

WHITEFISH

TRANSPORTATION PLAN - 2009



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ASSOCIATES



WHITEFISH

TRANSPORTATION PLAN - 2009



Prepared For:

City of Whitefish
Whitefish, Montana

In Cooperation With:

City of Whitefish
Montana Department of Transportation
Federal Highway Administration

Adopted By:

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EXECUTIVE SUMMARY

This Transportation Plan is intended to help guide decisions about the future of the Whitefish area transportation system. The Plan describes the existing system and identifies large and small improvements for the transportation network. The recommendations made in this document cover all modes of transportation, including travel by private vehicle, public transportation, pedestrian and bicycle modes. Recommended projects are intended to help relieve existing problems and prepare the Whitefish transportation system to meet future needs.

The development and implementation of a Transportation Plan is a good tool for managing growth and accommodating development needs. Not only do Transportation Plans provide analysis and mitigation for the existing transportation system, it also provides an opportunity to “look into the crystal ball” to try and predict future growth – where it is likely to happen, when it is likely to happen, and how much of it is likely to occur. More importantly, by predicting this growth the community can be primed to deal with it before infrastructure problems become apparent. By identifying transportation system needs early on, planners and community leaders can begin to plan and implement infrastructure improvements important to the efficient operation and maintenance of the transportation system.

The City of Whitefish (and the Flathead Valley in general) has been one of the fastest growing areas in Montana over the last two decades. Population estimates show the City has gained more than 3,000 new residents since 2000 and unincorporated areas outside the City have also grown substantially over the period. This population growth has manifested itself in new development and additional employment in the community with additional traffic and higher demands on the local transportation system.

The community has completed several important planning projects in recent years and several other notable Montana Department of Transportation (MDT) projects on U.S. Highway 93 in the Whitefish area are in the planning and design stages. As a result of these projects and a heightened awareness of the linkages between land use and transportation, it was decided that a comprehensive community-wide Transportation Plan should be prepared. Although this Transportation Plan takes a “fresh look” at transportation issues, it also serves to assemble appropriate recommendations from previous planning efforts and incorporate them into a single document.

This Transportation Plan relies on the development patterns and potential land use changes forecasted in the Whitefish City-County Growth Policy to help assess future travel demands. Known and potential development projects were examined both within and outside the planning study area boundary. This was extremely important, since these assumptions about growth and recent socio-economic data were key inputs for the travel demand model used to help predict future traffic in the community. While the recent economic downturn has slowed development rates significantly, the desirability of the Whitefish area as a place to live and as a tourism and recreation destination suggests it is only a matter of time before development pressures are once again experienced.

Although this document is a tool that can be used to guide development of the transportation system in the future, local and state planners must continually re-evaluate the findings and recommendations in this document as growth and new development occurs. If higher than anticipated growth is realized, or if growth occurs in areas not originally planned for, transportation

needs may be different from those analyzed in this Plan. An update and re-evaluation of this document should occur every five years, at a minimum, to determine how implementation of the City's planned transportation system is progressing.

It is important to note that Flathead County is currently preparing a Transportation Plan. Although the Plan has a county-wide scope, it does not address future transportation needs or make recommendations for transportation improvements in the Whitefish area. Because many improvements recommended in the Whitefish Transportation Plan affect lands outside the City of Whitefish, it is important that future transportation needs and projects are coordinated with Flathead County. Robert Peccia & Associates was retained to prepare the County's Transportation Plan which has helped coordinate the two transportation planning efforts. The Flathead County Transportation Plan defers to the Whitefish Transportation Plan for the identification of transportation concerns and recommended projects in the Whitefish area.

PROBLEM IDENTIFICATION

The identification of transportation-related “problems” and deficiencies is the result of extensive data collection, analysis, field observation, and public input. **Chapter 2** in the Plan provides a compilation of data describing the physical characteristics and operation of the existing transportation system. The chapter identifies the functional classifications for the major street network, provides current traffic volume data, examines the current operation of intersections and roadway corridors, and highlights areas of interest based on the analysis of crash data over a recent three-year period. The existing non-motorized transportation system and public transportation services in the Whitefish area are also addressed in **Chapter 2**.

Chapters 3 and **4** focus on future conditions within the planning study area. Future traffic conditions in the greater Whitefish area were projected using a travel demand model provided by MDT. The computer model used current socio-economic data and anticipated growth trends to produce projected traffic volumes as presented in **Chapter 3** of the Plan. These projected traffic volumes and subsequent analyses were used to identify future operational and capacity problems within the area. The projections indicate that portions of the current street network will be insufficient to meet the anticipated future traffic demands. The anticipated traffic demand in the year 2030 may produce areas with unacceptable traffic congestion and excessive vehicle delays at numerous major intersections. Several existing roadway corridors will likely need modifications to better accommodate the additional traffic including US Highway 93 (Spokane Avenue and 2nd Street) through the City, Baker Avenue, and Wisconsin Avenue.

Upgrades to existing roadways and new roads will also be required in the next 20 years to provide access to the new growth areas of the community. Without the recommended system upgrades, the anticipated increase in traffic volumes will overload some existing roadways. Even with the recommended road improvements outlined in this Plan, traffic volumes on portions of the major street network may increase to the point that some traffic congestion still occurs.

The travel demand model also made it possible to test the potential effects of major modifications and additions to the street network. Alternatives such as the addition of new arterial links, street closures, or the extension of existing routes are identified and discussed in **Chapter 3**. Seventeen (17) “alternative scenarios” were tested and the results of the modeling led to the identification of

beneficial network changes advanced as project recommendations in this Plan.

Several potential westerly bypass alignments around the City were among the alternative scenarios tested. The concept of a bypass has historically been debated. Proponents of the bypass have stated that it will reduce overall traffic volumes in the downtown, provide a desirable detour for truck traffic and enhance the business district. Opponents of the bypass have stated that a bypass would never be built, would likely cause unacceptable environmental consequences, and would be financially unattainable.

This Transportation Plan does not recommend the development of a bypass corridor to the existing US Highway 93 facility through Whitefish. The modeling shows that from a purely traffic analysis point of view, a bypass does not solve the future traffic issues along US Highway 93 in the City over the planning horizon (year 2030). Although proponents of a bypass may disagree, a bypass must show significant traffic reduction on its parallel facility to be considered feasible and warrant the time, expense, and environmental consequences of its development. Travel demand modeling of the westerly bypass alignments do not show that a bypass is a “cure-all” to the future traffic issues associated with US Highway 93 traffic flow. For this reason, it is believed the community of Whitefish is better served by strengthening the transportation grid system, providing additional east/west connectivity, and requiring roadway corridor development in vacant land **if and when** the land develops.

RECOMMENDED PROJECTS

The analysis of the existing and future traffic conditions indicated a need for a variety of improvements in the area. These improvements are presented in two categories: Transportation System Management (TSM) improvements and Major Street Network (MSN) improvements. TSM projects are relatively low cost, “tune-up” type improvements that do not require excessive planning to begin and/or high costs to construct or implement. A MSN project is any road or street improvement project that requires substantial financing and significant planning and design efforts to implement. These improvements are needed to meet the anticipated traffic demands over the next 20 years.

A total of eight TSM projects are recommended, at an **estimated cost of about \$670,000**. The MSN projects focus on upgrading entire road corridors and the construction and/or rehabilitation of roadways. Twenty-two MSN improvements are recommended, at an **estimated cost of approximately \$69.7 million**. **The estimated costs for the MSN projects do not include costs for necessary right-of-way or utilities.** The recommended projects contained in **Chapter 6** will all serve to contribute to a strong grid street system that will provide choices for the traveling public.

Figures ES-1 and ES-2 show the locations of these projects within the planning study area.

It must be acknowledged that under current funding conditions, the focus should be on getting the most out of the existing transportation system. The bigger projects should come in parallel to private development requests (with some exceptions). Outside of the development realm, the following **opportunities** should be fully considered with each and every transportation project:

- In newly developing areas, plan for a “grid” transportation system wherever possible.

- Continue to support transit activities wherever possible. Planning for the future with transit needs in developments, actively seeking out grants, and heightening awareness of the community's transit system can ensure that transit will not get "left behind" as the community goes forward with their transportation system.
- It is crucial to forge partnerships among all governmental jurisdictions as the future transportation system is created.

Chapter 6 also recounts transportation projects from past planning efforts within the community, discusses the status of their completion, and notes projects that should be carried forward as part of this Plan. This Transportation Plan also endorses continued development of the City's non-motorized transportation network as outlined in the Whitefish Bicycle and Pedestrian Master Plan.

Graphics are presented in **Chapter 6** that provide a "blueprint" for how the major street network should be developed. This projection of the future road system is essential because it enables city planners to locate general alignments for future roadway corridors, request appropriate rights-of-way, and identify appropriate new road sections during the development process. This will allow the community to create a logical and functional road network for the future.

