APRIL 2021

WHITEFISH

Transportation Plan

KLJ

ENGINEERING, REIMAGINED

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Transportation Plan

CHAPTER 1. BASELINE CONDITIONS

April 2021

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INTRODUCTION

The City of Whitefish is home to a growing population and a vibrant mix of arts, entertainment, and recreational activities. Planning for future transportation needs requires an understanding of existing conditions in the region and future plans for the city. The following chapter describes recently completed planning studies that interact with the Whitefish Transportation Plan study area. An overview of demographic, housing, and economic conditions of Flathead County and Whitefish is provided, followed by an assessment of existing transportation infrastructure conditions.

STUDY AREA

The study area for the project was established in collaboration with the City of Whitefish and Montana Department of Transportation (MDT). It includes the area within both the urban boundary determined by MDT and the city limits, as well as additional areas outside of those boundaries to account for areas already developing and areas that could see growth over the twenty-year study horizon. This study area allows the planning process to account for the impact of commuter traffic generated from developing areas and outlying residential areas in Flathead County. Understanding the traffic impacts from both within and outside of the city boundary will allow for better planning of the future road network. Figure 1.1 shows the study area.

PURPOSE AND NEED

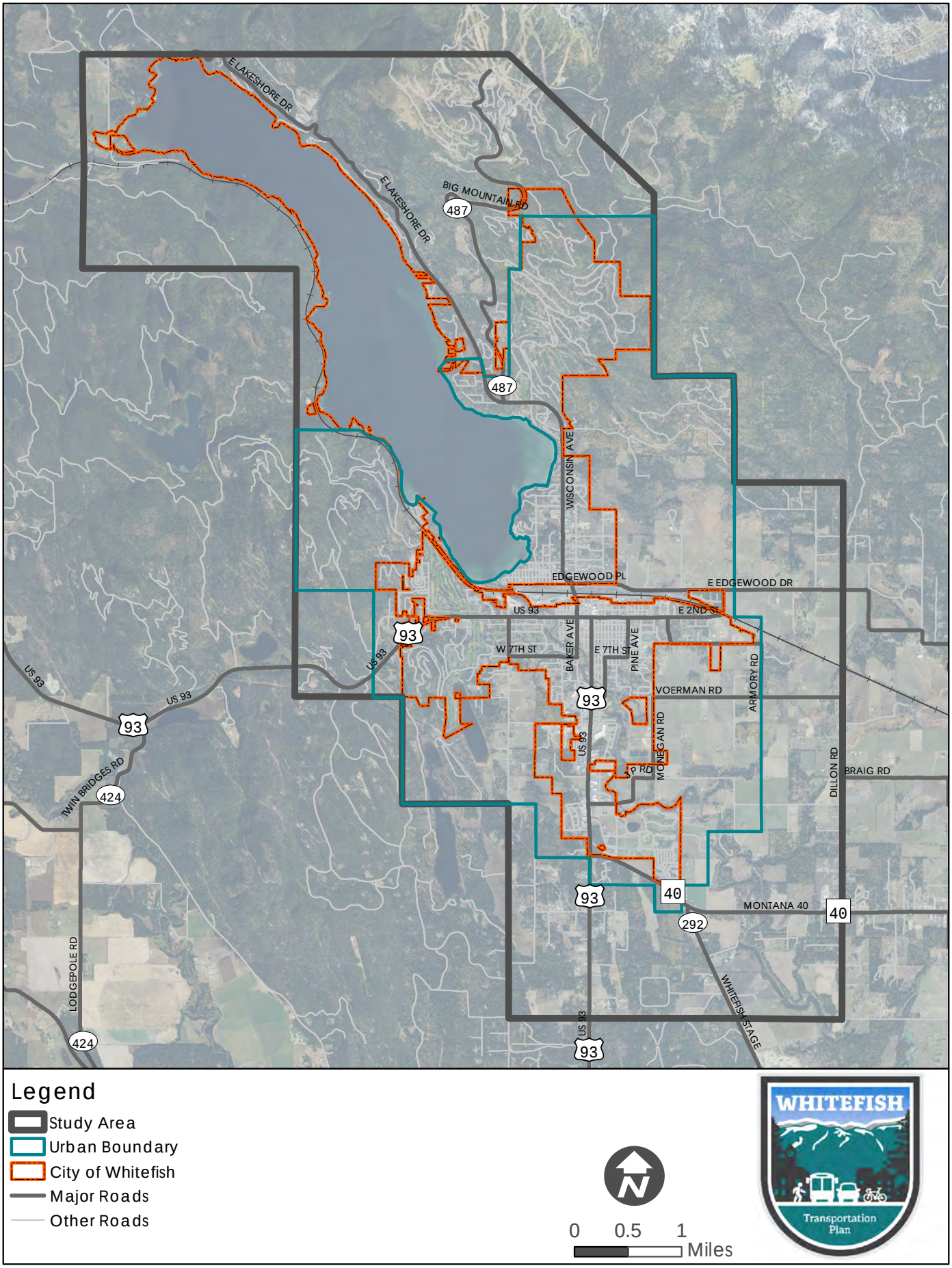
The update of the Whitefish Transportation plan responds to changing conditions within the City of Whitefish. Growth within the study area has been measurable since the last transportation plan was adopted in 2010. This update considers changes in population and economic trends within the larger study area, including the Flathead Valley. Localized conditions, coupled with larger regional trends, have a combined measurable impact on transportation within the City of Whitefish.

The Whitefish Transportation Plan has a 20-year planning horizon and evaluates growth to the year 2040. Future projections point to continued growth and development within Whitefish and throughout Flathead County. The Whitefish Transportation Plan will establish a set of recommended goals, initiatives, and projects to address projected needs facing the City of Whitefish to the year 2040.

Several relevant and related transportation plans and studies are integrated into the Whitefish Transportation Plan. These plans represent a collection of land use and multi-modal transportation planning efforts that affect the City of Whitefish. The Whitefish Transportation Plan is rooted in supporting a diversification of transportation options and choices to balance existing and projected mobility needs for the City of Whitefish. Rather than duplicate past efforts, the Whitefish Transportation Plan pulls forward a coordinated framework of relevant and strategic initiatives from these current plans.

The Whitefish Transportation Plan will integrate outcomes from ongoing planning for both the Highway 93 South Corridor Study and the Downtown Whitefish Highway Study. The Downtown Whitefish Highway Study is exploring options for both Highway 93 and Baker Avenue. Additionally, the Downtown Whitefish Highway Study is supported through an area wide travel demand model covering the entire study area for the Whitefish Transportation Plan. To match future traffic demands, the Whitefish Transportation Plan is using the same existing and projected conditions to support travel demand for the study area.

Figure 1.1: Study Area



RECENTLY COMPLETED PLANNING STUDIES

Since completion of the current Whitefish Transportation the City of Whitefish has developed a significant number of additional area wide and corridor level planning studies. These run the gamut of modal analysis related to parking, transit and active transportation. Additionally, the City of Whitefish has developed more specific policy plans related to sustainability, housing and transportation demand management. To create a robust transportation plan, relevant element of these plans are synthesized into the updated Whitefish Transportation Plan.

The recently completed planning studies, identified and summarized below, provide background information to guide the development of the updated Whitefish Transportation Plan. A review of these plans will ensure that the Whitefish Transportation Plan is consistent with other efforts across the city, county, and region.

Key findings, recommendations, policy points and infrastructure needs from these plans have yet to be fully vetted. As the Whitefish Transportation Plan moves further in systems needs and analysis phase, the key findings and recommendations from each of these studies will be pulled forward for additional consideration within the Whitefish Transportation Plan.

2007 City of Whitefish Growth Policy

The Growth Policy plan is the driving force behind several of the plans summarized later in this section. In addition to describing transportation goals, policies, and actions, four specific transportation corridor studies were recommended along Highway 93 South, US 93/North Montana Highway 40, Wisconsin Avenue, and US 93/ Spokane Avenue. The resulting policies, goals, and objectives for land use, development, and growth from each corridor study will ultimately be used to amend the Growth Policy.

Sustainability and livability emerged as the major themes for the future of Whitefish's transportation systems. In addition to five goals and four policies, 12 actions were recommended in the Transportation section of the Growth Policy Plan. The most relevant are listed below.

- Make construction of new sidewalks and pathways a priority in areas where they do not currently exist.
- Plan for through, continuous streets to the extent possible. When cul-de-sacs are appropriate due to ownership, topography, or other constraints, ensure that a future street extension can be made via a right-of-way dedication, or at the very least, a pedestrian connection.
- Through the community-wide transportation plan, explore possibilities for an additional grade separated crossing of the BNSF rail facilities.
- Assess the need and feasibility of a highway bypass to alleviate through traffic in the downtown area. (The 2010 Transportation Plan completed this assessment, and did not recommend a bypass of Highway 93.)
- Explore alternative vehicular routes to the Whitefish Mountain Village.

Table 1.1: Recent Planning Studies

PLAN	YEAR	TRANSPORTATION PLAN RELATIONSHIP
Hwy 93 South Corridor Plan (In Progress)	2020	Corridor Management
Downtown Whitefish Study (In Progress)	2020	Corridor Management
Eagle Transit five year CIP Study	2020	Transit Development
2019 Downtown Parking Management Study	2019	Parking Demand Management
2019 City of Whitefish Traffic/Transportation Report (WTI)	2019	Travel Demand Management
Eastside Traffic Control Study	2019	Safe Routes to School Infrastructure
Wisconsin Avenue Corridor Plan	2018	Corridor Management
Whitefish Climate Action Plan	2018	Transportation Policy
Whitefish Strategic Housing Plan	2017	Housing Policy
Connect Whitefish Bicycle and Pedestrian Plan	2017	Active Transportation
Highway 93 South Whitefish Corridor Plan and Zoning Amendment*	2017	Corridor Management
Highway 93 West Corridor Plan	2015	Corridor Management
Safe Routes to School Plan	2011	Safe Routes to School Policy & Infrastructure
Whitefish Transportation Plan (Long Range)	2010	Baseline System-Wide Needs
2007 City of Whitefish Growth Policy	2007	Growth Policy & Community Development

**Study was privately funded*

2010 Whitefish Transportation Plan

The 2010 Whitefish Transportation Plan was prepared in 2009 with the intention of guiding decisions about the future of the Whitefish area transportation system. The plan used the 2007 City of Whitefish Growth Policy plan to model future travel demand based on the development patterns and anticipated land use changes. The study recommends 30 improvements, including a range of low cost "tune-up" type improvements as well as major redesigns, at an estimated cost of about $70 million in total. The Whitefish Transportation Plan update will provide a consistency review of remaining incomplete project recommendations included in the 2010 Transportation Plan.

City of Whitefish Safe Routes to School Improvement Plan

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, five complementary strategies were developed: engineering, enforcement, education, encouragement, and evaluation. Thirteen engineering projects and ten sidewalk projects are recommended, including the following:

- 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.

2016 Connect Whitefish Bicycle and Pedestrian Plan

This plan recommended a network of trails and other improvements to achieve a connected system of bicycle and pedestrian facilities. The City of Whitefish has constructed 13.6 miles of bike/pedestrian paths, two miles of bike lanes on city streets, and three bike/pedestrian bridges. This plan identified 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 Whitefish city staff approximately five years after implementation to evaluate its success and assess the need for an update. Since implementation, several of 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.

2018 Whitefish Climate Action Plan

The City of Whitefish is committed to the goals of the Paris Agreement in reducing its greenhouse gas emissions by 26 percent by 2026. A city council appointed committee worked with city staff, the school district, and Climate Smart Glacier County to create an action plan for Whitefish. Several recommended strategies related to transportation and land use are listed below.

- Develop a transit center near Depot Park, and improve and promote public transit service.
- Make Whitefish more bike and pedestrian friendly.
- Adopt land use and transportation policies to reduce vehicle miles traveled.
- Plan for walkable communities through compact development and investment in pedestrian and bike facilities.
- Develop design standards to accommodate transit, car-sharing, and non-motorized travel.
- Install electric vehicle charging stations.

The Wisconsin Avenue Corridor Plan

This plan was adopted by the City of Whitefish in 2018. Wisconsin Avenue is the primary link between downtown and two major recreational destinations, Whitefish Lake and Whitefish Mountain Resort. Additionally, Wisconsin Avenue is a state highway and the only separated grade crossing over the railroad tracks. This plan provides a decision framework for the next 10 to 20 years that will maximize the city's infrastructure investment, protect the environment, help meet the city's housing needs, and maintain community character. According to the 2010 Whitefish Transportation Plan, several segments and intersections along Wisconsin Avenue are expected to have unacceptable levels of congestion and delay by the year 2030. Delays along Wisconsin Avenue will cause traffic to spill over to alternative routes through nearby residential neighborhoods. To address this concern, a set of action items were identified, four 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-n-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

2018 Revision Downtown Business District Master Plan

This master plan – initially drafted 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 Highway 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 that essential auto and truck access are 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 Traffic/Transportation Report

This study was conducted by David Kack and Laura Fay of the Western Transportation Institute in 2019. The report investigates existing transit service, the transportation hub at Depot Park, and parking facilities in Whitefish. They found that 42 percent of survey respondents would consider using a park-and-ride service to get to work in downtown Whitefish. This finding, along with other survey results, motivated several recommendations. First, the city should consider adding park-and-ride service to improve access to downtown. Second, the city should limit the addition of new parking facilities and consider repurposing land where parking lots currently exist. These improvements have the potential to increase the tax base and vitality of downtown.

2019 Whitefish Parking Management Plan

The purpose of this study was to address concerns related to parking availability in Whitefish. Through a review of existing studies, on-site review, stakeholder engagement, and interviews with city staff, several programs were recommended with the intention of reducing single-occupant vehicles. Shuttles and Public Transportation are vital to several of the recommendations. Improvements to SNOW Bus service, the establishment of park-and-ride lots, increased messaging and marketing for transit services, and shuttles for special events could all help reduce the need for parking downtown. Several changes could be made to the physical environment to better manage parking needs. These include reserved parking spaces for carpoolers, dedicated passenger loading areas for ridesharing, shared parking agreements with downtown businesses, and dynamic meter pricing. In addition to these improvements, engagement and outreach to the community should not be overlooked. Posting "Getting Around" information on the city website and hosting public forums will increase awareness of alternative travel modes and parking options.

Mountain Climber Transportation Coordination Plan

Mountain Climber is the public transportation provider in Flathead County for the general public, older adults, and people with disabilities. The city worked with Mountain Climber and other stakeholders to create the transportation hub at Depot Park. Completed in June 2020, the transportation hub has a shelter and information board that integrates Mountain Climber, the SNOW Bus, and local hotel shuttle services. Mountain Climber ridership in Whitefish increased 47 percent in Fiscal Year 2019 over 2018.

Within the City of Whitefish, a Paratransit/Dial-A-Ride route operates Monday through Friday between 10 AM and 2 PM. Another bus service, the Tri-City Commuter, connects Kalispell, Columbia Falls, and Whitefish. The service runs Monday through Friday and coordinates with the Whitefish Mountain SNOW Bus to assist workers going from Kalispell and Columbia Falls to Whitefish. Three trips in the morning and three in the evening are provided. In 2018, the Transit Coordination Committee recommended the creation of a new Tri-City Commuter connecting the same three cities, with two morning and two evening runs.

Downtown Whitefish Highway Study

Highway 93 runs through the center of downtown Whitefish and serves as a primary travel route for residents, visitors, and through traffic. This study is an ongoing effort to identify intersection improvements and roadway reconfigurations that improve traffic flow along the Highway 93 corridor. Two proposed improvements are an alternate north-south route on Baker Avenue and the construction of a new bridge connection over the Whitefish River. Due to financial infeasibility and insignificant forecasted traffic improvements in downtown, a bypass is not being considered among the alternatives. The study is scheduled to be completed by the end of 2020.

East Side Whitefish Traffic Control Recommendations

This document recommends traffic controls for many key intersections south of the railroad tracks and east of the Whitefish River. Recommendations include new crosswalks, pedestrian crossing signs, yield signs, and stop signs. These improvements will be incorporated in the Whitefish Transportation Plan.

Review of Whitefish Schools Pedestrian Signing (2019)

Abelin Traffic Services reviewed the existing signing configuration around Whitefish schools, and made several specific recommendations to improve pedestrian connectivity.

- Add a pedestrian crosswalk at the intersection of East 1st Street and Columbia Avenue.
- Maintain east/west vehicle corridor along 4th Street to separate vehicle traffic from pedestrian traffic on 5th Street (current signage is appropriate, no changes needed).
- Add a pedestrian crosswalk at Columbia Avenue and 5th Street with signing and pavement markings.
- Install pedestrian warning signs at Kalispell Avenue and Park Avenue.
- Add overhead illumination at the intersection of 5th Street and Pine Avenue.

Sustainable Tourism Plan

This plan was recently completed and approved by the City Council. The plan provides a framework that balances boosting the local economy with tourism, maintaining small-town character, and supporting community efforts to sustain the wellbeing of Whitefish residents.

Highway 93 South Corridor Plan

Highway 93 acts as a gateway to the Whitefish community. This ongoing project evaluates the Highway 93 South corridor from East 6th Street south to about 1.5 miles south of city limits, with a focus on land use, transportation, the environment, and open spaces. The plan identifies heavy traffic, wide roadways, high vehicle speeds, and large parking lots as issues that exist along the corridor. Additionally, the corridor has limited pedestrian, bicycle, and transit facilities. The Highway 93 South corridor presents an opportunity to welcome visitors to Whitefish, improve mobility, and provide housing and jobs within the twenty year planning horizon.

EXISTING COMMUNITY CONDITIONS

An understanding of the existing conditions is required to plan for the long-range future transportation needs of a growing community. The following section describes the demographics, housing, and economic trends of Whitefish, Flathead County, and the State of Montana.

Demographics Overview

Flathead County is the second-fastest-growing county in Montana since 2000. The total population of Flathead County grew from 51,966 in 1980 to 90,928 in 2010, for an increase of 58,962 residents or 113 percent. Overall population trends during the last 30 years indicate steady growth in the county, punctuated by short periods of slow or no growth associated with regional and national economic downturns.

Between 2010 and 2019, the county's population (as a whole) increased by 14 percent, while Whitefish's population increased by 24 percent over the same period. Table 1.2 shows a comparison of Whitefish's population growth to the surrounding area over the last 50 years.

Table 1.2: Regional Population Growth

	FLATHEAD COUNTY	CITY OF WHITEFISH	CITY OF KALISPELL	CITY OF COLUMBIA FALLS
1980	51,966	3,703	10,648	3,112
1990	59,518	4,368	11,917	2,942
2000	74,471	5,032	14,223	3,645
2010	90,928	6,352	19,927	4,688
2019 ACS	103,806	7,870	24,565	5,876
Annual Avg. Change	2.6%	2.9%	3.4%	2.3%

Population Dynamics

The City of Whitefish population trends older than average when compared to Flathead County and the State of Montana, with a median age of 42.1 in 2019. The city has a similar proportion of residents older than 65 and a lower proportion of residents under 18 than the surrounding area. Table 1.3 shows the population dynamics of the city, county, and state.

Table 1.3: Population Age Cohorts

AREA	2000	2010	2018 ACS
City of Whitefish			
Median Age	37.3	39.8	42.1
Younger than 18	21.6%	13.6%	17.8%
18 to 64	64.0%	71.2%	64.8%
Greater than 64	14.4%	15.2%	17.4%
Flathead County			
Median Age	39	41.2	42.1
Younger than 18	25.9%	23.4%	22.3%
18 to 64	61.1%	62.2%	59.5%
Greater than 64	13.0%	14.4%	18.2%
State of Montana			
Median Age	37.5	39.8	39.8
Younger than 18	25.5%	22.6%	21.8%
18 to 64	61.1%	62.6%	60.6%
Greater than 64	13.4%	14.8%	17.6%

Commute Trends

As the City of Whitefish continues to grow, movement in and out of the city and connections with surrounding communities will determine the future of the transportation system. Understanding the relationship between housing and job locations will be critical to balancing the needs of the community.

Job Inflow/Outflow

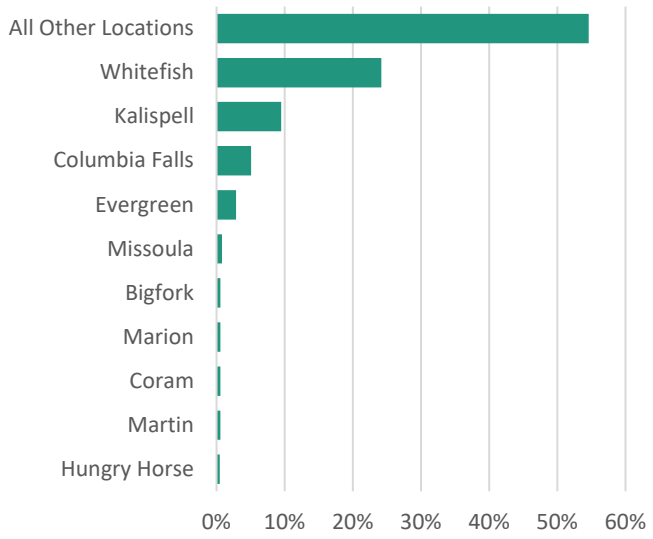
Table 1.4 shows the commute patterns to and from the city of Whitefish. These numbers were determined using the city limits and the total number of jobs recorded in the 2017 American Community Survey. It is likely that many of the workers in the first column live within the study area but outside of the city limits. Among the employed population that lived within the city limits, about 69 percent commuted to a job outside of the city limits. Because an individual can hold multiple jobs, these numbers are meant to approximate commuter behavior.

Table 1.4: Job Inflow/Outflow (2017 ACS)

COMMUTE TO WHITEFISH FOR WORK	LIVE AND WORK IN WHITEFISH	COMMUTE FROM WHITEFISH FOR WORK
2,975 jobs	951 jobs	1,919 jobs

Figure 1.2 shows the work locations of employed individuals that live within the Whitefish city limits. In 2017, 374 workers commuted to Kalispell, 200 commuted to Columbia Falls, and 951 stayed in Whitefish for their work. These numbers likely understate the extent to which Whitefish is an employment hub because the Big Mountain Ski Resort falls outside of the city limits. This means that employees of the resort are categorized in Figure 1.2 as commuting to "All Other Locations".

Figure 1.2: Commute Destinations from Whitefish



Housing Affordability

Housing is the bedrock of a community and can determine transportation needs and social, political, and economic conditions. Housing type and variety are important considerations in local land-use and transportation decision-making processes. Table 1.5 shows several measures of the existing housing stock and housing affordability in Whitefish. Housing is typically understood as affordable for renters if the rent is less than 30 percent of household income. In both Whitefish and Flathead County, this implies that housing is unaffordable for about 45 percent of the renting population. For homebuyers, the Whitefish real estate market is highly differentiated from the surrounding area, with a median home price about $100,000 higher than that of the county on the whole.

In Whitefish, many middle-income households struggle to afford home prices that are driven up by second home buyers and retirees. The 2017 Whitefish Strategic Housing Plan presents a wide-ranging set of strategies to address the conditions that cause a mismatch between local wages and the housing market. In Whitefish, these conditions include low-density zoning, excessive parking requirements, and restrictive Accessory Dwelling Unit (ADU) policies.

Table 1.5: Housing Stock and Affordability

	CITY OF WHITEFISH	FLATHEAD COUNTY
2000	2,652	34,773
2010	3,857	46,963
2018 ACS	4,652	48,447
Annual Avg. Change	4.2%	2.2%
Persons per Household	2.1	2.0
Owner-occupied	61.5%	72.6%
Renter-occupied	38.5%	27.4%
Median Price	$348,600	$259,400
Median Monthly Rent	$953/month	$822/month
Median Household Income	$51,059	$52,966
Percent of households spending >30% of income on rent	45.8%	45.5%

Economic Trends

Healthcare, retail trade, and accommodation and food services are the three largest industries in Flathead County, employing nearly 20,000 people. The largest private employers in Flathead County are shown in Table 1.6. Table 1.7 shows the largest industries in the county as well as their average employment. Due to the COVID-19 pandemic, there is uncertainty that past trends will continue into the future. This section describes economic conditions prior to the pandemic, and does not examine the long term effects of the economic shutdown.

Table 1.6: Largest Employers in Flathead County

EMPLOYER
More than 1,000 Employees
Kalispell Regional Medical Center
500–999 Employees
Weyerhaeuser
250–499 Employees
AON Service Corporation
Applied Materials Inc.
Glacier Bank
Health Center Northwest
Immanuel Lutheran Home
North Valley Hospital
Super 1 Foods
Teletech
Wal-Mart
Whitefish Mountain Resort
100–249 Employees
A Plus Healthcare
Brendan House
Costco
L C Staffing Service
Lodge at Whitefish Lake
McDonalds
Smith's Food and Drug
Summit Medical Fitness Center

According to the Montana Department of Labor & Industry's Local Area Profile for Flathead County, the county represents a tourism hotspot in Montana due to Glacier National Park, Flathead Lake, the local ski industry at Whitefish Mountain Resort and Blacktail Mountain Ski Area, and the Bob Marshall Wilderness. The tourism economy offers significant employment opportunities, although much of this sector of the county's economy is centered on service industry jobs which typically represent lower wage earners.

The county's labor force was estimated to be 47,793 in 2018, according to local area employment statistics (this number has not been seasonally adjusted). While county unemployment rates have been on a steady decline since the recession, the current unemployment rate sits at 4.8 percent, over a percentage point higher than the state average unemployment rate of 3.7 percent.

According to the 2017 ACS Community Profile narratives for both Whitefish and Flathead County:

- Flathead County's federal, state, and local government sector employment represents 13.4 percent of the workforce in the county. Nearly 80 percent of the workforce is in private industry.
- Key industries in Flathead County are educational services, health care and social assistance (23.5%); retail trade (13.8 percent); arts, entertainment and recreation (10.9%); and professional, scientific and tech services (9.8%).
- Whitefish's federal, state, and local government sector employment is around 19 percent of the workforce in the city. About 76 percent of the workforce is in private industry.
- Key industries in Whitefish are educational services, health care and social assistance (29.5%); Arts, entertainment, and recreation, and accommodation and food services (22.3%); and Finance and insurance, and real estate and rental and leasing (9.5%).

Table 1.7: Largest Industries in Flathead County

INDUSTRY	AVERAGE EMPLOYMENT
Health Care and Social Assistance	7,157
Retail Trade	6,366
Accommodation and food Services	6,130
Government - All Levels	4,976
Food Services and Drinking Places	4,352
Construction	3,296
Manufacturing	2,837
Ambulatory Health Care Services	2,215
Professional and Technical Services	2,042
Specialty Trade Contractors	2,024
Finance and Insurance	1,839

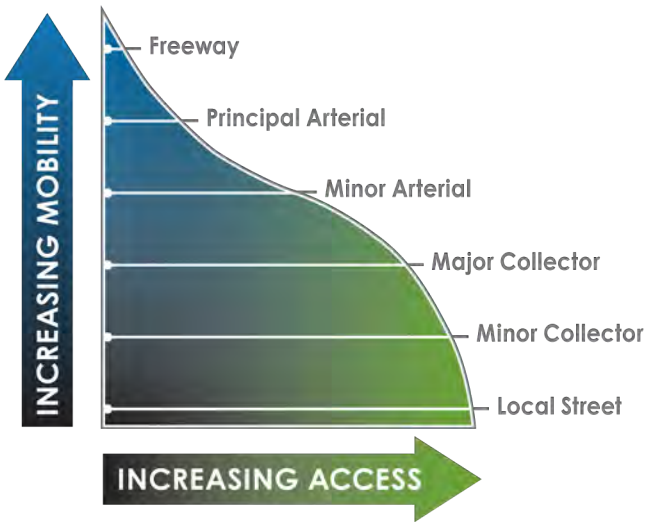
EXISTING TRANSPORTATION CONDITIONS

The existing transportation system was analyzed to establish baseline traffic conditions and evaluate existing and future issues. This data was provided by MDT, City of Whitefish, and Flathead County. The analysis includes all modes of transportation, including personal automobile, bicycle, pedestrian, transit, truck freight, rail, and air.

Functional Class

The operation of a community's road network is defined by functional classification of the roadway system. These classifications define the service each road segment provides in serving the flow of traffic through the street network. By utilizing this classification system, the operation of traffic can be designed to work in a logical and efficient manner. In Whitefish, the roadways are grouped into a hierarchy of five general functional classifications within the study area. Figure 1.3 demonstrates the relationship between access and mobility for each functional classification.

Figure 1.3: Functional Class Access and Mobility



Explanation

Most streets and highways have a predominant function: either to provide the motorist with access to abutting land or to allow movement through an area. Traffic that gains access to abutting land is considered "local" whereas all other traffic is considered "through" traffic, which neither originates nor terminates within a designated area, but simply passes through. In contrast, local traffic has origins or destinations within the designated area.

Functional classification is an important and widely-accepted tool in planning highway system development, especially in fiscal planning.

Urban and rural areas have different characteristics as to density and types of land use, nature of travel patterns, density of street and highway networks, and the way in which all these elements are related to the function of the transportation network. Federal regulations recognize these differences through separate urban and rural functional classification systems and associated criteria.

- Small Urban Areas are areas with populations greater than 5,000 and not within any urbanized area.
- Urbanized Areas are areas with population over 50,000 as designated by the Bureau of the Census.
- Rural Areas are areas outside the boundaries of small urban and urbanized areas.

Montana has three urbanized areas (Billings, Great Falls, and Missoula) and 16 small urban areas. The Whitefish study area is a small urban area, since its population base is less than 50,000, but greater than 5,000.

Functional Class Definitions

Below is a definition of each of the functional classifications. These summaries are further defined in Table 1.8. Functionally classified roadways in the study area are shown in Figure 1.4 on page 14.

Principal Arterials

Arterials provide the means of regional and interstate transportation of people and goods. This is done by having roads which have the highest speed and uninterrupted trips and broken into principal and minor arterial routes. In urban areas they serve as corridors with the highest traffic volume and carry the most trips through urban areas.

Minor Arterials

The minor arterial routes in the street system provide connections and support the principal arterial system. The trips are generally shorter in nature and spread out over a smaller geographic area.

Collectors

Collector streets are designed for lower speeds and shorter distances that collect and distribute traffic from the arterial streets and local streets. These are designed to provide traffic circulation with residential neighborhoods and commercial and industrial areas. The collectors connect to local streets to deliver the traffic to its destination.

Local Streets

Local streets are all streets not defined above in the hierarchy with the purpose of providing basic access between residential and commercial properties. These streets are generally slower and have the addition of traffic calming measures. These are the largest element in the American public road network in terms of mileage.

Table 1.8: Functional Classification Definitions

CLASSIFICATION	CHARACTERISTICS
Interstate	
Urban and Rural	‣ Primarily through travel route like I-15, I-90, and I-94 ‣ Longest trip lengths
Urban Areas (Population Greater Than 5,000)	
Principal Arterial	‣ Serves major activity centers ‣ Corridors with highest traffic volumes ‣ Longest trip lengths
Minor Arterial	‣ Connects other Urban principal arterials
Major Collector	‣ Serves both land access and traffic circulation in higher density residential and commercial/industrial areas ‣ Distributes and channels trips between local streets and arterials usually over a distance of greater than ¾-mile ‣ Extends through residential neighborhoods, often for significant distances
Minor Collector	‣ Serves both land access and traffic circulation in lower density residential and commercial/industrial areas ‣ Distributes and channels trips between locals and arterials, usually over a distance of less than ¾-mile ‣ Extends through residential neighborhoods, often only for a short distance
Local	‣ All remaining streets ‣ Direct land access and link to higher classifications
Rural Areas (Population Less Than 5,000)	
Principal Arterial	‣ Predominant route between major activity centers ‣ Interstate or intrastate significance ‣ Long trip lengths ‣ Heavy travel densities ‣ Provides service to most large urban areas
Minor Arterial	‣ Links cities and larger towns (or major resorts) ‣ Spaced at intervals so that all developed areas are within a reasonable distance of an arterial ‣ Interconnects network of principal arterial
Major Collector	‣ Service to travel of primarily intra county importance ‣ Serves important travel generators (i.e. county seats, consolidated schools, mining, or logging areas)
Minor Collector	‣ Land use access and spaced at intervals consistent with population density
Local	‣ Access to adjacent land for short distances ‣ All remaining roads not classified under higher system

Evaluation of Existing Functional Class in Study Area

Table 1.9 on page 15 shows the total road miles by classification using the FHWA system. These numbers were evaluated against current FHWA guidelines for recommended percentages for each functional classified roadway. Minor arterials and minor collectors are below the FHWA recommendation, while local streets are significantly above the recommended percentage.

Later stages of the planning process will allow for the update of both an existing and future functional class map for the Whitefish study area. MDT is currently moving through a statewide functional class update. Initial direction will allow for the framework of an updated functional class map for the study area that follows FHWA guidelines and integrates with the MDT statewide update.

Changing Functional Classification

Local governments may request functional classification changes at any time significant changes in operating characteristics occur. After receiving a request, MDT staff analyzes the route in accordance with FHWA guidelines to determine if the proposed change is justified and makes a recommendation to the Montana Transportation Commission. If approved by the Commission, it goes to FHWA for final approval.

Figure 1.4: Functionally Classified Roadways in the Study Area

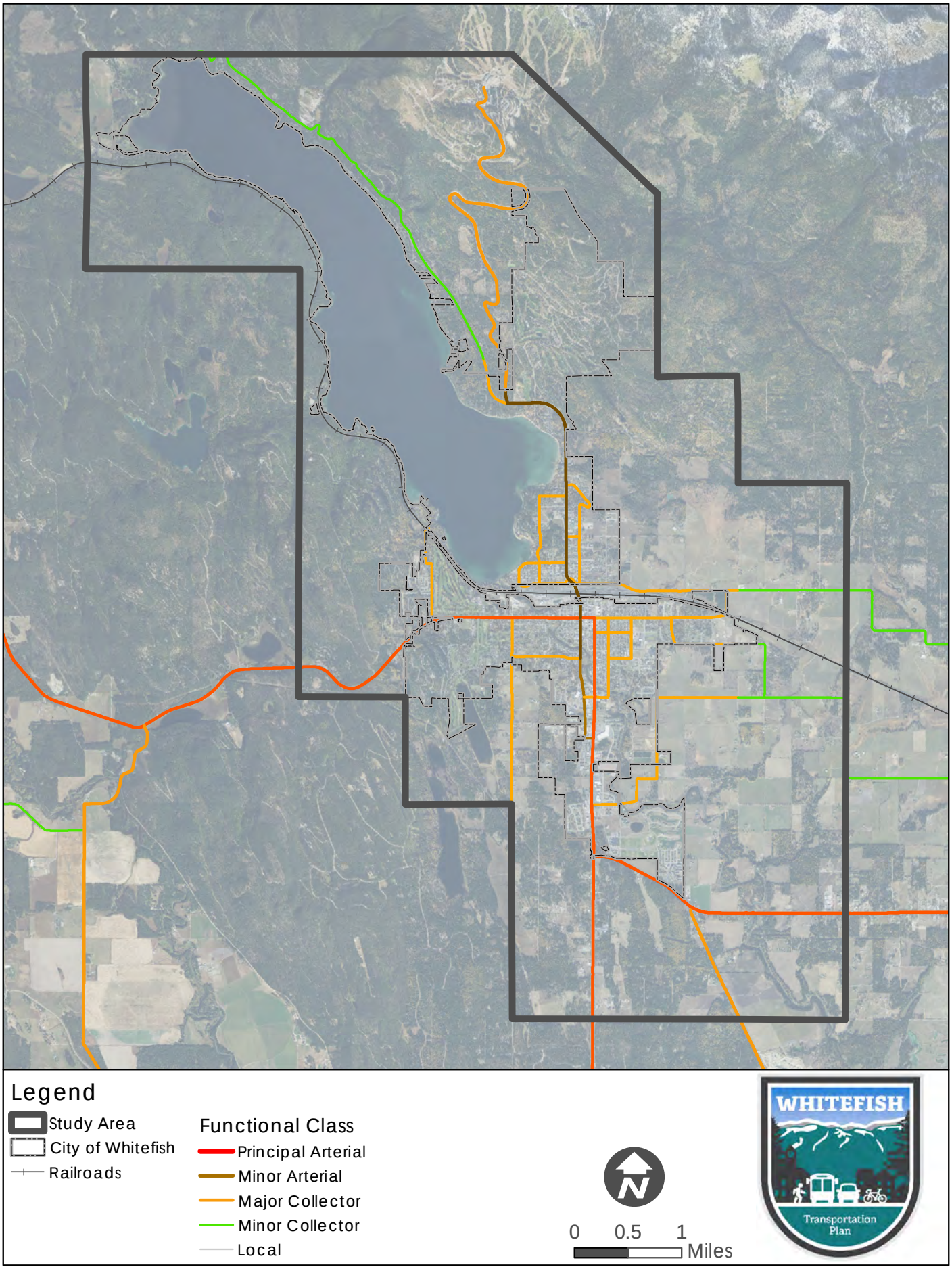


Table 1.9: Existing Functional Classification Mileage and FHWA Recommended Ranges

FUNCTIONAL CLASS	MILES	% OF TOTAL	FHWA RECOMMENDATION	WITHIN RANGE
Principal Arterial	9.5	5.7%	4% to 9%	Yes
Minor Arterial	3.8	2.3%	7% to 14%	-7.8 miles
Major Collector	21.3	12.8%	3% to 16%	Yes
Minor Collector	8.1	4.9%	3% to 16%	Yes
Local Streets	123.3	74.3%	62% to 74%	+0.5 miles
Total	**166.0**	**100%**		

HIGHWAY SYSTEM IN MONTANA

For the purpose of allocating state and federal highway funds, Montana's public highways and streets are placed on systems based in part on the functional classification system. It is important to note that "upgrades" in functional classification and highway system designation do not automatically lead to increased funding for improvements. Factors such as funding availability, project eligibility, and project prioritization are equally important considerations. The following system designations are used in Montana to assist with programming and funding of roadways. Specific designations of these roadways within the study area are shown in Figure 1.5.

Federally Designated Highway Systems

National Highway System (NHS)

A federal system of public highways as defined in Title 23, USC and designated by Congress or the Secretary of Transportation that includes the Interstate System as well as other roads important to the nation's economy, defense, and mobility.

Non-Interstate NHS

Principal arterials other than the Interstate that serve major travel destinations and transportation needs, connectors to major transportation terminals, the Strategic Highway Network and connectors, and high priority corridors identified by law.

State Designated Highway Systems

Primary Highway System

Highways that have been functionally classified by MDT as either principal or minor arterials and that have been selected by the Transportation Commission to be placed on the Primary Highway System.

Secondary Highway System

Highways that have been functionally classified by MDT as either minor arterials or major collectors and that have been selected by the Transportation Commission, in cooperation with the boards of county commissioners, to be placed on the Secondary Highway System.

Urban Highway System

Highways and streets in and near incorporated cities with populations of over 5,000 and within urban boundaries established by the Department, that have been functionally classified as either urban arterials or collectors, and that have been selected by the Transportation Commission, in cooperation with local government authorities, to be placed on the Urban Highway System. [MCA 60-2-125(6)].

State Highways

State highways are a system of roads that are maintained by MDT, but are not part of the NHS, Primary, Secondary or Urban Systems.

Maintenance Responsibility

Roadways in the study area are maintained by different agencies. MDT maintains US Highways such as Highway 93, Highway 2, and Highway 40. Flathead County maintains several roads throughout the study area. The remaining roads are maintained by the City of Whitefish.

Figure 1.6 on page 17 demonstrates identified roadway maintenance obligations based on functionally classification as Minor Collector or higher.

