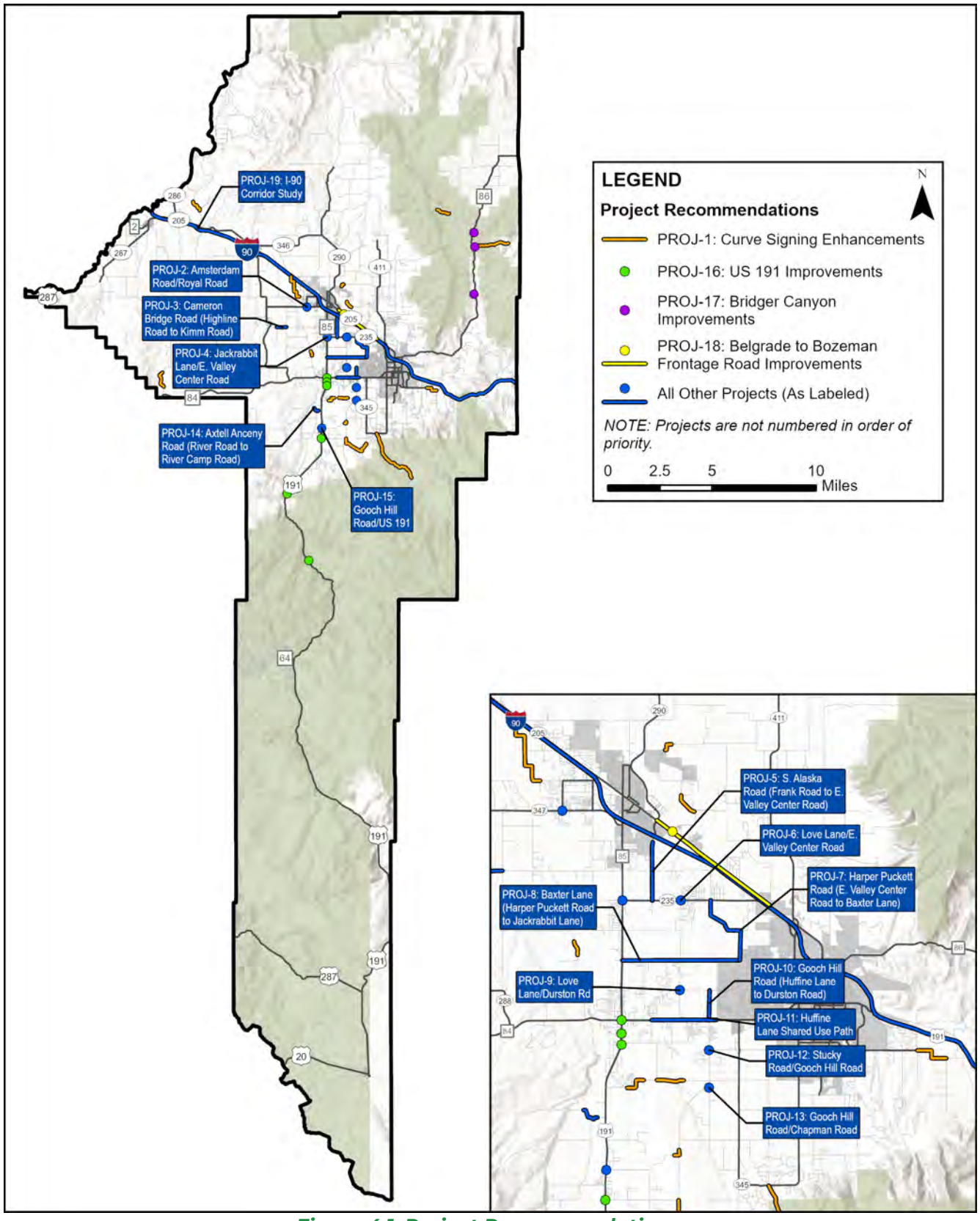


Figure 4.1: Project Recommendations

PROJ-1: Curve Signing Enhancements

Background: Warning signs are used to call attention to unexpected conditions on a roadway that might not be readily apparent to roadway users. Of particular interest is signage for horizontal curves, especially those with crash histories or substandard designs. There are several signing options to consider installing at a horizontal curve, but it is important to sign curves uniformly to provide drivers with a consistent message on which to base expectations.

To provide consistent and uniform signing, and to assist the county in selecting appropriate countermeasures for problematic curves, the GTATP defined a three-tier system for curve signing enhancements. Tier 1 guidance should be used in most cases. If a safety issue is identified at a particular site, supplemental signage (Tier 2) or enhanced countermeasures (Tier 3) may be appropriate. In extreme cases, when signing proves to be ineffective at addressing safety concerns, reconstruction of the roadway may be needed to flatten the curves.

Recommendation: Implement the tired curve signing recommendations at spot locations identified on the HIN.

- Thorpe Road (Rottweiler Lane to Frontage Road) – Tiers 2 & 3, possible reconstruction
- Cottonwood Road (Derek Way to Enders Road) – Tier 2
- Blackwood Road (Beatty Road to Quentin Way) – Tier 2, possible shoulder widening
- Blackwood Road (Elk Grove Lane to Kimber Court) – Tier 2, possible reconstruction
- Bozeman Trail Road (Mount Ellis Lane to Fort Ellis Road) – Tiers 2 & 3, possible reconstruction
- Gooch Hill Road/Enders Road – Tier 2
- Brackett Creek Road (Bridger Canyon Road to Horse Creek Road) – Tier 2
- Madison Road (North of Norris Road) – Tier 1
- Penwell Bridge Road (Roundup Boulevard to Thompson Field Lane) – Tier 2
- Tubb Road (Airport Road to Jetway Drive) – Tier 2
- Logan Trident Road (RP 2.6 to 4.2) – Tiers 1 & 2
- River Road (North of Bryan Road) - Tier 1
- Fairy Lake Road (RP 4.3 to 4.9) – Tier 1
- Hyalite Road (19th Ave to Hyalite Reservoir) – Tier 1

Related Strategies:

- Improve Curve Design
- Improve Roadside Design

Past Planning Relation:

- Many of the recommended curve signing locations were also identified in the GTATP, including **TSM-1**, **TSM-2**, **TSM-4**, **TSM-5**, **TSM-9**, and **TSM-10**.

Other Considerations:

- MDT is planning to install solar LED chevrons on the Bozeman Trail Road curves. The results of this installation may inform future use of this technology.
- Some of the identified curves are on Forest Service roads.

Implementation Partners: Gallatin County, MDT, Forest Service, Cities, Towns

Estimated Cost: $1,500 - $3,000 per curve

PROJ-2: Amsterdam Road/Royal Road

Background: This is a four-legged intersection with stop control on the northbound and southbound legs (Royal Road). Over the five-year analysis period, 10 crashes were reported, three of which resulted in injuries. Approximately half of the crashes occurred at night, under conditions without street lighting. Both the GTATP and the Belgrade LRTP identified a crash trend and operational concerns at the intersection. As the Belgrade area continues to develop and traffic volumes increase, it is recommended that the intersection be further evaluated for additional traffic control measures, such as signalization or the construction of a roundabout, to accommodate current and future traffic demand and improve safety. As a short-term improvement, street lighting could be installed at the intersection to enhance visibility.

Recommendation: Install enhanced traffic control at the intersection, either a traffic signal or roundabout, depending on warrants. Consider intersection lighting in the short-term.

Related Strategies:

- Improve Intersection Visibility
- Enhance Unsignalized Intersections
- Install or Enhance Signalized Intersections

Past Planning Relation:

- This location is identified in the GTATP as **TSM-22**.
- The GTATP also recommends reconstructing Amsterdam Road between Royal Road and Thorpe Road to urban minor arterial standards (**MSN-19**).

- MDT and Gallatin County recently completed safety improvements and intersection upgrades on Amsterdam Road at the Green Belt Drive & River Rock Road intersections. These improvements may impact traffic flow through the Royal Road intersection.

Other Considerations:

- An alternatives analysis should be performed to determine the best traffic control improvements for the intersection. A signal warrant study would be required.
- Right-of-way may be needed to install improvements. Coordination with utility providers and adjacent landowners will be necessary.
- Coordination with MDT will be required.

Implementation Partners: Gallatin County, MDT, Utility Providers, Adjacent Landowners

Estimated Cost: $1.1M (signal), $2.2M (roundabout)

PROJ-3: Cameron Bridge Road (Highline Road to Kimm Road)

Background: The stretch of Cameron Bridge Road between Highline Road and Kimm Road has been flagged by community members for several safety concerns. The road's curvature significantly impacts visibility, particularly during icy winter conditions. A major issue is the dip at the Kimm Road intersection, which obstructs drivers' ability to see oncoming traffic on Cameron Bridge Road. Additionally, there are slight S-curves near Valley Ditch, which are poorly marked, lack reflectors and guardrails, and feature steep slopes leading into the ditch. The road is narrow, and the lack of shoulders poses significant risks to bicyclists, pedestrians, and drivers, especially when large farm equipment is present. This segment, which has been identified on the HIN, has a history of multiple crashes, particularly in winter. A recent fatal crash involving a teen driver at the S-curves is not included in the official crash data, further highlighting the need for urgent safety improvements.

In the short-term, signage can be added at the intersection to indicate low visibility and signage, reflectors, and guardrail can be added along the unexpected S-curve at the ditch crossing to improve visibility of this feature. In the longer-term, consider flattening the hill and widening the shoulders or straightening the roadway at the ditch, possibly by piping the ditch under the roadway.

Recommendation: Enhance visibility in this section through low-cost countermeasures and possible long-term reconstruction.

Related Strategies:

- Improve Curve Design
- Improve Roadside Design
- Improve Roadway Visibility and Surfacing
- Improve Intersection Visibility
- Enhance Unsignalized Intersections
- Manage Vehicular Travel Speeds

Past Planning Relation: N/A

Other Considerations:

- Coordination with the owner of the irrigation ditch would be required. Consider piping the ditch to facilitate roadway straightening improvements.

Implementation Partners: Gallatin County, Adjacent Landowners, Utility Providers

Estimated Cost: $46,000 (low cost improvements), $2.2M (reconstruction)

PROJ-4: Jackrabbit Lane/E. Valley Center Road

Background: The Jackrabbit Lane/E. Valley Center Road intersection was identified on the HIN. However, the HIN results may be misleading due to significant changes at the intersection during the crash analysis period. Specifically, the Town Pump, located at the northeast corner, opened in late 2020, about two years into the analysis period. Around the same time, the speed limit on Jackrabbit Lane was reduced from 70 mph to 55 mph. While approximately half of the crashes occurred before the traffic signal was installed, 3 of the 4 severe injuries occurred in left-turn opposite direction crashes after the signal was added. To better understand the impact of the signal on safety, further investigation using more recent crash data is needed.

Recommendation: Monitor to see how safety conditions change with improvements. Consider protected left-turn phasing.

Related Strategies:

- Improve Intersection Visibility
- Install or Enhance Signalized Intersections

Past Planning Relation: N/A

Other Considerations:

- The signal is presently equipped with four signal indicators (red, solid yellow, flashing yellow, and green arrows) though it does not appear that the protected left-turn phasing (solid green arrow) is actively in use.
- It may be necessary to meet warrants before modifying the signal.

Implementation Partners: MDT, Gallatin County, Adjacent Landowners

Estimated Cost: $77,000

PROJ-5: S. Alaska Road (Frank Road to E. Valley Center Road)

Background: S. Alaska Road consists of two travel lanes (one in each direction) with narrow and deteriorating shoulders. Adjacent land uses through this section include light industrial, commercial, residential, and farmland. S. Alaska Road ties into the recently constructed East Belgrade Interchange and provides access to several gravel pits as well as light industrial, commercial, residential, and farmland uses. The roadway carries over 8,000 vpd with up to 10 percent of the traffic being heavy vehicles. Traffic volumes on S. Alaska Road have more than doubled since construction of the Belgrade Airport Interchange, as a result of increasing numbers of commuters between Belgrade and Bozeman, and general growth in the area.

This corridor segment, as well as several of the adjoining intersections were identified on the HIN. Public concerns include speeding, reckless driving, lack of shoulders for cyclists, poor nighttime visibility, and the need for traffic control improvements to manage rising traffic volumes.

Recommendation: Reconstruct roadway to meet current standards, incorporate roundabouts at Cameron Bridge Road and E. Valley Center Road intersections, and install non-motorized accommodations.

Related Strategies:

- Improve Roadside Design
- Improve Roadway Visibility and Surfacing
- Improve Intersection Visibility
- Enhance Unsignalized Intersections
- Manage Vehicular Travel Speeds

Past Planning Relation:

- This location is identified in several of the GTATP recommendations including **MSN-3** (corridor reconstruction), **TSM-16** and **TSM-17** (intersection improvements at Cameron Bridge Road and East Valley Center Road), and **SUP-9** (shared use path).
- Preliminary engineering for this corridor has already been started through the *Gallatin County Intersections Project*.

Other Considerations:

- Right-of-way may be needed to install improvements. Coordination with utility providers and adjacent landowners will be necessary.
- Coordination with MDT at the E. Valley Center Road intersection will be required.

Implementation Partners: Gallatin County, MDT, Utility Providers, Adjacent Landowners

Estimated Cost: $36.7M

PROJ-6: Love Lane/E. Valley Center Road

Background: The intersection of Love Lane and E. Valley Center Road is a T-intersection with stop control on Love Lane. The intersection handles over 10,300 vehicles daily, leading to long delays as vehicles on Love Lane wait for gaps in traffic to enter E. Valley Center Road. Additionally, the intersection lacks street lighting, resulting in low visibility at night. A shared use path crosses the Love Lane approach, running adjacent to E. Valley Center Road. Due to crash trends, this intersection is ranked in the top five percent on the HIN, highlighting the need for safety improvements.

Recommendation: Install enhanced traffic control at the intersection, with the type and configuration determined based on an intersection control analysis. Consider intersection lighting in the short-term.

Related Strategies:

- Improve Intersection Visibility
- Enhance Unsignalized Intersections
- Install or Enhance Signalized Intersections

Past Planning Relation:

- This location is identified in the GTATP as **TSM-14**.
- The GTATP also recommends a future connection, extending Love Lane from E. Valley Center Road north to meet S. Alaska Road at Frank Road.

Other Considerations:

- An alternatives analysis should be performed to determine the best traffic control improvements for the intersection. A signal warrant study would be required.
- Right-of-way may be needed to install improvements. Coordination with utility providers and adjacent landowners will be necessary.
- Coordination with MDT will be required.

Implementation Partners: Gallatin County, MDT, Utility Providers, Adjacent Landowners

Estimated Cost: $2.7M - $6.6M

PROJ-7: Harper Puckett Road (E. Valley Center Road to Baxter Lane)

Background: Harper Puckett Road, a narrow two-lane roadway, extends south from E. Valley Center Road curving east through a series of S-curves to meet with Hidden Valley Road then continuing south until it meets with Baxter Lane. The road primarily serves single-family residences and agricultural lands, but with the growth of Bozeman and Belgrade, it could conceivably experience increased development. The curved section of the road has been identified on the HIN due to a trend of run-off-the-road crashes. Similar crashes have also been observed on the straight segments, especially in areas with narrow shoulders, highlighting the need for improvements to address safety concerns.

Recommendation: Install curve signing enhancements and consider widening shoulders.

Related Strategies:

- Improve Curve Design
- Improve Roadside Design
- Improve Roadway Visibility and Surfacing
- Manage Vehicular Travel Speeds

Past Planning Relation:

- Project **MSN-11** of the GTATP recommends completing the connection between Harper Puckett Road and Gooch Hill Road to provide and alternate north-south connection. **MSN-8** and **MSN-14** recommend reconstructing Harper Puckett Road as extensions of Hulbert Lane and Cottonwood Road, respectively.

Other Considerations:

- Consider reconstructing/extending the roadway in the long-term as recommended in the GTATP to enhance connectivity and reduce traffic on the curved section of roadway.
- Connections with MDT and City of Bozeman owned facilities exist at the ends of this segment.

Implementation Partners: Gallatin County, Adjacent Landowners, Utility Providers

Estimated Cost: $40,000 (curve signing), $2.1M (shoulder widening)

PROJ-8: Baxter Lane (Harper Puckett Road to Jackrabbit Lane)

Background: Baxter Lane is a vital route connecting Bozeman to surrounding areas, but it is becoming increasingly inadequate due to growing residential development along the corridor and nearby regions. Safety issues include the road's narrow width, lack of shoulders, insufficient non-motorized infrastructure, rising traffic volumes, and high speeds. In winter, the road's steep side slopes, deep ditches, and icy conditions further contribute to these concerns. The segment of Baxter Lane between Love Lane and Monforton School Road was identified on the HIN. A recent fatal DUI crash was also reported in the vicinity of the Baxter Lane and Monforton School Road intersection, which was not captured in the crash data used to develop the HIN.

Recommendation: Reconstruct the corridor to meet current standards including wider shoulders, potential turn lanes, and non-motorized accommodations. Consider enhanced delineation as a short-term improvement.

Related Strategies:

- Improve Roadside Design
- Improve Roadway Visibility and Surfacing
- Improve Intersection Visibility
- Enhance Unsignalized Intersections
- Manage Vehicular Travel Speeds

Past Planning Relation:

- This location is identified in several of the GTATP recommendations including **MSN-4** (corridor reconstruction), and **SUP-5** and **SUP-6** (shared use path).

Other Considerations:

- There is one bridge on this segment that would need to be either widened or supplemented with a second bridge to accommodate non-motorized facilities.
- MDT coordination may be required at the Jackrabbit Lane intersection and City of Bozeman coordination may be required at the Harper Puckett Road intersection.

Implementation Partners: Gallatin County, City of Bozeman, MDT, Adjacent Landowners, Utility Providers

Estimated Cost: $130,000 (delineation), $27.6M (reconstruction)

PROJ-9: Love Lane/Durston Rd

Background: The intersection of Love Lane and Durston Road sees nearly 8,000 vehicles daily. The east leg of Durston Road comes into the intersection at a steep downgrade which gets icy during the winter. During the crash analysis period, the intersection was configured with stop control on the east and west legs of Durston Road. In summer 2023, an all-way stop was implemented to address increased traffic from construction activity and detours related to the Baxter Lane reconstruction project. The all-way stop received strong community support and was found to provide traffic and safety benefits. As a result, the county decided to maintain the all-way stop and install stop signs with LED borders for enhanced visibility and improved safety. However, with continued development in the area, an all-way stop is expected to experience poor levels of service in the near future, requiring a long-term solution for the intersection.

Recommendation: Reconfigure intersection as a roundabout.

Related Strategies:

- Improve Intersection Visibility
- Enhance Unsignalized Intersections
- Manage Vehicular Travel Speeds

Past Planning Relation:

- This location is identified in the GTATP as **TSM-15**.
- An alternatives analysis conducted the *Gallatin County Intersections Project* identified a roundabout as the best long-term solution for the intersection.

Other Considerations:

- Right-of-way may be needed to install improvements. Coordination with utility providers and adjacent landowners will be necessary.

Implementation Partners: Gallatin County, Utility Providers, Adjacent Landowners

Estimated Cost: $7.3M

PROJ-10: Gooch Hill Road (Huffine Lane to Durston Road)

Background: Gooch Hill Road, extending north of Huffine Lane, is a narrow two-lane road with one-foot shoulders and steep side slopes in certain areas. The road currently handles approximately 2,700 vehicles per day, with its current northern terminus at Durston Road. While the area is predominantly agricultural, it has high growth potential for residential and commercial development in the near future, especially given its proximity to Bozeman city limits. The segment, along with the intersections at Durston Road and Huffine Lane, have been identified on the HIN due to their crash histories.