RECOMMENDED PRIORITIES FOR TSM AND MSN PROJECTS

Table ES-1 and **ES-2** on the following pages list the recommended TSM and MSN projects from **Chapter 6** along with their corresponding implementation responsibilities and relative priority for implementation. The suggested priorities are also highlighted on **Figures ES-1** and **ES-2**. The recommended project priorities are only intended to provide a general idea of project need at the time this Transportation Plan was prepared. Changes in traffic conditions or future development may alter actual project need. The priorities were established based on the following ranking criteria:

"A" Priority Projects

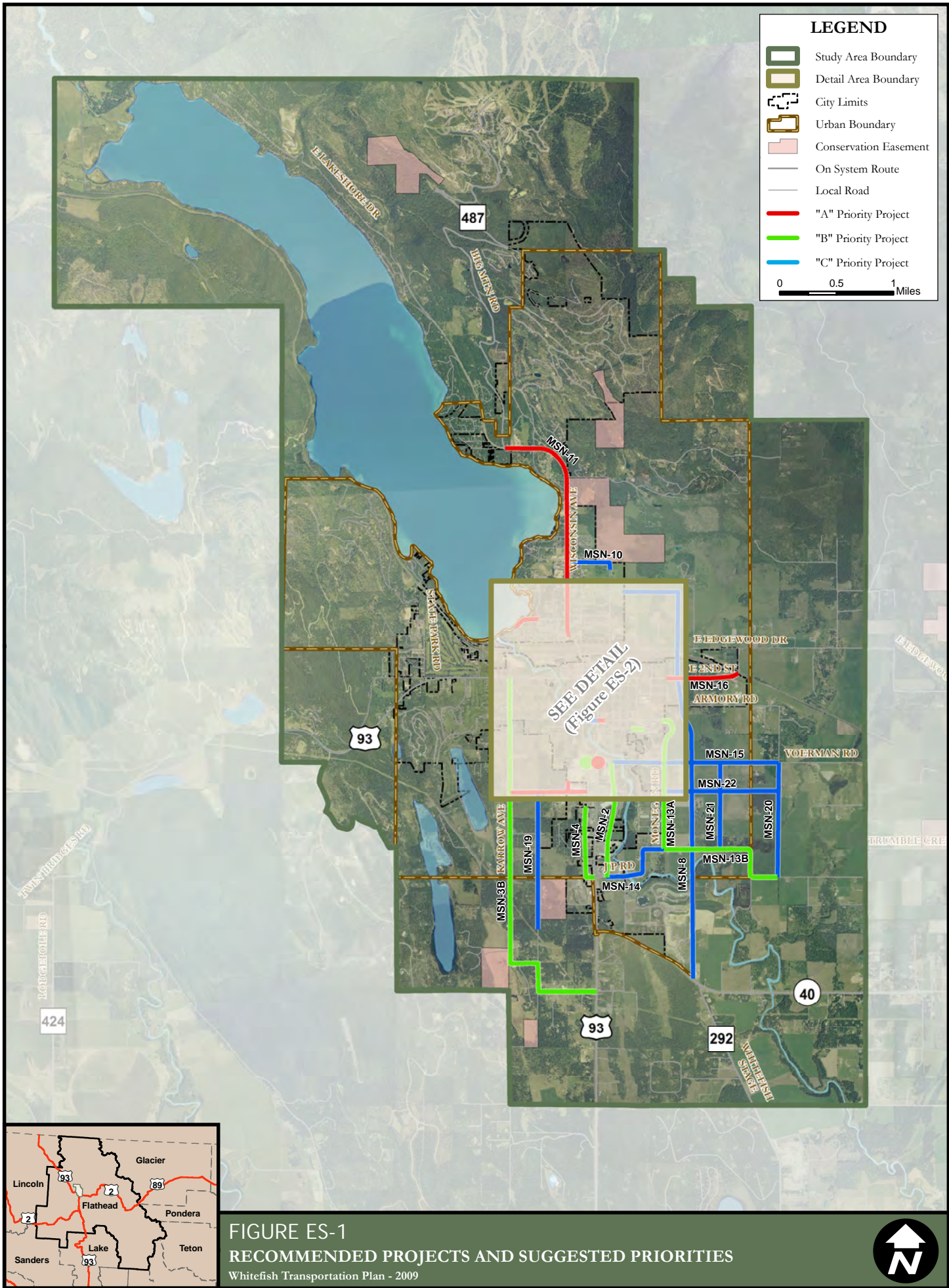
These projects are the highest priority and should be completed as soon as funding is available. The projects are needed to accommodate existing traffic conditions due to failing levels of service at intersections or exceeded capacities along corridors. They also include planning studies necessary to developing desired infrastructure or transportation services.

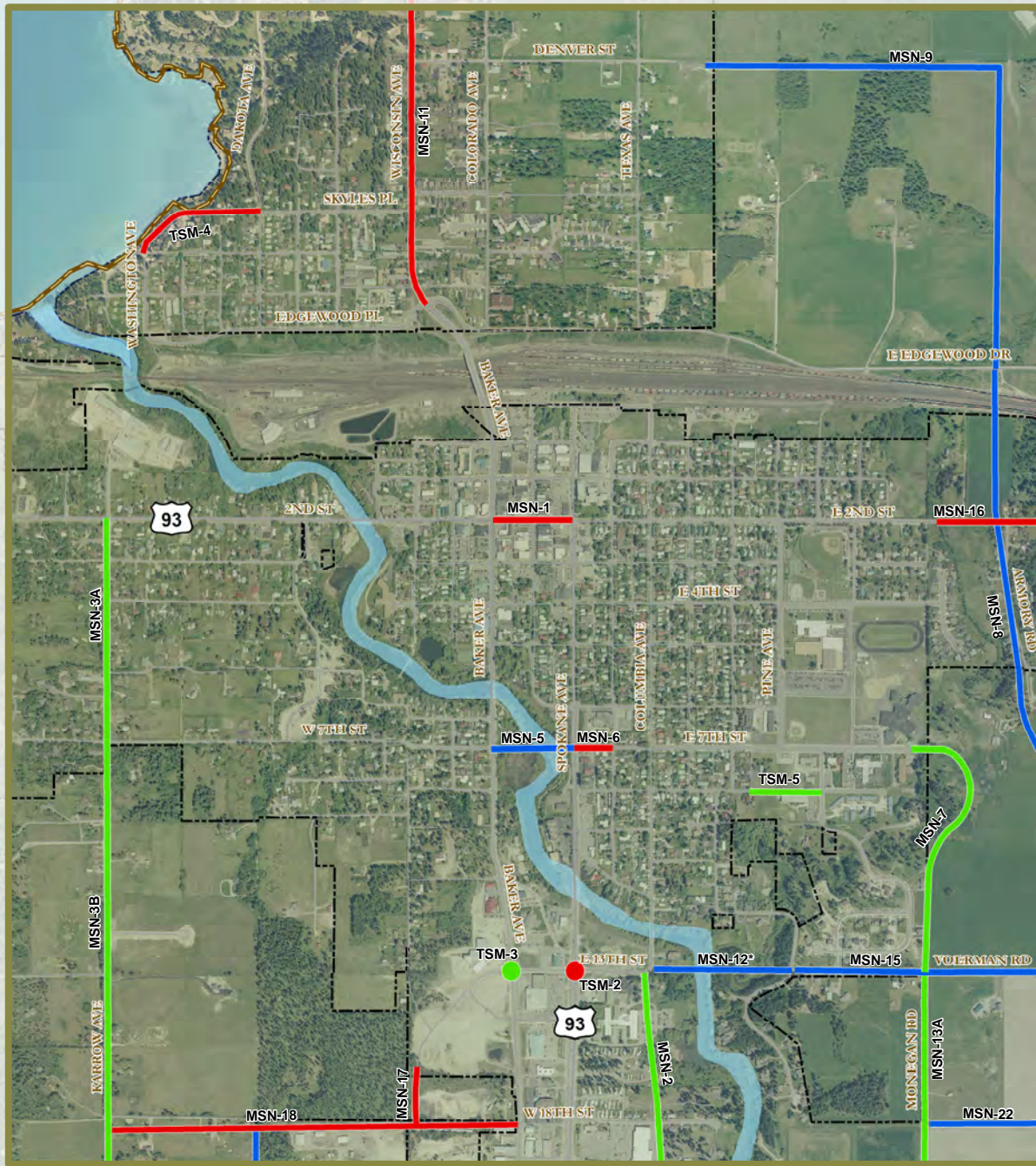
"B" Priority Projects

Medium priority projects that are not necessarily needed at this time. These projects should be considered as needed as future funds become available. The projects are generally needed due to anticipated future growth and are likely the result of current conditions being unable to handle future growth.

"C" Priority Projects

Low priority projects that are considered to be future project considerations. These projects are recommended to be built by developers or as development occurs in the area. It is expected that these projects are only necessary if development occurs in the area.





***MSN-12 (13th Street Bridge):** Please note the Whitefish City Council has recommended that a TSM project be completed at some future date to further examine east-west connectivity and the bridge crossing issue in the area, including additional travel demand modeling for a potential crossing at 18th Street instead of 13th Street.