Figure 1.5: Highway Systems in the Study Area

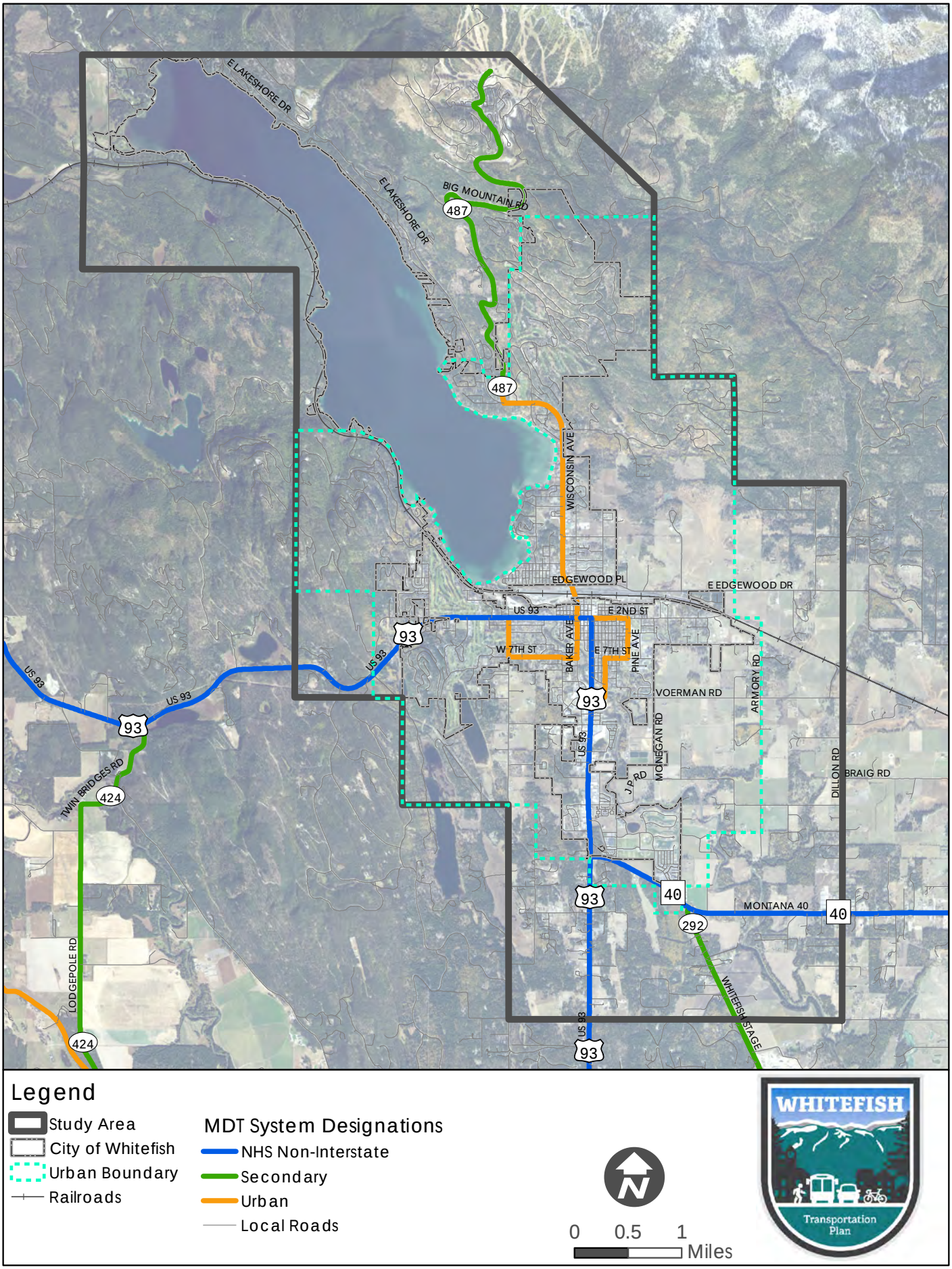


Figure 1.6: Roadway Maintenance in the Study Area

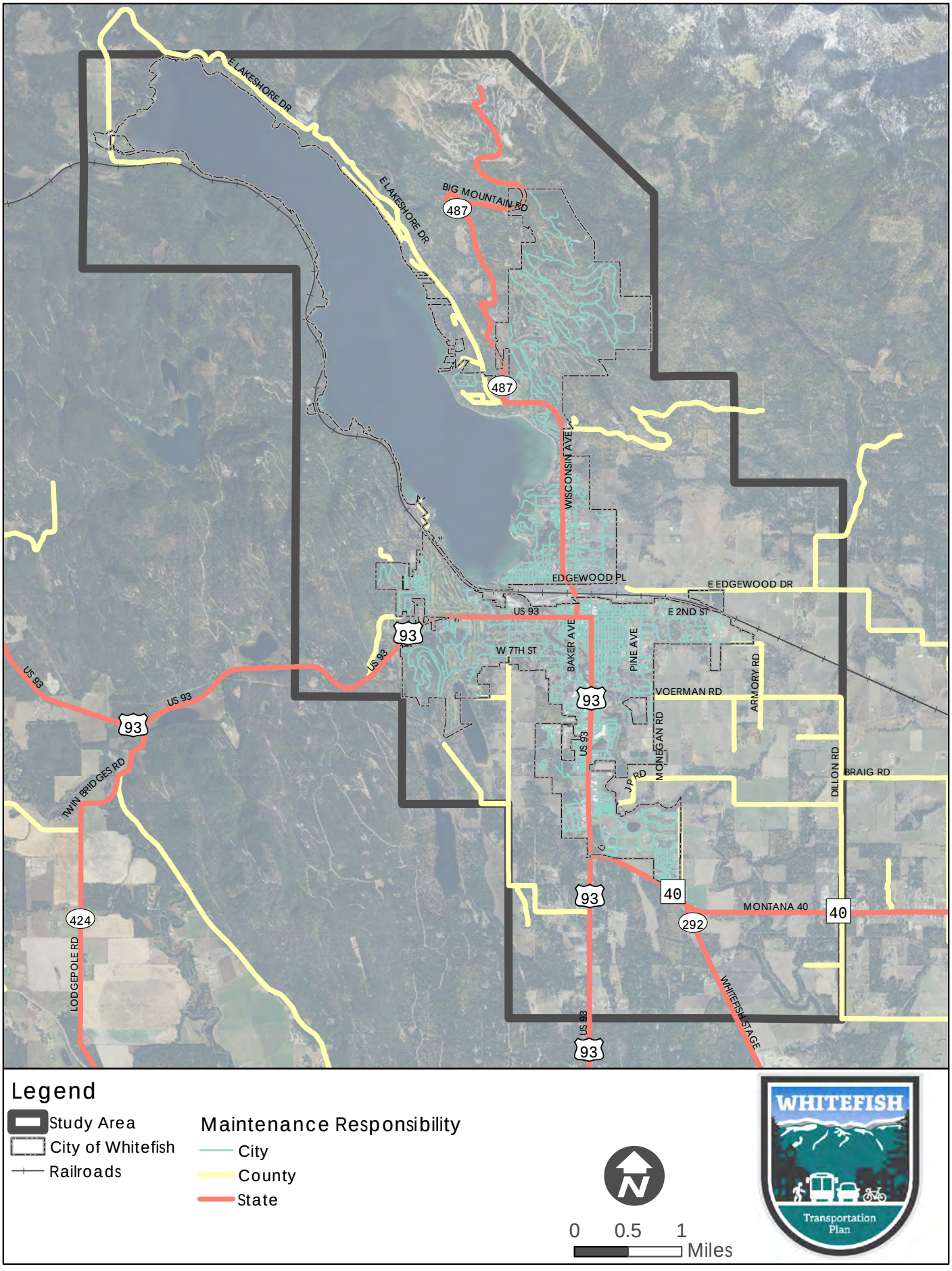


Figure 1.7: 2018 Traffic Counts

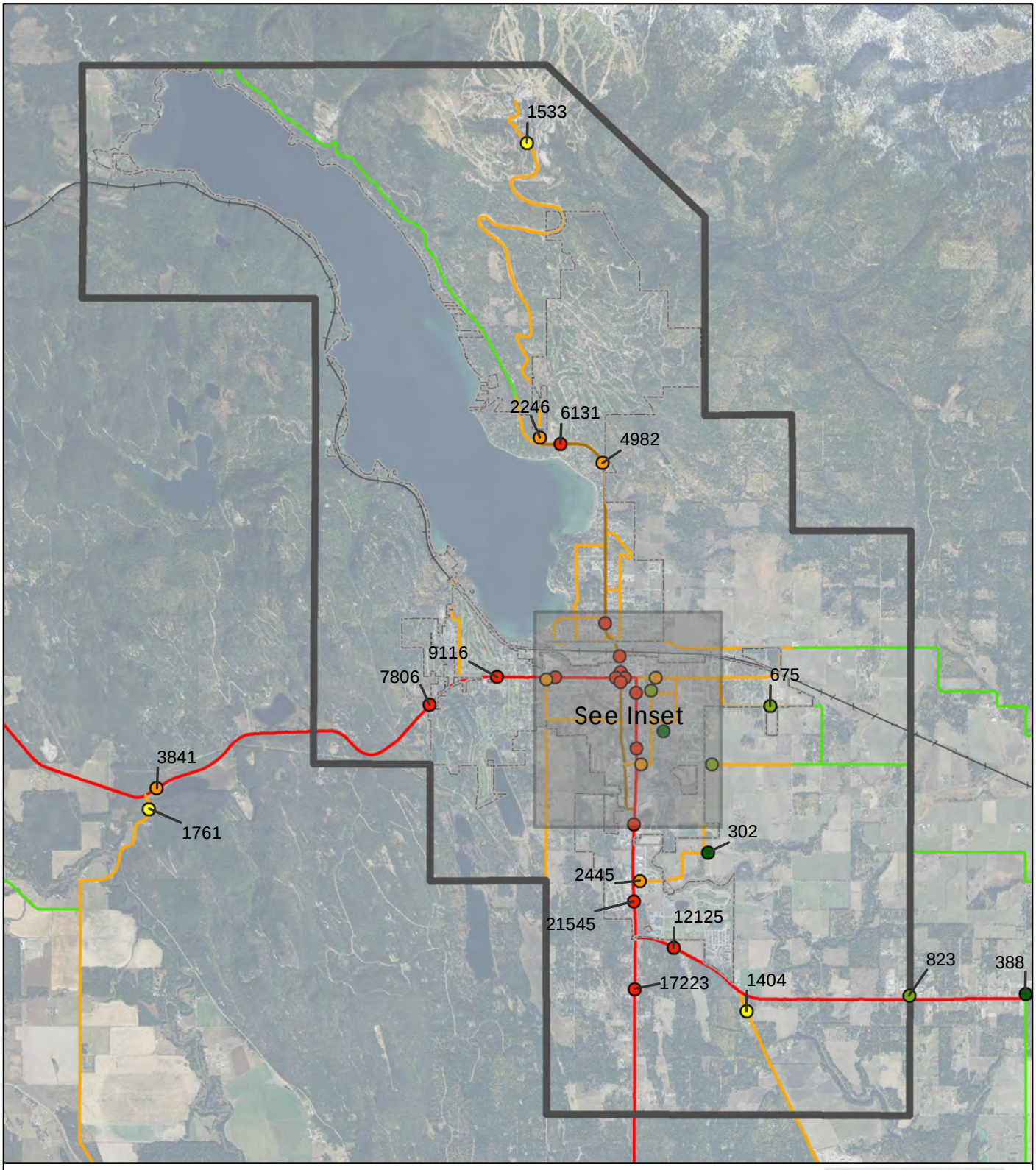
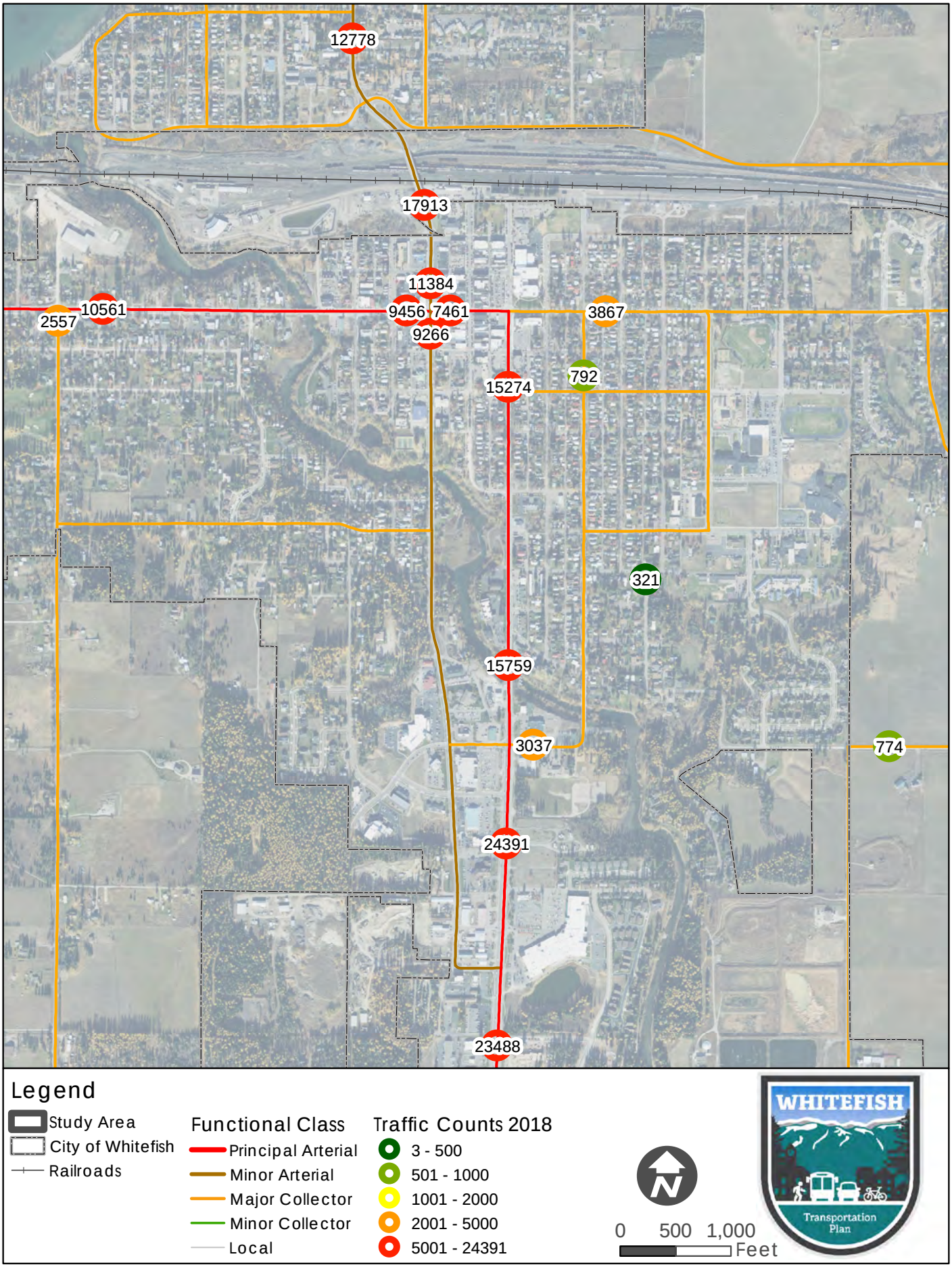


Figure 1.8: 2018 Traffic Counts Inset



TRAVEL TRENDS

The vast majority of workers in the City of Whitefish, Flathead County, and the State of Montana drive to work alone. In Whitefish, about three in four employed individuals drove to work alone as their primary commute mode in 2017. Table 1.10 shows the mode share for the region, which reveals some differences between the workers living in Whitefish and those in the surrounding region. Most notably, about one in ten workers in Whitefish walk to work, while only one in 30 workers commute on foot in Flathead County.

TRAVEL DEMAND MODELING

Travel demand models are computer models that are often used in area-wide transportation planning. These models use spatially allocated demographic data like the number of households and number of jobs to estimate future traffic volumes and traffic patterns with expected demographic changes. The MDT-maintained model for the Whitefish area was developed using the TransCAD software.

Base Year Demographic Data

Modeled traffic volumes are a function of the number of households and the number of jobs in specific locations in the Whitefish area. Travel demand models segment the area into geographies called Traffic Analysis Zones (TAZs), with households and jobs being allocated to each TAZ. The 2017 base year household and employment totals by TAZ are shown in Figure 1.9 and Figure 1.10, respectively. More analysis of existing and projected demographic data to support the Whitefish Transportation Plan will be presented in later stages of the plan development process.

Base Year (2017) Modeling

To best ensure future year (2040) modeled volumes are accurate enough for transportation planning purposes, travel demand models are first developed and applied for existing conditions (commonly referred to as a base year model). Base year modeled volumes are then compared to field-collected traffic counts using FHWA-prescribed statistical analysis. For the 2017 base year, the Flathead County model results are within FHWA-accepted deviations, meaning the model is sufficiently calibrated and validated for use in future conditions travel demand modeling.

Figure 1.11 shows the 2017 base year (2017) daily modeled traffic volumes for the entire study area, with Figure 1.12 showing the base year daily modeled traffic volumes for the urban area. While the base year traffic volumes capture conditions prior to COVID-19, additional consideration will be given to the influence of the pandemic on travel patterns in future projections.

Table 1.10: Commute Mode (ACS 2017)

	CITY OF WHITEFISH	CITY OF COLUMBIA FALLS	CITY OF KALISPELL	FLATHEAD COUNTY	STATE OF MONTANA
Drove Alone	74.9%	88.9%	82.8%	81.4%	75.6%
Carpooled	6.8%	4.3%	6.6%	6.9%	9.7%
Transit	1.1%	0.0%	1.6%	0.8%	0.8%
Walked	9.7%	0.7%	2.4%	3.3%	5.1%
Other	2.9%	3.2%	2.0%	1.9%	2.4%
Worked at Home	4.5%	2.8%	4.6%	5.8%	6.4%
Average Commute Time	16.4 minutes	18.4 minutes	15.4 minutes	19.1 minutes	17.8 minutes

Figure 1.9: 2017 Households per Acre

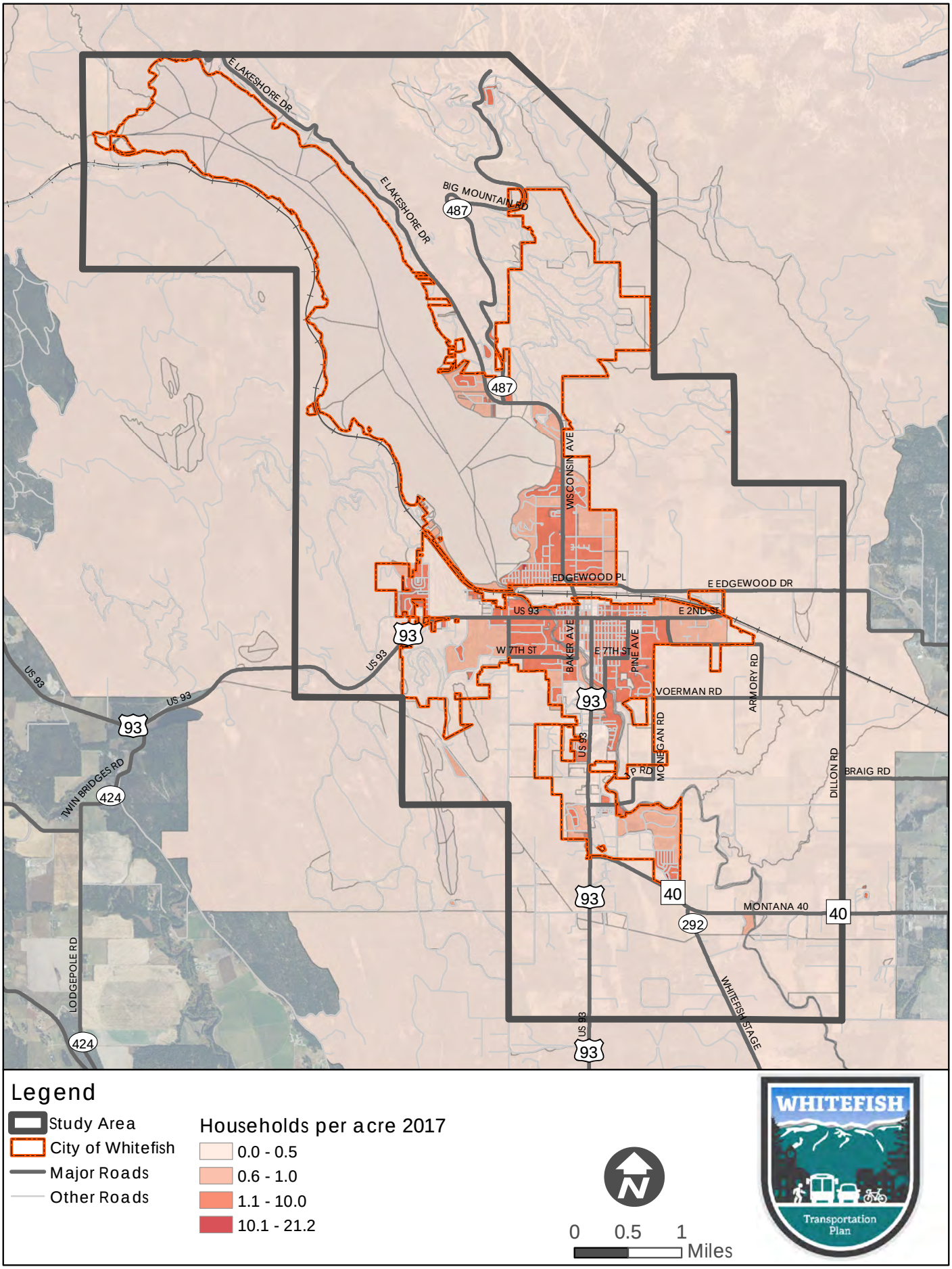


Figure 1.10: 2017 Jobs per Acre

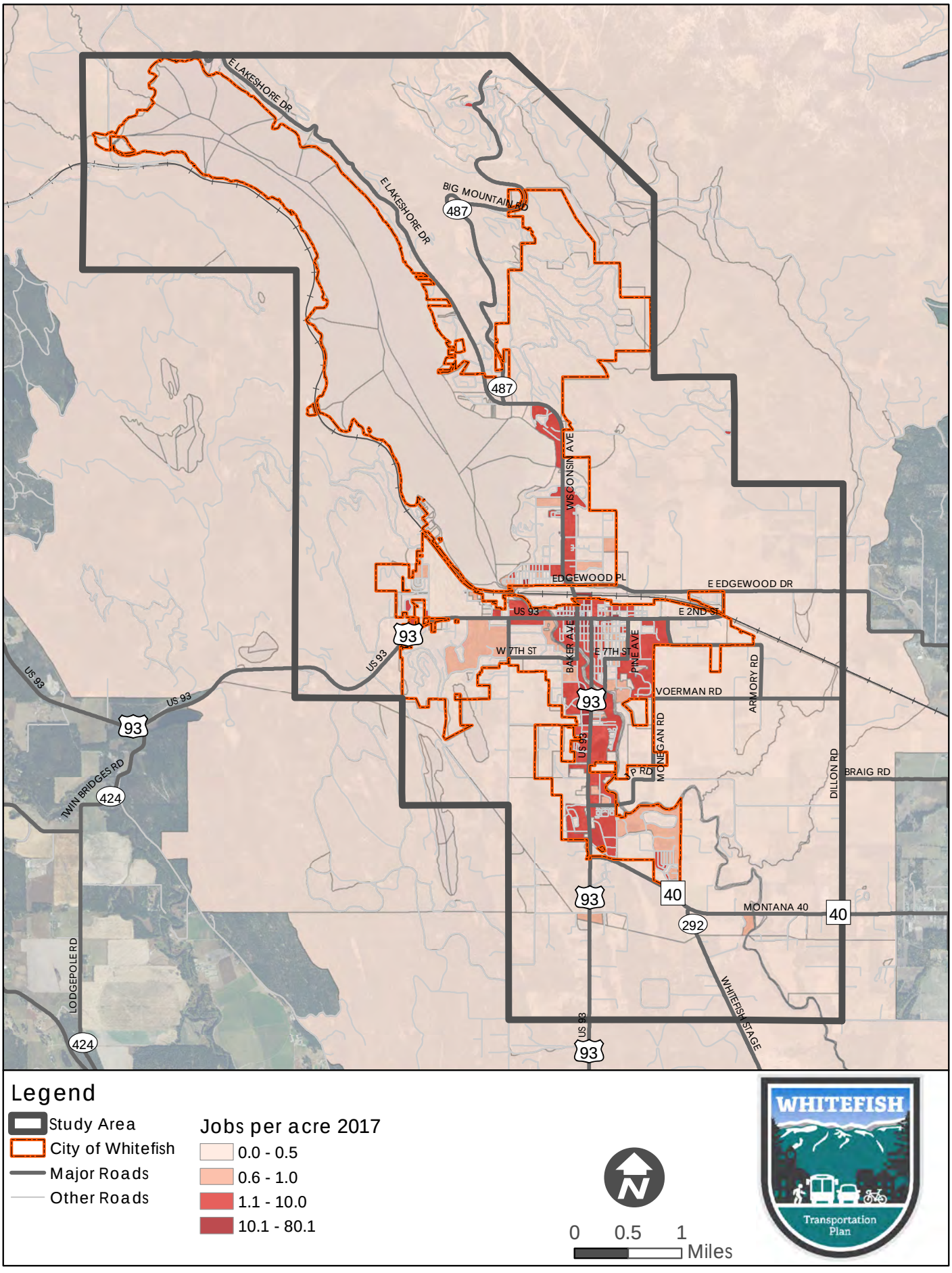


Figure 1.11: 2017 Modeled Volumes in Study Area

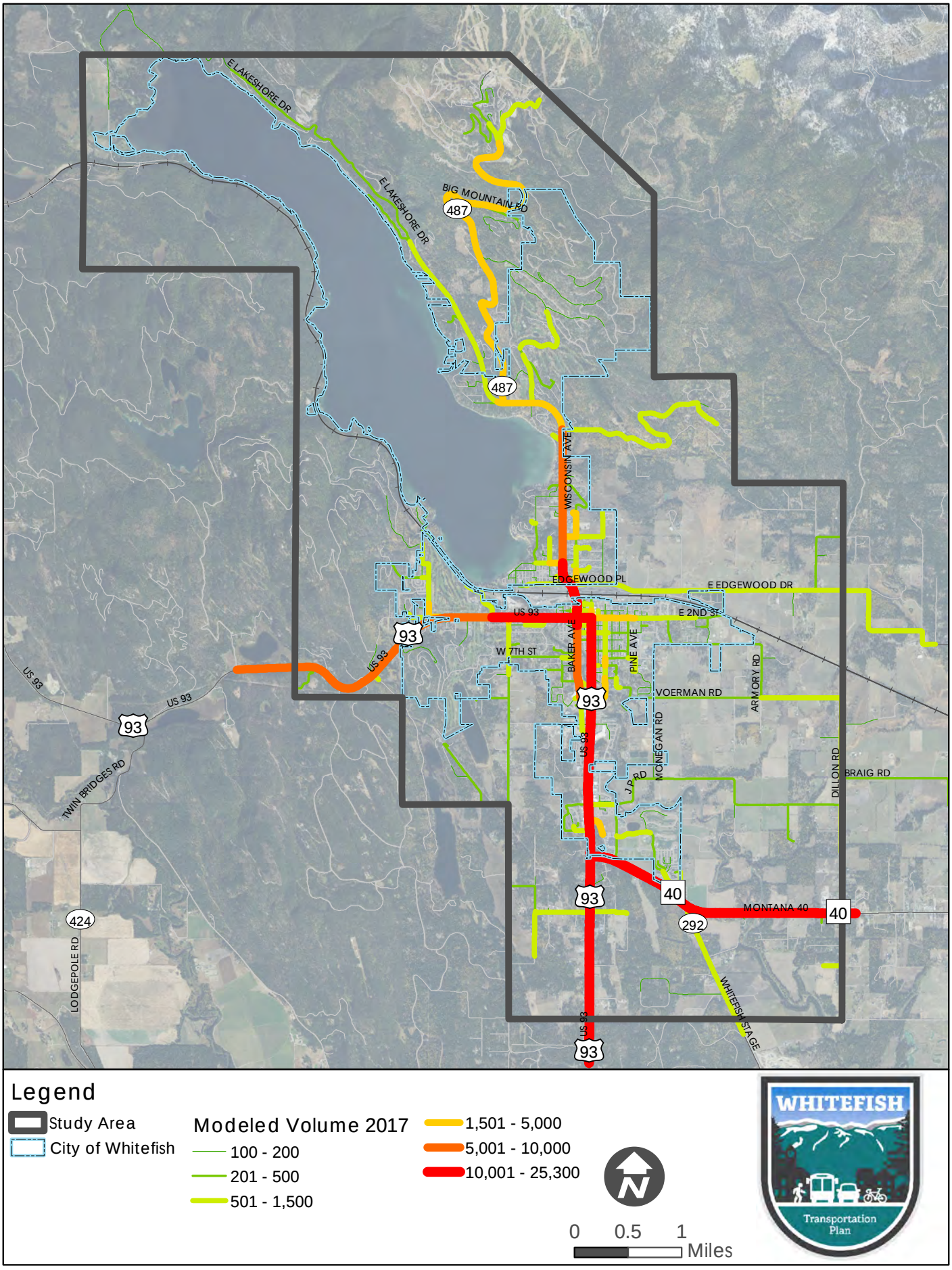
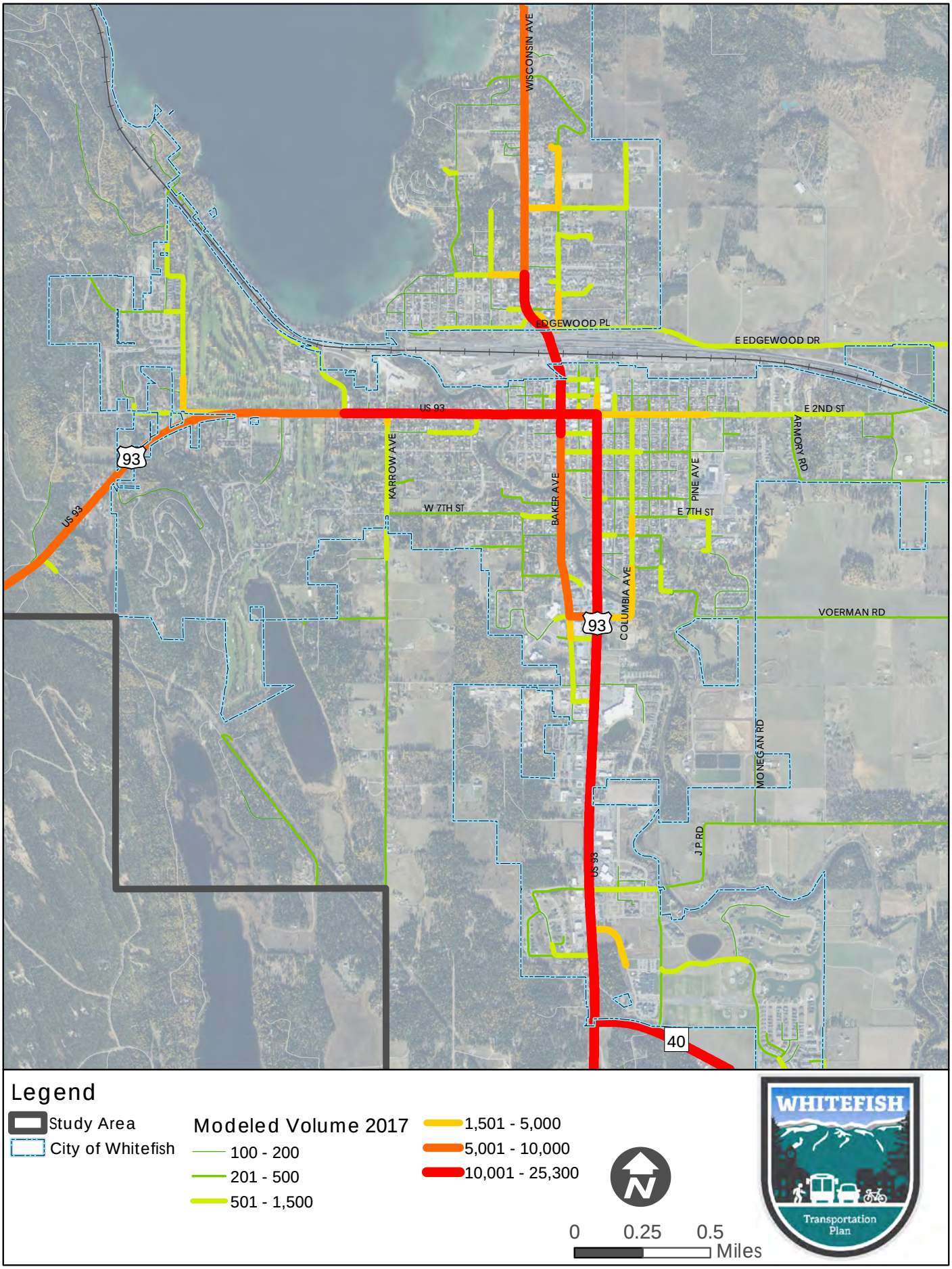


Figure 1.12: 2017 Modeled Volumes Inset



Base Year Volume-to-Capacity Ratios

Travel demand model results can be used to establish planning-level volume-to-capacity ratios (V/C ratios) for study area roadways. These V/C ratios are generally used to identify locations with the most significant capacity constraints that require more detailed and operations-based traffic analysis.

At a planning-level, roadway capacities are a function of roadway functional classifications, speed limits, and the number of travel lanes. For analysis purposes, V/C ratios have been translated to roadway levels of service (LOS) based on federal research and guidelines. LOS is a letter grade used to describe traffic operations where LOS A provides travel with nearly no delay and LOS F represents gridlocked travel. Generally, LOS D or worse is considered deficient and in need of improvements. Figure 1.13 demonstrates the level of service thresholds and operations, with the level of service thresholds by V/C ratios shown in Table 1.11.

As shown in Figure 1.14 and Figure 1.15 on page 27 some roadways have segments operating at LOS D or worse, however these issues are mainly attributable to intersection operations, which will be evaluated and presented in greater detail later in this study.

Figure 1.13: Level of Service Descriptions

Source for example and descriptions: Transportation Research Board's 2000 Highway Capacity Manual; Graphic redesign: KLJ

Table 1.11: Level of Service Thresholds by V/C Ratio

V/C RATIO	LEVEL OF SERVICE	DESCRIPTION
Under 0.6	LOS A	Near free-flow traffic.
0.6 to 0.7	LOS B	Minor delays.
0.7 to 0.8	LOS C	Some delays, but not resulting in significant traffic congestion.
0.8 to 0.9	LOS D	Delays with some traffic congestion.
0.9 to 1.0	LOS E	Significant delays with significant traffic congestion, approaching capacity.
1.0+	LOS F	Breakdown of traffic flow, major traffic congestion.

Source: NCHRP 387 – Planning Techniques to Estimate Speeds and Service Volumes for Planning Applications

Figure 1.14: 2017 Traffic Volume to Capacity Ratio

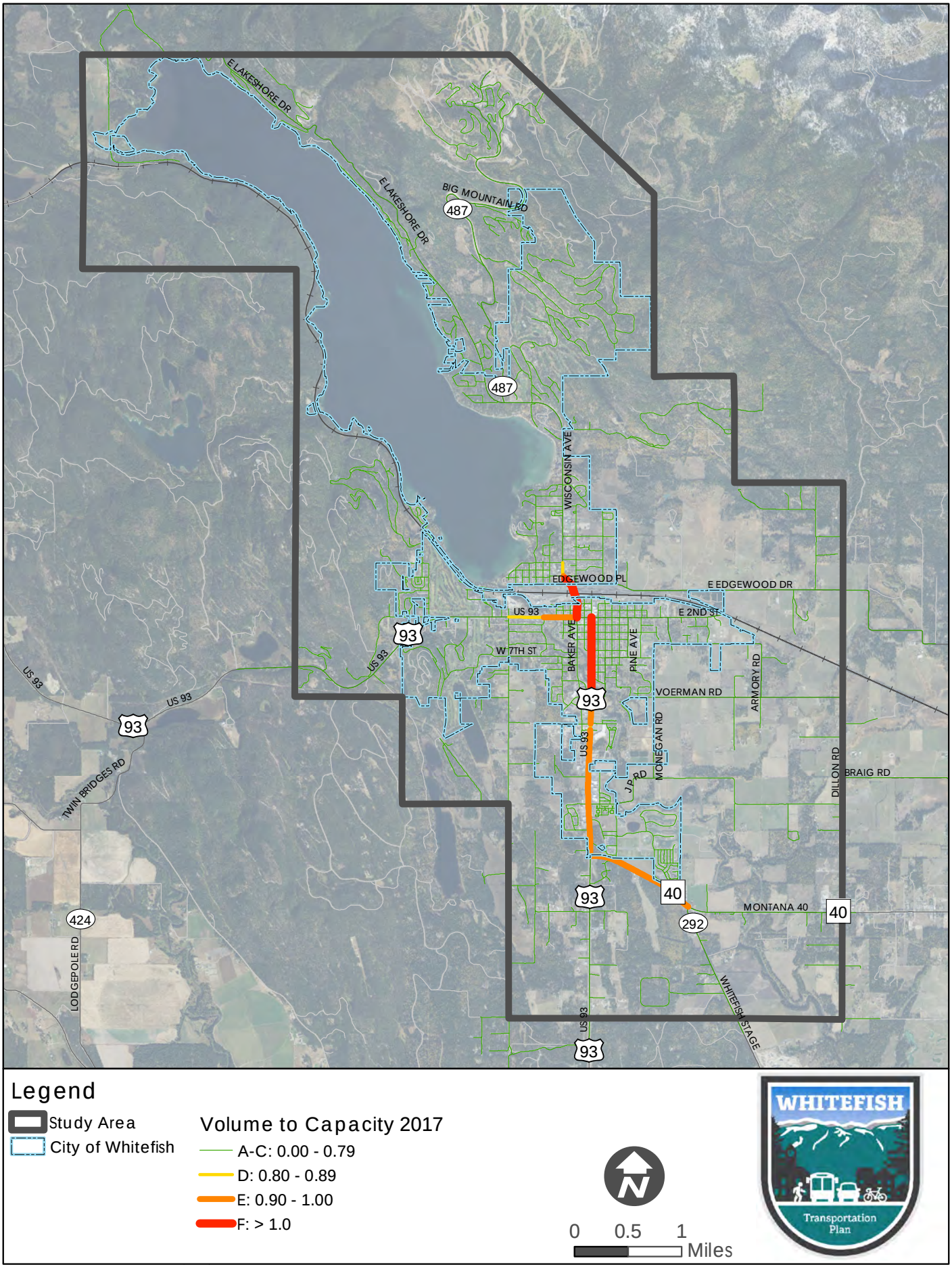
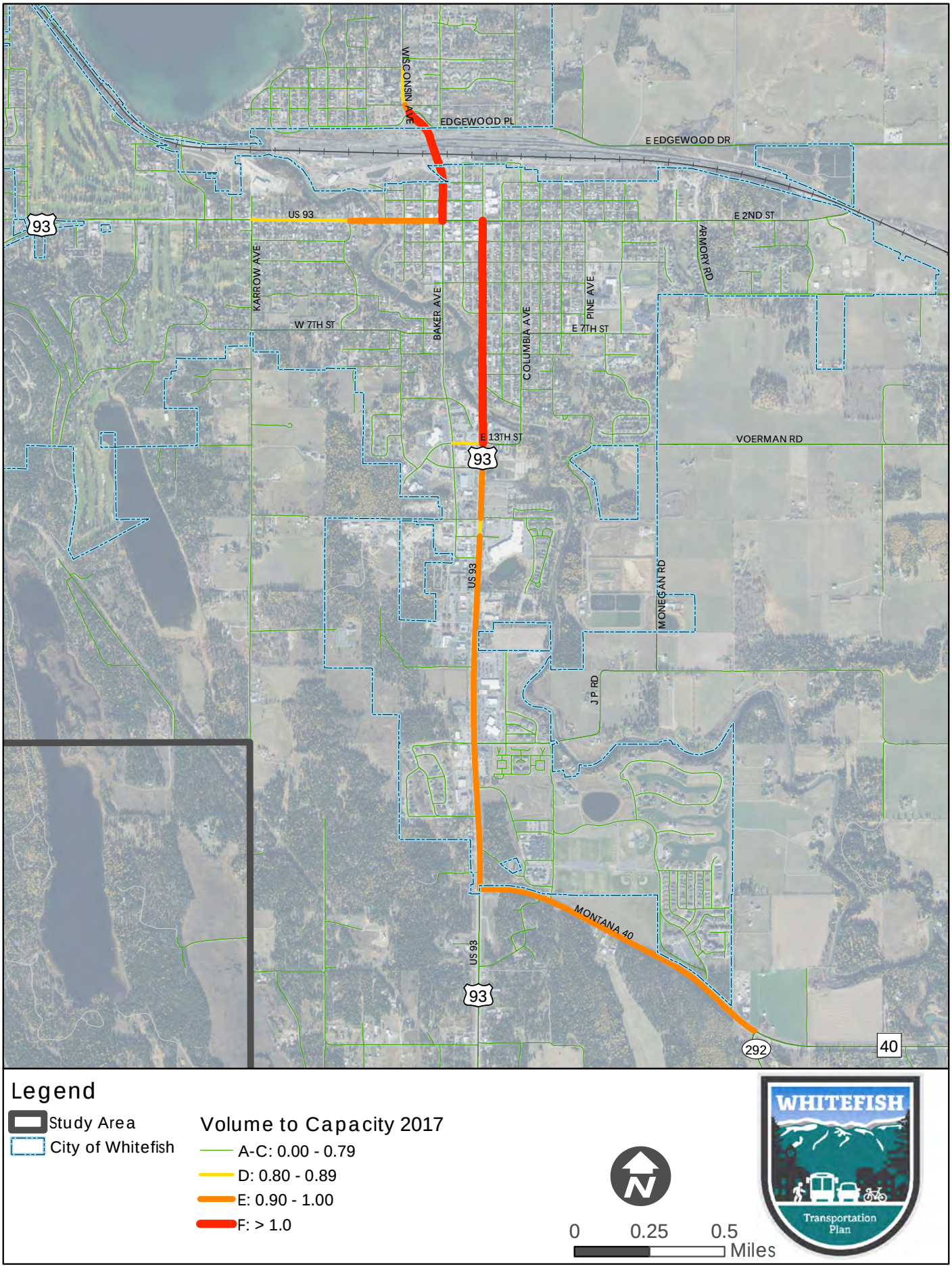


Figure 1.15: 2017 Traffic Volume to Capacity Ratio Inset



Vehicle Miles Traveled and Vehicle Hours Traveled

Area-wide traffic operations are often quantified in terms of vehicle miles traveled (VMT) and vehicle hours traveled (VHT) throughout an entire study area. VMT and VHT become especially useful metrics when comparing an expanded/improved area-wide roadway network to a base condition to understand the overall community benefit experienced through a series of significant transportation investments.