To address traffic and safety concerns, the corridor should be reconstructed to meet current standards and provide non-motorized accommodations. In the near-term, advance warning signs and reflective tape and/or flashing lights to the stop sign could be considered at the Gooch Hill Road/Durston Road intersection to improve visibility of the three-legged intersection. The Gooch Hill Road/Huffine Lane intersection is already signalized, but several improvements could be installed to reduce conflicts and improve safety for all users, including an eastbound right-turn lane on Huffine Lane, improved intersection lighting, pedestrian signals, crosswalks, and sidewalk connecting to adjacent bus stops.

Recommendation: Enhance visibility and reduce conflicts in this section through low-cost intersection safety countermeasures and eventual long-term reconstruction.

Related Strategies:

- Improve Roadside Design
- Improve Roadway Visibility and Surfacing
- Improve Intersection Visibility
- Enhance Unsignalized Intersections

Past Planning Relation:

- Project **MSN-12** of the GTATP recommends reconstruction of this segment of Gooch Hill Road.

Other Considerations:

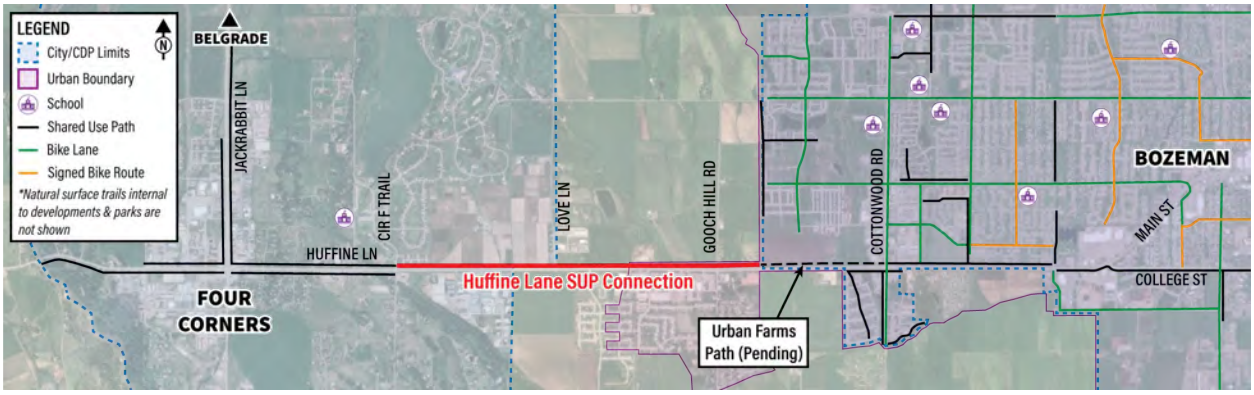
- MDT coordination will be required at the Huffine Lane intersection. A turn lane warrant study may be required.
- Consider intersection improvements in the near term with reconstruction in the longer term.

Implementation Partners: Gallatin County, MDT, Adjacent Landowners, Utility Providers

Estimated Cost: $5,000 (Durston Road), $910,000 (Huffine Lane), $13.8M (reconstruction)

PROJ-11: Huffine Lane Shared Use Path

Background: An existing shared use path runs along both sides of Huffine Lane from the Four Corners intersection to Circle F Trail, with a pedestrian underpass below Huffine Lane at Monforton School Road. To enhance connectivity and improve safety for non-motorists, it is recommended to extend the shared use path east to the Bozeman city limits, potentially on one or both sides of Huffine Lane, depending on funding and safety considerations. The high-speed traffic, numerous intersections, and lack of connected bike and pedestrian infrastructure on Huffine Lane create a high-stress environment for users trying to navigate the corridor without a vehicle, making this connection critical for safety and connectivity.



Recommendation: Complete the shared use path between Circle F Trail and Bozeman City Limits to create a continuous non-motorized route between Four Corners and Bozeman.

Related Strategies:

- Design the Transportation System to Ensure Accessibility for Users of All Ages

Past Planning Relation:

- The shared use path is identified in GTATP as **SUP-2** and **SUP-3**.
- Gallatin County has pursued preliminary engineering for the path to support the development of various grant applications.

Other Considerations:

- Preliminary engineering work indicates that the north side of Huffine Lane is the most logical location for a path due to topographic, right-of-way, and funding constraints.
- Coordination with MDT will be required, especially if the path is going to be constructed in MDT right-of-way.
- Adjacent landowners have committed to constructing segments of the path as conditional approval for development.
- Some of the adjacent land is encumbered by conservation easements to Gallatin Valley Land Trust (GVLT).

Implementation Partners: Gallatin County, MDT, GVLT, Adjacent Landowners, Utility Providers

Estimated Cost: $3.5M

PROJ-12: Stucky Road/Gooch Hill Road

Background: Stucky Road dead ends at Gooch Hill Road, forming a three-legged intersection with stop control on the Stucky Road approach. Over a five-year crash analysis period, 27 crashes were reported at the intersection, with dark lighting conditions and adverse road conditions seemingly contributing to the incidents. A collection of crosses at the intersection suggests a history of fatal crashes. Continuous safety improvements can be seen by reviewing past street-view imagery, showing that sometime between 2019 and 2024, 'intersection ahead' warning signs were added on Gooch Hill Road to alert drivers to the upcoming intersection. A road name placard was also placed atop the double arrow sign during the same timeframe.

Despite the installation of several low-cost countermeasures, the intersection remains on the HIN, although no severe injuries have been reported. To further improve safety, street lighting could be considered. Reflective tape could be applied to the poles for the stop sign and double arrow sign to increase visibility from a greater distance. Additionally, a placard could be installed below the stop sign to indicate that cross traffic does not stop. If these measures prove ineffective, a flashing beacon could be installed on the 'stop ahead' sign on Stucky Road, or the existing stop sign could be replaced with one featuring an LED border for better visibility.

Recommendation: Install low-cost countermeasures to improve visibility of the intersection.

Related Strategies:

- Improve Intersection Visibility
- Enhance Unsignalized Intersections

Past Planning Relation:

- The GTATP recommends extending Stucky Road between Gooch Hill Road and Elk Lane/Red Mountain Drive (**MSN-16**).

Other Considerations:

- Consider pairing infrastructure improvements with targeted maintenance during winter plowing efforts.
- Consider maintenance costs associated with increased sanding and lighting installation.

- Consider potential unintended consequences of lighting on the night sky and the surrounding environment.

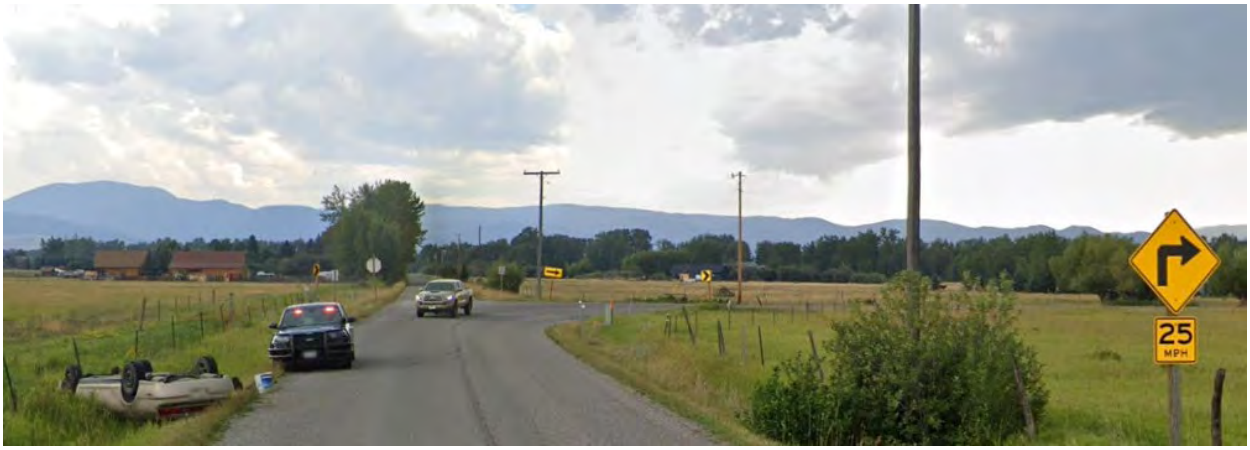
Implementation Partners: Gallatin County, Adjacent Landowners, Utility Providers

Estimated Cost: $8,000

PROJ-13: Gooch Hill Road/Chapman Road

Background: Chapman Road intersects Gooch Hill Road at a sharp, nearly 90-degree curve, creating a three-legged intersection. Priority is currently given to the through movement on Gooch Hill Road (west to north), while Chapman Road (south leg) is stop-controlled. Although the curve is well-signed, there has been a trend of run-off-the-road crashes, placing this intersection on the HIN. Approximately two-thirds of these crashes occurred in adverse weather conditions, and about one-third happened at night under poorly lit conditions. All nighttime crashes involved snow or icy road surfaces. These factors suggest that while the intersection layout may be confusing, it may not be the primary cause of the crashes.

Several low-cost countermeasures could be considered to improve safety. A combination curve/intersection sign with a road name placard and potential flashing beacons could help clarify the road layout and warn drivers of the upcoming intersection. Additionally, installing lighting at the intersection would improve nighttime visibility. Alternatively, the traffic control at the intersection could be modified to reduce potential conflicts. This would involve stopping eastbound traffic on Gooch Hill Road in order to prioritize the straight north/south movements. While this improvement may improve safety, it could impact traffic flow, and be initially confusing to nearby residents who drive through the intersection often. Additionally, increased sanding around the curve during winter maintenance activities could help reduce run-off-the-road crashes under snowy or icy road conditions.



Recommendation: Install low-cost countermeasures to improve visibility, traction, and driver understanding of the intersection.

Related Strategies:

- Improve Curve Design
- Improve Roadway Visibility and Surfacing
- Improve Intersection Visibility
- Install or Enhance Signalized Intersections
- Manage Vehicular Travel Speeds

Past Planning Relation: N/A

Other Considerations:

- Consider maintenance costs associated with increased sanding and lighting installation.
- Consider potential unintended consequences of lighting on the night sky and the surrounding environment.
- Changing traffic control could cause confusion or delays for drivers already accustomed to the current configuration, so a well-publicized transition and proper signage would be crucial.

Implementation Partners: Gallatin County, Adjacent Landowners, Utility Providers

Estimated Cost: $7,000

PROJ-14: Axtell Anceny Road (River Road to River Camp Road)

Background: Axtell Gateway Road intersects Axtell Anceny Road at a significant skew, forming a triangular connection between the two gravel roadways. However, unclear signage makes it difficult to understand the desired traffic flow. The situation is further complicated by sharp, winding curves on Axtell Anceny Road beyond the intersection. Just east of the intersection, Axtell Anceny Road crosses the Gallatin River on a narrow, 104-year-old bridge that provides access to a small fishing site on the river's east side.

Although traffic volumes in the area are low, several crashes have occurred at the intersection and along the adjoining curves, placing both the intersection and corridor on the HIN. To improve safety, enhanced curve warning signage could be installed along the route. Additionally, introducing stop or yield control at the three-legged intersection could clarify priority movements. Ideally, the intersection could be realigned to a 90-degree angle, with stop control on Axtell Gateway Road, which would improve visibility and overall clarity for drivers.

Recommendation: Install signage to better clarify the roadway configuration and consider intersection realignment.

Related Strategies:

- Improve Curve Design
- Improve Roadway Visibility and Surfacing
- Improve Intersection Visibility
- Enhance Unsignalized Intersections
- Manage Vehicular Travel Speeds

Past Planning Relation: N/A

Other Considerations:

- MDT is tentatively planning to replace the Axtell Bridge in 2028. Consider coordinating improvements with other ongoing efforts.
- If realignment of the intersection is pursued, ensure drivers on Axtell Gateway Road have adequate visibility to see oncoming traffic on Axtell Anceny Road.

Implementation Partners: Gallatin County, MDT, Adjacent Property Owners

Estimated Cost: $19,000 (curve signing), $50,000 (realignment)

PROJ-15: Gooch Hill Road/US 191

Background: Gooch Hill Road dead ends at US 191, where it is stop controlled, while priority is given to movements on the highway. The intersection also features a southbound left lane on US 191. Over the five-year crash analysis period, 17 crashes were reported at or near the intersection, with one resulting in suspected serious injuries, placing the intersection high on the HIN. Approximately 40 percent of these crashes involved vehicles turning onto or off of Gooch Hill Road. In addition to vehicle crashes, there were four wildlife collisions at the intersection, with all but one occurring at night with no street lighting. The intersection's safety concerns are further highlighted by a recent high-profile crash in 2024, in which two motorcyclists were killed and a third suffered severe injuries. This tragic incident, though not included in the crash analysis, underscores the ongoing safety risks at this location and adds urgency to addressing the intersection's design and safety features.

To enhance safety, a combination of countermeasures should be considered. These could include the installation of street lighting to improve nighttime visibility, better signage to warn drivers of the intersection ahead, and potentially adjusting traffic control or roadway geometry to improve driver awareness and reduce turning conflicts. Additionally, further evaluation of the intersection for signalization or the construction of a reduced conflict intersection (roundabout, continuous T, or RCUT) could help address both the existing safety concerns and future traffic increases as the area develops.

Recommendation: Install enhanced traffic control at the intersection, with the type and configuration determined based on an intersection control evaluation. Consider intersection lighting or other visibility enhancements in the short-term.

Related Strategies:

- Improve Intersection Visibility
- Enhance Unsignalized Intersections
- Install or Enhance Signalized Intersections

Past Planning Relation: N/A

Other Considerations:

- MDT recently installed a TWLTL on US 191 between Zachariah Lane and Gooch Hill Road. While specific intersection improvements were not included at Gooch Hill Road, the new TWLTL may slightly alter traffic and safety patterns/needs at Gooch Hill Road.
- An alternatives analysis should be performed to determine the best traffic control improvements for the intersection. A signal warrant study would be required.
- Right-of-way may be needed to install improvements. Coordination with utility providers and adjacent landowners will be necessary.
- Coordination with MDT will be required.

Implementation Partners: Gallatin County, MDT, Utility Providers, Adjacent Landowners

Estimated Cost: $15,000 (visibility enhancements), $1.7M - $3.1M (traffic control)

PROJ-16: US 191 Improvements

Background: MDT completed a corridor study on US 191 between Four Corners and Beaver Creek Road in 2020.[102] These improvements were all identified in the corridor study to address traffic and safety concerns. The areas listed below all align with the HIN and/or public comments received throughout the development of the Action Plan. The list does not include projects which are already under development, including the Mill

Street/Rabel Lane intersection, Lava Lake area, wildlife accommodations, and the MT 64 intersection.

Recommendation:

- Four Corners Intersection (S1) - Modify business access; install second westbound left-turn lane; add pedestrian crossing treatments
- 3rd Street to 2nd Street (S2) - Replace or widen bridge based on future needs of the highway
- Bozeman Hot Springs/Cobb Hill/Lower Rainbow Road (S3) - Consolidate approaches and realign intersection; improve intersection/roadway lighting
- Cottonwood Road (S7) - Install additional traffic control and realign intersection as warranted.
- Advance Warning Signs (S-16) – Install curve warning signs for substandard roadway elements, (RP 61.2 is specifically on the HIN)
- Substandard Curve Modification (S17-a) - Reconstruct horizontal and vertical curves North of Spanish Creek (RP 69.2 to 68.5)

Related Strategies:

- Improve Curve Design
- Improve Roadside Design
- Improve Roadway Visibility and Surfacing
- Improve Intersection Visibility
- Enhance Unsignalized Intersections
- Install or Enhance Signalized Intersections
- Manage Vehicular Travel Speeds

Past Planning Relation:

- All projects were identified in the *US 191 Corridor Study* led by MDT.
- The Cottonwood Road recommendation was also identified in the GTATP as **TSM-21**.

Other Considerations:

- The corridor study identifies several project development considerations for each recommendation.
- Most projects would be led by MDT but may be supported by other entities.

Implementation Partners: MDT, Gallatin County, Adjacent Landowners, Utility Providers

Estimated Cost: $3.9M (S1), $3.5M (S2), $1.3M (S3), $1.5M - $3.8M (S7), $310,000 (S16), $4.9M (S17-a)

PROJ-17: Bridger Canyon Improvements

Background: MDT completed a corridor planning study for MT 86/Bridger Canyon Road between Story Mill Road and US 89 in 2015.[103] Three of the following improvements were identified in the corridor study to address traffic and safety concerns. A fourth improvement was not identified in the corridor study but was identified as a high priority on the HIN based on a trend of rollover crashes in poor road and weather conditions. The areas listed below align with the HIN and/or public comments received throughout the development of the Action Plan.

Recommendation:

- 2.b: Horizontal and Vertical Curve Improvements with Shoulder Widening – RP 20.8 to 22.0
- 4.a: Approach Sight Distance Mitigation/Intersection Realignment - RP 18.8 (Brackett Creek)
- 4.b: Intersection Realignment - RP 18.8 (Brackett Creek)
- RP 13.5 – RP 14.2 – High friction surfacing or advance warning signs with advisory speeds

Related Strategies:

- Improve Curve Design
- Improve Roadside Design
- Improve Roadway Visibility and Surfacing
- Improve Intersection Visibility
- Enhance Unsignalized Intersections
- Manage Vehicular Travel Speeds

Past Planning Relation:

- All projects were identified in the *Bridger Canyon Corridor Planning Study* led by MDT.

Other Considerations:

- The corridor study identifies several project development considerations for each recommendation.
- Most projects would be led by MDT but may be supported by other entities.
- MDT is completing an overlay project on Bridger Canyon Road near Brackett Creek in 2027, improvements to the intersection may be considered in coordination with the maintenance project.

Implementation Partners: MDT, Gallatin County, Adjacent Landowners, Utility Providers

Estimated Cost: $770,000 (2.b), $70,000 (4.a), $610,000 (4.b), $380,000 (RP 13.5)

PROJ-18: Belgrade to Bozeman Frontage Road Improvements

Background: MDT completed a corridor planning study for the frontage road between Bozeman and Belgrade in 2017.[104] The following improvements were identified in the corridor study to address traffic and safety concerns.

BELGRADE to BOZEMAN corridor
FRONTAGE ROAD study

Although the Frontage Road scored very low on the HIN, the recommended improvements are still applicable and could benefit safety in the corridor.

Recommendation:

- 3: Airport Road Intersection Improvements - Install an eastbound left-turn lane and/or traffic signal when warranted.
- 8: Passing Zone Modifications - Evaluate and modify existing passing and no-passing signing and striping to meet current standards.
- 9: Install Centerline Rumble Strips - Construct centerline rumble strips along the rural portions of the corridor as appropriate.
- 10: Develop Separated Shared Use Path - Investigate opportunities to develop a path between Bozeman and Belgrade.
- 11: Roadway Reconstruction - Reconstruct the corridor to include one travel lane in each direction, center left-turn lane (where appropriate), and eight-foot shoulders.

Related Strategies:

- Improve Roadside Design
- Improve Roadway Visibility and Surfacing
- Improve Intersection Visibility
- Enhance Unsignalized Intersections
- Manage Vehicular Travel Speeds

Past Planning Relation:

- All projects were identified in the *Belgrade to Bozeman Frontage Road Corridor Study* led by MDT.