LEGEND

	Detail Area Boundary		On System Route
	City Limits		Local Road
	Urban Boundary		"A" Priority Project
	Conservation Easement		"B" Priority Project
			"C" Priority Project

0 0.25 0.5 Miles

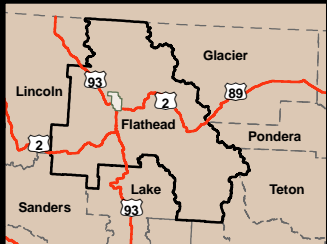


FIGURE ES-2
RECOMMENDED PROJECTS AND SUGGESTED PRIORITIES
 Whitefish Transportation Plan - 2009



Table ES-1: Recommended TSM Improvements and Suggested Priorities

Project #	Project Name	Planning Level Cost Estimate	Implementing Responsibility	Relative Priority
TSM-1	Access Control Study of US Highway 93 South	\$60,000	MDT and City	A
TSM-2	13th Street/US Highway 93 Intersection	\$25,000	MDT and City	A
TSM-3	Baker Avenue/13th Street Signal	\$250,000	City	B
TSM-4	Whitefish Beach	\$30,000	City	A
TSM-5	8th Street One-Way Roadway	\$200,000	City	B
TSM-6	Community Sidewalk Inventory	\$40,000	City	A
TSM-7	Whitefish Public Transit Planning Study	\$50,000	City	A
TSM-8	Update Bicycle and Pedestrian Master Plan	\$15,000	City Pedestrian & Bicycle Committee	A
TOTAL ESTIMATED COST OF TSM PROJECTS		\$670,000		

A = Immediate need (high priority) **B** = Near future need (medium priority) **C** = Long-term need (low priority)

Table ES-2: Recommended MSN Improvements and Suggested Priorities

Project #	Project Name	Planning Level Cost Estimate	Implementing Responsibility	Relative Priority
MSN-1	2nd Street Improvements and Signal Upgrades	\$2.0 M	MDT in cooperation with City	A
MSN-2	Columbia Avenue South Extension	\$2.3 M	City/Developers Flathead County	B
MSN-3A MSN-3B	Karrow Avenue Reconstruction MSN-3A (City Portion) MSN-3B (County Portion)	\$4.2 M	City/Developers Flathead County	B
MSN-4	Baker Avenue Extension	\$1.6 M	City/Developers Flathead County	B
MSN-5	7th Street Bridge	\$10.2 M	City in cooperation with MDT	C
MSN-6	7th Street Connection (Spokane Avenue to Kalispell Avenue)	\$500,000	City in cooperation with MDT	A
MSN-7	7th Street to Voerman Road Connection and Roundabout	\$1.3 M	City/Developers Flathead County	B
MSN-8	Kalner Lane Extension	\$15.0 M	City/Developers Flathead County	C
MSN-9	NE Extension (Denver to East Edgewood Drive)	\$2.3 M	Developers Flathead County	C

MSN-10	NE Extension (Wisconsin to Texas Avenue)	\$1.1 M	City/Developers	C
MSN- 11	Wisconsin Avenue Improvements	\$5.7 M	City MDT	A
MSN-12	13th Street Bridge*	\$7.9 M	City	C
MSN-13A MSN-13B	Monegan Road Reconstruction MSN-13A (City Portion) MSN-13B (County Portion)	\$2.1 M	City Flathead County	B
MSN- 14	JP Road Reconstruction	\$2.3 M	Flathead County	C
MSN-15	Voerman Road Reconstruction	\$1.4 M	Flathead County City	C
MSN-16	East 2nd Street (Cow Creek to BNSF)	\$2.0 M	City	A
MSN- 17	Flathead Avenue Extension	\$550,000	City	A
MSN-18	West 18th Street Extension	\$1.6 M	City Flathead County	A
MSN-19	Old Morris Trail Extension	\$1.4 M	Developers Flathead County	C
MSN- 20	Reimer Lane Extension	\$2.5 M	Developers Flathead County	C
MSN-21	Monegan Road-Voerman Road Connection	\$750,000	Developers Flathead County	C
MSN-22	Monegan Road-Reimer Lane Connection	\$1.0 M	Developers Flathead County	C
TOTAL ESTIMATED COST OF MSN PROJECTS		\$ 69.7 M		

A = Immediate need (high priority) **B** = Near future need (medium priority) **C** = Long-term need (low priority)

* Note: The Whitefish City Council has recommended that a TSM project be completed at some future date to further examine east-west connectivity and the bridge crossing issue in this area, including additional travel demand modeling for a potential crossing at 18th Street instead of 13th Street.

OTHER PLAN CONSIDERATIONS AND RECOMMENDATIONS

As **Chapter 5** notes, this Transportation Plan supports the concept of “traffic calming.” Historically used as a response to transportation issues on local streets, traffic calming is increasingly being used in new street design to provide pedestrian amenities and ward off future problems associated with vehicle speeds and cut-through traffic. The City of Whitefish has used certain forms of traffic calming (for example in the Creekwood neighborhood), and this Transportation Plan takes this subject one step further and suggests a process by which a neighborhood can go forward with a traffic calming request. The chapter provides numerous examples of traffic calming measures and offers guidance about the appropriate use of such measures.

A variety of transportation-related topics are addressed in **Chapter 7** including the City's typical roadway sections for arterial, collector, and local streets and alternate residential street typical sections. The chapter devotes considerable attention to the concept of corridor preservation, corridor planning (consistent with recommendations from the Growth Policy), and suggests the City consider developing a set of access management regulations. Sections in the chapter are also devoted to the concept of Transportation Demand Management (TDM) and school-related transportation issues. Transportation concurrency for non-motorized facilities and necessary supporting information is also discussed.

Throughout the development of this Plan, it is apparent the community has an obvious interest in public transit as a means of enhancing transportation choices, reducing private vehicle travel, providing a desirable amenity for residents and visitors to Whitefish. **Chapter 7** includes a section that recognizes public transit opportunities and makes several recommendations for how transit can play a more important role in the community. This Plan suggests the City consider undertaking a planning study to help prepare the community for the expansion of public transit services. Such a study could be used to explore and develop standards for desirable infrastructure features like transit pullouts, waiting areas or bus shelters, signage, and park and ride lots. Finding suitable funding sources and maintaining partnerships with existing transit providers will be keys to realizing the type of public transportation system the community envisions.

FUNDING TRANSPORTATION IMPROVEMENTS

Chapter 8 focuses on the financial mechanisms that are traditionally used to fund transportation improvements. Transportation improvements can be implemented using federal, state, local and private funding sources. Historically, federal and state funding programs have been used almost exclusively to construct and upgrade the major roads in the greater Whitefish area. Current financial information was obtained from the MDT Statewide and Urban Planning Section to get an indication of the projected revenue available for funding transportation projects in the Whitefish area over the next 20 years. Considering the current funding levels of these traditional programs and the estimated costs associated with road development needs in the community, it is apparent that a greater amount of the financing will be required from local and private sources if these needs are to be met.

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DEFINITIONS / ACRONYMS

DEFINITIONS

Access Management/Control – Controlling or limiting the types of access or the locations of access on major roadways to help improve the carrying capacity of a roadway, reduce potential conflicts, and facilitate proper land usage.

Average Daily Traffic (ADT) – The total amount of traffic observed, counted or estimated during a single, 24-hour period.

Annual Average Daily Traffic (AADT) – The average daily traffic averaged over a full year.

Americans with Disabilities Act (ADA) – The Federal regulations which govern minimum requirements for ensuring that transportation facilities and buildings are accessible to individuals with disabilities.

Bikeway - Any road, path, or way which in some manner is specifically designated as being open to bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes.

Bike Path - A bikeway physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right of way or within an independent right of way.

Bike Lane – a portion of a roadway which has been designated by striping, signing and pavement markings for the preferential or exclusive use of bicyclists.

Bike Route – A segment of a system of bikeways designated by the jurisdiction having authority with appropriate directional and informational markers, with or without a specific bicycle route number.

Capacity – The maximum sustainable flow rate at which vehicles can be expected to traverse a roadway during a specific time period given roadway, geometric, traffic, environmental, and control conditions. Capacity is usually expressed in vehicles per day (vpd) or vehicles per hour (vph).

Collector Street – Provides for land access and traffic circulation within and between residential neighborhoods, and commercial and industrial areas. It provides for the equal priority of the movement of traffic, coupled with access to residential, business and industrial areas. A collector roadway may at times traverse residential neighborhoods. Collectors are generally defined as Urban Collectors or Rural Minor/Major Collectors. Urban Collectors provides a channel for local street traffic to access arterials. Rural Major Collectors serves important travel generators (i.e. County Seats, consolidated schools, etc.) while Rural Minor Collectors provide land use access and are spaced at intervals consistent with population density. Posted speed limits on collectors typically range from 25 mph to 45 mph.

Congested Flow - A traffic flow condition caused by a downstream bottleneck unable to pass through unsignalized intersections.

Context Sensitive Design (CSD) - A fairly new concept in transportation planning and highway design that integrates transportation infrastructure improvements to the context of the adjacent land uses and functions, with a greater sensitivity to transportation impacts on the environment and communities being realized.

Delay - The amount of time spent not moving due to a traffic signal being red, or being unable to pass through an unsignalized intersection.

Facility – A length of highway composed of connected section, segments, and points.

Level of Service (LOS) - A qualitative measure of how well an intersection or road segment is operating based on traffic volume and geometric conditions. The level of service “scale” represents the full range of operating conditions. The scale is based on the ability of an intersection or street segment to accommodate the amount of traffic using it, and can be used for both existing and projected conditions. The scale ranges from “A” which indicates little, if any, vehicle delay, to “F” which indicates significant vehicle delay and traffic congestion.

Local Street – Comprises all facilities not included in a higher system. Its primary purpose is to permit direct access to abutting lands and connections to higher systems. Usually through-traffic movements are intentionally discouraged. Local streets can be defined as either Urban or Rural. Urban Local Streets are all remaining streets in an urban area that link to higher classifications. Rural Local Streets are all remaining streets outside the urban areas that provide access to adjacent land. Posted speed limits on local roads typically range from 25 mph to 35 mph.

Major Street Network (MSN) – The network of roadways defined for the Transportation Plan effort that include the interstate, principal arterials, minor arterials, collectors and some local streets.