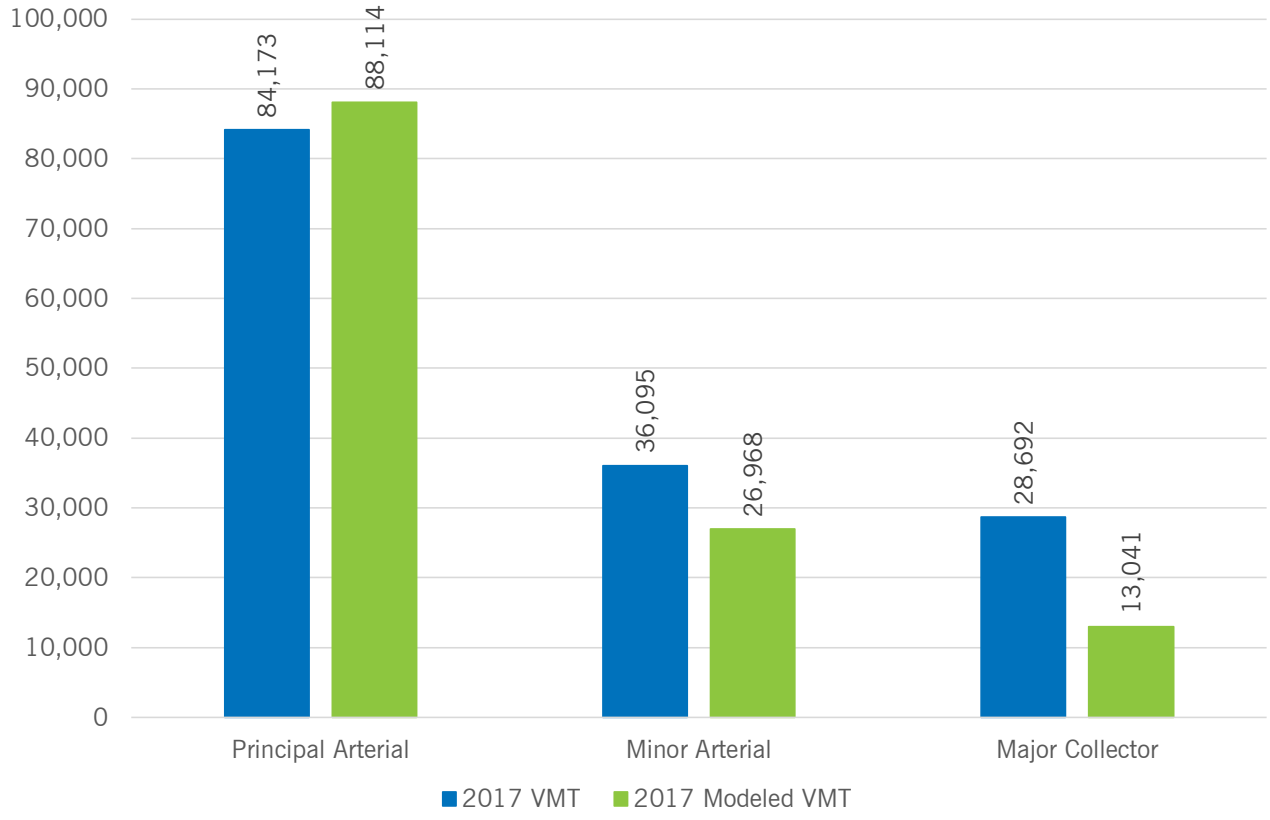
Actual Versus Modeled VMT

For the Whitefish urban area, the 2017 field-collected daily VMT was approximately 149,000 miles compared to the modeled daily VMT of 128,000, meaning the travel demand model estimated around fourteen percent less daily VMT than actual conditions. A breakdown of actual VMT versus modeled VMT by functional classification is shown in Figure 1.16.

Modeled VHT

Actual VHT data is not available for comparison, however modeled VHT sums up to approximately 5,800 hours per day for the study area. Later in this study, potential future roadway networks and their associated VHT totals can be compared to a base condition to understand area-wide travel-time benefits gained through transportation investments

Figure 1.16: Actual versus Modeled VMT



SAFETY ANALYSIS

Transportation safety is an essential component of the transportation planning process supporting the Whitefish Transportation Plan. Improving transportation safety requires more than just fixing a road or increasing police patrols. In order to be most effective, safety improvements need to consider the "four E's" of transportation safety: Education, Enforcement, Engineering, and Emergency Services. The objective of the safety analysis is to improve the safety and well-being of all users of the transportation system and work towards MDT's Vision Zero initiative to achieve zero deaths and zero injuries on Montana roads.

Crash Analysis

Crash data between 2014 and 2018 data was provided by MDT Traffic and Safety Bureau to investigate the traffic crash trends in the study area. Between 2014 and 2018, there were 791 crashes reported in the study area. This corresponds to 159 crashes per year. The high-level trends are discussed below with more detailed information later in this section.

- There were three crashes that resulted in a fatality, and 19 crashes that resulted in serious injury.
- There were seven pedestrian involved crashes, including one crash that resulted in serious injury.
- There were six bicycle involved crashes, including one crash that resulted in fatality.
- About 38 percent of crashes occurred at intersections.
- The largest number of crashes occurred on roads with greatest miles traveled, such as US 93, and MT Hwy 40.
- From 2014 to 2018, the number of crashes increased by 13 percent.
- From 2014 to 2018, the number of injury related crashes reduced by 23 percent.
- 15.5 percent of crashes involved collisions with animals.

The crash data included the spatial records which were analyzed to understand patterns of existing motorized vehicular crashes and identify high-risk areas. This was done through a hot-spot analysis which identifies clusters of dense accident occurrence, as shown in Figure 1.18.

Crash Severity

Crash severity is very important for implementation of safety related counter measures needed to compare and assess the roadway. The crash data categorized the crashes by the following severity levels:

- Fatal Crash
- Suspected Serious Injury Crash
- Suspected Minor Injury Crash
- Possible Injury Crash
- Property Damage Only Crash

Crash severity is categorized based on the most severe injury of the crash. For example, if a crash involved two vehicles that resulted in one serious injury and two possible injury crash, the crash is reported as suspected serious injury crash. A suspected serious injury crash is defined as an injury, other than fatal which prevents the injured individual from walking, driving, or normally continuing the activities they could perform before the injury. There were three crashes reported that resulted in a fatality, 19 crashes that resulted in serious injury, 136 crashes that resulted in non-serious injury, and 633 crashes that resulted in property damage only. Figure 1.17 shows the number of injury and non-injury crashes during the analysis period. Injury crashes have declined since 2014. Figure 1.18 shows the location of fatal and incapacitating injury crashes.

Figure 1.17: Crashes by Severity (2014–2018)

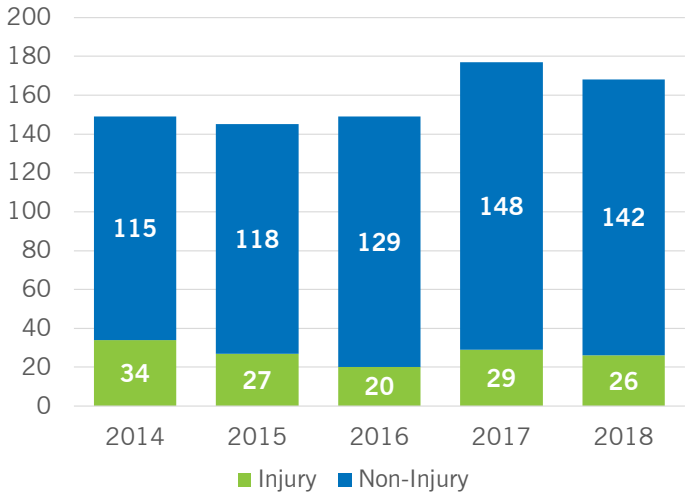
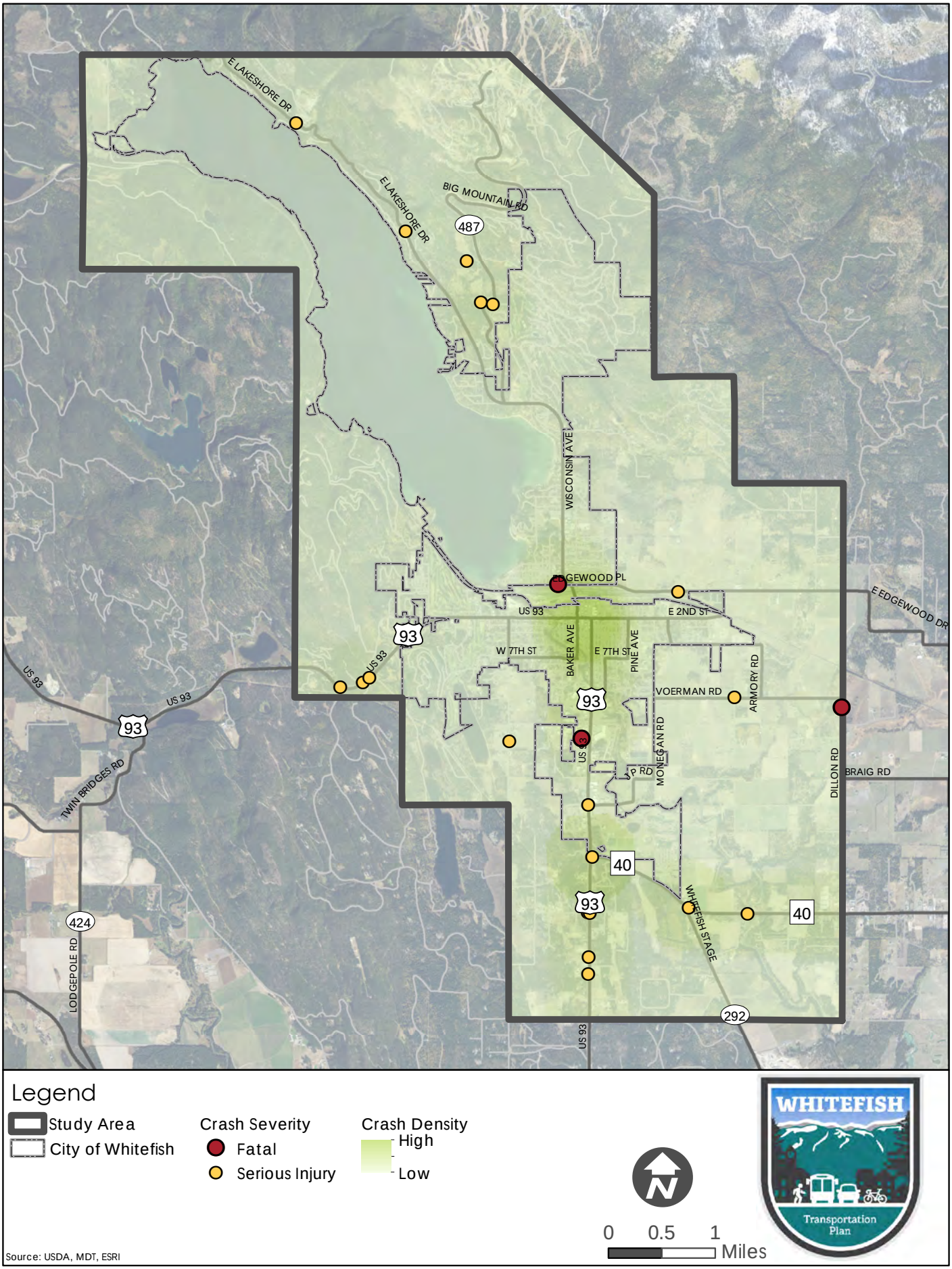


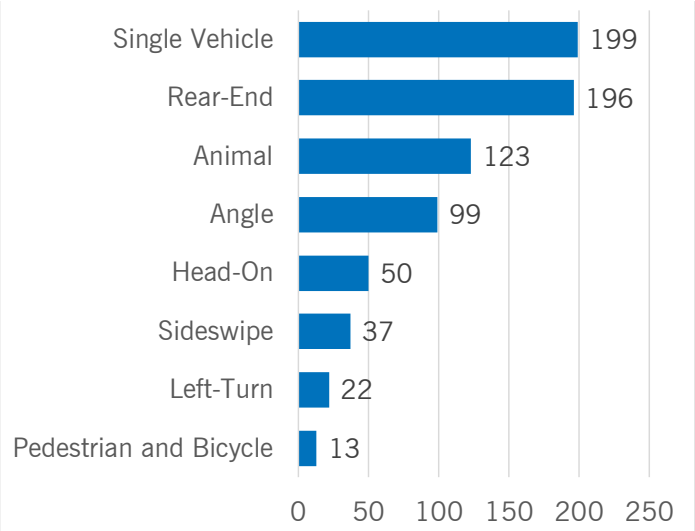
Figure 1.18: Crash Density and Severity (2014–2018)



Crash Type

Identifying crash type at roadways assists in developing counter measures to mitigate or minimize the crash type. Between 2014 and 2018, single vehicle related (199), rear-end (196), and angle (99) crashes represented the typical crash types in the study area. Aggressive driving, failing to stop, following too closely, and excessive speeding are a few factors in a substantial proportion of rear end crashes. Figure 1.19 shows the most prevalent crash types during the analysis period.

Figure 1.19: Crashes by Type (2014–2018)



Crashes Involving Impaired Drivers

Montana has one of the highest fatality rates in the nation for number of deaths caused by impaired drivers per vehicle mile traveled. The statewide data from 2018 indicates that 64 percent of all fatalities statewide were the result of impaired driving. This is up from 61 percent in 2017. Within the study area, there were 30 crashes (four percent) involving impaired drivers. Of these crashes, 53 percent resulted in injuries.

Crash Occurrence Period

Crash occurrence statistics assist in refining patrol deployment decisions. Typically, traffic varies significantly by time of day and day of the week, particularly during weekday peak hours. Crash data for the study area was evaluated based on the period of occurrence on the crash with respect to time of the day, week, and month.

- The majority of the crashes (129, or 16.5 percent) were reported during the peak congestion period from 8AM to 9AM and 4PM to 5PM
- 74 percent of crashes occurred on weekdays. The fewest crashes occurred on Sundays.

November through January generally experienced more vehicular crashes. December is the peak month for crash frequency. Challenging winter road conditions including snow, sleet, and ice can contribute to the higher number of crashes.

Crashes Involving Animals

From 2014 to 2018, there were 125 crashes that involved wild animals, which corresponds to 25 crashes per year. This is likely understated as many animal-vehicle collisions go unreported if the crash does not involve property damage or injury. Of these animal-vehicle collisions, 52 percent occurred on MT Hwy 40, and 25 percent on US 93 south of MT Hwy 40. US 93 and MT Hwy 40 are high-volume, high-speed roadways.

Intersection and Segment Crash Evaluation

To assess the intersections and segments safety performances, two methods were applied: Crash Rate and Severity Rate. These methods apply an easy-to-use statistical test to determine whether the crash rate and severity rate for a location is significantly higher than the average crash rate and severity rate for other locations in the jurisdiction (or region) having similar characteristics.

- The crash rate is calculated as the number of crashes per million entering vehicles for intersections and the number of crashes per million vehicle miles traveled for segments.
- The severity rate applies a weight to crashes based on severity, including 5.0 for fatal crashes, 4.0 for incapacitating injury crashes, 3.0 for non-incapacitating injury crashes, 2.0 for possible injury crashes, and 1.0 for property damage only crashes.

Ten intersections were identified with the highest number of crashes in the area. Table 1.12 on page 33 summarizes the crash rate and severity rates of the intersections. The location of the intersections is shown in Figure 1.20. The larger the circle, the more crashes that occurred at that intersection.

The intersection of US 93 & MT Hwy 40 observed the highest number of crashes in the study area, with 45 crashes reported in the five-year analysis period. The number of crashes observed at US 93 & MT Hwy 40 is three times more than the next highest crash intersection (2nd Street & Baker Avenue).

Figure 1.20: High Crash Intersections (2014–2018)

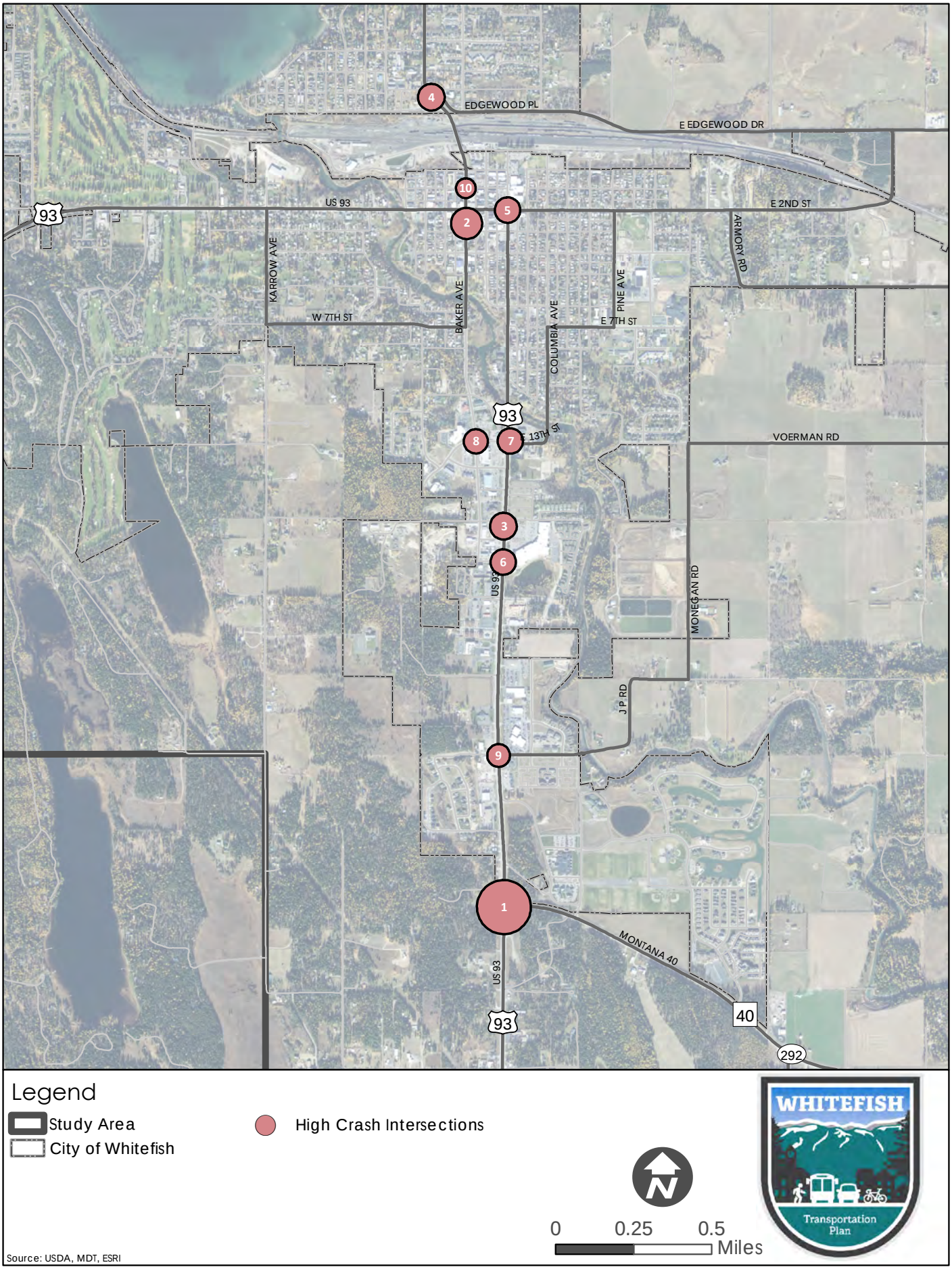


Table 1.12: High Crash Intersections

INTERSECTION (SHOWN IN FIGURE 1.20)		ENTERING VEHICLES (MILLION)	CRASHES			CRASH RATE	SEVERITY RATE
			INJURY	NON-INJURY	TOTAL		
1	Hwy 93 & MT Hwy 40	46.5	12	33	**45**	0.97	1.36
2	Hwy 93 & Baker Ave	34.6	1	14	**15**	0.43	0.46
3	Hwy 93 & Commerce St	39.1	2	9	**11**	0.28	0.33
4	Wisconsin Ave & Edgewood Pl	32.1	1	10	**11**	0.34	0.37
5	Hwy 93 & 2nd St	24.6	2	8	**10**	0.41	0.49
6	Hwy 93 & 19th St	41.9	2	8	**10**	0.24	0.31
7	Hwy 93 & 13th St	37.8	4	6	**10**	0.26	0.40
8	Baker Ave & 13th Street	25.1	1	8	**9**	0.36	0.40
9	Hwy 93 & JP Road	43.8	5	3	**8**	0.18	0.34
10	Baker Ave & 1st St	35.9	2	4	**6**	0.17	0.22

FREIGHT SYSTEMS

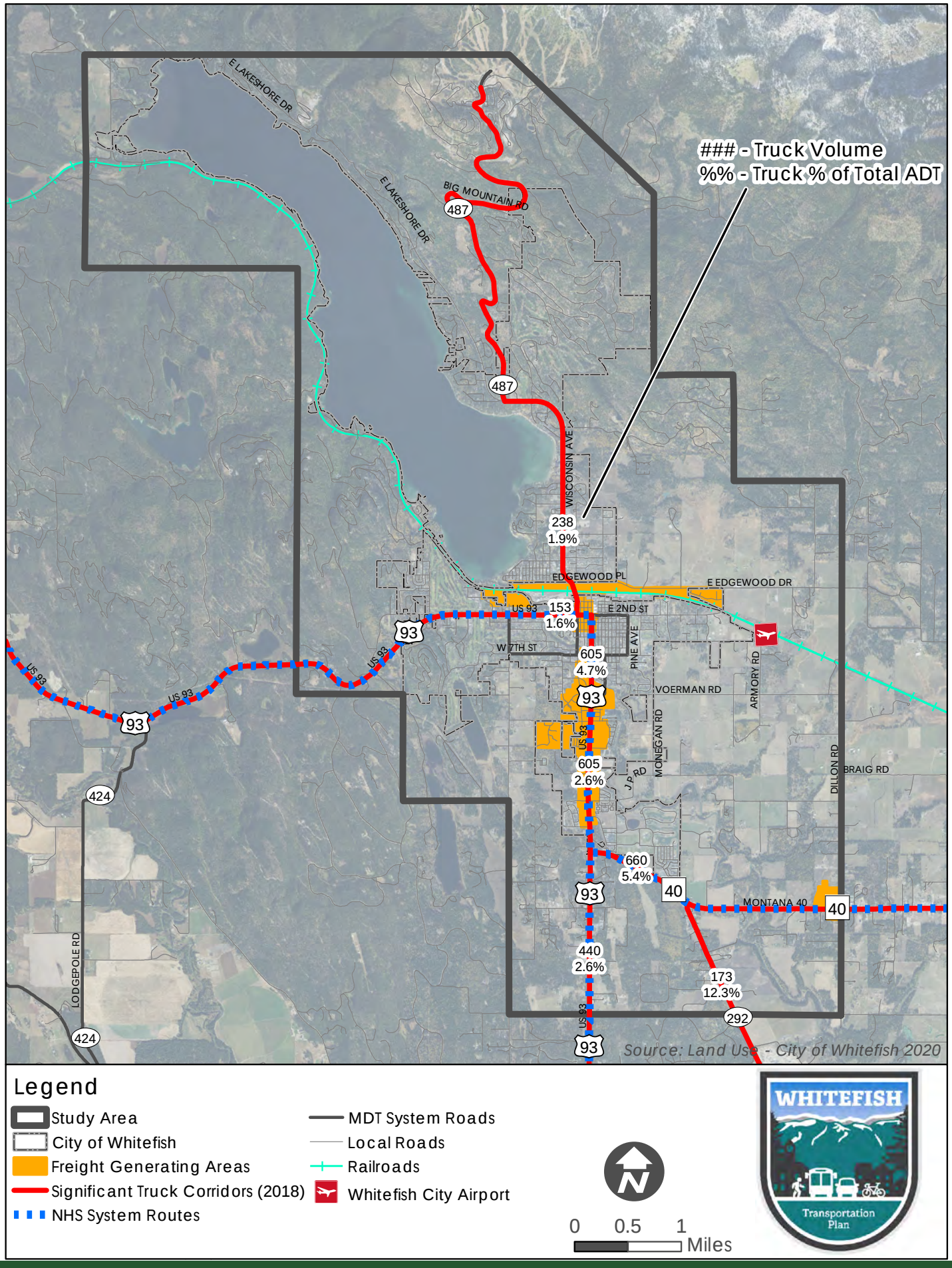
The City of Whitefish is served by US 93 which connects the city to regional and national trade routes. The stretch of highway through downtown presents challenges in balancing freight traffic with local automobile, pedestrian, and bicycle traffic. For example, US 93 remains at or near capacity between 10 AM and 6 PM during the summer months, while downtown intersections such as Central Avenue and 2nd Street see heavy pedestrian traffic during that time period. Because truck activity centers can influence the entire network by slowing down traffic and creating safety hazards, it is important to document high activity centers within the study area. Despite these generators, there are no areas where heavy truck traffic exceeds two percent of total traffic, as shown in Table 1.13. Generally, urban corridors can expect to see heavy truck traffic around two percent or less.

Figure 1.21 shows the primary truck routes and generators in the study area.

Table 1.13: High Truck Traffic Locations

LOCATION	2018 DAILY TRAFFIC	2018 DAILY TRUCK TRAFFIC	PERCENT TRUCK TRAFFIC
Montana Highway 40 (US 93 to Whitefish Stage)	12,125	660	5.4%
US Highway 93 (5th St to 13th St)	12,771	605	4.7%
US Highway 93 (Miles Ave to Baker Ave)	9,456	153	1.6%
US Highway 93 (J P Rd to 18th St)	23,488	605	2.6%
US Highway 93 (MT 40 to Stelle Ln)	17,223	440	2.6%
Wisconsin Avenue (Edgewood Dr to Parkway Dr)	12,778	238	1.9%
Whitefish Stage (MT 40 to Hodgson Rd)	1,404	173	12.3%

Figure 1.21: Truck Traffic Volumes and Major Routes



RAIL SYSTEMS

The Whitefish Train Depot serves both freight and passenger rail traveling along the privately-owned BNSF railway. Amtrak provides passenger service connecting Whitefish to Seattle to the west and Chicago to the east. In 2019, 55,210 passengers boarded or alighted at the Whitefish train depot. Within the study area, grade-separated crossings over the railroad tracks exists on Baker Street, and at-grade crossings exist on 2nd Street, State Park Road, and Birch Point Drive. Figure 1.23 shows the existing rail system within Whitefish.

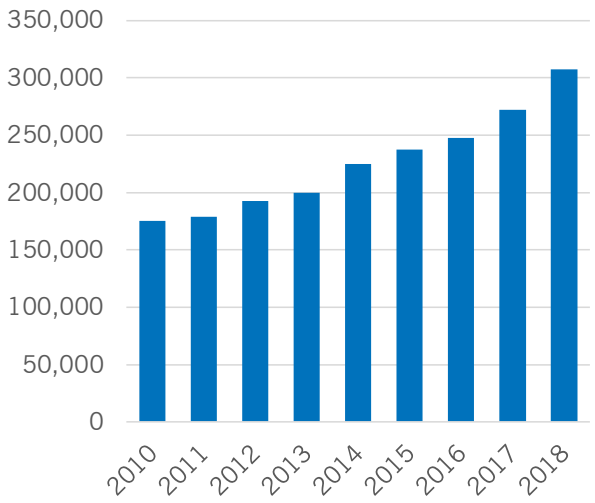
AIR TRANSPORTATION

Whitefish is served by the Kalispell-Glacier Park International Airport and the Whitefish Airport. Only the Kalispell-Glacier International Airport provides scheduled commercial service.

Kalispell-Glacier International Airport

The Kalispell-Glacier Park International Airport lies northeast of Kalispell on US 2. Alaska Airlines, Allegiant, American Airlines, Delta, and United provide regular scheduled commercial flights. These airlines provided flights to 306,487 passengers in 2018, the highest passenger volume ever recorded at the airport. Over the past five years the airport has seen a 33 percent increase in passenger volume and a 75 percent increase since 2010 as seen in Figure 1.22. Starting in 2021, the airport is expanding by 40,000 square feet to keep up with growing passenger volumes.

Figure 1.22: Passenger Volumes at Kalispell-Glacier Park International Airport



The following are the major destinations and air carriers of the airport:

- *Delta:* Salt Lake City, Minneapolis, St. Paul, Atlanta (Seasonal), and Los Angeles (Seasonal)
- *United:* Denver and Chicago (Seasonal)
- *Alaska:* Seattle and Portland (Seasonal)
- *Allegiant Air:* Las Vegas, Phoenix, Oakland (Seasonal), Los Angeles (Seasonal)
- *American Airlines:* Chicago (Seasonal), Dallas (Seasonal), Los Angeles (Seasonal)

Whitefish Airport

The Whitefish Airport is publicly-owned by the Montana Aeronautics Division, and serves on average 23 aircrafts each month, 72 percent of which are local general aviation.

BICYCLE AND PEDESTRIAN SYSTEM

In Whitefish, about 12 percent of the workforce walks or bikes to work, which is nearly twice the rate of the State of Montana overall. Several existing plans, including the 2018 Whitefish Climate Action Plan and the 2016 Connect Whitefish Bicycle and Pedestrian Plan, have recommended improving bicycle and pedestrian connectivity and comfort throughout the city. Table 1.14 summarizes the existing facilities, and Figure 1.24 and Figure 1.25 shows the complete network within the study area. Each facility type is described below.

- Sidewalks are paths typically designated for pedestrians along the side of the roadway.
- Bike lanes are designated lanes within a portion of the roadway typically including striping, signage, and other pavement markings noting the space for cyclists
- Separated shared-use recreation routes are separated paths designated for pedestrians and cyclists.

Table 1.14: Existing Multimodal Facilities

FACILITY TYPE	MILES	PERCENT OF ROADS WITH FACILITY
Existing Shared-Use Recreation Route	13.6	N/A
Existing Bike Lane	2	0.9%
Existing Sidewalks	41	17.4%

Figure 1.23: Railroad Crossings in the Study Area

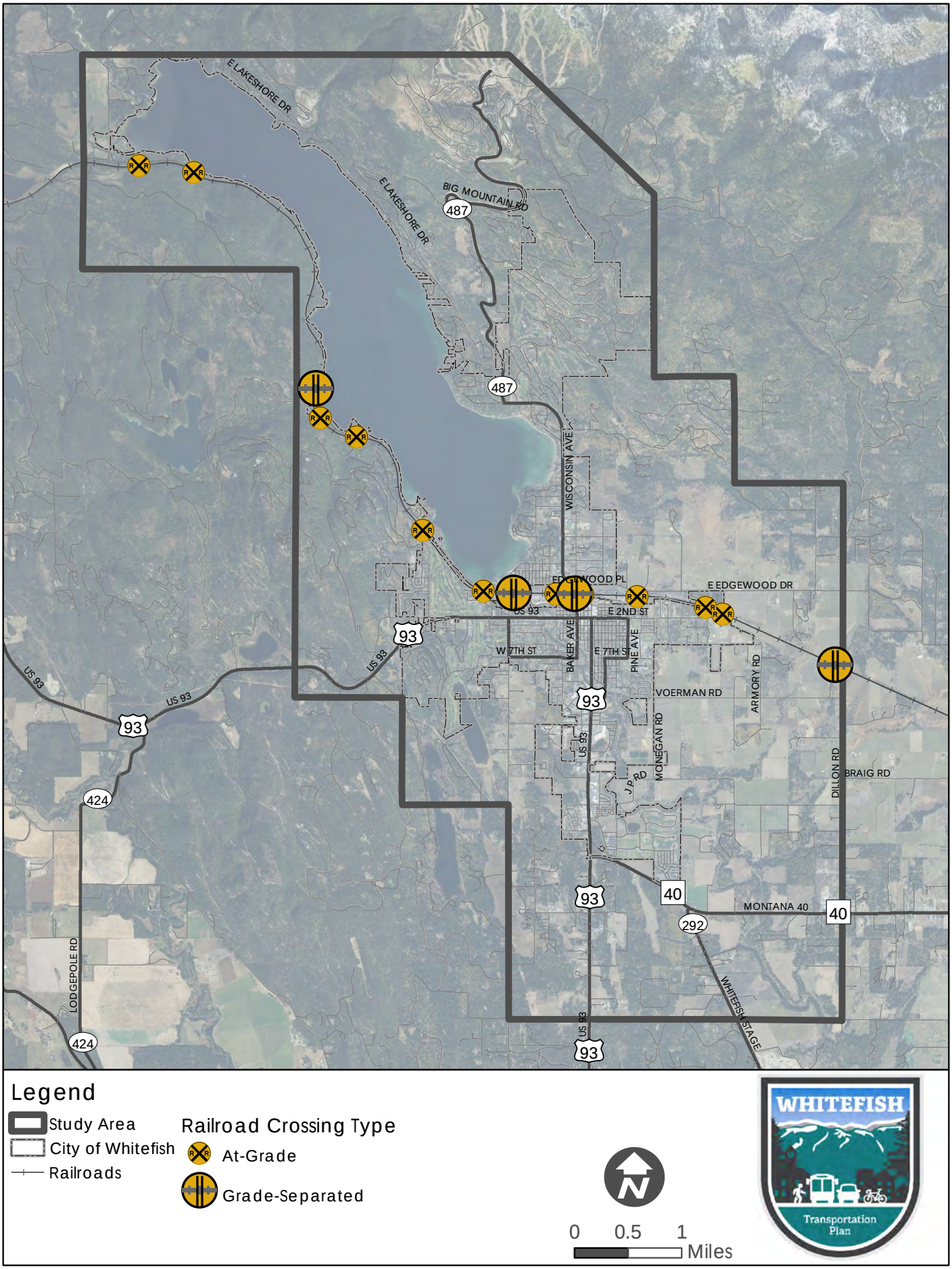


Figure 1.24: Bicycle and Pedestrian Facilities

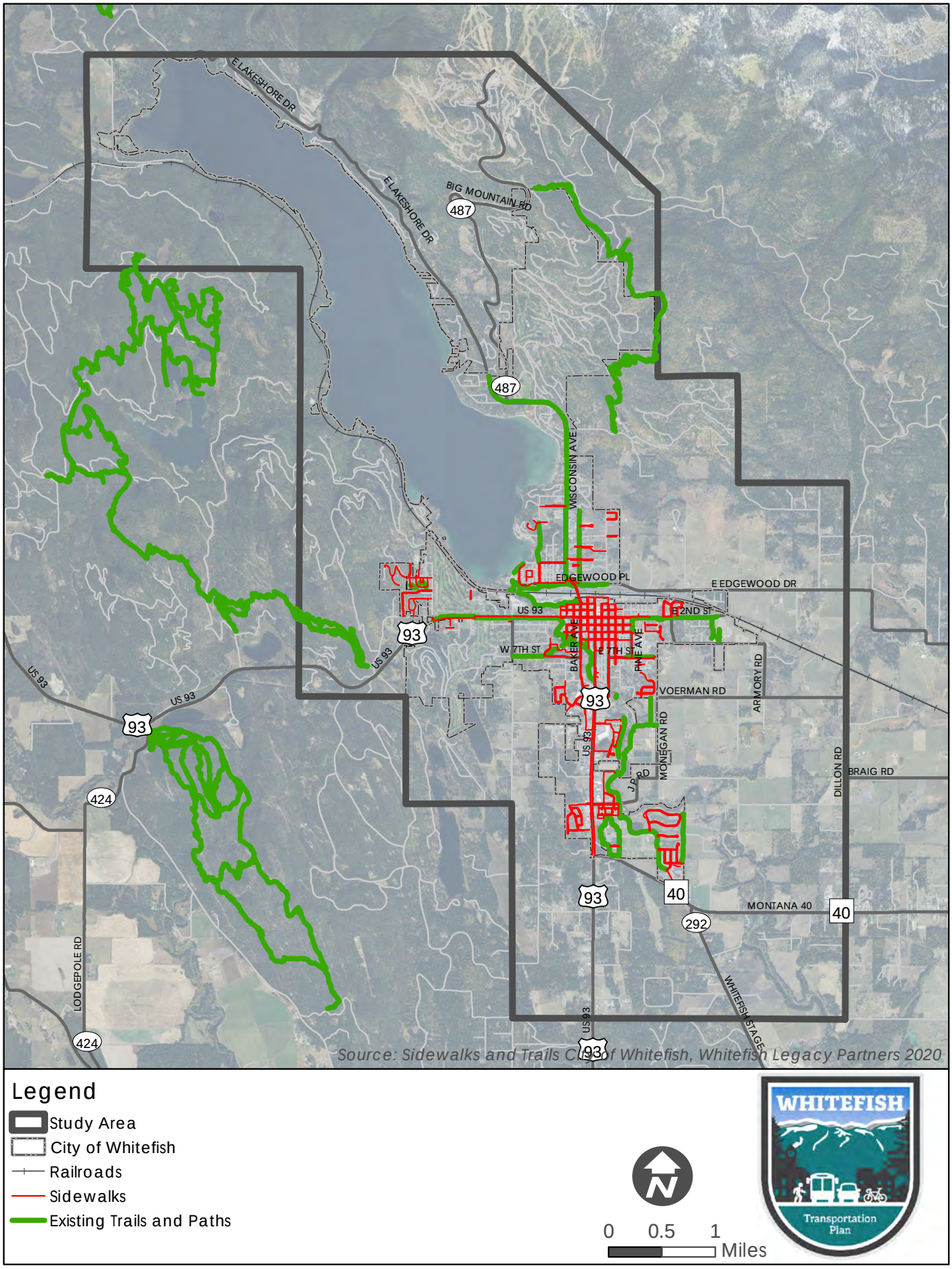


Figure 1.25: Bicycle and Pedestrian Facilities Inset

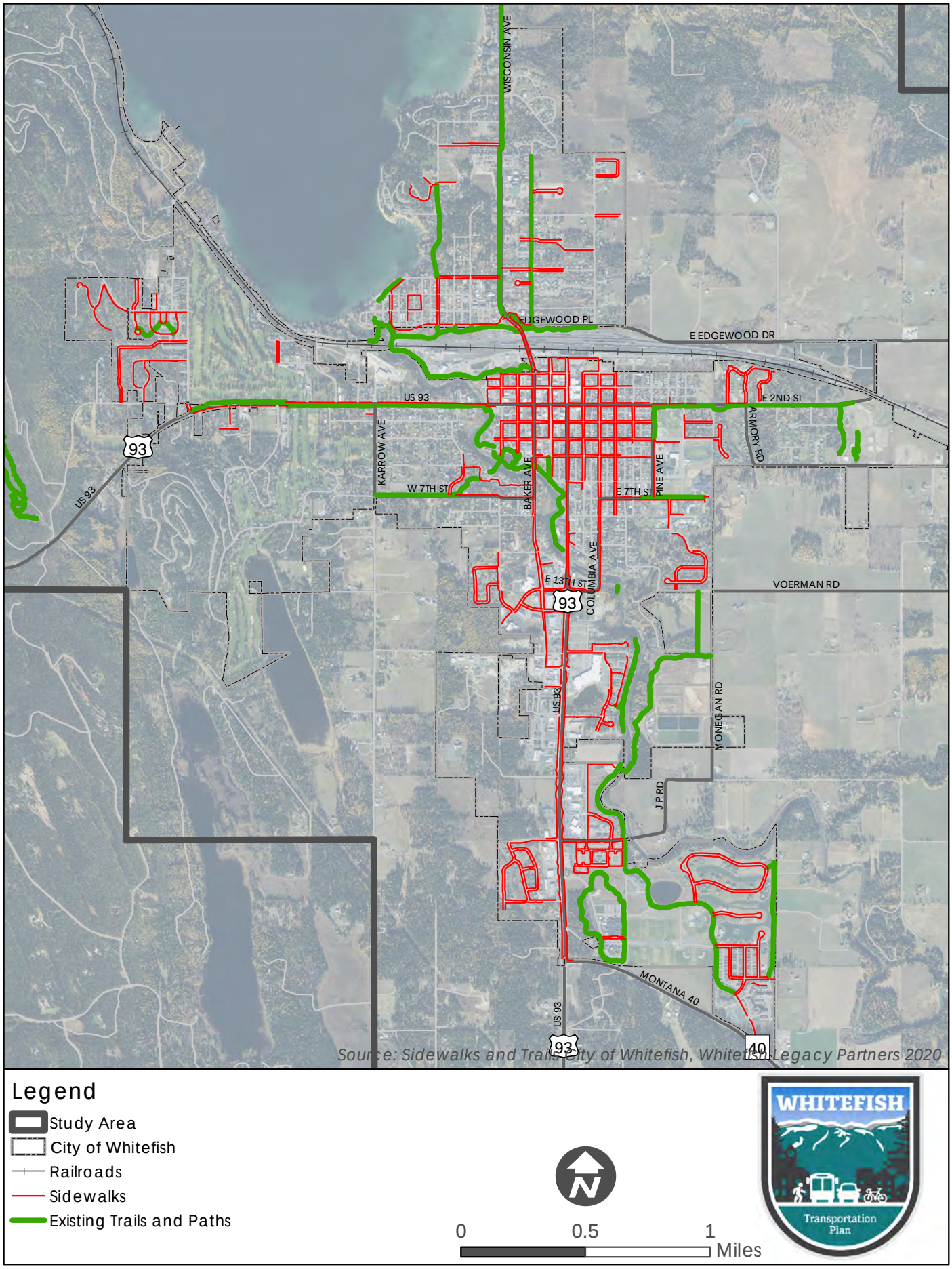


Figure 1.26: Shared-use path in Whitefish

Bicycle and Pedestrian Crashes

Between 2014 to 2018, seven pedestrian and six bicycle crashes were recorded within the study area. Pedestrian and bicycle crashes are often severe and underreported when they do not involve injury or significant property damage. Among the seven pedestrian crashes, one resulted in no injury, five resulted in a possible or minor injury, and one resulted in a serious injury. Among the six bicycle crashes, three resulted in property damage and no injury, two resulted in a possible or minor injury, and one crash was fatal and occurred on a separated path parallel to the road. Across the 13 recorded bicycle and pedestrian crashes, 62 percent occurred in daylight and 70 percent occurred in clear weather conditions. Figure 1.27 shows the locations of these crashes.

