Appendix B
Data Summary

October 23, 2024

CITY OF WHITEFISH

SAFE STREETS FOR ALL

ACTION PLAN

BASELINE DATA SUMMARY

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1.0. INTRODUCTION

The City of Whitefish 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 City limits. Completion of the *Whitefish SS4A Action Plan* will enable the City 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 document is to identify safety problems within the City of Whitefish by summarizing a data-driven analysis conducted using historic crash data and other relevant information to help the City understand safety concerns, key trends, and contributing factors in crashes, with an added emphasis on fatalities and serious injuries. A combination of location-based and systemic safety analysis methods were used to help identify high-risk areas, analyze potential system-wide safety issues, and investigate behavioral trends. In addition to investigating past crashes, the planning team engaged the public and multiple stakeholders to understand near-miss safety concerns within the community to proactively address locations where crashes have not occurred but are likely to occur in the future if changes are not made. Another important component of the analysis also included consideration of underserved and underrepresented segments of the community to ensure the needs of all community members and road users are identified and addressed.

1.1. National Guidance

The SS4A discretionary grant program was established by the Bipartisan Infrastructure Law (BIL) in 2021. The program was established to fund regional, local, and Tribal initiatives through grants to prevent roadway deaths and serious injuries through planning and implementation efforts. The SS4A program supports the US Department of Transportation's Vision Zero – a goal of zero roadway deaths – using the Safe System Approach (SSA) (illustrated in **Figure 1.1**), which aims to address the safety of all road users, with specific focus on improving safety culture, increasing stakeholder collaboration, and considering the human element in crash severity reduction.

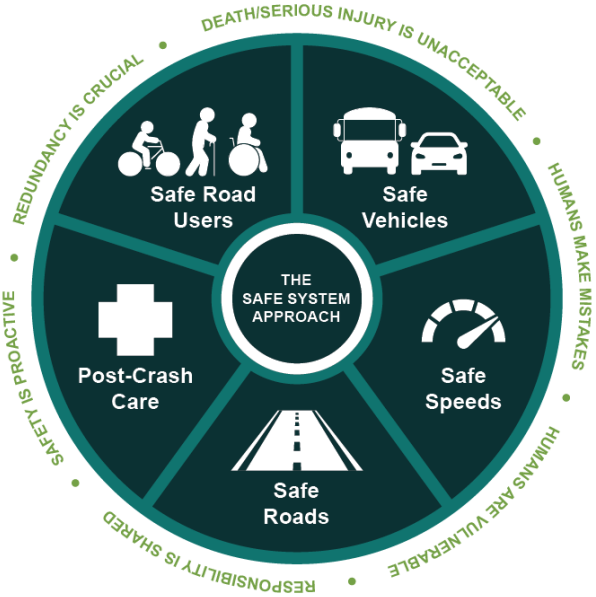


Figure 1.1: Safe Systems Approach

In alignment with the Vision Zero and SSA initiatives, the SS4A program provides funding to localities to help develop tools to strengthen the community's approach to roadway safety for all roadway users including vulnerable road users (pedestrians, bicyclists, other cyclists, and personal conveyance and micromobility users) public transportation users, motorcyclists and motor vehicle users, and commercial vehicle operators. Top priorities for the SS4A program include the following:

- Safety promotion to reduce roadway fatalities and serious injuries
- Low-cost, high-impact strategies
- Equitable investment in underserved communities
- Evidence-based and innovative projects and strategies
- Public and stakeholder engagement
- Alignment with the US Department of Transportation (USDOT) mission and priorities (equity, climate and sustainability, quality job creation, economic strength and global competitiveness)

1.2. Planning Area

The planning area for this effort is coincident with the Whitefish City limits. A geospatial exercise was conducted to select all crashes occurring within the City boundary. The crash locations are based on the reports filed by the responding officer and crash reports were not reviewed to verify crash location. **Figure 1.2** provides a map of the planning area. Note that the land surrounding the Amtrak rail lines, including the Wisconsin Avenue viaduct, is not annexed into the City and therefore is not included in the analysis.

1.3. Relevant Supporting Documents

A key component of SS4A Action Plan is an assessment of the community's current policies, plans, guidelines, and standards to identify opportunities to improve how established processes prioritize transportation safety. As an initial step in the process, a review of the City's past planning efforts, current policies, and standard procedures was conducted to ensure the Action Plan aligns with the community's overall safety goals and priorities and addresses any previously identified safety concerns. A detailed review of each document is provided in the following sections.

1.3.1. Past Planning Documents

WHITEFISH TRANSPORTATION PLAN (2022)

In 2022, the City of Whitefish adopted an update to its 2010 *Long Range Transportation Plan*. The plan considers all modes of transportation including driving, walking, bicycling, and transit to create a consolidated vision for the City's future transportation network through the year 2040. The plan integrates several related transportation plans and studies, described in subsequent sections, to develop a coordinated framework of relevant strategic initiatives.

As part of the planning effort, a comprehensive safety analysis was conducted using crash records from the years 2014 through 2018. Over this 5-year period, 719 total crashes were reported with 3 crashes resulting in a fatality and 19 crashes resulting in suspected serious injuries. Of the reported crashes, 7 involved pedestrians and 6 involved bicyclists. The plan identified 10 high-crash intersections warranting further consideration, including 7 intersections on US 93.

One of the transportation plan's goals is to provide a safe and secure transportation system for all users. Some of the strategies related to the safety goal include supporting the Montana Department of Transportation's (MDT) Vision Zero, reducing fatalities and serious injuries with an emphasis on safety improvement projects near schools, parks, and downtown, creating safe bike and pedestrian facilities, and improving education and enforcement.

The planning team also conducted a robust public engagement effort to understand the community's perspective on transportation issues and opportunities within Whitefish. Based on the feedback received, the top concerns included bicycle and pedestrian safety on US 93 (Mountainside to Twin Bridges), traffic congestion and safety on Baker Avenue and at Big Mountain Road/East Lakeshore, a lack of safe pedestrian and bicycle facilities on Karrow Avenue and Spokane Avenue, high speeds and non-motorist safety on Wisconsin Avenue, and pedestrian safety at 2nd Street/Miles Avenue.

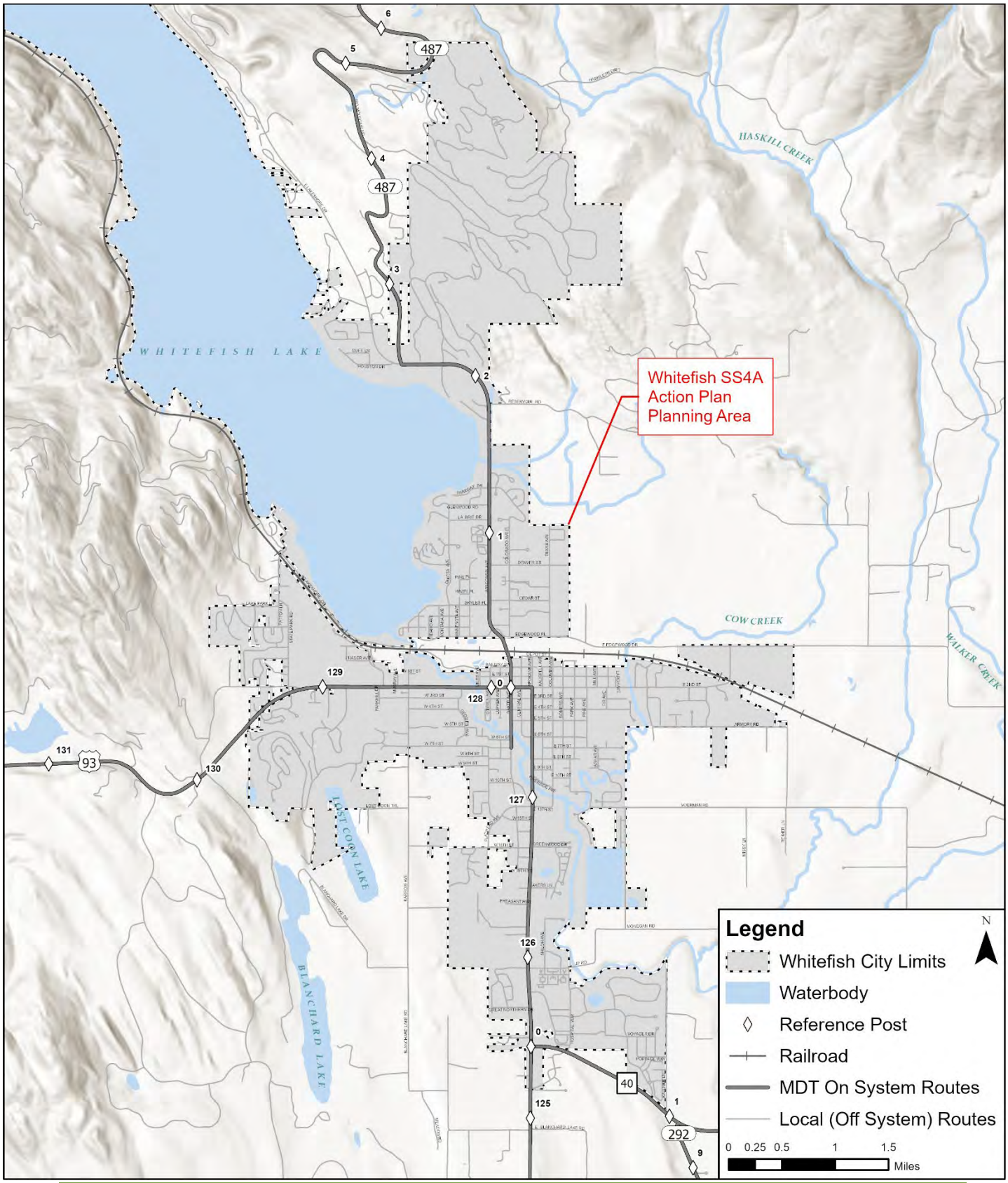


Figure 1.2: Planning Area

Given the findings of the plan, several improvements were recommended to address identified infrastructure maintenance needs, system gaps and connectivity, mobility and efficiency, traffic operations, and safety concerns in Whitefish. Two high priority corridors, Wisconsin Avenue and US 93, were explored in much greater detail to identify opportunities to improve safety, traffic operational level of service, connectivity, and access along the corridors and adjacent roadways. A comprehensive pedestrian and bicycle network is also recommended and incorporated into other identified infrastructure improvements to emphasize the importance of consistent integration of safe multimodal facilities in transportation improvement projects. The plan's identified improvements, especially the safety-focused projects, were used as a starting point for developing potential projects and strategies to address safety issues identified through the Action Plan development process.

DOWNTOWN WHITEFISH HIGHWAY STUDY (2022)

US 93 runs through the center of downtown Whitefish and serves as a primary travel route for residents, visitors, and through traffic. In 2022, MDT completed a comprehensive study of the highway to identify intersection improvements and roadway reconfigurations that improve traffic flow along the corridor. The study identified 7 options to improve mobility and safety along both the US 93 and Baker Avenue corridors. A two-phased screening process was employed to identify a preferred concept from the 7 initial options. While the City and MDT agree in principle on providing 2 northbound lanes on US 93 north of 13th Street, there is disagreement on whether the 2 northbound lanes should extend to 2nd Street (Concept C, MDT's preferred concept), or if the second northbound lane should drop at 7th Street (Concept G, City's preferred concept). Both the City and MDT agreed on providing 2 southbound lanes on Baker Avenue from 2nd Street to 13th Street (Concept C).

The study acknowledges that MDT and the City of Whitefish were unable to reach agreement on the study's preferred concept due to different views on anticipated benefits and potential impacts. At the conclusion of the study, MDT and the City mutually agreed to suspend a reconstruction project of the US 93 corridor through downtown Whitefish until an agreement can be reached between both parties.

The subsequent *Whitefish Transportation Plan* (2022) highlighted areas of common ground between the City and MDT on the *Downtown Whitefish Highway Study* and recommended breaking the reconstruction of US 93 into phases, starting with a project at the 13th Street/Spokane Avenue intersection.

WHITEFISH HIGHWAY 93 SOUTH CORRIDOR PLAN (2021)

US 93 acts as a gateway to the Whitefish community. A planning effort was completed in 2021 to evaluate the US 93 South corridor from East 6th Street to about 1.5 miles south of City limits, with a focus on land use, transportation, access management, the environment, and open spaces. The plan identifies heavy traffic, wide roadways, high vehicle speeds, and large parking lots as issues along the corridor. Additionally, the corridor has limited pedestrian, bicycle, and transit facilities. The US 93 South corridor presents an opportunity to welcome visitors to Whitefish, improve mobility, and provide housing and jobs to support community growth. The plan identifies 3 distinct segments of the corridor, each with unique goals and objectives to address land use, transportation, and open space within the segment. For all segments, traffic safety improvements are identified as a top priority with improvements for pedestrians, bicyclists, and transit riders being equally valued.

WHITEFISH SUSTAINABLE TOURISM MANAGEMENT PLAN (2020)

In 2020, the Whitefish City Council adopted the *Sustainable Tourism Management Plan* (STMP) to provide a framework to promote sustainable community-based tourism that balances efforts to boost the local economy, maintain its small-town character, and support community efforts to sustain the wellbeing of Whitefish residents. The STMP identifies 5 focus areas to provide an organizational framework for addressing priority issues and concerns that emerged from public input and data analysis efforts. The

transportation focus area identifies several strategies and action items to better manage traffic in a way that reduces congestion, promotes safety, enhances connectivity, prioritizes walkability, and accommodates users of all modes, ages, and abilities. Specifically, the plan recommends adoption of a Complete Streets program, parking and special event management strategies, trail connectivity improvements, and transit improvements.

CITY OF WHITEFISH PARKING MANAGEMENT PLAN (2019)

A study was conducted in 2019 to evaluate parking availability, enforcement strategies, and alternative mode and event considerations in support of a sustainable parking program in Whitefish. The plan found the parking supply to be sufficient but underutilized due to a lack of parking management and code enforcement. To combat seasonal traffic and parking congestion, the plan also recommended micro-shuttles in conjunction with park-and-ride lots located outside the downtown core, especially during large events during the peak summer season. The plan also discovered demand for long-term parking spaces for downtown employees who must shuffle and repark their vehicles among the time-limit restricted spaces available to avoid citations. A combination of short-, medium-, and long-term action items were recommended to help address the parking needs of all users, including business owners, employees, visitors, and drivers unloading cargo or passengers, and to prepare the City for future growth.

CITY OF WHITEFISH TRAFFIC/TRANSPORTATION REPORT (2019)

In 2019, the Western Transportation Institute conducted a study to evaluate transportation and transit issues that impact parking in the downtown core. The study investigated existing transit service and parking issues in Whitefish by conducting commuter surveys to determine the number of downtown workers who drive alone, carpool, or take the bus and identify their openness to alternative transportation modes. The researchers found 42 percent of survey respondents would consider using a park-and-ride service to get to work in downtown Whitefish. Based on this finding along with other survey results, the study recommended that the City consider adding park-and-ride service to improve access to downtown and consider limiting the addition of new parking facilities by repurposing land where parking lots currently exist. These improvements have the potential to increase the tax base and vitality of downtown while still promoting efficient transportation access and circulation.

WISCONSIN AVENUE CORRIDOR PLAN (2018)

This plan was adopted by the City of Whitefish in 2018. Wisconsin Avenue is the primary link between downtown and 2 major recreational destinations, Whitefish Lake and Whitefish Mountain Resort. Additionally, Wisconsin Avenue is a State-maintained urban route and the only separated grade crossing over the railroad tracks. This plan provides a decision framework to maximize the City's infrastructure investment, protect the environment, help meet the City's housing needs, and maintain community character. Past planning efforts indicate that several segments and intersections along Wisconsin Avenue are expected to experience unacceptable levels of congestion and delay by the year 2030 causing traffic to spill over to alternative routes through nearby residential neighborhoods. To address this concern, a set of action items were identified, 4 of which are particularly relevant to the transportation network:

- Evaluate options for road widening, turn lanes, curbs, parkways and intersection improvements along Wisconsin Avenue.
- Identify options to expand transit and develop park-and-ride lots.
- Identify potential traffic calming solutions for Colorado Avenue.
- Implement Bicycle-Pedestrian Master Plan recommendations and continue exploring options for improving the bicycle and pedestrian network.

DOWNTOWN BUSINESS DISTRICT MASTER PLAN (2018)

This master plan, which was adopted in 2006, updated in 2015, and revised in 2018, identifies opportunities to increase the vitality of the downtown business district. Four guiding principles for the transportation network are stated:

- Ensure that US 93 roadway and intersection changes enhance and support downtown businesses rather than serving as merely a conduit for regional through-traffic.
- Accommodate increasing traffic volumes without degrading downtown livability and the retail environment.
- Locate new parking facilities to support downtown retail and commercial businesses.
- Accommodate alternative transportation modes (pedestrian, bicycle, and transit) to reduce downtown congestion.

Included in this plan is the proposed design for downtown Whitefish. The plan establishes a comprehensive complete street network of integrated and balanced pedestrian, bicycle, and automobile facilities that connect to and within the downtown planning area. While ensuring essential automobile and truck access is maintained, the transportation framework includes pedestrian and bike-friendly streets, intersections, sidewalks, and recreational trails that enhance mobility and the quality of life for those living in, working in, or visiting downtown Whitefish.

CITY OF WHITEFISH CLIMATE ACTION PLAN (2018)

The City of Whitefish is committed to the goals of the 2015 *United Nations Paris Agreement* in reducing its greenhouse gas emissions by 26 percent by 2026. A City council-appointed committee worked with City staff and the Whitefish School District to create an Action Plan for Whitefish in 2018. Several recommended strategies relevant to the *Whitefish SS4A Action Plan* effort are listed below.

- Develop a transit center near Depot Park and improve and promote public transit service.
- Make Whitefish more bike and pedestrian friendly through safety campaigns, regular bike lane, crosswalk, and sidewalk maintenance and repair, and implementation of new facilities.
- Plan for walkable communities through compact development and investment in pedestrian and bike facilities.
- Develop design standards to accommodate transit, carsharing, and non-motorized travel.

CONNECT WHITEFISH BICYCLE AND PEDESTRIAN PLAN (2016)

This plan recommends a network of trails and other improvements to achieve a connected system of bicycle and pedestrian facilities in the City of Whitefish. The plan identifies the need for an advocacy group to support the education, awareness, and promotion of biking and walking in Whitefish. Additionally, recommendations are provided related to connectivity, safety, wayfinding, maintenance, programming, and funding.

The plan is intended to evolve over time as community needs and design standards change. It was recommended that this plan be reviewed by City of Whitefish staff approximately 5 years after implementation to evaluate its success and assess the need for an update. Since implementation, several miles of shared paths have been constructed as part of street reconstruction projects. Additionally, the Connect Whitefish advocacy group was created as a result of this plan.

WHITEFISH HIGHWAY 93 WEST CORRIDOR PLAN (2015)

The *Whitefish Highway 93 West Corridor Plan* provides specific goals, policies, and recommended actions for the corridor that consider land use, scale, transportation function and modes, noise, screening,

landscaping, and urban design. The plan identifies ways that transportation infrastructure should support the desirable land uses identified in the plan including the following actions.

- Encourage development/use of local grid road network off of US 93 West to improve access, circulation, and safety.
- Mitigate neighborhood traffic impacts with traffic calming, on-street parking, narrow street section to keep speeds low, discourage cut-through traffic.
- Discourage direct access to the highway by consolidating/eliminating approaches.
- Add sidewalks on local streets, interconnect trails, and look for alternative bike routes off US 93.

CITY OF WHITEFISH SAFE ROUTES TO SCHOOL PLAN (2011)

This plan aimed to increase the number of students walking and bicycling to school in Whitefish. With the goal of making the non-motorized transportation network accessing Muldown Elementary and Whitefish Middle schools a more viable option for school-aged children, 5 complementary strategies were developed relating to engineering, enforcement, education, encouragement, and evaluation. Thirteen engineering projects and 10 sidewalk projects were recommended, including those listed below. The plan was completed in 2011 prior to the construction of the new Muldown Elementary School. Since construction of the new school, some of the following recommendations are now irrelevant or outdated.

- A drop-off loop at Muldown Elementary School at the intersection of 7th Street and School Drive.
- Dedicated bicycle lanes or paths along Kalispell Avenue and 5th Street.
- A bicycle/pedestrian bridge that would extend 7th Street across the river.
- Fill in gaps in the sidewalk network, prioritizing facilities along 5th Street, Pine Avenue, and 6th Street South.

CITY OF WHITEFISH PARKS AND RECREATION MASTER PLAN (2013)

The *City of Whitefish Parks and Recreation Master Plan* presents a vision for the development of future parks and recreation services in the City over a 20-year planning horizon. The plan included a needs-based assessment, which identified several areas to focus efforts. Concerns relevant to the *Whitefish SS4A Action Plan* effort are listed below.

- The accessibility analysis indicates that the City's parks generally have good road and pedestrian access.
- Pedestrian access and inadequate parking are generally an issue for the City's water access sites.
- As the bike and pedestrian system expands, ensuring connectivity between segments of the trails and expanding the system to growth areas are major objectives.
- The nation's population is growing older, and the aging trend is more pronounced in Whitefish than the rest of the State. It is important to design facilities for the aging population with varying levels of mobility.
- Broken sidewalks, poorly maintained trails, and proximity to vehicular traffic influence the real and perceived safety for park users.

1.3.2. Engineering Standards

The *City of Whitefish Engineering Standards*[1] establish the minimum requirements for the construction of new and/or upgrading of existing facilities both in the public right-of-way and for private development, including transportation and transportation related facilities. The following sections discuss standards which are relevant to roadways, traffic, and safety for all users. The majority of standards focused on these topics are contained in Chapter 6: Streets.

TRAFFIC IMPACT STUDIES (6.1.2)

Developments which will contribute two hundred (200) or more new vehicle trips per day to the City street system must complete a Traffic Impact Study (TIS). The TIS study area must include all transportation facilities impacted by traffic generated by the project including transit, bicycle, and pedestrian. As part of the existing conditions analysis, the TIS should provide information about existing sidewalks, bike lanes, and trails, as well as an analysis of past crashes and current traffic operations. Any planned transportation improvements, access management changes, and traffic calming measures, if needed to deter cut through traffic and reduce speeds, should be included in the TIS. In reviewing the City's most current *Bicycle and Pedestrian Master Plan*, the applicant should also identify how a pedestrian or bicyclist from the proposed development will access nearby existing or planned non-motorized infrastructure. The TIS should offer recommendations to maximize access to non-motorized facilities through completion of non-motorized infrastructure within or adjacent to the development.

INTERSECTIONS AND DRIVEWAYS (6.1.3 AND 6.1.12)

Streets must intersect at 90° angles except where topography precludes, and in no case shall be less than 75°. No more than two streets may intersect at one point and hilltop intersections are only permitted if reasonable alternatives do not exist. Driveways onto arterial streets are also discouraged unless there are no other alternatives. The maximum intersection approach grade must not exceed five percent for a distance of 60 feet to provide for adequate starting, stopping and stacking distances.

SIDEWALKS AND PATHS (6.1.8 AND 6.1.10)

All developments must have delineated walkways to allow pedestrians to safely travel from any part of the development to the boundaries of the development. Developments abutting existing or proposed roadways are required to have walkways within the public right-of-way parallel with the roadways. Unless approved by the City, sidewalks are required on both sides of the street in all residential and commercial subdivisions. The minimum width of a walkway is five feet. Residential sidewalks must be separated from the street by a boulevard or open space with a minimum width of six feet (eight feet is the preferred width for boulevard tree planting). ADA compliant handicap ramps must be installed at all pedestrian crossings and parking spaces must be a minimum of 20 feet from crosswalks.