Minor Arterial Street – Interconnects with and augments the Principal Arterial system. It also provides access to lower classifications of roads on the system and may allow for traffic to directly access destinations. They provide for movement within sub-areas of the city, whose boundaries are largely defined by the Principal Arterial road system. They serve through traffic, while at the same time providing direct access for commercial, industrial, office and multifamily development but, generally, not for single-family residential properties. The purpose of this classification of road is to increase traffic mobility by connecting to both the Principal Arterial system and also providing access to adjacent land uses. Minor Arterials are generally defines as either Urban Minor Arterials or Rural Minor Arterials. Urban Minor Arterials interconnect with Urban Principal Arterials. Rural Minor Arterials link cities and larger towns and interconnects the network of arterial highways. Posted speed limits on minor arterials typically range from 25 mph to 55 mph.

Multi-modal – A transportation facility for different types of users or vehicles, including passenger cars and trucks, transit vehicles, bicycles, and pedestrians.

Oversaturation – A traffic condition in which the arrival flow rate exceeds capacity on a roadway lane or segment.

Peak Hour – The hour of greatest traffic flow at an intersection or on a road segment. Typically broken down into AM and PM peak hours.

Road Failure – A condition by which a road has reached maximum capacity or has experienced structural failure.

Project Oversight Committee (POC) – The oversight committee that guided the development of this Transportation Plan. The committee is comprised of 7 members and includes representatives from the City of Whitefish, the Montana Department of Transportation (MDT), and the Federal Highway Administration (FHWA). The committee is not a standing committee in the community and was set up to oversee this project’s development only.

Principal Arterial Street – Is the basic element of a city’s road system. All other functional classifications supplement the Principal Arterial network. Access to a Principal Arterial is generally limited to intersections with other principal arterials or to the interstate system. Direct access is minimal and controlled. Principal Arterials are generally defined as either Urban Principal Arterials or Rural Principal Arterials. Urban Principal Arterials serve the major centers of activity, the highest traffic volume corridors, and the longest trip distances in an urbanized area. This classification of roads carries a high proportion of the total traffic within an urban area. Rural Principal Arterials serve as the predominant route between major activity centers, have long trip distances, experience heavy travel densities and provide service to most large urban areas. The major purpose of Principal Arterials is to provide for the expedient movement of traffic. Posted speed limits on principal arterials typically range from 25 mph to 70 mph.

Running speed - The actual vehicle speed while the vehicle is in motion (travel speed minus delay).

Service Life – The design life span of roadway based on capacity or physical characteristics.

Traffic Calming – Traffic calming involves changes in street alignment, installation of barriers, and other physical measures to reduce traffic speeds and/or cut-through volumes, in the interest of street safety, livability, and other public purposes.

Transportation Analysis Zone (TAZ) – Geographical zones identified throughout the study area based on land use characteristics and natural physical features for use in the traffic model developed for this project.

Transportation Demand Management (TDM) - Programs designed to maximize the people-moving capability of the transportation system by increasing the number of persons in a vehicle, or by influencing the time of, or need to, travel.

Travel speed - The speed at which a vehicle travels between two points including all intersection delay.

Volume to Capacity (V/C) Ratio – A qualitative measure comparing a road’s theoretical maximum capacity to the existing (or future) volumes. Commonly described as the result of the flow rate of a roadway lane divided by the capacity of the roadway lane.

ACRONYMS

AASHTO	American Association of State Highway and Transportation Officials
CAC	Citizen Advisory Committee
CFR	Code of Federal Regulations
CIP	Capital Improvement Program
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
HCM	Highway Capacity Manual
HCS	Highway Capacity Software
ISTEA	Intermodal Surface Transportation Efficiency Act
ITE	Institute of Transportation Engineers
MDT	Montana Department of Transportation
MEPA	Montana Environmental Policy Act
MUTCD	Manual on Uniform Traffic Control Devices
NEPA	National Environmental Policy Act
POC	Project Oversight Committee
TEA-21	Transportation Efficiency Act for the 21st Century
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users



CHAPTER 1:
Introduction And Background

CHAPTER 1: INTRODUCTION AND BACKGROUND

Whitefish is a vibrant, scenic, and engaging western community in the foothills of the Rocky Mountains. Located in one of the fastest growing areas of Montana, it is experiencing growth and identity issues that are increasingly common in our rural western communities. Perhaps the most visible symptom of growth and livability concerns is the impact to the area's transportation system. Due to many constraints, transportation infrastructure is not keeping pace with the growth that drives it. Because of this historical pattern, communities like Whitefish are at a crossroads in that transportation systems need improvements; however, they are increasingly in need of implementing sensitive improvements that add transportation choices, preserve the community's character and quality of life, or provide desired amenities.

Whitefish is an example of a community that prides itself on livability, character, sensitivity to the environment, and providing a "sense of place" for its citizens and visitors. These issues can be manifested through a variety of components, but the transportation system is one such area that is in need of attention as the community continues to grow. Planning for the future transportation system is an endeavor that, although not simple, can allow the community to handle its growth in a sensitive manner and still serve the needs of the traveling public.

Whitefish is also somewhat unique in that the predominate transportation issues in the community are largely driven by their seasonal tourism traffic in the summer months (especially July and August). Summer peak traffic volumes can be high and often cause or contribute to a variety of intersection and corridor congestion issues, especially in the downtown area. One theme contained in this Transportation Plan is that the community should strive to reduce the dependence on private automobile travel wherever possible. Programs and options for doing this should extend to the occasional summer visitor that may want to spend less time in their vehicle and more time experiencing the joys and attributes of the Whitefish community. Transportation issues identified within this document are not necessarily related to "commuter-type" traffic issues, which is also unique to the community of Whitefish.

Although a comprehensive "city-wide" Transportation Plan for Whitefish has not been previously prepared, there have been notable community transportation planning efforts completed for portions of the City's transportation system. Several previous studies have analyzed transportation needs in the community including:

- Whitefish City-County Growth Policy;
- Whitefish Downtown Business District Master Plan;
- Southeast Whitefish Transportation Plan;
- South Whitefish Transportation Planning Project;
- Whitefish Traffic Operations Study;
- Whitefish Transportation and Storm Drainage Master Plan; and
- US Highway 93 Somers to Whitefish West Environmental Impact Statement.

With this in mind, it is the intent of this Transportation Plan to serve as a guide for the future of the Whitefish area transportation system. The Plan describes the existing system, and identifies large and small improvements for the transportation network. The recommendations made in this document cover all modes of transportation, including travel by private vehicle, public transportation, and pedestrian and bicycle modes. Recommended projects are intended to relieve existing problems and prepare the Whitefish transportation system to meet future needs.

A variety of transportation-related topics are addressed in this Plan including transportation demand management strategies that may be applicable to the Whitefish area. Traffic calming is also addressed in detail, including a comprehensive list of available measures, along with recommendations of methods most likely to benefit the Whitefish community. Consistent with recommendations in the City's Growth Policy, the Transportation Plan also devotes considerable attention to the concepts of corridor planning and preservation and transportation concurrency for non-motorized facilities.

1.1 PROJECT BACKGROUND

Transportation issues have been elevated in the past few years often in response to the new growth and development seen in Whitefish. The community has completed several important planning projects in recent years and several other notable transportation projects by the Montana Department of Transportation (MDT) are underway. As a result of these projects and a heightened awareness of the linkages between land use and transportation, it was decided that a comprehensive community-wide Transportation Plan should be prepared. Although this Transportation Plan takes a "fresh look" at transportation issues, it also serves to assemble appropriate recommendations from previous planning efforts and incorporate them into a single document.

Two important catalysts for undertaking this Transportation Plan effort were the completion of the Whitefish Downtown Business District Master Plan in 2006 and the development and adoption of the Whitefish City-County Growth Policy in 2007. The Master Plan identifies and evaluates the long range opportunities and needs of the downtown business district and recommends land use changes and new development ideas to help ensure the long-term viability of the downtown. The Downtown Business District Master Plan contains a transportation component and poses a number of notable changes to US 93 through downtown Whitefish.

The City's Growth Policy includes a "Transportation Element" and stresses two key concepts—preservation of Whitefish's "community character" and sustainability. Preservation of community character means maintaining and enhancing the qualities and resources that make Whitefish unique. With respect to land use and transportation, sustainability translates into compact growth patterns, mixed land uses, and multiple transportation choices to help reduce vehicle trips. The Growth Policy recognizes that managing growth is essential to preserving the community's character and sustainability.

The MDT and the Federal Highway Administration (FHWA) have also considered improving US Highway 93 through the community since the late 1980's. The US Highway

93 Somers to Whitefish West Environmental Impact Statement (EIS) was completed in 1995 that identified necessary improvements for the facility. Reconstruction of US Highway 93 at the southern edge of Whitefish based on the EIS recommendations was completed in 1998 and design work for two additional reconstruction projects—the Whitefish Urban and Whitefish West projects—began in early 2005.

Substantial design work has been completed in the community for the Whitefish-West project which addresses reconstruction of US Highway 93 west of the downtown. The project is being guided by a Citizens Working Group (CWG), and the need for the project is well documented to improve safety, operational characteristics, and increase connectivity in the community. Issues still being resolved are the character of the roadway and its amenities, how to handle the needed utility modifications, and the high cost of right-of-way to accommodate the necessary improvements.

The Downtown Business District Master Plan was prepared around the same time as the project development and design activities for MDT's Whitefish Urban project were being completed by the consulting firm of WGM Group (Missoula, Montana). As part of the project, a re-evaluation of the US Highway 93 Somers to Whitefish West EIS as it relates to the Whitefish area projects was prepared and the recommendations for US Highway 93 improvements through downtown Whitefish provided in the EIS were revisited. This work suggested the Preferred Alternative from the EIS may no longer be appropriate based on current traffic operations (turning movements, geometry, turning vehicles) and noted several changed community characteristics and preferences. These findings caused State and local planners to step back and question how best to proceed.