Seasonal Trends

According to the Downtown Whitefish Highway Study, pedestrian and bicycle activity is significantly higher during the summer months in downtown Whitefish. In August 2019, 8,471 pedestrians were counted at the intersection of 2nd Street and Central Avenue, compared to just 1,135 at that intersection in November 2019. Across 13 intersections in downtown, average daily bicycle counts ranged from 25 to 88 in August 2019, while those same intersections had an average daily count between 1 and 14 bicycles in November 2019. Snow and ice removal creates additional complications for pedestrians and bicyclists during the winter months.

Safe Routes to School

Safe routes to school is an important component of the bicycle and pedestrian system. The City of Whitefish has completed multiple studies surrounding Muldown Elementary and Whitefish Middle to ensure school-aged children have safe options to walk and bike to school. Figure 1.28 shows the existing bicycle and pedestrian signage surrounding the three schools in Whitefish.

Current barriers to biking and walking in the Whitefish area follow conditions seen in communities across Montana. Low density development patterns coupled with the high auto dependency rates have resulted in an environment not conducive to biking and walking. Existing systems developed in Whitefish are developed enough to promote both commuting and recreational travel by bicycle and walking. Current commute trends bare this out when compared to other peer communities in Flathead County. However, gaps remain around major barriers such as urbanizing portions of Highway 93 and ensuring greater system connectivity between major transportation generators. This includes the need to provide a coordinated and identifiable system of corridors providing safe access to and from Whitefish area schools.

Figure 1.27: Bicycle and Pedestrian Crashes

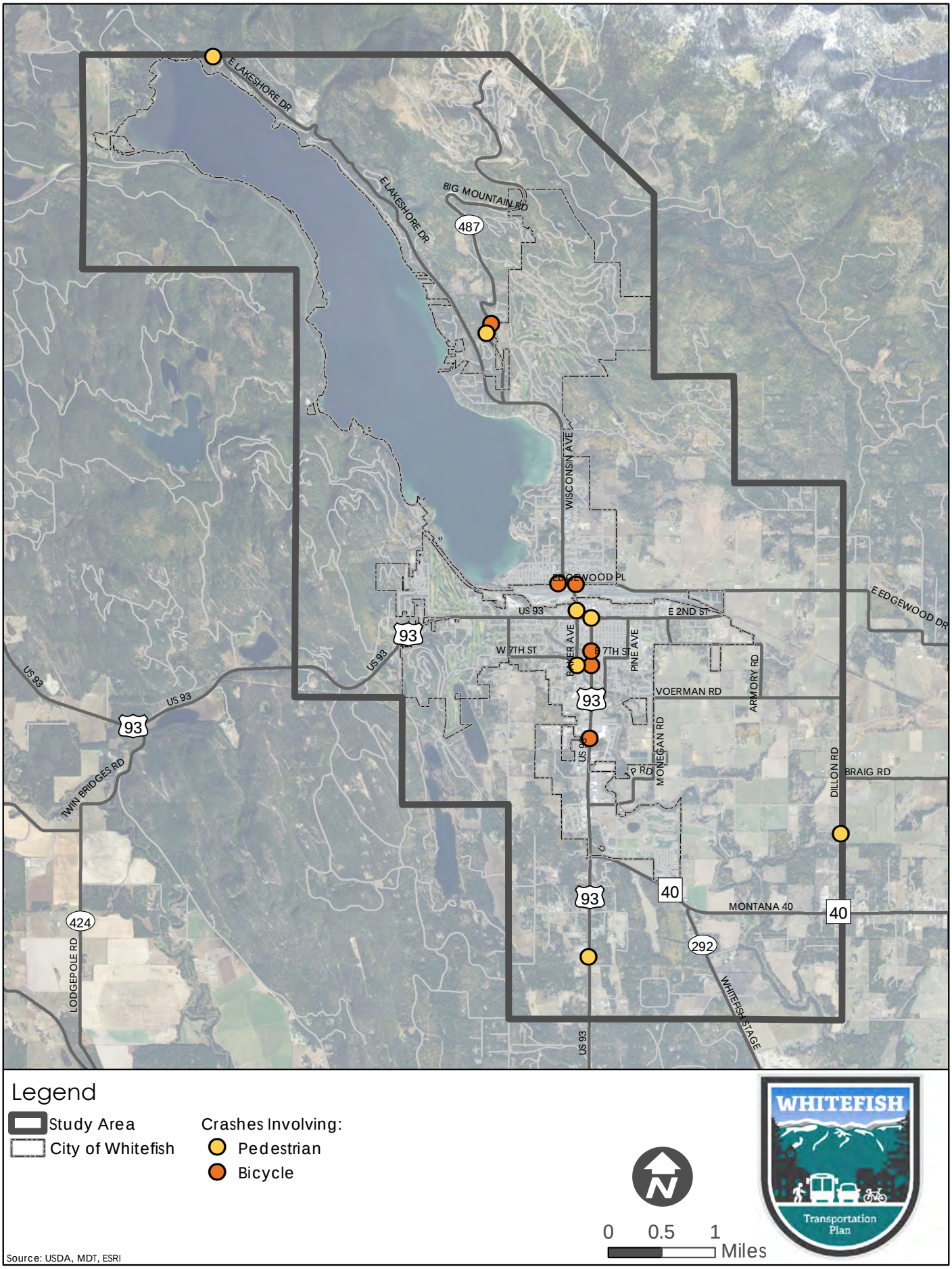
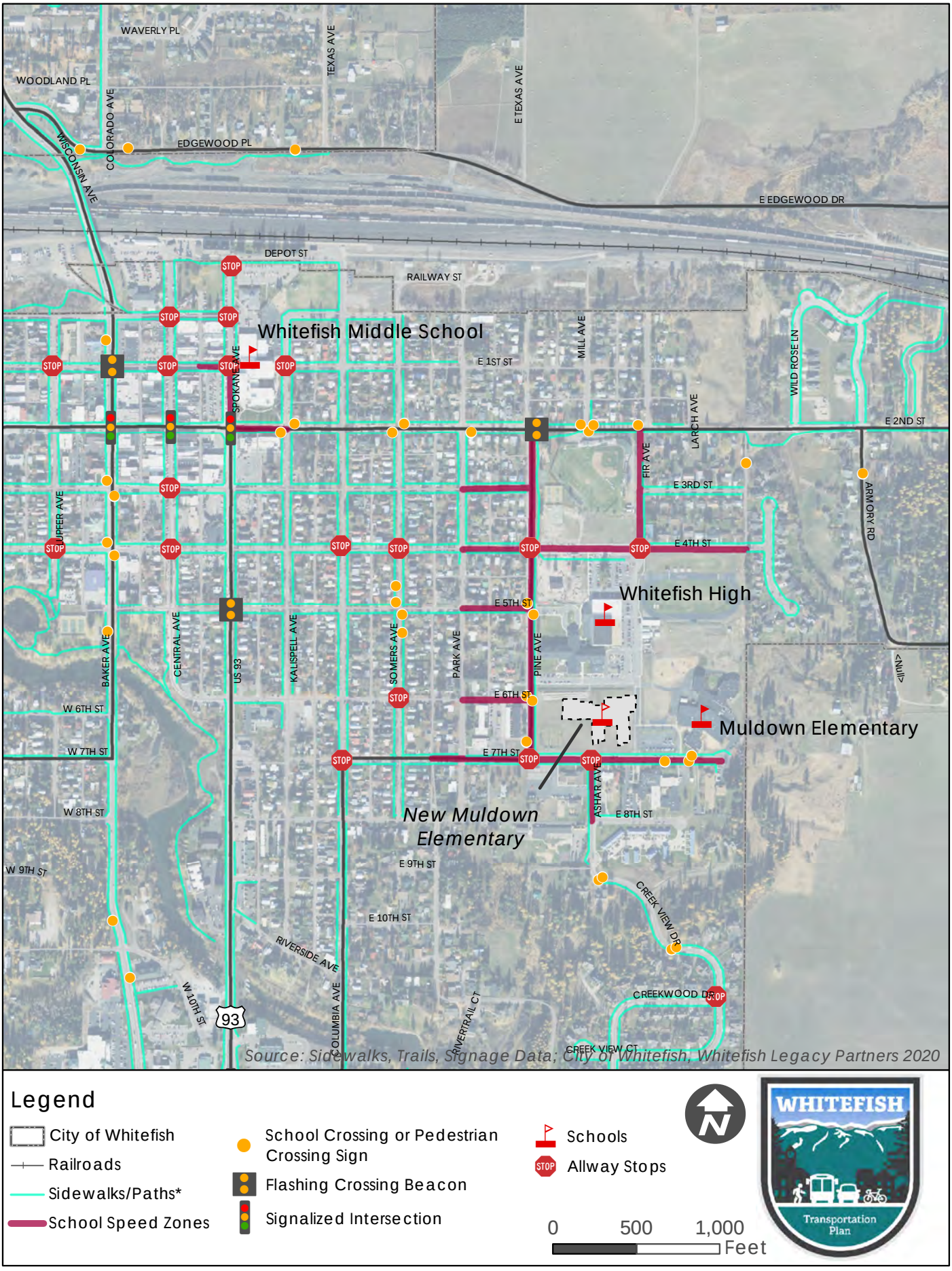


Figure 1.28: Whitefish Schools



TRANSIT

Mountain Climber provides fixed, fixed-deviated, and paratransit public transportation in Flathead County for the cities of Kalispell, Whitefish, and Columbia Falls.[1] It is operated by Flathead County and the Area IX Agency on Aging. Transit service and investment is guided through the planning efforts in the 2021 Transportation Coordination Plan (TCP), which was adopted in February 2020. Figure 1.29 shows the fixed route routes and stops as well as the paratransit service area.

The City of Whitefish contributes $9,300 annually to Mountain Climber. Mountain Climber operates five fixed routes, three of which serve Whitefish: the Whitefish City Bus, the Whitefish Express, and the Tri-City Commuter. The City Bus is a fixed/deviated route that runs on weekdays, and is described in greater detail in the next section. The Whitefish Express runs between Whitefish and Kalispell with fewer stops than the City Bus. Finally, the Tri-City Commuter operates Monday through Friday and offers three rides in the morning and afternoon to Columbia Falls and Kalispell.

Ridership across all Mountain Climber routes and services increased 36 percent between 2017 and 2019, from 85,305 rides during the 2017 fiscal year to 116,017 rides during the 2019 fiscal year. Ridership is highest during the summer months, and disabled and elderly riders make up about 72 percent of total ridership year-round.

Current transit service is not frequent or geographically broad enough to attract choice ridership. A number of travel demand management opportunities, including shuttle services between major generators and visitor/commuter based park-n-ride systems, require more analysis to determine feasibility within the Whitefish area. Additional coordination is needed between S.N.O.W. and Mountain Climber to maximize existing transit systems in Whitefish.

Paratransit Service

Within the City of Whitefish, Mountain Climber operates the Whitefish City Bus, which is a fixed/deviated route that runs Monday through Friday between 10:00 AM and 2:00 PM. Between 10:00 AM and 11:00 AM, the bus exclusively serves dial-a-ride passengers. The service is curb-to-curb, or door-to-door on request, and is available by appointment during the same hours the city bus operates. The Americans with Disabilities Act requires fixed route operators to provide paratransit within a three-quarter mile radius of fixed route service. In Whitefish, the combined fixed/deviated route uses a 15-passenger vehicle, and makes 13 fixed stops, shown in Figure 1.29. During the 2019 fiscal year, the City Bus provided 6,390 rides, which was a 47 percent increase over the 2018 fiscal year. Table 1.15 shows cost and ridership estimates for all Mountain Climber Paratransit services within Flathead County.

S.N.O.W. Bus

The Shuttle Network of Whitefish (SNOW) Bus is a free shuttle service that connects downtown Whitefish to the Whitefish Mountain Resort Village. Figure 1.30 shows the bus stop locations. During the summer months, the bus primarily serves morning and afternoon peak periods. Between December and April, the service runs about every 30 to 60 minutes between the hours of 7:30 AM and 10 PM, with additional hours on select weekends, holidays, and events. Using on-board trackers that were installed on buses in 2018, about 60,000 riders were counted during the 2018–2019 winter period, while 11,800 riders were counted during the following summer. Operation costs were approximately $400,000 for the winter period and $100,000 for the summer period.

Table 1.15: Mountain Climber Service Indicators

PARATRANSIT SERVICE INDICATOR	2018
Passenger Trips	99,122
Operating Costs	$1,277,431
Passengers per Revenue Hour	3.9
Passengers per Revenue Mile	0.3
Cost per Passenger	$12.38
Cost per Revenue Hour	$48.29
Farebox Recovery Ratio	3.5%

Source: National Transit Database (NTD)

Table 1.16: Transit Ridership by Route

ROUTE	FY 2018	FY 2019	FY 2020
Whitefish City Bus	4,336	6,390	5,792
Columbia Falls City Bus	3,185	4,288	3,024
Tri-City Commuter	9,103	5,771	4,540

1 Due to impacts related to COVID-19 Mountain Climber is currently restructuring its services. This data reflects operational conditions as of 7/1/2020, and reflect historic conditions.

Figure 1.29: Mountain Climber Bus Stops

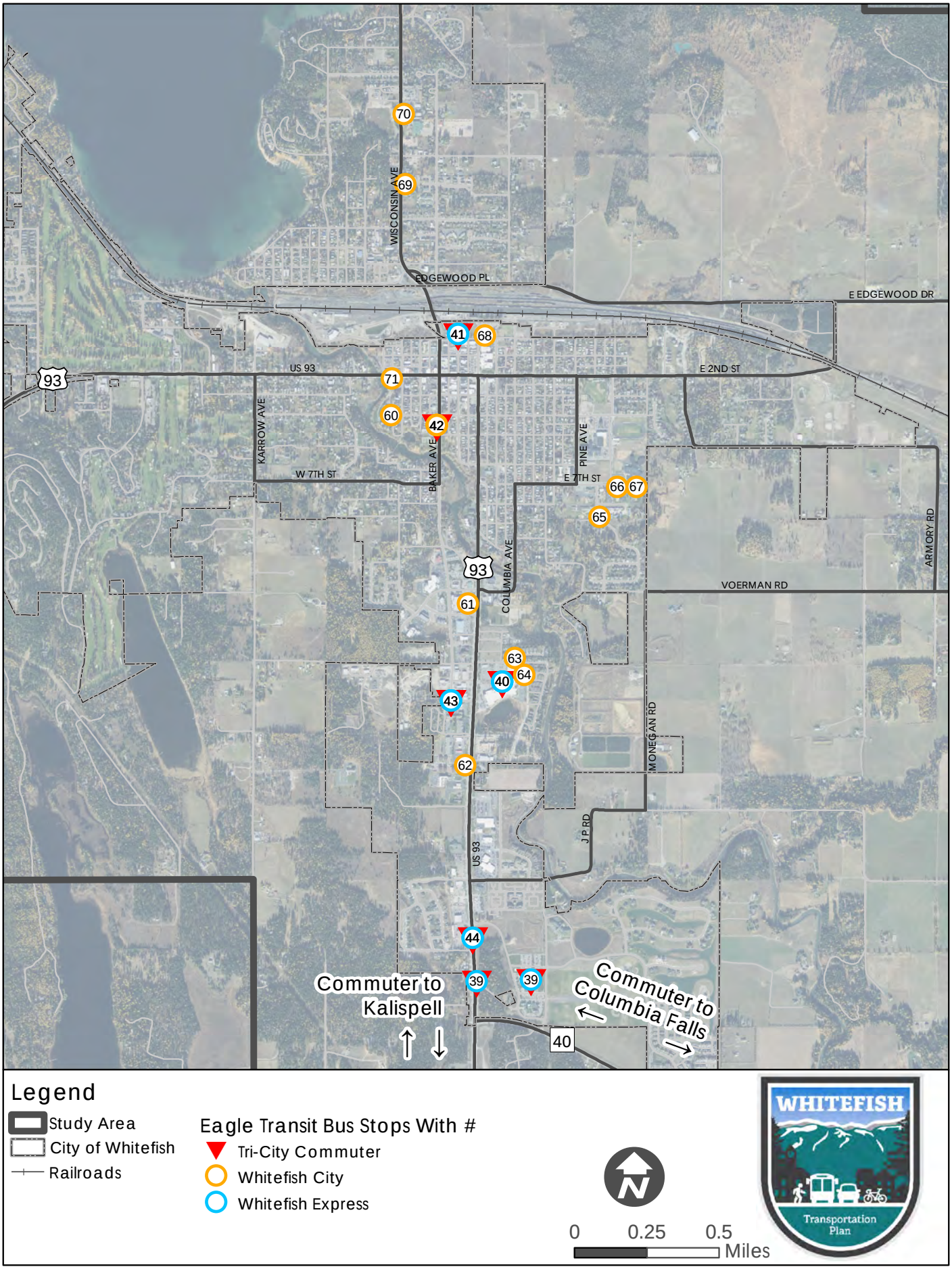
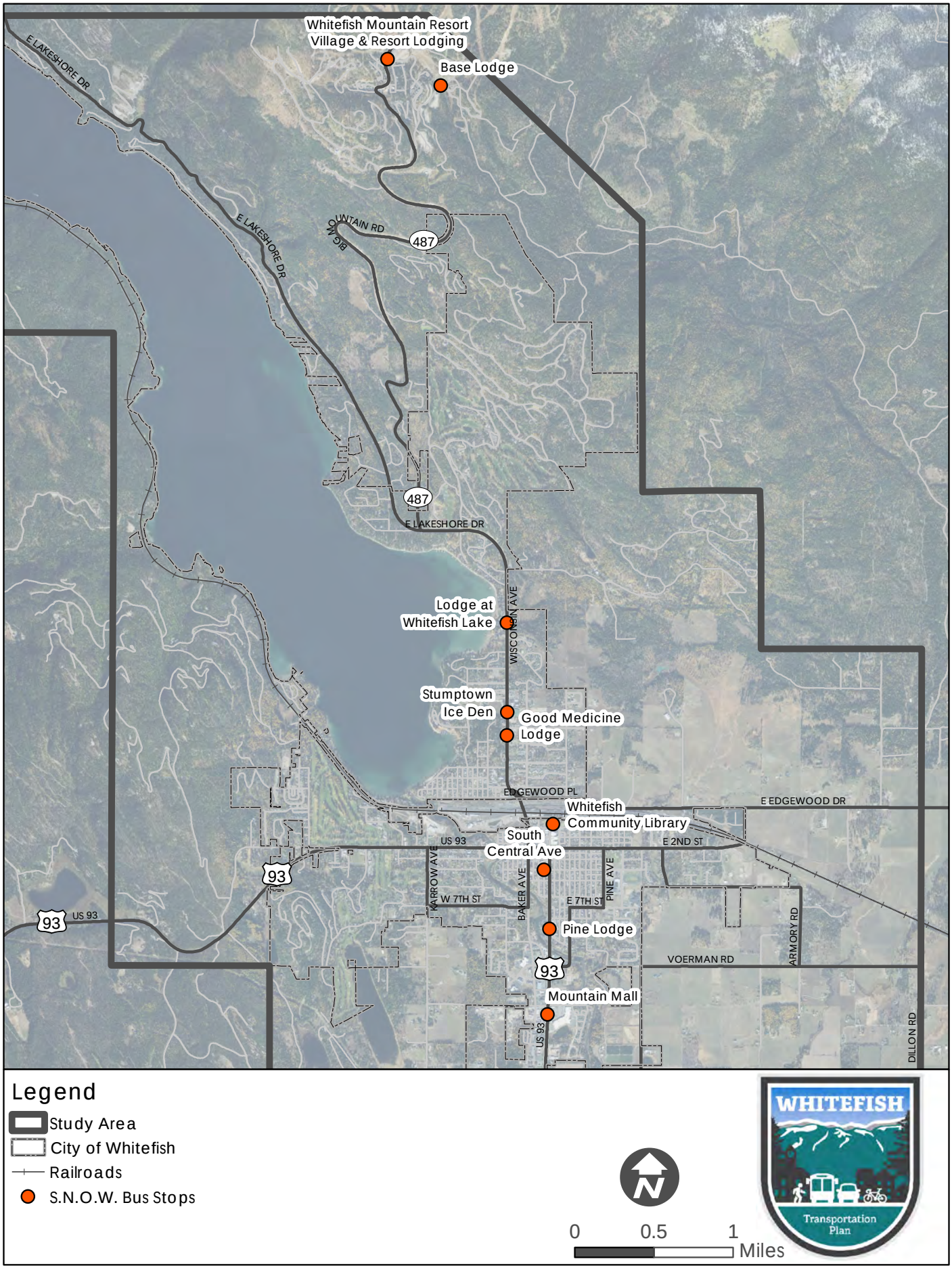


Figure 1.30: S.N.O.W Bus Stops



WHITEFISH

Transportation Plan

CHAPTER 2. PROJECTED CONDITIONS

April 2021

KLJ

ENGINEERING, REIMAGINED

BACKGROUND

As part of the Whitefish Transportation Plan, an analysis was performed on the 2040 Existing + Committed (E+C) model for the study area. Like the 2017 base year model, the 2040 E+C model output generated volumes, capacity, and the resulting volume to capacity ratios (VC) and levels of service (LOS). Both models were developed by MDT.

PROJECTED 2040 GROWTH ALLOCATIONS

The 2040 E+C model used in the Whitefish Transportation Plan was first developed as a part of the Downtown Whitefish Highway Study with the purpose of generating 2040 traffic projections. These traffic projections were determined using projections for the population, number of households, and employment in Flathead County. This section summarizes the data used, existing trends, and projections determined by the 2040 E+C model.

Data Sources

MDT-Developed Travel Demand Model (TDM)

Existing and Projected Households (2040) were estimated as part of the MDT TDM and distributed to Traffic Analysis Zones (TAZs) for purposes of trip generation and growth forecasting.

US Census

Data from 1970 to 2010 were used to estimate base year conditions for housing and population growth.

Woods and Poole Forecasts

Professionally-produced data analysis models for use in forecasting from W&P were used as another check on growth assumptions. W&P household projections include household, income, and other demographic data.

Regional Economic Models, Inc. (eREMI)

eREMI produced population projections for each of Montana's 56 counties.

Growth Allocation

The growth allocations process was based on two phases, an initial phase, and a later adjustment to account for seasonal swings in households. The initial allocation is based on:

- Existing land use and zoning
- Freight-intensive land uses
- Resort planning
- Transit use

Growth Policies and Planning Documents

The following documents and sources were used to determine allocation of new residents, housing, and jobs:

- Downtown Whitefish Highway Study
- Mountain Climber ridership data
- New elementary school planning
- Highway 93 West Corridor
- Wisconsin Ave Corridor Plan

Allocation Workshop

Workshop members identified the seasonal nature of Whitefish housing and calculated appropriate percentages to reflect these seasonal differences. This adjustment was only applied to housing and not used for job allocation.

Population and Housing

The population and number of housing units for the 2040 future conditions were calculated by growing the 2017 Flathead County population by 1.5 percent per year and applying the 2017 population distribution and occupancy factors. This calculation results in an increase of 35,277 residents and 16,952 housing units in Flathead County. This growth would represent a 41 percent increase in the county's population and housing stock from 2017 to 2040.

Table 2.1: 2040 Population and Housing Projections

	2017 (CALIBRATED MODEL)	2040 (PROJECTION)	NET CHANGE (2017–2040)
Population	8,690	12,329	3,549
Housing Units	5,173	7,286	2,113
Population per Housing Units			1.68

Jobs

The *Downtown Whitefish Highway Study* used the 2019 Woods & Poole (W&P) projected growth rate of 1.54 percent. Applying this growth rate to the model's calibrated 2017 baseline employment numbers resulted in a total of 2,755 new jobs within the Whitefish forecasting area. Outside of the forecasting area, 16,829 new jobs are projected. The percent distribution of retail, service, and basic job classifications was held constant from the 2017 calibrated model for the 2040 projection. Table 2.2 presents employment projections for the year 2040.

Table 2.2: 2040 Employment Projection

	2017 (CALIBRATED MODEL)	2040 (PROJECTION)	NET CHANGE (2017–2040)
Retail	1,391	1,978	587
Service	3,960	5,632	1,672
Basic	1,176	1,672	496
Total	**6,527**	**9,282**	**2,755**

PROJECTED CONDITIONS – AREAWIDE

Areawide analysis of projected conditions was based on outputs from both the 2017 and 2040 E+C models. Modeled volumes for 2040 are the result of adjusting 2017 AADTs based on modeled growth rates between the 2017 and 2040 E+C models. This approach allows for modeled growth rates to apply specifically to recent field counts in the Whitefish Study Area. For both 2017 and 2040 datasets, road segments were clipped to the study area. A total of approximately 166 miles were analyzed for the 2040 model.

Vehicle miles traveled (VMT) and vehicle hours traveled (VHT) were calculated for both the 2017 and 2040 models. Both factors increased at similar rates, with VMT increasing by 36.8% from 223,143 to 305,242. This growth in VMT suggest the amount of vehicle miles traveled in the study area will modestly increase over the life of the plan. VHT increased by 36.7% from 5,805 to 7,937. In addition to growth in VHT and VMT, miles of congested roadways increase by 87% over the life of the current plan. Comparison between 2017 and 2040 VHT and VMT can be seen in Table 2.3.

Table 2.3: VMT and VHT 2017–2040

	2017	2040	% CHANGE
VMT	223,143	305,242	36.8%
VHT	5,805	7,937	36.7%

Of the 166 miles analyzed, 158 were considered to have a LOS of A-C and 8 miles have an LOS of D, E, or F. For purposes of this evaluation, LOS D–F will be considered congesting/congested. Analysis of both existing and projected systems were based upon system designations of NHS, Secondary, and Urban, thus reflecting all functionally classified roadways in the Study Area. The 2040 E+C performance by system can be seen in Table 2.4.

Between 2017 and 2040, the mileage of roads with LOS D–F is projected to increase from 4.7 miles to 8.8 miles. Below a summary of projected traffic trends by road type.

- **NHS:** 34% of the NHS was congested in 2017 and 51% is expected to be congested in 2040. Across the entire system, 87% of congestion occurred on the NHS in 2017. This is expected to decrease to 69% by 2040.
- **Secondary:** In 2017 there was no congestion on the secondary system, and no congestion is expected by 2040.
- **Urban:** 21% of urban roads were congested in 2017 and 49% are expected to be congested in 2040. Across the entire system, 19% of congestion occurred on urban roads in 2017. This is expected to increase to 23% by 2040.

Existing and future LOS mileage are shown in Table 2.4, Figure 2.1 on page 50, and Figure 2.2 on page 51. Simple volume changes from 2017 to 2040 are shown in Figure 2.3 on page 52.

Table 2.4: 2017 and 2040 LOS Mileage

MODEL YEAR			2017	% TOTAL	2040 E+C	% TOTAL
TOTAL SYSTEM	Miles LOS A–C		162.0	97	158.0	95
	Miles LOS D–F		4.7	3	8.8	5
LOS BY SYSTEM	NHS	Miles LOS A–C	7.9	66	5.8	49
		Miles LOS D–F	4.1	34	6.1	51
		Total	**11.9**	**100**	**11.9**	**100**
	Secondary	Miles LOS A–C	5.9	100	5.9	100
		Miles LOS D–F	0	0	0	0
		Total	**5.9**	**100**	**5.9**	**100**
	Urban	Miles LOS A–C	3.3	79	2.1	51
		Miles LOS D–F	0.9	21	2.0	49
		Total	**4.2**	**100**	**4.2**	**100**

PROJECTED INTERSECTION OPERATIONS

Existing traffic operations were evaluated at 15 study intersections using methodologies from the *Highway Capacity Manual.* The intersections were selected based upon the availability of recent turning movement data. Peak hour turning movement counts were sourced from counts provided by MDT and the City of Whitefish.

Traffic operations are described in terms of level of service (LOS), with levels of service ranging from LOS A to LOS F, as described above. The LOS calculations incorporate traffic volumes, intersection geometry, signal timing, and other parameters to estimate the delay per vehicle at the intersection. LOS A indicates near free-flow traffic conditions with little delay and LOS F indicates breakdown of traffic flow with very high amounts of delay. At oversaturated intersections and approaches, the delay may only reflect the vehicles that can be processed in the analysis period and not the total delay for that intersection, thus underreporting the actual delay experienced by drivers.

LOS C or better is considered acceptable. The LOS thresholds for intersection delay are shown in Table 2.5.

Table 2.5: Level of Service Thresholds by Intersection Delay

LEVEL OF SERVICE	AVERAGE DELAY (SECONDS PER VEHICLE)		DESCRIPTION
	UNSIGNALIZED INTERSECTIONS	SIGNALIZED INTERSECTIONS	
A	≤ 10	≤ 10	Near free-flow traffic.
B	> 10 and ≤ 15	> 10 and ≤ 20	Minor delays.
C	> 15 and ≤ 25	> 20 and ≤ 35	Some delays, but not resulting in significant traffic congestion.
D	> 25 and ≤ 35	> 35 and ≤ 55	Delays with some traffic congestion.
E	> 35 and ≤ 50	> 55 and ≤ 80	Significant delays with significant traffic congestion, approaching capacity.
F	> 50	> 80	Breakdown of traffic flow, major traffic congestion.

Figure 2.1: 2040 Level of Service

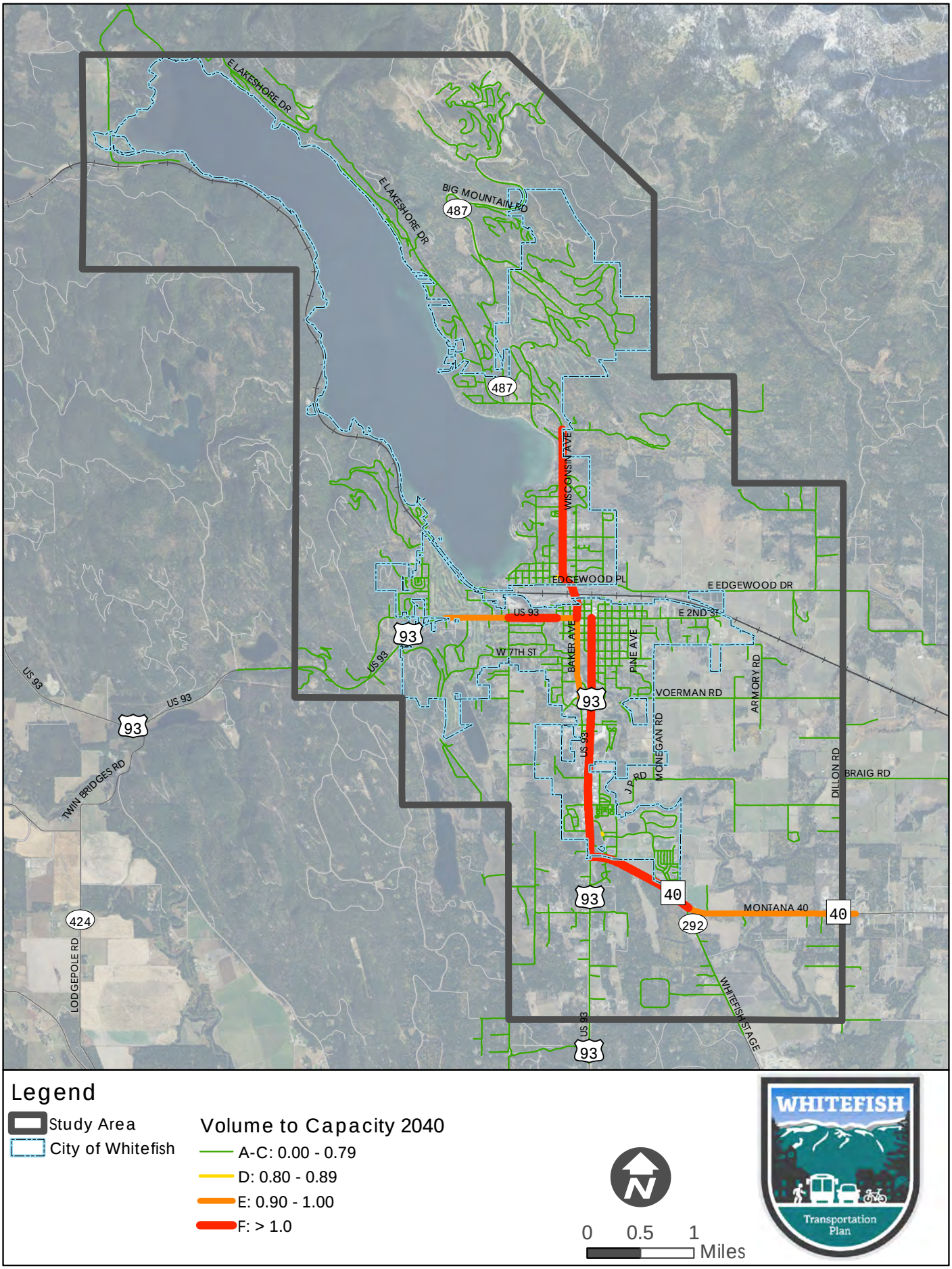


Figure 2.2: 2040 Level of Service (Inset)

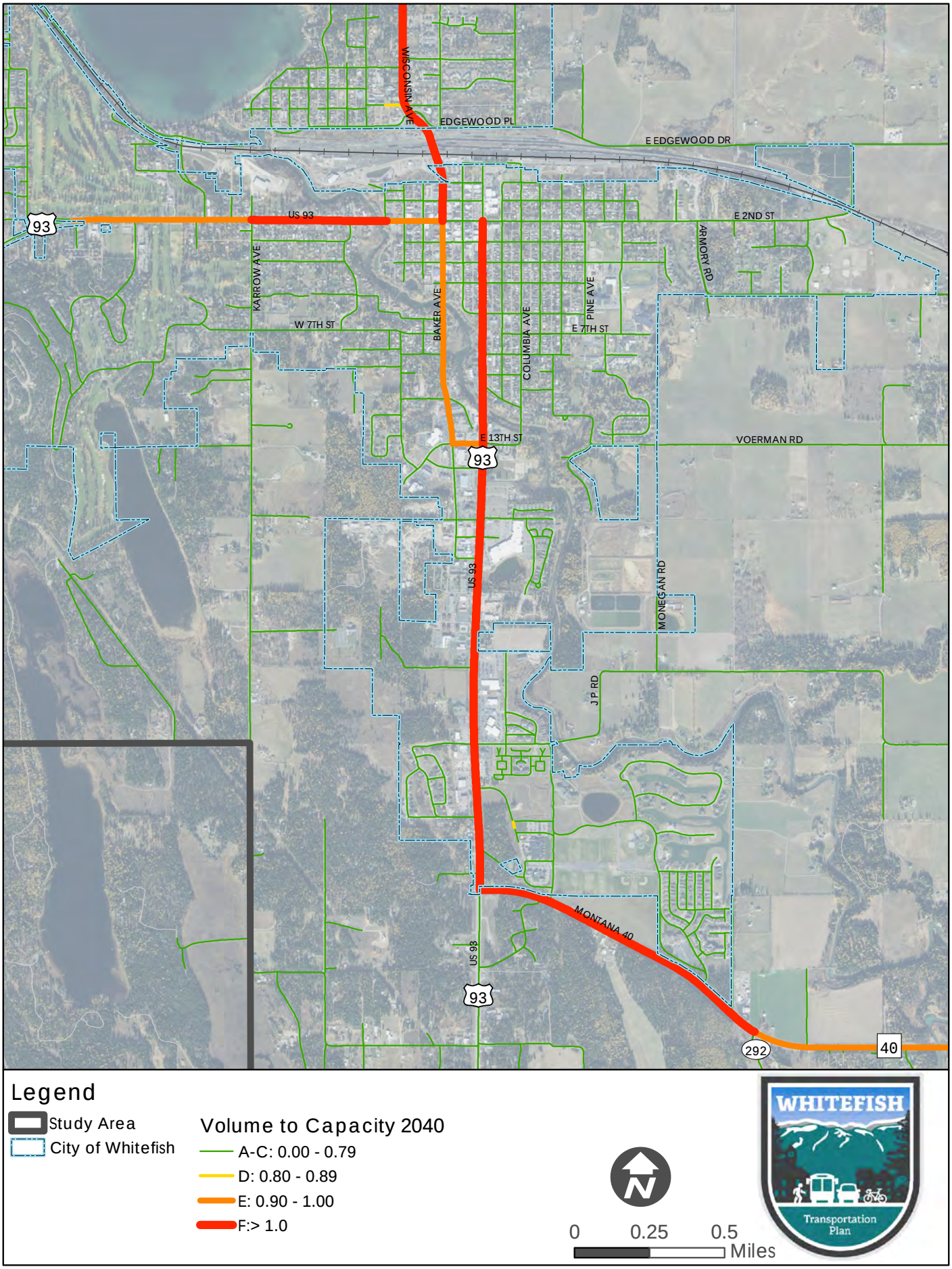
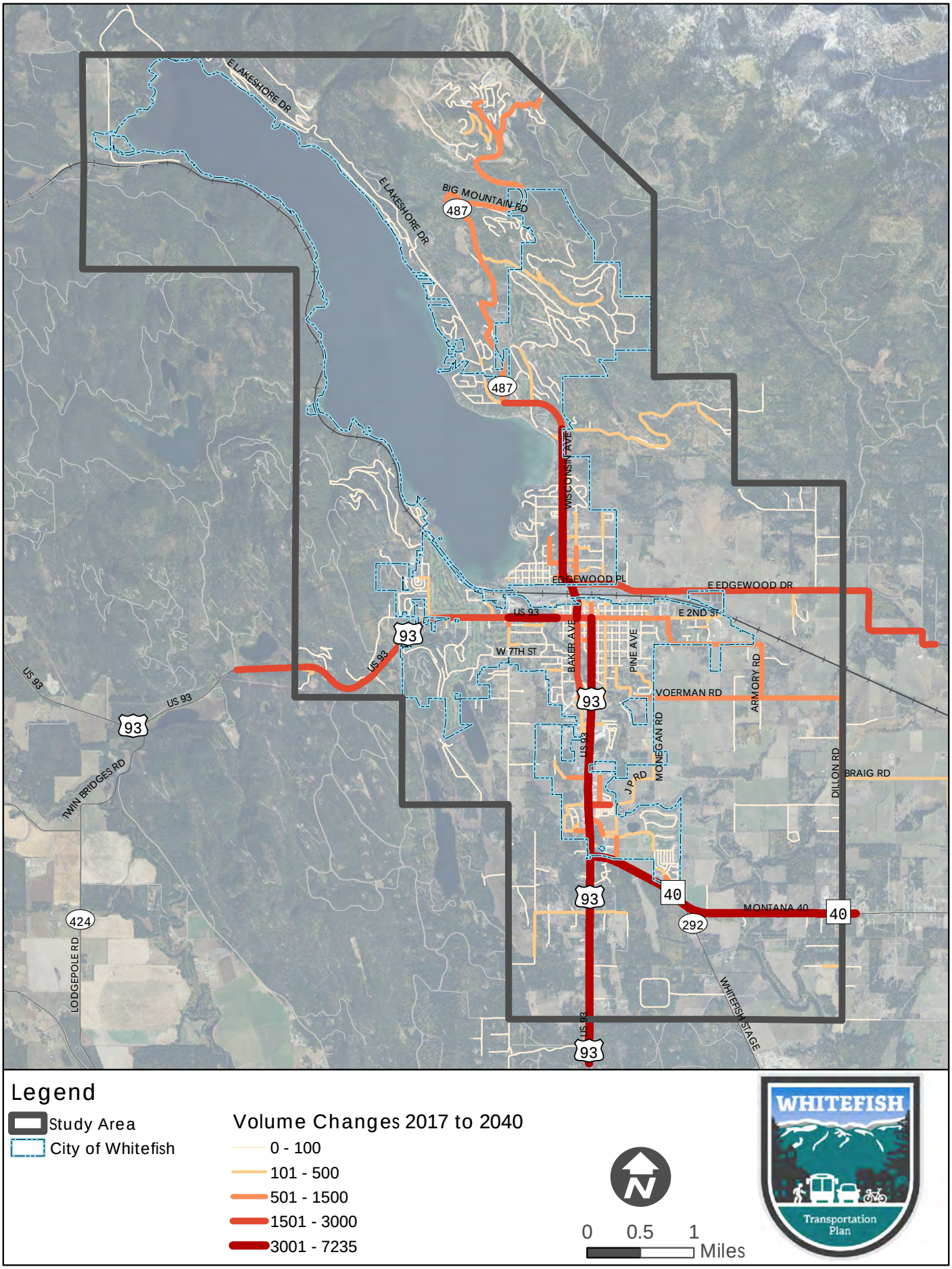


Figure 2.3: Volume Changes 2017–2040



Existing Traffic Operations

Intersection LOS analysis was performed for 15 intersections within the study area based on existing conditions. To estimate 2020 traffic volumes, a constant annual growth rate was calculated using observed traffic counts from 2017 and MDT projections for the year 2040. Most study intersections operate effectively at LOS C or better during both peak hours, as shown in Table 2.6 and Figure 2.4 on page 55. However, there are multiple locations with deficient operations under 2020 conditions:

- US 93 and Pheasant Run operates deficiently during the PM peak hours at LOS F.
- US 93 and Akers Lane operates deficiently during the AM and PM peak hours. During the AM peak, the intersection operates at LOS D, and during the PM peak, the intersection operates at LOS F.
- E 2nd Street and Baker Avenue operates deficiently during the PM peak hours at LOS D.
- Other locations experience acceptable overall intersection levels of service but deficient approach levels of service during one or both peak hours. These include:
  - The westbound approach of US 93 and MT Hwy 40 intersection operates at LOS D during the PM peak.
  - The eastbound approach of US 93 and Park Knoll intersection operates at LOS D during the PM peak.
  - At the intersection of US 93 and 19th Street intersection, the westbound approach operates at LOS F during the AM and PM peak. The eastbound approach operates at LOS E during the PM peak.