Bicycle paths are part of the City's *Connect Whitefish Bicycle and Pedestrian Plan* and must be a minimum of 10 feet, however, this minimum width may be reduced to 8 feet when constructed through critical areas or with approval.

Standard details are provided for sidewalks, pedestrian ramps, detectable warning device installation, and bicycle/pedestrian paths. Typical sections for local, collector, and arterial streets are also provided.

TRAFFIC CALMING (6.1.16)

Traffic calming may be achieved by changing the physical environment to reduce the negative effects of motor vehicle use, altering driver behavior and improving conditions for non-motorists, or by addressing specific neighborhood concerns. Calming is typically used on local streets to discourage non-local traffic and is rarely seen on roadways functionally classified higher than collectors. Traffic calming projects which involve installing "hard" improvements must meet several criteria before being considered for implementation, because they can be disruptive to the residents in the surrounding area, difficult to fund and maintain, and difficult to remove once installed. Traffic calming elements can be incorporated into the initial design of subdivision or can be retrofitted into existing subdivisions. A list of acceptable traffic calming measures is provided in the appendix of the Standards.

STREET LIGHTING (CHAPTER 7)

Decorative street lighting is required on all public and private streets, public and private parking lots and along all shared use paths (SUPs). All decorative streetlights must be compliant with the City's Outdoor Lighting Standards (Section 11-3-25 of the Whitefish City Code). The code establishes lighting standards to protect and promote the public health, safety and welfare, the quality of life, and the ability to view the night sky. In certain cases, deviations from the standards are allowable when recommended by the City Council to protect the safety of the residents of Whitefish.

1.3.3. City Code

The *City Code of Whitefish*[2], as reviewed, contains ordinances up to 24-08, which passed on July 15, 2024. The following section summarizes relevant parts of the code pertaining to transportation safety contained in Title 6: Motor Vehicles and Traffic.

SPEED LIMITS (6-1-5)

Speed limits are posted to protect the public by informing drivers of the authorized, allowable speed. Common speed limits are typically statutory as stated in Montana Code Annotated (MCA) 61-8-303. The following speed limits apply to all streets, alleys, highways, or bridges in the City, except for those streets where the limits have been altered by City Council:

- 15 mph when passing any school zone, during noon hour or during any school recess, or during any period while children are going to or leaving school, or within one-half (1/2) hour of the opening or closing hours of such school;
- 15 mph when light conditions or atmospheric conditions, or other interference or obstruction to the view render it impossible to see a distance of at least one hundred fifty feet (150') ahead;
- 35 mph on all through streets and arterial highways, except on specific segments of Spokane Avenue and Second Street where the maximum speed shall be 25 mph;
- 15 mph in or on all alleys in the City;
- 25 mph at all other places and under all other conditions.

Speed limits are posted only after a traffic and safety engineering study has been conducted and (where applicable) approved by the Transportation Commission. Concerns about posted speed limits are handled either by MDT or by local City or County governments, depending on jurisdiction. MDT handles requests when the roadway is State or Federally funded. For City streets, the City Council may determine and declare, upon the basis of an engineering and traffic investigation, a reasonable and safe speed limit consistent with the roadway context and conditions.

State law (MCA 61-8-303) dictates that the minimum speed limit for streets in urban districts is 25 mph. The law permits local authorities to alter certain speed limits (MCA 61-8-310) on the basis of an engineering and traffic investigation. The minimum speed limit in urban districts is not identified as a speed limit that localities have the authority to alter under current law.

ALTERNATE SIDE PARKING (6-2-3)

Per City Ordinance 18-24, parking restrictions are in place from October 1st through April 30th of each year to assist with roadway maintenance activities such as snow removal, leaf pick-up, and sweeping. Vehicles must be moved in accordance with the alternate side parking ordinance between the hours of 5:00 am to 5:00 pm:

- On the even calendar days, park on the even side of the street (typically north and west)
- On the odd calendar days, park on the odd side of the street (typically south and east)

USE OF HANDHELD ELECTRONIC COMMUNICATIONS DEVICES (6-4)

On June 20, 2011, the Whitefish City Council unanimously approved Ordinance 11-10 banning the use of hand-held cell phones while driving within City limits. The ban took effect on September 20, 2011, to allow a grace period for people to learn about the law and obtain hands-free technology. The use of hands-free devices, including Bluetooth, earpieces, speaker phones, or voice activated technologies, is allowed under the ordinance.

The law applies to people within City limits who are "operating a motor vehicle, motorcycle, quadricycle, or a bicycle on a public highway." Other hand-held communication devices such as laptops or cell phones using push to talk technologies, GPS and navigational systems, and any other mobile communications devise are also banned.

The ordinance allows for a $100 fine for first-time offenses and $300 for each repeat offense. Informational signs detailing the law are posted at the town's entrances.

ELECTRIC BICYCLES (6-5)

On July 17, 2017, the Whitefish City Council approved Ordinance 17-21 regulating the use of electric bicycles on City SUPs and bike lanes. The ordinance defines three types of electric bicycles based on the motor's ability to propel the bicycle through pedal or throttle assist:

- **Type 1:** A bicycle equipped with a motor that provides assistance only when the rider is pedaling, and ceases to provide assistance when the bicycle reaches the speed of 20 mph.
- **Type 2:** A bicycle equipped with a motor that may be used exclusively to propel the bicycle, and that is not capable of providing assistance when the bicycle reaches the speed of 20 mph.
- **Type 3:** A bicycle equipped with a motor that provides assistance only when the rider is pedaling, and that ceases to provide assistance when the bicycle reaches the speed of 28 mph, and is equipped with a speedometer.

Under the regulations, a person may operate a Type 1 or Type 2 electric bicycle on any SUP or bicycle lane established by the City in a reasonable and prudent manner up to a maximum assist speed of 20 mph. Type 3 electric bicycles are not allowed on City SUPs or bike lanes. Violators will be found guilty of a misdemeanor punishable by a fine not to exceed $500 and will also be deemed to have committed a municipal infraction and shall be assessed a civil penalty.

SIDEWALKS (7-1A)

The construction and maintenance of sidewalks is the responsibility of the abutting property owner. Whenever a sidewalk is deemed by the public works department to be unfit or unsafe for public travel, or otherwise dangerous to public safety, the abutting property owner is required to immediately repair the sidewalk.

To assist property owners in repairing sidewalks meeting the criteria for repair or replacement, the City of Whitefish adopted Resolution 19-12[3] which establishes a sidewalk cost-sharing program. Upon execution of a sidewalk cost-sharing agreement, the City will pay 50 percent of the per-square foot cost of constructing or repairing a sidewalk while the property owner is responsible for the remaining 50 percent.

SNOW AND ICE REMOVAL (7-2-2)

Property owners/tenants are responsible for keeping all abutting sidewalks and SUPs free and clear of all accumulations of ice, snow, slush or other impediments and clean and safe for pedestrians, providing a minimum five-foot (5') clearance for pedestrian and bicycle traffic and to prevent continuance and accumulation of the same upon such sidewalks and SUPs. In Business Districts, snow and ice should be cleared each morning and when conditions render passage of pedestrians dangerous, unsafe, or difficult.

In Residential Districts, owners/tenants must clear snow and ice within 24 hours. If the owner/tenant fails to remove accumulated snow and ice, the City Manager may provide such removal and charge the owner the sum of the costs incurred plus a 20 percent administration fee.

The City has also established Emergency Snow Routes which are the first routes to be cleared in the event of hazardous wintertime conditions. Overnight snow falls, measured by the Supervisor at 4:00 AM, of four inches or more initiates City snow plowing efforts. In order of priority, the City first plows Emergency Routes, then collector and commercial streets, residential streets, cul-de-sacs and parking lots, and finally alleys.[4] The City of Whitefish Parks and Recreation Department maintains all sidewalks along City property in addition to City bicycle/pedestrian trails.

SKATEBOARDS (7-2-3)

It is unlawful for any person to ride skateboards at any time on any public sidewalk, street, alley, or parking lot within the confines of the Whitefish Business District more specifically described as follows:

- Baker Avenue from Railway Street to the Whitefish River Bridge
- Central Avenue from Depot Street to Fourth Street
- Depot Street from Central Avenue to Spokane Avenue
- Railway Street from Lupfer Avenue to Spokane Avenue
- Spokane Avenue from Depot Street to Fourth Street
- First Street from Lupfer Avenue to Spokane Avenue
- Second Street from Spokane Avenue to Lupfer Avenue
- Third Street from Spokane Avenue to Lupfer Avenue
- Fourth Street from Lupfer Avenue to Spokane Avenue
- Whitefish City Library, including the grounds and all parking designated for use by library patrons or employees

2.0. CRASH RECORD OVERVIEW

For this effort, the MDT Traffic and Safety Engineering Bureau provided crash data for the 5-year period from January 1, 2018, to December 31, 2022. The data included all crashes occurring within Whitefish City limits over the 5-year analysis period. This information includes data from crash reports submitted by Montana Highway Patrol (MHP) officers and local City, County, Tribal, and Federal law enforcement officials. The crash reports are a summation of information from the scene of the crash provided by the responding officer. Some of the information contained in the crash reports may be subjective.

Crash records were analyzed to determine contributing factors, high-risk areas, and behavioral characteristics. User behavior, such as the use of proper safety equipment (i.e., seatbelts or helmets), impairment, and adherence to traffic laws, is analyzed only when a crash is reported. There are likely many other instances in which these and other improper behaviors occur without resulting in a reported crash. The purpose of this analysis is only to analyze the circumstances of reported crashes to identify trends and contributing factors so that the City, in coordination with local stakeholders, can address these issues and improve safety on the community's roadways.

2.1. Data Challenges and Limitations

Although historic crash data can help identify trends in behavioral and circumstantial contributors to crashes within the Whitefish area, there are several challenges and limitations that should be acknowledged and considered when drawing conclusions from the data.

- **Underreported Data:** Many crashes, especially those where individuals and vehicles are unharmed, do not get reported to the police. Underreporting can limit the ability to properly and effectively manage road safety, since crash analyses can only be based on reported crash data. Similarly, near-miss occurrences often are not reported due to lack of property damage or injury. Although near-misses do not result in a reportable crash, these experiences can indicate significant safety issues that should be proactively addressed so a crash does not occur in the future.
- **Unknown Data:** For many crash records, various fields are left blank by the reporting officer. Occasionally, a report will have "unknown" listed rather than a blank field. Without this information, it may be difficult to capture a complete understanding of what happened before, during, and after a crash.
- **Inconsistent Data:** Inconsistencies in reporting, either by the reporting officer or by the individual entering data into the MHP or State database, can also lead to misrepresentation of crash details. Although protocols have been established and training for completing crash reports is provided to law enforcement, there may still be inconsistencies or errors in the reporting.
- **Abbreviated Data:** Often times the abbreviated crash data provided by MDT does not provide a full account of the crash circumstances. Without reading the detailed crash reports by the investigating officer which contain narratives of the crash occurrence, statements from the individuals involved and witnesses, crash diagrams, citations, and officer opinions as to cause of the collision, a clear picture of the crash may be unattainable.

Beyond the standard data challenges and limitations encountered when conducting crash data analyses, additional discrepancies and inconsistencies were discovered through coordination with the Whitefish Police Department (WPD) and MDT. Crash records obtained from MDT included 530 crashes over the 5-year period. WPD supplied crash records for the period covering January 1, 2017, through December 31, 2023, which indicated 829 total crashes and 652 crashes over the 2018-2022 period corresponding to MDT data. Comparison of these datasets reveals a difference of more than 100 crashes over 5 years. Slight differences in reported crash volumes may be due to crashes that occur on public versus private

property (since crashes on private property are not reported by MDT) or due to differences in selection boundaries (with MDT crashes selected strictly based on City boundaries, while WPD may respond to and prepare crash reports for crashes occurring outside of City limits). Additionally, MDT shared that substantial staffing turnover occurred during the 5-year analysis period, which resulted in a significant knowledge loss among data entry staff. Furthermore, all crash records received from local jurisdictions around the State are entered manually into MDT's crash record database. With a volume of over 10,000 crashes per year paired with staffing turnover, the risk of data loss or inconsistencies is high.

Due to data use and privacy issues, only incident response types and recorded crash times could be obtained from the WPD dataset for this effort. Accordingly, the MDT crash records were used for the majority of the analysis provided in this report due to the additional level of detail available. Where applicable, WPD data was compared to available MDT data to identify potential differences.

Furthermore, the analysis in this report primarily considers the data contained in simplified crash records provided by MDT. Review of crash narratives for more than 500 crashes that occurred in Whitefish over the 5-year analysis period was determined to be time prohibitive. However, crash narratives were reviewed for fatal and suspected serious injury crashes and pedestrian or bicycle involved crashes to understand contributing circumstances and identify underlying trends. Additional details regarding these crashes are provided in **Section 6.1**.

3.0. CRASH CHARACTERISTICS

MDT's crash records included a total of 530 crashes reported within the Whitefish City limits over the 5-year analysis period extending from January 1, 2018, to December 31, 2022. The following sections summarize crash details and other characteristics associated with these crashes that occurred over the analysis period. Where applicable, crash data supplied by WPD is shown for comparison and analysis purposes. The characteristics summarized in this section were evaluated as reported by the responding officer, and no efforts have been made to correct inconsistencies or fill in missing fields.

3.1. Crash Period

Crash data were evaluated based on the period of time when the crash occurred, as summarized in the following sections. This analysis helps identify temporal trends such as day of the week, month, or hour of the day as well as providing a comparison year over year.

YEAR

The number of crashes reported per year by both MDT and WPD is presented in **Figure 3.1**. MDT data indicated a decline in crashes between 2018 and 2021, with a large spike in crashes in 2022. WPD records were provided for a 7-year period (2017 to 2023) and indicated an increasing trend in reported crashes between 2017 and 2019 and a decrease in crashes in 2020 and 2021. After a spike in crashes in 2022, the number of reported crashes returned to 2020/2021 levels in 2023. Overall, fewer crashes were reported in MDT's dataset than the WPD dataset.

As a comparison, visitation data from Glacier National Park (GNP) was obtained. **Figure 3.1** shows the visitation numbers at the West Entrance of GNP for the years 2019 – 2023. Many visitors using the GNP West Entrance stay in Whitefish, so this is a helpful comparison to understand general visitor activity in the area. The GNP data shows a sharp decline in visitation in 2020 due to the COVID-19 pandemic, and a brief spike in 2021 followed by another sharp decline in 2022. Interestingly, the highest number of crashes occurred in 2022, while the lowest visitation numbers also occurred in 2022.

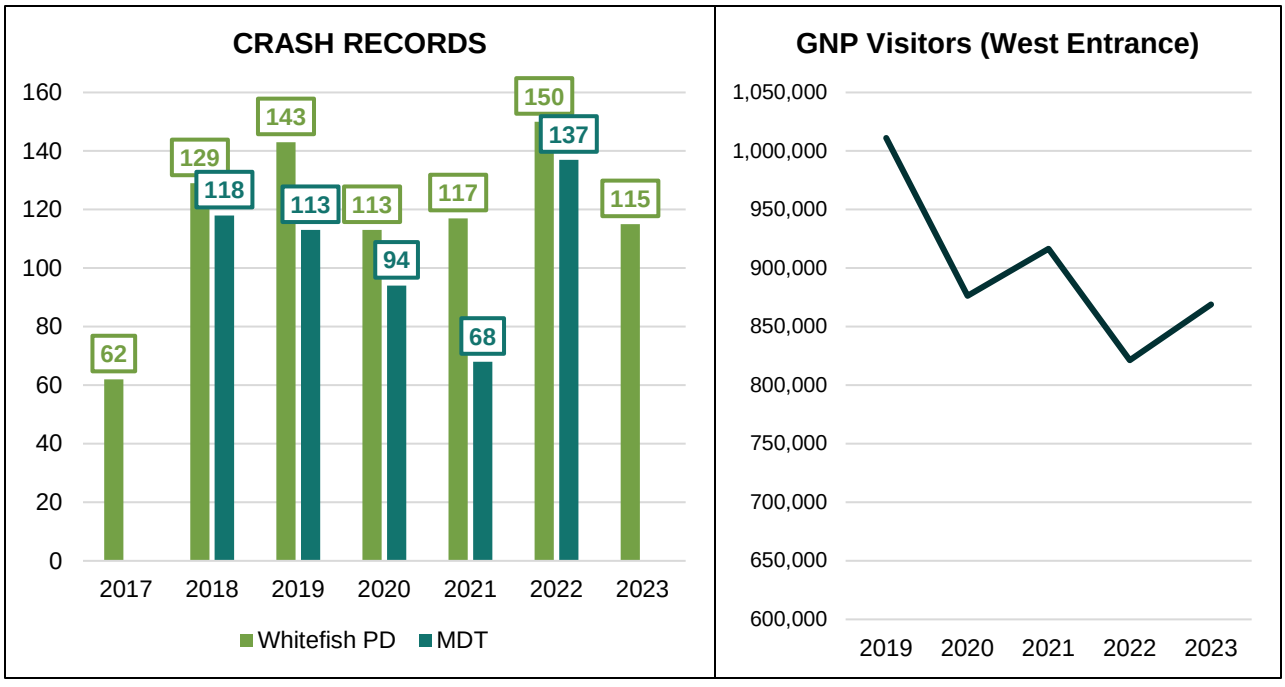


Figure 3.1: Crashes and Visitation by Year

DAY OF THE WEEK

A higher number of crashes occurred on weekdays (82 percent) compared to weekends. This suggests a possible trend with regular commuting patterns and generally higher traffic exposure on weekdays. WPD data also reported 82 percent of crashes occurring on weekdays but recorded the most crashes on Thursdays, while MDT recorded the most crashes on Wednesdays. The distribution of crashes based on the day of the week on which the crash occurred is presented in **Figure 3.2**.

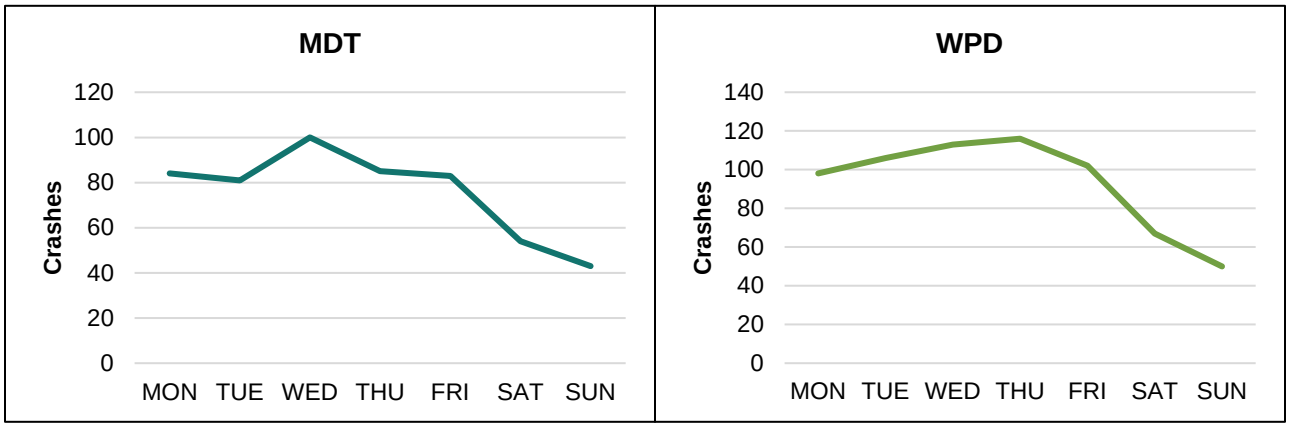


Figure 3.2: Crashes by Day of the Week (2018-2022, MDT/WPD)

MONTH

Figure 3.3 shows the distribution of reported crashes based on the month of the year in which the crash occurred. Approximately 29 percent of crashes occurred in the summer months (June through August), while 35 percent occurred in the winter months (December through February). WPD data exhibited similar trends, reporting that 30 percent of crashes occurred in the summer months, while 35 percent of crashes occurred in winter months. For both datasets, crashes were lowest in the spring and fall, which are shoulder seasons for visitation in Whitefish. The MDT dataset recorded the highest number of crashes in January, while the WPD dataset recorded the highest number of crashes in February.

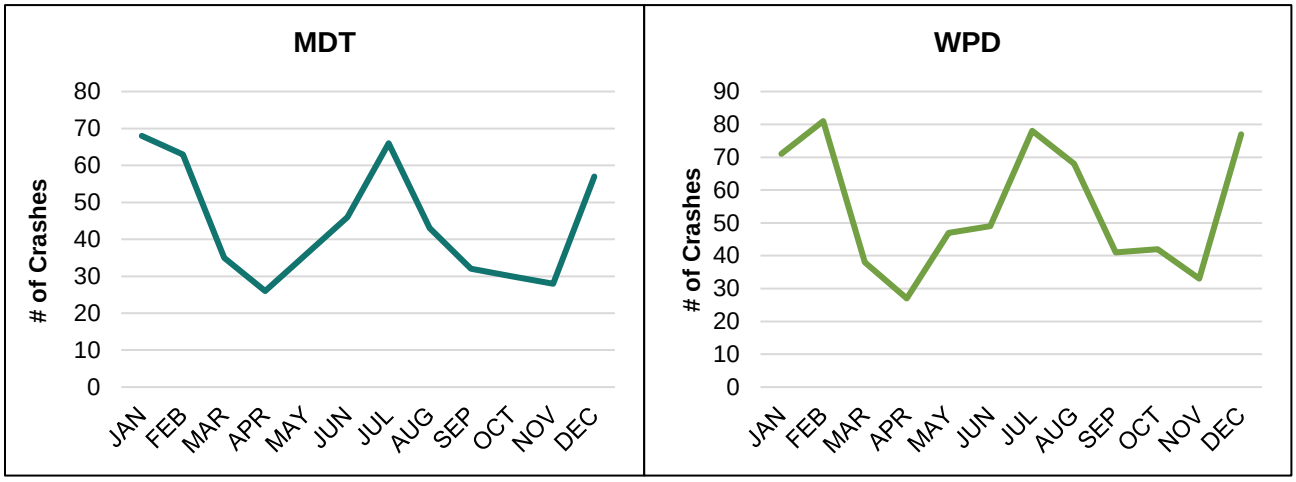


Figure 3.3: Crashes by Month (2018-2022, MDT/WPD)

TIME OF DAY

The time-of-day distribution for crashes is presented in **Figure 3.4**. Prominent peaks can be seen at 3 points throughout the day, with 1 around 8:00 AM, another around 12:00 PM, and the other between 3:00 PM and 5:00 PM, with higher peaks building over these 3 periods of the day. These timeframes likely correspond to morning and evening commutes, lunchtime hours, and school start and release times when traffic volumes are typically higher and roadways are generally more congested. The most crashes occurred during the 4:00 PM hour according to both the MDT and WPD datasets. Crashes in the evening, late night, and early morning hours were fairly rare, with about 18 and 12 percent of crashes reported as occurring between 7:00 PM and 7:00 AM in the MDT and WPD datasets, respectively.