Although the design of Whitefish West project has continued to advance, changing community conditions and input received from recent local planning projects like the Whitefish Downtown Business District Master Plan and Growth Policy prompted MDT to suspend work on the Whitefish Urban project and evaluate corridor needs based on the new information. It was ultimately decided that undertaking a community-wide transportation plan and conducting a corridor study for the Whitefish Urban as a parallel project was the most appropriate way to proceed. This approach allowed the corridor study to be developed with the benefits of taking a broad community-wide look at the City's transportation system and its future needs. The work for the Transportation Plan helped analyze conditions within the corridor and provided an overall framework for recommending corridor improvements. Likewise, work for the Whitefish Urban Corridor Study will provide guidance for MDT and the City as improvements for US Highway 93 through the downtown are identified and advanced.

The Corridor Study is a pre-NEPA and pre-MEPA document. NEPA stands for the National Environmental Policy Act, federal legislation that is important to and helps guide the development of transportation projects and the subsequent expenditures of federal money for such projects. The Montana Environmental Policy Act (MEPA) is the state's counterpart legislation to NEPA. Rather than formally reopening the US Highway 93 Somers to Whitefish West EIS, this pre-NEPA/MEPA study allows MDT more flexibility in examining options for the roadway system. The supporting information, public processes, and recommendations from the Corridor Study can be directly incorporated and help

streamline future federal and state environmental compliance activities for US Highway 93 improvements through Whitefish.

This Transportation Plan has been completed ahead of the Whitefish Urban Corridor Study and therefore does not contain specific recommendations for future improvements to US Highway 93 through downtown Whitefish. However, the Plan identifies local projects that fall within the area examined in the corridor study or that could be affected by future MDT improvements to US Highway 93. It is anticipated that extensive coordination between MDT and the City will occur as future design projects are developed and advanced.

The desire to make improvements to Wisconsin Avenue is another consideration that supported a decision to prepare this Transportation Plan. The City of Whitefish has been collecting funds for eventual improvements to this roadway for several years under the “Urban Highway System (STPU)” funding program. To date, the City has a balance of about \$1,134,000 and continues to be allocated more than \$170,000 in Urban funds on an annual basis. Since this available money will not be enough to fund a full corridor reconstruction project on Wisconsin Avenue, the Transportation Plan provided an opportunity to identify incremental improvements along the corridor to satisfy safety and operational needs until a major reconstruction project could be contemplated.

1.2 STUDY AREA

All transportation plans begin by defining the study area. Sometimes this study area follows governmental boundaries such as city limits, but most often they include land outside city limits where future growth is likely to occur.

For the purposes of this Plan, the study area boundary includes the entire City limits of Whitefish, as well as a substantial portion of unincorporated lands surrounding the City. These lands include the area surrounding Whitefish Lake, the Whitefish Mountain Resort area, as well as additional areas that are developing and/or forecast to develop over the planning horizon of the Transportation Plan (i.e. the year 2030).

The study area also considers the areas addressed by other recent and relevant City of Whitefish studies. With this in mind, the Transportation Plan study area boundary follows the same planning area boundary considered in the Whitefish City-County Growth Policy.

The study boundary is shown on **Figure 1-1** and has been used for all aspects of the Transportation Plan. This study boundary includes all of the major employers in the area, and includes all of the land that may be used for employment centers in the next twenty years. It also includes developing residential land uses in the area, and those areas likely to increase the housing supply in the future and subsequently add traffic onto the transportation network.

It should be recognized that there are many other areas that are not formally included in the study area boundary that will exhibit development patterns affecting the area transportation system. These areas include, but are not limited to, south along US Highway 93 and east along Montana Highway 40. These are not included in the study area due to both funding

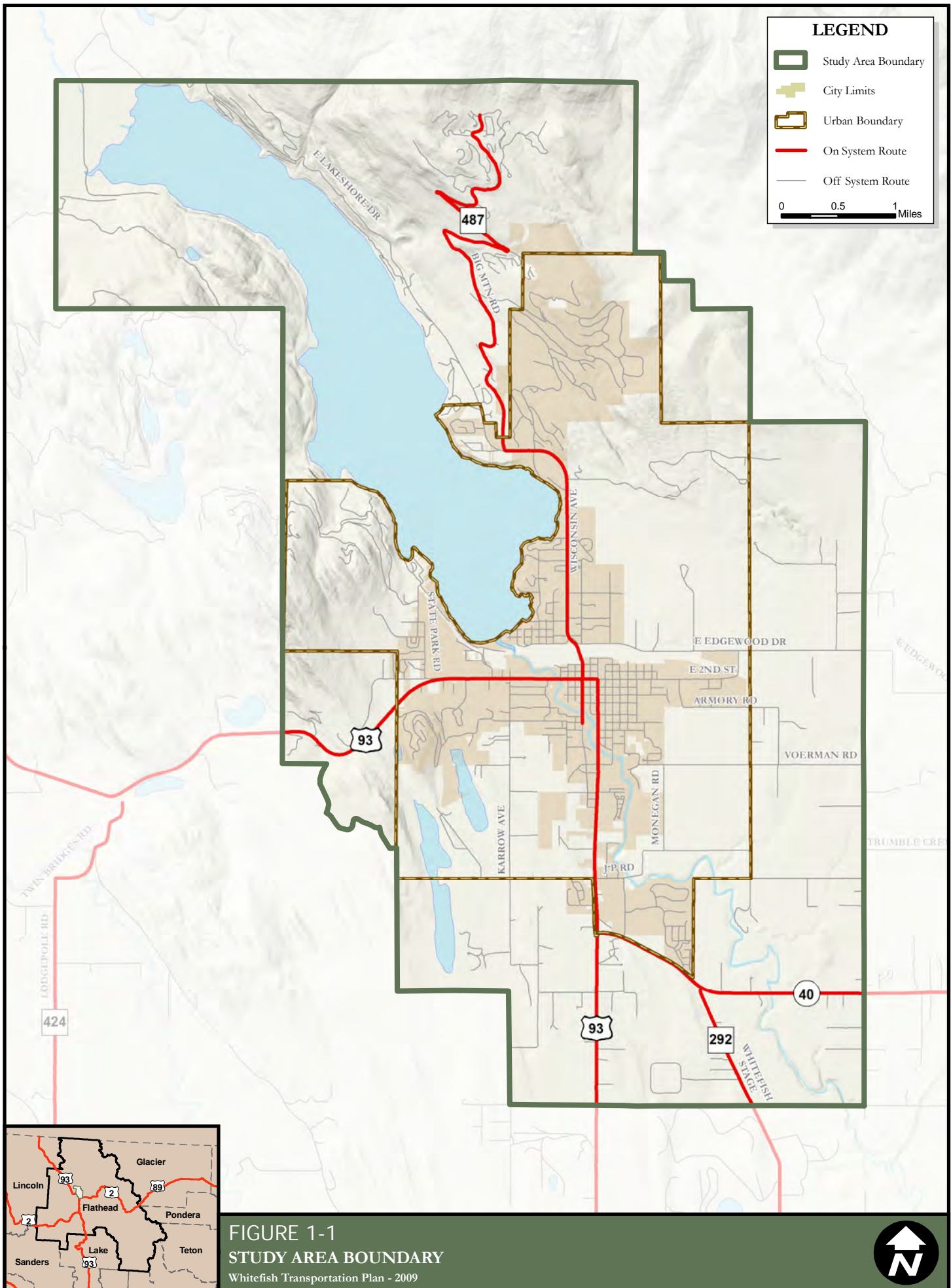


FIGURE 1-1
STUDY AREA BOUNDARY
 Whitefish Transportation Plan - 2009



and jurisdictional constraints. Land use changes outside of the formal boundary are still accounted for and incorporated into the travel demand model; however, precise transportation system impacts are not identified for facilities outside of the formal study area boundary.

1.3 TRANSPORTATION PLANNING, GOALS, OBJECTIVES AND POLICIES

An excerpt from the Institute of Transportation Engineers (ITE) “Transportation Planning Handbook”:

“...early in the planning program, the goals and objectives for community growth and development should have been identified. Community development goals will likely have been prepared as part of the comprehensive planning program (i.e. Growth Policies). An effort to prepare community development goals as part of the transportation planning process is necessary only if such goals have not already been prepared.”

The future transportation system will be designed to serve the future community so the transportation goals should follow logically from the comprehensive goals for community development (i.e. Growth Policies). Support for the transportation plan, be it political or financial, will depend on the community recognizing that the transportation plan is an inherent part of and a necessity for realizing the community development plan.”

Goals – a purpose or need that should be attained to address a transportation issue.

Objectives – a specific method or activity that is designed to achieve an identified goal.

1.3.1 Community “Transportation Related” Goals and Objectives

Whitefish City-County Growth Policy Update

- Provide an efficient and effective transportation system to serve the present and future needs of the Whitefish area.
- Integrate transportation and land use planning so that choices of transportation modes are optimized.
- The City shall explore support of improved public transit, both in the city, and inter-city, through support of the expansion of existing systems and support for new enterprises, using capital improvement planning, grants, and other means.
- The City shall be open and receptive to the use of alternative street standards that preserve and enhance the character and qualities of neighborhoods while still meeting general transportation and public safety needs.
- The community shall encourage sustainability in all aspects of the transportation system so that the needs of the present are met, while ensuring that future generations have the same or better opportunities.
- Through integrated community planning, transportation system enhancements, and a viable non-motorized transportation system, work to reduce the Whitefish community’s carbon footprint.