Future Traffic Operations

Projections for intersection traffic volumes were made for the 15 intersections. The 2040 projections were based on the average annual growth ratio of 2040 and 2017 travel demand modeled volumes for all links at the study intersection. The growth rate that was determined for a given intersection as a whole was applied to each individual turning movement to represent the projected conditions. The intersection LOS was calculated using the existing street layout, lane-use configuration, and traffic control devices. The results of this analysis are presented in Table 2.7 on page 56 and Figure 2.5 on page 57 for the intersections, respectively.

Most study intersections and their approaches operate effectively at LOS C or better during the peak hours, except for few. These include:

- US 93 and MT Hwy 40 operates at LOS D during the PM peak.
- US 93 and Park Knoll operates at LOS D during the PM peak
- US 93 and Pheasant Run continue to deteriorate and operate at LOS F during the PM peak hour.
- US 93 and Akers Lane continue to deteriorate and operate at LOS F during the AM and PM peak hours.
- Other locations experience acceptable overall intersection levels of service but deficient approach levels of service during one or both peak hours. These include:
  - The eastbound approach of US 93 and Pheasant Run intersection operates at LOS D during the AM peak.
  - The westbound approach of US 93 and Commerce St intersection operates at LOS D during the PM peak.
  - The westbound approach of US 93 and Greenwood Rd intersection operates at LOS D during the PM peak.

Table 2.6: 2020 AM and PM Peak Hour Intersection Level of Service

ID	INTERSECTION	TRAFFIC CONTROL	PEAK	LEVEL OF SERVICE				
				EB	WB	NB	SB	INT
1	US 93 & MT Hwy 40	Signal	AM	C	C	C	A	B
			PM	C	D	C	B	C
2	US 93 & JP Road	Signal	AM	C	B	A	A	A
			PM	C	C	A	A	A
3	US 93 & Park Knoll	TWSC	AM	C	-	A	A	C
			PM	D	-	A	A	C
4	US 93 & Pheasant Run	TWSC	AM	C	B	A	A	C
			PM	**F**	A	A	A	**F**
5	US 93 & Akers Lane	TWSC	AM	**E**	A	A	A	D
			PM	**F**	A	A	A	**F**
6	US 93 & 19th St	TWSC	AM	C	**F**	A	A	B
			PM	**E**	**F**	A	A	C
7	US 93 & Commerce St	Signal	AM	B	C	B	A	B
			PM	C	C	B	A	B
8	US 93 & Greenwood	TWSC	AM	-	C	A	A	B
			PM	-	C	A	A	C
9	US 93 & 15th St	TWSC	AM	B	-	A	A	A
			PM	B	-	A	A	B
10	US 93 & 13th St	Signal	This intersection is being evaluated as part of the Downtown Whitefish Highway Study.					
11	Spokane Ave & E 2nd St	Signal	This intersection is being evaluated as part of the Downtown Whitefish Highway Study.					
12	E 2nd St & Central Ave	Signal	This intersection is being evaluated as part of the Downtown Whitefish Highway Study.					
13	E 2nd St & Baker Ave	Signal	This intersection is being evaluated as part of the Downtown Whitefish Highway Study.					
14	Wisconsin Ave & Edgewood Pl	Signal	AM	A	C	B	A	B
			PM	B	C	B	B	B
15	13th St & Baker Ave	AWSC	This intersection is being evaluated as part of the Downtown Whitefish Highway Study.					
16	Wisconsin Ave & Skyles Pl	TWSC	AM	B	B	A	A	B
			PM	C	C	A	A	C

Figure 2.4: 2020 Intersection Level of Service

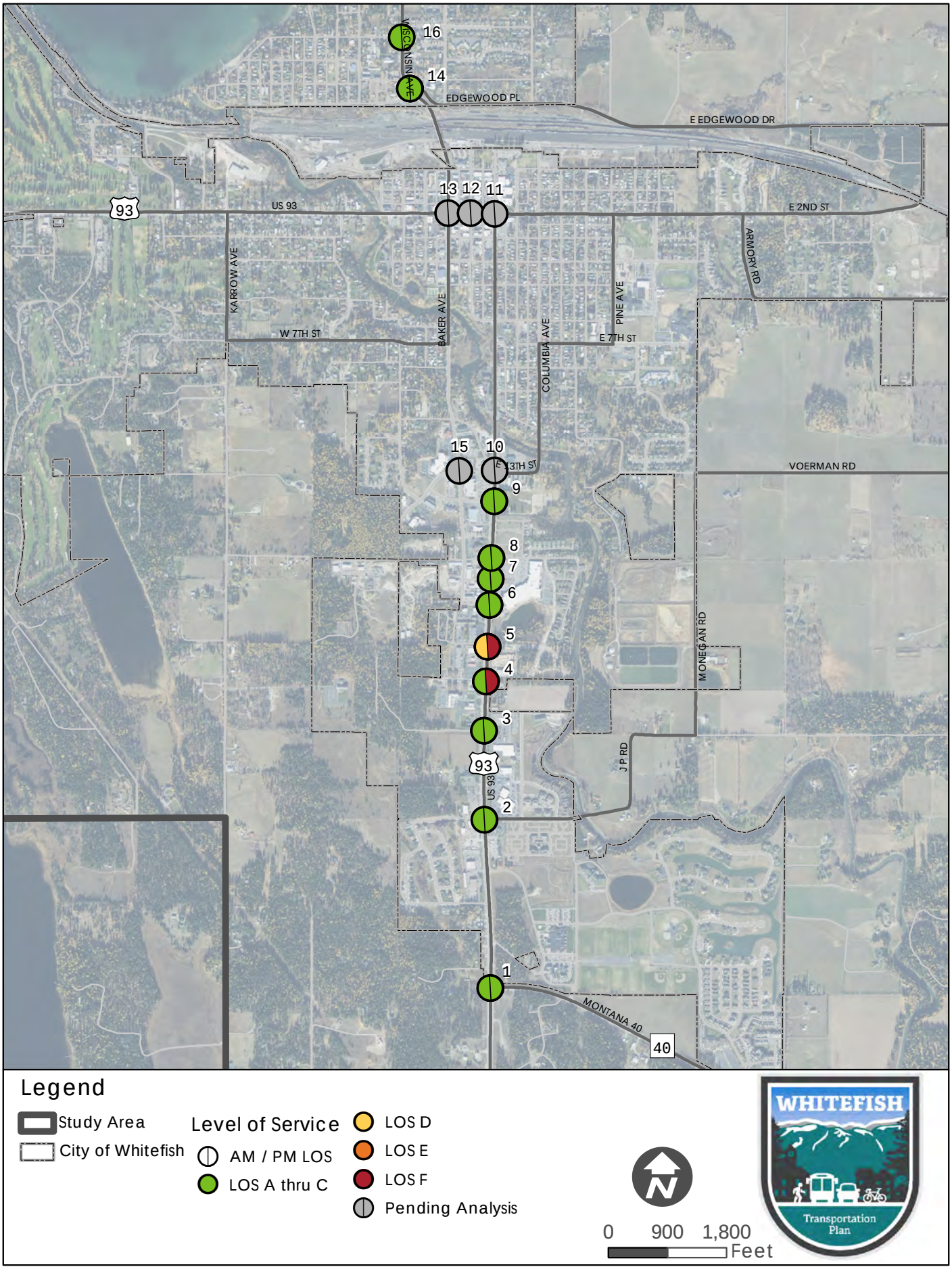
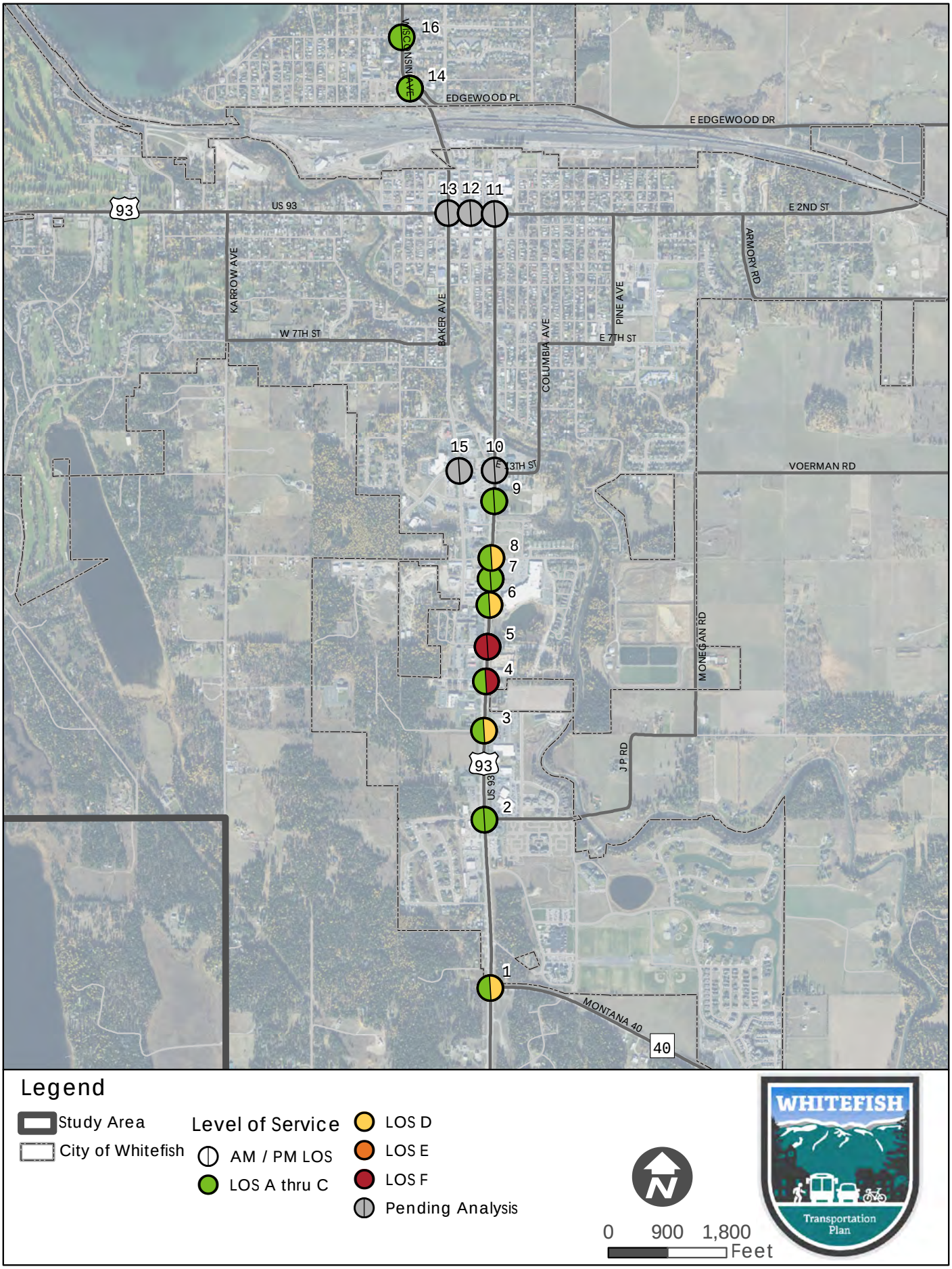


Table 2.7: 2040 AM and PM Peak Hour Intersection Level of Service

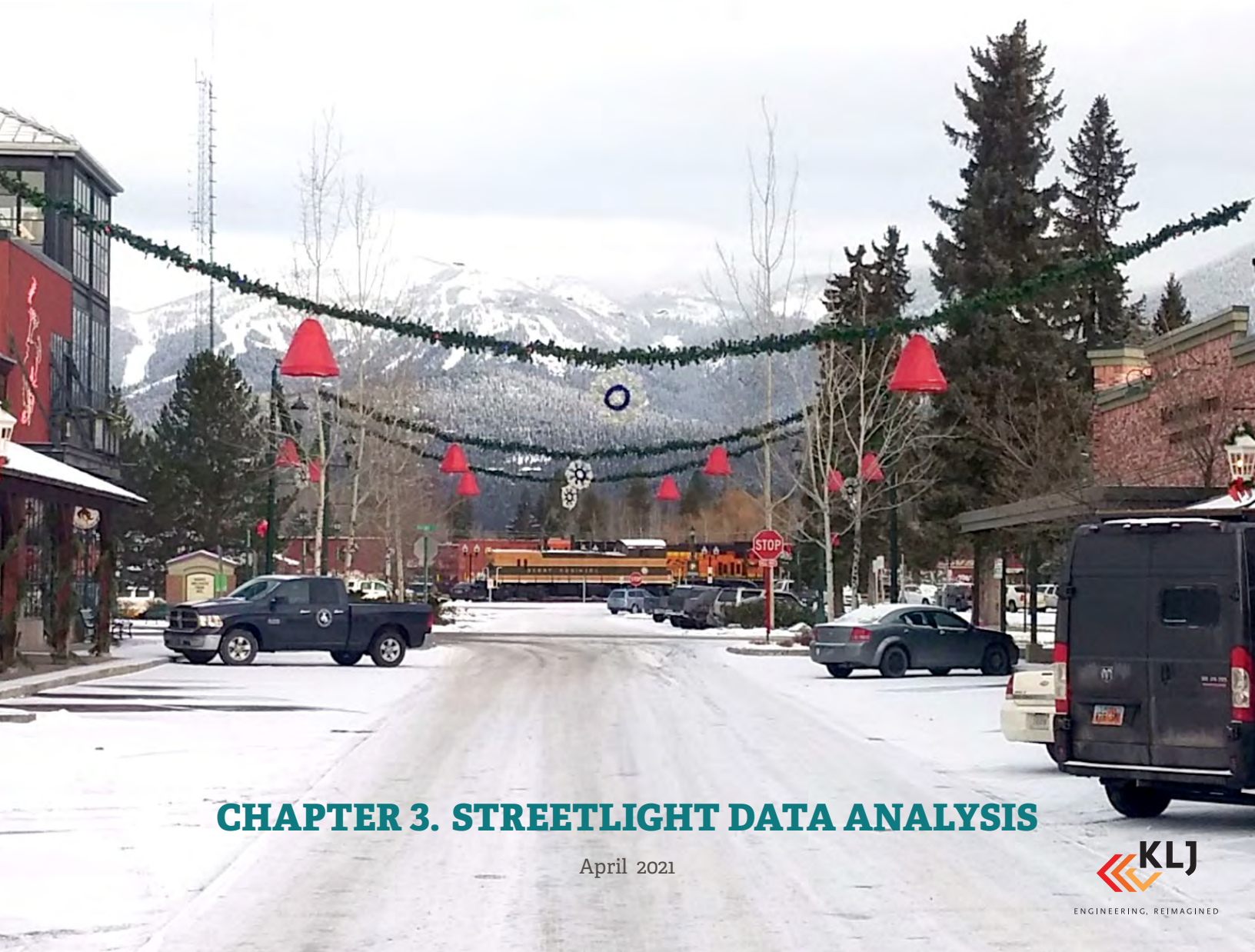
ID	INTERSECTION	TRAFFIC CONTROL	PEAK	LEVEL OF SERVICE				
				EB	WB	NB	SB	INT
1	US 93 & MT Hwy 40	Signal	AM	C	C	C	B	C
			PM	C	D	D	D	D
2	US 93 & JP Road	Signal	AM	C	B	B	A	B
			PM	C	C	C	B	C
3	US 93 & Park Knoll	TWSC	AM	C	-	A	A	B
			PM	E	-	A	A	D
4	US 93 & Pheasant Run	TWSC	AM	D	B	A	A	C
			PM	F	-	A	A	F
5	US 93 & Akers Lan	TWSC	AM	F	F	A	A	F
			PM	F	F	A	A	F
6	US 93 & 19th St	TWSC	AM	C	F	A	A	B
			PM	F	F	A	A	D
7	US 93 & Commerce St	Signal	AM	B	C	C	A	B
			PM	C	D	B	A	B
8	US 93 & Greenwood	TWSC	AM	-	D	A	A	C
			PM	-	F	A	A	D
9	US 93 & 15th St	TWSC	AM	B	-	A	A	B
			PM	C	-	A	A	B
10	US 93 & 13th St	Signal	This intersection is being evaluated as part of the Downtown Whitefish Highway Study.					
11	Spokane Ave & E 2nd St	Signal	This intersection is being evaluated as part of the Downtown Whitefish Highway Study.					
12	E 2nd St & Central Ave	Signal	This intersection is being evaluated as part of the Downtown Whitefish Highway Study.					
13	E 2nd St & Baker Ave	Signal	This intersection is being evaluated as part of the Downtown Whitefish Highway Study.					
14	Wisconsin Ave & Edgewood Pl	Signal	AM	A	C	B	B	B
			PM	B	C	B	B	B
15	13th St & Baker Ave	AWSC	This intersection is being evaluated as part of the Downtown Whitefish Highway Study.					
16	Wisconsin Ave & Skyles Pl	TWSC	AM	B	B	A	A	B
			PM	C	C	A	A	C

Figure 2.5: 2040 Intersection Level of Service



WHITEFISH

Transportation Plan



CHAPTER 3. STREETLIGHT DATA ANALYSIS

April 2021

KLJ

ENGINEERING, REIMAGINED

INTRODUCTION

StreetLight is an on-demand traffic data collection service that was used to better understand 2019 travel patterns in the Flathead Valley. StreetLight uses anonymized location records from smartphones and navigation devices to infer individual trips that took place within a given geographic boundary and during a given time period. To ensure the data are accurate, Streetlight validates their data against census population estimates and traffic counts from permanent loop counters across the county. For this analysis, the Transportation Analysis Zones (TAZs) shown in Figure 3.2 were used to collect StreetLight data for the entire 2019 calendar year. These TAZs are loosely based on TAZs from the MDT's travel demand model for Flathead County.

Data

StreetLight quantifies travel using several different metrics that are referred to throughout this report. Below is an explanation of each metric used.

- **Trip** – A movement made by a person or vehicle that begins at an origin TAZ and ends at a desination TAZ. In general, a trip is determined to have started or ended after a five minute period without movement.
- **Trip Ends** – The number of trips ending in a given TAZ during a given time period.
- **Trip Starts** – The number of trips beginning in a given TAZ during a given time period.
- **Trip Duration** – the average trip time in seconds among all trips that either start or end in a TAZ during a given time period.
- **Trip Speed** – The average speed of a trip in miles per hour among all trips that either start or end in a TAZ during a given time period.
- **Internal/Local Trip** – A trip that starts and ends within the same TAZ or group of TAZs.
- **External Trip** – A trip that ends within a TAZ or group of TAZs of interest, but originates from outside of that TAZ or group of TAZs.

REGIONAL TRAVEL PATTERNS

Among the trips that started within the Flathead Valley, 85 percent ended within the same city that they began (see Figure 3.3 on page 63). In Table 3.1, these are the trips that have the same origin and destination. There were about four times as many local trips in Kalispell as in Whitefish in 2019, and about twice as many trips in Whitefish as in Columbia Falls. In addition to these differences in magnitude, the three cities showed significantly different travel behavior. In 2019, 91 percent of trips originating in Kalispell ended in Kalispell, 74 percent of trip originating in Whitefish ended in Whitefish, and 67 percent of trips originating in Columbia Falls ended in Columbia Falls. In other words, the vast majority of trips within the Flathead Valley were local. This finding emphasizes the importance of connectivity within each of the three cities.

Table 3.1: Regional Trip Volumes (AADT)

		DESTINATION		
		KALISPELL	WHITEFISH	COLUMBIA FALLS
ORIGIN	KALISPELL	131,421	7,567	4,659
	WHITEFISH	7,589	30,449	3,272
	COLUMBIA FALLS	4,479	3,202	15,419

Seasonal Variation

In 2019, there were 30,449 average daily trips that started and ended within the Whitefish Study Area (see Figure 3.2). Figure 3.1 shows how the average daily trips varied throughout the year. On an average day in July, total traffic in the Whitefish TAZ area was 15 percent higher than the yearly average, while in December the average daily traffic was 16 percent lower than the yearly average.

Figure 3.1: Average Daily Trips by Month (Whitefish Study Area)

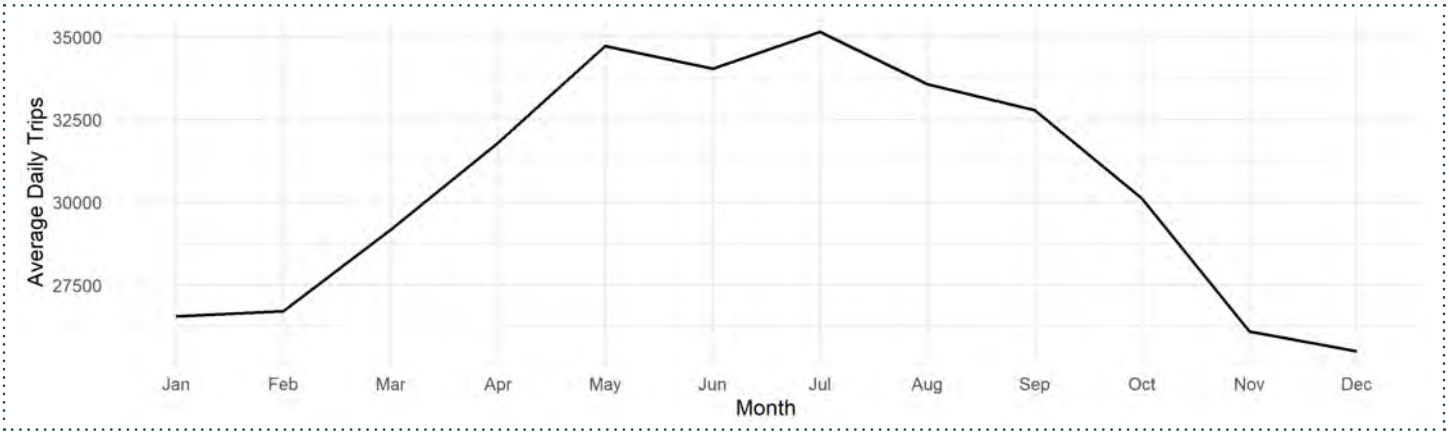


Figure 3.2: Flathead Valley Transportation Analysis Zones

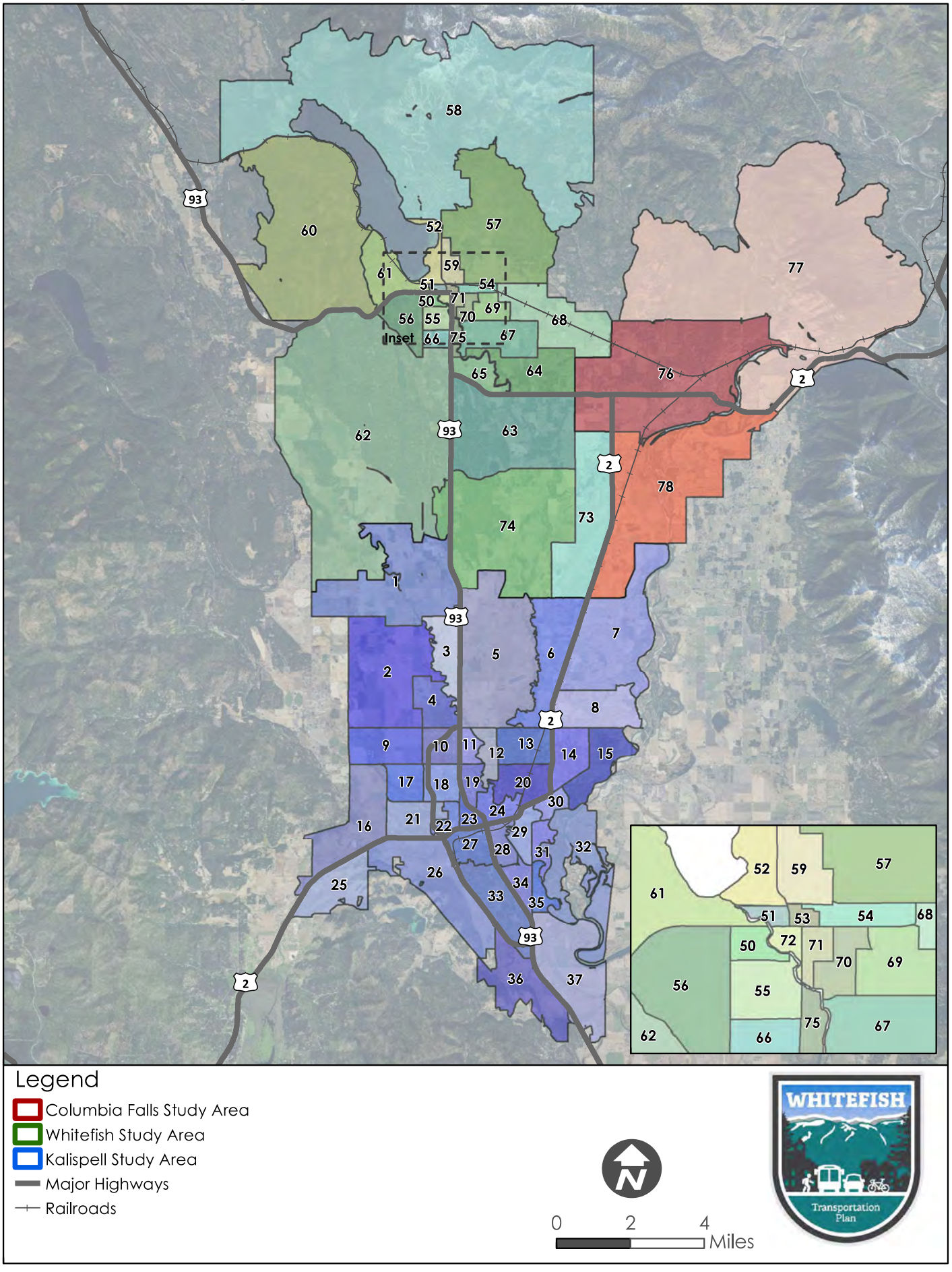
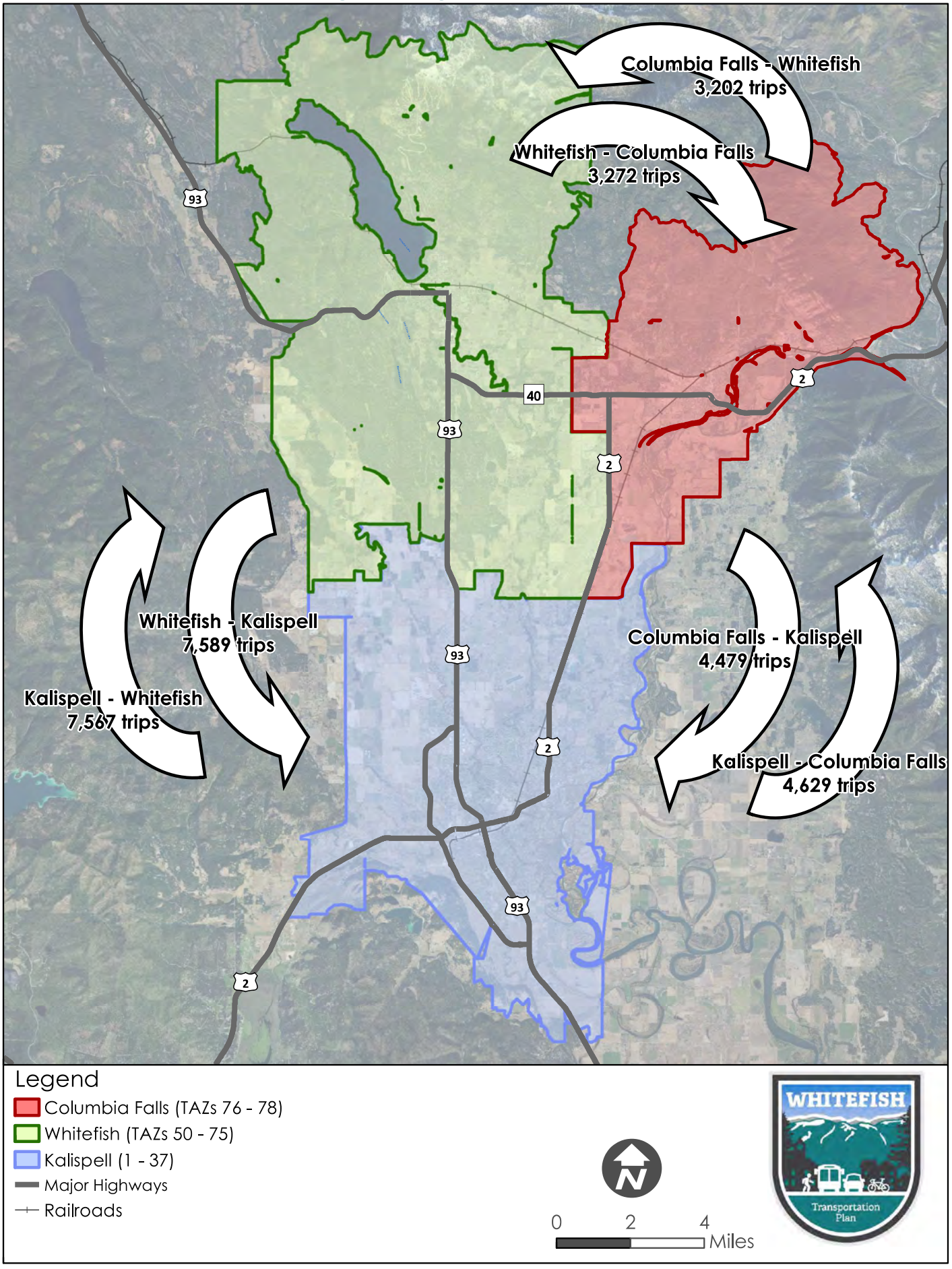


Figure 3.3: Regional Travel Patterns



WHITEFISH INTERNAL MOVEMENT

Pedestrian Trips

While StreetLight data does not measure the percent of traffic by mode, it is possible to estimate pedestrian volumes by speed of travel. For every TAZ, StreetLight reports the percent of traffic traveling between zero and five miles per hour. There are clear limitations to assigning slow travel speeds to pedestrian traffic. For example, vehicles in heavy congestion may move slower than five miles per hour. Table 3.2 shows the origin-destination pairs with the highest counts of slow-moving traffic. While StreetLight does count trips that begin and end within a single TAZ (internal trips), those trips were excluded from this analysis.

Several key findings are shown in Table 3.2. First, TAZ 53 is in all of the top five TAZ pairs for pedestrian traffic, and seven of the top ten. Among these ten TAZ pairs, pedestrian traffic accounts for 52 percent of total traffic on average. The TAZ pair with the lowest percentage of pedestrian trips is 53-75 with only 34 percent of total trips made on foot. Walking between these TAZs requires using US 93. This findng may support the need for improved north-south pedestrian facilities along the highway. A similar trend exists for TAZs north of the railroad tracks (TAZ 52 and TAZ 59). Trips from these TAZs to TAZ 53 are limited to using Baker Avenue, which may explain the below average percent of pedestrian trips. In contrast, TAZ 50 and TAZ 53 offer several pedestrian routes that are primariliy on residential streets and have the highest percentage of trips to TAZ 53 made on foot.

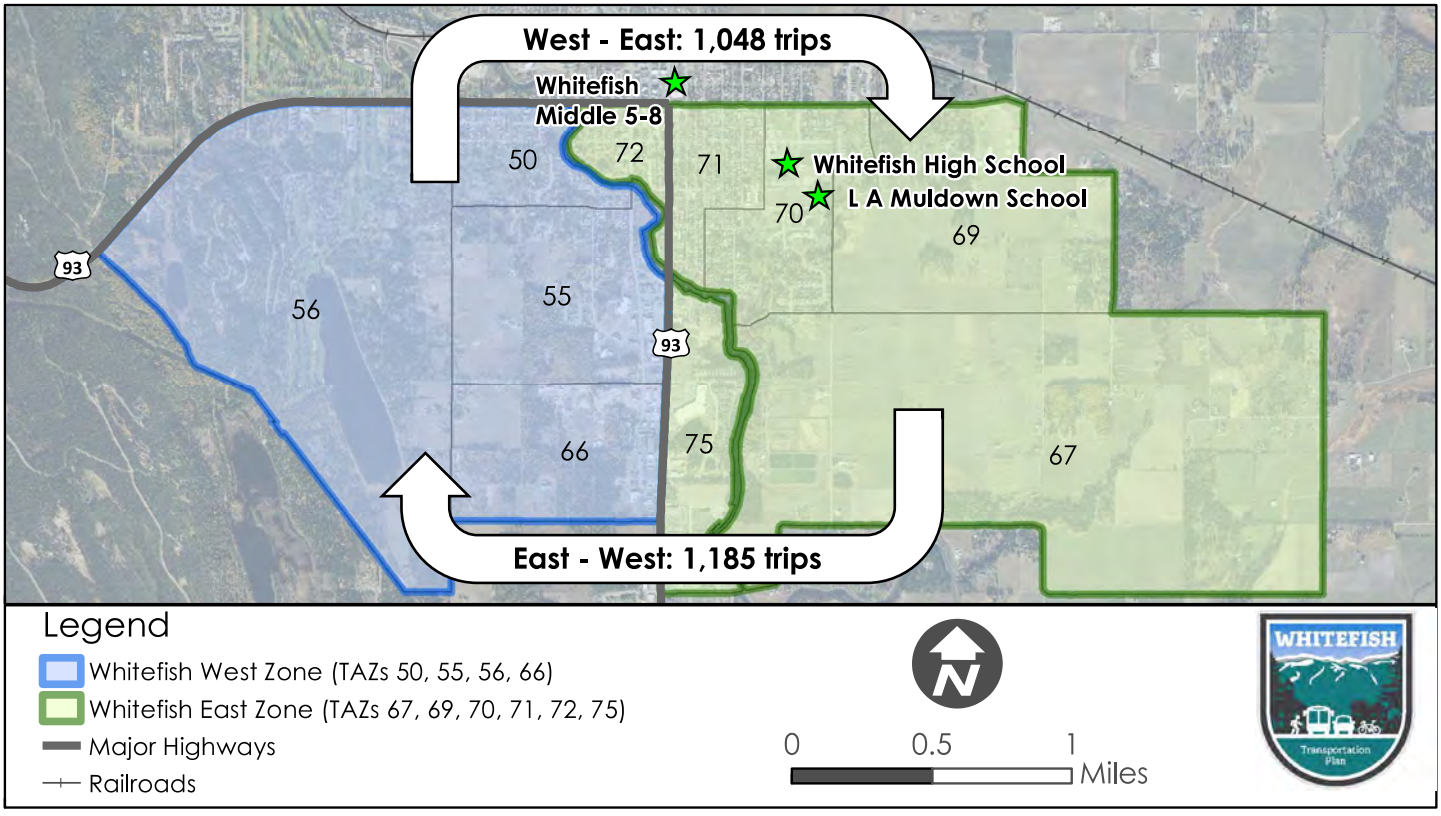
Table 3.2: Pedestrian Trip Patterns

TAZ PAIR	0–5 MPH AVERAGE DAILY TRIPS BETWEEN TAZ PAIR (% OF TOTAL TRIPS)
52-53	213 (42%)
70-53	211 (54%)
59-53	205 (46%)
71-53	184 (70%)
53-55	184 (50%)
72-55	172 (53%)
55-75	152 (58%)
70-55	125 (45%)
53-75	123 (34%)
53-50	114 (66%)

East-West Traffic

The street network in Whitefish is generally oriented towards north-south traffic. Understanding east-west travel patterns, shown in Figure 3.4, will be critical to improving system connectivity. On an average day in 2019, more than 1,000 trips were made between the east and west sides of downtown Whitefish.

Figure 3.4: East-West Trips



Business Core

Five TAZs that contain the majority of commercial activity were analyzed to better understand travel patterns related to businesses in Whitefish. Additionally, three pass through-zones were selected to understand traffic flow through downtown: US 93 South, US 93 West, and Wisconsin Avenue. The locations of these pass-through zones are shown on the map in Figure 3.8. Figure 3.5 shows a matrix of trip volumes between the five TAZs and pass-through zones.

Within the business core, the top origin-destination pair was TAZ 53 and TAZ 55 with about 200 daily trips in each direction. TAZ 55 and TAZ 72 were the next most common origin-destination pair with 200 daily trips from TAZ 72 to TAZ 55, and 135 daily trips from TAZ 55 to TAZ 72.The only other origin-destination pair with greater than 200 average daily trips was TAZ 71 and TAZ 53 (265 total daily trips between the two TAZs).