Other Considerations:

- The corridor study identifies several project development considerations for each recommendation.
- Most projects would be led by MDT but may be supported by other entities.
- MDT has nominated a project (UPN 10293) to address the Airport Road intersection improvements. The project is currently paused due to major changes planned by the Airport at the intersection, including realignment of Airport Road. Most likely a left turn lane will be installed further south where the realigned roadway intersects the Frontage Road.

Implementation Partners: MDT, Gallatin County, City of Bozeman, City of Belgrade, Bozeman-Yellowstone International Airport, Adjacent Landowners, Utility Providers

Estimated Cost: $1.7M - $2.4M (3), $40,000 (8), $50,000 (9), $2.0M per mile (10), $15.1M (11)

PROJ-19: I-90 Corridor Study

Background: Many locations along I-90 show up on the HIN. In particular, the Bozeman pass and the section between Bozeman and Belgrade city limits ranked highly on the HIN. The traffic volume on this stretch of the interstate currently exceeds 30,000 vehicles per day, and projections indicate that this number could more than double in the next 20 years. To address current and future challenges, it is essential to conduct a comprehensive assessment of the Interstate System in Gallatin County. This will help identify potential issues, constraints, and opportunities to ensure the safe operation of the corridor as traffic volumes continue to increase.

Recommendation: Conduct a corridor study in coordination with MDT to evaluate safety concerns on I-90 through Gallatin County.

Related Strategies:

- All Identified Strategies

Past Planning Relation:

- A corridor study along I-90 has been recommended in the GTATP (TSM-24) and the Bozeman and Belgrade Transportation Plans.

Other Considerations: N/A

Implementation Partners: MDT, Gallatin County, Cities, Towns

Estimated Cost: $250,000 - $300,000

4.3. Program Recommendations

Several programs have been identified to help support project recommendations and generally make progress towards improving safety within the identified focus areas. These programs take a dual approach, addressing safety through both engineering-focused solutions and behavioral-focused strategies. Engineering initiatives involve systematic infrastructure improvements through roadway design and maintenance. On the other hand, behavioral programs focus on education, enforcement, and public awareness efforts to encourage safer behaviors. Together, these complementary strategies work to reduce crashes and injuries and improve overall safety in the community.

PROG-1: Curve Signing Program

Background: Warning signs are crucial for alerting drivers to unexpected conditions on a roadway that might not be readily apparent, such as substandard horizontal curves, intersecting roadways, or other hazards. For horizontal curves, the warning can range from basic horizontal alignment signs to more advanced enhanced warning devices. However, the use of elaborate signage and enhanced countermeasures should be approached with caution, as excessive signage can lead to driver disregard for all road signs.

To ensure consistent and uniform signage throughout the county, a three-tier curve signing system was developed in the GTATP. Tier 1 signage is the most basic and suitable for most situations. Tier 2 signage serves as a secondary measure for curves that violate basic driver expectations and where a safety concern has been identified. Tier 3 signage is more expensive to implement and maintain, and it should only be considered when Tier 1 and Tier 2 measures have not addressed the safety issue or in locations with high crash rates, particularly those involving severe injuries. In extreme cases where signage proves ineffective in resolving safety concerns, roadway reconstruction may be required to flatten the curves and improve overall safety.

While this guidance has proven helpful to county engineers, a structured curve signing program is recommended to identify high-risk locations, prioritize improvements, and develop a systematic approach for enhancing safety on horizontal curves. Such a program could also include a dedicated funding source to expedite the implementation of these safety measures.

Tier	Description/Applicability	Strategies
Tier 1 – Horizontal Alignment Warning Signs	Used in advance of horizontal curves on roadways that are functionally classified as either arterials or collectors and have more than 1,000 AADT when the difference between the speed limit and the advisory speed meets standards given by MUTCD. Should be used in most cases.	• Horizontal Alignment Warning Signs • Speed Advisory Plaques
Tier 2 – Supplemental Curve Warning Signs	Use additional traffic control devices within the curve to help guide motorists through curves that violate driver expectancy. Should be used in addition to, and sometimes in place of, Tier 1 signs.	• Combination Curve/Intersection Signs • Combination Horizontal Alignment/Advisory Speed Sign • Chevron Alignment Sign • One-Direction Large Arrow Sign
Tier 3 – Enhanced Signing Countermeasures	Enhanced signage countermeasures used increase the number of drivers who perceive and react to basic curve warning devices. Should be used in combination with Tier 1 and Tier 2 signage.	• Larger Devices • Retroreflective Strip on Sign Post • Highly Retroreflective and Fluorescent Sheeting • Doubling-Up Devices • Flashing Beacons • Dynamic Curve Warning System

Recommendation: Develop a structured curve signing program.

Related Strategies:

- Improve Curve Design
- Improve Roadway Visibility and Surfacing
- Manage Vehicular Speeds

Past Planning Relation:

- The tiered curve signing methodology was originally developed in the GTATP.

Other Considerations:

- A dedicated funding source could help expedite implementation.
- Improved curves should be periodically monitored to ensure effective implementation and evaluate whether a higher curve signing tier is needed.

Implementation Partners: Gallatin County, Cities, Towns, MDT

PROG-2: Shoulder Widening Program

Background: During public engagement for the SS4A, many community members voiced concerns about the lack of shoulders on County roadways, emphasizing the need for wider shoulders to improve safety. The GTATP also highlighted the lack of shoulders on county roads which historically carried very low volumes. As traffic volumes increase on these roads, implementing shoulder widening projects could provide significant safety benefits for the

traveling public. Wider shoulders create additional recovery space for vehicles that may veer off the road, reducing the likelihood of serious crashes, such as rollovers or collisions with fixed objects. Additionally, wider shoulders provide a safer environment for cyclists, offering a designated bikeable space away from the vehicle travel lane and reducing the risk of conflicts with vehicles on the roadway.

The GTATP includes several recommendations for wider shoulders on popular recreational routes for bicyclists as well as wider shoulders on arterials to improve safety for vehicles. In implementing the GTATP, Gallatin County also undertook an effort to update its road design standards to include standard shoulder widths for newly constructed or reconstructed roads. For existing county roads that are not yet ready for full reconstruction, it could be beneficial to widen shoulders in areas with frequent run-off-the-road crash trends. A program could be developed to quantify the benefits versus the costs of widening the shoulders, along with a decision-making process for prioritizing and implementing improvements. Additionally, the County could consider establishing a dedicated funding program for shoulder widening projects to help ensure the timely completion of these safety enhancements.

Recommendation: Develop a structured shoulder widening program.

Related Strategies:

- Improve Roadside Design

Past Planning Relation:

- Many shoulder widening improvements were identified in the GTATP.

Other Considerations:

- A dedicated funding source could help expedite implementation.
- Shoulder widths should conform to the *Gallatin County Transportation Design and Construction Standards*.
- Right-of-way may be needed to widen shoulders in some locations, coordination with adjacent landowners may be required.

Implementation Partners: Gallatin County, Cities, Towns, MDT, Private Developers, Adjacent Landowners

PROG-3: Passing Zone Review Program

Background: Gallatin County has many rural two-lane highways with passing zones, some of which may not fully comply with updated Manual on Uniform Traffic Control Devices (MUTCD) standards. During the recommendations phase, it was noted that some passing zones may pose safety risks due to their non-compliance with these standards. Inadequately designed or poorly placed passing zones can encourage unsafe passing maneuvers, especially in areas with limited visibility or on curves. To improve safety and reduce the risk of head-on collisions or other crashes, it is recommended that the County review the existing passing zones for MUTCD compliance and make necessary adjustments. This review process could be conducted systematically across the entire county or integrated into routine maintenance and inspection procedures. By ensuring that passing zones meet current safety standards, the County can help prevent crashes caused by risky passing attempts and improve overall road safety for drivers, bicyclists, and pedestrians.

Recommendation: Review passing zones for MUTCD compliance and make necessary adjustments.

Related Strategies:

- Improve Curve Design
- Improve Roadside Design
- Improve Roadway Visibility and Surfacing

Past Planning Relation: N/A

Other Considerations:

- Review passing zones periodically in coordination with reconstruction efforts, speed limit changes, and MUTCD standard changes.
- Current MUTCD passing zone standards can be found in Section 3B.03(04).[105]

Implementation Partners: Gallatin County, Cities, Towns, MDT

PROG-4: Roadside Management and Vegetation Control Program

Background: A Roadside Management and Vegetation Control Program is essential for improving safety on roadways and preventing crashes. Overgrown trees, brush, and other vegetation can obstruct visibility for drivers, pedestrians, cyclists, and wildlife, making it difficult

to see traffic signs, other roadway users, or potential hazards. Additionally, unmanaged vegetation along the right-of-way can limit space needed for critical roadway functions such as snow storage during winter months. Inadequate snow storage can lead to narrowed lanes, blocked sight lines, and reduced shoulder access, increasing risks for all users.

By identifying and addressing areas where vegetation control and snow storage capacity are needed, such a program would help reduce fixed-object hazards, improve sight distances, and support safe and efficient year-round road operations. The program could also offer clear guidance for County maintenance crews on safe and effective practices such as mowing, trimming, selective clearing, and managing vegetation near snowplow routes (see **POL-1**). These guidelines would ensure consistency across maintenance efforts and help prevent infrastructure damage caused by invasive roots or excessive overgrowth. Furthermore, the program would promote environmental stewardship by balancing safety needs with the protection of native vegetation and wildlife habitats. Overall, a well-executed vegetation control program would contribute to safer roads, reduce crash risks, and ensure efficient and cost-effective maintenance.

Recommendation: Develop a program to address roadside maintenance, vegetation control, and snow storage.

Related Strategies:

- Improve Roadside Design
- Improve Roadway Visibility and Surfacing
- Improve Intersection Visibility

Past Planning Relation: N/A

Other Considerations:

- Helpful information can be found in the FHWA *Vegetation Control for Safety*[106] guide.
- Vegetation control guidance for adjacent landowners may be beneficial.

Implementation Partners: Gallatin County, Cities, Towns, MDT, Adjacent Landowners

PROG-5: Systemic Safety Program

Background: A Systemic Safety Program focuses on regularly assessing and improving roadway safety by identifying and addressing hazards across the entire road network. While most transportation agencies, including MDT, conduct regular inspections of infrastructure elements such as pavements and bridges to plan for preservation, rehabilitation, and reconstruction, Gallatin County could expand its data collection efforts to enhance safety. Currently, the Gallatin County Road and Bridge Department conducts annual visual surveys to assess pavement conditions on county roads. To increase the effectiveness of these surveys, the county could consider expanding its data collection methods to include an inventory of additional roadway elements, especially those related to safety. This might include inventorying and assessing roadway conditions (such as potholes and cracking), roadside features (like shoulders, slopes, sidewalks, guardrails), traffic services (such as signs, pavement markings, and rumble strips), drainage systems (including ditches and gutters), vegetation management (tree trimming, mowing, and landscaping), and other relevant factors.

A comprehensive data collection program could help the county not only in maintenance planning but also in identifying substandard roadway elements that may pose safety risks. These substandard elements could be cross-referenced with crash data to systematically address safety concerns. Alternatively, the county could adopt a more proactive approach by prioritizing critical safety concerns and implementing safety countermeasures—such as curve signage or high-visibility pavement markings—during routine maintenance activities. Streamlining and combining efforts in this way can be a cost-effective approach to improving overall roadway safety, ensuring that safety enhancements are implemented alongside necessary maintenance work.

Recommendation: Develop data collection procedures for inventorying and assessing comprehensive roadway element conditions during regular maintenance activities.

Related Strategies:

- Improve Roadside Design
- Improve Roadway Visibility and Surfacing
- Improve Intersection Visibility

Past Planning Relation: N/A

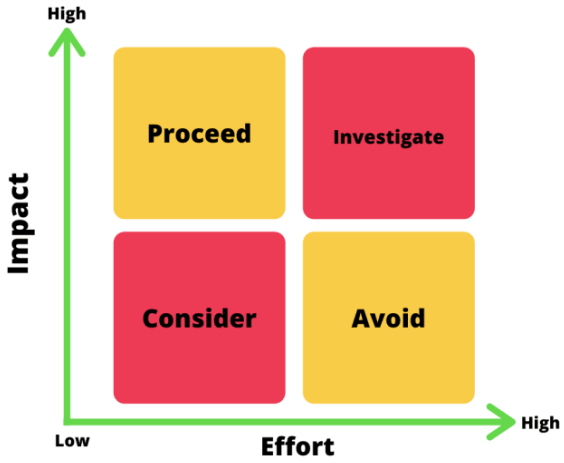
Other Considerations:

- The Florida Department of Transportation *Maintenance Rating Program Standards*[107] contains comprehensive data collection procedures.
- A dedicated funding source could help expedite the implementation of improvements as needs are identified.

Implementation Partners: Gallatin County, Cities, Towns, MDT

PROG-6: Annual Crash Data Review Program

Background: A requirement of the SS4A program is for grant recipients to provide annual reports that track progress toward meeting the agency's goals for reducing fatalities and serious injuries. The annual report that Gallatin County will use as a starting point. In preparation of these reports, the County is not required to update crash analyses or review new crash data in detail as was done during the development of this Action Plan. Rather, the only requirement is to track fatalities and serious injuries. However, conducting an annual review of crash data could be valuable for tracking the performance of implemented safety countermeasures and identifying new or emerging crash trends. This review could be conducted internally by county staff or outsourced to consultants as needed. Additionally, the county might consider hiring a consultant for on-call safety analyses, allowing for timely investigation and response to crash trends on an as-needed basis. This approach would help the county maintain a proactive stance in addressing safety concerns and ensuring continued progress toward its safety goals.



Recommendation: Develop a procedure for conducting annual crash data reviews to inform proactive safety improvements.

Related Strategies:

- All Identified Strategies

Past Planning Relation:

- This effort would serve as a continuation of the SS4A planning effort.

Other Considerations:

- Work could be outsourced to consultants if needed. An On-Call contract for spot safety analysis may also be helpful.
- An accompanying project prioritization process could be helpful to prioritize improvements identified through annual safety analyses.
- This effort could be completed in conjunction with the County's Annual Safety Report.

Implementation Partners: Gallatin County, MDT, Consultants

PROG-7: Driver Age Programs

Background: To improve road safety in Gallatin County, there is a need to enhance programming for both younger and older drivers. For younger drivers, efforts should focus on making quality driver's education more accessible and promoting safe driving habits. For older

drivers, developing resources that can help them adapt to changing abilities and driving limitations is essential for maintaining their safety and independence on the road. Implementing the various programs that address the unique needs of both age groups can help contribute to safer driving across the community.

Recommendation:

- Develop a **Gallatin County Parent-Teen Driving Agreement** and promote it through local high schools. Accompany the contract with a list of teen driver educational courses that parents could consider enrolling their students in, in addition to driver's ed offered by the state.
- Make **driver's education more accessible to students**, including low-income students/families and home-schooled students. This may involve offering classes as part of the school curriculum, allowing private driver's safety courses in Montana, or coordinating with local insurance agencies, businesses, and organizations to establish a **grant program for students/families** who cannot afford to enroll in state driver's ed courses.
- Develop a **defensive driving course for drivers of all ages**, similar to the Montana Office of Public Instruction's (OPI) D.R.I.V.E., an advanced driving course in Lewistown.
- Develop **educational pamphlets focused on older driver traffic safety** to distribute to physicians' offices, law enforcement agencies, and caregiver agencies. The pamphlets could describe the process for referring older drivers for licensing screening, discuss how to talk to older adults about driving limitations, and offer educational resources for older drivers to improve their driving abilities.
- Similar to car seat safety checks, host **traffic safety events for older adults**, to include vehicle safety checks, fitting for vehicle adaptive devices, or a driving skills course.
- Work with the Montana Motor Vehicle Division (MVD) to **improve license re-testing referral program**, including electronic reporting and follow-up to ensure re-testing is completed.

Related Strategies:

- Educate Young Drivers on Safe Driving Practices
- Ensure Older Drivers are Fit to Drive
- Promote Safe Driving Behaviors

Past Planning Relation: N/A

Other Considerations: N/A

Implementation Partners: Gallatin County, Physicians, Law Enforcement, Caregiver Agencies, Schools, Montana OPI (Driver's Education), Montana Department of Justice/MVD, AARP, Council on Aging

PROG-8: High Risk Behavior Programs

Background: In Gallatin County, there are several programming opportunities that could be implemented to address high risk driving behaviors. Potential initiatives focus on education, engagement, and incentivizing safer choices. From hosting community events that raise awareness about seat belt use and impaired driving to promoting peer-to-peer messaging in local schools, these programs are designed to directly target behaviors that contribute to crashes and fatalities. By prioritizing implementation of these targeted approaches, Gallatin County can reduce high-risk driving behaviors and foster a culture of safer, more responsible road use.

Recommendation:

- Host an **interactive community event** to engage the public in road safety, featuring activities like Buckle Up Battles and Impaired Driving Goggle Obstacle Courses. These hands-on activities can raise awareness about seat belt use and the dangers of impaired driving in an engaging, memorable way.
- Partner with local schools and school organizations like Future Community Career Leaders of America (FCCLA), Distributive Education Clubs of America (DECA), Future Farmers of America (FFA), to create a **county-wide peer-to-peer messaging** campaign that encourages students to promote safe driving behaviors among their peers. Incentivize participation with prizes for schools or students who participate. Encourage students to consider action items listed in the Action Plan strategies.
- Expand the Bozeman-based **Think Twice** and **Bar Fairies** programs to county bars and establishments, educating patrons on the risks of impaired driving and promoting responsible drinking.
- Conduct an **alcohol focused educational campaign** centered around Montana's alcohol laws, including topics like Social Host Responsibility, DUI limits, and penalties. Focus on high schools, college campuses, and local bar establishments to reach a broad audience, ensuring these laws are understood by both young people and adults.
- Host a **Victim Impact Panel** to highlight the consequences of impaired, distracted, and other high-risk driving behaviors. Speakers could include victims, families, first responders, or treatment professionals. Schools and college campuses may serve as a powerful venue for these panels to reach new drivers and those at risk of engaging in such behaviors.

- Collaborate with local tow companies, AAA, and MDT to reinstate and expand **Operation Tipsy Tow** in Gallatin County during holiday periods, with potential for year-round implementation. Explore partnerships with **local DUI defense attorneys to sponsor free or discounted rideshare services** as an alternative to impaired driving.
- Partner with local bars to create a **Designated Driver Incentive Program** that rewards those who commit to driving sober. This could include drink discounts or other incentives for designated drivers.
- Develop and promote an organized **alternative transportation option for major community events** like concerts, football games, parades, and rodeos to prevent impaired driving. Options might include free shuttles, discounted ride services, or designated driving zones.
- Launch a **winter driving educational campaign** to raise awareness about the challenges of driving on snow and ice, including proper vehicle maintenance and safe driving techniques.
- Encourage citizens to use **insurance-sponsored safe driving apps/trackers** and/or to **install dash cams** to help raise awareness of high-risk behaviors and support law enforcement activities aimed at changing safety culture.
- Encourage local businesses, especially trucking companies and those with delivery operations, to develop and implement **employer-sponsored driving policies** that promote safe driving practices among employees. This could include guidelines on personal driving behavior and company vehicle use.