Whitefish Downtown Business District Master Plan

- Ensure the Highway 93 improvements enhance and support downtown businesses.
- Accommodate increasing traffic volumes without degrading downtown businesses and the retail environment.
- Locate new parking facilities to support downtown businesses and retail.
- Strengthen alternative transportation modes to reduce traffic congestion, including pedestrian, bicycle, and transit.

Flathead County Growth Policy

- Maintain safe and efficient traffic flow and mobility on county roadways.
- Develop a quality transportation network to meet the present and future needs of the public.
- Identify and support alternative modes of transportation.

Big Mountain Neighborhood Plan

- Create an entrance to Whitefish Mountain Resort at the intersection of Big Mountain Road and the Day Lodge Road. The entrance may include a staffed information building with a destination accommodations desk.
- Maintain adequate parking for the day skier/visitor.
- Develop parking in the Village for the new and existing accommodations.
- Develop a trail system and facilities on the lower mountain that provide and support a variety of opportunities for hiking, walking, biking, cross country skiing, trail riding, etc.
- Off-mountain housing would be served by the SNOW bus to reduce traffic volumes on Wisconsin Avenue and Big Mountain Road and reduce parking needs at the mountain.

1.3.2 Policies

In order to achieve the Transportation Related Goals listed above, the following policies are needed to guide decision-making and address issues within the community.

- It shall be the policy of the City of Whitefish to support non-motorized transportation through community planning and capital improvement planning and programming.
- The City shall seek ways to reduce the community's carbon footprint through efficiencies in the transportation system, reduction of vehicle miles traveled, and through promoting non-motorized transportation.
- The City shall be open and receptive to the use of alternative street standards that preserve and enhance the character and qualities of neighborhoods while still meeting general transportation and public safety needs.

- The community shall encourage sustainability in all aspects of the transportation system so that the needs of the present are met, while ensuring that future generations have the same or better opportunities.

1.3.3 Objectives (Recommended Actions)

These objectives are designed to provide measurable milestones regarding transportation planning and to assist in achieving the goals and policies as stated previously.

- 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.
- It is highly recommended that no additional land in the Monegan Road area be designated for urban or suburban development until such time as an additional east-west connection is made available.
- Through the community-wide transportation plan, explore possibilities for an additional grade-separated crossing of the BNSF rail facilities.
- The City shall make the provision of sidewalks, pathways, and other non-motorized transportation facilities part of a concurrency program and policy.
- The City shall research and develop a set of alternative “neighborhood sensitive” designs for local residential streets.
- The City shall develop a menu of traffic calming measures for use on residential collector streets.
- Through the community-wide transportation plan, the City shall assess the need and feasibility of a highway by-pass to alleviate through traffic in the downtown area.
- Continue support for federal funding that will keep Amtrak passenger service operating in Montana.
- Continue to support agreements with Eagle Transit and the Snow Bus, and encourage them or other enterprises to expand existing services to provide daily and year-round public transportation options in Whitefish.
- Coordinate with the Montana Department of Transportation in developing corridor studies for state highways within the planning jurisdiction.
- Explore alternative vehicular routes to the Whitefish Mountain Village.

1.4 PREVIOUS TRANSPORTATION PLANNING EFFORTS

In the course of data collection, past plans and studies were obtained. From the review of these documents, applicable issues were incorporated into the Whitefish Transportation Plan. The contributing documents are as follows:

- Whitefish Urban Corridor Study;

- Whitefish City-County Growth Policy;
- Whitefish Downtown Business District Master Plan;
- Whitefish City-County Master Plan (2020);
- Big Mountain Neighborhood Plan;
- Whitefish Zoning Map;
- Southeast Whitefish Transportation Plan;
- Whitefish Bicycle and Pedestrian Master Plan;
- South Whitefish Transportation Planning Project;
- Whitefish Traffic Operations Study;
- Armory Park Master Plan;
- Whitefish Transportation and Storm Drainage Master Plan (RPA 1998);
- Whitefish Stormwater System Utility Plan (HDR 2006);
- Whitefish Wetlands Delineation Study (currently underway);
- US Highway 93 Somers to Whitefish West Environmental Impact Statement;
- Eagle Transit Transportation Development Plan Update (2006 Update);
- Flathead County Growth Policy;
- Flathead County Zoning Regulations;
- Flathead County Subdivision Regulations;
- Kalispell Area Transportation Plan (2006 Update);
- Kalispell Area Transportation Plan (1993 Update);
- Miscellaneous Traffic Impact Studies (Flathead County & City of Whitefish) for recent developments including the “O’Brien Bluff Residential Development TIS”, “Bridgewater TIS”, “Boardwalk at Whitefish Lake TIS”, and the “Wisconsin 20 Residential Development TIS”;
- City of Whitefish Engineering Standards;
- Flathead County Road Standards;
- School Bus Routes;
- Postal Routes;
- Fire District Maps;
- Whitefish Deaconess Hospital “Sub-area” Plan;
- Locally adopted master plans, public facility plans, and related development regulations;
- Official Code of the City of Whitefish;
- Montana Department of Transportation STIP and other Local Planning Documents
- U.S. Bureau of Census data; and
- City building permits, County location and conformance permits, and utility records.

1.5 PUBLIC INVOLVEMENT

The primary goal of the communications program for the Whitefish Transportation Plan was to keep the public informed and involved in the project. A second goal of the process

was to integrate the opinions and issues identified by the public, as a result of the program, into the project approach and methodology, wherever feasible. The methods that were used to achieve these goals included: guidance from the Project Oversight Committee (POC); feedback from the Citizens Advisory Committee (CAC); outreach to key constituencies (i.e. general public); education of decision-makers (i.e. City Council); project newsletters (two total); news releases; and public events.

A brief summary of some of the project outreach activities utilized during the projects development is provided below:

Project Oversight Committee (POC) – A project oversight committee (POC) was established to oversee the development of this transportation plan. The POC met face-to-face on two occasions, with the majority of oversight completed via regular, conference call meetings during the development of the Public Draft of the Transportation Plan.

Membership was composed of individuals as noted on the acknowledgements page of this document, and generally included representatives from the MDT, the City of Whitefish, and the FHWA. The POC was the principal guiding force behind this Transportation Plan.

Citizen Advisory Committee (CAC) – The CAC was set up for this project under the charge of acting as a sounding board to the Consultant team developing the community Transportation Plan as they develop recommendations and identify solutions for the community's transportation system. The CAC was asked to look at the “bigger picture” regarding comprehensive transportation needs and issues in the larger community. The CAC was an advisory group and was not in a position to formally “endorse” the resulting Transportation Plan. The overarching role of the CAC for this project was to:

- Help identify critical issues relating to the transportation system in the Whitefish study area boundary, including the US Highway 93 urban corridor.
- Represent the diverse interests of the Whitefish community.
- Review project deliverables & comment as appropriate.
- Convey other citizen input that may be received to the Consultant team.

The CAC met four times during the development of this Transportation Plan, with the last meeting focused on the Whitefish Urban Corridor Study.

Public Meetings – Three formal public meetings on the Transportation Plan were held during the study process. The first meeting was held at a time when the data collection process was nearing completion at the Whitefish City Council chamber. This meeting focused on informing the public about the current transportation problems that had been identified to date, and receiving public comment on which issues should be addressed in the Plan. A variety of key issues were identified. The issues generally fell within four categories: 1) the need to plan for future growth; 2) to relieve traffic congestion; 3) to improve traffic safety; and 4) to provide alternatives to the automobile. Specific problem intersections and roadway corridors were identified and presented at this first meeting.

The second public meeting was held after the analysis of the existing transportation system was completed and took place at the Whitefish City Council chamber. Additionally, the effects of population growth on traffic volumes and transportation infrastructure were discussed. Where and potentially when future land use changes (i.e. growth) were also defined and discussed. Again, the public had the opportunity to give their opinions on transportation system issues in the study area, as well as any other concerns they might have.

The third public meeting was held at the O'Shaughnessy Center and took place after the draft Transportation Plan document was completed. This meeting gave the public the opportunity to review the draft document in its entirety, including a thorough review of recommended projects that not only offered mitigation measures to solve existing transportation issues, but also measures to accommodate future growth issues.

Other Public Outreach Activities – Formal and informal meeting and presentations occurred many times over the course of the project. These are specifically listed in **Table 1-2** later in this chapter.

Public Hearing – Two public hearings were conducted near the completion of this planning process to obtain formal public comment on the draft document before both the Planning Board and the City Council. The public hearing covered all elements of the draft and significant additional time for public comment was provided after the public hearing closed. After reviewing the comments received at the public hearing, the POC met with the consultant to provide comments and direction in revising the draft document, and developing the final version of the Plan.

News Releases – Television and newspaper articles were used several times during the planning process to help keep the public informed. These news releases generally were issued prior to public meetings (and the public hearing), to generate interest in the process, and to encourage participation by the public.

Internet Access – The results of the traffic studies and analyses conducted during the study process were made available to the public on the Internet website. As sections of the report and graphic displays became available, they were posted on the web site for public review and comment. This enabled the public to stay abreast of the developments occurring during the planning process. It also provided an opportunity for the public to submit comments.

Project Newsletters – One (1) project newsletter was created and distributed that announced the project. The newsletter was sent by mail to everybody in the 59937 zip code area. This equated to a total of 7,500 newsletters being distributed. They were also made available at all public meetings and presentations made through the outreach program.