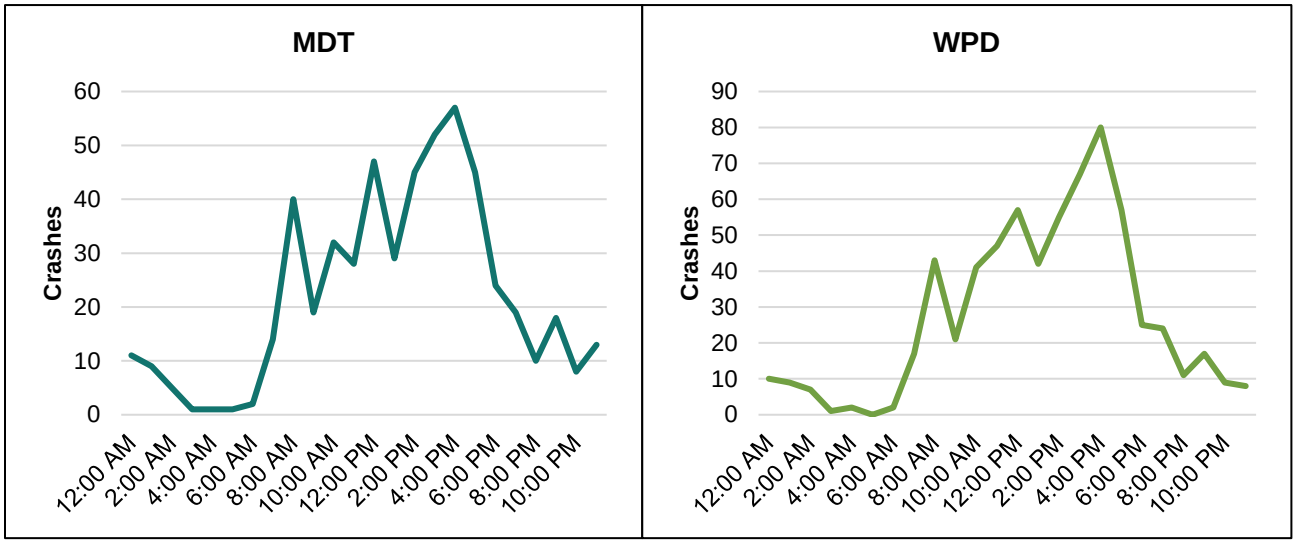


Figure 3.4: Crashes by Hour (2018-2022, MDT/WPD)

3.2. Severity

Crash severity is categorized based on the most severe injury resulting from the crash. For example, if a crash results in a possible injury and a suspected serious injury, the crash is reported as a suspected serious injury crash. A suspected serious injury is defined as an observed injury, other than a fatality, which would prevent the injured individual from walking, driving, or normally continuing the activities they were capable of performing before the injury. The term “suspected” references an officer’s observation at the time of the crash without follow-up confirmation of the nature of the person’s injury. The term “severe injuries” is used to refer to the combined total of fatal and suspected serious injuries.

During the 5-year analysis period, a total of 530 crashes occurred involving 1,109 individuals. As shown in **Figure 3.5**, about 16 percent of those crashes resulted in some level of injury, and less than 1.5 percent were severe. There were 2 fatal crashes, resulting in 2 total fatalities, and 5 suspected serious injury crashes, resulting in 6 total suspected serious injuries. A total of 109 of the 1,109 individuals involved in crashes, about 10 percent, were injured to some degree (suspected minor or possible injury) as a result of a crash. Approximately 84 percent of crashes were reported as causing property damage only (PDO) or as unknown severity.

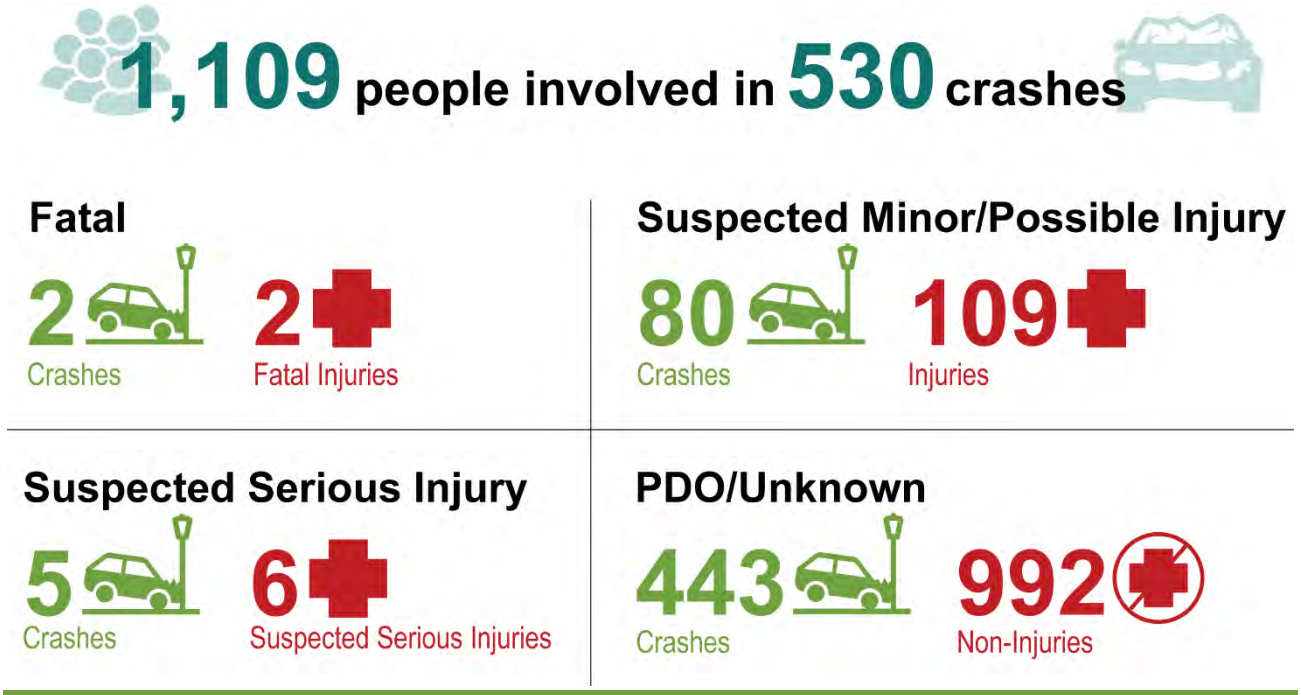


Figure 3.5: Crash Severity (2018-2022, MDT)

Crash data supplied by WPD provides the incident response type which can be evaluated as a representation of severity. The incident response type indicates how officers respond to a motor vehicle accident (MVA), including the use of lights or sirens, urgency, and the level of medical support required. **Figure 3.6** shows a comparison of the MDT-reported crash severity to the incident response type reported by WPD. Although not directly comparable, both datasets indicate a higher proportion of non-injury crashes in the Whitefish area.

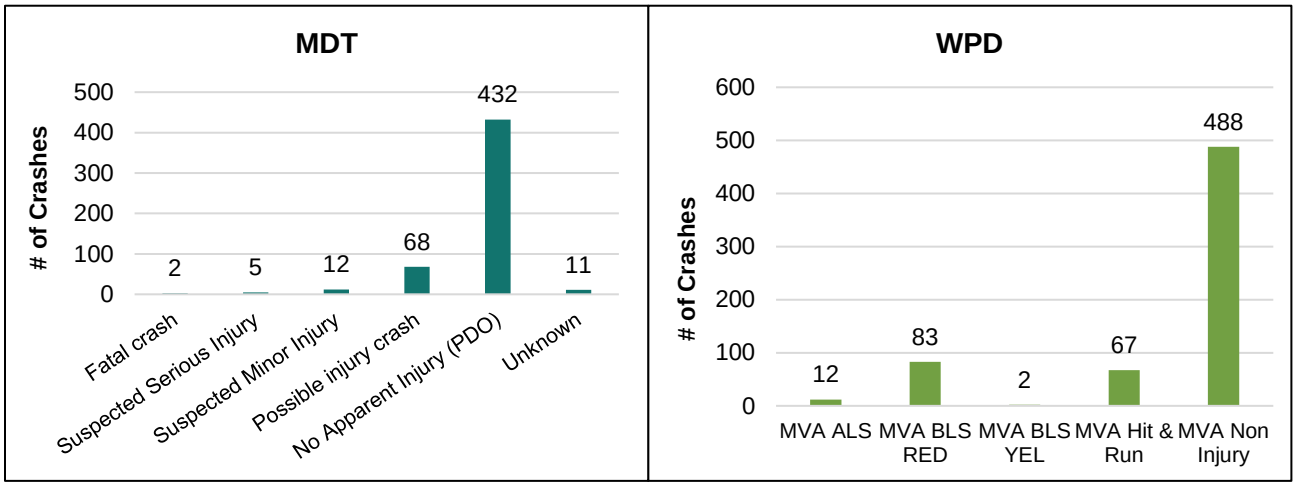


Figure 3.6: Severity Comparison (2018-2022, MDT/WPD)

***MVA ALS** = Motor Vehicle Accident (MVA) – Advanced Life Support (ALS); **MVA BLS RED** = MVA - Basic Life Support (BLS) – Respond with lights & sirens; **MVA BLS YEL** = MVA BLS – Respond obeying speed limits & traffic laws; **MVA Hit & Run** = Hit & Run Crash; **MVA Non-Injury** = PDO/Non-Injury MVA*

3.3. Location

INTERSECTION RELATION

With respect to physical location, approximately 20 percent of all crashes occurred at an intersection and an additional 33 percent of crashes were related to an intersection (i.e., rear-end crashes). About 4 percent of crashes occurred at a driveway or other access type, while 43 percent occurred at a non-junction location, as illustrated in **Figure 3.7**.

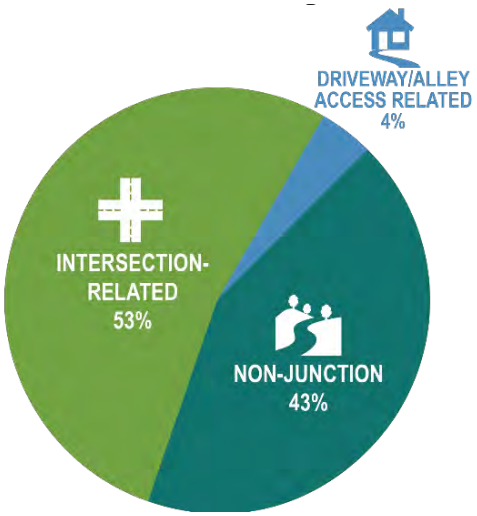


Figure 3.7: Intersection Relation

In terms of severity, 5 out of 7 severe crashes occurred at an intersection or were related to an intersection. Two severe crashes, 1 fatal and 1 serious, occurred at non-junction locations.

Although fewer crashes occurred directly at intersections than non-junction locations, there were more intersection crashes that resulted in severe injuries. In urban areas, non-junction crashes tend to occur on local, neighborhood streets with lower speed limits, helping to reduce the risk of injury when a crash does occur. Intersection crashes in urban areas can be more severe due to the angle at which crashes occur (right-angle or head-on).

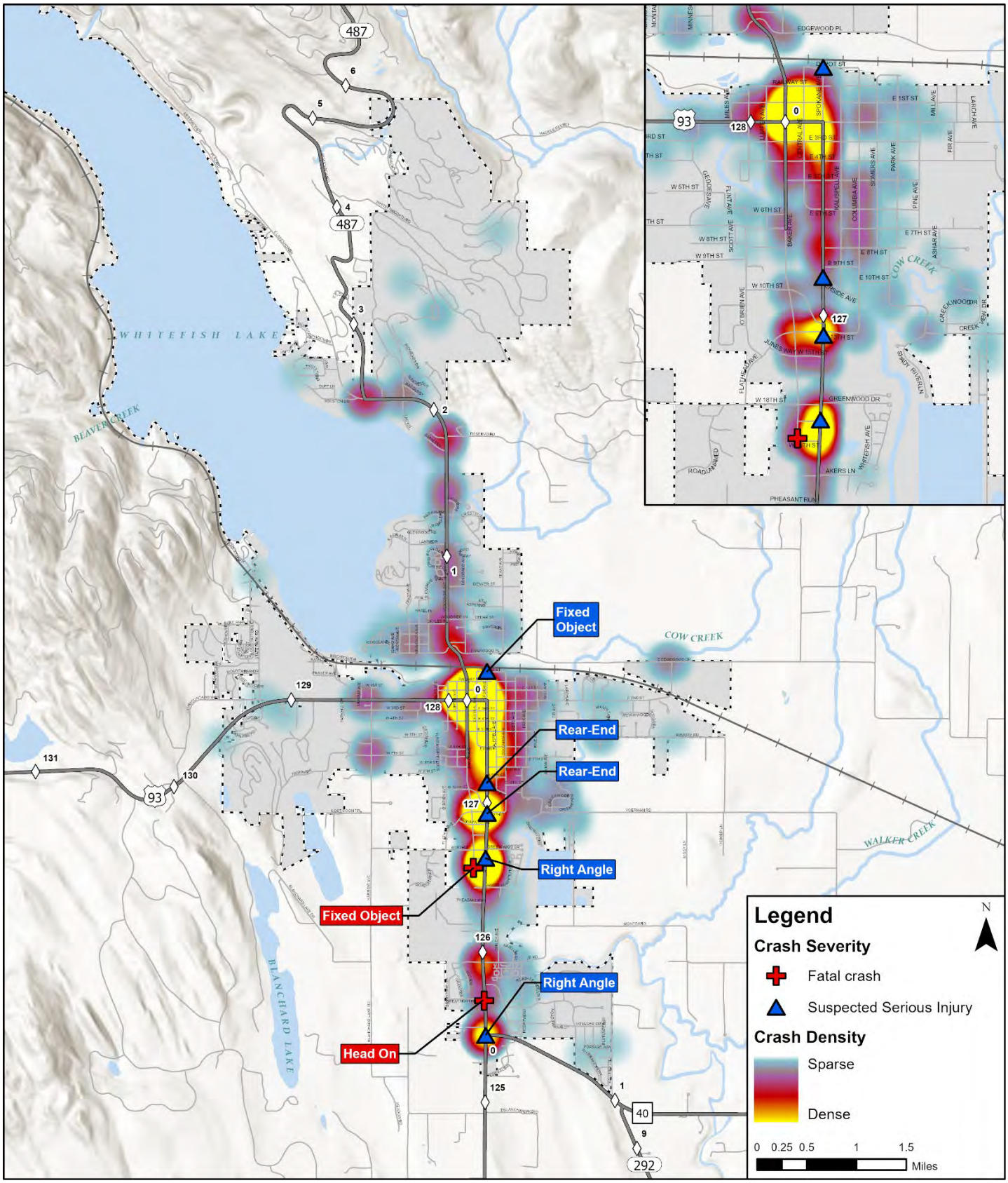


Figure 3.8: Crash Density and Severity (2018-2022 MDT)

3.4. Crash Type

Crashes can be categorized as either single-vehicle or multi-vehicle crashes. Multi-vehicle crashes accounted for 83 percent of all reported crashes with a total of 439 crashes. The most common multi-vehicle crashes were rear-end (37 percent), right-angle (15 percent), and sideswipe crashes (13 percent) which are all typical crash types of congested urban areas. Single-vehicle crashes represented 17 percent of crashes with 91 total crashes. Fixed-object crashes were the most commonly reported single-vehicle crash type accounting for 48 percent of those crashes, and 9 percent of crashes overall. Fixed objects involved in crashes included utility poles/sign supports, guardrail and bridge rails, curbs, ditches, trees, and fences. Wild animal, rollover, and pedestrian involved crashes each accounted for 5 percent of single-vehicle crashes. **Figure 3.9** presents the distribution of both multiple- and single-vehicle crashes within the study area.

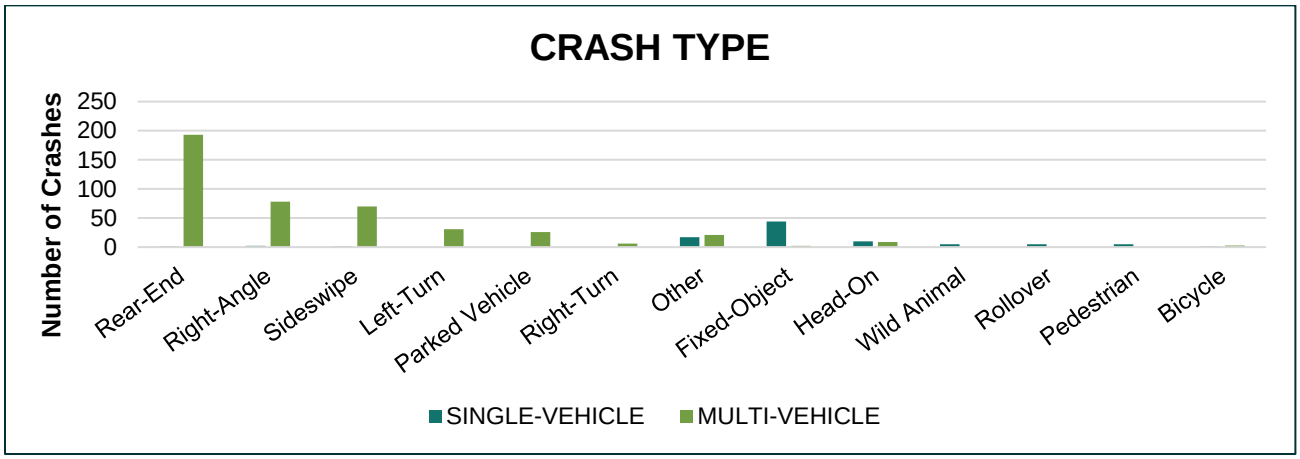


Figure 3.9: Crash Type

VULNERABLE ROAD USER CRASHES

Of the 530 crashes that occurred during the 5-year analysis period, just under 2 percent involved vulnerable road users. A total of 4 bicycle and 5 pedestrian related crashes occurred within the analysis period. None of the crashes were reported to involve severe injuries. Of all the people involved in crashes, 47 or about 4 percent were categorized as non-motorists. Interestingly, many of the non-motorists were reportedly involved in other crash types (besides pedestrian or bicycle involved crashes) such as rear-end, right-angle, or sideswipe crashes. This indicates that a non-motorist may have been the cause of a crash but not directly in the collision. For example, a rear-end crash may occur when a vehicle stops for a pedestrian in a crosswalk, but the following vehicle does not see the pedestrian and does not expect the vehicle in front to stop. Similarly, a sideswipe could occur if a vehicle swerves around a bicyclist into a vehicle in the neighboring lane.

The crash reports for the pedestrian or bicycle involved crashes were reviewed to understand the circumstances surrounding these crashes. Although none of the crashes were reported to have resulted in severe injuries, 2 of the pedestrians were said to have left the scene with unknown injuries after being sent over a bridge rail, 1 of which was impaled by a tree in the fall. Additionally, 1 of the crashes coded as pedestrian involved did not appear to involve a pedestrian according to the crash narrative provided. Many of the non-motorist involved crashes involved vehicles not yielding to the non-motorists. In some cases, a bicyclist attempted to accelerate through an intersection, traveling in the crosswalk in front of an on-coming vehicle without allowing the driver of the vehicle to react to the non-motorist and slow/yield.

3.5. Road Characteristics

At the location of a crash, the data point is matched spatially to the roadway on which the crash occurred, and select characteristics of the route are drawn from various MDT databases and tied to each crash record. A summary of the route characteristics for each crash is provided in the following sections.

ROUTE OWNERSHIP

Understanding the owner of the roadway can help identify jurisdictions that are responsible for the maintenance and improvement of the route. Approximately 72 percent of crashes occurred on routes owned and maintained by the City of Whitefish, while the remaining 28 percent occurred on MDT-owned routes, such as US 93, Baker Avenue, and Wisconsin Avenue. Where a crash occurs at the intersection of State and local routes, such as US 93/19th Street, the crash location may be coded as a crash on either a City street or an MDT route. Of the 7 severe crashes, 5 occurred on MDT on-system routes (US 93) while the other 2 occurred on locally owned routes. These findings point out the importance of interagency coordination since it is not just a single agency that is responsible for the roadways where crashes occur.

FUNCTIONAL CLASSIFICATION

The transportation system is made up of a hierarchy of roadways classified by parameters such as traffic volumes, speed, geometric configuration, spacing in the community's transportation grid, and adjacent land uses. The method by which these roles are defined is widely known as functional classification, which designates roadways as interstates, principal arterials, minor arterials, collector streets, and local streets. The majority of crashes occurred on local streets (38 percent) and principal arterials (28 percent), as shown in Figure 3.10. The City of Whitefish is not served by any interstate highways, therefore none of the crashes occurred on this roadway type.

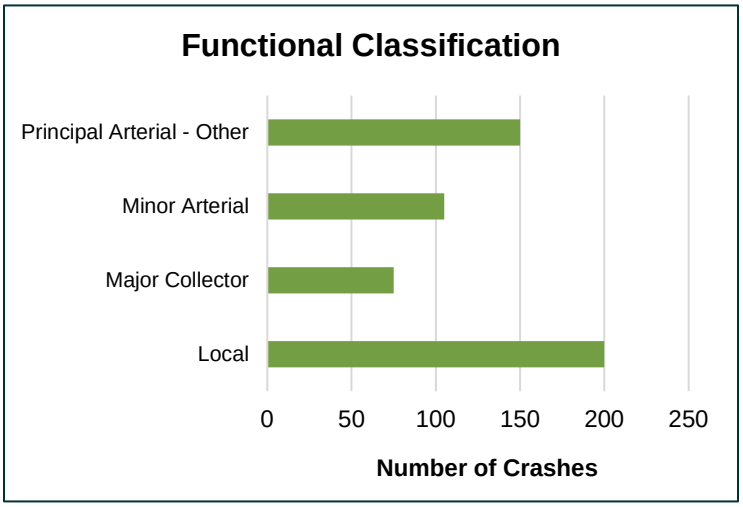


Figure 3.10: Roadway Functional Classification

TRAFFIC VOLUMES

Traffic volumes for the roadway on which a crash occurred can point to the level of exposure to vehicle traffic. Higher traffic volumes typically indicate a heightened risk of conflict and therefore a higher frequency of crashes. **Figure 3.11** shows a heat map of crashes overlaid with annual average daily traffic (AADT) counts for 2022. These counts are collected by MDT for primary routes across the State and represent the average number of vehicles traveling a certain route on an average day. As shown in the figure, the highest crash densities occur on higher volume roadways, such as US 93, Wisconsin Avenue, and Baker Avenue. By comparison, there were fewer crashes on US 93 west of Karrow Avenue, indicating potential high-risk characteristics associated with US 93 from MT 40 through the downtown area.