Related Strategies:

- Promote Safe Driving Behaviors
- Eliminate Impaired Driving
- Manage Vehicular Travel Speeds
- Decrease Distracted Driving
- Increase Occupant Protection

Past Planning Relation: N/A

Other Considerations: N/A

Implementation Partners: Gallatin County, DUI Task Force, Bars/Restaurants, Schools/Colleges/Universities, Large Employers, Courts, Community Event Organizers/Venues

4.4. Policy Recommendations

Based on a review of current regulations, policies, procedures, and planning documents, the following policy changes have been identified to help formalize and enhance Gallatin County's transportation safety efforts. Adopting formal policies helps create a framework for consistent implementation, increases the regulatory authority to enforce safety measures, and drives systemic change to reduce underlying safety risks within the County.

POL-1: Snow Removal Priority Routes

Background: Currently, Gallatin County Snow Removal Procedures state that normal working hours for snow removal are Monday through Friday from 7:30 a.m. to 3:30 p.m., with exceptions at the discretion of the road supervisor. Higher traffic roads are typically addressed first. To improve safety and predictability for winter travelers, the County could establish designated priority routes for snow removal and make a map of these routes publicly available. These routes should be communicated through multiple channels, including signage along key

corridors, interactive maps on the County's website, and informational mailers distributed to residents at the beginning of the winter season. By clearly identifying and communicating priority routes, the County can help ensure that critical roads are cleared first, enhancing the efficiency of snow removal efforts and providing travelers with more reliable information about road conditions during winter weather events. This proactive approach would contribute to safer travel and better preparedness for all road users.

Recommendation: Develop and publish priority routes for snow removal.

Related Strategies:

- Improve Roadway Visibility and Surfacing

Past Planning Relation: N/A

Other Considerations:

- Publicize a map or list of identified priority routes to help the public with trip planning during winter storm events.
- Consider installing signage to indicate snow removal routes.
- Coordinate with City, Town, and MDT snow removal routes as applicable to facilitate continuous routes.

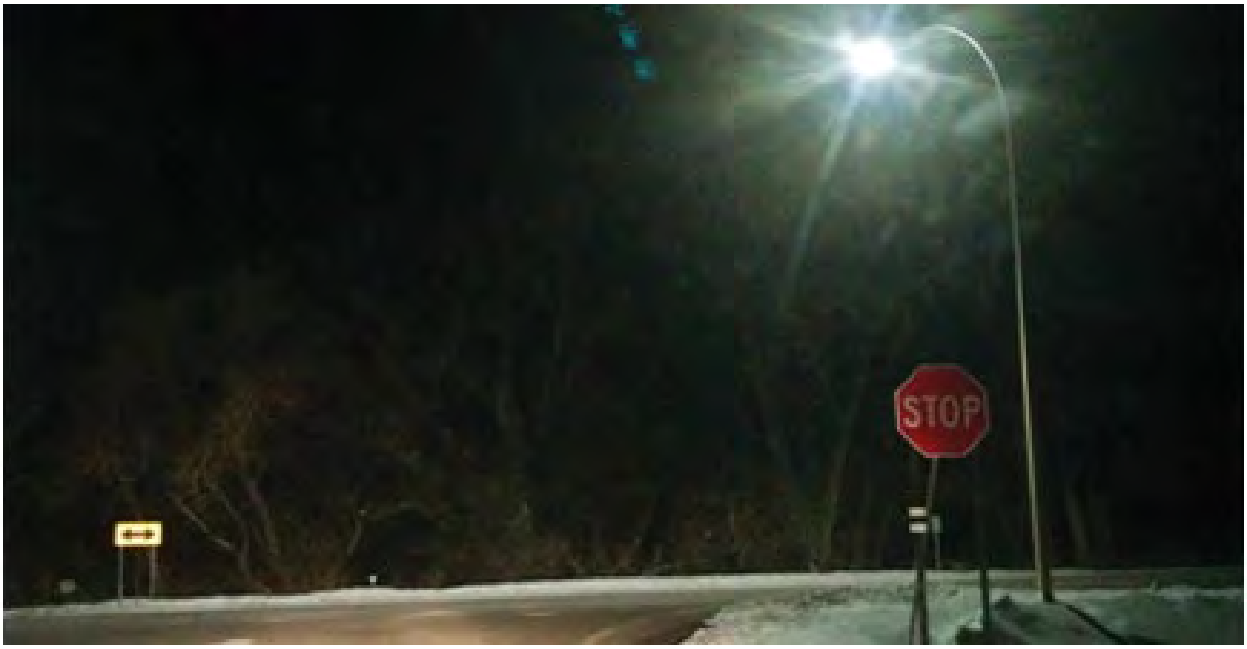
Implementation Partners: Gallatin County, Cities, Towns, MDT

POL-2: Street Lighting Standards

Background: Historically, lighting improvements on rural roadways and intersections have not been a top priority for addressing safety due to the high installation costs and ongoing maintenance concerns. Adding new lighting fixtures can be expensive, and many jurisdictions face challenges with limited labor resources to maintain the systems. However, advancements in lighting technologies, such as LED fixtures, have reduced electricity costs and lowered maintenance needs, making lighting projects more feasible. Studies show that the nighttime fatality rate is three times higher than the daytime rate, and the general nighttime crash rate is about 1.6 times higher than during the day. Intersection lighting, in particular, has been proven to be an effective mitigation strategy for reducing nighttime crashes by providing additional visibility beyond vehicle headlamps. This extra illumination helps drivers better

identify critical information, such as road and intersection geometry, as well as other important visual cues, improving navigation and safety in rural environments.

Gallatin County could consider establishing lighting standards for county roadways to ensure that new and reconstructed roads and intersections in rural areas are adequately lit. These standards should balance the safety benefits of improved visibility with the costs of installation and maintenance, while also considering the potential negative impacts of lighting in rural residential areas. To further enhance safety on existing roadways, Gallatin County could implement a program to identify higher-risk locations and prioritize them for lighting improvements. Intersections could be evaluated based on risk factors such as intersection skew, roadway curves, adjacent land uses, traffic volumes, and crash history. This approach would help target resources effectively and improve safety for nighttime travelers.



Recommendation: Establish street lighting standards for county roadways and intersections.

Related Strategies:

- Improve Roadway Visibility and Surfacing
- Improve Intersection Visibility

Past Planning Relation:

- Street lighting was a topic brought up by stakeholders involved in the development of the *Gallatin County Transportation Design and Construction Standards*.

Other Considerations:

- Consider developing a program to identify high-risk locations that could be benefit from street lighting. Refer to the Minnesota Department of Transportation's practices.[108]
- Consider maintenance needs and responsibilities associated with street lighting improvements.

Implementation Partners: Gallatin County, Cities, Towns, MDT, Private Developers

POL-3: Cell Phone Policy

Background: Bozeman's cell phone ordinance, implemented in 2012, prohibits the use of handheld cell phones while operating a motor vehicle, motorcycle, quadricycle, or bicycle on public highways. Similarly, two Montana counties, Silver Bow and Deer Lodge, have enacted county-wide bans on handheld cell phone use while driving. Given the significant role that distractions, particularly from cell phones, play in crashes and severe injuries, it could be beneficial for Gallatin County to consider implementing a county-wide cell phone ordinance. Such a policy could help reduce distracted driving-related incidents across the county. However, its success would depend on diligent enforcement by local law enforcement agencies to ensure compliance with the ordinance.

Recommendation: Implement a county-wide ordinance prohibiting the use of handheld devices while driving.

Related Strategies:

- Decrease Distracted Driving

Past Planning Relation: N/A

Other Considerations:

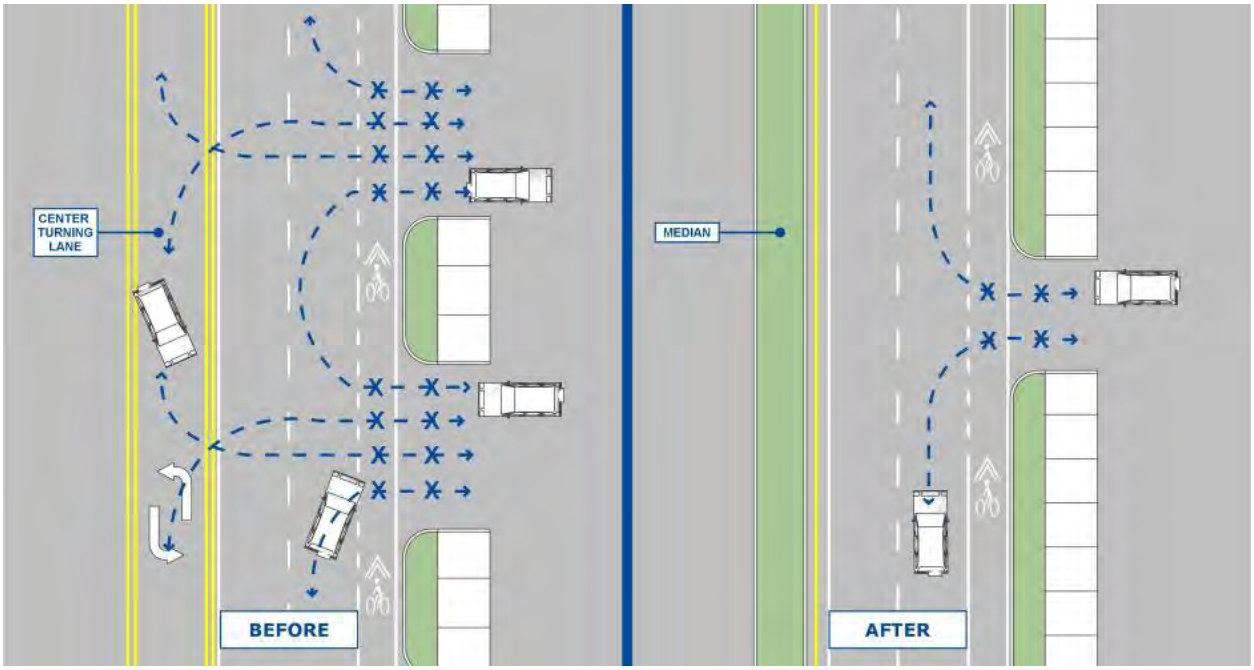
- The success of the ordinance will be dependent on the level of enforcement.
- A statewide distracted driving law is currently under consideration in the legislative process.

Implementation Partners: Gallatin County, Law Enforcement

POL-4: Corridor Access Management

Background: Gallatin County is experiencing rapid population and economic growth, leading to accelerated land use changes and increased development along key transportation corridors. Without proper planning, this growth can result in unregulated curb cuts, uncontrolled commercial access, and inefficient traffic operations. As urban development expands into previously rural areas, the need for proactive, corridor-wide access management becomes increasingly urgent. Access management plans and ordinances offer a structured approach to mitigating these impacts by establishing clear guidelines for intersection spacing, driveway placement, median openings, and multimodal accommodations. Implementing these measures is essential for preserving the functional integrity, safety, and visual quality of

high-volume roadways. Access control policies will help maintain roadway capacity, improve safety, and support the county's long-term mobility and land use objectives.



Recommendation: Develop access control plans/resolutions for all routes under the jurisdiction of the Montana Transportation Commission and other high-volume arterials.

Related Strategies:

- Improve Roadside Design
- Manage Vehicular Travel Speeds

Past Planning Relation:

- Within the study area, access control plans are already in place on Huffine Lane, Norris Road, Jackrabbit Lane, East Valley Center Road, and US 191 (Four Corners to mouth of Gallatin Canyon), Springhill Road (city limits to Penwell Bridge Road), and I-90.

Other Considerations:

- Strong coordination between MDT, Gallatin County, developers, and local municipalities will be needed to consistently apply access standards.
- Access management must be integrated with land use planning efforts to ensure long-term corridor functionality.

Implementation Partners: Gallatin County, Cities, Towns, MDT, Private Developers

5. Project Prioritization and Implementation

A key requirement of the SS4A program is to prioritize identified projects into specific time ranges for the deployment of safety countermeasures within the community. This section outlines the prioritization process developed for the Action Plan and details the steps necessary for future implementation efforts. By establishing clear timelines for project execution, the County can effectively address safety concerns while ensuring a systematic approach to enhancing roadway safety.

5.1. Prioritization

Through public outreach, stakeholder engagement, and coordination with partner agencies, a project prioritization process was developed to determine which recommended projects should be prioritized for funding and implementation. Each project was scored using a comprehensive set of criteria, considering past planning efforts, safety needs, community and agency support, overall cost, and anticipated benefits. This structured approach enables the County to focus resources on the most impactful safety improvements, while accounting for funding limitations and available funding opportunities. Below is a description of the prioritization criteria, with each criterion scored on a scale of 1 to 3, reflecting low, medium, and high alignment with the criteria outlined in **Table 5.1**.

1. **Crash History:** Projects addressing areas with a history of safety issues, particularly those involving severe injuries, were prioritized. This criterion was based on crash data from 2019 to 2023, with particular focus on the HIN. Since the HIN takes into account factors like crash frequency, severity, and rates, areas with many low-severity crashes on low-volume roads could be overrepresented. To address this, projects were also evaluated based on the frequency of severe injuries in those areas. Locations with recent severe injuries, even if outside the five-year analysis period, were also considered.
2. **Past Planning:** Projects identified in previous planning efforts were prioritized to ensure continuity and alignment with long-term community safety and transportation goals. Relevant plans include the *Greater Triangle Area Transportation Plan*, *Gallatin County Intersections Project,* and *Triangle Trails Plan*, among others developed by partner agencies.
3. **Estimated Cost:** Projects were evaluated based on their present planning-level cost estimates and the anticipated benefits relative to implementation costs. Lower-cost projects were prioritized to make the most of available funding. However, projects offering significant benefits or those likely to be competitive for discretionary funding received higher scores, even if their costs were higher. The evaluation considered both safety and operational improvements as benefits, while construction costs and potential environmental impacts were assessed as costs. It's important to note that the evaluation focused on current benefits and costs, but the benefit/cost ratio may change over time due to factors such as travel trends, economic conditions, or shifts in community needs.
4. **Project Support:** Community and partner support is crucial for project success. Therefore, projects reflecting the needs and preferences of residents and stakeholders were prioritized. This criterion was evaluated based on feedback gathered from the public and stakeholders through various channels, including the online commenting map, surveys, written comments, the Safety Summit, and Task Force meetings. The assessment was qualitative in nature.

Table 5.1: Prioritization Criteria

Criterion			Score		
			Low (1)	Medium (2)	High (3)
1	Crash History	HIN	No Crashes	Bottom 90% on HIN	Top 10% or Higher on HIN
		Severe Injuries	No Severe Injuries	1+ Serious Injuries	1+ Fatalities
2	Past Planning		Not Identified	Identified in 1 Past Planning Effort	Identified in 2+ Past Planning Efforts
3	Estimated Cost	Cost-Basis	High Cost ($1M+)	Mid Cost ($100k - $1M)	Low Cost (<$100k)
		Benefit/Cost	Costs Likely Exceed Benefits	Costs Likely Equal to Benefits	Benefits Likely Exceed Costs
4	Project Support	Community	No comments	Some comments	Many comments
		Imp. Partners	Low Support	Medium Support	High Support

The timing and feasibility of implementing these projects depend on several factors, including funding availability, project complexity, right-of-way requirements, and other project delivery considerations. In addition to prioritization, estimated implementation timeframes were assigned to each improvement based on expected project delivery timelines and current funding availability. These timeframes are not commitments but are intended to reflect the relative need, complexity, and potential funding sources for each project. The timeframes are defined as follows:

- **Short-term:** Implementation is feasible within a 0- to 5-year period.
- **Mid-term:** Implementation is feasible within a 5- to 10-year period.
- **Long-term:** Implementation is feasible within a 10- to 20-year period.

Based on the combined scores from all prioritization criteria, projects were categorized into high (17 to 21 points), medium (12 to 16 points), and low (0 to 11 points) priority levels. This prioritization scheme is designed to identify projects that are expected to be highly beneficial and supported by the community and thus should be prioritized for available funds. Note that projects that are realistically expected to be implemented only in the long term may still be classified as high priority. This designation signals that the project should be considered for discretionary grants or other non-traditional funding sources. The results of the prioritization process are summarized in **Table 5.2**.

Table 5.2: Project Prioritization Results

ID	Project Name	Crash History		Past Planning	Estimated Cost		Project Support		Time-frame	Total Score	Priority
		HIN	Severe Injury		Cost-Basis	Benefit/ Cost	Comm-unity	Imp. Partners			
PROJ-1	**Curve Signing Enhancements**	3	3	2	3	3	3	3	Short-Term	20	HIGH
PROJ-2	**Amsterdam Rd/Royal Rd**	3	1	2	1	2	1	1	Mid-Term	11	LOW
PROJ-3	**Cameron Bridge Rd (Highline Rd to Kimm Rd)**										
Low Cost Improvements		3	3	1	3	3	3	2	Short-Term	18	HIGH
Reconstruction		3	3	1	1	1	3	1	Long-Term	13	MEDIUM
PROJ-4	**Jackrabbit Ln/E. Valley Center Rd**	3	3	1	3	3	2	2	Short-Term	17	HIGH
PROJ-5	**S. Alaska Rd (Frank Rd to E. Valley Center Rd)**	3	2	3	1	2	3	3	Long-Term	17	HIGH
PROJ-6	**Love Ln/E. Valley Center Rd**	3	1	2	1	1	2	2	Mid-Term	12	MEDIUM

ID	Project Name	Crash History		Past Planning	Estimated Cost		Project Support		Time-frame	Total Score	Priority
		HIN	Severe Injury		Cost-Basis	Benefit/ Cost	Comm-unity	Imp. Partners			
PROJ-7	**Harper Puckett Rd (E. Valley Center Rd to Baxter Ln)**										
Curve Signing Enhancements		3	2	2	3	3	1	2	Short-Term	16	HIGH
Shoulder Widening		3	2	2	1	2	1	1	Long-Term	12	MEDIUM
PROJ-8	**Baxter Ln (Harper Puckett Rd to Jackrabbit Ln)**										
Delineation		3	3	2	3	3	2	2	Short-Term	18	HIGH
Reconstruction		3	3	2	1	2	3	2	Long-Term	16	HIGH
PROJ-9	**Love Ln/Durston Rd**	3	2	3	1	2	3	3	Mid-Term	17	HIGH
PROJ-10	**Gooch Hill Rd (Huffine Ln to Durston Rd)**										
Intersection Signing (Durston Rd)		3	1	1	3	3	1	1	Short-Term	13	MEDIUM
Turn Lane, Lights, Non-Moto (Huffine Ln)		3	3	1	2	2	2	1	Mid-Term	14	MEDIUM
Corridor Reconstruction		3	1	2	1	1	1	1	Long-Term	10	LOW
PROJ-11	**Huffine Ln Shared Use Path**	2	3	3	1	2	3	3	Mid-Term	17	HIGH
PROJ-12	**Stucky Rd/Gooch Hill Rd**	3	1	1	3	3	1	1	Short-Term	13	MEDIUM
PROJ-13	**Gooch Hill Rd/Chapman Rd**	3	1	1	3	3	1	1	Short-Term	13	MEDIUM
PROJ-14	**Axtell Anceny Rd (River Rd to River Camp Rd)**										
Curve Signing Enhancements		3	1	1	3	3	1	1	Short-Term	13	MEDIUM
Intersection Realignment		3	1	1	3	2	1	1	Mid-Term	12	MEDIUM
PROJ-15	**Gooch Hill Rd/US 191**										
Intersection Visibility Enhancements		3	3	1	3	3	3	2	Short-Term	18	HIGH
Traffic Control Improvements		3	3	1	1	2	3	1	Long-Term	14	MEDIUM
PROJ-16	**US 191 Improvements**										
Four Corners Intersection (S1)		3	1	2	1	2	3	2	Mid-Term	14	MEDIUM
3rd St to 2nd St (S2)		3	1	2	1	2	1	1	Mid-Term	11	LOW
Bozeman Hot Springs/Cobb Hill/Lower Rainbow Rd (S3)		3	1	2	1	2	1	1	Mid-Term	11	LOW
Cottonwood Rd (S7)		2	1	2	1	1	3	1	Mid-Term	11	LOW
Advance Warning Signs (S-16)		3	3	2	2	3	1	2	Short-Term	16	HIGH
Substandard Curve Modification (S17-a)		3	2	2	1	1	1	1	Long-Term	11	LOW
PROJ-17	**Bridger Canyon Improvements**										
Curve Imp. with Shoulder Widening (2.b)		3	1	2	2	1	1	1	Mid-Term	11	LOW
Sight Distance Mitigation/Intersection Realignment (4.a)		3	1	2	3	2	1	1	Short-Term	13	MEDIUM
Intersection Realignment (4.b)		3	1	2	2	1	1	1	Mid-Term	11	LOW
RP 13.5 – RP 14.2		3	3	1	2	2	1	1	Short-Term	13	MEDIUM
PROJ-18	**Belgrade to Bozeman Frontage Rd Improvements**										
Airport Rd Intersection Improvements (3)		2	1	3	1	1	1	1	Mid-Term	10	LOW
Passing Zone Modifications (8)		2	1	3	3	2	1	1	Short-Term	13	MEDIUM
Install Centerline Rumble Strips (9)		2	1	3	3	3	1	1	Short-Term	14	MEDIUM
Develop Separated Shared Use Path (10)		2	1	3	1	2	2	1	Mid-Term	12	MEDIUM
Roadway Reconstruction (11)		2	1	3	1	1	1	1	Long-Term	10	LOW
PROJ-19	**I-90 Corridor Study**	3	3	3	2	3	2	3	Short-Term	19	HIGH

5.2. Implementation and Next Steps

The *Gallatin County SS4A Action Plan* aims to improve transportation safety within the County, with the goal of reducing combined fatalities and suspected serious injuries on roadways in the planning area by half— from 46 in 2025 to 23 by 2034—through the implementation of the Action Plan. While specific funding for the proposed improvements has not yet been secured, the County is committed to advancing the recommended safety projects as funding becomes available.