Figure 3.5: Business Core Origin-Destination Traffic Patterns

Average Daily Trips (2019)		Destination Zone							
		51	53	55	71	72	US 93 S	US 93 W	Wisc. Ave
Origin Zone	51	1	6	72	33	10	286	221	158
	53	7	0	207	122	38	960	461	589
	55	61	166	51	87	135	976	323	362
	71	35	143	101	33	73	485	155	143
	72	13	55	200	70	27	876	341	389
	US 93 S	284	1,180	961	427	647	-	1,032	1,452
	US 93 W	184	512	297	130	327	979	-	500
	Wisc. Ave	177	669	331	123	390	1,403	522	-

Pass-Through Zones

In 2019, 12,527 average daily trips entered Whitefish through one of the three pass-through zones, and ended in downtown Whitefish or exited through a pass-through zone. Figure 3.6 shows the percentage of these trips by origin and destination. 28 percent of these trips entered through US 93 South and ended in downtown, while only 12 percent entered through US 93 West and ended in downtown. In total, 53 percent of trips that entered through a pass-through zone ended in downtown. The remaining 47 percent can be characterized as trips that entered and exited downtown Whitefish without stopping.

Figure 3.6: Percentage of O/D Splits Entering/Exiting Downtown Whitefish

Average Daily Trips (2019)		Destination			
		US 93 S	US 93 W	Wisc. Ave	Downtown
Origin	US 93 S	-	8%	12%	28%
	US 93 W	8%	-	4%	12%
	Wisc. Ave	11%	4%	-	13%

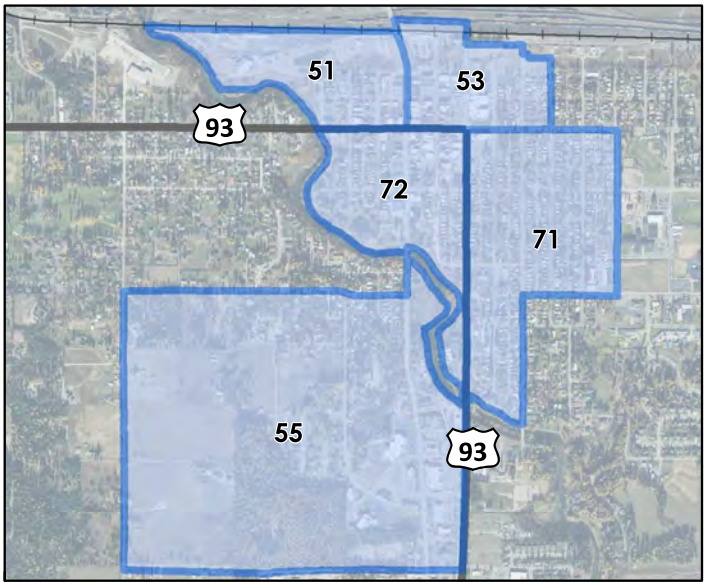
To better understand the composition of traffic at each pass-through zone, Figure 3.7 shows the percentage of trips by destination. US 93 South had about twice as many daily trips as US 93 West (5,983 compared to 2,929). Additionally, 58 percent of trips passing through US 93 South ended in downtown while 50 percent passing through US 93 West ended in downtown. Trips passing through Wisconsin Avenue were slightly more likely to continue to US 93 South or West without stopping than to end in downtown.

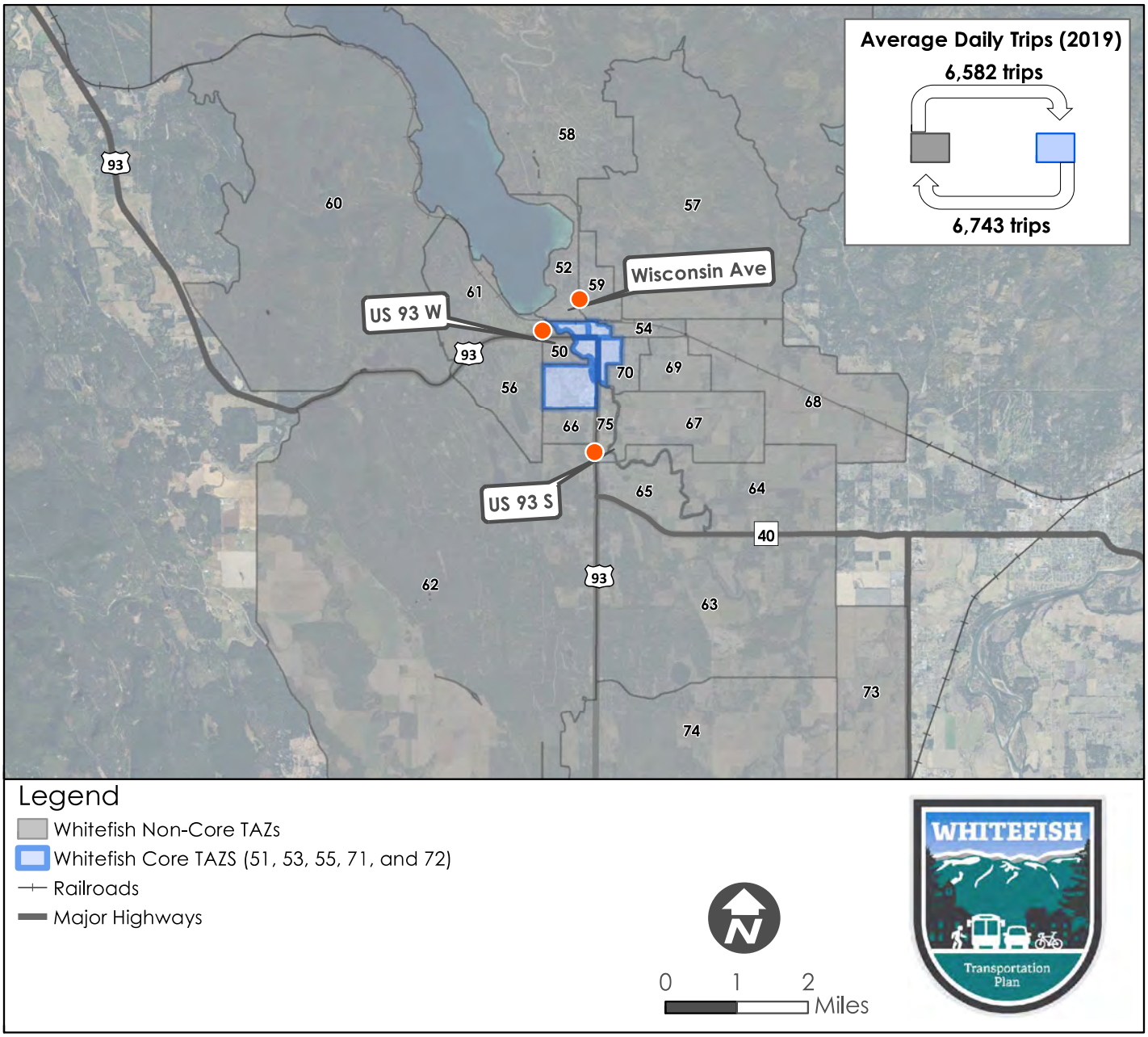
Figure 3.7: O/D Splits for each Pass-Through Zone

Average Daily Trips (2019)		Destination				
		US 93 S	US 93 W	Wisc. Ave	Downtown	Total Trips
Origin	US 93 S	-	17%	24%	58%	**5,983**
	US 93 W	33%	-	17%	50%	**2,929**
	Wisc. Ave	39%	14%	-	47%	**3,615**

Figure 3.8:Downtown Whitefish Travel Patterns

Average Daily Trips (2019)		Destination Zone							
		51	53	55	71	72	US 93 S	US 93 W	Wisc. Ave
Origin Zone	51	1	6	72	33	10	286	221	158
	53	7	0	207	122	38	960	461	589
	55	61	166	51	87	135	976	323	362
	71	35	143	101	33	73	485	155	143
	72	13	55	200	70	27	876	341	389
	US 93 S	284	1,180	961	427	647	-	1,032	1,452
	US 93 W	184	512	297	130	327	979	-	500
	Wisc. Ave	177	669	331	123	390	1,403	522	-



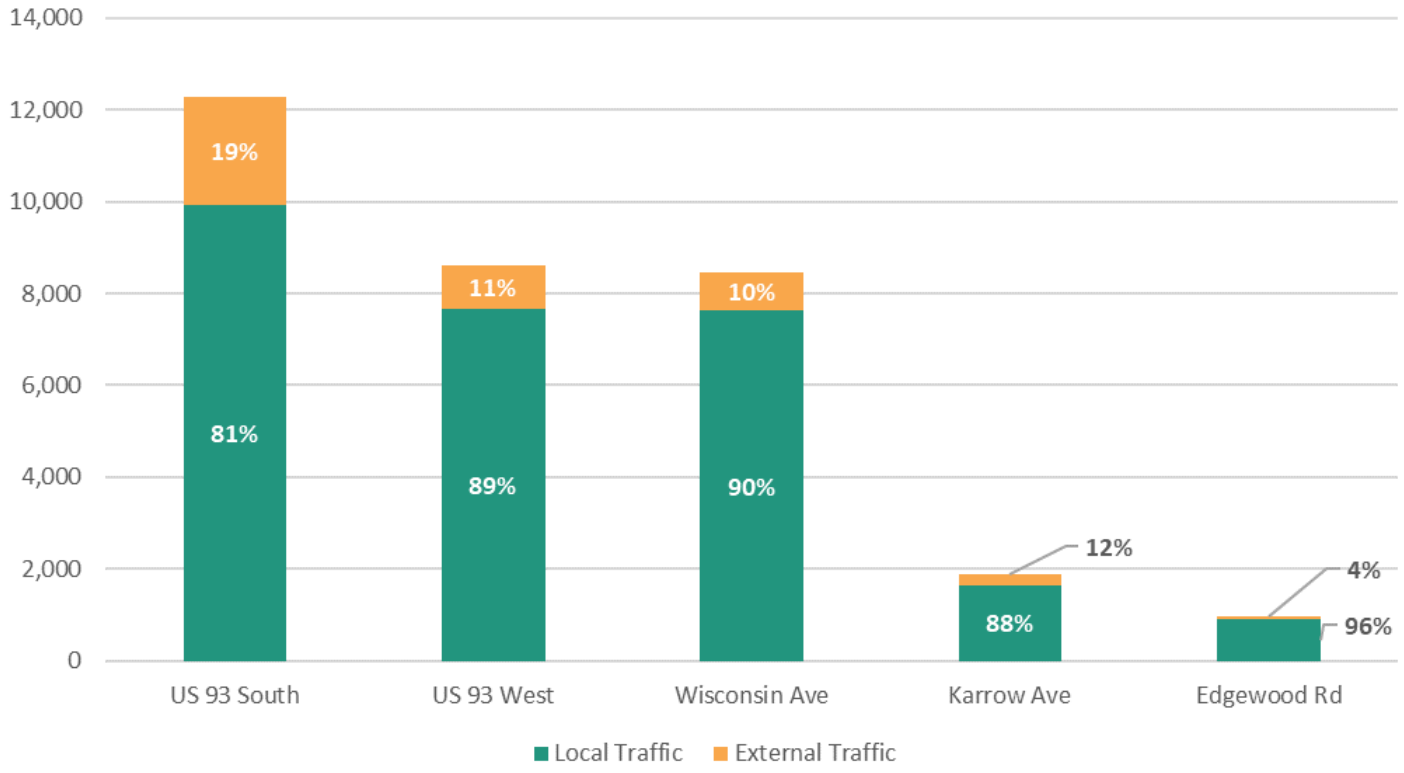


External Traffic Routes

In addition to analyzing pass-through zones within Whitefish, several key routes were analyzed to understand external traffic patterns. Figure 3.9 shows average daily traffic on five segments and the percent of that traffic originating from outside of the Flathead Valley study area. In Figure 3.9, this traffic is shown as external traffic. In contrast, 'Local Traffic' consists of any trips that began in a Flathead Valley TAZ.

The segment with the most total traffic and the most external traffic is US 93 near the 5th Street intersection in downtown Whitefish. In comparison, external traffic on US 93 W near the Karrow Avenue intersection is only 11 percent of total traffic. While Karrow Avenue gives external traffic an opportunity to bypass downtown Whitefish, the percent of external traffic observed on Karrow Avenue is very similar to the comparison segments. Finally, Edgewood Road has a very low percentage of external traffic, indicating that it is primarily used for local trips.

Figure 3.9: Local vs. External Traffic
(Average Daily Traffic)



KEY DESTINATION PROFILES

Big Mountain, TAZ 58

In 2019, March was the busiest month for Big Mountain with an estimated 13,555 average daily trips. Figure 3.12 shows the seasonal changes in traffic volumes and Table 3.3 displays other key diagnostics for travel to and from TAZ 58. Because StreetLight uses mobile phone location data to count pedestrian trips, TAZ 58 had a very large number of pedestrian trips that both started and ended within the TAZ, representing the internal pedestrian traffic happening on the ski slopes. To isolate travel patterns up and down the mountain, internal trips were excluded from the dataset to create Figure 3.11. Finally, Figure 3.10 shows the five zones that generate the most traffic ending in TAZ 58.

Table 3.3: TAZ 58 Trip Diagnostics

Average Daily Trips (2019)	9,920
Peak Month	March (13,555 avg. daily trips)
Off-Peak Month	November (5,570 avg. daily trips)
Peak Arrival Hour	9–10 am (183 avg. trips)
Peak Departure Hour	4–5 pm (246 avg. trips)
Average Trip Length	7.7 miles

Figure 3.10: Top Origins of Trips to TAZ 58

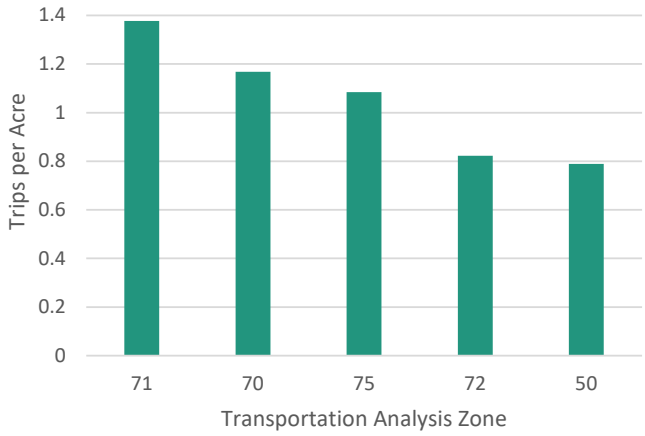


Figure 3.11: Typical Daily Traffic, TAZ 58

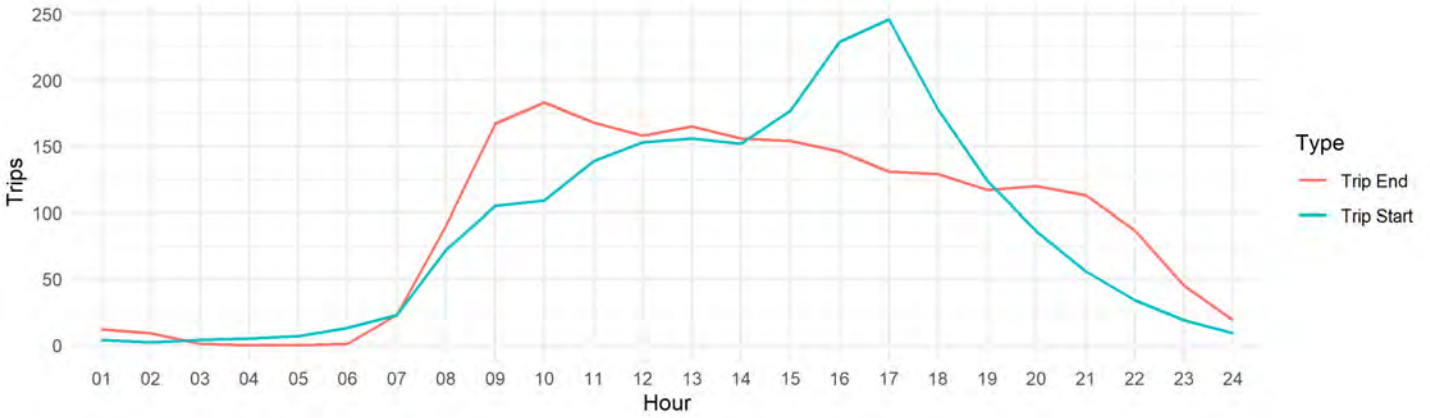
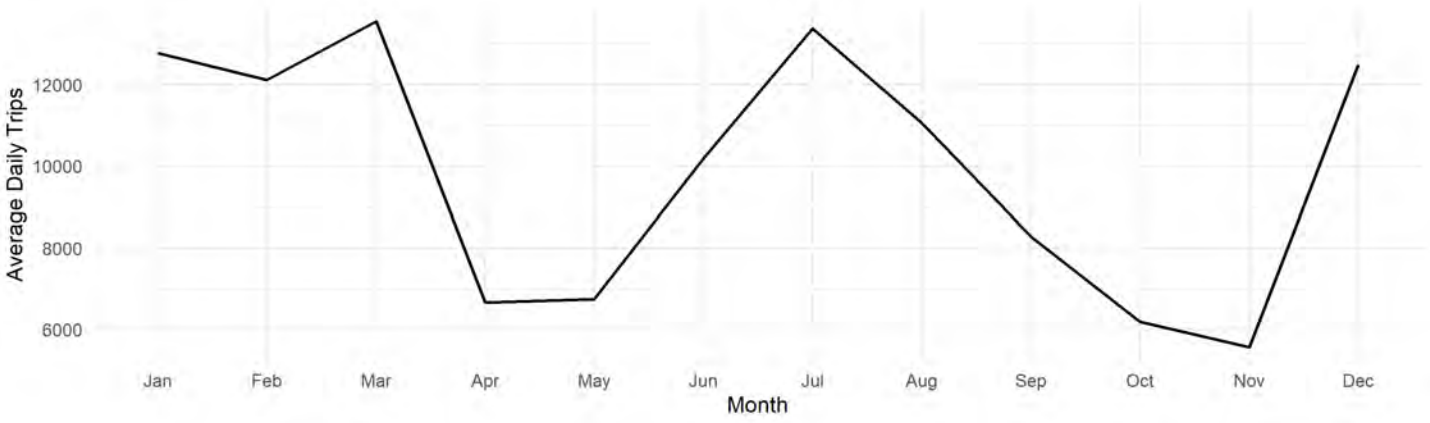


Figure 3.12: Seasonal Traffic Changes, TAZ 58



Schools, TAZ 70

TAZ 70 contains both Whitefish High School and Muldown Elementary School. These destinations are responsible for the dramatic swings in traffic to and from the TAZ throughout the year, as shown in Figure 3.15. Table 3.4 displays key travel diagnostics for the TAZ, and Figure 3.13 shows the five TAZs that generate the most traffic ending in TAZ 70. Figure 3.14 shows travel patterns to and from TAZ 70 throughout the day, excluding trips that both started and ended in TAZ 70 (internal trips).

Table 3.4: TAZ 70 Trip Diagnostics

Average Daily Trips (2019)	4,985
Peak Month	April (6,666 avg. daily trips)
Off-Peak Month	July (3,237 avg. daily trips)
Peak Arrival Hour	8–9 am (222 avg. trips)
Peak Departure Hour	3–4 pm (382 avg. trips)
Average Trip Length	6.1 miles

Figure 3.13: Top Origins of Trips to TAZ 70

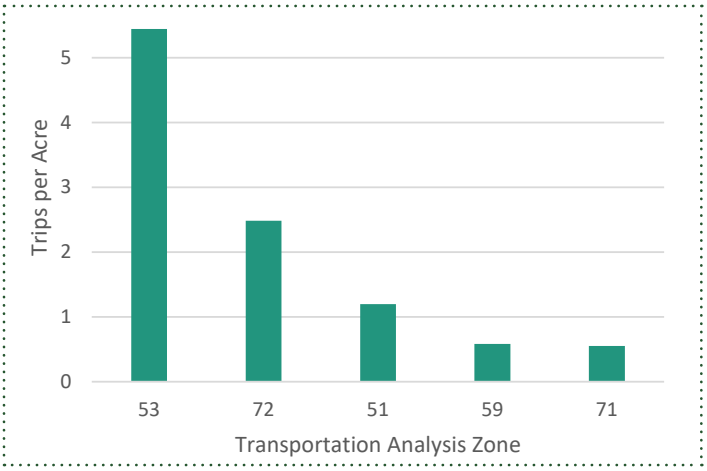
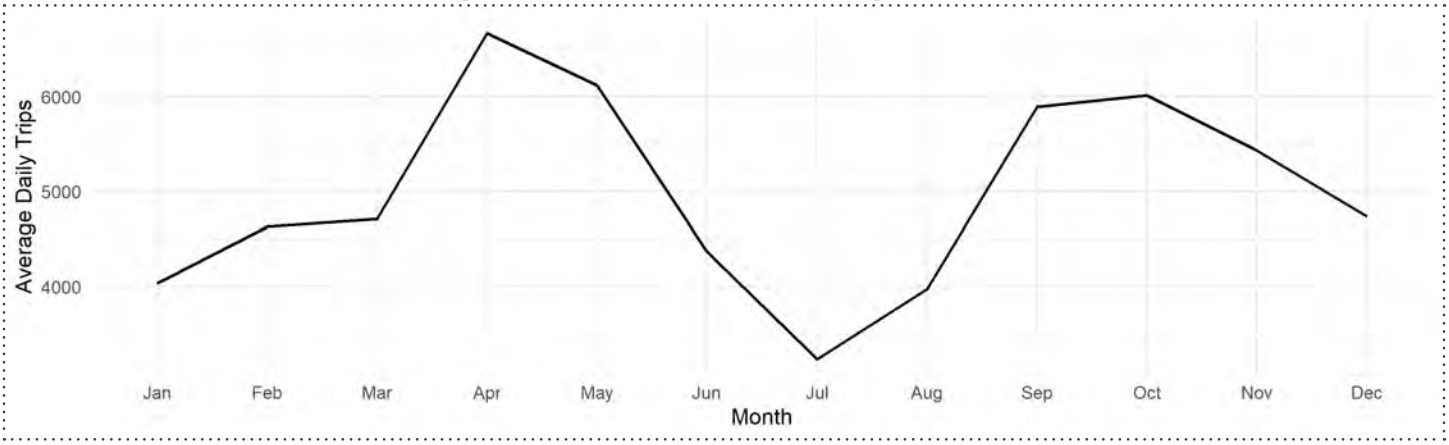


Figure 3.14: Typical Daily Traffic, TAZ 70

Figure 3.15: Seasonal Traffic Changes, TAZ 70



City Beach, TAZ 53

TAZ 53 contains the city beach as well as many rental properties. Table 3.5 shows key travel diagnostics for travel to and from TAZ 53. As shown in Figure 3.18, TAZ 53 has a sustained traffic peak between June and October, peaking in July with 11,360 average daily trips. Figure 3.16 shows the five TAZs that generate the most traffic ending in TAZ 53. Figure 3.17 shows travel patterns to and from TAZ 53 throughout the day, excluding trips that both started and ended in TAZ 53 (internal trips).

Table 3.5: TAZ 53 Trip Diagnostics

Average Daily Trips (2019)	9,325
Peak Month	July (11,360 avg. daily trips)
Off-Peak Month	January (7,394 avg. daily trips)
Peak Arrival Hour	5–6 pm (352 avg. trips)
Peak Departure Hour	3–4 pm (334 avg. trips)
Average Trip Length	6.9 miles

Figure 3.16: Top Origins of Trips to TAZ 53

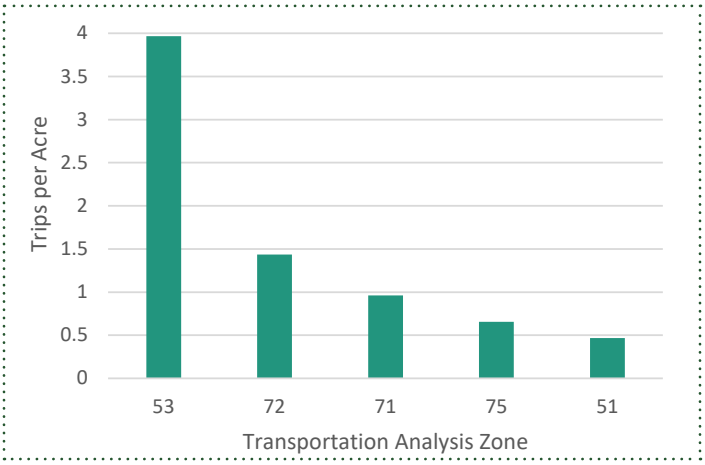
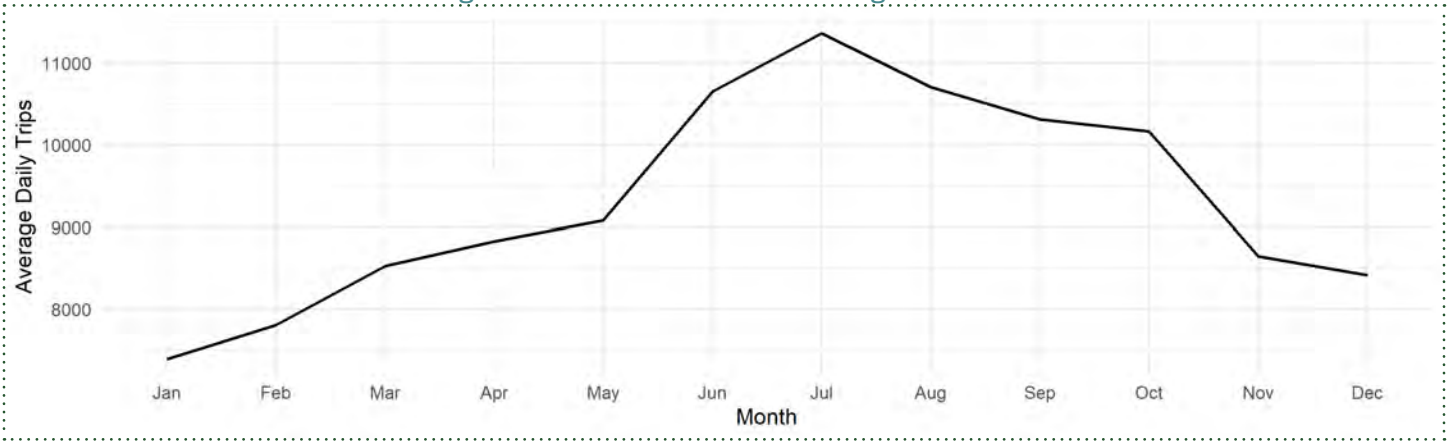


Figure 3.17: Typical Daily Traffic, TAZ 53

Figure 3.18: Seasonal Traffic Changes, TAZ 53



Glacier Park International Airport, TAZ 73

Glacier Park International Airport sits in TAZ 73, which had 9,909 average daily trips in 2019. Table 3.6 shows the seasonal peak for average daily trips was in July while February saw the lowest average daily trips during the year. To isolate travel patterns to and from the airport, trips that both started and ended in TAZ 73 (internal trips) were excluded from the dataset to create Figure 3.20. Figure 3.19 shows the five zones that generate the most traffic ending in TAZ 73 and Figure 3.21 shows the average traffic volumes throughout the year.

Table 3.6: TAZ 73 Trip Diagnostics

Average Daily Trips (2019)	9,909
Peak Month	July (12,580 avg. daily trips)
Off-Peak Month	February (8,258 avg. daily trips)
Peak Arrival Hour	10–11 am (190 avg. trips)
Peak Departure Hour	12–1 pm (272 avg. trips)
Average Trip Length	11.4 miles

Figure 3.19: Top Origins of Trips to TAZ 73

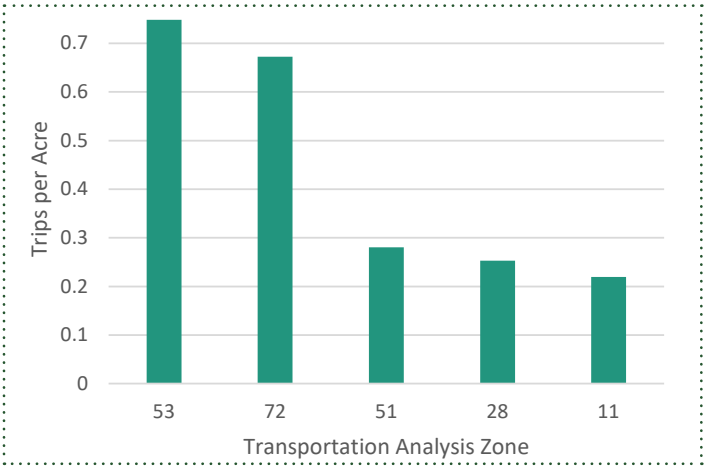
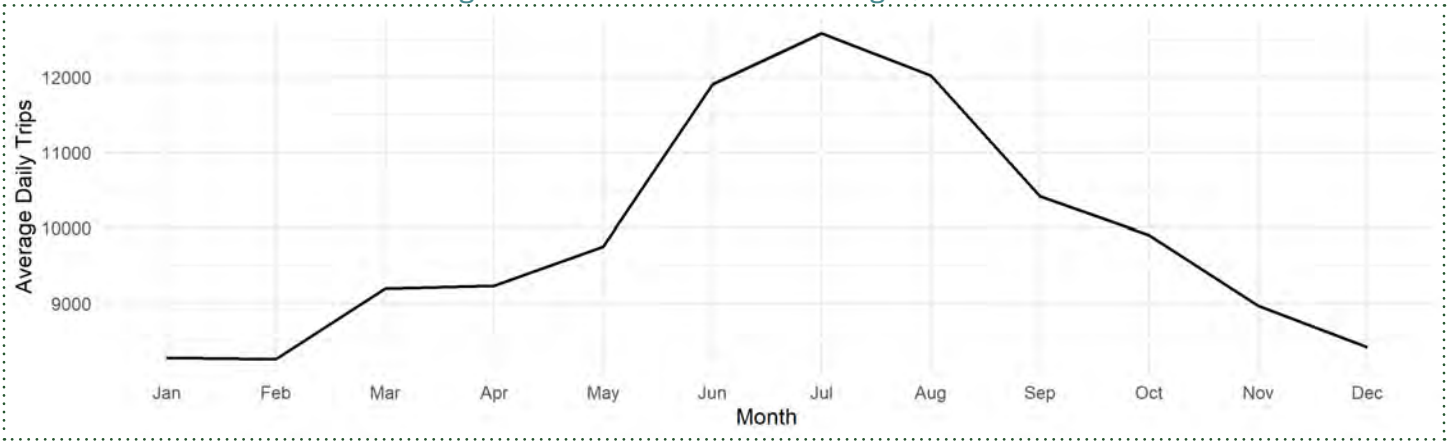


Figure 3.20: Typical Daily Traffic, TAZ 73

Figure 3.21: Seasonal Traffic Changes, TAZ 73



CORRIDOR COMPARISONS

In addition to measuring traffic by zone, StreetLight can capture traffic data on road segments. Several key segments were identifed in and around Whitefish to better understand traffic routing in the region. For each segment, StreetLight records the following metrics:

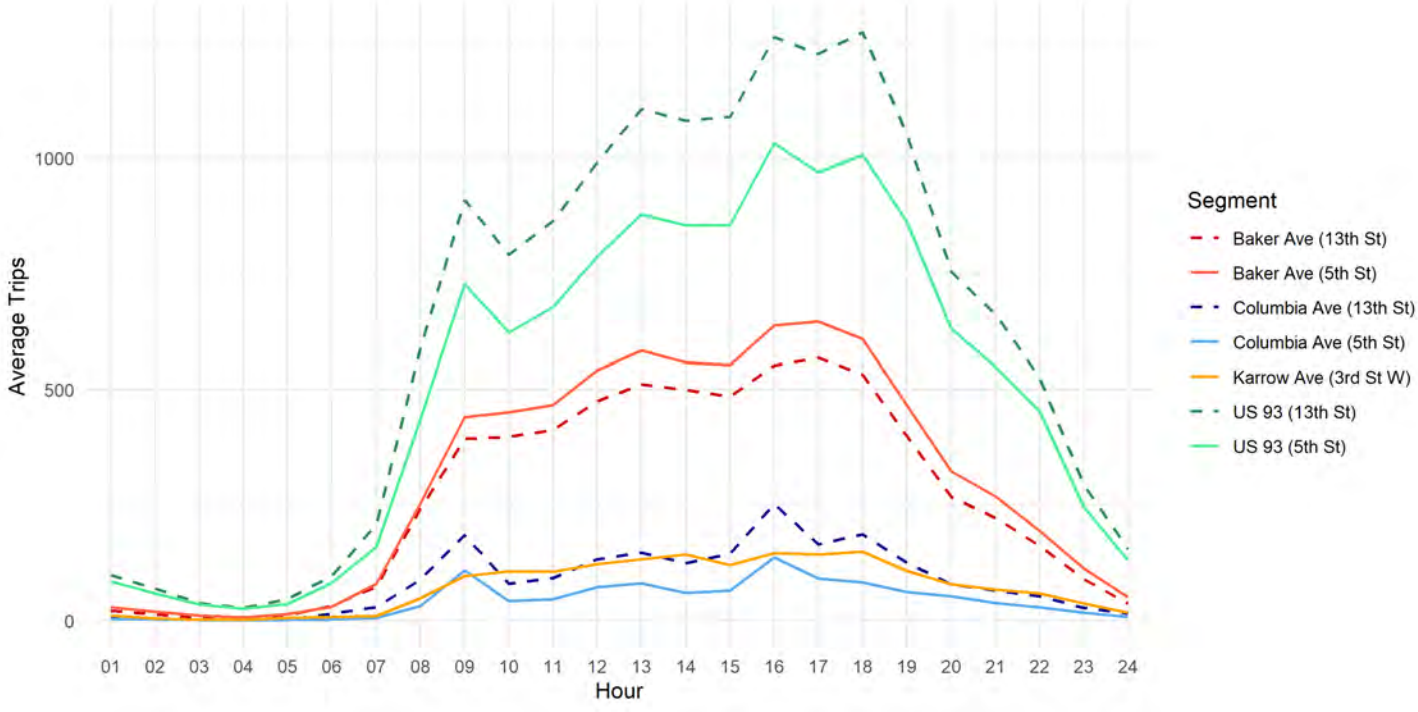
- **Average Speed** – The average travel speed in miles per hour among all traffic on a given road segment.
- **O-D Pair Volume** – The number of trips that passed through a given road segment to travel between a given origin-destination (O-D) pair.

Traffic Through Downtown Whitefish

Four major corridors were chosen to compare routing through downtown Whitefish: US 93, Baker Avenue, Columbia Avenue, and Karrow Avenue. Excluding Karrow Avenue, StreetLight segments were placed on each corridor at 5th Street and 13th Street (shown in Figure 3.23). Figure 3.22 shows the traffic along the major corridors for each hour of the day averaged over every day in 2019. The distribution of north-south traffic through downtown Whitefish is highly unbalanced and heavily concentrated on US 93. For example, US 93 typically has 95 percent more traffic than Baker Avenue between 7 pm and 8 pm. During the peak hours, traffic becomes slightly more balanced between the corridors. Between 8 am and 9 am, US 93 typically carries 65 percent more traffic than Baker Avenue.

Figure 3.23: Downtown StreetLight Segments

Figure 3.22: Average Daily Traffic on Major Downtown Corridors



The average speed on each of these corridors, both at 5th Street and 13th Street, is shown in Table 3.7. Compared to the average speed across all hours of the day, the average speed at the busiest hour of the day, 3 to 4 pm, is only marginally slower. The most extreme difference occurs on Columbia Avenue at 13th Street, where traffic moves 24 percent slower between 3 and 4 pm compared to the all day average.

There appears to be little correlation between traffic volumes on the study segments and average speed. While traffic volumes change signficantly throughout the day on US 93 and Baker Avenue, travel speeds change minimally. Conversely, Columbia Avenue has relatively consistent traffic volumes throuhgout the day but exhibits the largest swings in average travel speed among all study segments.

Table 3.7: Average Speed on Major Downtown Corridors

SEGMENT	AVG. SPEED, ALL DAY	AVG. SPEED, 3–4 PM
Baker Avenue (5th St)	21 mph	20 mph (-5%)
Baker Avenue (13th St)	18 mph	17 mph (-6%)
Columbia Ave (5th St)	16 mph	16 mph (0%)
Columbia Ave (13th St)	21 mph	16 mph (-24%)
Karrow Ave (3rd St W)	22 mph	20 mph (-9%)
US 93 (5th St)	32 mph	30 mph (-6%)
US 93 (13th St)	26 mph	23 mph (-12%)

Table 3.8 shows the top five TAZs pairs for each study segment at the 5th Street Crossing. The average daily trips reported includes traffic in both directions between the two TAZs.

Table 3.8: Top O-D Pairs, Downtown Corridors

TAZ PAIR	AVERAGE DAILY TRIPS BETWEEN TAZS
Top 5 O-D Pairs that used Baker Ave (5th St)	
55-59	277
55-58	249
52-55	231
55-72	194
53-55	187
Top 5 O-D Pairs that used Columbia Ave (5th St)	
53-71	53
55-70	47
70-71	31
14-70	30
53-70	30
Top 5 O-D Pairs that used US 93 (5th St)	
53-66	206
53-55	169
53-65	145
53-63	127
10-53	97

PARK-AND-RIDE ANALYSIS

The addition of park-and-ride facilities on US 93 coming into downtown Whitefish have been discussed in the past. Using StreetLight data, traffic volumes passing through US 93 W near Karrow Avenue and US 93 S near J P Road may shed some light on commuter trends into downtown. Figure 3.24 shows the location of these traffic counting locations as well as the candidate park-and-ride locations. Figure 3.25 shows the average daily volumes on each segment for each hour of the day. Both segments have an AM Peak between 8 and 9 am, and a PM peak between 5 and 6 pm. While the AM peak appears to generally be confined to one hour, the PM peak is sustained between 4 pm and 6 pm. Additionally, US 93 S sees about twice as much traffic during peak hours. Figure 3.26 shows the top destination TAZs for traffic using US 93 W and US 93 S. In all downtown Whitefish TAZs, the vast majority of traffic comes from US 93 S.

Table 3.9 shows the top five origin and destination pairs of vehicles passing through US 93 S between 8 and 9 am. While the origins are dispersed, the destinations are highly concentrated in downtown, particularly TAZ 53 and TAZ 70.

Table 3.9: Top O-D Pairs using US 93 S (near J P Road), Weekday AM Peak

TAZ PAIR	AVERAGE DAILY TRIPS BETWEEN TAZ PAIR (8 AM-9 AM)
62-70	39
72-76	30
63-70	25
53-65	23
55-76	21

Table 3.10 shows the top five origin-destination pairs for vehicles passing through US 93 W between 8 and 9 am. This time, the trend reverses. Only two origin TAZs are represented while the destinations of these trips are more dispersed. Still, the destination TAZs are mostly concentrated in downtown Whitefish.