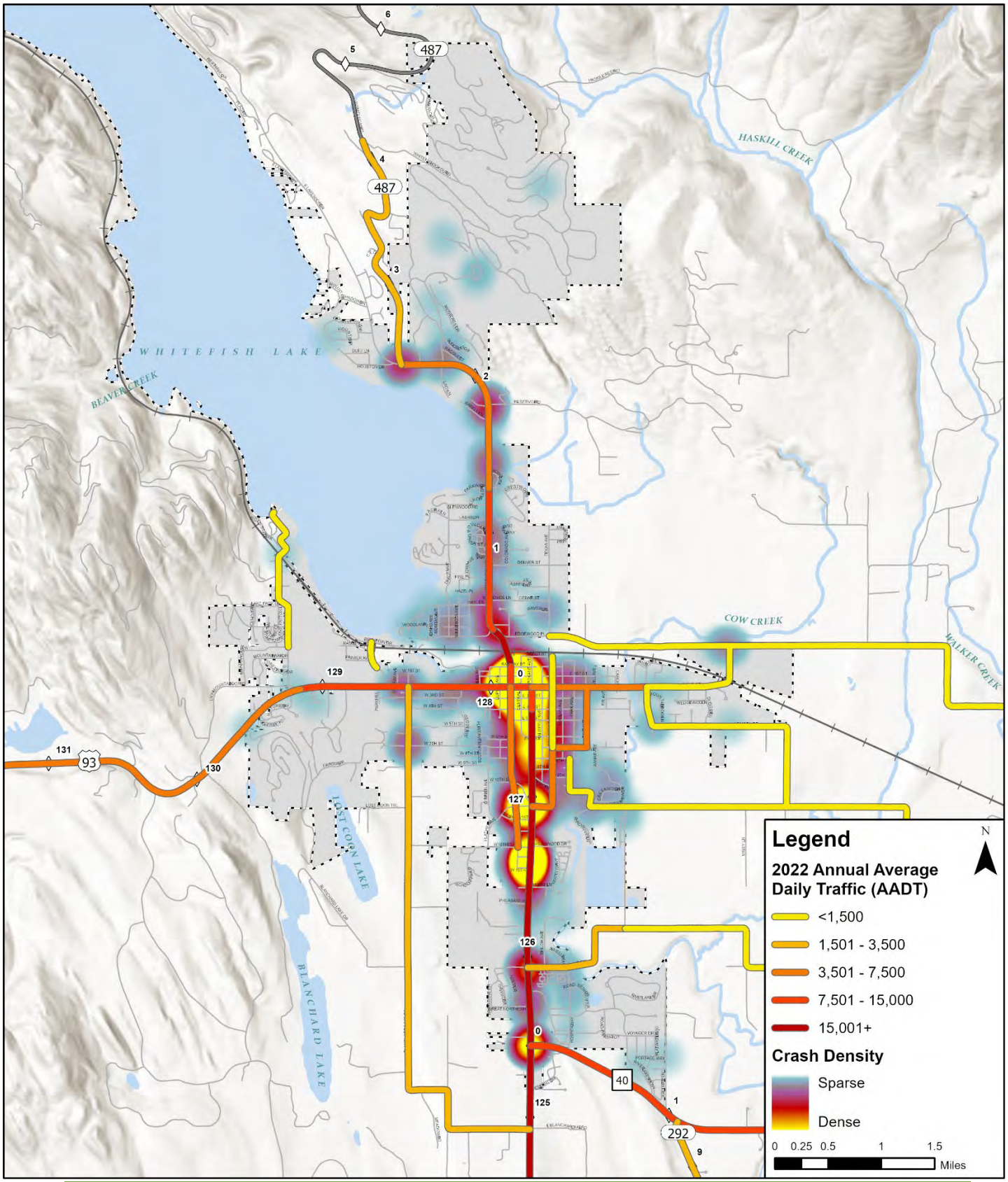


Figure 3.11: Crash Density vs. Roadway Volume

SPEED

The speed limit of the roadway on which crashes occurred is provided in the MDT crash data. While the posted speed limit doesn't necessarily indicate the speed at which a vehicle was traveling at the time of the crash, it is generally a good indication. Approximately 60 percent of crashes occurred on roadways with a posted speed limit of 25 miles per hour (mph) or less, which is a standard speed limit for local and collector streets. Approximately 2 percent of crashes occurred on roadways with speed limits greater than 60 mph which is typical of rural highways.

Figure 3.12 shows the number of crashes occurring on roadways with various speed limits. Although a greater number of crashes occurred on lower speed roadways (30 mph or less), the crashes tended to be less severe, resulting in lower crash severities. By comparison, crash severity was much higher on high-speed roadways (greater than 60 mph) even though a smaller number of crashes occurred.

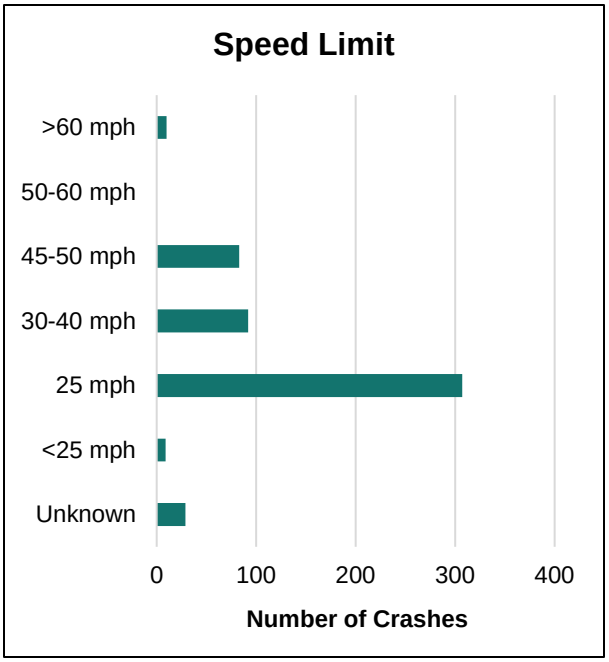


Figure 3.12: Speed Limit

3.6. Other Factors

In addition to characteristics described in previous sections, other factors contribute to the occurrence and severity of a crash. These factors may include weather conditions, road surface conditions, lighting conditions, or the type of vehicle involved in the crash. The following sections summarize these circumstances for crashes over the 5-year analysis period.

ENVIRONMENTAL CONDITIONS

Figure 3.13 illustrates the percentages of crashes that occurred under various weather, road surface, and lighting conditions over the 5-year crash period. The majority of crashes occurred when the weather was clear (53 percent) or cloudy (28 percent). Approximately 15 percent of crashes occurred when it was snowing, and 3 percent occurred when it was raining. Although the majority of crashes occurred when the road surface was dry (58 percent), about 40 percent occurred under adverse road conditions. About 18 percent of crashes occurred on snow-covered roads, 12 percent on ice, or frost-covered roads, and 11 percent on wet roads. Crashes occurring under adverse road or weather conditions could indicate a lack of maintenance of roadway facilities or a lack of skill, experience, or care driving in adverse conditions, however, this finding is inconclusive. All but 1 of the severe crashes occurred under clear weather conditions on dry roads. One of the suspected serious injury crashes, a rear-end collision, occurred on a snowy day with wet roads.

Overall, 77 percent of crashes in Whitefish occurred during daylight conditions. About 20 percent of crashes occurred when it was dark outside, with about 75 percent of those crashes occurring in locations where street lighting was present. The remaining 2 percent of crashes occurred at dawn or dusk. Of the 7 severe crashes, 5 occurred under daylight conditions. One of the fatal crashes occurred under dark lighting conditions without street lighting and 1 suspected serious injury crash occurred at dawn. Both crashes were fixed-object crashes at or related to an intersection.

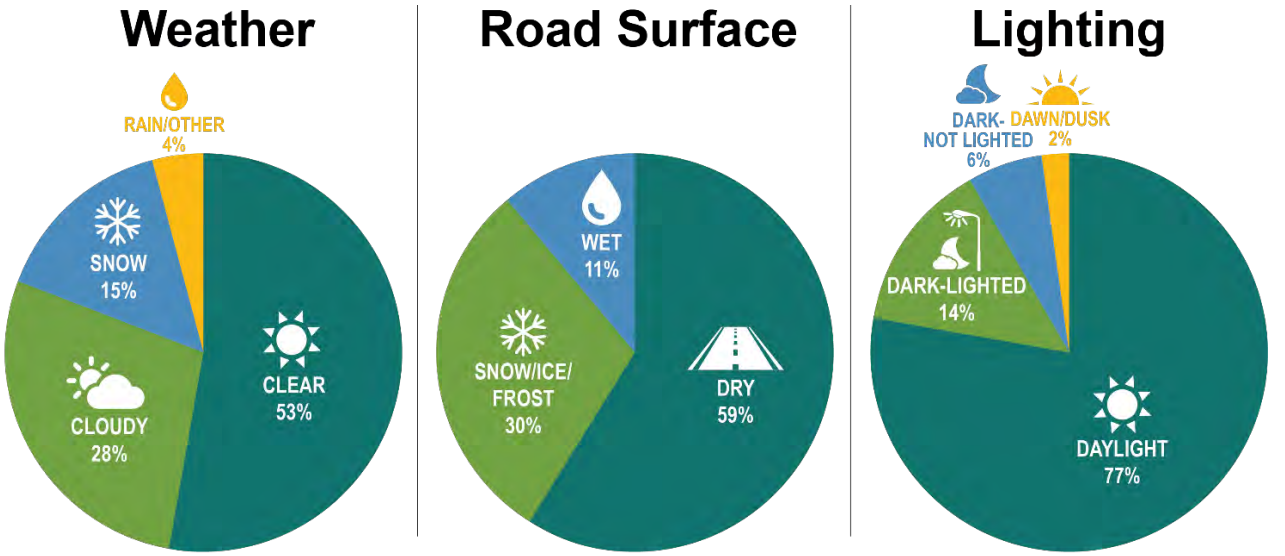


Figure 3.13: Weather, Road, and Lighting Conditions

VEHICLE TYPE

When a crash is reported, the responding officer typically documents details about the types of vehicles involved in each crash. In total, 997 vehicles were involved in the 530 crashes within the study area over the 5-year analysis period, accounting for multiple vehicles involved in a single crash. Vehicle classification data was provided for 44 percent of vehicles, while the remaining 56 percent were categorized as unknown vehicle type.

Excluding unknown vehicle types, the majority of reported vehicles involved in crashes (86 percent) were passenger vehicles, including cars, vans, pickups, and SUVs. A total of 7 medium and heavy trucks were involved in crashes (2 percent), and 1 motorcycle was involved in a crash over the 5-year period. Additionally, 50 vehicles involved in crashes were classified as “other” which may include farm equipment or heavy machinery. Of the 12 vehicles involved in severe crashes in the study area, 3 were SUVs, 1 was a passenger car, 2 were pickups, and the other 6 were listed as unknown. The crash data also indicates that no school buses were involved in crashes, and 14 crashes involved commercial vehicles.

DRIVER CONDITION

Driver conditions at the time of the crash can point to driver behavior issues that may need to be addressed. The crash records indicate whether each crash involved fatigued, distracted, and/or impaired drivers. These behaviors are determined and reported based upon the reporting officer’s assessment or driver admission. The crash records indicate that 0.5 percent of drivers were fatigued at the time of the crash and approximately 1.4 percent of drivers were distracted at the time of the crash. However, 96 percent of crashes were coded as distracted driver related (see **Section 7.3.3**). Distractions can include cell phones, passengers, GPS units, stereos or radios, eating and drinking, distractions outside the vehicle, and anything else that takes the driver’s attention away from the task of safe driving.

Impaired driving is defined as operating a vehicle while under the influence of drugs or alcohol. In Montana, driving under the influence is when the driver’s blood alcohol concentration (BAC) is 0.08 percent or higher, as indicated by grams (g) of alcohol per 100 milliliters (ml) of blood or grams of alcohol per 210 liters of breath. Impairment of marijuana in Montana is defined as exceeding a 5 nanogram (ng)/ml threshold for tetrahydrocannabinol (THC) in blood for anyone operating a motor vehicle. Within the study area, approximately 8 percent of crashes (44 crashes) were determined to have involved an impaired driver. Both of the fatalities in the study area involved an impaired driver.

CONTRIBUTING CIRCUMSTANCES

Responding officers can indicate whether there was a road or environmental circumstance that contributed to the crash occurring. Up to 3 contributing environmental and 3 contributing road condition factors can be listed for each crash. In the majority of cases, contributing circumstances are not reported by local enforcement officers, however, when reported can indicate whether the crash was due to driver error or a circumstance outside the driver's control. Over the 5-year analysis period, contributing circumstances were only included in about 15 percent of crash reports; in all other crashes, these fields were left blank. Blank fields may or may not indicate that weather or road conditions were a contributing factor to crashes.

In terms of environmental circumstances, weather conditions were a contributing factor in 8 percent of crashes while glare was a factor in 2 percent of crashes. Animals in the roadway or physical obstructions were noted as factors in less than 1 percent of crashes. In terms of roadway circumstances, road surface conditions, such as wet, icy, or snow-covered surfaces, were a factor in 14 percent of crashes. An obstruction in the roadway was listed as the contributing circumstance in 2 crashes. The environmental and roadway contributing circumstances were listed as "none" in about 4 percent of crashes overall.

CONTRIBUTING ACTIONS

Up to 4 driver contributing actions can be reported for each driver involved in a crash. These are actions that occurred which led to the occurrence of a crash. When the driver had no contributing action, all fields are left blank or "no contributing action" is listed in 1 or more fields. When calculating the top contributing actions by drivers, the sum of the occurrences of each contributing action in all 4 fields was divided by the total number of reported records in the first field. When reporting the number of unreported contributing actions, the number of blank records in the first field was divided by the total number of driver records. Since a driver can have up to 4 contributing actions, the percentages do not add up to 100 percent. **Figure 3.14** shows the top contributing factors in crashes within the 5-year analysis period.

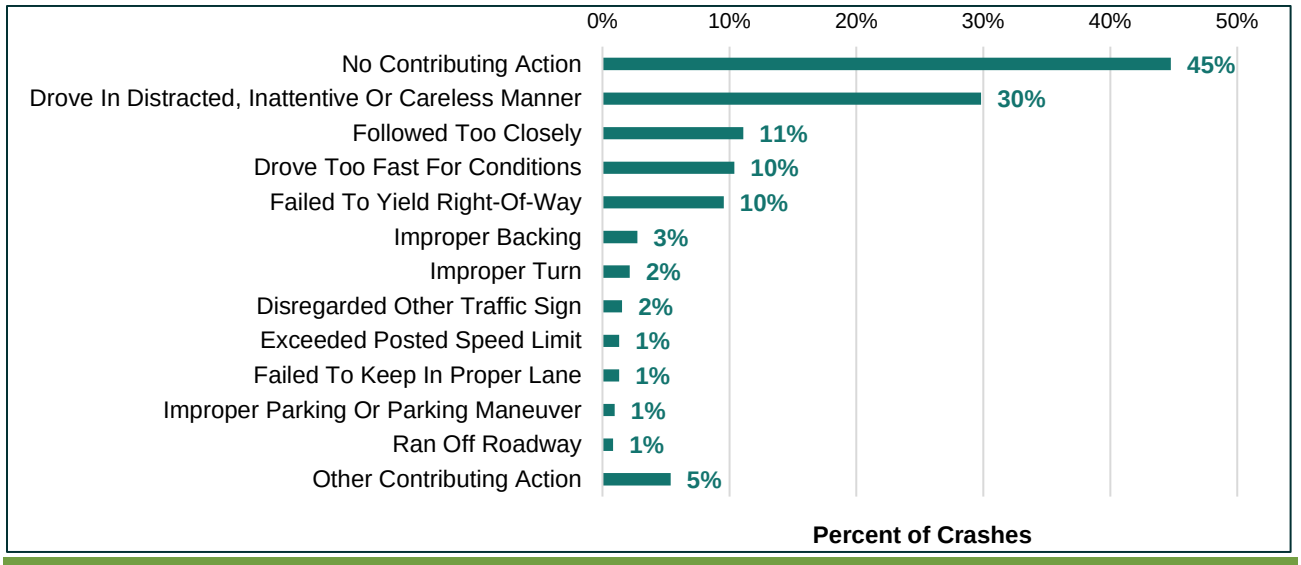


Figure 3.14: Driver Contributing Actions

The most common contributing action was driving in a distracted, inattentive, or careless manner, accounting for 30 percent of drivers. Following too closely, driving too fast for conditions, and failure to yield right-of-way were each listed as contributing actions for about 10 percent of drivers. About 45 percent of drivers were found to have no contributing action in the crash. About 6 percent of driver records were left blank for contributing actions.

4.0. DEMOGRAPHICS

An important component of the crash data analysis includes consideration of demographics in terms of both the demographics of the individuals involved in crashes as well as the demographic characteristics of the Whitefish area as a whole. This analysis helps identify disparities of people involved in crashes as well as potential disadvantaged populations that may be disproportionately affected by crashes or at a higher risk of involvement in crashes due to economic or social circumstances. The following sections include an analysis of demographic details provided in crash data as well as an analysis of demographics data sourced through the US Census Bureau.

4.1. Demographics of Individuals Involved in Crashes

Understanding the characteristics of individuals involved in crashes may help identify populations for educational campaign focus or identify groups chronically involved in crashes that may need special consideration during project design. The following sections discuss the available person demographics reported in the crash data. Race and ethnicity information is not provided in the crash data.

GENDER

Overall, about 41 percent of individuals involved in crashes were female including 43 percent of drivers. Males accounted for 48 percent of all individuals involved in crashes, including 53 percent of drivers. For approximately 11 percent of people involved in crashes, the gender type was listed as unknown. Males accounted for both fatalities and 3 of the 6 suspected serious injuries.

AGE

The age distribution for drivers involved in crashes generally follows a typical bell curve, but skews slightly older, as shown in **Figure 4.1,** with the highest proportion of involved individuals in the 22- to 35-year age range. In general, the distribution of age groups between male and female were very similar. About 1 percent of drivers were aged 16 years and younger. The legal driving age in Montana is 14.5, and 1 driver involved in a crash was under that age. Approximately 14 percent of drivers involved in crashes were over the age of 65, and about 2.5 percent of drivers were over the age of 80.

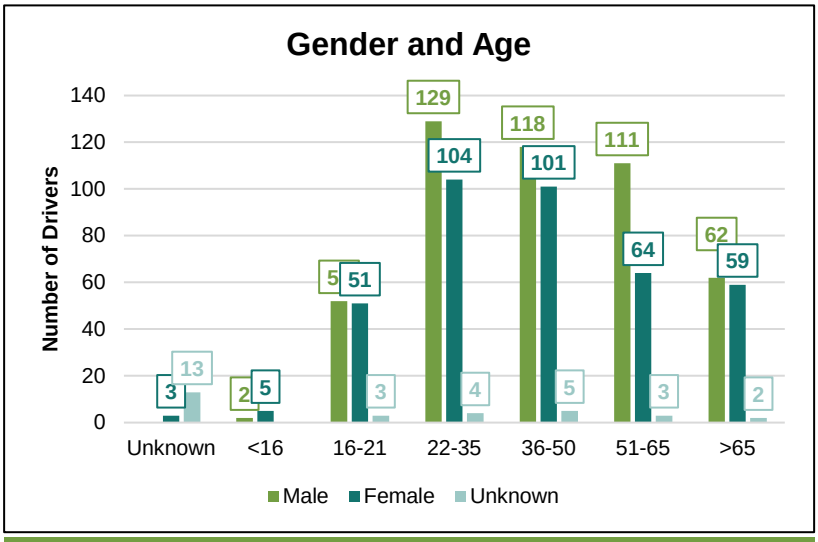


Figure 4.1: Driver Demographics

DRIVER'S LICENSE STATE

Although not specifically a demographic characteristic, the state in which a driver's license is registered can generally indicate whether a driver is a visitor or resident. The driver's license state was listed for about 94 percent of drivers involved in crashes. Of those reported, 84 percent of driver's licenses, or 736, were from the State of Montana. Drivers with licenses from California (13), Washington (12), Florida (10), and Alabama (10) made up the next highest shares of drivers involved in crashes within Whitefish over the 5-year period. In general, most drivers involved in crashes are from Montana, though that number likely includes non-residents who live outside Whitefish.

4.2. Demographics of Whitefish

Table 4.1 present various demographic and economic characteristics as reported by the 2020 Decennial Census or 2018-2022 American Community Survey (ACS). The data are estimates based on annual samples of the population and are based on self-reported demographic and economic characteristics. The table indicates that the population in Whitefish identifies as primarily white, while about 2 percent of the population is of a minority race, with Asian and American Indian being the most prevalent. The table also shows that the population is evenly distributed by the 5 age groups presented.

Residents under the age of 21 make up 11 percent of the population and account for 13 percent of drivers involved in crashes. People aged 65 and over make up 22 percent of the population but only 14 percent of drivers involved in crashes. These statistics indicate that older and younger drivers are not disproportionately involved in crashes in the Whitefish area. Drivers aged 21 through 34 make up 27 percent of drivers involved in crashes in the Whitefish area, despite composing only 19 percent of the population. In terms of gender, females comprise 51 percent of the population while males make up 49 percent. However, 53 percent of drivers involved in crashes were male, indicating a slight disparity.

In Whitefish, about 10 percent of the population is reported as living with a disability. About 4 percent report an auditory/hearing difficulty, 3 percent report a vision difficulty, and 4 percent report an ambulatory/mobility difficulty. To ensure equal participation in transportation for these residents, specific accessibility measures may be needed such as accessible pedestrian signals, curb ramps, and sidewalks. Overall, about 9 percent of the population reportedly walks or bikes to work on a daily basis. Although less than 2 percent of all crashes specifically involved pedestrians or bicyclists, safe accommodations for these users is important to help promote the use of these modes. The use of active transportation modes may be a lifestyle choice or may be a necessity due to lack of access to a vehicle, since about 5 percent of workers in Whitefish do not have a vehicle.

The majority of the Whitefish population is employed, with about 3 percent of residents being reported as unemployed. Reported income levels in Whitefish are generally higher than other parts of the State, however, nearly 7 percent of the population is reported as living below the poverty line. These lower-income residents may also rely on the use of active transportation modes and may be disproportionately affected by crashes.

Table 4.1: Select Demographic Characteristics

Demographics	Population	Percent
Race/Ethnicity (2020 Census)		
White Alone	7,113	91.8%
Black or African American Alone	25	0.3%
American Indian and Alaska Native Alone	45	0.6%
Asian Alone	59	0.8%
Native Hawaiian and Other Pacific Islander Alone	6	0.1%
Some Other Race Alone	77	1.0%
Two or More Races	426	5.5%
Total Population (2020)	**7,751**	**100%**
Age (2018 – 2022 ACS)		
<21	1,517	19%
21-34	1,533	19%
35-49	1,657	20%
50-64	1,598	20%
65+	1,793	22%
Total Population (2022)	**8,098**	**100%**

Demographics	Population	Percent
Gender (2018 – 2022 ACS)		
Male	4,004	49%
Female	4,094	51%
Total Population (2022)	**8,098**	**100%**
Disability Status (2018 – 2022 ACS)		
Hearing Difficulty	325	4%
Vision Difficulty	209	3%
Cognitive Difficulty	234	3%
Ambulatory Difficulty	347	4%
Self-Care Difficulty	89	1%
Independent Living Difficulty	185	2%
Total Civilian Non-Institutionalized Population (2022)	**7,938**	**100%**
Total Population with a Reported Disability (2022)	***823***	***10%***
Means of Transportation to Work (2018 – 2022 ACS)		
Drove Alone	2,998	66.1%
Carpooled	145	3.2%
Public Transportation	9	0.2%
Walked	290	6.4%
Bicycle	118	2.6%
Other Means	18	0.4%
Worked from Home	962	21.2%
Total Workers 16 Years and Over (2022)	**4,536**	**100%**
Workers in Households with No Vehicle Available (2022)	***--***	***4.9%***
Employment Status (2018 – 2022 ACS)		
Employed	4,590	97%
Unemployed	119	3%
Population in Labor Force (2022)	**4,709**	**100%**
Economic Characteristics (2018 – 2022 ACS)		
Median Household Income	$69,919	--
Population Below Poverty Level	--	6.8%

Source: 2020 Decennial US Census, and 5-year American Community Survey estimates (2018 – 2022)

Also of interest to the community is the change in activity between seasons due to tourism. In the summer, Whitefish is popular tourist destination due to its close proximity to GNP and ample recreation opportunities at Whitefish Lake and in nearby public lands. In the wintertime, Whitefish Mountain is a popular destination for winter recreationists, although to a lesser extent than summertime tourism. Data from the ACS indicates that 25 percent of Whitefish homes are reportedly vacant for the majority of the year, and about 72 percent of those homes are for seasonal/recreational use.

4.3. Transportation Equity

To address underinvestment in disadvantaged communities, the USDOT developed the Justice40 Initiative (J40). The initiative helps transportation agencies identify and prioritize projects that benefit communities facing barriers to affordable, equitable, reliable, and safe transportation. In accordance with J40, the USDOT developed the Equitable Transportation Community (ETC) Explorer which provides data that allows agencies to understand how a community is experiencing transportation disadvantage based on five components of disadvantage including the following.