To help the County identify the most cost-effective projects with the greatest potential to address safety concerns, the recommended projects have been prioritized into high, medium, and low categories. Additionally, implementation timeframes (short-term, mid-term, and long-term) have been established to provide a reasonable expectation for when projects may be implemented, based on current funding availability. These prioritization and implementation timeframes are intended as an initial guide but will remain flexible to adapt to changes in funding, crash trends, or community priorities.

To support the County's ongoing commitment to safety improvements, an Annual Safety Report will be prepared each year. This report provides the opportunity to adjust project priorities, assess current community needs, and identify new projects as necessary. It will offer greater transparency and help track progress in addressing safety issues throughout Gallatin County and will be made available on the County's website for public viewing.

As the Action Plan is implemented, the County will focus on executing the identified projects while staying proactive in addressing developing safety concerns. The strategies outlined in the plan provide a toolbox for developing new projects and initiatives as needed to respond to emerging trends. Additionally, the County will implement programs and policies that support proactive safety improvements, ensuring continuous progress. Through regular evaluation and adjustments, the County will remain responsive to changes in transportation safety needs.

5.2.1. Supplemental Planning

In addition to securing planning funds to complete the SS4A Action Plan, Gallatin County was awarded funds for supplemental planning to further enhance the plan. The goal of this supplemental planning effort is to make the plan more actionable and effective for implementation. Up to five supplemental planning efforts may be identified through stakeholder coordination, public input, and County needs. These activities may include detailed crash analyses for specific locations, field investigations, preliminary designs, initial program development, or enhanced public engagement. The findings and recommendations from these efforts will inform the development of a complementary safety plan, which will be produced as an amendment to the Action Plan.

5.2.2. Future SS4A Funding Opportunities

This Action Plan was developed, in part, by funding from the USDOT SS4A grant program. The program funds two grant types, (1) planning and demonstration grants and (2) implementation grants. The Action Plan was developed using a planning and demonstration grant. Future opportunities to apply for additional grants are expected to be available under the SS4A program to fund the demonstration and implementation of the projects and strategies contained in this plan.

Once the Action Plan is adopted, Gallatin County could pursue a grant to conduct demonstration activities to inform future project development activities for projects and

programs recommended in the Action Plan. The County could also apply for implementation grant funds to implement projects and strategies identified in the Action Plan to address a specific roadway safety problem. Eligible projects and strategies can be infrastructural, behavioral, and/or operational activities.

For demonstration grants, USDOT seeks to fund temporary safety improvements that inform Action Plans by testing proposed project and strategy approaches to determine future benefits and future scope. Activities must measure potential benefits through data collection and evaluation to inform future implementation at a systematic level. Eligible demonstration activities include feasibility studies, MUTCD engineering studies, or pilot programs related to behavioral activities or new technologies. Demonstration activities may not involve permanent roadway reconstruction.

For implementation grants, USDOT has historically sought to award funds to projects and strategies that reduce roadway fatalities and serious injuries; align with and comprehensively address identified safety problems; employ low-cost, high-impact strategies over a wide geographical area; incorporate engagement and collaboration into how projects and strategies are executed; and will be able to complete the full scope of funded projects and strategies within 5 years after the establishment of a grant agreement. As an additional consideration, the USDOT may factor in elements such as community characteristics, geographic diversity, and alignment with broader federal priorities when comparing highly rated applications and selecting awards.

Implementation grants provide Federal funds to implement projects and strategies identified in a Comprehensive Safety Action Plan. The proposed action should include specific intervention types, address common safety risk characteristics, and be located on the Action Plan's high-injury network to the extent practicable.

The SS4A program was established by the Bipartisan Infrastructure Law in 2021, with funding authorized through 2026. Gallatin County received funds from the 2023 grant cycle, and the 2024 grant cycle closed on August 29, 2024. Future grant funding is anticipated to be available in Federal fiscal years 2025 and 2026, subject to review and modification by the current Federal administration. To be competitive for implementation grant funds under the SS4A program, Gallatin County may start with High Priority projects identified in **Section 5.1**. The County should also initiate the project development process for the priority project(s) to ensure adequate project readiness. This means demonstrating the ability to execute and complete the full scope of work in the application proposal within 5 years of when the grant agreement is executed, with a particular focus on design and construction, as well as environmental, permitting, and approval processes. The Notices of Funding Opportunity (NOFOs) from past funding cycles provide additional information about SS4A application requirements for reference in preparing for upcoming opportunities, and updated information about the program is expected to be provided by the current Federal administration.

Future demonstration grant applications could be considered for the following list of potential programs or pilot projects to **help inform future implementation activities or systematic project implementation**. Additional research should be conducted to ensure the proposed activities fully align with grant criteria outlined in the applicable NOFO.

1. **PROG-1: Curve Signing Program** – Pilot the use of the tiered curve signing techniques at high-risk curves, such as Thorpe Road or Bozeman Trail Road. Conduct a before/after study to evaluate the impacts of various signing techniques.

2. **PROG-3: Passing Zone Review Program -** Conduct a county-wide evaluation of passing zones to ensure compliance with current MUTCD standards. Consider including an evaluation of the safety impacts of removing passing zones on higher-speed county roads, such as Gooch Hill Road or Baxter Lane.
3. **POL-2: Street Lighting Standards –** Pilot the implementation of temporary street lighting at a high-risk intersection, such as Stuck Road/Gooch Hill Road or S. Alaska Road/E. Valley Center Road, and conduct a before/after study to evaluate the safety impacts.

Future implementation grant funding applications could be considered for the **following list of High Priority projects** that would be outside the ability of Gallatin County or MDT to fund in the short-term. Careful consideration of USDOT funding criteria would be needed to determine relative competitiveness in seeking Federal grant funding. Furthermore, if the County intends to pursue funds during the 2025 or 2026 grant cycles, it would be beneficial to begin preliminary engineering for the project(s) to ensure the County can meet project readiness criteria.

1. **PROJ-5: Alaska Road (Frank Road to E. Valley Center Road) –** This corridor, as well as the adjoining intersections were identified on the HIN and have been the subject of past County planning efforts. Beyond identified crash trends, and County capacity and safety concerns, the public was highly vocal about the need for improvements to this stretch of roadway.
2. **PROJ-9: Love Lane/Durston Road –** This intersection was identified as the second highest scoring intersection on the off-system only HIN, and the fifth highest scoring intersection on the full system HIN. Short-term improvements have been made to improve safety at the intersection but are not anticipated to be sustainable over the long-term given increasing traffic volumes in the area. The County has already identified a roundabout as the preferred long-term solution through a comprehensive intersection control evaluation process.
3. **PROJ-11: Huffine Lane Shared Use Path –** A shared use path has long been a priority for Gallatin County and its residents to enhance safety, mobility, and connectivity between urban and rural regions of the County. Huffine Lane is a high-speed, high-volume roadway but provides a direct route into Bozeman with multiple segments of the roadway appearing on the HIN. The Huffine Lane/Gooch Hill Road intersection also appears as the third highest scoring intersection on the HIN, primarily due to a bicyclist fatality in 2022. Accordingly, consider combining the path with non-motorized accommodations and intersection visibility improvements recommended under **PROJ-10**.

5.2.3. Implementation Process

Figure 5.1 illustrates the project implementation process. As the Action Plan progresses, projects will move from the planning stage to development and, eventually, construction. Public involvement will be a key part of all phases. The general next steps for project implementation are as follows:

1. A funding source(s) is identified and secured.
2. The project is nominated for implementation by the County or other partner agency (such as MDT).
3. Feasibility studies, environmental investigations, and other development processes are completed as applicable.

4. A design is completed for the project and approved by responsible agency(ies) as needed.
5. Right-of-way or easements are acquired for the project, if necessary.
6. The project is constructed.

The recommended projects are designed with the flexibility to be completed individually or combined with other projects into larger efforts, depending on funding availability and other considerations. Cost savings may be achieved by grouping similar projects together.

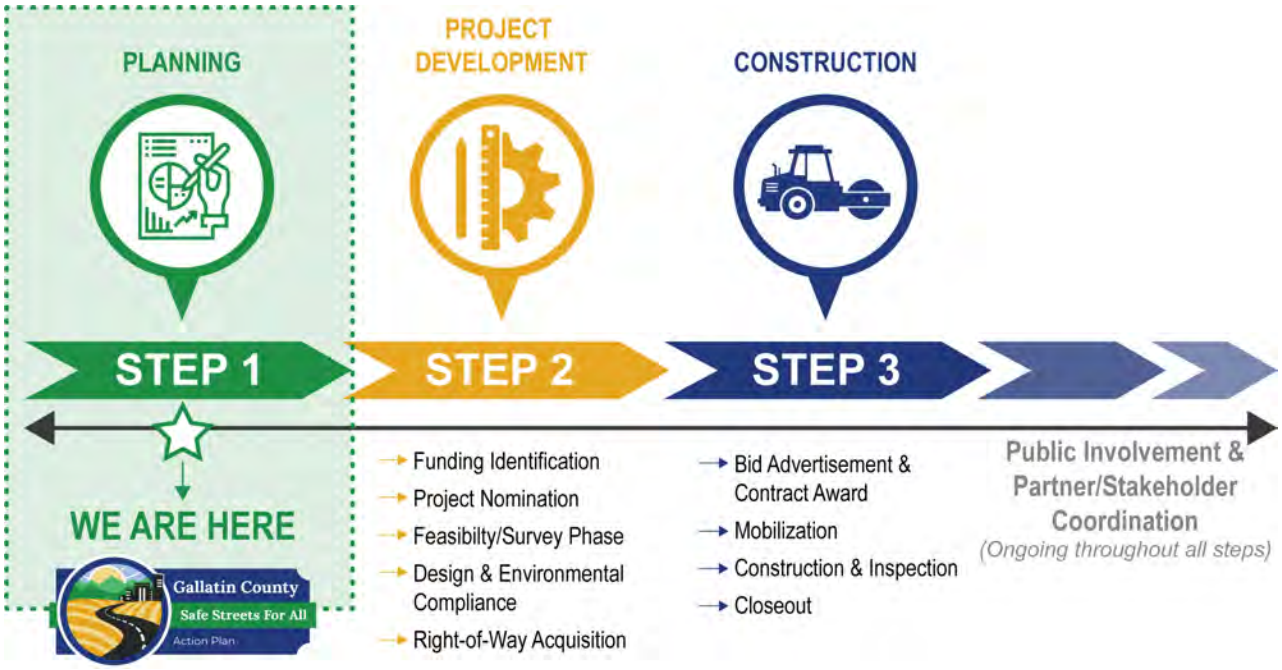


Figure 5.1: Project Development Process

5.3. Additional Considerations

Achieving meaningful improvements in transportation safety requires cooperation across the 4 E's of Safety—Education, Enforcement, Engineering, and EMS. Partners representing these elements must work together in a coordinated effort to address the diverse factors that contribute to road safety. While engineering solutions such as road design improvements and infrastructure enhancements are important, they can fall short if not reinforced through education and enforcement. For instance, changes to speed limits or cell phone ordinances may be well-intentioned but will not have the desired impact unless drivers are educated about the changes and enforcement is consistent. Public awareness campaigns and law enforcement efforts must be ongoing to ensure that safety measures are respected and effective. Safety is not a one-time effort—it requires continuous monitoring, education, and enforcement to maintain its momentum and effectiveness.

In addition to collaboration within the 4 E's, effective multiagency coordination is crucial for the successful implementation of safety improvements across Gallatin County. The Action Plan primarily focuses on the rural regions of the County and the urban-rural interface with the Cities of Bozeman and Belgrade, each of which is working on its own transportation safety initiatives. To ensure a cohesive and consistent approach, all plans must align in their messaging and objectives. This alignment is particularly important as the City of Bozeman was

recently established as a Metropolitan Planning Organization (MPO) and is embarking on its first MPO transportation planning effort. The MPO boundary extends beyond the city limits, with both Belgrade and Gallatin County as partners. As such, future transportation efforts should align with the safety priorities outlined in this Action Plan, as well as those in the respective Action Plans of Bozeman and Belgrade, to ensure county-wide consistency in addressing safety issues.

Furthermore, many of the highest-volume roadways in Gallatin County are MDT highways, and much of the densest development occurs on roadways within cities and towns. While this Action Plan primarily focuses on routes under County jurisdiction, improving safety across the entire region will require coordination with MDT, local jurisdictions, and other partner agencies. Multiagency collaboration will be essential to ensure that safety improvements are implemented effectively across all jurisdictions, fostering a unified effort to reduce traffic-related incidents and improve overall safety throughout Gallatin County.

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C-1: Planning-Level Cost Estimates

APPENDIX 1

Planning Level Cost Estimates

Planning-level cost estimates were developed for each improvement option. The cost estimates include construction, engineering, and a general contingency to account for unknown factors and anticipated project development risk level. Estimates do not include costs for right-of-way as costs vary considerably with location and additional design details may be needed to determine the amount of right-of-way needed. Cost ranges are provided in some cases, indicating a range of options or other variables. The estimates are presented in 2025 dollars and can be expected to increase with inflation depending on the anticipated future year of expenditure.

PROJECT RECOMMENDATIONS

PROJ-1 Curve Signing Enhancements — $1,500 - $3,000 PER CURVE

TYPE	UNITS	COST (RANGE)
CURVE SIGNING ASSEMBLY (SIGNS + POLES)	LS (PER CURVE)	$1,500 - $3,000

PROJ-2 Amsterdam Road/Royal Road

a. Traffic Signal — $ 1,100,000 TOT

Inflates cost estimates developed for the Belgrade LRTP at a rate of 5% per year

TYPE		UNITS	QUANTITY	UNIT PRICE		COST
TRAFFIC SIGNAL (2018 ESTIMATE)		EACH	1.0	$ 750,000.00	$	750,000
	Subtotal 1				$	750,000
INFLATION		% PER YEAR	7.0	5%	$	305,325
	TOTAL				**$**	**1,055,325**

b. Single-Lane Roundabout — $ 2,200,000 TOT

Inflates cost estimates developed for the Belgrade LRTP at a rate of 5% per year

TYPE		UNITS	QUANTITY	UNIT PRICE		COST
ROUNDABOUT (2018 ESTIMATE)		EACH	1.0	$1,500,000.00	$	1,500,000
	Subtotal 1				$	1,500,000
INFLATION		% PER YEAR	7.0	5%	$	610,651
	TOTAL				**$**	**2,110,651**

PROJ-3 Cameron Bridge Road (Highline Road to Kimm Road)

a. Low Cost Improvements — $ 46,000 TOT

TYPE		UNITS	QUANTITY	UNIT PRICE		COST
SIGNS-ALUM REFL SHEET XI		SQFT	23.0	$ 46.55	$	1,071
POSTS-STEEL U SIGN		LB	210.0	$ 61.75	$	12,967
DELINEATOR TYPE 1		EACH	3	$ 49.86	$	150
GUARDRAIL-STEEL BOX BEAM		LNFT	200	$ 82.19	$	16,439
MISCELLANEOUS ITEMS				25%	$	7,657
	Subtotal 1				$	38,283
CONTINGENCY (LOW RISK)				20%	$	7,657
	TOTAL				**$**	**45,939**

b. Reconstruction — $ 2,200,000 TOT

LENGTH (MI)	0.5
WIDTH (FT)	34
SURFACING (IN)	4
AGGREGATE (IN)	6
SUBBASE (IN)	12

TYPE		UNITS	QUANTITY	UNIT PRICE		COST
EXCAVATION-UNCLASSIFIED		CUYD	6348.8	$ 24.45	$	155,241.28
SPECIAL BORROW		CUYD	3463.0	$ 23.30	$	80,682.19
CRUSHED AGGREGATE COURSE		CUYD	1731.5	$ 67.20	$	116,350.71
COVER - TYPE 2		SQYD	10388.9	$ 1.15	$	11,984.62
COMMERCIAL MIX PG 70-28		TON	2225.0	$ 147.70	$	328,630.11
EMULSIFIED ASPHALT CHFRS-2P		TON	166.9	$ 925.83	$	154,518.01
REMOVE BITUMINOUS PAVEMENT		SQYD	6111.1	$ 5.14	$	31,385.55
REVEGETATION		SQYD	6111.1	$ 1.16	$	7,078.44
SIGNS - RURAL		MILE	0.5	$ 9,000.00	$	4,687.50
STRIPING & PAVEMENT MARKINGS - RURAL		MILE	0.5	$ 18,000.00	$	9,375.00
DRAINAGE PIPE - RURAL		MILE	0.5	$ 110,000.00	$	57,291.67
MISCELLANEOUS ITEMS				25%	$	239,306
	Subtotal 1				$	1,196,531
TRAFFIC CONTROL - RURAL				6%	$	71,792
	Subtotal 2				$	1,268,323
MOBILIZATION				10%	$	126,832
	Subtotal 3				$	1,395,156
CONTINGENCY (MEDIUM RISK)				30%	$	418,547
	Subtotal 4				$	1,813,702
CONSTRUCTION ENGINEERING (CE)				10%	$	181,370
PRELIMINARY ENGINEERING (PE)				10%	$	181,370
	TOTAL				**$**	**2,176,443**