1.6 COORDINATION SUMMARY

The following tables (**Table 1-1** and **Table 1-2**) summarize notable coordination activities that occurred during the course of this planning project. They encompass all formal and informal meetings, including but not limited to Project Oversight Committee (POC) meetings and workshops, formal public meetings, and others.

Table 1-1: Summary of POC and CAC Activities

DATE	AGENCY OR INDIVIDUAL
10/17/06	POC Scoping Meeting
01/30/07	POC Kick-off Meeting
Various	POC Conference Calls
04/17/07	CAC Meeting No. 1
07/16/07	CAC Meeting No. 2
01/08/08	CAC Meeting No. 3
08/19/08	CAC Meeting No. 4

Table 1-2: Summary of Public Outreach Activities

DATE	AGENCY OR INDIVIDUAL
03/23/07	City of Whitefish – Engineering Dept.
04/16/07	Public Meeting No. 1
04/16/07	City Council Presentation No. 1
05/16/07	City of Whitefish / Glacier NP
05/24/07	Resource Agency Meeting No. 1
05/30/07	USFWS Coordination Meeting
07/11/07	Eagle Transit
07/12/07	US Highway 93 Business Owner
07/13/07	Whitefish School Superintendent
07/17/07	City of Whitefish – Streets Dept.
07/17/07	US Highway 93 Beautification Committee
07/17/07	Public Meeting No. 2
09/25/07	MDT/City Meeting on Screening
01/10/08	Public Meeting No. 3
02/21/08	Planning Board Presentation
03/20/08	Planning Board Work Session
08/19/08	Public Meeting No. 4 - US 93 Corridor Study
12/17/09	Planning Board Public Hearing
01/07/10	Planning Board-City Council Work Session
01/19/10	City Council Public Hearing
02/16/10	City Council Public Hearing



CHAPTER 2:
Existing Transportation Conditions

CHAPTER 2: EXISTING CONDITIONS

2.1 INTRODUCTION

This chapter provides a compilation of data describing the physical characteristics and operation of the existing transportation system. The data includes roadway widths, intersection geometrics, lane usage, signal timing, and design features on the major street network. In subsequent portions of the Transportation Plan, this data was evaluated to identify existing or future problems and deficiencies in the major street network.

Information on the current transportation system was gathered in order to clearly understand the existing traffic conditions. The information described different aspects of the existing transportation system. Existing traffic volume data were used to determine the annual average daily traffic (AADT) volumes on the major street network. This data helps to determine current operational characteristics. Current or future traffic problems could then be identified. Only the major street network was examined in any detail. The information gathered and analyses performed include the following:

- Existing functional classifications & study roadways review;
- Traffic volume counts;
- Corridor facility size;
- Current traffic signal system/operation;
- Traffic crash data; and
- Peak hour turning movement counts & existing intersection “Level of Service”.

2.2 EXISTING FUNCTIONAL CLASSIFICATIONS & STUDY ROADWAYS

One of the initial steps in trying to understand a community’s existing transportation system is to identify what roadways should be evaluated as part of the larger planning process. A community’s transportation system is made up of a hierarchy of roadways, with each roadway being classified according to parameters like geometric configuration, traffic volumes, spacing in the community transportation grid, speeds, etc. It is standard practice to examine roadways that are functionally classified as collectors, minor arterials, or principal arterials in a regional transportation plan project. These functional classifications are applicable to both “urban” and “rural” settings.

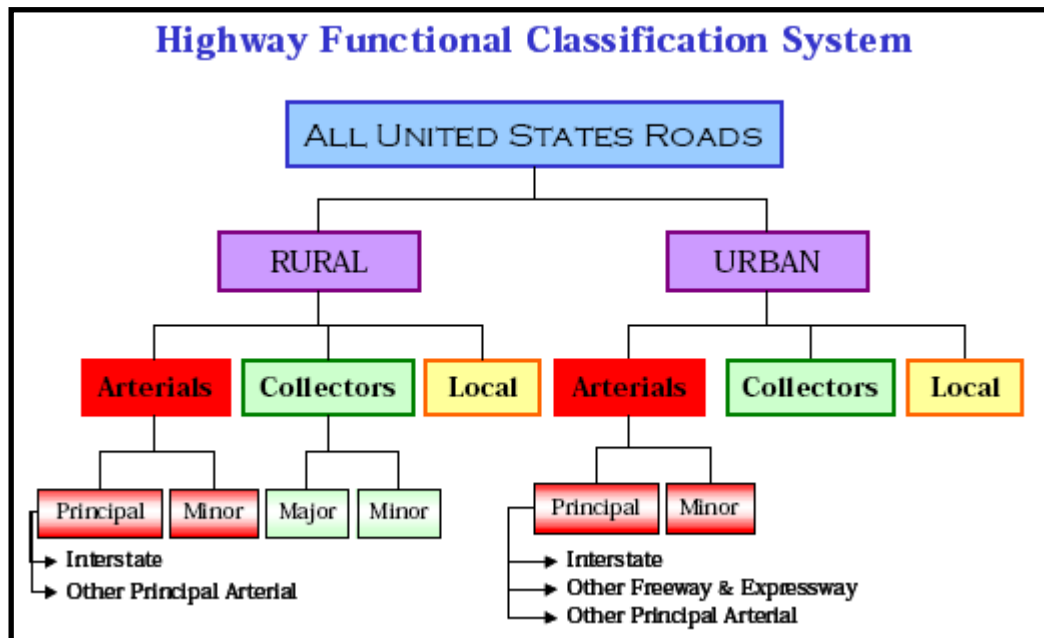
The reasoning for examining collector, minor arterial, and principal arterial roadways, and not local roadways, is that when the major roadway system (i.e. collectors or above) is functioning to an acceptable level, then other local roadways are not used beyond their intended function. When problems begin to occur on the major roadway system, then vehicles begin to infiltrate neighborhood routes (i.e. local routes) and often create undesirable levels of traffic for these routes and adjoining land uses. Therefore, the overall “health” of a regional transportation system can be typically characterized by how well the major roadway network functions. The roadways being studied under this Transportation

Plan, along with the appropriate functional classifications, are shown on **Figure 2-1** and **Figure 2-2**.

Roadway functional classifications within the City of Whitefish include principal arterials; minor arterials; collector routes; and local streets. The rural areas of Flathead County are also served by a similar hierarchy of streets. However, due to their rural nature, the volumes on these streets are generally smaller than in urban areas. Although volumes may differ on urban and rural sections of a street, it is important to maintain coordinated right-of-way standards to allow for efficient operation of urban development.

A description of these classifications is provided in the following sections. In addition, a flow chart is presented below which shows the basic hierarchy of the “Highway Functional Classification System” by rural and urban setting. The classes are defined by certain characteristics as well as the level of access and the type of travel mobility the roads provide. The three roadway classes are arterials, collectors, and local. 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 highway function. Federal regulations recognize these differences through separate urban and rural functional classification system and associated criteria.

Please note that Interstate Highways are not discussed in this Plan because there are no segments of the system within Flathead County.



Source: *A Guide to Functional Classification, Highway Systems and Other Route Designations in Montana* – MDT

2.2.1 Principal Arterial System

The purpose of the principal arterial system is to serve the major centers of activity, the

highest traffic volume corridors, and the longest trip distances in an urbanized area. This group of roads carries a high proportion of the total traffic within the urban area. Most of the vehicles entering and leaving the urban area, as well as most of the through traffic bypassing the central business district, utilize principal arterials. Significant intra-area travel, such as between central business districts and outlying residential areas and between major suburban centers, is served by principal arterials.

The spacing between principal arterials may vary from less than one mile in highly developed areas (e.g., the central business district), to five miles or more on the urban fringes. Principal arterials connect only to other principal arterials or to the interstate system.

The major purpose of the principal arterial is to provide for the expedient movement of traffic. Service to abutting land is a secondary concern. It is desirable to restrict on-street parking along principal arterial corridors. The speed limit on a principal arterial could range from 25 to 70 mph depending on the roadway's setting.

2.2.2 Minor Arterial Street System

The minor arterial street system interconnects with and augments the urban principal arterial system. It accommodates trips of moderate length at a somewhat lower level of travel mobility than principal arterials, and it distributes travel to smaller geographic areas. With an emphasis on traffic mobility, this street network includes all arterials not classified as principal arterials while providing access to adjacent lands.

The spacing of minor arterial streets may vary from several blocks to a half-mile in the highly developed areas of town, to several miles in the suburban fringes. They are not normally spaced more than one mile apart in fully developed areas.

On-street parking may be allowed on minor arterials if space is available. In many areas on-street parking along minor arterials is prohibited during peak travel periods. Posted speed limits on minor arterials would typically range between 25 and 55 mph, depending on the setting.

2.2.3 Collector Street System

The urban collector street system serves a joint purpose. It provides equal priority to the movement of traffic, and to the access of residential, business, and industrial areas. This type of roadway differs from those of the arterial system in that collector roadways may traverse residential neighborhoods. The collector system distributes trips from the arterials to ultimate destinations. The collector streets also collect traffic from local streets in the residential neighborhoods, channeling it into the arterial system. On-street parking is usually allowed on most collector streets if space is available. Posted speed limits on collectors typically range between 25 and 45 mph.