Table 3.10: Top O-D Pairs using US 93 W (near Karrow Ave), Weekday AM Peak

TAZ PAIR	AVERAGE DAILY TRIPS BETWEEN TAZ PAIR (8 AM-9 AM)
60-70	37
53-61	31
61-65	26
61-72	26
61-65	26

Figure 3.24: Park-and-Ride Candidate Locations

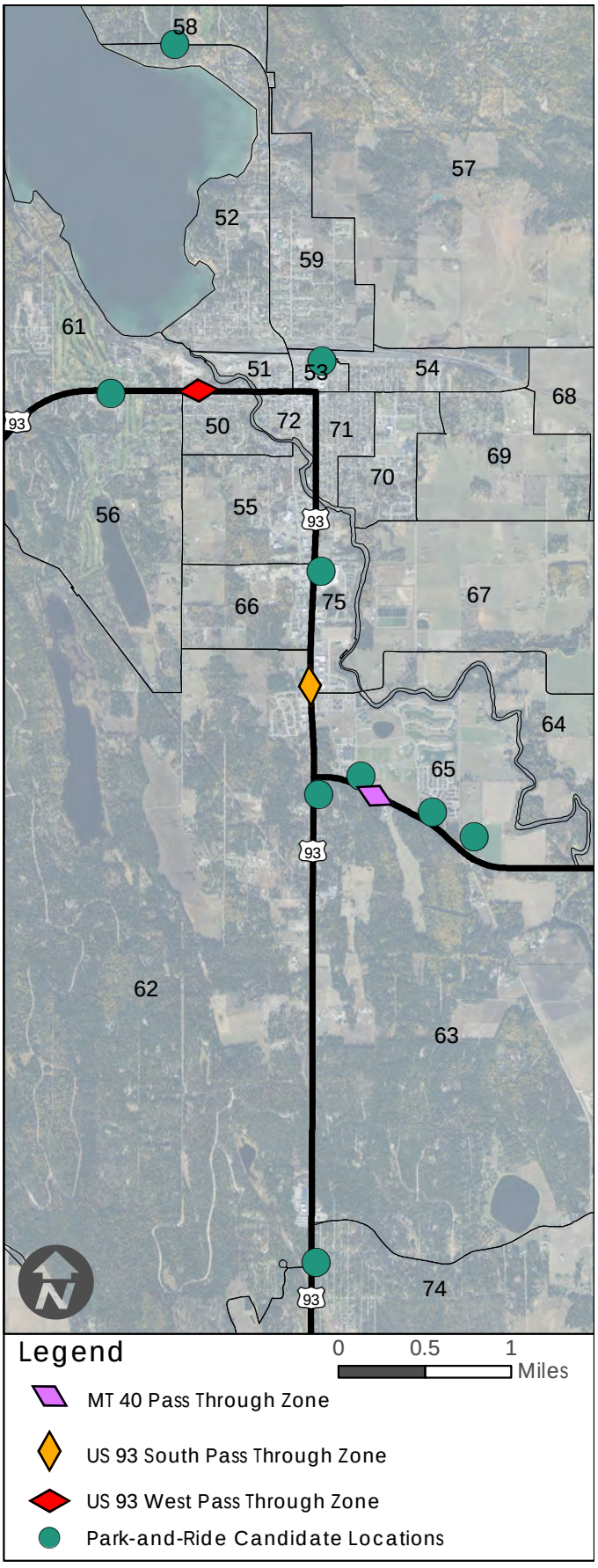
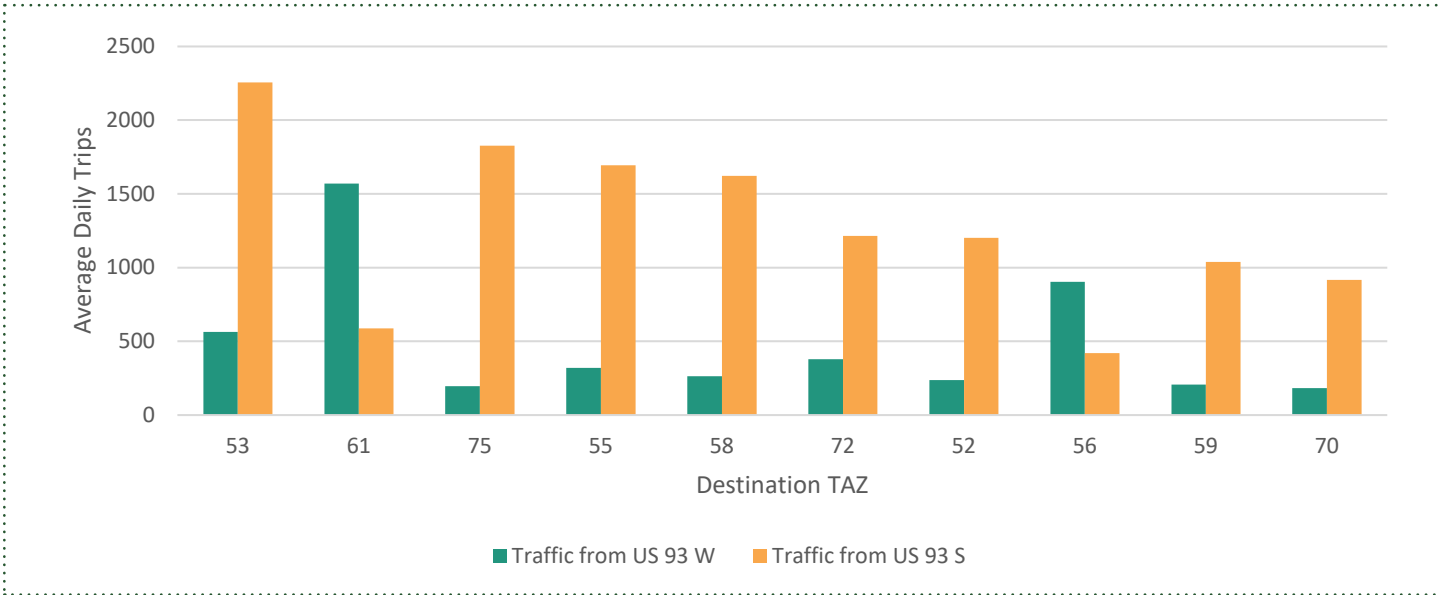


Figure 3.25: Typical Daily Traffic on Park-and-Ride Corridors

Figure 3.26: Top Destinations for Traffic on US 93 W and US 93 S



WHITEFISH

Transportation Plan

CHAPTER 4. PROJECT DEVELOPMENT AND IDENTIFICATION

April 2021

KLJ

ENGINEERING, REIMAGINED

INTRODUCTION

The project identification process was used to define two categories of projects: ***Transportation System Management (TSM)*** and ***Major Street Network (MSN)***. This process is described below.

Project Identification Process

1. A review of previous transportation plans was completed, and recommended projects were carried forward for consideration within the Whitefish Transportation Plan. Projects that have already been completed were removed from the list of candidate projects.
2. Results of the safety and operational analyses conducted during the planning process were reviewed. This allowed the team to assess previously identified projects against current data, and identify any new project needs.
3. New and previously identified projects were considered based on projected conditions within the study area, including areas of problematic congestion.

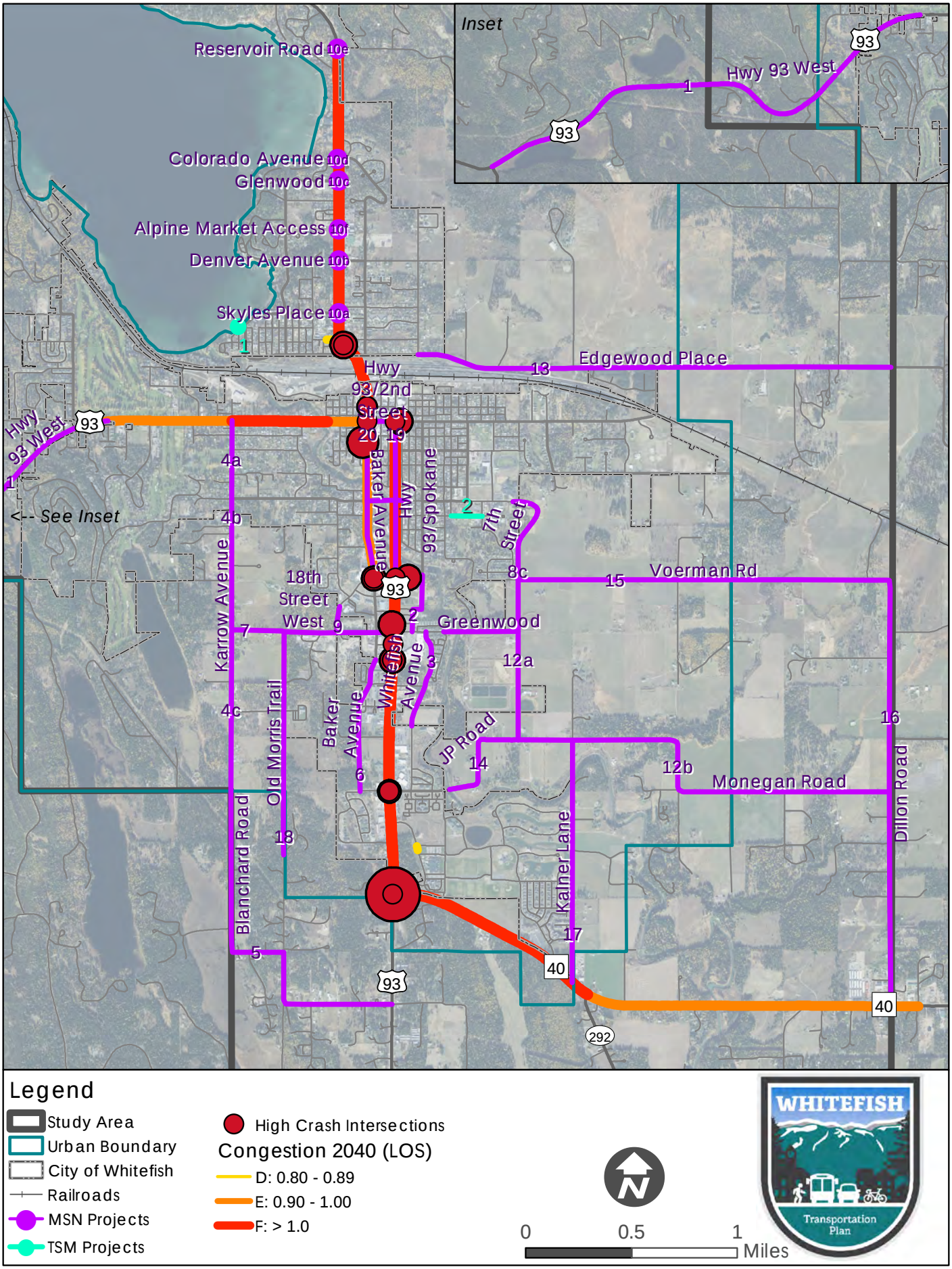
The evaluation of TSM and MSN projects against safety conditions and future congestion is shown in Figure 4.1. It should be noted that future MSN projects developed should include accommodations for bicycle and pedestrian users. A more specific set of projects and recommendations related to active transportation will be presented in the Active Transportation chapter.

Transportation System Management (TSM) Recommendations

TSM projects reflects intersection-level improvements which respond to both safety- and operations-related issues at an isolated location. TSM projects were developed based on a review of more localized existing and projected conditions.

TSM recommendations have not yet been identified for the study area. These will be identified in later stages of the planning process.

Figure 4.1: Location of TSM and MSN Projects Relative to Crashes and Future Congestion



Major Street Network (MSN) Recomendations

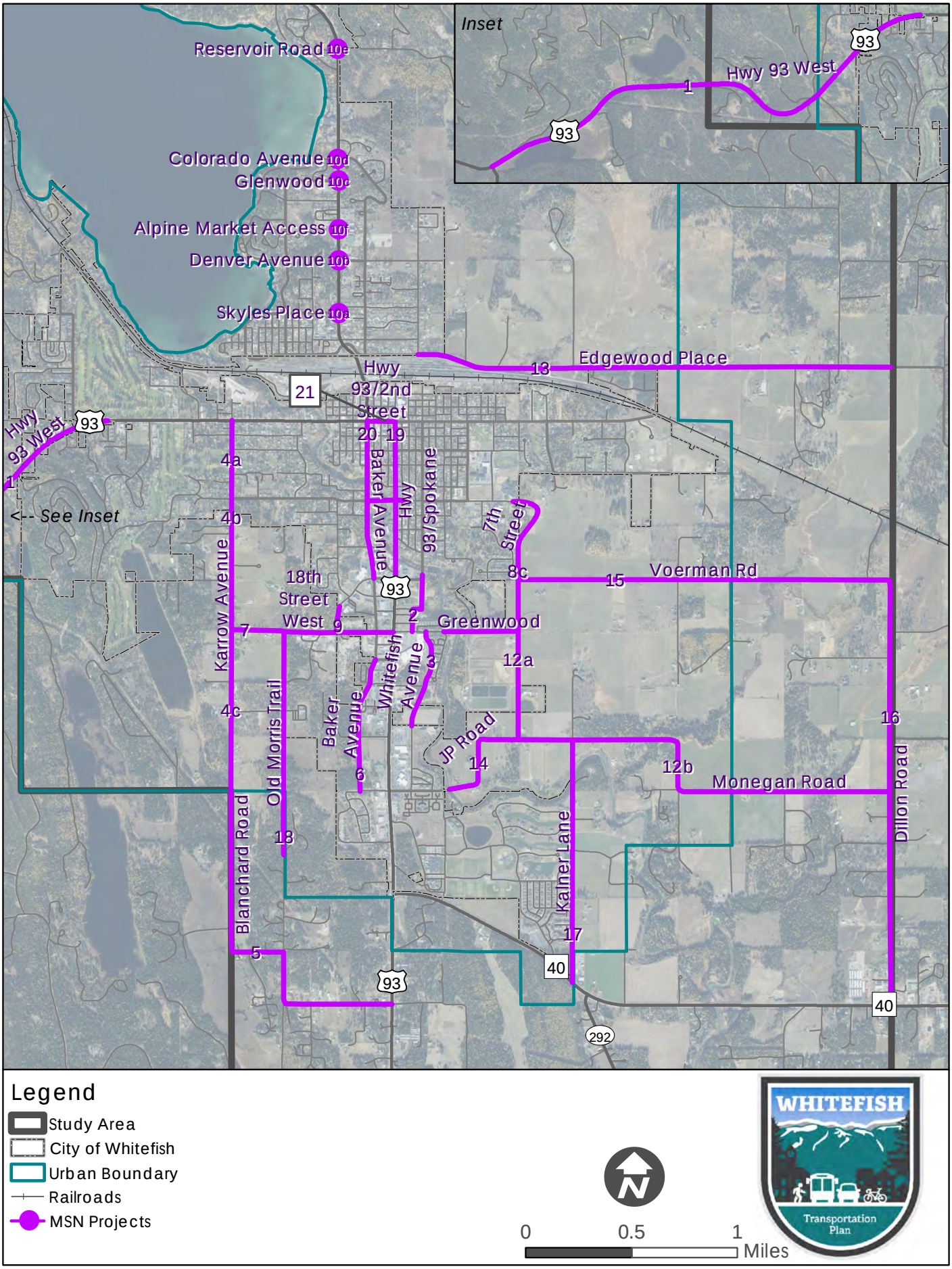
The MSN recommendations list reflects larger corridor-level investments aimed at improving system safety and operations, including infrastructure upgrades, roadway capacity expansion and the addition of new connections or extensions. MSN recommendations are listed in Table 4.1 and shown in Figure 4.2.

Each MSN recommendation listing includes a map ID, a summary of the corridor location, related termini, and a short description. This is just a preliminary list of MSN recommendations. This list will be expanded based on additional analysis completed in the next phase of the Whitefish Transportation Plan.

Table 4.1: Major Street Network Recomendations

MAP ID	CORRIDOR	TERMINI	TERMINI	DESCRIPTION
1	Hwy 93 West	Lion Mtn Loop	Twin Bridges	Corridor Upgrade
2	Columbia Avenue	13th Street	Greenwood	Extension/New Connection
3	Whitefish Avenue	Greenwood	Shiloh/Lenna Joy Dr.	Extension/New Connection
4a	Karrow Avenue	Hwy 93W/2nd Street	7th Street	Corridor Upgrade
4b		7th Street	18th Street	Corridor Preservation
4c		18th Street	Blanchard Lake Rd	Corridor Preservation
5	Blanchard Road	Karrow Ave	Hwy 93	Corridor Preservation
6	Baker Avenue	19th Street	JP Road	Extension
7	18th Street West	Hwy 93 South	Karrow Avenue	Extension/New Connection
8a	7th Street	Baker Avenue	Spokane Avenue	New Connection
8b		Spokane Avenue	Kalispell Avenue	New Connection
8c		7th Street	Voerman Road	New Connection
9	Flathead Avenue	13th Street	18th Street	Extension
10a	Wisconsin Avenue	Skyles Place		Intersection Improvement
10b		Denver Avenue		Intersection Improvement
10c		Glenwood		Intersection Improvement
10d		Colorado Avenue		Intersection Improvement
10e		Reservoir Road		Intersection Improvement
10f		Apline Market Access		Access Modifications
10g		Corridor Wide		Bus Infrastructure Upgrades
10h		Corridor Wide		Pedestrian System Upgrades
11	Greenwood	Shore View Ct.	Monegan Road	New Connection
12a	Monegan Road	Voerman Road	JP Road	Corridor Upgrade
12b		JP Road	Dillon Rd.	Corridor Upgrade
13	Edgewood Place	Texas Avenue	Haskill Creek	Corridor Preseration
14	JP Road	Whitefish River	Monegan Road	Corridor Upgrade
15	Voerman Rd	Dillon Road	Monegan Road	Corridor Presevation
16	Dillon Road	MT 40	Voerman Road	Corridor Preservation
17	Kalner Lane	MT 40	Monegan Road	Extension/New Connection
18	Old Morris Trail	18th Street	Old Morris Trail	Extension/New Connection
19	Hwy 93/Spokane	13th	2nd Street	Pending Downtown Whitefish Study
20	Baker Avenue	13th Street	2nd Street	Pending Downtown Whitefish Study
21	Hwy 93/2nd Street	Spokane	Baker	Pending Downtown Whitefish Study

Figure 4.2: Transportation System Management and Major Street Network Recommendations



APPENDIX A.
PUBLIC ENGAGEMENT SUMMARY

April 2021

KLJ
ENGINEERING, REIMAGINED

INTRODUCTION

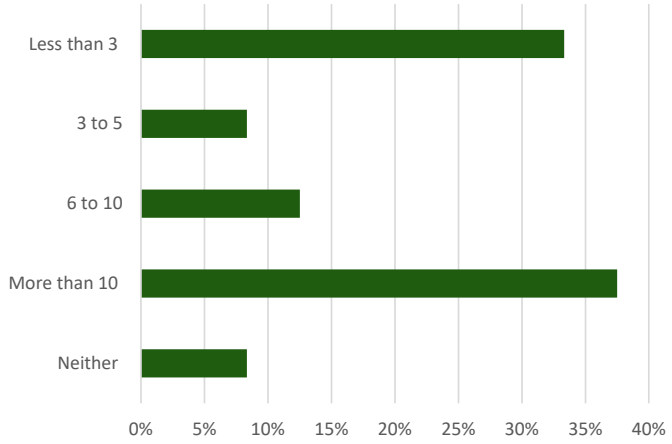
The public engagement phase for the Whitefish Transportation Plan comprised of two parts: virtual listening sessions and a project website with an interactive issues map. Three listening sessions took place on October 14th and acted both as an opportunity to educate the public on the transportation plan and to gather open ended input on transportation issues in the study area. The meetings were advertised through a variety of channels including the Big Mountain Commercial Association (BMCA), Chamber of Commerce, posts on Facebook, and press releases to local media outlets including the Whitefish Pilot Daily Interlake. Project materials and an interactive issues map were available on the project website, whitefish.transportationplan.net. Visitors could review project documents, watch a prerecorded presentation of the project overview, and leave comments on the interactive map. This public engagement summary describes the results from the listening sessions and the online open house.

LISTENING SESSION SURVEY RESULTS

Three listening sessions were held virtually on October 14th. The first session was held from 1 pm to 2:30 pm and had 9 participants, the second was held from 3 pm to 4:30 pm and had ten participants, and the third was held from 6 pm to 7:30 pm and had seven participants. These sessions began with a presentation of the project, followed by an interactive survey in which meeting attendees were asked a battery of questions regarding general transportation issues. A summary of the questions and responses follows.

Years living/working in Whitefish

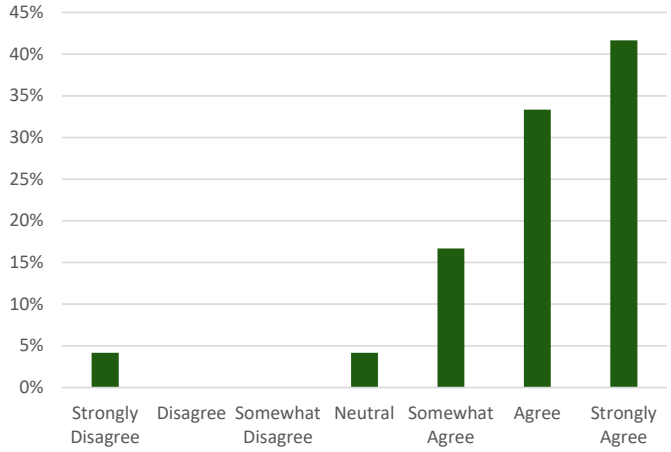
Figure A.1: Survey Question 1



Long term mobility needs in Whitefish depend heavily on improvements to Highway 93?

Meeting participants agree that long term mobility in the city of Whitefish is dependent on investments in the Highway 93 Corridor. Ongoing work as part of the Downtown Whitefish Highway Study will be integrated into the Whitefish Transportation Plan update.

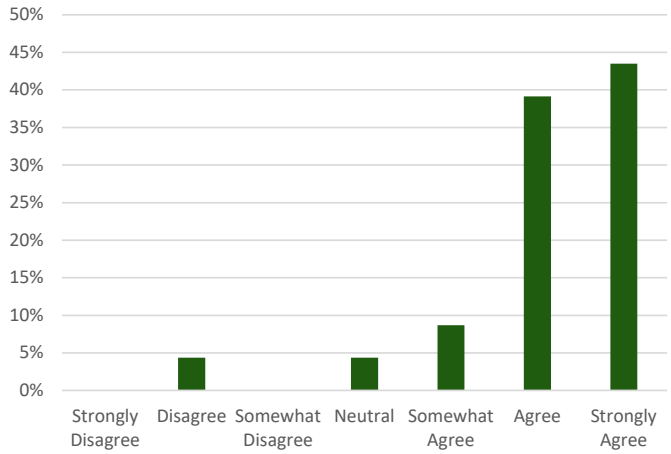
Figure A.2: Survey Question 2



A collection of roadways (off the state highway system)are critical to the long-term mobility needs of Whitefish?

Meeting participants agree that investment in local roadways is critical to improving long term mobility within the City of Whitefish. The Transportation Plan update will start to develop a series of smaller improvements to local roadways that focus on improved mobility and connectivity.

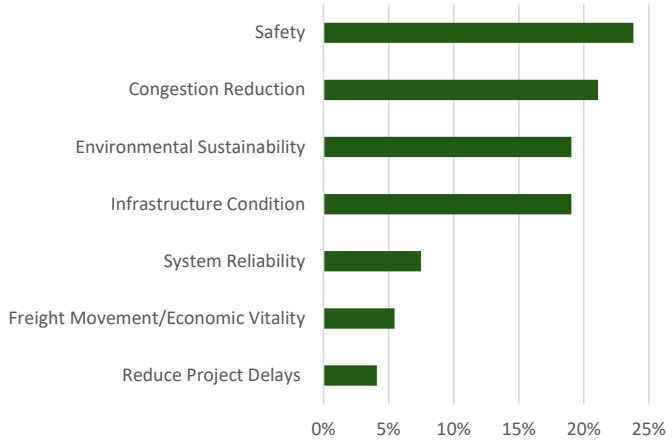
Figure A.3: Survey Question 3



Prioritized Transportation System Goal Areas

Meeting participants were asked to rank priorities among a battery of potential *Transportation Goal Areas* for the Whitefish Transportation Plan. Transportation Safety and Congestion Reduction rated highest. These were followed closely by Environmental Sustainability and Infrastructure Condition.

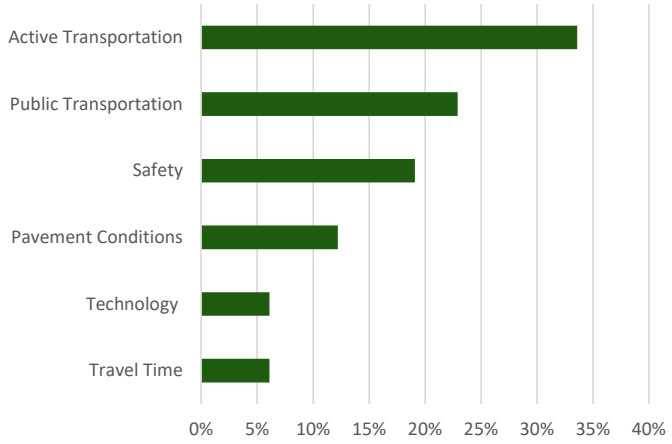
Figure A.4: Survey Question 4



Prioritized Transportation System Performance Areas

Meeting participants were asked to rank System Performance Areas to support development of the Whitefish Transportation Plan update. Active Transportation was ranked highest, followed by Public Transportation and Safety. Support for both active and public transportation fits the context for making the update Whitefish Transportation Plan a full multimodal transportation plan, focusing a range of modal investments.

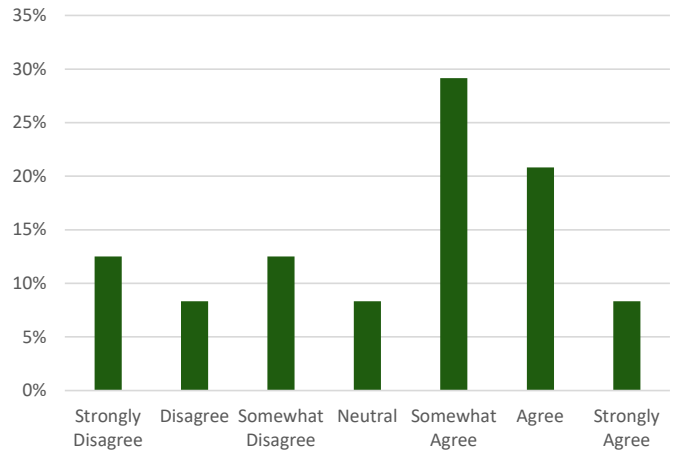
Figure A.5: Survey Question 5



Traffic congestion during peak seasons is acceptable?

Meeting participants tended to generally agree that peak season congestion in Whitefish was acceptable. This sentiment seems to reflect that Whitefish is dependent on nearly year-round tourism and has a limited ability to expand roadway capacity. These findings may assist in support a more transportation demand management focused transportation plan for City of Whitefish.

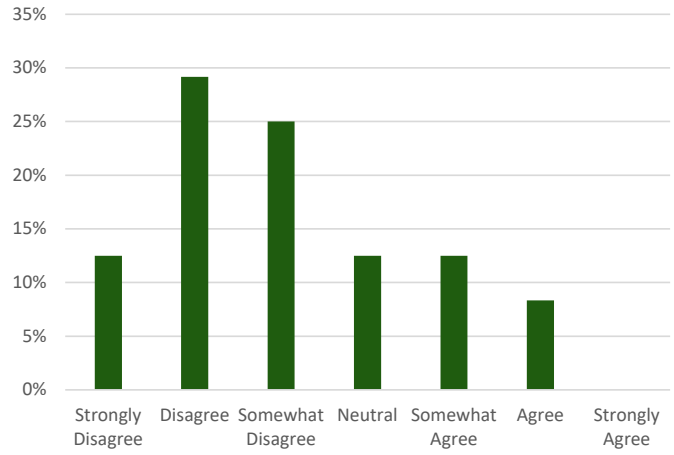
Figure A.6: Survey Question 6



The roadway network in Whitefish is well connected and does it move traffic efficiently?

Meeting participants tended to express disagreement with the notion that the Whitefish transportation system was either well connected or able to efficiently move traffic given current conditions. This suggests the need to focus the transportation plan update on improving connectivity and mobility.

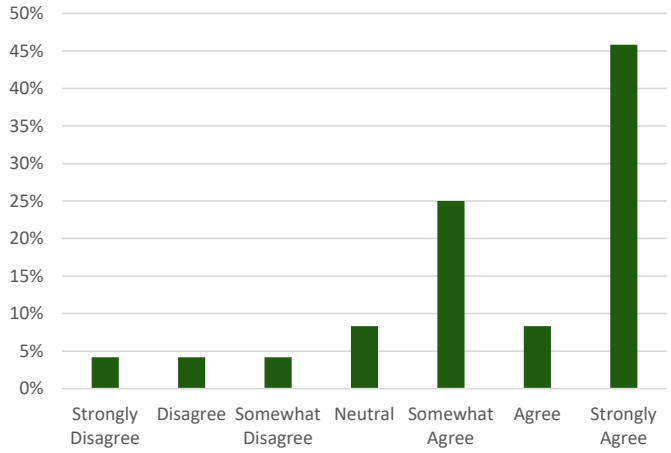
Figure A.7: Survey Question 7



Better public transit service is critical to improving the Whitefish transportation system

Meeting participants overwhelmingly agreed that public transportation is a critical part of improving the transportation system in Whitefish. This matches with other responses and the sentiment that the transportation plan update will need to focus on demand management strategies that go beyond traditional roadway capacity improvements.

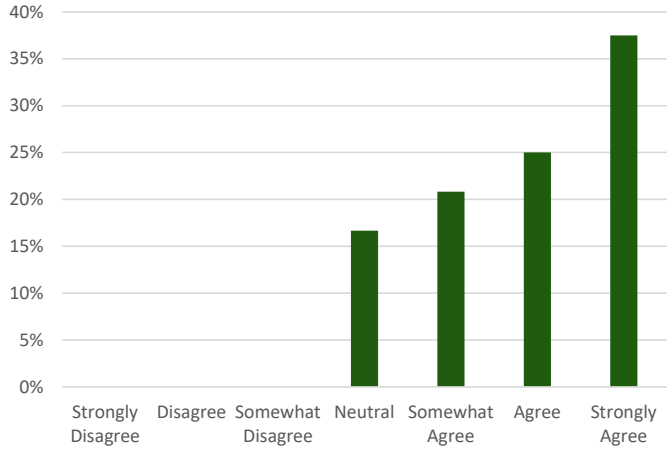
Figure A.8: Survey Question 8



Transit Service to/from Glacier Park Airport is a missing element in the Whitefish transportation system

Much discussion has evolved around the potential need for public transportation to/from the GPI. Meeting participants generally agree that public transit service to GPI is a missing element of the local transportation network. The Whitefish Transportation Plan update will likely focus on opportunities to fill this emerging gap in the transportation system.

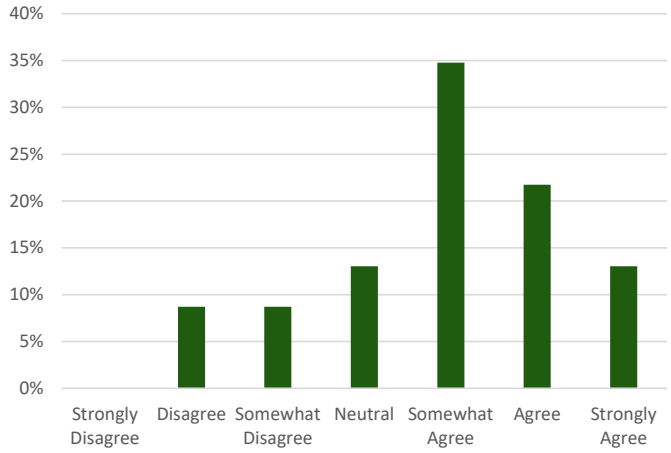
Figure A.9: Survey Question 9



Park-n-rides are a missing link in the Whitefish transportation system

Recent studies of public transit in Whitefish have identified the need for both formal and informal park and ride facilities. Meeting participants generally agreed that park-n-rides are a missing link in the local transportation system. Whether used for carpooling or in connection with public transit routes, park-n-rides are valuable demand management tools.

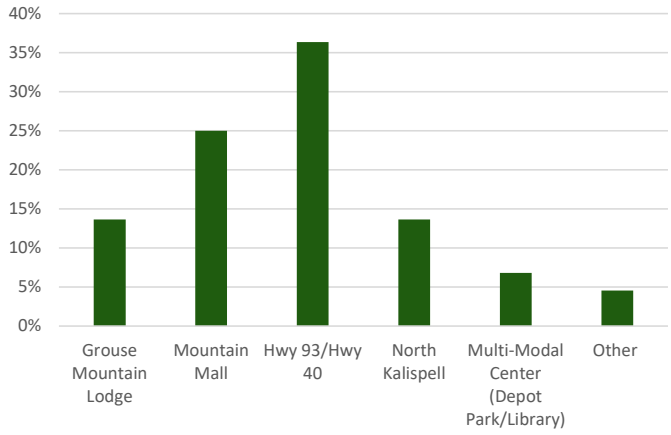
Figure A.10: Survey Question 10



Select top (2) two locations for a park-n-ride

Meeting participants were asked to prioritize their top two (2) locations for potential park-n-rides. The top two locations (Highway 93/MT 40 and Mountain Mall are located on the south end of Highway 93. More detailed evaluation and analysis of park-n-ride implementation will factor into the Whitefish Transportation Plan update.

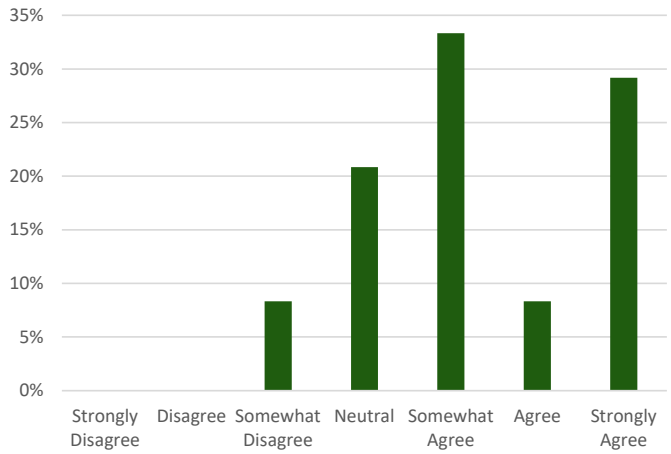
Figure A.11: Survey Question 11



A bike sharing program should be part of the Whitefish transportation system

A bike sharing program has been discussed in the past for the city of Whitefish. Meeting participants generally agree that a bike sharing program should considered as part of the overall transportation system in Whitefish. As a demand management for short trips, a bike share program may well fit within the larger demand management programs evaluated as part of the Whitefish Transportation Plan update.

Figure A.12: Survey Question 12



ONLINE INTERACTIVE SURVEY

The project website was used to collect input from the community using an online interactive issues map that was open from early October until November 6th, 2020. Visitors were able to explore the study area and view comments left by others, add their own comments in discussion, and react to comments with an “up vote” or “down vote”. In total, 187 comments and 354 reactions were added to the map by 261 unique visitors. Figure A.13 shows the comments by topic, as identified by the commenter.

Across all comments, almost all reactions were positive (329 up votes and 25 down votes). Bicycle and pedestrian related comments accounted for eight of the top ten most up-voted comments, illustrating the strong energy behind reducing gaps in the bicycle and pedestrian network and improving safety for non-motorized traffic. Traffic-related comments are heavily concentrated around US 93, particularly in downtown and near the west edge of the city limits. Some express concerns about the safety of a feature of the road network, such as poor visibility, speed limits that are too high, and difficult left turns. Wisconsin Avenue received many traffic-related comments as well. Bicycle and pedestrian related comments were more widely dispersed than the traffic related comments, but still tended to be concentrated around US 93 in downtown. Safety is a concern in almost all bike and pedestrian comments. Several comments ask for new shared-use paths, including connections to the Lion Mountain Trailhead, Spencer Mountain, and the Reservoir Trailhead. All comments are shown in the appendix with a unique identifier that corresponds to the numbers shown on the map in Figure A.14 on page A-8 through Figure A.17 on page A-11. In each map, the top ten most reacted-to comments are highlighted.

COMMENT CLUSTERS

Many of the comments on the interactive map were related to other comments in content or geographic location. When posting a comment, community members had the option to either choose a location on the map to post a comment or post a response to an existing comment. If a new comment was posted in response to an existing comment, the two comments would share a geographic location. After reviewing the location and content of each comment added to the map, clusters were identified to highlight common concerns among community members. Table A.1 shows the top clusters by total number of reactions. The total number of up votes and down votes from the comments within each cluster were aggregated.