PROJ-4 Jackrabbit Lane/E. Valley Center Road **$ 77,000 TOT**

TYPE		UNITS	QUANTITY	UNIT PRICE		COST
TRAFFIC SIGNAL TIMING STUDY		LS	1.0	$ 50,000.00	$	50,000.00
MDT SIGNAL ADJUSTMENTS		LS	1.0	$ 1,000.00	$	1,000.00
MISCELLANEOUS ITEMS				25%	$	12,750
	Subtotal 1				$	63,750
CONTINGENCY (LOW RISK)				20%	$	12,750
	TOTAL				**$**	**76,500**

PROJ-5 S. Alaska Road (Frank Road to E. Valley Center Road) **$ 36,700,000 TOT**

Reflects MSN-3, TSM-16, TSM-17, and SUP-9 from GTATP, with design decisions from Gallatin County Intersections Project

LENGTH (MI)	2
NEW WIDTH (FT)	71
EXISTING WIDTH (FT)	22
SURFACING (IN)	5
AGGREGATE (IN)	8
SUBBASE (IN)	20

TYPE	UNITS	QUANTITY	UNIT PRICE	COST

EXCAVATION-UNCLASSIFIED	CUYD	72976.4	$ 24.45	$	1,784,434.61
SPECIAL BORROW	CUYD	36731.9	$ 23.30	$	855,800.72
CRUSHED AGGREGATE COURSE	CUYD	14692.7	$ 67.20	$	987,311.04
COVER - TYPE 2	SQYD	66117.3	$ 1.15	$	76,272.96
COMMERCIAL MIX PG 70-28	TON	25647.2	$ 147.70	$	3,788,138.63
EMULSIFIED ASPHALT CHFRS-2P	TON	1539.1	$ 925.83	$	1,424,910.57
COLD MILLING	SQYD	29685.3	$ 2.86	$	85,000.98
CONCRETE SIDEWALK (6" THICK W/ 3" BASE)	SQYD	6746.7	$ 60.10	$	405,474.57
CURB AND GUTTER-CONC	LNFT	10560.0	$ 96.29	$	1,016,872.03
CONCRETE ROUNDABOUTS - ONE LANE	EACH	2.0	$ 640,000.00	$	1,280,000.00
SHARED USE PATH	MILE	2.0	$ 963,000.00	$	1,926,000.00
SIGNS - URBAN	MILE	2.0	$ 57,000.00	$	114,000.00
STRIPING & PAVEMENT MARKINGS - URBAN	MILE	2.0	$ 44,000.00	$	88,000.00
STORM DRAIN - ROUNDABOUT - ONE LANE	LS	2.0	$ 137,000.00	$	274,000.00
LIGHTING - ROUNDABOUT	LS	2.0	$ 44,000.00	$	88,000.00
LIGHTING	MILE	2.0	$ 192,000.00	$	384,000.00
STORM DRAIN - URBAN	MILE	2.0	$ 847,000.00	$	1,694,000.00
MISCELLANEOUS ITEMS			25%	$	4,068,054
Subtotal 1				$	20,340,270
TRAFFIC CONTROL - URBAN			5%	$	1,017,014
Subtotal 2				$	21,357,284
MOBILIZATION			10%	$	2,135,728
Subtotal 3				$	23,493,012
CONTINGENCY (MEDIUM RISK)			30%	$	7,047,904
Subtotal 4				$	30,540,916
CONSTRUCTION ENGINEERING (CE)			10%	$	3,054,092
PRELIMINARY ENGINEERING (PE)			10%	$	3,054,092
TOTAL				**$**	**36,649,099**

PROJ-6 Love Lane/E. Valley Center Road

a. Traffic Signal **$ 2,700,000 TOT**

Reflects TSM-14 from GTATP, assumes capacity upgrades on Love Lane (double lane roundabout) and urban design standards

LENGTH (FT)	750
NEW WIDTH (FT)	71
EXISTING WIDTH (FT)	22
SURFACING (IN)	5
AGGREGATE (IN)	8
SUBBASE (IN)	20

TYPE	UNITS	QUANTITY	UNIT PRICE	COST
EXCAVATION-UNCLASSIFIED	CUYD	4506.9	$ 24.45	$ 110,204.71
SPECIAL BORROW	CUYD	2268.5	$ 23.30	$ 52,853.31
CRUSHED AGGREGATE COURSE	CUYD	907.4	$ 67.20	$ 60,975.24
COVER - TYPE 2	SQYD	4083.3	$ 1.15	$ 4,710.53
COMMERCIAL MIX PG 70-28	TON	1583.9	$ 147.70	$ 233,951.25
EMULSIFIED ASPHALT CHFRS-2P	TON	95.1	$ 925.83	$ 88,000.90
COLD MILLING	SQYD	5916.7	$ 2.86	$ 16,941.78
CONCRETE SIDEWALK (6" THICK W/ 3" BASE)	SQYD	833.3	$ 60.10	$ 50,083.32
CURB AND GUTTER-CONC	LNFT	2000.0	$ 96.29	$ 192,589.40

TRAFFIC SIGNALS		LS	1.0	$	301,000.00	$	301,000.00
SIGNS - URBAN		MILE	0.1	$	57,000.00	$	8,096.59
STRIPING & PAVEMENT MARKINGS - URBAN		MILE	0.1	$	44,000.00	$	6,250.00
DRAINAGE PIPE - URBAN		MILE	0.1	$	263,000.00	$	37,357.95
MISCELLANEOUS ITEMS					25%	$	290,754
	Subtotal 1					$	1,453,769
TRAFFIC CONTROL - URBAN					5%	$	72,688
	Subtotal 2					$	1,526,457
MOBILIZATION					10%	$	152,646
	Subtotal 3					$	1,679,103
CONTINGENCY (MEDIUM RISK)					30%	$	503,731
	Subtotal 4					$	2,182,834
CONSTRUCTION ENGINEERING (CE)					10%	$	218,283
PRELIMINARY ENGINEERING (PE)					10%	$	218,283
	TOTAL					**$**	**2,619,400**

b. Double Lane Roundabout		**$**	**6,600,000** **TOT**

Reflects TSM-14 from GTATP, assumes capacity upgrades on Love Lane (double lane roundabout) and urban design standards

LENGTH (FT)	1000
NEW WIDTH (FT)	71
EXISTING WIDTH (FT)	24
SURFACING (IN)	5
AGGREGATE (IN)	8
SUBBASE (IN)	20

TYPE	UNITS	QUANTITY	UNIT PRICE		COST
EXCAVATION-UNCLASSIFIED	CUYD	5805.6	$ 24.45	$	141,958.61
SPECIAL BORROW	CUYD	2901.2	$ 23.30	$	67,594.70
CRUSHED AGGREGATE COURSE	CUYD	1160.5	$ 67.20	$	77,981.94
COVER - TYPE 2	SQYD	5222.2	$ 1.15	$	6,024.36
COMMERCIAL MIX PG 70-28	TON	2111.9	$ 147.70	$	311,935.00
EMULSIFIED ASPHALT CHFRS-2P	TON	126.7	$ 925.83	$	117,334.53
COLD MILLING	SQYD	7888.9	$ 2.86	$	22,589.04
CONCRETE SIDEWALK (6" THICK W/ 3" BASE)	SQYD	1111.1	$ 60.10	$	66,777.76
CONCRETE ROUNDABOUTS - TWO LANES	EACH	1.0	$1,476,000.00	$	1,476,000.00
SIGNS - URBAN	MILE	0.2	$ 57,000.00	$	10,795.45
STRIPING & PAVEMENT MARKINGS - URBAN	MILE	0.2	$ 44,000.00	$	8,333.33
STORM DRAIN - ROUNDABOUT - TWO LANE	LS	1.0	$ 203,000.00	$	203,000.00
LIGHTING - ROUNDABOUT	LS	0.2	$ 44,000.00	$	8,333.33
MISCELLANEOUS ITEMS			25%	$	629,665
Subtotal 1				$	3,148,323
TRAFFIC CONTROL - URBAN			5%	$	157,416
Subtotal 2				$	3,305,739
MOBILIZATION			10%	$	330,574
Subtotal 3				$	3,636,313
CONTINGENCY (HIGH RISK)			50%	$	1,818,156
Subtotal 4				$	5,454,469
CONSTRUCTION ENGINEERING (CE)			10%	$	545,447
PRELIMINARY ENGINEERING (PE)			10%	$	545,447
TOTAL				**$**	**6,545,363**

PROJ-7 Harper Puckett Road (E. Valley Center Road to Baxter Lane)

a. Curve Signing Enhancements — $ 40,000 TOT

TYPE	UNITS	QUANTITY	UNIT PRICE	COST
SIGNS-ALUM REFL SHEET XI	SQFT	55.5	$ 46.55	$ 2,583
POSTS-STEEL U SIGN	LB	360.0	$ 61.75	$ 22,229
12" LED FLASHING BEACON (AMBER) - SOLAR	EACH	2	$ 900.00	$ 1,800
MISCELLANEOUS ITEMS			25%	$ 6,653
Subtotal 1				$ 33,266
CONTINGENCY (LOW RISK)			20%	$ 6,653
TOTAL				**$ 39,919**

b. Shoulder Widening — $ 1,500,000 TOT

Assumes 2' shoulder widening through curved section only

LENGTH (MI)	1.0
WIDTH (FT)	4
SURFACING (IN)	5
AGGREGATE (IN)	8
SUBBASE (IN)	18

TYPE	UNITS	QUANTITY	UNIT PRICE	COST / MI
EXCAVATION-UNCLASSIFIED	CUYD	2020.7	$ 24.45	$ 49,411.56
SPECIAL BORROW	CUYD	1173.3	$ 23.30	$ 27,337.02
CRUSHED AGGREGATE COURSE	CUYD	521.5	$ 67.20	$ 35,042.10
COVER - TYPE 2	SQYD	2346.7	$ 1.15	$ 2,707.11
COMMERCIAL MIX PG 70-28	TON	2198.8	$ 147.70	$ 324,763.88
EMULSIFIED ASPHALT CHFRS-2P	TON	131.9	$ 925.83	$ 122,160.12
COLD MILLING	SQYD	5866.7	$ 2.86	$ 16,798.61
DRAINAGE PIPE - RURAL	MILE	1.0	$ 110,000.00	$ 110,000.00
STRIPING & PAVEMENT MARKINGS - RURAL	MILE	1.0	$ 18,000.00	$ 18,000.00
MISCELLANEOUS ITEMS			25%	$ 176,555
Subtotal 1				$ 882,776
TRAFFIC CONTROL - RURAL			6%	$ 52,967
Subtotal 2				$ 935,742
MOBILIZATION			10%	$ 93,574
Subtotal 3				$ 1,029,316
CONTINGENCY (LOW RISK)			20%	$ 205,863
Subtotal 4				$ 1,235,179
CONSTRUCTION ENGINEERING (CE)			10%	$ 123,518
PRELIMINARY ENGINEERING (PE)			10%	$ 123,518
Subtotal 6				$ 1,482,215
INDIRECT COSTS (IDC)			0%	$ -
TOTAL				**$ 1,482,215**

PROJ-8 Baxter Lane (Harper Puckett Road to Jackrabbit Lane)

a. Enhanced Delineation — $ 130,000 TOT

LENGTH (MI)	2

TYPE	UNITS	QUANTITY	UNIT PRICE	COST
STRIPING & PAVEMENT MARKINGS - URBAN	MILE	2.0	$ 44,000.00	$ 88,000.00
MISCELLANEOUS ITEMS			25%	$ 22,000
Subtotal 1				$ 110,000
TRAFFIC CONTROL - URBAN			5%	$ 5,500
Subtotal 2				$ 115,500
MOBILIZATION			10%	$ 11,550
TOTAL				**$ 127,050**

b. Reconstruction **$ 27,600,000 TOT**

Reflects MSN-4 and SUP-5/SUP-6 from GTATP with urban design standards

LENGTH (MI)	2
NEW WIDTH (FT)	50
EXISTING WIDTH (FT)	22
SURFACING (IN)	5
AGGREGATE (IN)	8
SUBBASE (IN)	20

TYPE	UNITS	QUANTITY	UNIT PRICE	COST
EXCAVATION-UNCLASSIFIED	CUYD	40871.1	$ 24.45	$ 999,388.58
SPECIAL BORROW	CUYD	18251.9	$ 23.30	$ 425,242.60
CRUSHED AGGREGATE COURSE	CUYD	7300.7	$ 67.20	$ 490,589.34
COVER - TYPE 2	SQYD	32853.3	$ 1.15	$ 37,899.61
COMMERCIAL MIX PG 70-28	TON	15705.6	$ 147.70	$ 2,319,741.97
EMULSIFIED ASPHALT CHFRS-2P	TON	942.5	$ 925.83	$ 872,572.30
COLD MILLING	SQYD	25813.3	$ 2.86	$ 73,913.90
CONCRETE SIDEWALK (6" THICK W/ 3" BASE)	SQYD	5866.7	$ 60.10	$ 352,586.58
CURB AND GUTTER-CONC	LNFT	21120.0	$ 96.29	$ 2,033,744.06
SHARED USE PATH	MILE	2.0	$ 963,000.00	$ 1,926,000.00
SIGNS - URBAN	MILE	2.0	$ 57,000.00	$ 114,000.00
STRIPING & PAVEMENT MARKINGS - URBAN	MILE	2.0	$ 44,000.00	$ 88,000.00
LIGHTING	MILE	2.0	$ 192,000.00	$ 384,000.00
STORM DRAIN - URBAN	MILE	2.0	$ 847,000.00	$ 1,694,000.00
REMOVE SMALL SINGLE SPAN BRIDGE	LS	1.0	$ 22,000.00	$ 22,000.00
NEW BRIDGE 100 LINEAL FEET OR LESS	SQFT	2000.0	$ 196.00	$ 392,000.00
MISCELLANEOUS ITEMS			25%	$ 3,056,420
Subtotal 1				$ 15,282,099
TRAFFIC CONTROL - URBAN			5%	$ 764,105
Subtotal 2				$ 16,046,204
MOBILIZATION			10%	$ 1,604,620
Subtotal 3				$ 17,650,824
CONTINGENCY (MEDIUM RISK)			30%	$ 5,295,247
Subtotal 4				$ 22,946,071
CONSTRUCTION ENGINEERING (CE)			10%	$ 2,294,607
PRELIMINARY ENGINEERING (PE)			10%	$ 2,294,607
TOTAL				**$ 27,535,285**

PROJ-9	Love Lane/Durston Road	$	7,300,000	TOT

Reflects TSM-15 from GTATP, assumes capacity upgrades on Love Lane (double lane roundabout) and urban design standards

LENGTH (FT)	1600
NEW WIDTH (FT)	71
EXISTING WIDTH (FT)	22
SURFACING (IN)	5
AGGREGATE (IN)	8
SUBBASE (IN)	20

TYPE	UNITS	QUANTITY	UNIT PRICE	COST
EXCAVATION-UNCLASSIFIED	CUYD	17503.7	$ 24.45	$ 428,004.06
SPECIAL BORROW	CUYD	4839.5	$ 23.30	$ 112,753.72
CRUSHED AGGREGATE COURSE	CUYD	1935.8	$ 67.20	$ 130,080.51
COVER - TYPE 2	SQYD	8711.1	$ 1.15	$ 10,049.14
COMMERCIAL MIX PG 70-28	TON	3379.1	$ 147.70	$ 499,096.00
EMULSIFIED ASPHALT CHFRS-2P	TON	202.8	$ 925.83	$ 187,735.25
COLD MILLING	SQYD	12622.2	$ 2.86	$ 36,142.47
CONCRETE SIDEWALK (6" THICK W/ 3" BASE)	SQYD	1777.8	$ 60.10	$ 106,844.42
CONCRETE ROUNDABOUTS - TWO LANES	EACH	1.0	$1,476,000.00	$ 1,476,000.00
SIGNS - URBAN	MILE	0.3	$ 57,000.00	$ 17,272.73
STRIPING & PAVEMENT MARKINGS - URBAN	MILE	0.3	$ 44,000.00	$ 13,333.33
STORM DRAIN - ROUNDABOUT - TWO LANE	LS	1.0	$ 203,000.00	$ 203,000.00
LIGHTING - ROUNDABOUT	LS	0.3	$ 44,000.00	$ 13,333.33
MISCELLANEOUS ITEMS			25%	$ 808,411
Subtotal 1				$ 4,042,056
TRAFFIC CONTROL - URBAN			5%	$ 202,103
Subtotal 2				$ 4,244,159
MOBILIZATION			10%	$ 424,416
Subtotal 3				$ 4,668,575
CONTINGENCY (MEDIUM RISK)			30%	$ 1,400,572
Subtotal 4				$ 6,069,147
CONSTRUCTION ENGINEERING (CE)			10%	$ 606,915
PRELIMINARY ENGINEERING (PE)			10%	$ 606,915
TOTAL				**$ 7,282,977**

PROJ-10	Gooch Hill Road (Huffine Lane to Durston Road)			

a. Intersection Signing Enhancements (Durston Road)			**$**	**5,000 TOT**

TYPE	UNITS	QUANTITY	UNIT PRICE	COST
SIGNS-ALUM REFL SHEET XI	SQFT	4.0	$ 46.55	$ 186
POSTS-STEEL U SIGN	LB	30.0	$ 61.75	$ 1,852
12" LED FLASHING BEACON (AMBER) - SOLAR	EACH	1	$ 900.00	$ 900
RETROREFLECTIVE TAPE	LNFT	6	$ 1.29	$ 8
MISCELLANEOUS ITEMS			25%	$ 735
Subtotal 1				$ 3,681
CONTINGENCY (LOW RISK)			20%	$ 736
TOTAL				**$ 4,417**

b. Right-Turn Lane, Pedestrian Upgrades, Urban Design (Huffine Lane)	**$**	**910,000**	**TOT**

LENGTH (FT)	300
NEW WIDTH (FT)	21
EXISTING WIDTH (FT)	8
SURFACING (IN)	5
AGGREGATE (IN)	8
SUBBASE (IN)	20

TYPE	UNITS	QUANTITY	UNIT PRICE	COST
EXCAVATION-UNCLASSIFIED	CUYD	702.8	$ 24.45	$ 17,184.46
SPECIAL BORROW	CUYD	240.7	$ 23.30	$ 5,608.92
CRUSHED AGGREGATE COURSE	CUYD	96.3	$ 67.20	$ 6,470.84
COVER - TYPE 2	SQYD	433.3	$ 1.15	$ 499.89
COMMERCIAL MIX PG 70-28	TON	187.4	$ 147.70	$ 27,678.74
EMULSIFIED ASPHALT CHFRS-2P	TON	11.2	$ 925.83	$ 10,411.37
COLD MILLING	SQYD	700.0	$ 2.86	$ 2,004.38
CONCRETE SIDEWALK (6" THICK W/ 3" BASE)	SQYD	502.8	$ 60.10	$ 30,216.94
CURB AND GUTTER-CONC	LNFT	905.0	$ 96.29	$ 87,146.70
SIG-PEDESTRIAN TYPE 2	EACH	8.0	$ 1,308.38	$ 10,467.01
TRAFFIC SIGNAL TIMING STUDY	LS	1.0	$ 50,000.00	$ 50,000.00
MDT SIGNAL ADJUSTMENTS	LS	1.0	$ 1,000.00	$ 1,000.00
SIGNS - URBAN	MILE	0.1	$ 57,000.00	$ 3,238.64
STRIPING & PAVEMENT MARKINGS - URBAN	MILE	0.1	$ 44,000.00	$ 2,500.00
LIGHTING	MILE	0.2	$ 192,000.00	$ 43,636.36
DRAINAGE PIPE - URBAN	MILE	0.1	$ 263,000.00	$ 14,943.18
MISCELLANEOUS ITEMS			25%	$ 78,252
Subtotal 1				$ 391,259
TRAFFIC CONTROL - URBAN			5%	$ 19,563
Subtotal 2				$ 410,822
MOBILIZATION			10%	$ 41,082
Subtotal 3				$ 451,905
CONTINGENCY (HIGH RISK)			50%	$ 225,952
Subtotal 4				$ 677,857
CONSTRUCTION ENGINEERING (CE)			10%	$ 67,786
PRELIMINARY ENGINEERING (PE)			10%	$ 67,786
Subtotal 5				$ 813,428
INDIRECT COSTS (IDC)			10.91%	$ 88,745
TOTAL				**$ 902,173**

c. Corridor Reconstruction **$ 13,800,000 TOT**

Reflects MSN-12 from GTATP, assumes sidewalk on one side and SUP on the other with urban design standards