- **Transportation Insecurity** occurs when people are unable to get to where they need to go to meet the needs of daily life regularly, reliably, and safely. A growing body of research indicates that transportation insecurity is a significant factor in persistent poverty.
- **Environmental Burden** measures factors such as pollution, hazardous facility exposure, and water pollution. These environmental burdens can have far-reaching consequences such as health disparities, negative educational outcomes, and economic hardship.
- **Social Vulnerability** is a measure of socioeconomic conditions that have a direct impact on quality of life including lack of employment, educational attainment, poverty, housing tenure, access to broadband, and housing cost burden as well as identifying household characteristics such as age, disability status and English proficiency.
- **Health Vulnerability** assesses the increased frequency of health conditions that may result from exposure to air, noise, and water pollution, as well as lifestyle factors such as poor walkability, car dependency, and long commute times.
- **Climate and Disaster Risk Burden** reflects sea level rise, changes in precipitation, extreme weather, and heat which pose risks to the transportation system. These hazards may affect system performance, safety, and reliability. As a result, people may have trouble getting to their homes, schools, stores, and medical appointments.

The ETC Explorer calculates the cumulative impacts of each disadvantage component across each census tract and uses percentile rankings to determine each census tracts' component score against all other census tracts both nationally and on a statewide basis. USDOT considers a census tract to be experiencing transportation disadvantage if the overall index score places it in the top 65 percent of all US census tracts.

Figure 4.2 illustrates the ETC Explorer results for the Whitefish area identifying disadvantaged census tracts, based on both national and statewide comparisons. As shown in the figure, none of the census tracts in the Whitefish area are identified as transportation disadvantaged on either a statewide or national basis. However, when evaluating the individual disadvantage indicators, some of the census tracts exceed the 65th percentile and therefore qualify as disadvantaged for specific indicators. **Table 4.2** summarizes these findings. Values highlighted in red surpass the 65th percentile, indicating potentially disadvantaged communities within the census tract. On a national scale, most of the Whitefish area is identified as disadvantaged due to transportation insecurity due to factors such as auto-dependency, lack of access to public transportation, or long walking distances between key destinations such as medical services, grocery stores, parks, schools, and higher education.

Table 4.2: USDOT ETC Explorer - Transportation Disadvantages

Census Tract	Transportation Insecurity	Environmental Burden	Social Vulnerability	Health Vulnerability	Climate and Disaster Risk	Overall Disadvantage
National Rank						
3.01	93.9%	20.9%	53.8%	10.0%	4.5%	35.3%
3.02	85.3%	5.5%	11.4%	49.0%	23.2%	23.8%
4.02	51.5%	21.7%	35.5%	69.0%	33.7%	25.9%
4.03	86.9%	27.8%	17.7%	25.9%	13.1%	23.0%
4.04	80.9%	39.1%	24.1%	33.6%	18.0%	35.1%
State Rank						
3.01	45.6%	56.6%	39.3%	26.4%	19.2%	13.4%
3.02	41.8%	45.0%	2.8%	79.9%	70.8%	35.5%
4.02	28.0%	59.4%	16.4%	88.4%	80.2%	51.6%
4.03	49.7%	67.0%	10.4%	56.0%	50.0%	36.6%
4.04	39.0%	74.8%	7.5%	64.2%	58.5%	37.3%

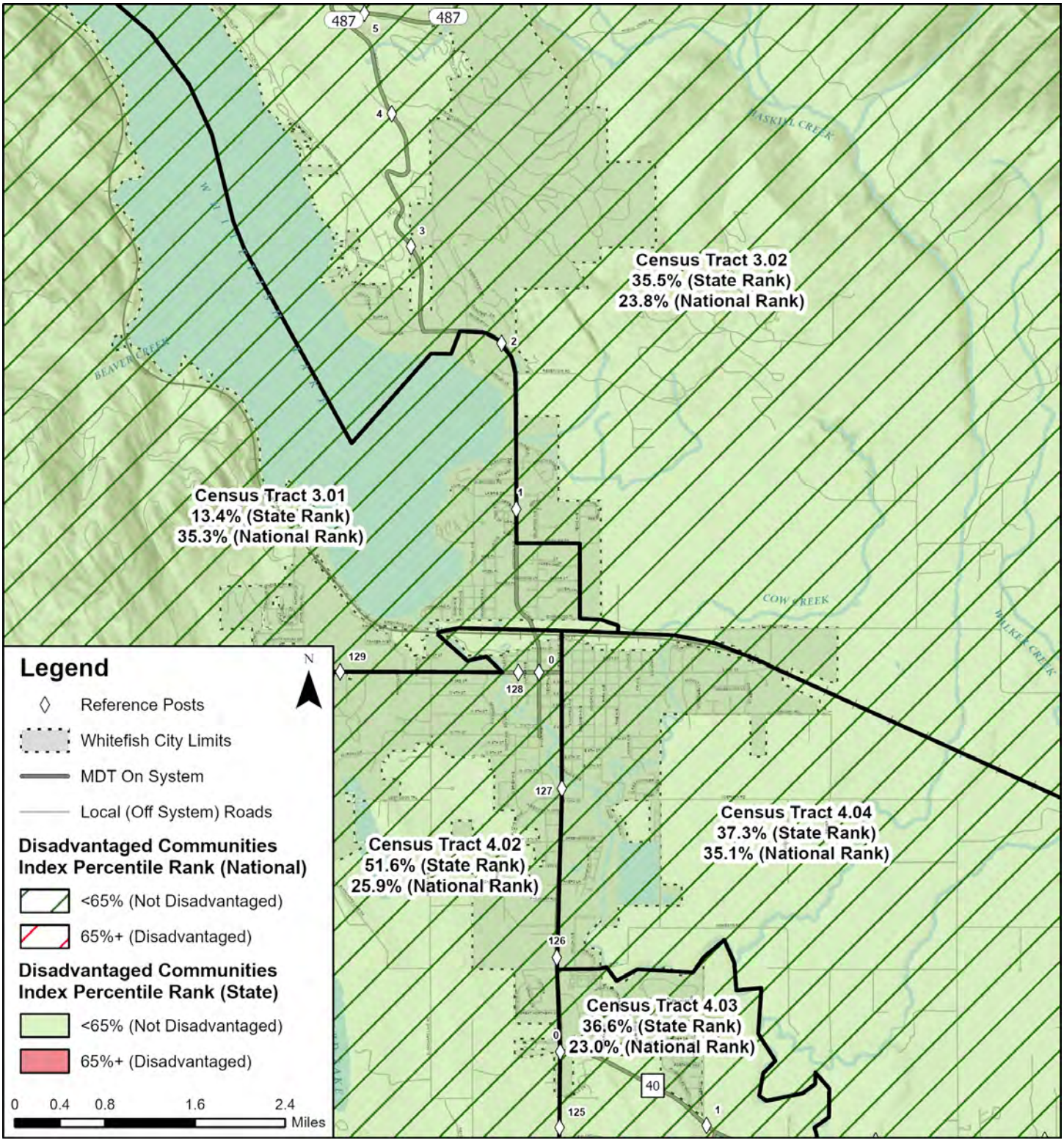


Figure 4.2: USDOT Transportation Disadvantages

5.0. HIGH-INJURY NETWORK

A high injury network (HIN) is a screening methodology that identifies areas within the transportation system with the greatest safety concerns. Jurisdictions across the country use various methodologies to develop local HINs depending on the availability of data in their jurisdiction. A HIN was created for the Whitefish area by weighing the frequency of crashes and severity of injuries resulting from crashes. This method helps identify and prioritize locations with high crash occurrences or especially severe crashes.

In general, the frequency of crashes and severe injuries in Whitefish is low, with no more than 1 fatal or suspected serious injury crash having occurred in a given area. For this reason, it is important to take into consideration the safety performance in comparison to the number of total crashes and severe injuries to better understand potential crash trends and safety concerns. Crash circumstances may affect whether crashes occurred due to problematic infrastructure conditions, repeated improper driver behaviors, or chance circumstances that could not have otherwise been prevented.

5.1. Intersections

The intersection HIN analysis calculated the safety score at each intersection by selecting crashes within 250 feet of each intersection. **Figure 5.1** shows intersections with the highest safety scores. All maps show 2022 AADT volumes for select roadways to provide a comparison of crash frequency/severity to traffic volumes. In general, a higher frequency of crashes is expected at intersections with higher volumes due to increased exposure; an intersection with a high frequency with comparatively low traffic volumes could be cause for concern.

Table 5.1 presents characteristics of the intersections with the highest intersection safety scores. The highest scoring intersection was Baker Avenue and 19th Street which is configured as a 90-degree curve with driveways intersecting the curve. This intersection was the location of a crash resulting in 1 fatality and 1 suspected serious injury in addition to several other minor crashes. Flashing chevrons have been installed at the intersection in recent years to help mitigate safety concerns. Of the other 10 highest scoring intersections, 5 are signalized and 5 are two-way stop-controlled (TWSC).

Table 5.1: Highest Scoring Intersections

Rank	Intersection	Control Type	# of Crashes	# of Severe Injuries
Top 15%				
1	Baker Avenue / 19th Street	None	6	2
2	US 93 / Great Northern Drive	TWSC	4	1
3	US 93 / Commerce Street	Signal	19	1
4	US 93 / MT 40	Signal	19	1
5	Baker Avenue / 2nd Street	Signal	21	0
6	Spokane Avenue / 13th Street	Signal	16	1
7	Spokane Avenue / 10th Street	TWSC	16	0
8	Spokane Avenue / 19th Street	TWSC	17	0
9	Baker Avenue / 1st Street	TWSC	17	0
10	Spokane Avenue / 3rd Street	TWSC	13	0
11	US 93 / JP Road	Signal	12	0

**TWSC = Two Way Stop Controlled*

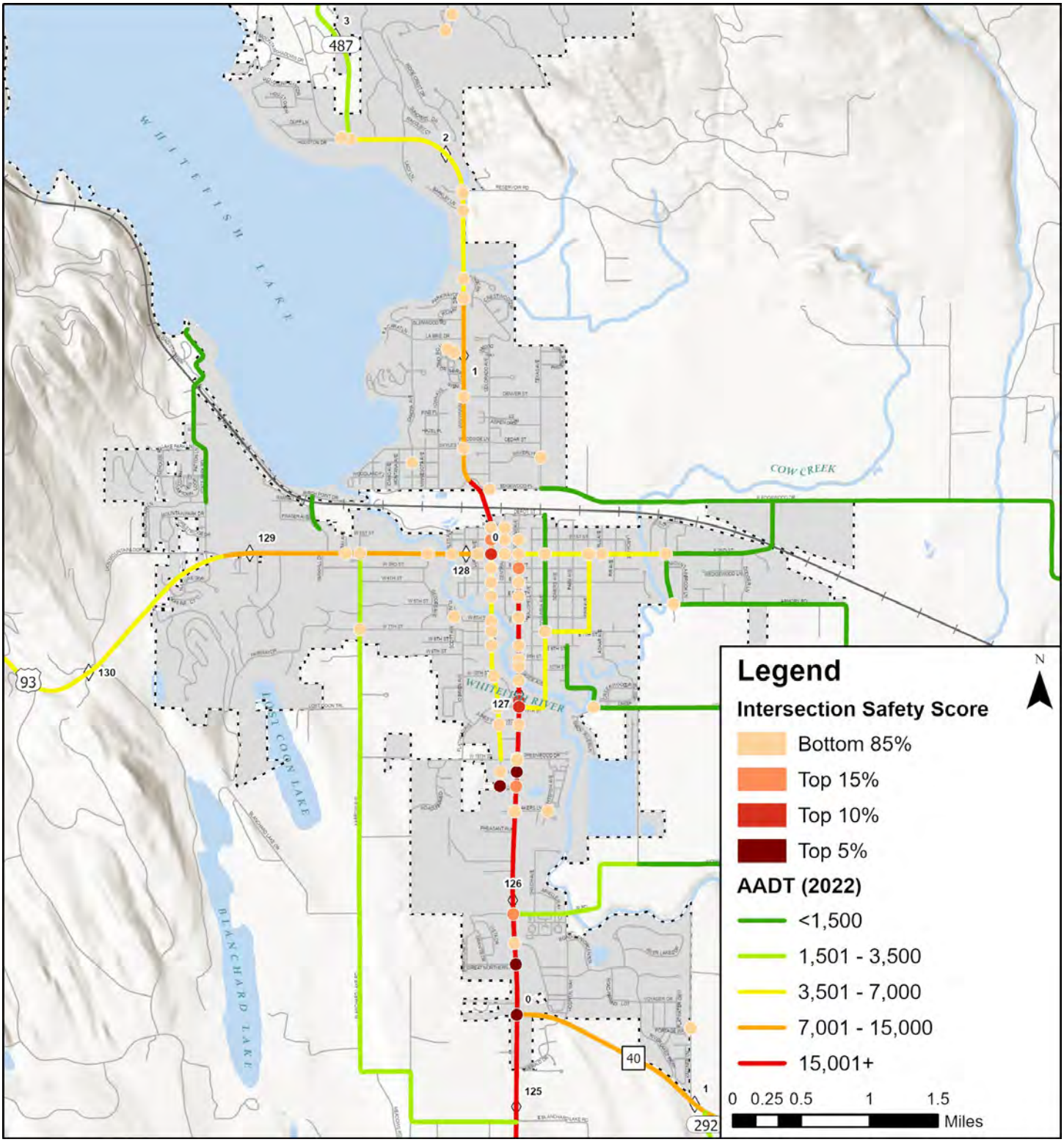


Figure 5.1: Intersection Safety Scores

5.2. Roadway Segments

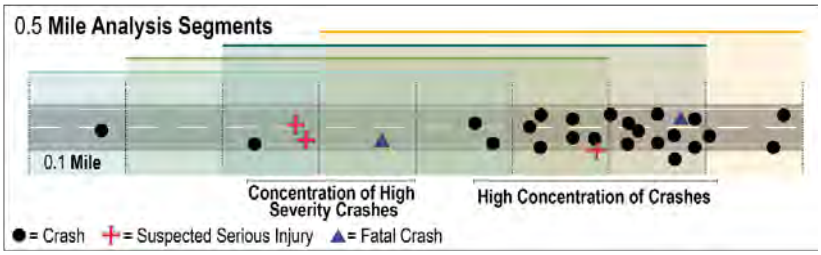


Figure 5.2: Sliding Window Method

The roadway segment HIN analysis evaluated the roadway network using a sliding window method, as recommended by the *Highway Safety Manual*, to effectively compare roadway segments of equal length. The sliding window method evaluates crashes and injuries occurring in 0.5-mile segments (i.e., “windows"), and then slides the window along the roadway 0.1-mile at a time, as demonstrated in **Figure 5.2**. The crashes included in the intersection HIN were included in the roadway segment HIN due to their dominance in the crash dataset. This method helps identify locations with the highest concentrations of crashes and/or severe injuries and reduces the possibility of splitting locations with high concentrations of crashes into separate segments.

Figure 5.3 shows segments with the highest safety scores, and **Table 5.2** tabulates the characteristics of the segments with the highest scores. In general, all of the top-scoring segments are on roadways with higher traffic volumes and consequently higher risk of collisions.

Table 5.2: Highest Scoring Segments

Rank	Roadway	Extent	Length (mi)	# of Crashes	# of Severe Injuries
Top 5%					
1	Baker Avenue	10th Street – 19th Street	0.5	27	2
2	US 93	MT 40 – JP Road	0.5	39	2
3	19th Street	Baker Avenue – Spokane Avenue	0.1	21	0
4	US 93	Akers Lane – Whitefish River	0.6	70	2
5	Baker Avenue	5th Street – Viaduct	0.5	56	0
6	Spokane Avenue	6th Street – Depot Street	0.5	52	1
7	2nd Street	Somers Avenue – Miles Avenue	0.5	47	0
8	Spokane Avenue	Whitefish River – 4th Street	0.5	38	0
9	1st Street	O’Brien Avenue – Spokane Avenue	0.25	31	0
10	Central Avenue	5th Street – Depot Street	0.4	29	0

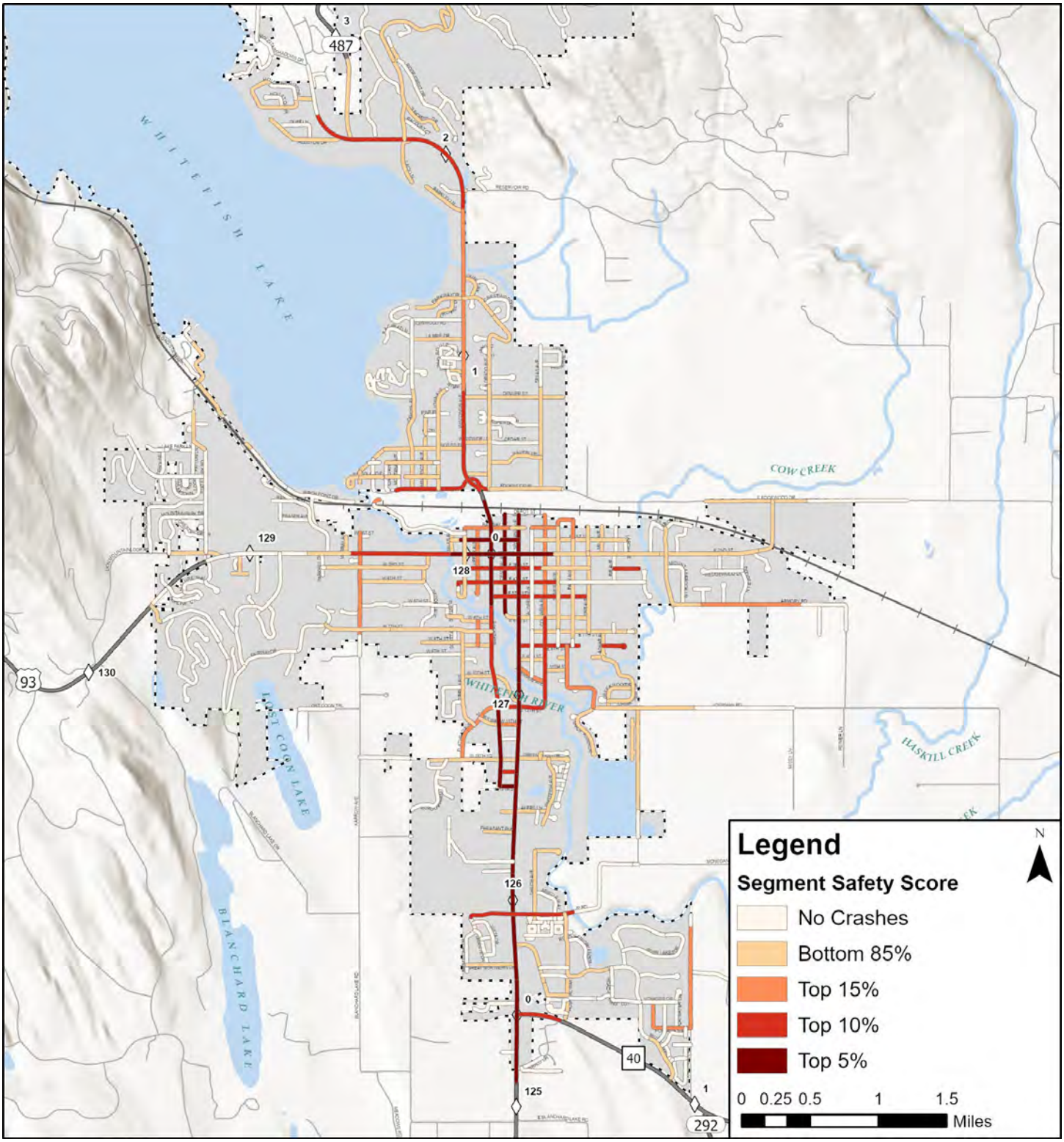


Figure 5.3: Segment Safety Scores

6.0. ADDITIONAL SAFETY DATA REVIEW

In addition to investigating the crash data provided by MDT, several other data sources were reviewed to understand other factors in crashes and general safety concerns. The data sources described in this section include more detailed crash narratives written by responding officers, MHP issued citations, MDT collected animal carcasses, and comparative data from other jurisdictions.

6.1. Crash Narrative Review

While analyzing and reporting the crash data contained in the previous sections, it was determined that more information was needed to understand the circumstances surrounding fatal and suspected serious injury and non-motorist involved crashes to determine if there are any discernable commonalities and trends relating to the crashes. Accordingly, crash narratives including descriptions from individuals involved and responding officers were reviewed for these crashes. Based on these narratives, the following trends and observations were made.

- In both of the 2 fatal crashes, the driver that caused the collision was determined to be impaired. All individuals who suffered fatal and suspected serious injuries in those crashes were not wearing seatbelts. Road and environmental conditions were not believed to be factors in the crashes.
- Two of the suspected serious injury crashes were rear-end crashes that occurred in stop-and-go traffic. One crash involved a driver accelerating too fast, the other involved a distracted driver looking away from the roadway. Another suspected serious injury crash involved a driver running a red light and striking an oncoming vehicle. The other 2 suspected serious injury crashes involved the driver losing control of the vehicle due to speed in 1 crash and due to an alleged vehicle malfunction in the other crash.
- Two bicycle crashes involved children riding bikes in crosswalks. In one instance, the driver yielded to a group of bicyclists but began moving before all the bicyclists had crossed. The other crash involved the bicyclist attempting to “beat” the approaching vehicle through the crossing but misjudged the gap and did not allow the driver time to react. Another bicycle crash involved a bicyclist being struck while riding on the sidewalk and crossing a commercial driveway. The final bicycle crash involved a bicyclist failing to stop at a stop sign after mistakenly thinking eye contact had been made with the conflicting driver.
- One of the pedestrian crashes was not located and another crash coded as a pedestrian crash did not actually involve a pedestrian, according to the crash narrative. No discernable trends were identified for the remaining pedestrian crashes. One involved a vehicle striking a stationary pedestrian while executing a turn in a parking lot. Another involved a driver overcorrecting a turn and jumping the vehicle onto the sidewalk, striking 2 pedestrians. The final pedestrian crash involved a pedestrian attempting to cross an intersection without activating the pedestrian signal. Although both the pedestrian and vehicle slowed for one another, both proceeded through the intersection at the same time resulting in a collision.

6.2. Citation Data Review

Citation data was obtained from the MDT Traffic and Safety Engineering Bureau for the same 5-year analysis period (2018-2022). This data includes citations issued primarily by MHP for violations reflecting State and Federal traffic codes. City codes, such as the unlawful use of cell phones while driving, are not reflected in this dataset. **Figure 6.1** shows the locations of citations issued within Whitefish. As shown, the citations were primarily issued on highways, though some citations on local streets are also observed. The stretch of US 93 between MT 40 and Park Knoll Lane exhibits the highest concentration of citations issued. In the northbound direction, the speed limit on US 93 drops from 65 mph to 45 mph at MT 40 and

exhibits the reverse in the southbound direction. This area between Whitefish City limits and the higher density downtown area is notorious for speeding according to community members.