Figure A.13: Social Pinpoint Comment Types

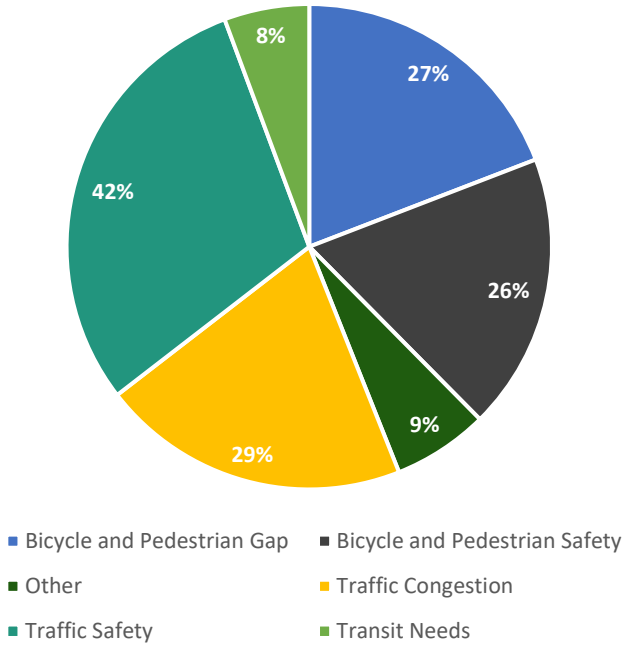


Table A.1: Top Comment Clusters

COMMENT IDS	CLUSTER NAME PRIMARY CONCERN	UP VOTES	DOWN VOTES
15, 18, 40, 59, 69, 73, 81, 93, 97, 154, 5, 65, 92, 100, 113, 41	**Hwy 93 (Mountainside to Twin Bridges)** Bike/ped access and safety	62	0
3, 9, 13, 16, 17, 30, 39, 75, 90, 104, 108, 114, 152, 163	**Baker Avenue** Traffic congestion and safety	35	2
6, 70, 71, 98	**Karrow Avenue** Lack of bike/ped facilities	19	3
80, 145, 150, 180	**Viaduct** Path widening	20	0
8, 11, 32, 38, 78, 82, 120, 126	**Wisconsin Avenue** Bike/ped safety and speed limit	15	4
33, 67, 86, 107, 124, 147, 158	**Transit** Need for more service	12	1
12, 109, 169, 176, 177, 185	**Spokane Avenue** Need for additional bike/ped facilities	13	0
41, 83, 88, 146, 174	**2nd Street/Miles Avenue** Pedestrian safety	13	0
57, 96, 129	**Big Mtn Rd and East Lakeshore intersection** Traffic congestion and safety	10	3

Figure A.14: Bicycle/Pedestrian-Related Comments

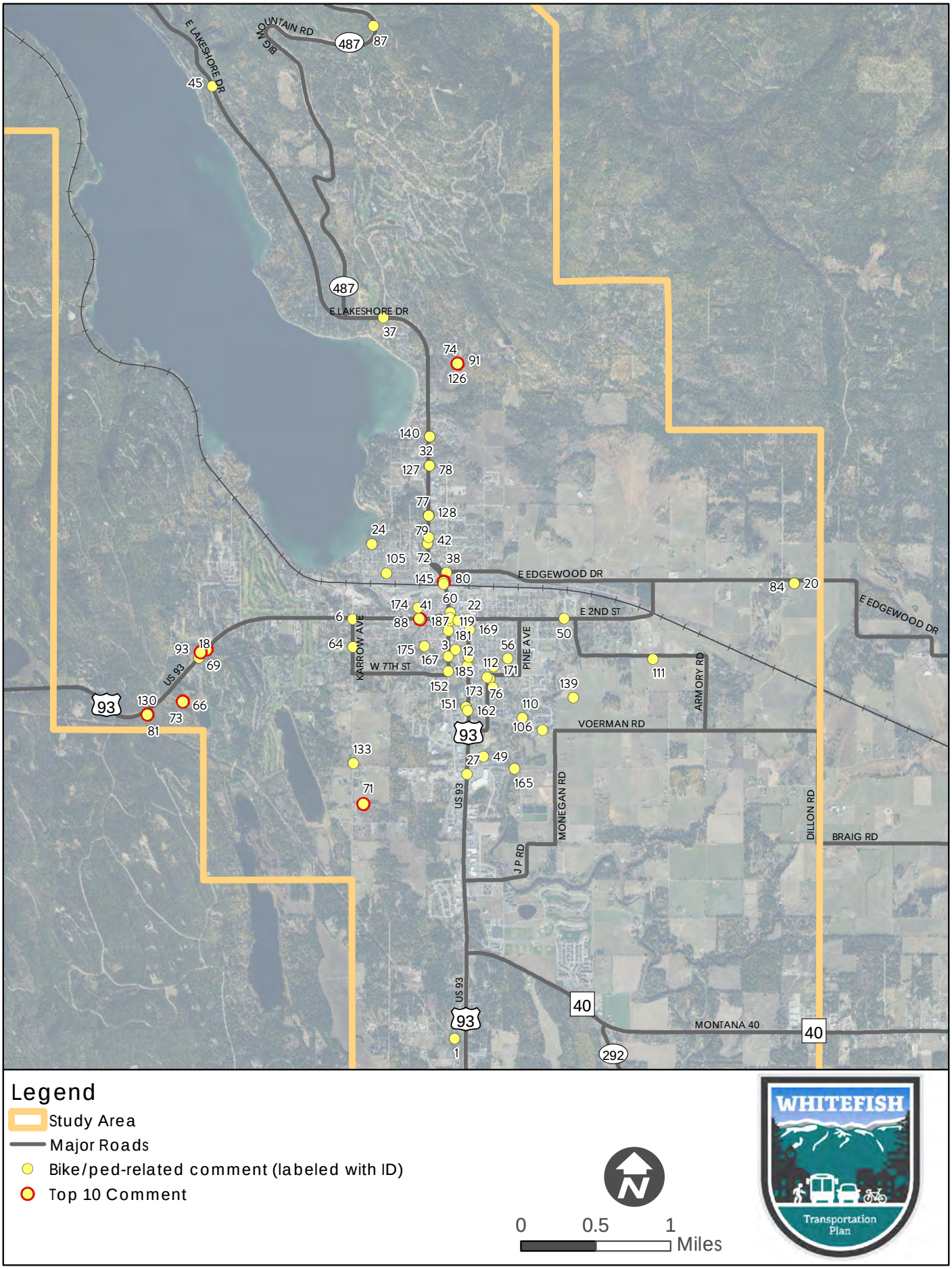


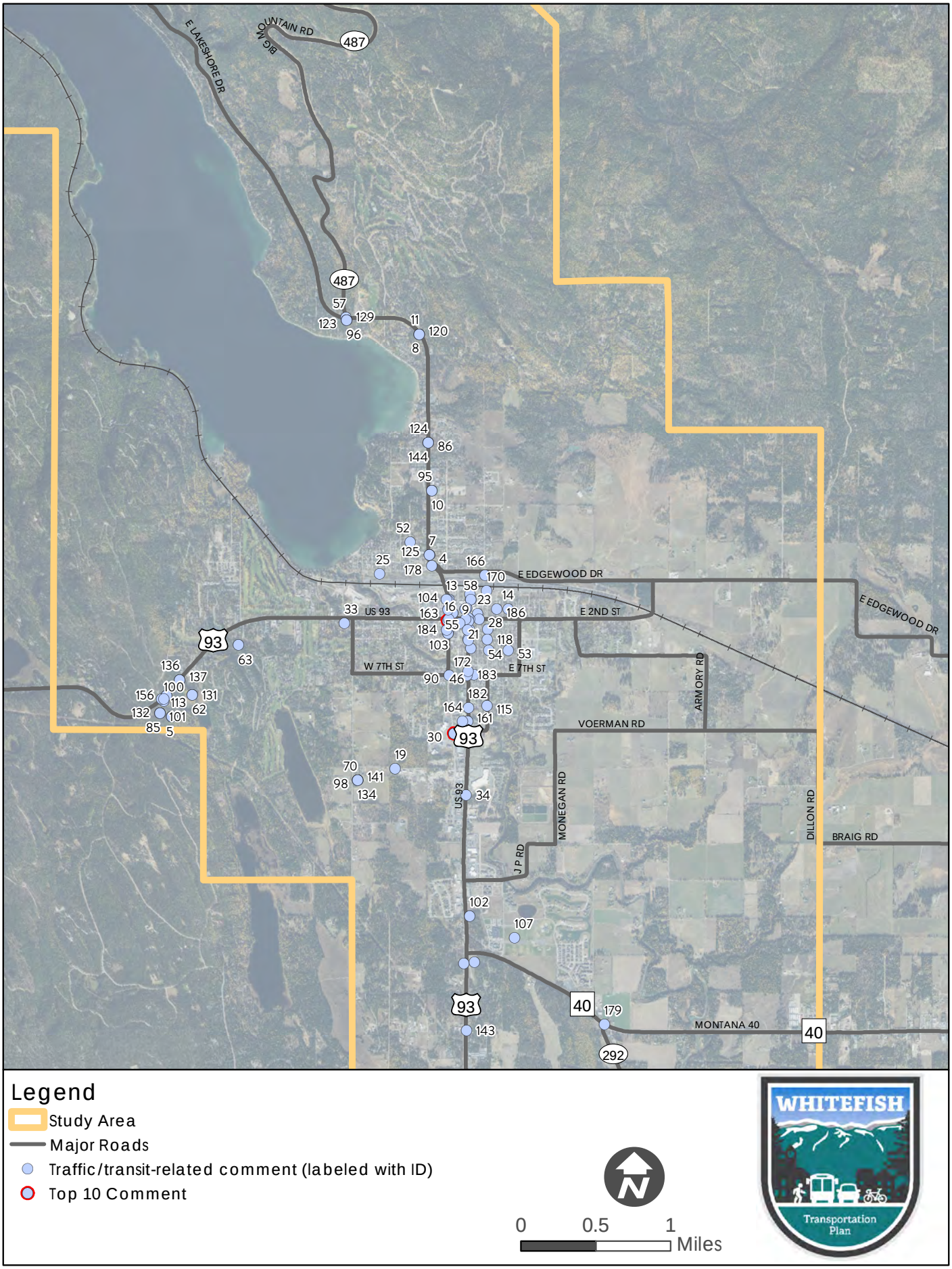
Figure A.15: Bicycle/Pedestrian-Related Comments (Inset)

Legend

- Study Area
- Major Roads
- Bike/ped-related comment (labeled with ID)
- Top 10 Comment

0 0.125 0.25 Miles

Figure A.16: Traffic/Transit-Related Comments



Legend

- Study Area
- Major Roads
- Traffic/transit-related comment (labeled with ID)
- Top 10 Comment

0 0.5 1 Miles

Figure A.17: Traffic/Transit-Related Comments (Inset)

Legend

- Study Area
- Major Roads
- Traffic/transit-related comment (labeled with ID)
- Top 10 Comment

0 0.125 0.25 Miles

Table A.2: Specific Comment List

COMMENT ID	COMMENT	UP VOTES	DOWN VOTES
1	When will the bypass be done?	1	0
2	Probably a county request, but a wider road corridor with room for cyclists and pedestrians, or the addition of a sidewalk, would be a huge asset to the entire length of Farm to Market Road. Also, make sure to provide connectivity of this path/widened road all the way to Whitefish. Currently there are enough blind corners that cycling and walking are both somewhat dangerous.	0	0
3	pedestrian safety	0	0
4	I completely agree - this is even before we have people living in the TWO new apartment complexes being built in the city beach neighborhood.	0	0
5	We live on Leksand Trail. We have 2 young children and need to take them to and from school everyday. Turning on or off of 93 is often times frightening. It just feels that it is a matter of time before a tragic accident happens at this intersection. On behalf of my family and neighbors please make some modifications to Route 93 so that safety is a priority.	0	0
6	A pedestrian crossing would be worth consideration to safely connect a common route from Karrow to Birch Point/city beach.	4	0
7	summer and winter congestion, left turning vehicles back traffic up	2	0
8	45mph speed limit too fast given hidden driveways and Wildlife crossings	2	1
9	Baker between 2nd and Railway is horrible	3	1
10	If consolidated we would want to consider that folks with trailers/boats/motorized toys frequent Alpine Market for gas because of the ethanol free and we should maintain enough room for them to maneuver.	0	0
11	I agree. Perhaps we should continue the 35 mph speed limit as long as the asphalt pedestrian trail parallels Lakeshore.	1	0
12	Dangerous to cross the street here! Traffic rarely yields to pedestrians. There is river access at 6th and Central, as well as access to the river trail, and the population that is east and south of 6th cross here regularly. The road is horribly rutted. It is a disaster waiting to happen.	6	0
13	Turning left onto Wisconsin from Railway can be dangerous or nearly impossible in the winter with traffic from the mountain.	0	0
14	1st ave gets very heavy traffic with school pickup and drop off times, and there are regularly accidents or near accidents at all the uncontrolled intersections with blind spots caused by on-street parking.	1	0
15	There is a blind corner on Hwy 93 here which makes it very difficult and dangerous to efficiently and quickly turn on to and out of Twin Bridges Rd.	3	0
16	I agree the turn signal needs to allow at least 5 cars thru.	0	0
17	The city made a big mistake when building city hall and not taking into consideration a right hand turn lane on all corners. That lack of turn lanes now causes major congestion. I know nothing can be done now but it is disappointing we have to suffer for years to come.	0	0
18	Work with MDT to extend bike path to Twin Bridges. I know it's an MDT funded project through 2023 (tied up with easements), but the City needs to play a bigger role, especially with maintenance. MDT often builds bike paths, but no one maintains them for snow/ice removal, sweeping, vegetation, etc.	0	0
19	18th St could become a connector between Hwy 93 and Karrow ave, providing a "bypass" for through-traffic. This would eliminate much downtown congestion caused because 2nd street is the only east/west through-street.	1	0
20	a lot of bicyclists on Edgewood between 2 communities, along with speeding vehicles and no shoulders	0	0
21	Traffic on Spokane Avenue and 2nd Street is extremely congested. Intersections are often blocked to oncoming traffic because the lights on Spokane & 2nd, Central and 2nd, and Baker and 2nd are not in sync. This is especially dangerous during school dismissal.	0	0
22	get rid of left turns here before and after school. Sometimes people try and turn left for one or two cycles of the light while people going straight cannot get through.	0	0

...continued on page A-13

COMMENT ID	COMMENT	UP VOTES	DOWN VOTES
23	The library is located on the corner of Spokane Ave and Railway St. There is a 4-way stop at the intersection which very few people observe. It is extremely dangerous during school dismissal and special events taking place in Depot Park. I'm not sure why drivers find it acceptable to simply slow down before proceeding through the intersection, or making a u-turn in the middle of the intersection.	1	0
24	Lakeside Blvd. from Waverly Pl. to Idaho Ave and Skyles Pl. from Idaho to Dakota should be one way traffic only in the summer months, June-August with the traffic going east only. This will allow for more room for bikes and pedestrians on the hill coming up from Dakota and down to the beach. It is narrow, there is no shoulder, and its hard to see pedestrians coming up and over the hill. A designated bike lane could be striped. It is also hard for two boats to pass each other on this narrow road.	0	0
25	Additional signage for boats, trailers, and RVs about speed limit is necessary - Edgewood is very unsafe in the summer and I have seen near accidents.	2	0
26	Hwy 93 coming in to Whitefish from the south is frequently congested. Getting rid of some of the on street parking and the crosswalk bump-outs so that turn lanes could be created would help a lot.	1	2
27	Crossing the road here as a pedestrian is harrowing. The lights are few and far between so you need to walk a great distance to find a place to cross. When you DO cross, the light times are very short. Most of the time I'm afraid I'll be hit by a motorist trying to make a left hand turn that is certainly not looking for pedestrians.	6	0
28	Signage for school zone speed limit should make it clear whether the 15 mph speed limit is in effect all the time, or only when school is in session. It is currently unclear and on weekends and evenings acts as a speed trap for ticketing.	1	0
29	A left turn arrow (for turning south on 93 from 2nd st. east) should be added. Motorists turning left have to yield to traffic heading east on 2nd street, traffic from west 2nd street turning south on 93, and pedestrians crossing 93. When traffic is heavy it can take multiple green lights to get through the intersection.	1	0
30	This would serve the community far better with a round about or light. This gets backed up heavily during high traffic times but also people have a hard time properly following the rules of four way stops. Please address	9	0
31	With all the traffic on hwy 93 now it is next to impossible to get out of our driveway(Iverson Ln) onto the highway. It is already a safety concern and will be even more once Town Pump is up and running.	1	0
32	Traffic speeds too high (by speed limit and street design) for peds & cyclists of all ages & abilities to feel safe and be seen. And, there is a limited shoulder.	1	1
33	Transit needed to provide access to Lion Mountain	2	0
34	Transit needed to provide access to / from Kalispell at more diverse set of times and days. Currently the tricity communter runs only M-F and twice in the morning and evening. It doesn't accomodate the typical set of jobs found in Flathead county, which tend to be odd-houred service jobs or within healthcare.	4	0
35	Cars (presumably picking up pizza) are usually parked in the no-parking area here. Usually partially blocking a lane of traffic. PD and parking enforcement can only do so much. Needs better enforcement or marking.	0	0
36	Have noticed quite often that delivery semi- trucks (Pacific Seafood?) park in eastbound lane and unload their trucks on East 1st St, and not the alley. Traffic waits for the delivery truck and takes turns, but I've witnessed a few close calls where delivery driver doesn't see traffic trying to get around truck and has nearly been struck. Seems bizarre that this is the best place for a truck to unload. This is a weekly occurrence.	0	0
37	With the trees on either side of Murdock it is very difficult for vehicles to see cyclists and pedestrians as they approach E Lakeshore. Trimming of trees to allow greater line of sight would be an easy and economical solution	0	0

...continued on page A-14

COMMENT ID	COMMENT	UP VOTES	DOWN VOTES
38	Vehicles coming from Wisconsin are coming around a corner into a pedestrian crosswalk and often do not see people until the last minute. Most vehicles do not stop for pedestrians, likely because they do not expect them or see them until the last minute. A flashing light to signal people are crossing ahead would be a viable solution for this.	0	0
39	During peak seasons (summer & winter) and peak hours, Baker Street traffic heading south over the viaduct and into town is backed up making it very difficult to turn north from W 1st St and south from E 1st St. This is also an issue when trying to leave Marcus and head south. Having 2 pedestrian crosswalks at this same intersection only slows the flow of traffic.	1	0
40	I agree. This is a way to reduce the number of cars on the road, reduce carbon emissions, promote an active and healthy lifestyle and more than likely save lives! This is an incredibly dangerous stretch of highway to ride to access the WFT at Skyles and Spencer. I truly hope it does not take losing a life to make this happen!	0	0
41	Agreed!!	0	0
42	People trying to merge onto Wisconsin Ave are NOT looking for bicyclists or pedestrians on the shared use path. Conversely, some bike/ped traffic on the pathway are assuming traffic is looking for them. These ares seems per-destined to have a bike/ped - vehicle collision. Need better warnings.	7	0
43	Would be amazing with a roundabout on this location. That would promote so much better traffic flow.	0	0
44	Yes, it is a safety issue to cross 2nd in this area. Cars don't seem to be thinking about pedestrians and bikes	0	0
45	Need "Share the Road" sign here to inform motorists that bikes will be on roadway. This is a very popular biking spot along the lake and there is no shoulder. Some motorists think they have the right of way over bikes and are not driving safely.	2	0
46	Connect 7th all the way to Highway 93 to alleviate all the unnecessary traffic weaving throughout the East Downtown Neighborhood. It may be a good idea to make this a controlled intersection during school drop off and pick up times.	3	0
47	Place on stop sign on Columbia at 3rd Street. A lot of cars are using 3rd Street now and at the intersection with Columbia it is very difficult to see traffic, bikes coming from the right as one treacle's east. Also, traffic is traveling very fast up Columbia.	1	0
48	Post no parking signs on 3rd, close to Spokane. When cars park on both sides of the street near this intersection it becomes very dangerous when cars are turning onto 3rd from Spokane and there is another car on 3rd waiting to turn out. When cars are parked on both sides of the street, the street almost feels like a single lane.	1	0
49	Connect 13th to the mountain mall for bikes and pedestrians east of highway 93, when this property is redeveloped, to give an alternative to highway 93	0	0
50	This intersection needs a cross walk. The cross walk further east is dangerous because cars are approaching from downhill heading west	0	0
51	People often use the left hand turn lane as a straight lane. Have witnessed a few near misses. Locals seem to know the intersection, but visitors often seem confused as to what lane to use...	0	0
52	This is not a 4 way stop. Probably the only local road in the entire Whitefish road network that has a stop signs for one road and not the other. For consistency's sake, seems this should be a 4 way stop to prevent accidents with motorists, bicyclists and pedestrians.	0	0
53	Uncontrolled intersection and lack of sidewalks make pedestrian/vehicle interactions a possibility. Especially at night. Busier than you'd think in this part of town with morning, afternoon, and evening (sporting events.)	0	0
54	Traffic often moves faster here than 25mph. Especially during school commute traffic heavy times. Could use better enforcement.	0	0
55	People often use the left hand turn lane as a straight lane. Have witnessed a few near misses. Locals seem to know the intersection, but visitors often seem confused as to what lane to use...	0	0
56	This part of town has few sidewalks. Pedestrians are forced to take the street. Not so great for children walking and safety issues during snow season and when dark.	0	0

...continued on page A-15

COMMENT ID	COMMENT	UP VOTES	DOWN VOTES
57	Difficult for cars on Big Mt road to see traffic coming from the right when making a left hand turn.	5	1
58	A central location for hotel shuttles to pick up and drop of guests.	0	1
59	There is a blind corner at Twin Bridges Rd/US 93. The speed limit should be significantly decreased somewhere farther North of Twin Bridges Rd. to make it safer for people to pull out of Twin Bridges Rd. onto US 93, and to make it safer for people traveling North on US 93 and turning Left onto Twin Bridges Rd. You feel like a sitting duck here.	5	0
60	With personal car traffic and parking on Central Ave being a nightmare at best, opening up more of the parking garage would lessen traffic and make the downtown area a more pleasant place to be a pedestrian and biker. Minimizing parking for personal cars on Central would allow more pedestrians to safely walk and participate with our local businesses. Currently, the upper floors of the parking garage are minimally used on weekends (5 to 10 cars at a time or potentially 120 parking spots).	0	0
61	Cars are prioritized at stop lights. Pedestrians have to hit the crosswalk button in order to have right of way. If we want to promote pedestrian traffic downtown we need to make walking across 2nd Street easy. People shouldn't have to ask to cross the street on foot.	1	3
62	Engine braking should be prohibited on the hwy 93 hill descending into Whitefish towards the golf course. You can hear truck's jake brakes for miles. That hill isn't that steep, and there's no reason that trucks shouldn't be prohibited from using engine brakes in what is effectively a residential area.	2	0
63	Traffic should slow down sooner headed east into town and stay slowed down past the Golf Course headed East. Was rear-ended by a car coming too fast down the hill/bad tires/couldn't slow and me stopped to turn into State Park. Golf Course/Grouse Mtn intersections sees heavy use and speed limit should be 35.	1	1
64	No path currently connecting 7th to the highway 93 network.	1	0
65	The turn south off Hwy 93 to Sasquatch Hollow/ Leksand Trail is very dangerous. The hill obscures east bound traffic on 93 - requiring making a full stop to allow oncoming traffic to pass. People have to stop to wait for your turn and many aren't paying attention. It is an intersection that needs to be moved to avoid a deadly accident - just a matter of time. We have lived on Leksand Trail for 13 years.	1	0
66	A blinking light for pedestrians, bikers and drivers to turn out of lion mountain onto 93 would make this trail much safer. This would also allow residents of the Leksand Trail neighborhood a way to travel to town much more safely.	0	0
67	A better place for hotel shuttles and transit to drop off than the Library fire lane.	0	0
68	The Library circular drive is NOT the place for drop offs. For one, it is a fire lane. Secondly, the larger buses drop off further north on Spokane by the north parking lot between the Library and the Depot, because they can't fit in the turnaround. Thirdly, parents use that circular to drop off and pick up students. Library staff has had complaints about the congestion of cars and students on that drive. The school has asked parents not to do so, to no avail.	0	0
69	US 93 is unsafe for pedestrians and cyclists where there isn't currently a sidewalk. There should be a sidewalk at least from Whitefish to Twin Bridges Rd.	9	0
70	Due to the high volume of pedestrians utilizing Karrow while walking or biking back and forth from downtown, it would make more sense to complete the proposed pedestrian path along Karrow, and to consider a commercial bypass route through 424/Farm to market, as it has significantly less pedestrian utilization. Also worth consideration would be extending the Karrow path along Highway 93 to connect with the Kalispell path network as well. An eventual commercial bypass does seem to be necessary.	1	0
71	Karrow gets quite a bit of pedestrian traffic, but it's very narrow and has lots of blind rolls. A bike / pedestrian path would make a lot of sense.	9	0
72	Agreed. There are a lot of roads/driveways/intersections where there is a lack of communication between driver and bike/ped. Considering some modifications would be worth considering to help avoid future accidents.	0	0
73	Please add a bike/pedestrian path at least to Lion Mtn. The road shoulder is very narrow and dangerous and lots of out of towners don't know how to bypass/back way to trails. Would love to ride to town from Leksand Trail/Sasquatch Hollow neighborhood but must either ride narrow Hwy shoulder with too fast traffic or do a blind crossing to use Lion Mtn Rd.	8	0

...continued on page A-16

COMMENT ID	COMMENT	UP VOTES	DOWN VOTES
74	Perhaps adding an extension of our bike/ped path would be a great solution. That would also add continuity to our trail systems!	2	0
75	Unprotected left turns on Baker from 5th north to 93 cause vehicles to illegally pass on the right through intersections. Posses danger to pedestrians and turning traffic. Consider restricting Left turns during high traffic times.	1	1
76	This neighborhood is close to schools, but many streets in this area: examples are 6th, 7th, 8th do not have sidewalks! Kids are forced to walk in the street.	0	0
77	I agree with this comment. Especially with the idea that many crosswalks are difficult to see. Could we paint the crosswalks more frequently? Traffic seems to understand that there is a middle line down the road, even when it is hard to see due to age, but traffic doesn't see a hard to identify crosswalk.	1	0
78	The bike / ped path that switches sides of the street here doesn't work very well. It'd be better if it stayed on one side or the other.	5	2
79	Wisconsin Ave is a really difficult street to navigate as a pedestrian and biker. Fast car traffic and no traffic calming features make crossing the road very difficult, which is necessary to do with a sidewalk on only one side of the street at a time. Walking and biking in the shoulder is extremely intimidating. There is no crosswalk to Colorado Apts or to Denver St and the ones that do exist are really hard to see.	7	0
80	Would it be possible to widen the pedestrian/bicycle pathway on the viaduct? It seems there is an ample shoulder on the road that could perhaps give up a foot or two to the pedestrian / bicycle path?	16	0
81	US 93 North of Whitefish is unsafe for pedestrians and cyclists beyond where the sidewalk ends in Whitefish, due to the high speed limit and extremely narrow road corridor. There should be a sidewalk from Whitefish to at least Twin Bridges Rd. This would allow residents to access the recreational areas of Spencer Mountain and Lion Mountain via bike/walking, thus ameliorating parking issues at both locations.	14	0
82	The current crosswalk is poorly labeled and signage is basically hidden from drivers coming south on Wisconsin.	4	0
83	This is a great safety concern as well for people walking with strollers! We have encountered several dangerous situations trying to cross 2nd Street with baby-stroller. Westbound traffic are often hidden due to traffic standing still awaiting green light by intersection with Baker Street. If possible eliminate and replace the stairs with continuation of the trail. Alternatively modify the stairs with added ramps that allows bikes and strollers to be pushed.	2	0
84	Connect the communities of Columbia Falls and Whitefish with a pedestrian path along Edgewood and Tamarack Ln	7	0
85	it might be better to restrict onto highway from Lion Mtn area to right turns only- you can go out to the newly rebuilt intersection with State Park Road to go left on the highway	1	0
86	Transit line needed running year-round down Wisconsin / Baker	3	1
87	With the development of the Holbrook parcel of USFS land and the Big Mountain Trailhead, a plan for increased pedestrian crossing infrastructure is needed.	2	0
88	We might consider adding an official crosswalk with the illuminating signage here. Our bicyclist's cannot use the trail that goes under the road and up the stairs so this might help add safety and continuity to our trail system. Most other major road crossings have been addressed - such as on Wisconsin & Labrie Drive and of course on Baker Ave just south of the post office but this one seems to stand out as disjointed.	10	0
89	Crosswalk needs better signage. Cars blow through this intersection when pedestrians are trying to cross	4	0
90	A left turn lane onto 7th would help ease traffic on Baker. Especially as traffic downtown gets worse, more people take seventh to avoid the downtown mess. But people waiting to take a left onto 7th frequently backs up traffic on Baker	4	0
91	more and more use of Whitefish Trail - Reservoir Trailhead by bikers, hikers. there is no shoulder on Reservoir Road and people definitely drive faster than the posted 25 mph	8	0
92	I have lived on Leksand Trail accessed via Sasquatch Hollow since 2000. This intersection is a disaster waiting to happen. More traffic, going too fast, people come over the hill going headed East (and West) too fast. I have almost been rear ended numerous times have had to hit the gas and pull right when headed west and turning onto the road. My son's friend taking him home was part of a 3 car pileup. Crossing on foot or bike to get to trails - I have to use my ears as can't see traffic.	6	0

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COMMENT ID	COMMENT	UP VOTES	DOWN VOTES
93	Take this bike path all the way to Spencer Mountain! It's a no brainer!	9	0
94	traffic coming up hill from west & pedestrians trying to cross on corner w/loula's, sushi place & other restaurants.	5	0
95	many conflicting access drives at Ice Den, Alpine Market and gas station, Tap House - would be good to consolidate	7	0
96	On busy days, Traffic gets backed up Big Mtn. Road for miles. It's probably coming on time to put a stop light in.	5	2
97	For sixteen years I have personally made the turn from HWY 93 onto Twin Bridges Road, and every single time I hope I do not die in a head-on collision. A turn lane needs to be added at this location to prevent rear ending, and the road layout needs to be reconfigured to eliminate the blind corner. If this turn is too dangerous for school busses to take, then it should be too dangerous for everyone to make.	2	0
98	Karrow is the defacto Whitefish bypass. Sending all traffic, including commercial heavy truck traffic, through downtown Whitefish doesn't make sense. A better bypass situation needs to be created, either on Karrow or elsewhere.	5	3
99	Traffic congestion is very high in this area. Now with Town Pump going in on the corner of 93 & 40 we believe that it will only get worse. We live on the west side of 93 on Iverson Ln. This is across from where the Town Pump is going in and we have a very hard time getting onto the highway as it is. I can't imagine what it will be like when Town Pump is there.	1	0
100	This corner with Sasquatch Hollow and also the trailhead road just beyond get a lot of traffic and both are real blind spots. I pull into Leksand trail often as my kids live there. Please make 3 lanes there, flashing lights etc!	1	0
101	Leaving Lion Mountain Trailhead and turning east onto Hwy 93 is dangerous because of a lack of visibility combined with high speed limits. One suggestion would be to install a convex visibility mirror so that you can see if there is oncoming traffic.	8	0
102	public comments from Hwy 93 S Plan process indicate this intersection to left turn into the hospital or turn left out of the hospital is dangerous	2	0
103	Really unsafe with pedestrians dodging between cars and waiting for a long time at crosswalks during high traffic periods (all spring/summer/fall now).	1	0
104	This area has been extremely congested for the last five years at most times of day, especially afternoon.	2	0
105	I have also seen near misses with pedestrians and kids on bikes with excessive lake traffic in the entire City Beach area in the summer.	1	0
106	Vorman road needs a sidewalk to connect the new trail at Trailway development to the Creekwood subdivision or pedestrian safety. There is not an adequate shoulder to allow for safety.	1	0
107	We need a public transit that goes from smith fields to the tennis courts at grouse mountain with several stops along the way then loop back through town to smith fields.	1	0
108	This area gets extremely congested from the Post Office/bridge to the stoplight.	3	0
109	During a normal school year, morning traffic with students, parents, workers, and freight in this area can be very wild and unsafe.	2	0
110	*Dangerous Curve at Park Avenue* This stretch of Park Ave is frequented by children, families, exercisers on foot and bicycles. There is no sidewalk or even a walkable shoulder for jumping out of the way of cars. This is a well-used thoroughfare for car traffic and speeding typically occurs northbound from the Shady River Lane intersection to the curve. With the expanded trail to the river now open, bicycles and pedestrians have increased. This curve is an accident waiting to happen.	7	0
111	Bike/ped path should be extended along armory, preferably all the way around and back down Voerman to Park. There is a large amount of bike and pedestrian/runner traffic with no shoulders. Peds and even bikes often walk against traffic, sometimes three and four abreast. With all the new construction along that road, large dump trucks as well as commuter traffic, it gets very dangerous.	2	0

...continued on page A-18

COMMENT ID	COMMENT	UP VOTES	DOWN VOTES
112	Due to 8am-9am, noon, and 3pm-4pm high school and elementary school traffic down Columbia Ave. to 7th St. E. residents, pets, and pedestrians/bikers are compromised in their safety due to regular ignoring of the speed limit on this section of Columbia Ave. Speed bumps or other ways to truly impact car speed in this area is needed. The temporary flashing speed signs do not work once taken down again. There should also be a crossing guard here for children walking to /from school due to the same.	1	0
113	Intersection of Leksand Trail and 93 is dangerous. People come whizzing down the hill and residents wanting to make a left handed turn are at risk of being t-boned. Flashing light should be added near Whitefish Hills warning motorists to slow down.	2	0
114	Left turn arrow from Baker to 93 North is far too short and causes congestion as only a car or 2 makes it through	10	0
115	People exceed the 25 mile per hour limit on a regular basis. There are kids and pets in this area and it dangerous	1	0
116	Perhaps one or two of the nearby parking spots could be marked as a 5-15 minute parking only to give vehicles a safe and convenient place to park while picking up their pizza? It could be an easy way to reduce the illegal parking and enhance safety for the price of a sign and the 15 minute installation of it. A cheap trial run using a temporary post in a bucket could be used to test it out?	1	0
117	A flashing crosswalk sign like we have on Baker and 1st would be useful here.	1	0
118	The way the road narrows at this intersection, and at others, can sometimes make it difficult to make a right turn when another vehicle is stopped on the road onto which one is trying to turn. When I have to make a turn in such a situation, I either get very close to the other car or end up with my back wheel over the curb. The problem is worse in wintry conditions as the road is even narrower and more slick.	0	0
119	Whitefish has been a local leader in protecting the environment with initiatives such as the Whitefish Climate Action Plan. I think that we have the potential to expand that role by beginning implementation trials of sustainable roadways. This could be roads made using recycled materials, or more advanced technologies that allow for water infiltration.	1	0
120	I would agree that 45 mph is too fast for this section of road. Let's keep it at 35.	1	0
121	I sit like a duck in my car for hours here :(	0	1
122	TONS of traffic on Columbia! We need speed bumps or something to slow, or mitigate traffic issue. It has become a thoroughfare for high schoolers and others to avoid Spokane Avenue traffic.	1	1
123	This is an issue for the entire Wisconsin Avenue corridor on busy winter ski days. Downtown businesses killed the Haskill Basin alternative route years ago and now it is coming back to haunt the community. Whitefish needs more than the one north-south route and a eastern beltway with connections to downtown is the way to go. And yes stoplights will be needed.	0	0
124	A year around transit line without dedicated pullouts will make Wisconsin traffic worse. The lack of a left had turn lane already slows traffic.	0	0
125	Agree, time for a left turn lane now, and then the State should be planning a for the future for additional lane capacity such as a third driving lane which could be a second lane up to the Mountain in the morning and down in the afternoon.	0	0
126	In the 1980's 90's I used to live up Reservoir Rd and mountain biked into Haskill Basin and Big Mtn regularly and definitely the uphill ride from Wisconsin is a hazard and a connecting path is wise. Also a stop light at Wisconsin would be a good idea. Trying to turn left onto Wisconsin on busy ski days is test of patience.	1	0
127	A path on both sides would be ideal. The path is where it is due to the limited right of way when Wisconsin was rebuilt 20 years ago. The City and State need to step up and buy more right of way for Wisconsin.	0	0
128	The City and State need to buy additional right of way and build sidewalks on both sides of Wisconsin. What we have currently is a solution to the problem that existed 20 years ago when Wisconsin was rebuilt. People do not understand that the State does not build for the future, they build for the present and are thus always behind in growing communities. The City needs to push for the future.	0	0
129	It is time for a rebuild of this intersection. Instead of squaring up for better sight distance to the west I suggest a dedicated two lane going east approach where traffic from the Mountain turns left onto a dedicated lane separated from a dedicated lane for eastbound traffic on E. Lakeshore. Then the two lanes merge. This would allow faster movement off the Mountain without a light.	0	0

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COMMENT ID	COMMENT	UP VOTES	DOWN VOTES
130	Rebuild 93 NOW and put in a dedicated separate bike/pedestrian path	0	0
131	Maybe the State took down the sign when they rebuilt the highway. There used to be a no jake brakes sign. Maybe the City council needs to step up the fine and then get the PD to write a few tickets - problem solved.	0	0
132	NO mirrors - rebuild the highway and slow the speed limit.	0	0
133	Need a bikepath for the southwest side of Whitefish from 93 to 93 at Blanchard Lake Road	2	0
134	40 years ago in the 1980's there was a bypass on the plan from Hwy 40 to the Lion Mtn Loop Rd vicinity and downtown businesses killed it - so let them eat trucks. Since then the southwest side of town has significantly developed with larger rural homesites and many people invested in this area. and they will fight a bypass on Karrow tooth and nail. Let the downtown businesses build a tunnel from Hwy 40 to Twin Bridges.	0	0
135	The State MDOT is asleep at the wheel - this stretch of US93 into town may be the worst piece of 93 between Canada and its end near Phoenix	0	0
136	Speeding tickets won't pay for a bike path. The State MDOT is asleep at the wheel and this section of highway should have been rebuild 10 years ago. I agree slower speeds around all of the Whitefish outskirts is needed.	0	0
137	The speed limit on 93 should be 45mph all the way from the golf course to Twin Bridges road. It changes from 45 to 60 right before the crest of the road and then there is a sign that indicates the turn should be taken at 50mph. Whats with that? People take the blind hills and turns on this stretch of the highway going WAY TOO FAST! Let's lower the limit and pinch the speeders and spend the money on the bike path!	2	0
138	Rebuild the highway now. It most definitely needs a left turn lane to Twin Bridges and a slower speed limit 45mph to that point.	0	0
139	City needs to acquire right of way to connect Armory Road to Monegan Road to create alternate pathways for traffic circulation on the east side of Whitefish. Whitefish is a one street city with growing congestion allow the one Hwy 93 route.	1	0
140	With a dedicated path I do not agree. Traffic speed is fine and pedestrians and riders need to understand that you just do not keep your pace when crossing at a crosswalk. It is like a railway crossing stop, look, and listen. Then step into the crosswalk. And take out your earbuds in busy areas.	0	0
141	40 years ago there was a bypass on the southwest side of town from Hwy 40 to the hill crest near Lion Mtn Loop Road. The downtown businesses killed it - so let them eat truck noise and exhaust. Once the bypass was taken off of the plan many people built homes in this area and they will fight a bypass very very hard.	0	0
142	40 years ago there was a bypass on the plan and it was removed in the 90's and downtown businesses did not fight the removal. Let them deal with trucks.	1	0
143	Need a traffic light at Blanchard Lake Road	0	1
144	Let's make dedicated pullouts.	0	0
145	The existing path is not wide enough for bikes riding in opposite directions to safely pass each other. Also, the path gets used frequently by baby strollers and dogs on leashes. It feels very narrow when riding a bike across it.	1	0
146	Bike/walk trail needs continuity here.	1	0
147	A reliable, convenient, and frequent bus service within Whitefish and around the Flathead is extremely necessary in order to reduce the amount of traffic on our roads. It has been crucial in the past few years and only becomes more important with so many people moving to the area in recent months. Our roads are going to be slammed with cars if a transit system isn't established. Widening roads is proven to not reduce traffic congestion. Public transit will.	2	0
148	They have talked about making Baker going South from the center of town Two Lanes/One Way. I have already talked to many people and I SAY NO WAY.!!! Two way traffic from the center just past the Post Office, Yes. Then, Two lanes/One Way from the bridge on.!!! If we can't mail a letter and then can't get back into town - that's BS and I will fight it ALL THE WAY.! Thanks, Tom Gilfillan Whitefish Pottery	0	0

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COMMENT ID	COMMENT	UP VOTES	DOWN VOTES
149	is there anyway we can route some of the traffic crossing the railroad yard east of downtown area?	0	0
150	Need a dedicated bike-ped lane that is seperated from the car lanes.	1	0
151	Please connect west side bike/walk trail to provide safe access to commercial center on 93 and connect to bike-walk trail system on the east side of 93	0	0
152	Bike lane on Baker is dangerous. Too narrow and this is a very busy vehicle lane, which will only get busier. Would love to see a dedicated and safe bike/walk path.	0	0
153	Agreed. Perhaps semi's and construction vehicles need to be better monitored or "policed" so as to be respectful to all road users.	1	0
154	The intersections of 93 with Sasquatch Hollow rd and Mountainside Dr are absolutely unacceptable. This blind hill should have HUGE warning signs, a yellow flashing light, a speed limit that reduces to 35 MPH, and have a turn out for police to set up a speed trap for enforcement.	2	0
155	Bad combination of truck and car congestion, with high & increasing pedestrian and bike usage. Have we considered a bypass to remove through-traffic (especially trucks) from Whitefish center?	2	1
156	This intersection is extremely dangerous, for access to lion mountain trail area.	1	0
157	Cars, bikes, pedestrians, trying to cross Spokane Ave is almost impossible. Lower speed limit (20 mph as recommended in Downtown Masterplan) would help. Also timing of traffic lights at 13th and 2nd cause constant traffic either from one direction or the other.	0	0
158	More public transportation is needed in Whitefish and to nearby towns.	0	0
159	The Spokane bridge needs to be replaced. It would also be great if a ped/bike path is added to cross the Whitefish River at this point - like the one added to the Second Street bridge.	0	0
160	Railway ST. west of Baker should be two-way here, which would help reduce congestion at 1st St and 2nd St.	0	0
161	Add another southbound lane between river and 13th to alleviate traffic back-ups caused by school traffic.	2	0
162	Free the River here, remove culverts and install bridge with generous bike and pedestrian enhancements, connect bike/ped path below bridge along river	0	0
163	Vehicles on 1st St have difficulty crossing or turning left here.	2	0
164	Could 10th St. be rebuilt and extended to Karrow Ave to provide an east/west connector?	0	0
165	A bridge here could perhaps enable an 18th st. from Karrow to Monegan.	0	0
166	Another overpass , connecting with Columbia Ave to the south, would help to alleviate the tremendous congestion caused on Wisconsin/Baker - the result of having only one roadway connecting everything to the north of the rail tracks with everything to the south.	1	0
167	When Baker St. and the Baker bridge are rebuilt, provide an underpass for pedestrians and bicycles here, so they can cross safely.	0	0
168	Signalized crosswalk helps here, would be good to add similar signals at 4th and 3rd.	1	0
169	pedestrian safety	2	0
170	Connect Columbia going north with a new overpass.	0	0
171	Sidewalks are lacking on several blocks in this east side neighborhood, where many children walk to school.	0	0
172	Extending 7th St. across river and completing 7th St. between Spokane Ave and Kalispell Ave would provide a badly needed east-west connector. This would reduce congestion at 2nd St, which is currently the only rout across town east/west.	0	0
173	Sidewalks are badly needed on 8th, 7th, and several blocks of connecting streets in this neighborhood. Kids walking to school are forced to walk in the street. This is especially dangerous because parents are also driving their kids to school, very fast, on these same streets.	0	0
174	Bike/ped path needs continuity here.	1	0
175	Bike/ped path needs continuity here.	1	0
176	Crosswalk here please.	1	0

...continued on page A-21

COMMENT ID	COMMENT	UP VOTES	DOWN VOTES
177	Cars, bikes, pedestrians, trying to cross Spokane Ave is almost impossible. Lower speed limit (20 mph as recommended in Downtown Masterplan) would help. Also timing of traffic lights at 13th and 2nd cause constant traffic either from one direction or the other.	1	0
178	This Traffic light causes congestion snarls on Baker. maybe a roundabout would be better.	0	1
179	We need a light at this corner! Dangerous and difficult to pull out due to all the traffic. Lots of bikers and pedestrians try to cross here as well. There are white crosses all over here. Please consider putting a light at 40 and Whitefish Stage!	3	0
180	The Downtown Masterplan details Bike/Ped improvements to the viaduct which would make it much safer and more pleasant. The improvements would also serve to better connect the business on the north side with the Downtown Business District.	2	0
181	There are no sidewalks on this block. Walking in the street is unsafe. Sidewalk on south side is inside Park, behind tall bushes, making it feel unsafe to walk there when it is dark.	0	0
182	Speed limit should drop down to 25mph here. 20mph would be better, calming traffic and providing opportunities for crossing, and for left turns.	0	0
183	Speed limit is too high here, lower to 25 mph.	0	0
184	Vehicles on 3rd St have difficulty crossing or turning left here.	0	0
185	The protected bikeway from 6th to Railway along Spokane is called for in the Downtown Masterplan. This would provide a much-needed bicycle transportation route, connecting several of the bike lanes and bike paths in the periphery. Without the protected bikeway, it is not practical to use bicycles for transportation, since riding on the street is unsafe.	1	0
186	Before and after school, cars fly through this uncontrolled intersection. A stop sign should be implemented in order to prevent collisions.	1	0
187	This is the busiest pedestrian crossing in the State. Maybe an “all walk” phase on the traffic light, when pedestrians could cross in all directions at once, would shorten the wait time for vehicles on 2nd St. Also, maybe the duration of the Central Ave green light could be shortened a bit. If this worked to help move 2nd St traffic, that would help with the back-up on 2nd. An “all walk” on Baker and 2nd St. intersection might also help.	0	0

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