LENGTH (MI)	1
NEW WIDTH (FT)	50
EXISTING WIDTH (FT)	24
SURFACING (IN)	5
AGGREGATE (IN)	8
SUBBASE (IN)	20

TYPE	UNITS	QUANTITY	UNIT PRICE	COST
EXCAVATION-UNCLASSIFIED	CUYD	22293.3	$ 24.45	$ 545,121.05

SPECIAL BORROW		CUYD	8474.1	$	23.30	$	197,434.06
CRUSHED AGGREGATE COURSE		CUYD	4856.3	$	67.20	$	326,329.51
COVER - TYPE 2		SQYD	21120.0	$	1.15	$	24,364.03
COMMERCIAL MIX PG 70-28		TON	8795.1	$	147.70	$	1,299,055.50
EMULSIFIED ASPHALT CHFRS-2P		TON	565.5	$	925.83	$	523,543.38
COLD MILLING		SQYD	14080.0	$	2.86	$	40,316.67
CONCRETE SIDEWALK (6" THICK W/ 3" BASE)		SQYD	2933.3	$	60.10	$	176,293.29
CURB AND GUTTER-CONC		LNFT	10560.0	$	96.29	$	1,016,872.03
SIGNS - URBAN		MILE	1.0	$	57,000.00	$	57,000.00
STRIPING & PAVEMENT MARKINGS - URBAN		MILE	1.0	$	44,000.00	$	44,000.00
LIGHTING		MILE	1.0	$	192,000.00	$	192,000.00
STORM DRAIN - URBAN		MILE	1.0	$	847,000.00	$	847,000.00
MISCELLANEOUS ITEMS					25%	$	1,322,332
	Subtotal 1					$	6,611,662
TRAFFIC CONTROL - URBAN					5%	$	330,583
	Subtotal 2					$	6,942,245
MOBILIZATION					10%	$	694,225
	Subtotal 3					$	7,636,470
CONTINGENCY (HIGH RISK)					50%	$	3,818,235
	Subtotal 4					$	11,454,704
CONSTRUCTION ENGINEERING (CE)					10%	$	1,145,470
PRELIMINARY ENGINEERING (PE)					10%	$	1,145,470
	TOTAL					**$**	**13,745,645**

PROJ-11 Huffine Lane Shared Use Path **$ 3,500,000 TOT**

Does not include the segment of path being constructed by Town Pump

LENGTH (MI)	1.8
WIDTH (FT)	10.0
SURFACING (IN)	4
AGGREGATE (IN)	12
BASE (IN)	0

TYPE		UNITS	QUANTITY		UNIT PRICE		COST
EXCAVATION-UNCLASSIFIED		CUYD	6868.6	$	24.45	$	167,952.20
CRUSHED AGGREGATE COURSE		CUYD	3434.3	$	67.20	$	230,775.10
COVER - TYPE 2		SQYD	10302.9	$	1.15	$	11,885.41
COMMERCIAL MIX PG 70-28		TON	2206.5	$	147.70	$	325,909.69
EMULSIFIED ASPHALT CHFRS-2P		TON	165.5	$	925.83	$	153,238.90
SIG-PEDESTRIAN TYPE 2		EACH	4.0	$	1,308.38	$	5,233.51
DRAINAGE PIPE - URBAN		MILE	1.8	$	263,000.00	$	461,873.83
MISCELLANEOUS ITEMS					25%	$	297,229
	Subtotal 1					$	1,486,146
TRAFFIC CONTROL - URBAN					5%	$	74,307
	Subtotal 2					$	1,560,453
MOBILIZATION					10%	$	156,045
	Subtotal 3					$	1,716,498
CONTINGENCY (HIGH RISK)					50%	$	858,249
	Subtotal 4					$	2,574,747
CONSTRUCTION ENGINEERING (CE)					10%	$	257,475
PRELIMINARY ENGINEERING (PE)					10%	$	257,475
	Subtotal 6					$	3,089,697

INDIRECT COSTS (IDC)			11%	$	337,086
TOTAL				**$**	**3,426,782**

PROJ-12 Stucky Road/Gooch Hill Road — $ 8,000 TOT

TYPE	UNITS	QUANTITY	UNIT PRICE		COST
SIGNS-ALUM REFL SHEET XI	SQFT	2.0	$ 46.55	$	93
12" LED FLASHING BEACON (RED) - SOLAR	EACH	1	$ 900.00	$	900
SOLAR POWERED LED STOP SIGN	EACH	1	$ 1,800.00	$	1,800
RETROREFLECTIVE TAPE	LNFT	10	$ 1.29	$	13
HIGH EFFICACY LUMINAIRE LED	EACH	3	$ 1,100.00	$	3,300
MISCELLANEOUS ITEMS			25%	$	248
Subtotal 1				$	6,354
CONTINGENCY (LOW RISK)			20%	$	1,271
TOTAL				**$**	**7,625**

PROJ-13 Gooch Hill Road/Chapman Road — $ 7,000 TOT

TYPE	UNITS	QUANTITY	UNIT PRICE		COST
SIGNS-ALUM REFL SHEET XI	SQFT	10.0	$ 46.55	$	465
RETROREFLECTIVE TAPE	LNFT	12	$ 1.29	$	15
12" LED FLASHING BEACON (AMBER) - SOLAR	EACH	2	$ 900.00	$	1,800
HIGH EFFICACY LUMINAIRE LED	EACH	2	$ 1,100.00	$	2,200
MISCELLANEOUS ITEMS			25%	$	570
Subtotal 1				$	5,051
CONTINGENCY (LOW RISK)			20%	$	1,010
TOTAL				**$**	**6,061**

PROJ-14 Axtell Anceny Road (River Road to River Camp Road)

a. Curve Signing Enhancements — $ 19,000 TOT

TYPE	UNITS	QUANTITY	UNIT PRICE		COST
SIGNS-ALUM REFL SHEET XI	SQFT	27.0	$ 46.55	$	1,257
POSTS-STEEL U SIGN	LB	180.0	$ 61.75	$	11,115
MISCELLANEOUS ITEMS			25%	$	3,093
Subtotal 1				$	15,464
CONTINGENCY (LOW RISK)			20%	$	3,093
TOTAL				**$**	**18,557**

b. Intersection Realignment — $ 50,000 TOT

LENGTH (MI)	0.04
WIDTH (FT)	24.0
SURFACING (IN)	0
AGGREGATE (IN)	12
BASE (IN)	18

TYPE	UNITS	QUANTITY	UNIT PRICE		COST
EXCAVATION-UNCLASSIFIED	CUYD	537.0	$ 24.45	$	13,131.74
CRUSHED AGGREGATE COURSE	CUYD	177.8	$ 67.20	$	11,946.17

COVER - TYPE 2		SQYD	533.3	$	1.15	$	615.25
SIGNS-ALUM REFL SHEET XI		SQFT	4.0	$	46.55	$	186
POSTS-STEEL U SIGN		LB	30.0	$	61.75	$	1,852
REVEGETATION		SQYD	30.0	$	1.16	$	35
DRAINAGE PIPE - RURAL		MILE	0.04	$	110,000.00	$	4,166.67
MISCELLANEOUS ITEMS					25%	$	4,700
	Subtotal 1					$	23,502
TRAFFIC CONTROL - RURAL					6%	$	1,410
	Subtotal 2					$	24,912
MOBILIZATION					10%	$	2,491
	Subtotal 3					$	27,403
CONTINGENCY (HIGH RISK)					50%	$	13,702
	Subtotal 4					$	41,105
CONSTRUCTION ENGINEERING (CE)					10%	$	4,110
PRELIMINARY ENGINEERING (PE)					10%	$	4,110
	TOTAL					**$**	**49,326**

PROJ-15 Gooch Hill Road/US 191

a. Intersection Visibility Enhancements — $ 15,000 TOT

TYPE	UNITS	QUANTITY		UNIT PRICE		COST
SIGNS-ALUM REFL SHEET XI	SQFT	10.0	$	46.55	$	465
12" LED FLASHING BEACON (RED) - SOLAR	EACH	1	$	900.00	$	900
SOLAR POWERED LED STOP SIGN	EACH	1	$	1,800.00	$	1,800
RETROREFLECTIVE TAPE	LNFT	6	$	1.29	$	8
HIGH EFFICACY LUMINAIRE LED	EACH	3	$	1,100.00	$	3,300
MISCELLANEOUS ITEMS				25%	$	341
Subtotal 1					$	6,815
TRAFFIC CONTROL - RURAL				6%	$	409
Subtotal 2					$	7,223
MOBILIZATION				10%	$	722
Subtotal 3					$	7,946
CONTINGENCY (HIGH RISK)				50%	$	3,973
Subtotal 4					$	11,919
CONSTRUCTION ENGINEERING (CE)				10%	$	1,192
PRELIMINARY ENGINEERING (PE)				10%	$	1,192
TOTAL					**$**	**14,302**

b. Traffic Signal — $ 1,700,000 TOT

LENGTH (FT)	750
NEW WIDTH (FT)	44
EXISTING WIDTH (FT)	24
SURFACING (IN)	5
AGGREGATE (IN)	8
SUBBASE (IN)	20

TYPE	UNITS	QUANTITY		UNIT PRICE		COST
EXCAVATION-UNCLASSIFIED	CUYD	2291.7	$	24.45	$	56,036.29
SPECIAL BORROW	CUYD	925.9	$	23.30	$	21,572.78

CRUSHED AGGREGATE COURSE		CUYD	370.4	$	67.20	$	24,887.85
COVER - TYPE 2		SQYD	1666.7	$	1.15	$	1,922.67
COMMERCIAL MIX PG 70-28		TON	981.6	$	147.70	$	144,983.87
EMULSIFIED ASPHALT CHFRS-2P		TON	58.9	$	925.83	$	54,535.77
COLD MILLING		SQYD	3666.7	$	2.86	$	10,499.13
TRAFFIC SIGNALS		LS	1.0	$	301,000.00	$	301,000.00
SIGNS - RURAL		MILE	0.1	$	9,000.00	$	1,278.41
STRIPING & PAVEMENT MARKINGS - RURAL		MILE	0.1	$	18,000.00	$	2,556.82
DRAINAGE PIPE - RURAL		MILE	0.1	$	110,000.00	$	15,625.00
MISCELLANEOUS ITEMS					25%	$	158,725
	Subtotal 1					$	716,014
TRAFFIC CONTROL - RURAL					6%	$	42,961
	Subtotal 2					$	758,975
MOBILIZATION					10%	$	75,898
	Subtotal 3					$	834,873
CONTINGENCY (HIGH RISK)					50%	$	417,436
	Subtotal 4					$	1,252,309
CONSTRUCTION ENGINEERING (CE)					10%	$	125,231
PRELIMINARY ENGINEERING (PE)					10%	$	125,231
	Subtotal 5					$	1,502,771
INDIRECT COSTS (IDC)					10.91%	$	163,952
	TOTAL					**$**	**1,666,723**

c. Single Lane Roundabout		**$**	**3,100,000** **TOT**

LENGTH (FT)	1000
NEW WIDTH (FT)	30
EXISTING WIDTH (FT)	24
SURFACING (IN)	5
AGGREGATE (IN)	8
SUBBASE (IN)	20

TYPE	**UNITS**	**QUANTITY**	**UNIT PRICE**		**COST**
EXCAVATION-UNCLASSIFIED	CUYD	1629.6	$ 24.45	$	39,848.03
SPECIAL BORROW	CUYD	370.4	$ 23.30	$	8,629.11
CRUSHED AGGREGATE COURSE	CUYD	148.1	$ 67.20	$	9,955.14
COVER - TYPE 2	SQYD	666.7	$ 1.15	$	769.07
COMMERCIAL MIX PG 70-28	TON	892.4	$ 147.70	$	131,803.52
EMULSIFIED ASPHALT CHFRS-2P	TON	53.6	$ 925.83	$	49,577.97
COLD MILLING	SQYD	3333.3	$ 2.86	$	9,544.67
CONCRETE ROUNDABOUTS - ONE LANE	EACH	1.0	$ 640,000.00	$	640,000.00
SIGNS - RURAL	MILE	0.2	$ 9,000.00	$	1,704.55
STRIPING & PAVEMENT MARKINGS - RURAL	MILE	0.2	$ 18,000.00	$	3,409.09
STORM DRAIN - ROUNDABOUT - ONE LANE	LS	1.0	$ 137,000.00	$	137,000.00
LIGHTING - ROUNDABOUT	LS	0.2	$ 44,000.00	$	8,333.33
MISCELLANEOUS ITEMS			25%	$	260,144
Subtotal 1				$	1,300,718
TRAFFIC CONTROL - RURAL			6%	$	78,043
Subtotal 2				$	1,378,761
MOBILIZATION			10%	$	137,876
Subtotal 3				$	1,516,637

CONTINGENCY (HIGH RISK)		50%	$	758,319
	Subtotal 4		$	2,274,956
CONSTRUCTION ENGINEERING (CE)		10%	$	227,496
PRELIMINARY ENGINEERING (PE)		10%	$	227,496
	Subtotal 5		$	2,729,947
INDIRECT COSTS (IDC)		10.91%	$	297,837
	TOTAL		**$**	**3,027,784**

PROJ-16 US 191 Improvements

a. Four Corners Intersection (S1) — $ 3,900,000 TOT

TYPE	UNITS	QUANTITY	UNIT PRICE	COST
EXCAVATION-UNCLASSIFIED	CUYD	1223.9	$ 24.45	$ 29,927.46
CRUSHED AGGREGATE COURSE	CUYD	6304.4	$ 67.20	$ 423,641.01
COVER - TYPE 2	SQYD	12105.0	$ 1.15	$ 13,964.33
COMMERCIAL MIX PG 70-28	TON	3240.5	$ 147.70	$ 478,622.52
EMULSIFIED ASPHALT CHFRS-2P	TON	21.7	$ 925.83	$ 20,090.42
SIDEWALK-CONCRETE 4"	SQYD	1008.9	$ 155.42	$ 156,798.18
SIDEWALK-CONCRETE 6"	SQYD	252.2	$ 204.30	$ 51,529.13
CURB AND GUTTER-CONC	LNFT	2270.0	$ 96.29	$ 218,588.97
SIG-PEDESTRIAN TYPE 2	EACH	8.0	$ 1,308.38	$ 10,467.01
PORT CEM CONC PAVE 10 IN	SQYD	610.9	$ 144.50	$ 88,272.16
SIGNS - URBAN	MILE	0.2	$ 57,000.00	$ 12,252.84
STRIPING & PAVEMENT MARKINGS - URBAN	MILE	0.2	$ 44,000.00	$ 9,458.33
DRAINAGE PIPE - URBAN	MILE	0.2	$ 263,000.00	$ 56,535.04
MISCELLANEOUS ITEMS			25%	$ 392,537
Subtotal 1				$ 1,932,757
TRAFFIC CONTROL - URBAN			5%	$ 96,638
Subtotal 2				$ 2,029,395
MOBILIZATION			10%	$ 202,939
Subtotal 3				$ 2,232,334
CONTINGENCY (MEDIUM RISK)			30%	$ 669,700
Subtotal 4				$ 2,902,034
CONSTRUCTION ENGINEERING (CE)			10%	$ 290,203
PRELIMINARY ENGINEERING (PE)			10%	$ 290,203
Subtotal 5				$ 3,482,441
INDIRECT COSTS (IDC)			10.91%	$ 379,934
TOTAL				**$ 3,862,376**

b. 3rd Street to 2nd Street (S2) — $ 3,500,000 TOT

LENGTH (FT)	430
WIDTH (FT)	78
SURFACING (IN)	5
BASE (IN)	18

TYPE	UNITS	QUANTITY	UNIT PRICE	COST
EXCAVATION-UNCLASSIFIED	CUYD	3254.9	$ 24.45	$ 79,590.59
CRUSHED AGGREGATE COURSE	CUYD	2238.9	$ 67.20	$ 150,447.26
COVER - TYPE 2	SQYD	3717.0	$ 1.15	$ 4,287.93

COMMERCIAL MIX PG 70-28		TON	1031.3	$	147.70	$	152,322.11
EMULSIFIED ASPHALT CHFRS-2P		TON	6.7	$	925.83	$	6,203.03
GUARDRAIL-STEEL BOX BEAM		LNFT	21.4	$	82.19	$	1,762.24
STRIPING & PAVEMENT MARKINGS - URBAN		MILE	0.1	$	44,000.00	$	3,573.33
DRAINAGE PIPE - URBAN		MILE	0.1	$	263,000.00	$	21,358.79
REMOVE SMALL SINGLE SPAN BRIDGE		LS	1.0	$	22,000.00	$	22,000.00
NEW BRIDGE 100 LINEAL FEET OR LESS		SQFT	3900.0	$	196.00	$	764,400.00
MISCELLANEOUS ITEMS					25%	$	301,486
	Subtotal 1					$	1,507,432
TRAFFIC CONTROL - URBAN					5%	$	75,372
	Subtotal 2					$	1,582,803
MOBILIZATION					10%	$	158,280
	Subtotal 3					$	1,741,084
CONTINGENCY (HIGH RISK)					50%	$	870,542
	Subtotal 4					$	2,611,625
CONSTRUCTION ENGINEERING (CE)					10%	$	261,163
PRELIMINARY ENGINEERING (PE)					10%	$	261,163
	Subtotal 5					$	3,133,950
INDIRECT COSTS (IDC)					10.91%	$	341,914
	TOTAL					**$**	**3,475,864**

c. Bozeman Hot Springs/Cobb Hill/Lower Rainbow Road (S3) **$ 1,300,000 TOT**

LENGTH (FT)	1000
WIDTH (FT)	24
SURFACING (IN)	5
BASE (IN)	18

TYPE		UNITS	QUANTITY		UNIT PRICE		COST
EXCAVATION-UNCLASSIFIED		CUYD	7135.4	$	24.45	$	174,477.26
CRUSHED AGGREGATE COURSE		CUYD	2221.3	$	67.20	$	149,264.89
COVER - TYPE 2		SQYD	2667.0	$	1.15	$	3,076.65
COMMERCIAL MIX PG 70-28		TON	798.8	$	147.70	$	117,982.46
EMULSIFIED ASPHALT CHFRS-2P		TON	4.8	$	925.83	$	4,443.96
DRAINAGE PIPE - RURAL		MILE	0.2	$	110,000.00	$	20,833.33
LIGHTING		MILE	0.2	$	192,000.00	$	32,640.00
MISCELLANEOUS ITEMS					25%	$	125,684
	Subtotal 1					$	628,403
TRAFFIC CONTROL - RURAL					6%	$	37,704
	Subtotal 2					$	666,107
MOBILIZATION					10%	$	66,611
	Subtotal 3					$	732,718
CONTINGENCY (MEDIUM RISK)					30%	$	219,815
	Subtotal 4					$	952,533
CONSTRUCTION ENGINEERING (CE)					10%	$	95,253
PRELIMINARY ENGINEERING (PE)					10%	$	95,253
	Subtotal 5					$	1,143,039
INDIRECT COSTS (IDC)					10.91%	$	124,706
	TOTAL					**$**	**1,267,745**

d. Cottonwood Road (S7)