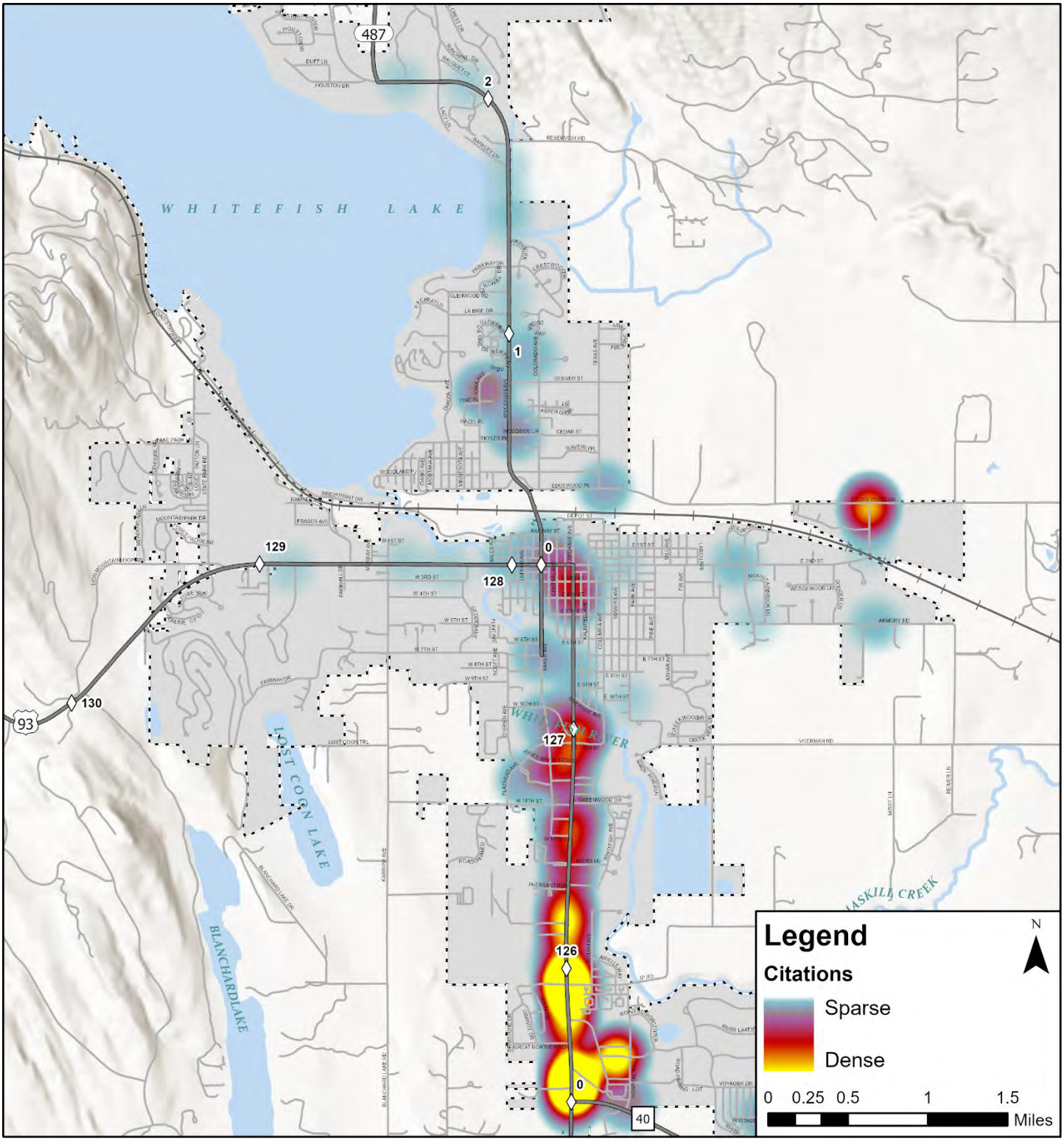


Figure 6.1: Density of Citations Issued

Table 6.1 summarizes the types of violations issued over the 5-year period. The table also denotes unlawful behaviors that could directly contribute to a crash or have the potential to result in severe injuries if a crash were to occur. A total of 343 citations were issued with the greatest number being related to proper vehicle registration or failure to carry liability insurance. The next most common violation types included failure to use a seatbelt and speeding, accounting for 20 and 18 percent of citations, respectively. Of the 343 citations, 16 were reportedly issued as the result of a crash. The citations involved careless or reckless driving (6), speeding (2), following too closely (2), driving under the influence/alcohol possession (2), and license, registration, or reporting related violations (3).

Table 6.1: Types of Violations Issued (2018-2022, MDT)

Violation Type	Potential to Contribute to Crash/Severe Injury	Number of Citations	Percent of Citations
Registration/Insurance Violation		72	21%
Seatbelt Violation	X	68	20%
Speed Related Violation	X	62	18%
License Related Infraction		40	12%
Driving Under the Influence	X	25	7%
Failure to Obey Signs/Signals	X	16	5%
Other Violation		16	5%
Other Drug/Alcohol Related	X	14	4%
Commercial Vehicle Violation		13	4%
Careless/Reckless Driving	X	11	3%
Improper Following/Passing	X	6	2%
TOTAL	--	**343**	**100%**

Figure 6.2 summarizes when the citations were issued, including the year, day of the week, and time of day. As shown, there was a significant decrease in the number of citations issued in 2020, but the number of citations issued per year has steadily increased in years since. Sundays were the most common day for citations, with weekend days (Friday through Sunday) composing the majority of citations. The greatest number of citations were issued during the 4 PM hour. Other common times included the early evening hours (7 – 9 PM), late night hours (11 PM – 1 AM), and early morning hours (4 AM – 7 AM). The number of citations issued is generally lower during typical commuting and working hours.

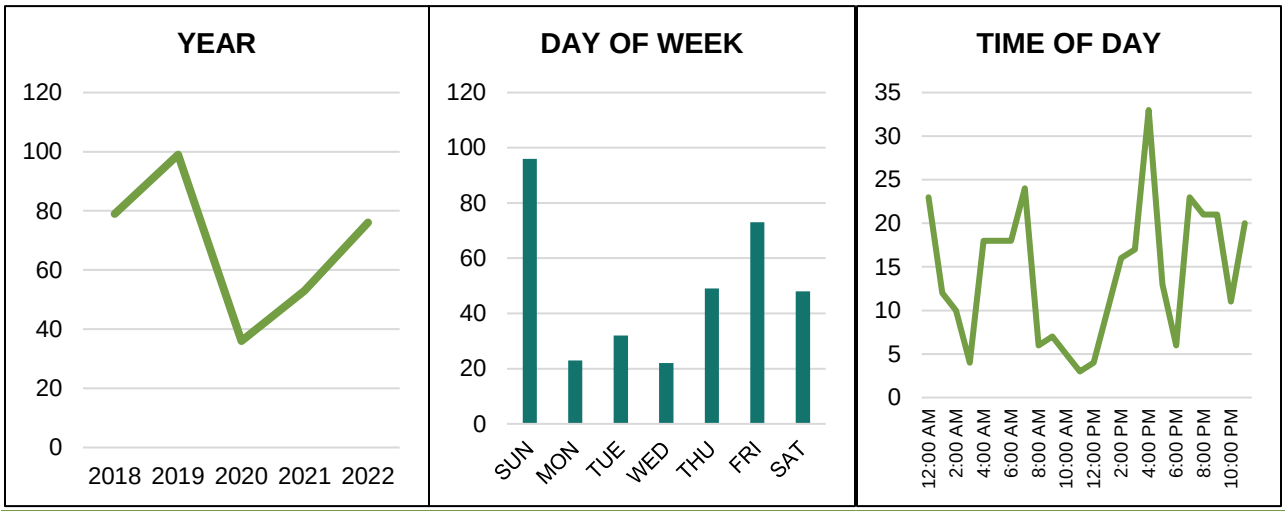


Figure 6.2: Citation Temporal Trends

6.3. Carcass Data Review

Data from the MDT Maintenance Animal Incident Database between January 1, 2018, and December 31, 2022, indicates that a minimum of 74 animal carcasses were collected and documented along MDT routes within the study area. The database contains information on carcasses collected by MDT maintenance personnel on MDT-maintained routes only. However, not all carcass collection is reported consistently or on a regular schedule. This makes the information useful for pattern identification, but it is not statistically valid.

All 74 of the collected carcasses were whitetail deer. **Figure 6.3** summarizes the time period in which the carcasses were collected over the 5-year period. **Figure 6.4** shows the locations of collected deer carcasses. Carcass locations do not necessarily correspond to a reported crash occurrence or crash location. The locations of reported wild animal crashes are also shown on the map for comparison purposes.

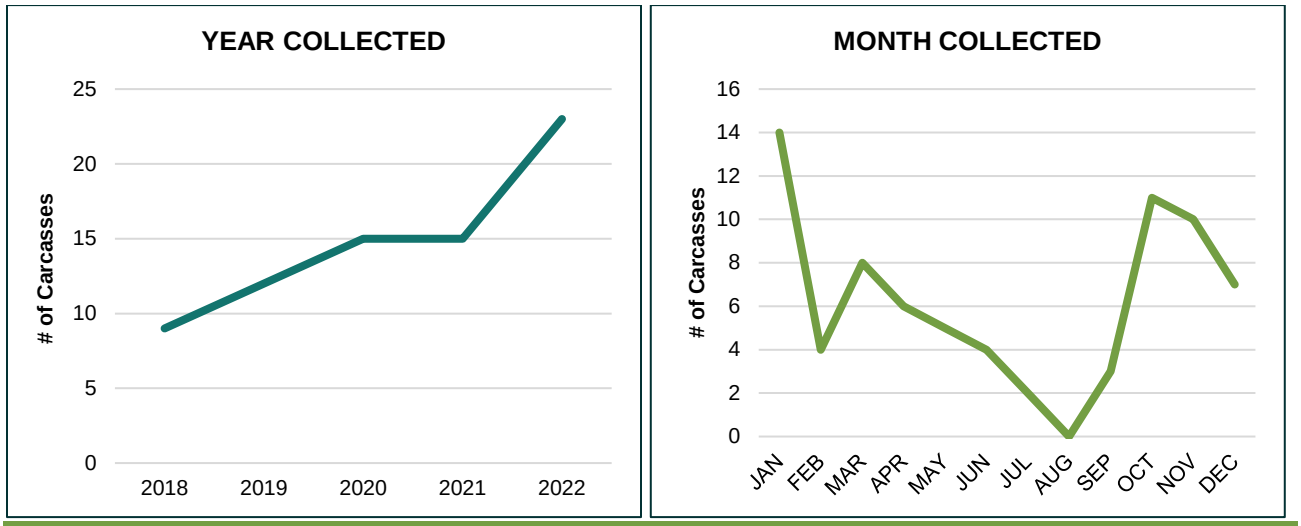


Figure 6.3: Carcass Collection Time Periods

Figure 6.3 shows that the number of collected carcasses has steadily increased each year since 2018. The carcasses were most commonly collected in the late fall and early winter months (October through January) and least commonly collected in the summer months (June through August). Concentrations of carcasses were collected on US 93 near JP Road, near the Whitefish River crossings, near the Whitefish Lake Golf Club, and on Lakeshore Drive approximately between Reservoir Road and Big Mountain Road.

Carcass data for City streets was not available for review, however, input from local stakeholders indicates that deer are commonly seen around Whitefish. The City is interested in developing an urban deer management program to cull wildlife in the City to help reduce vehicle-wildlife conflicts. Overall, there were only 5 wild animal crashes reported within the study area, while at least 74 carcasses were collected over the same time period. Interestingly, the locations of the wild animal crashes are mostly outside the hot spots of deer carcasses collected, with one exception. The available carcass and wild animal crash data is likely an underrepresentation of actual conflicts. Reports of carcasses being found outside the roadway or scavenged by community members or other animals indicate that vehicle-wildlife collisions may have occurred but were not reported. In these cases, carcasses would not be included in the MDT database. Input from WPD indicates very few vehicle/wild animal strikes are reported because there is no requirement to obtain a crash report for insurance purposes in Montana.

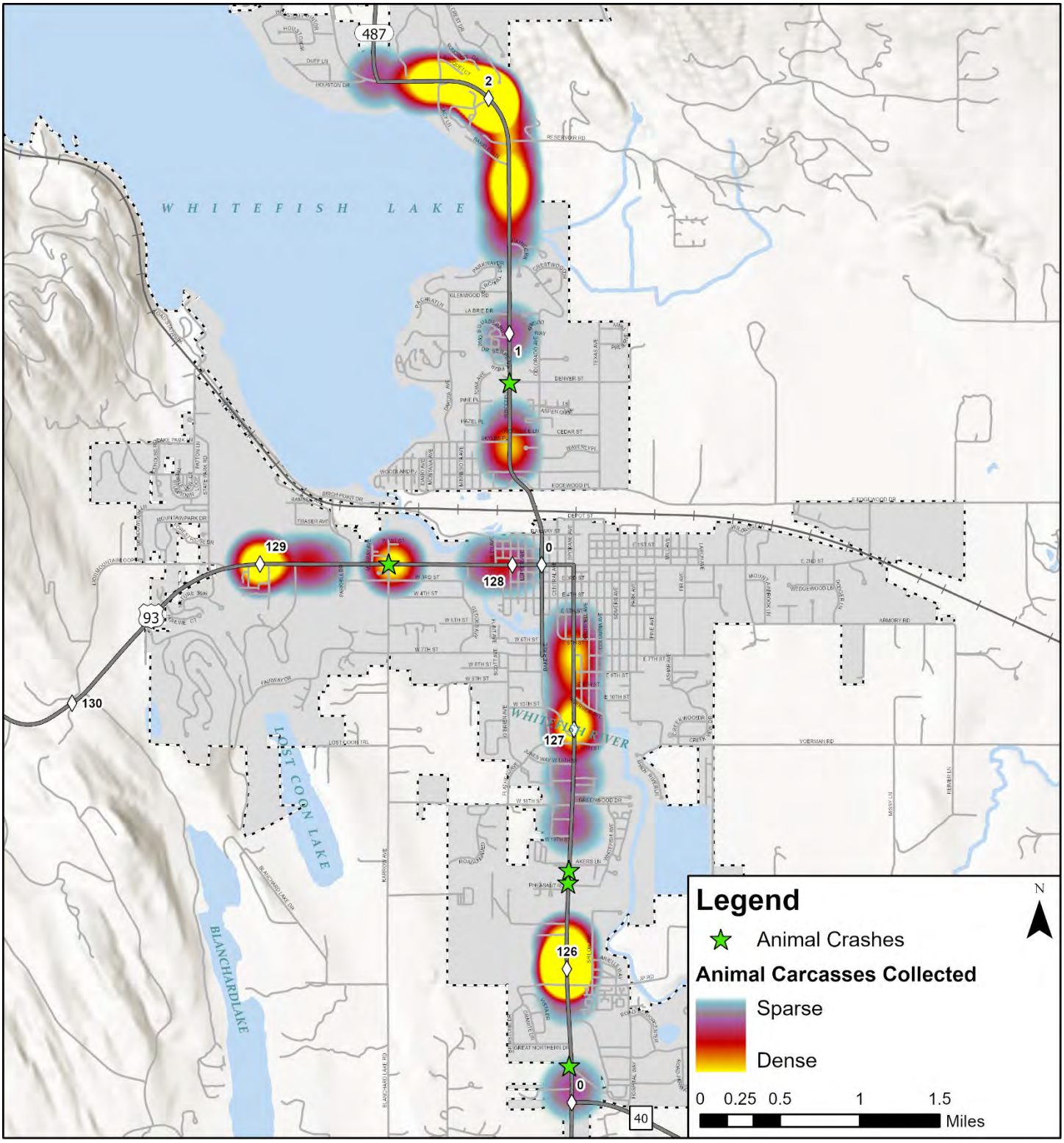


Figure 6.4: Deer Carcass Collection Density

7.0. FOCUS AREAS

Identifying the types of crashes predominantly contributing to community safety problems can help in effectively expending resources. The American Association of State Highway Transportation Officials (AASHTO) *Strategic Highway Safety Plan: A Comprehensive Plan to Substantially Reduce Vehicle-Related Fatalities and Injuries on the Nation's Highways*[5] identified 22 safety focus areas on a national level. The development of focus areas represents a standard approach to roadway safety by evaluating high-risk populations, crash types, infrastructure/hazards, behavior, and transportation modes. MDT has further refined the list of 22 focus areas to include 16 focus areas that are relevant to Montana. Those focus areas are listed below.

- Animal Crashes
- Bicycle Involved
- Drowsy Drivers
- Impaired Drivers
- Inattentive Drivers
- Intersection Crashes
- Large Truck Involved
- Motorcycle Involved
- Native Americans
- Older Driver Involved
- Pedestrian Involved
- Run-off-the-Road
- Speed Related
- Train Involved
- Unrestrained Vehicle Occupants
- Young Driver Involved

7.1. Comparison of All Focus Areas

In order to determine which of the focus areas are the most prevalent in the Whitefish area, the number of total and severe injury crashes occurring within each focus area over the 5-year analysis period from 2018 to 2022 were totaled. For ease of analysis and comparison purposes, the "Pedestrian Involved" and "Bicycle Involved" focus areas were combined to be the "Non-Motorist Involved" focus area, the "Native Americans" focus area was excluded in analysis due to lack of reliable data, and the "Train Involved" focus area was excluded due to lack of recorded crashes. Additionally, 2 more focus areas, "Summer Crashes" and "Winter Crashes," were added due to the heightened interest in the impact of tourism on safety in the Whitefish community. The sum of all focus areas is greater than the total number of crashes because a single crash may fall within multiple focus areas. For example, a crash involving a young, inattentive driver at an intersection would be counted in 3 focus areas.

In addition to total occurrences, it is also important to consider the number of severe crashes within each focus area. For example, although fewer crashes involved unrestrained occupants, a high number of severe injuries resulted in a high severity rate for this focus area. Although it is desirable to reduce the total number of crashes, the SS4A program highlights the importance of decreasing the number of severe injuries. **Figure 7.1** compares the total number of crashes as well as the number of severe crashes in each focus area over the past 5 years (2018 – 2022).

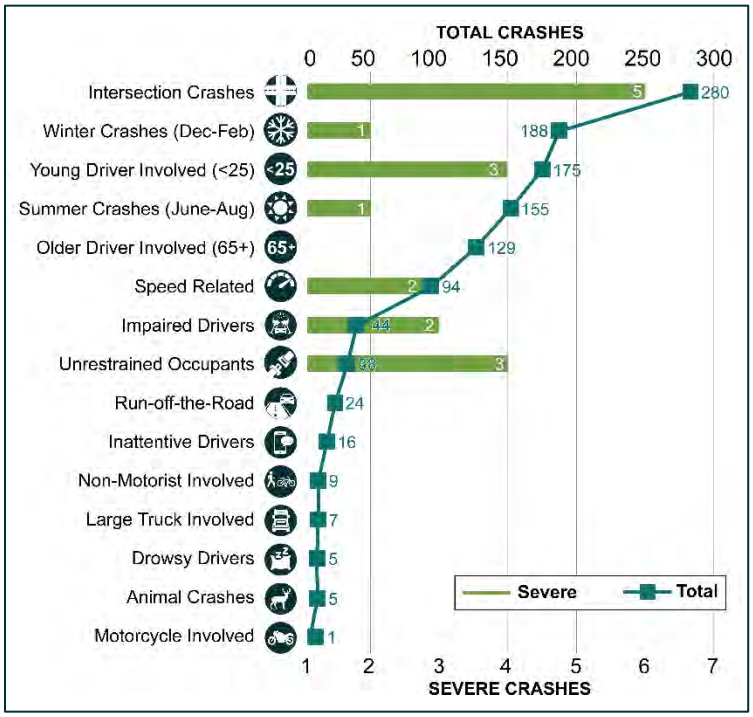


Figure 7.1: Crash Totals by Focus Area

Table 7.1 tabulates the total crashes, percent of all crashes, injuries, and total people involved for each focus area. A single crash may have multiple contributing factors, and thus a single crash or injury could appear within multiple focus areas.

Table 7.1: Focus Area Comparison

Focus Area	Total Crashes	% of All Crashes	Fatality	Suspected Serious Injury	Minor Injury	Possible Injury	PDO/ Unknown	Total People
Intersection Crashes	280	53%	1	5	4	65	545	620
Winter Crashes (Dec-Feb)	188	35%	0	1	3	24	344	372
Young Driver Involved (<25)	175	33%	1	3	4	34	380	422
Summer Crashes (Jun-Aug)	155	29%	0	1	5	29	306	341
Older Driver Involved (65+)	129	24%	0	0	2	26	286	129
Speed Related	94	18%	1	2	2	10	170	185
Impaired Drivers	44	8%	2	1	3	10	69	85
Unrestrained Vehicle Occupants	39	7%	2	2	1	10	37	52
Run-off-the-Road	24	5%	0	0	3	3	29	35
Inattentive Drivers	15	3%	0	0	2	1	21	24
Non-Motorist Involved	9	2%	0	0	0	3	16	19
Large Truck Involved	7	1%	0	0	0	0	15	15
Drowsy Drivers	5	1%	0	0	1	0	4	5
Animal Crashes	5	1%	0	0	0	0	6	6
Motorcycle Involved	1	0%	0	0	1	0	0	1
TOTAL DATASET	**530**	**100%**	**2**	**6**	**16**	**93**	**992**	**1,109**

As shown in **Table 7.1**, the top 5 focus areas by total crashes include Intersection Crashes, Winter and Summer Crashes, and Younger or Older Driver Involved Crashes. In terms of severity, the Unrestrained Vehicle Occupants and Impaired Drivers each involved two fatalities.

7.2. Public Input

During the early stages of the *Whitefish SS4A Action Plan* development process, the planning team engaged with multiple community members to understand perceived safety concerns. Community members shared perspectives based on safety issue encounters that are not necessarily reflected in crash data due to near-miss circumstances, underreporting, or general avoidance due to unsafe conditions. Through a series of stakeholder meetings, field reviews, and public meetings, community members were presented with baseline crash analysis data and asked to identify their top safety concerns from the list of previously identified focus areas.

Figure 7.2 summarizes the input received at the public meeting, which echoes similar input received from stakeholders and community members engaged in other settings. As shown in the figure, the top focus areas identified by the public were Non-Motorist Involved, Intersection Crashes, Inattentive Drivers, and Speed Related crashes. These focus areas largely reflect the community values in Whitefish, as

demonstrated through past planning efforts, and somewhat overlap with the top focus areas based on total crashes and severity.

Focus Area	Votes
Non-Motorist Involved (Pedestrians & Bicycles)	**23**
Intersection Crashes	**16**
Inattentive Drivers	**14**
Speed Related	**12**
Other: Intersection Function for Pedestrians & Bicyclists	4
Other: 90-Degree Turn on Armory Road	3
Animal Crashes	2
Summer Crashes (June-Aug)	2
Winter Crashes (Dec-Feb)	2
Large Truck Involved	1
Drowsy Drivers, Impaired Drivers, Motorcycle Involved, Older Driver Involved (65+), Run-off-the-Road, Unrestrained Occupants, Young Driver Involved (<25)	0

Figure 7.2: Public Feedback - Priority Focus Areas

7.3. Analysis of Key Focus Areas

Based on the baseline data analysis and public feedback, it was determined that 4 focus areas would be selected to investigate in further detail. The focus areas aligning with the public's top interests (Non-Motorist Involved, Intersection Crashes, Inattentive Drivers, and Speed Related) were selected as the focus areas that could have the greatest impact on safety within the community. There is ample overlap between all focus areas; for example an impaired driver crash at an intersection resulting in a fatality would fall into at least two categories. Strategies addressing these 4 key focus areas will likely help address crash trends identified in other focus areas. The following sections contain a more detailed analysis of the community's key focus areas to assist with the identification of strategies and projects to address concerns.

7.3.1. Non-Motorist Involved Crashes

A total of 4 bicycle crashes and 5 pedestrian crashes were included in the MDT crash database. However, when crash reports were reviewed, it was found that 1 of the crashes coded as a pedestrian crash did not, in fact, involve pedestrians. It was also discovered that there was a severe injury pedestrian involved crash in January 2020 that prompted the City of Whitefish to pursue an RRFB at the Baker Avenue crosswalk south of 5th Street. This particular crash was reported by WPD but was not contained in the MDT crash dataset provided to the planning team, despite occurring within the analysis period. It is unknown why this crash was not included in MDT database.

Upon closer examination, an additional 23 crashes were reported to have involved non-motorists in some capacity, based on the person-type characteristics associated with the crash records. Available details indicate some of these records may be miscoded, however, the records are reported as received, with no attempt to change or modify the records. As noted in **Section 3.4**, it is plausible that a non-motorist could have been a contributing factor in a crash but not physically impacted in the collision. For example, a rear-end crash may occur when a vehicle stops abruptly for a pedestrian in a crosswalk, or a sideswipe could occur if a vehicle swerves around a bicyclist into a vehicle in the neighboring lane.