Traffic Signal **$ 1,500,000 TOT**

LENGTH (FT)	750
NEW WIDTH (FT)	44
EXISTING WIDTH (FT)	24
SURFACING (IN)	5
AGGREGATE (IN)	8
SUBBASE (IN)	20

TYPE	UNITS	QUANTITY	UNIT PRICE	COST
EXCAVATION-UNCLASSIFIED	CUYD	2291.7	$ 24.45	$ 56,036.29
SPECIAL BORROW	CUYD	925.9	$ 23.30	$ 21,572.78
CRUSHED AGGREGATE COURSE	CUYD	370.4	$ 67.20	$ 24,887.85
COVER - TYPE 2	SQYD	1666.7	$ 1.15	$ 1,922.67
COMMERCIAL MIX PG 70-28	TON	981.6	$ 147.70	$ 144,983.87
EMULSIFIED ASPHALT CHFRS-2P	TON	58.9	$ 925.83	$ 54,535.77
COLD MILLING	SQYD	3666.7	$ 2.86	$ 10,499.13
TRAFFIC SIGNALS	LS	1.0	$ 301,000.00	$ 301,000.00
SIGNS - RURAL	MILE	0.1	$ 9,000.00	$ 1,278.41
STRIPING & PAVEMENT MARKINGS - RURAL	MILE	0.1	$ 18,000.00	$ 2,556.82
DRAINAGE PIPE - RURAL	MILE	0.1	$ 110,000.00	$ 15,625.00
MISCELLANEOUS ITEMS			25%	$ 158,725
Subtotal 1				$ 716,014
TRAFFIC CONTROL - RURAL			6%	$ 42,961
Subtotal 2				$ 758,975
MOBILIZATION			10%	$ 75,898
Subtotal 3				$ 834,873
CONTINGENCY (MEDIUM RISK)			30%	$ 250,462
Subtotal 4				$ 1,085,334
CONSTRUCTION ENGINEERING (CE)			10%	$ 108,533
PRELIMINARY ENGINEERING (PE)			10%	$ 108,533
Subtotal 5				$ 1,302,401
INDIRECT COSTS (IDC)			10.91%	$ 142,092
TOTAL				**$ 1,444,493**

Single Lane Roundabout **$ 3,800,000 TOT**

LENGTH (FT)	2000
NEW WIDTH (FT)	30
EXISTING WIDTH (FT)	24
SURFACING (IN)	5
AGGREGATE (IN)	8
SUBBASE (IN)	20

TYPE	UNITS	QUANTITY	UNIT PRICE	COST
EXCAVATION-UNCLASSIFIED	CUYD	3259.3	$ 24.45	$ 79,696.06
SPECIAL BORROW	CUYD	740.7	$ 23.30	$ 17,258.22
CRUSHED AGGREGATE COURSE	CUYD	296.3	$ 67.20	$ 19,910.28
COVER - TYPE 2	SQYD	1333.3	$ 1.15	$ 1,538.13
COMMERCIAL MIX PG 70-28	TON	1784.7	$ 147.70	$ 263,607.04

EMULSIFIED ASPHALT CHFRS-2P		TON	107.1	$	925.83	$	99,155.94
COLD MILLING		SQYD	6666.7	$	2.86	$	19,089.33
CONCRETE ROUNDABOUTS - ONE LANE		EACH	1.0	$	640,000.00	$	640,000.00
SIGNS - RURAL		MILE	0.4	$	9,000.00	$	3,409.09
STRIPING & PAVEMENT MARKINGS - RURAL		MILE	0.4	$	18,000.00	$	6,818.18
STORM DRAIN - ROUNDABOUT - ONE LANE		LS	1.0	$	137,000.00	$	137,000.00
LIGHTING - ROUNDABOUT		LS	0.4	$	44,000.00	$	16,666.67
MISCELLANEOUS ITEMS					25%	$	326,037
	Subtotal 1					$	1,630,186
TRAFFIC CONTROL - RURAL					6%	$	97,811
	Subtotal 2					$	1,727,997
MOBILIZATION					10%	$	172,800
	Subtotal 3					$	1,900,797
CONTINGENCY (HIGH RISK)					50%	$	950,399
	Subtotal 4					$	2,851,196
CONSTRUCTION ENGINEERING (CE)					10%	$	285,120
PRELIMINARY ENGINEERING (PE)					10%	$	285,120
	Subtotal 5					$	3,421,435
INDIRECT COSTS (IDC)					10.91%	$	373,279
	TOTAL					**$**	**3,794,713**

e. Advance Warning Signs (S-16) **$ 310,000 TOT**

TYPE	UNITS	QUANTITY		UNIT PRICE		COST
SEQUENTIAL DYNAMIC CURVE WARNING SIGN	EACH	14.0	$	13,500.00	$	189,000.00
MISCELLANEOUS ITEMS				25%	$	47,250
Subtotal 1					$	236,250
CONTINGENCY (MEDIUM RISK)				30%	$	70,875
TOTAL					**$**	**307,125**

f. Substandard Curve Modification (S17-a) **$ 4,900,000 TOT**

LENGTH (FT)	2500
WIDTH (FT)	32
SURFACING (IN)	5
BASE (IN)	18

TYPE	UNITS	QUANTITY		UNIT PRICE		COST
EXCAVATION-UNCLASSIFIED	CUYD	31017.2	$	24.45	$	758,438.00
CRUSHED AGGREGATE COURSE	CUYD	6664.4	$	67.20	$	447,825.78
COVER - TYPE 2	SQYD	8889.0	$	1.15	$	10,254.35
COMMERCIAL MIX PG 70-28	TON	2591.9	$	147.70	$	382,825.16
EMULSIFIED ASPHALT CHFRS-2P	TON	15.9	$	925.83	$	14,720.63
STRIPING & PAVEMENT MARKINGS - RURAL	MILE	0.5	$	18,000.00	$	8,522.73
DRAINAGE PIPE - RURAL	MILE	0.5	$	110,000.00	$	52,083.33
MISCELLANEOUS ITEMS				25%	$	418,667
Subtotal 1					$	2,093,337
TRAFFIC CONTROL - RURAL				6%	$	125,600
Subtotal 2					$	2,218,938
MOBILIZATION				10%	$	221,894
Subtotal 3					$	2,440,832

CONTINGENCY (HIGH RISK)		50%	$	1,220,416
	Subtotal 4		$	3,661,247
CONSTRUCTION ENGINEERING (CE)		10%	$	366,125
PRELIMINARY ENGINEERING (PE)		10%	$	366,125
	Subtotal 5		$	4,393,497
INDIRECT COSTS (IDC)		10.91%	$	479,330
	TOTAL		**$**	**4,872,827**

PROJ-17 Bridger Canyon Improvements

a. Horizontal and Vertical Curve Improvements with Shoulder Widening (2.b) **$ 770,000 TOT**

Inflates cost estimates developed for the Bridger Canyon Corridor Study at a rate of 5% per year

TYPE		UNITS	QUANTITY	UNIT PRICE		COST
RECONSTRUCTION (2015 ESTIMATE)		MILE	1.2	$ 390,000.00	$	468,000
	Subtotal 1				$	468,000
INFLATION		% PER YEAR	10.0	5%	$	294,323
	TOTAL				**$**	**762,323**

b. Approach Sight Distance Mitigation/Intersection Realignment (4.a) **$ 70,000 TOT**

Inflates cost estimates developed for the Bridger Canyon Corridor Study at a rate of 5% per year

TYPE		UNITS	QUANTITY	UNIT PRICE		COST
RECONSTRUCTION (2015 ESTIMATE)		EACH	1.0	$ 42,000.00	$	42,000
	Subtotal 1				$	42,000
INFLATION		% PER YEAR	10.0	5%	$	26,414
	TOTAL				**$**	**68,414**

c. Intersection Realignment (4.b) **$ 610,000 TOT**

Inflates cost estimates developed for the Bridger Canyon Corridor Study at a rate of 5% per year

TYPE		UNITS	QUANTITY	UNIT PRICE		COST
RECONSTRUCTION (2015 ESTIMATE)		EACH	1.0	$ 370,000.00	$	370,000
	Subtotal 1				$	370,000
INFLATION		% PER YEAR	10.0	5%	$	232,691
	TOTAL				**$**	**602,691**

d. RP 13.5 – RP 14.2 **$ 380,000 TOT**

TYPE		UNITS	QUANTITY	UNIT PRICE		COST
SIGNS-ALUM REFL SHEET XI		SQFT	12.5	$ 46.55	$	582
POSTS-STEEL U SIGN		LB	60.0	$ 61.75	$	3,705
HIGH FRICTION SURFACE TREATMENT		SQYD	7040.0	$ 40.00	$	281,600
MISCELLANEOUS ITEMS				25%	$	1,072
	Subtotal 1				$	286,958
CONTINGENCY (MEDIUM RISK)				30%	$	86,088
	TOTAL				**$**	**373,046**

PROJ-18 Belgrade to Bozeman Frontage Road Improvements

a. Airport Road Intersection Improvements (3)

Eastbound Left-Turn Lane **$ 1,700,000 TOT**

LENGTH (FT)	1500
NEW WIDTH (FT)	52
EXISTING WIDTH (FT)	40
SURFACING (IN)	5
AGGREGATE (IN)	8
SUBBASE (IN)	20

TYPE	UNITS	QUANTITY	UNIT PRICE	COST
EXCAVATION-UNCLASSIFIED	CUYD	3361.1	$ 24.45	$ 82,186.56
SPECIAL BORROW	CUYD	1111.1	$ 23.30	$ 25,887.33
CRUSHED AGGREGATE COURSE	CUYD	444.4	$ 67.20	$ 29,865.42
COVER - TYPE 2	SQYD	2000.0	$ 1.15	$ 2,307.20
COMMERCIAL MIX PG 70-28	TON	2320.1	$ 147.70	$ 342,689.15
EMULSIFIED ASPHALT CHFRS-2P	TON	139.2	$ 925.83	$ 128,902.73
COLD MILLING	SQYD	8666.7	$ 2.86	$ 24,816.13
SIGNS - URBAN	MILE	0.3	$ 57,000.00	$ 16,193.18
STRIPING & PAVEMENT MARKINGS - URBAN	MILE	0.3	$ 44,000.00	$ 12,500.00
DRAINAGE PIPE - URBAN	MILE	0.3	$ 263,000.00	$ 74,715.91
MISCELLANEOUS ITEMS			25%	$ 185,016
Subtotal 1				$ 817,006
TRAFFIC CONTROL - URBAN			5%	$ 40,850
Subtotal 2				$ 857,856
MOBILIZATION			10%	$ 85,786
Subtotal 3				$ 943,642
CONTINGENCY (MEDIUM RISK)			30%	$ 283,092
Subtotal 4				$ 1,226,734
CONSTRUCTION ENGINEERING (CE)			10%	$ 122,673
PRELIMINARY ENGINEERING (PE)			10%	$ 122,673
Subtotal 5				$ 1,472,081
INDIRECT COSTS (IDC)			10.91%	$ 160,604
TOTAL				**$ 1,632,685**

Traffic Signal **$ 2,400,000 TOT**

LENGTH (FT)	1500
NEW WIDTH (FT)	52
EXISTING WIDTH (FT)	40
SURFACING (IN)	5
AGGREGATE (IN)	8
SUBBASE (IN)	20

TYPE	UNITS	QUANTITY	UNIT PRICE	COST
EXCAVATION-UNCLASSIFIED	CUYD	3361.1	$ 24.45	$ 82,186.56
SPECIAL BORROW	CUYD	1111.1	$ 23.30	$ 25,887.33
CRUSHED AGGREGATE COURSE	CUYD	444.4	$ 67.20	$ 29,865.42
COVER - TYPE 2	SQYD	2000.0	$ 1.15	$ 2,307.20
COMMERCIAL MIX PG 70-28	TON	2320.1	$ 147.70	$ 342,689.15
EMULSIFIED ASPHALT CHFRS-2P	TON	139.2	$ 925.83	$ 128,902.73

COLD MILLING		SQYD	8666.7	$	2.86	$	24,816.13
TRAFFIC SIGNALS		LS	1.0	$	301,000.00	$	301,000.00
SIGNS - URBAN		MILE	0.3	$	57,000.00	$	16,193.18
STRIPING & PAVEMENT MARKINGS - URBAN		MILE	0.3	$	44,000.00	$	12,500.00
DRAINAGE PIPE - URBAN		MILE	0.3	$	263,000.00	$	74,715.91
MISCELLANEOUS ITEMS					25%	$	260,266
	Subtotal 1					$	1,193,256
TRAFFIC CONTROL - URBAN					5%	$	59,663
	Subtotal 2					$	1,252,918
MOBILIZATION					10%	$	125,292
	Subtotal 3					$	1,378,210
CONTINGENCY (MEDIUM RISK)					30%	$	413,463
	Subtotal 4					$	1,791,673
CONSTRUCTION ENGINEERING (CE)					10%	$	179,167
PRELIMINARY ENGINEERING (PE)					10%	$	179,167
	Subtotal 5					$	2,150,008
INDIRECT COSTS (IDC)					10.91%	$	234,566
	TOTAL					**$**	**2,384,574**

b. Passing Zone Modifications (8) **$ 40,000 TOT**

TYPE		UNITS	QUANTITY	UNIT PRICE		COST
PASSING ZONE MODS (2016 ESTIMATE)		LS	1.0	$ 25,000.00	$	25,000
	Subtotal 1				$	25,000
INFLATION		% PER YEAR	9.0	5%	$	13,783
	TOTAL				**$**	**38,783**

c. Install Centerline Rumble Strips (9) **$ 50,000 TOT**

LENGTH (FT) 12672

TYPE		UNITS	QUANTITY	UNIT PRICE		COST
CENTERLINE RUMBLE STRIPS-TYPE 1		MILE	2.40	$ 1,285.82	$	3,086
STRIPING-YELLOW EPOXY		GAL	105.34	$ 130.33	$	13,729
FINAL SWEEP AND BROOM		MILE	2.40	$ 781.13	$	1,875
MISCELLANEOUS ITEMS				25%	$	4,672
	Subtotal 1				$	23,362
TRAFFIC CONTROL - URBAN				5%	$	1,168
	Subtotal 2				$	24,530
MOBILIZATION				10%	$	2,453
	Subtotal 3				$	26,983
CONTINGENCY (MEDIUM RISK)				30%	$	8,095
	Subtotal 4				$	35,077
CONSTRUCTION ENGINEERING (CE)				10%	$	3,508
PRELIMINARY ENGINEERING (PE)				10%	$	3,508
	Subtotal 5				$	42,093
INDIRECT COSTS (IDC)				10.91%	$	4,592
	TOTAL				**$**	**46,685**

d. Develop Separated Shared Use Path (10) **$ 2,000,000 /MI**

LENGTH (MI)	1.0
WIDTH (FT)	10.0
SURFACING (IN)	4
AGGREGATE (IN)	12
BASE (IN)	0

TYPE	UNITS	QUANTITY	UNIT PRICE	COST
EXCAVATION-UNCLASSIFIED	CUYD	3911.1	$ 24.45	$ 95,635.27
CRUSHED AGGREGATE COURSE	CUYD	1955.6	$ 67.20	$ 131,407.86
COVER - TYPE 2	SQYD	5866.7	$ 1.15	$ 6,767.79
COMMERCIAL MIX PG 70-28	TON	1256.4	$ 147.70	$ 185,579.36
EMULSIFIED ASPHALT CHFRS-2P	TON	94.2	$ 925.83	$ 87,257.23
DRAINAGE PIPE - URBAN	MILE	1.0	$ 263,000.00	$ 263,000.00
MISCELLANEOUS ITEMS			25%	$ 168,503
Subtotal 1				$ 842,515
TRAFFIC CONTROL - URBAN			5%	$ 42,126
Subtotal 2				$ 884,641
MOBILIZATION			10%	$ 88,464
Subtotal 3				$ 973,105
CONTINGENCY (HIGH RISK)			50%	$ 486,553
Subtotal 4				$ 1,459,658
CONSTRUCTION ENGINEERING (CE)			10%	$ 145,966
PRELIMINARY ENGINEERING (PE)			10%	$ 145,966
Subtotal 6				$ 1,751,589
INDIRECT COSTS (IDC)			10.91%	$ 191,098
TOTAL				**$ 1,942,688**

d. Roadway Reconstruction - Segments 2 & 3 (11) **$ 15,100,000** **TOT**

LENGTH (FT)	16300
NEW WIDTH (FT)	40
EXISTING WIDTH (FT)	24
SURFACING (IN)	5
AGGREGATE (IN)	8
SUBBASE (IN)	20

TYPE	UNITS	QUANTITY	UNIT PRICE	COST
EXCAVATION-UNCLASSIFIED	CUYD	43164.8	$ 24.45	$ 1,055,474.68
SPECIAL BORROW	CUYD	16098.8	$ 23.30	$ 375,078.70
CRUSHED AGGREGATE COURSE	CUYD	6439.5	$ 67.20	$ 432,716.78
COVER - TYPE 2	SQYD	28977.8	$ 1.15	$ 33,428.76
COMMERCIAL MIX PG 70-28	TON	19394.0	$ 147.70	$ 2,864,529.85
EMULSIFIED ASPHALT CHFRS-2P	TON	1163.8	$ 925.83	$ 1,077,494.58
COLD MILLING	SQYD	72444.4	$ 2.86	$ 207,437.42
SIGNS - URBAN	MILE	3.1	$ 57,000.00	$ 175,965.91
STRIPING & PAVEMENT MARKINGS - URBAN	MILE	3.1	$ 44,000.00	$ 135,833.33
DRAINAGE PIPE - URBAN	MILE	3.1	$ 263,000.00	$ 811,912.88
MISCELLANEOUS ITEMS			25%	$ 1,792,468
Subtotal 1				$ 7,531,788
TRAFFIC CONTROL - URBAN			5%	$ 376,589
Subtotal 2				$ 7,908,377

MOBILIZATION		10%	$	790,838
	Subtotal 3		$	8,699,215
CONTINGENCY (MEDIUM RISK)		30%	$	2,609,764
	Subtotal 4		$	11,308,979
CONSTRUCTION ENGINEERING (CE)		10%	$	1,130,898
PRELIMINARY ENGINEERING (PE)		10%	$	1,130,898
	Subtotal 5		$	13,570,775
INDIRECT COSTS (IDC)		10.91%	$	1,480,572
	TOTAL		**$**	**15,051,347**

PROJ-19	**I-90 Corridor Study**	**$250k - $300k**