Figure 7.3 shows the crashes specifically coded as pedestrian and bicycle crashes, the crash records indicating non-motorists were involved, and the existing non-motorized facilities in the area. Key takeaways regarding the 32 reported non-motorist involved crashes are summarized below.

- Besides crashes specifically coded as pedestrian and bicycle crashes, the top crash types were rear-end (25 percent), sideswipe (19 percent), parked vehicle (6 percent), head-on (6 percent), and right-angle (6 percent).
- The majority of crashes caused property damage only (75 percent), and 16 percent resulted in possible injuries.
- Environmental factors did not appear to play a major role in crashes. About 6 percent of crashes occurred when it was raining and 19 percent occurred when the roads were wet, icy, or frost-covered. All other crashes (75 percent) occurred on dry roads under clear or cloudy conditions. About 16 percent of the crashes occurred when it was dark outside, and in 80 percent of those crashes street lighting was present.
- The majority of crashes occurred during the summer (June – August [53 percent]) when the weather is nice and non-motorists are most active. However, a fair amount occurred during the late winter/early spring (March – May [28 percent]) as well.
- Crashes were reported at all hours of the day, with the crashes most frequently occurring midday (12 PM – 2 PM, [34 percent]) and during the school pick-up/evening commute (3 PM – 6PM, [31 percent]).
- About half of the crashes reportedly occurred at non-junction locations, though geo-spatial data appears to indicate the crashes occurred primarily at intersections. The intersections along 1st Street between Spokane Avenue and O'Brien Avenue and the Spokane Avenue/13th Street intersection appeared to be hot spots. The Edgewood Place/Colorado Avenue intersection and shared use path crossing was the site of multiple crashes, including 2 crashes which involved non-motorists not yielding before proceeding through the intersection.
- Crashes occurred primarily on routes with lower functional classifications (local routes [34 percent] and collectors [19 percent]). About one third of the crashes occurred on principal arterials (US 93 and Highway 487).
- The speed limit on the roadways where the crashes occurred was 35 mph or less in all but 1 crash (in 2 crashes the speed limit was listed as unknown). Driving too fast for conditions was reported as a contributing action for 2 of the people involved in the crashes, with both coded as non-motorists as opposed to drivers of vehicles.
- The crash records indicated that a dedicated non-motorized facility (shared use path [66 percent] or marked bicycle lane [6 percent]) was available in 72 percent of the crashes. Geo-spatial data appears to indicate that this reporting may be slightly overrepresented, though at a minimum, it appears that all crashes occurred where there was a sidewalk or another dedicated facility.
- About 17 percent of the drivers and non-motorists involved in the crashes were reported to have been maneuvering in a distracted, inattentive, or careless manner at the time of the crashes. About 60 percent of those individuals were drivers and 40 percent were non-motorists. One driver was specifically coded as being distracted by an electronic communication device.

Based on these findings, it appears that pedestrians and bicyclists are active in the Whitefish area and have been both directly and indirectly involved in several crashes. The areas where these crashes are occurring are not particularly high-speed facilities, and generally have dedicated pedestrian and bicycle infrastructure, suggesting that driver awareness of non-motorists is perhaps lacking. Likewise, non-motorists were also coded as being inattentive, and the crash narratives (**Section 6.1**) suggested that in some incidents non-motorists did not give drivers enough time to see, react, and respond to their

movements. Due to the slower environments in which these crashes involving non-motorists occurred, injuries were rare.

In reviewing these trends, it is important to keep in mind that national research has demonstrated consistent underreporting of crashes involving pedestrians and bicyclists, with as many as 44-75 percent of pedestrian crashes and 7-46 percent of bicyclist crashes missing from police-reported crash data.[6] Collisions involving non-motorists are not always reported by those involved, especially if no injury or property damage occurs. Pedestrian and bicyclist injuries may also be misreported. For example, if a bicyclist appears uninjured at the crash scene, a crash report might not be filed. However, later, the bicyclist might realize they are injured and visit the emergency room, where the event is only captured in emergency department data.[7]

The general absence of reported pedestrian and bicycle crashes in the Whitefish area does not indicate a lack of safety concerns. This observation was further emphasized by the public and SS4A Task Force members, who indicated that the lack of non-motorist crashes could be due to both near-misses as well as a general avoidance of walking and bicycling due to perceived or experienced unsafe conditions. For these reasons, pedestrian and bicyclist safety is a top priority for the Whitefish SS4A Task Force.

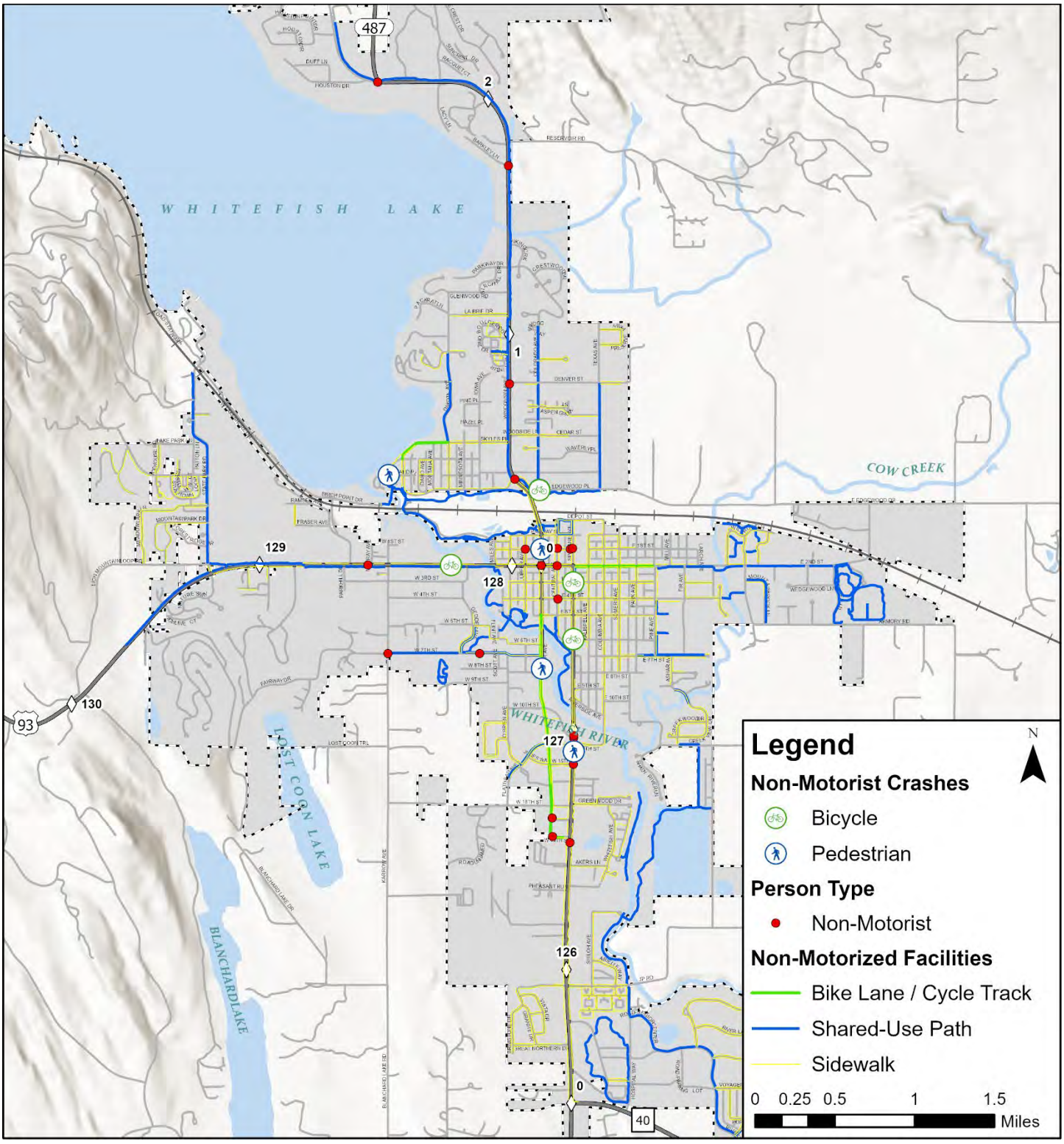


Figure 7.3: Non-Motorist Involved Crashes

7.3.2. Intersection Crashes

Over half of all the crashes in Whitefish over the 5-year analysis period occurred at an intersection (105) or were related to an intersection (175). **Figure 7.4** shows the locations of intersection and intersection related crashes. The following summarizes some key takeaways regarding the 280 reported intersection crashes.

INTERSECTION CRASHES

- The most common crash types included right-angle (44 percent), left-turn opposite-direction (17 percent), rear-end (13 percent), and sideswipe (9 percent).
- A fatality resulted from 1 of the intersection crashes and 3 resulted in suspected serious injuries. Overall, 81 percent of the intersection crashes resulted in property damage only.
- Adverse weather conditions played a minor role in intersection crashes, with 13 percent occurring while it was snowing or blowing snow and 3 percent occurring in the rain. Similarly, 24 percent of crashes occurred on snowy, icy, or frost-covered roads while 14 percent occurred on wet roads.
- Overall, 83 percent of intersection crashes occurred during daylight hours while 16 percent occurred at night, primarily at intersections with street lighting present.
- Intersection crashes occurred most commonly during the winter months (November to February [41 percent]) but also experienced a spike in the summer months (June to August [30 percent]). Crashes were most common during the afternoon and evening (12:00 PM to 6:00 PM [55 percent]).
- Drivers involved in intersection crashes were split equally between males and females. Drivers skewed slightly more heavily to working age (22-50 [53 percent]) compared to all crashes within the study area (40 percent).
- About 9 percent of intersection crashes involved an impaired driver. Top contributing actions included distracted/inattentive driving (29 percent), failure to yield right-of-way (24 percent), driving too fast for conditions (9 percent), and following too closely (6 percent).
- About 60 percent of vehicles involved in intersection crashes were moving straight ahead while 19 percent were making left turns and 13 percent were making right turns. About 7 percent were slowing or already stopped in traffic.
- The speed limit on the roadways where the intersection crashes occurred was primarily 25 mph (67 percent). About 40 percent occurred on local roads while 30 percent occurred on principal arterials.

INTERSECTION RELATED CRASHES

- The most common crash types included rear-end (57 percent), sideswipe (11 percent), right-angle (9 percent), and fixed-object (9 percent).
- None of the intersection related crashes resulted in a fatality and 1 resulted in suspected serious injuries. Overall, 77 percent of the intersection crashes resulted in property damage only.
- Adverse weather conditions played a slightly more significant role in intersection related crashes, with 19 percent of those crashes occurring while it was snowing or blowing snow and 2 percent occurring in the rain/freezing rain. Similarly, 36 percent of crashes occurred on snowy, icy, or frost-covered roads while 11 percent occurred on wet roads.
- Overall, 78 percent of intersection crashes occurred during daylight hours while 18 percent occurred at night. Street lighting was present at the crash site in about 80 percent of the nighttime crashes.
- Intersection related crashes occurred most commonly during the winter months (November to February [46 percent]) but also experienced a spike in the summer months (June to August [29

percent]). Crashes were most common during the school pick-up/evening commute timeframe (2:00 PM to 6:00 PM [42 percent]).

- Drivers involved in intersection related crashes were more commonly males (54 percent). Drivers also skewed slightly more heavily to working age (22-50 [55 percent]).
- About 4 percent of intersection related crashes involved an impaired driver. Top contributing actions included distracted/inattentive driving (31 percent), following too closely (16 percent), driving too fast for conditions (12 percent), and failure to yield right-of-way (6 percent).
- About 40 percent of vehicles involved in intersection related crashes were moving straight ahead, while 14 percent were making left turns and 11 percent were making right turns. About 28 percent were slowing or already stopped in traffic.
- About half of the intersection related crashes occurred on roadways with a speed limit of 25 mph (51 percent). About 29 percent occurred on local roads while 30 percent occurred on principal arterials.

Overall, crashes at intersections and intersection related crashes generally followed similar trends. Distinctions included more rear-end collisions associated with intersection related crashes while intersection crashes resulted in more angle crashes with higher severities. Also, a higher proportion of intersection related crashes occurred under adverse winter related road or weather conditions and involved drivers following too closely and driving too fast for conditions. In terms of location, there were no obvious distinctions between intersection and intersection related crashes. The downtown Whitefish area, the 13th Street and Baker/Spokane Avenues, US 93/19th Street, and US 93/MT 40 intersections were all hot spots for intersection crashes. These are all high-volume intersections with significant traffic volumes and turning movements.

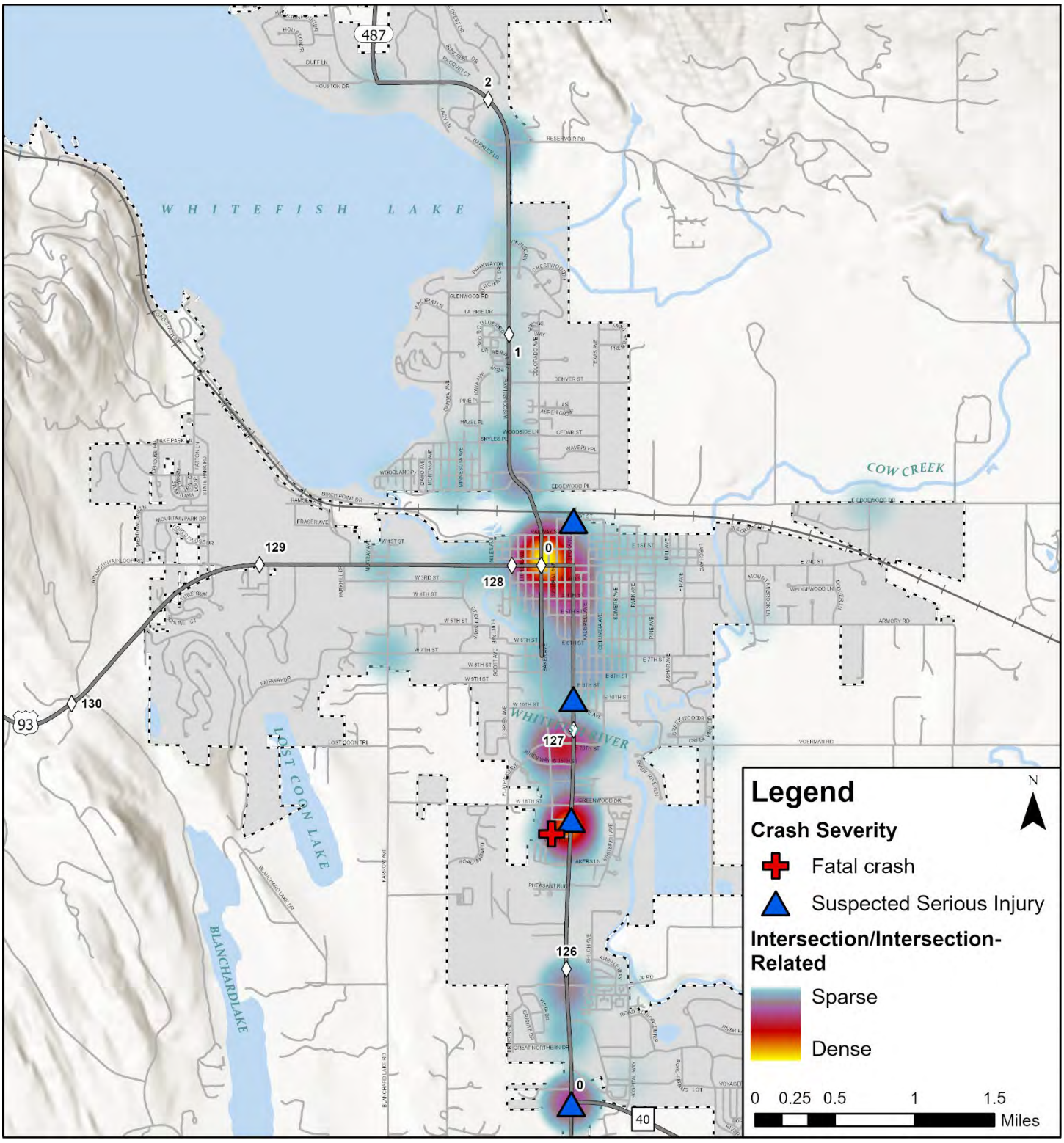


Figure 7.4: Intersection Crashes

7.3.3. Inattentive Drivers

The involvement of a distracted or inattentive driver can be coded in crash records in many ways. First, under the individual person records, the individual's actions at the time of the crash could be listed as "Drove in Distracted, Inattentive Or Careless Manner". A total of 210 individuals, including 205 drivers and 5 non-motorists, were reported as driving in this manner. On a crash basis, these distracted individuals were involved in 189 total crashes, indicating more than 1 distracted individual was involved in some crashes. Another attribute field in the crash records indicates whether the driver was specifically noted as a distracted driver. In this case, 16 individuals in 15 crashes were coded in this manner. Interestingly, 8 of these individuals did not have "Drove in Distracted, Inattentive Or Careless Manner" listed as a contributing action at the time of the crash.

Based on the large differences between these totals, it is difficult to determine how many of the crashes within Whitefish involved distracted or inattentive drivers. However, it is reasonable to conclude that distracted driving is prevalent in the Whitefish area and is a contributing factor in many of the area's crashes. **Figure 7.5** shows a heat map of crash locations reported to have involved an individual who had "Drove in Distracted, Inattentive Or Careless Manner" listed as a contributing action. The 15 crashes specifically denoting a distracted driver are shown as green dots. Key takeaways regarding the 189 crashes involving drivers reported as driving in a distracted, inattentive, or careless manner are summarized below. The filter used for this analysis includes careless drivers, which may not necessarily mean the driver was distracted. The cause of distraction is missing from 96 percent of crash records.

- About half of the distracted driver crashes occurred at non-junction locations (48 percent) while 15 percent occurred at intersections and 36 percent were related to intersections.
- The most common crash types resulting from distracted drivers included rear-end (48 percent), sideswipe (12 percent), right-angle (10 percent), and fixed-object (9 percent).
- None of the crashes involving distracted drivers were fatal, but 2 resulted in suspected serious injuries. Overall, 81 percent resulted in property damage only.
- The time of day and time of year trends for distracted driver crashes were very similar to those of all crashes within the study area with no major deviations.
- About one-third of the distracted driver crashes occurred on roads that were wet (12 percent), snowy (13 percent), or icy/frost-covered (8 percent). The weather was clear (61 percent) or cloudy (26 percent) for most crashes.
- About 8 percent of the distracted driver crashes also involved an impaired driver. Of all impaired drivers, 15 were reported as driving in a distracted, inattentive, or careless manner.
- There were no obvious trends regarding age of the distracted drivers, though it did skew slightly younger compared to overall crashes. About 22 percent of distracted drivers were under the age of 21 while only 13 percent of all drivers involved in crashes were under the age of 21.
- Other common contributing factors (besides distracted/inattentive driving) included following too closely (12 percent of drivers), driving too fast for conditions (6 percent), and failure to yield right-of-way (4 percent).
- About 18 percent of vehicles involved in distracted driver crashes were turning right or left while 9 percent were slowing, 8 percent were stopped in traffic, and another 9 percent were parked. About half of the vehicles were moving straight ahead (47 percent). The data does not relate individual vehicle records to individual drivers, therefore it is impossible to indicate which movement was made by the distracted driver versus the impacted driver. It is also impossible to indicate which driver was deemed at fault in the collision.
- Distracted driver crashes occurred most commonly in the downtown area, on 13th Street at the Baker and Spokane Avenue intersections, and on Spokane Avenue between 18th and 19th Streets.

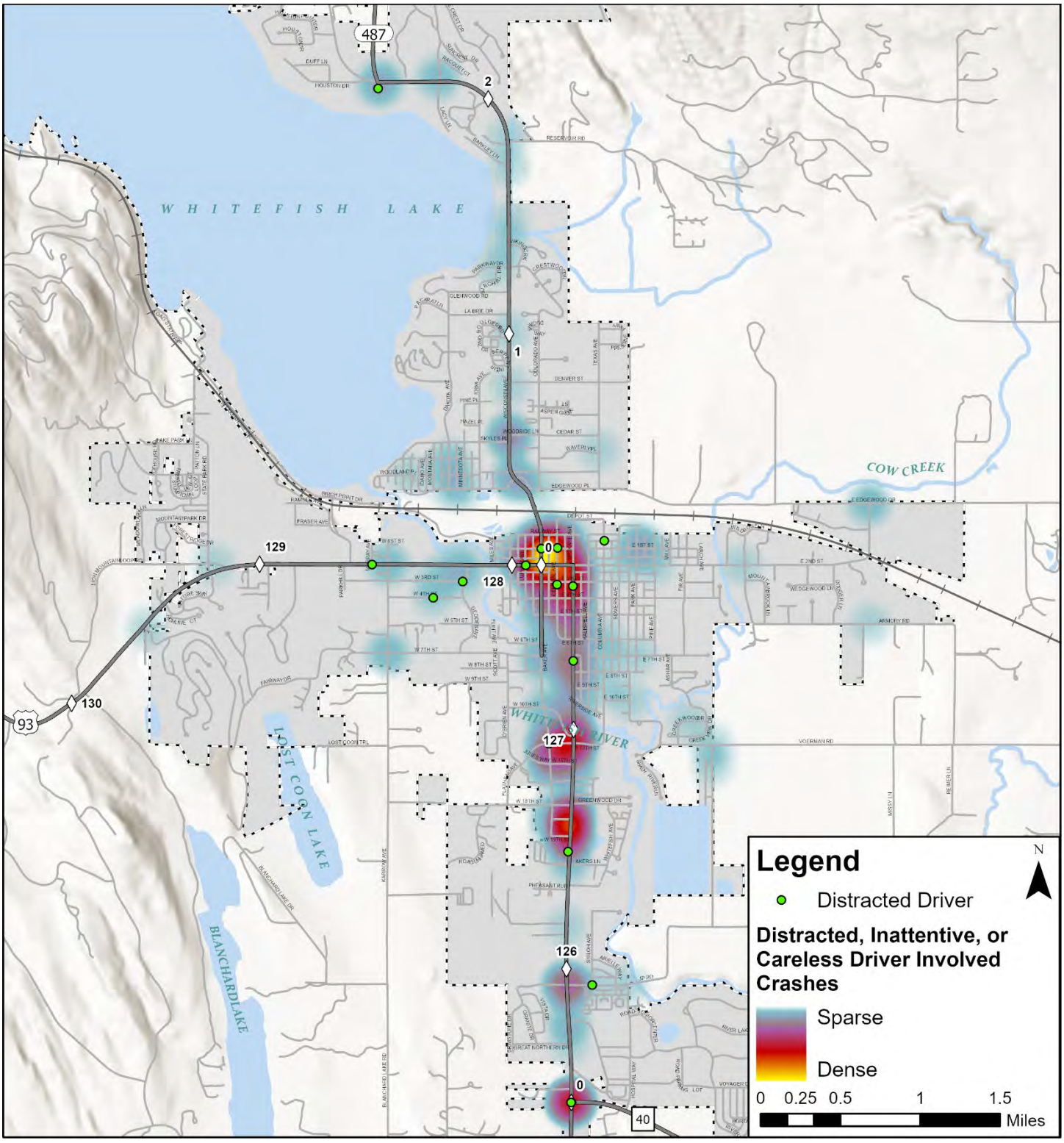


Figure 7.5: Inattentive Driver Involved Crashes

7.3.4. Speed Related

Crashes considered to be speed related were based on the reported driver actions at the time of the crash. Similar to how the distracted/inattentive drivers were classified, drivers who were speeding would have contributing actions listed as “Drove Too Fast For Conditions” or “Exceeded Posted Speed Limit”. In this case, 70 individuals, including 69 drivers and 1 non-motorist, were reported as driving in this manner. On a crash basis, these individuals were involved in 69 total crashes.

Speed was considered a contributing action in only about 13 percent of all crashes in Whitefish over the 5-year analysis period. Over the same period, 62 speed related violations were also recorded, accounting for 18 percent of all citations, as discussed in **Section 6.2**. **Figure 7.6** shows a heat map of crash locations with an individual who “Drove Too Fast For Conditions” or “Exceeded Posted Speed Limit” was listed as contributing action(s). The speed related citations are shown as yellow dots. Given available crash data, the following trends were observed regarding the 69 crashes involving drivers reported as driving too fast for conditions (63) or exceeding the posted speed limit (7).

- About one third of the speed related crashes occurred at non-junction locations while the other two-thirds occurred at an intersection (23 percent) or were related to an intersection (39 percent).
- The most common crash types involving speeding drivers were rear-end (30 percent), fixed-object (22 percent), sideswipe (14 percent), and right-angle (14 percent).
- One speed related crash resulted in a fatality, none resulted in suspected serious injuries, and 90 percent overall resulted in property damage only.
- Poor weather and road conditions appeared to be a factor in speed related crashes with 42 percent occurring when it was snowing or blowing snow, 43 percent occurring on snow covered roads, and 39 percent occurring on icy or frost-covered roads. Accordingly, 80 percent of the speed related crashes occurred in winter months (November through February) while only 3 percent occurred during summer months (June through August).
- About 71 percent of the speed related crashes occurred during daylight hours, while 26 percent occurred while it was dark outside (street lighting was present for half of the crashes that occurred at dark). Accordingly, about 74 percent of the crashes occurred during the hours of 8:00 AM and 5:00 PM, which generally corresponds with winter daylight hours.
- Males were over-represented in speed related crashes, accounting for 61 percent of offending drivers. The age distribution, however, was similar to that observed for all crashes in the study area.
- Five of the speed related crashes also involved an impaired driver. Contributing actions in crashes (besides speeding) included following too closely (6 percent) and distracted/inattentive driving (5 percent).
- Three quarters of the speed related crashes occurred on roadways with speed limits of 25 mph or less. None of the crashes occurred on roadways with speed limits greater than 45 mph.
- Unlike the citations which were primarily issued on US 93 south of 19th Street, the speed related crashes primarily occurred in the downtown area, on 13th Street at the Baker and Spokane Avenue intersections, and in the vicinity of US 93 and 19th Street. A handful of crashes also occurred on US 487 headed towards Big Mountain Resort. This difference may indicate a difference in the level of speed enforcement or could indicate that the issuance of citations is having a preventative effect on speed related crashes. Additionally, the reported citations are primarily on US 93 and were likely issued by MHP. Citations issued by WPD on local streets in the downtown core may not be included in the MDT citation dataset.
- Of the speeding drivers involved in crashes, 84 percent had Montana driver’s licenses. Similarly, 85 percent of drivers cited for speeding had Montana driver’s licenses.

Based on feedback from the public and SS4A Task Force, speeding is a high-priority safety concern even if it is not overly represented in the crash and citation data. The community perceives that vehicles travel too fast, which can make the roadway environment uncomfortable for non-motorists. Feedback from WPD indicates that vehicles typically abide by posted speed limits or travel just over the speed limit. This discrepancy between perception and reality could indicate that posted speeds are too high for the context and the desired comfort levels of non-motorist users, and that further investigation may be warranted.

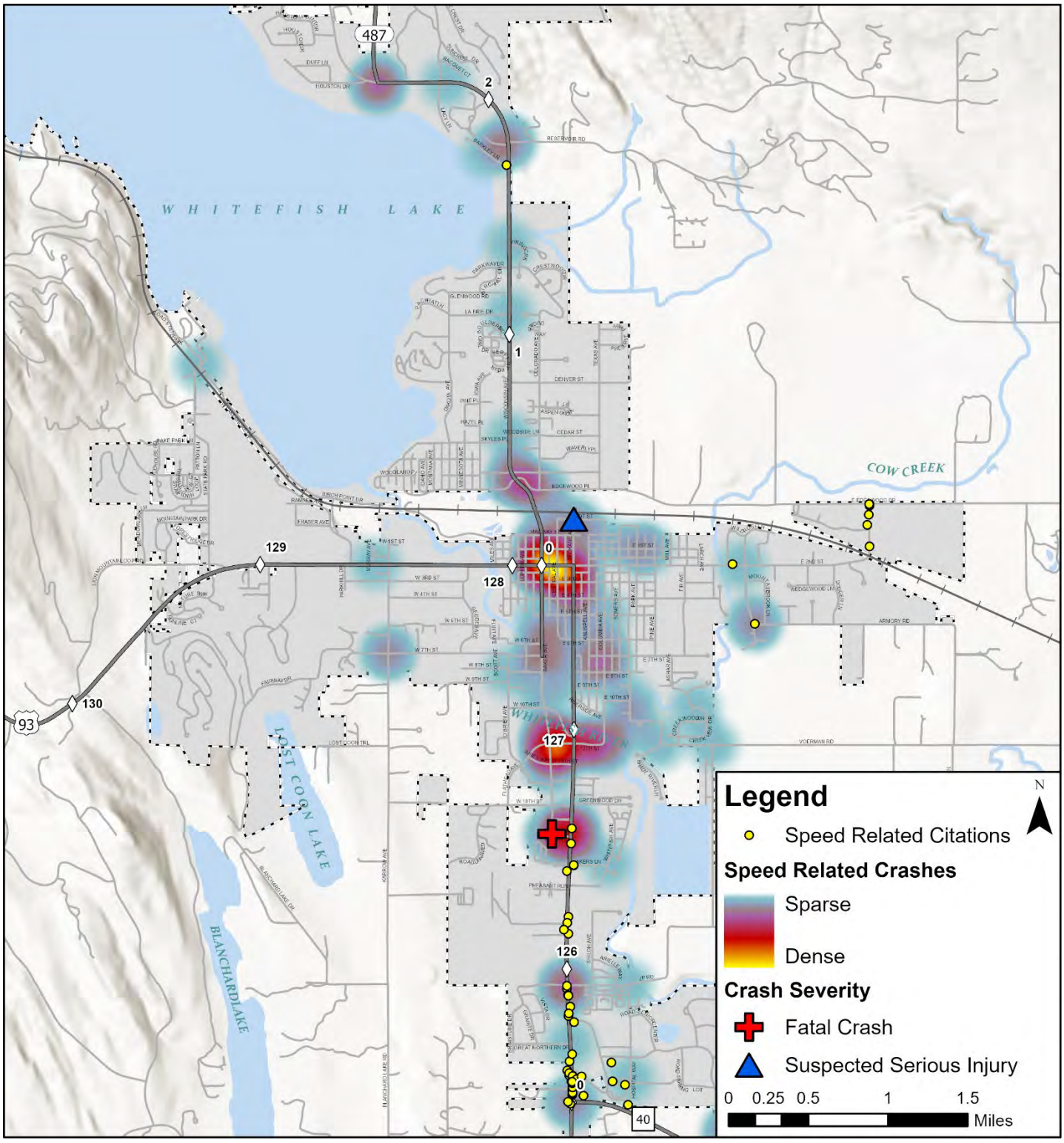


Figure 7.6: Speed Related Crashes

7.3.5. Relationship Between Focus Areas

Table 7.2 summarizes the relationships between each of the focus areas, in response to SS4A Task Force inquiries. For additional detail, the intersection crashes focus area was separated into Intersection and Intersection Related crashes. The N/A column represents the number of crashes within a given focus area that did not have any overlap with the other focus areas.

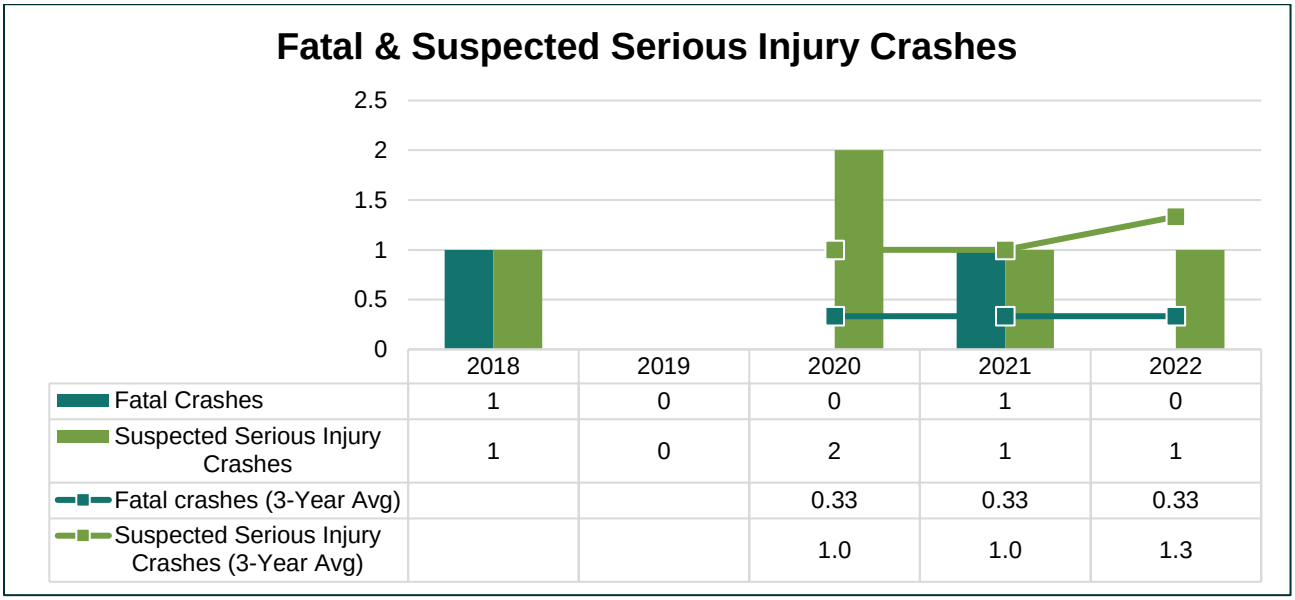
Table 7.2: Relationship Between Focus Areas

Focus Area	Inattentive	Non-Motorist	Speed	Intersection	Intersection Related	N/A	Total
Inattentive	--	11	4	29	68	77	**189**
Non-Motorist	11	--	1	6	8	6	**32**
Speed	4	1	--	16	27	21	**69**
Intersection	29	6	16	--	--	54	**105**
Intersection Related	68	8	27	--	--	72	**175**
N/A	77	6	21	54	72	--	**230**
Total	**189**	**32**	**69**	**105**	**175**	**230**	**530**

Based on this analysis, 34 percent of non-motorist crashes involved distracted drivers, while only 6 percent of distracted driver crashes involved non-motorists. Likewise, 28 percent of intersection crashes involved distracted drivers, while 15 percent of distracted drivers were involved in crashes at intersections. Speed and distraction did not appear to have a correlation and neither did speed and non-motorist crashes. However, 62 percent of the speed related crashes occurred at or were related to intersections while speed played a role in 30 percent of the intersection and intersection related crashes. Similarly, 44 percent of the non-motorist involved crashes occurred at or were related to intersections while 10 percent of the intersection/related crashes involved non-motorists.

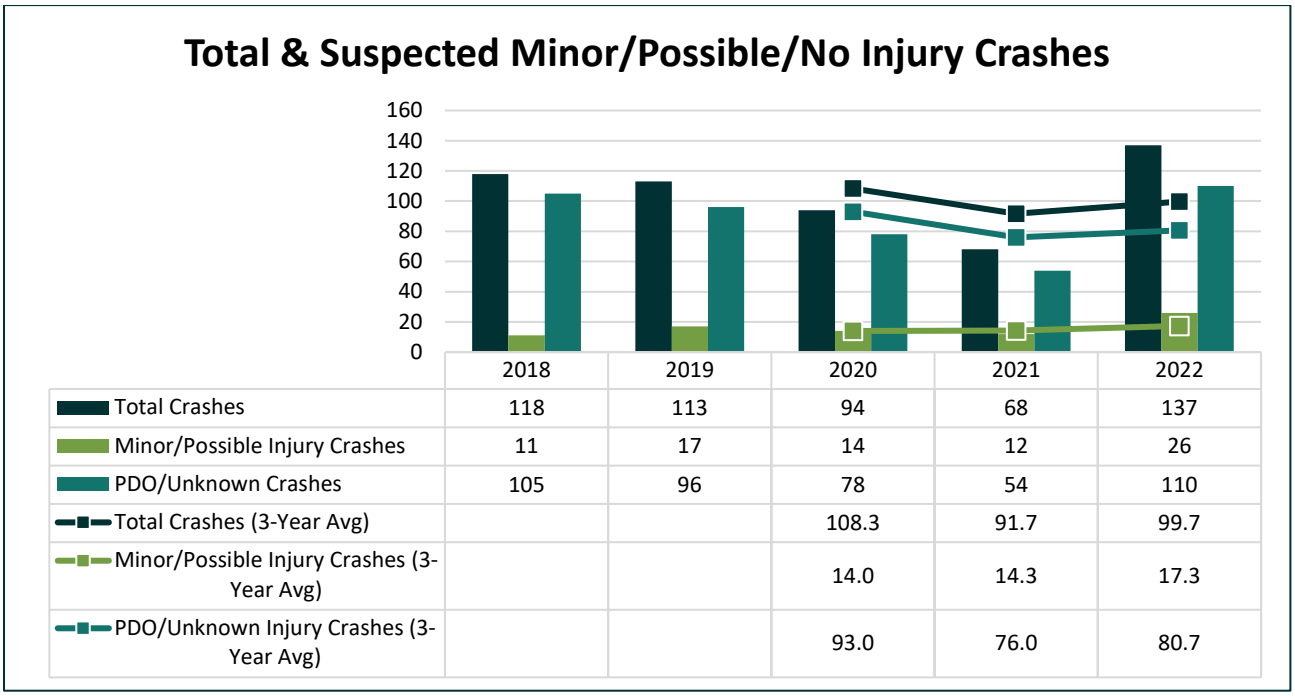
8.0. GOAL SETTING

It is common practice in safety performance tracking to set goals, or targets, based on multi-year rolling averages of fatalities and suspected serious injuries. 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. If a particularly high or low number of fatalities and/or suspected serious injuries occur in 1 year, a return to a level consistent with the average in the previous year may occur. **Figures 8.1** and **8.2** show the total number of crashes by severity as well as 3-year rolling averages for each.



	2018	2019	2020	2021	2022
Fatal Crashes	1	0	0	1	0
Suspected Serious Injury Crashes	1	0	2	1	1
Fatal crashes (3-Year Avg)			0.33	0.33	0.33
Suspected Serious Injury Crashes (3-Year Avg)			1.0	1.0	1.3

Figure 8.1: Fatal and Suspected Serious Injury Crash Trends



	2018	2019	2020	2021	2022
Total Crashes	118	113	94	68	137
Minor/Possible Injury Crashes	11	17	14	12	26
PDO/Unknown Crashes	105	96	78	54	110
Total Crashes (3-Year Avg)			108.3	91.7	99.7
Minor/Possible Injury Crashes (3-Year Avg)			14.0	14.3	17.3
PDO/Unknown Injury Crashes (3-Year Avg)			93.0	76.0	80.7

Figure 8.2: Total and Suspected Minor/Possible/No Injury Crash Trends

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.

8.1. Recommended Fatality and Serious Injury Goals

Based on the findings in this report, fatal and suspected serious injury crashes are comparatively minimal in the Whitefish area already. In 3 of the 5 years studied, the community achieved zero fatalities, and in 2019, Whitefish achieved zero fatalities and suspected serious injuries. Accordingly, it is most realistic for the City of Whitefish to make a commitment to zero roadway fatalities and suspected serious injuries by a certain target date, rather than setting a percentage reduction goal. Committing to **zero fatalities and suspected serious injuries by 2030** is reasonable to allow the City enough time to acquire funding to implement the strategies and projects that will be recommended in this Action Plan to make progress towards the goal of zero.

8.2. Recommended Focus Area Goals

In addition to a commitment to zero roadway fatalities and serious injuries, the City of Whitefish desires to set other goals that can help the City track progress towards reducing crashes and improving overall safety and comfort for all transportation users. The goals are centered around the key focus areas of the Action Plan.

NON-MOTORIST INVOLVED FOCUS AREA

1. **Develop a non-motorist count program to continually measure the number of people who walk and bike for transportation purposes, with the goal to increase the number of people who walk and bike in Whitefish by 10 percent over the next 5 years.**

   The City of Whitefish desires a transportation system that is safe and comfortable for pedestrians, bicyclists, and other non-motorists to use on a daily basis. It is envisioned that progress towards creating a safe multimodal roadway environment will help encourage more people to walk, bike, and roll, thereby reducing the number of vehicles on the road and reducing the potential for conflicts. Increases in pedestrian and bicycle activity will be an indication of improved non-motorist safety and comfort.

INTERSECTION CRASHES FOCUS AREA

1. **Using the strategies defined in the SS4A Action Plan, complete at least 2 intersection safety improvement projects per year to improve safety at intersections identified on the HIN over the next 5 years.**

   To improve safety at intersections, the City of Whitefish will begin by targeting safety concerns at the highest scoring intersections on the HIN. Additional intersection safety improvement projects will be implemented as funding allows.

INATTENTIVE DRIVERS FOCUS AREA

1. **Reduce the number of crashes involving inattentive/distracted driving by 5 percent over the next 5 years.**

   Many crashes that occurred in the Whitefish area could have been prevented had the driver or non-motorist been focused on the task of safe transportation. Achievement of this goal will require investment in educational campaigns targeted at changing driver and non-motorist behavior as well as increased investment in targeted enforcement to curb distracted driving, especially the use of cell phones. To enable more accurate tracking, WPD officers should receive enhanced training to ensure contributing circumstances related to distracted driving are correctly reported.

SPEED RELATED FOCUS AREA

1. **Complete at least 2 speed related or traffic calming projects per year over the next 5 years to encourage slower speeds.**

   To address speed related crashes, a first step will be determination of whether current speed limits are appropriate for the context of the roadway. If the speed limit is determined to be too high, the City could pursue lowering speed limits on local roads. If the speed limit is determined to be appropriate but cars are traveling above the posted speeds, implementation of traffic calming projects could help reduce travel speeds in high-risk locations. High-risk locations may include non-motorized crossings, routes to schools, community gateway areas, or residential areas.

9.0. SUMMARY

This *Baseline Data Summary* for the Whitefish *SS4A Action Plan* identifies multimodal transportation safety problems within the City of Whitefish through a data-driven analysis of available crash, citation, carcass, and demographic data covering the 5-year period from January 1, 2018, to December 31, 2022. This analysis helps identify contributing factors in traffic fatalities and suspected serious injuries as well as other circumstances that inhibit the safety of residents and visitors alike.

This report summarizes data from crash reports submitted to the MHP from patrol officers and local law enforcement officials. The information from the crash reports is conveyed as recorded in the report, with no attempts to correct or modify the data. Separately, crash narratives for fatal and suspected serious injury crashes and non-motorist involved crashes were reviewed to understand contributing circumstances and identify potential underlying trends.

Additionally, comprehensive analyses were performed for 4 key focus areas including Non-Motorist Involved, Intersection, Inattentive Driver, and Speed Related crashes. This effort included a review of the spatial relationship between crashes and their location as well as a detailed analysis of contributing circumstances and crash trends relevant to each focus area that may not be otherwise be gleaned through a high-level review of all crash records.

While the data analysis helps the Whitefish SS4A Task Force and public understand the factors in crashes within the Whitefish area, it is noted that the community's perceived safety issues do not always align with the most prevalent crash trends. For this reason, public input was an important component of the SS4A planning process, and a concentrated effort was made to collect feedback to help identify transportation safety issues that may not otherwise be apparent in the crash data. A summary of public and stakeholder engagement efforts is contained in a separate *Engagement Summary* and interwoven through this report where relevant.

Analyses summarized in this report will assist the City of Whitefish and its partners in identifying and implementing projects or strategies to focus on the City's most high-risk and prevalent transportation safety issues. Findings will also help the City tailor any potential strategies to specific areas and contextual situations. A summary of generalized takeaways from the baseline safety analysis is provided below.

- Data indicated that 530 crashes involving 1,109 individuals occurred within the Whitefish City limits during the 5-year analysis period spanning 2018 to 2022. The area experienced a decline in the total number of crashes between 2018 and 2021, with a large spike in crashes in 2022. About 16 percent of crashes resulted in some level of injury and less than 1.5 percent were severe (2 total fatalities and 6 total suspected serious injuries).
- Temporal trends appear to indicate a possible trend with regular commuting patterns and generally higher traffic exposure on weekdays. Approximately 29 percent of crashes occurred in the summer months (June through August) while 35 percent occurred in the winter months (December through February), potentially corresponding to population fluctuations associated with seasonal tourism.
- Geospatial mapping shows higher concentrations of crashes in the downtown area and along US 93. These areas have greater traffic volumes and are typically more congested than other areas of the City, leading to greater traffic exposure and a higher risk of conflicts. Similarly, 5 out of 7 severe crashes occurred on US 93 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.

- Multi-vehicle crashes accounted for 83 percent of all reported crashes. The most common were rear-end, right-angle, and sideswipe crashes, which are all typical crash types in congested urban areas.
- Approximately 72 percent of crashes occurred on routes owned and maintained by the City of Whitefish, while the other 28 percent occurred on MDT-owned routes, such as US 93, Baker Avenue, and Wisconsin Avenue. Of the 7 severe crashes, 5 occurred on MDT routes (US 93) while the other 2 occurred on locally owned routes. These findings point out the importance of interagency coordination.
- About 40 percent of crashes occurred under adverse road conditions (snowy, icy, frost-covered, or wet roads). 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 20 percent of crashes occurred when it was dark outside, with about three-quarters of those crashes occurring in locations where street lighting was present.
- Four key focus areas (Non-Motorist Involved, Intersection Crashes, Inattentive Drivers, and Speed Related) were selected to investigate in greater detail to understand potential crash trends.
    - **Non-Motorist Involved:** Pedestrians and bicyclists are active in the Whitefish area and have been both directly and indirectly involved in multiple crashes. Findings suggest that driver awareness of non-motorists may be lacking, though non-motorist attentiveness also appears to be a concern. The general absence of reported pedestrian and bicycle crashes in the Whitefish area does not indicate a lack of safety concerns. Public and stakeholder engagement identified frequent near-misses and avoidance due to perceived or experienced unsafe conditions.
    - **Intersection Crashes:** Intersection related crashes tended to result in more rear-end collisions while intersection crashes resulted in more angle crashes with higher severities. A higher proportion of intersection related crashes occurred under adverse winter related road or weather conditions and involved drivers following too closely and driving too fast for conditions. The downtown Whitefish area, the 13th Street and Baker/Spokane Avenues, US 93/19th Street, and US 93/MT 40 intersections were all hot spots for intersection crashes. These locations are high-volume intersections with significant traffic volumes and turning movements.
    - **Inattentive Drivers:** Distracted driving is prevalent in the Whitefish area and a contributing factor in many of the area's crashes. The most common crash types resulting from distracted drivers included rear-end, sideswipe, right-angle, and fixed-object. Distracted drivers involved in crashes skewed slightly younger compared to overall crashes. Other common contributing factors (besides distracted/inattentive driving) included following too closely, driving too fast for conditions, and failure to yield right-of-way.
    - **Speed Related:** Speed was considered a contributing action in about 13 percent of all crashes, and speed related violations accounted for 18 percent of all citations. Poor weather and road conditions appeared to be a factor in speed related crashes, with drivers tending to travel too fast for the road conditions rather than exceeding the speed limit. Speeding is a high priority safety concern even if it is not overly represented in the crash and citation data. It is the perception of the community that vehicles travel too fast, which can make the roadway environment uncomfortable for non-motorists.

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