The rural collectors serve the same access and movement functions as the urban collector streets—linking the arterial system and local access roads. Collectors penetrate but should not have continuity through residential neighborhoods. The actual location of collectors

should be flexible to best serve developing areas and the public. Several design guidelines should be kept in mind as new subdivisions are designed and reviewed. The most important concept is that long segments of continuous collector streets are not compatible with a good functional classification of streets. Long, continuous collectors will encourage through traffic, essentially turning them into arterials. This, in turn, results in the undesirable interface of local streets with arterials, causing safety problems and increased costs of construction and maintenance. The collector street system should intersect arterial streets at a uniform spacing of one-half to one-quarter mile in order to maintain good progression on the arterial network. Ideally, collectors should be no longer than one to two miles without discontinuities. Opportunities need to be identified through good design and review of subdivisions to create appropriate collector streets in developing areas.

2.2.4 Local Street Network

The local street network comprises all facilities not included with the higher roadway systems. Its primary purpose is to permit direct access to abutting lands and connections to higher systems of roadways. Usually service to through-traffic movements are intentionally discouraged along such roadways. On-street parking is usually allowed on the local street system. The speed limit on local streets is usually 25 mph.

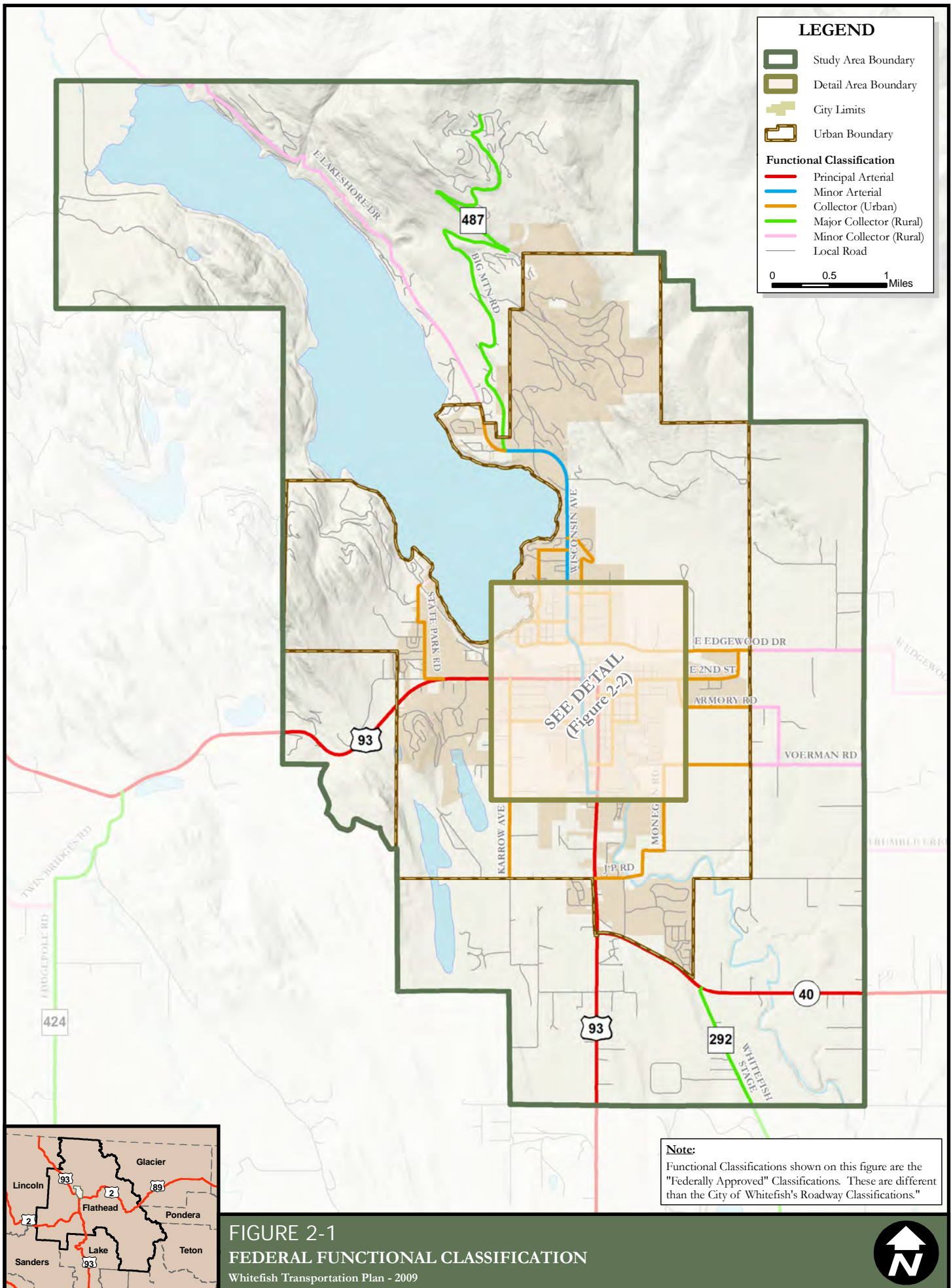
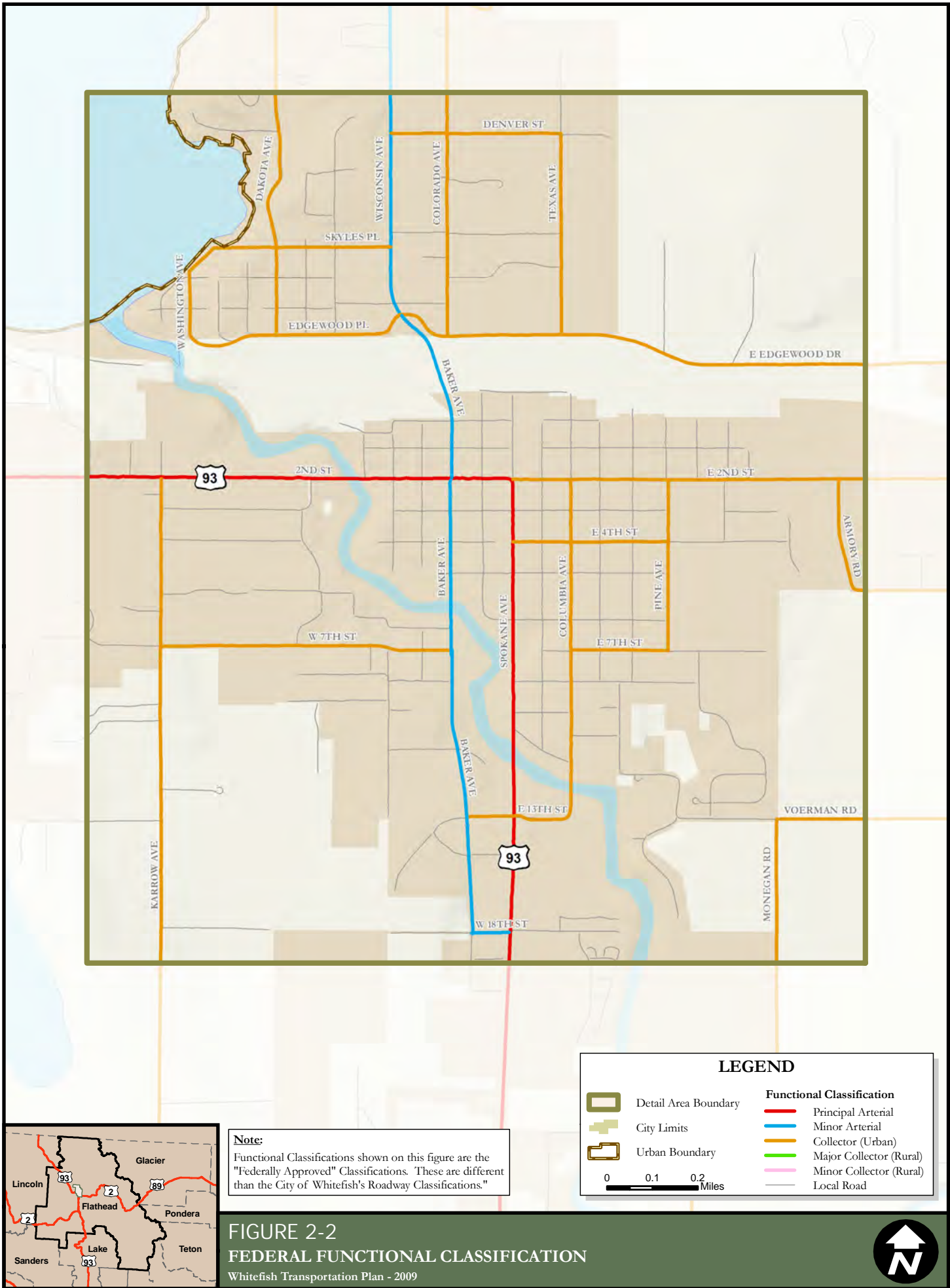


FIGURE 2-1
FEDERAL FUNCTIONAL CLASSIFICATION
 Whitefish Transportation Plan - 2009





2.3 EXISTING TRAFFIC VOLUMES

Traffic volumes within the Whitefish area were collected by the Montana Department of Transportation (MDT) and WGM Group, Inc. as part of the *U.S. Highway 93 – Whitefish Urban Preliminary Traffic Report* prepared in February 2006. The traffic volumes collected are used to determine current traffic conditions and to provide reliable data on historic traffic volumes. Most recent traffic volumes provided by MDT and Flathead County were selected for analysis on the major road segments within the community. This information is shown on **Figure 2-3** and **Figure 2-4**. These figures show that the high volume corridors are US Highway 93, Baker Avenue, Second Street, Wisconsin Avenue and Montana Highway 40.

2.4 CORRIDOR FACILITY SIZE

Corridor facility size was also identified and is shown on **Figure 2-5**. The largest facility in the community of US Highway 93 as it enters Whitefish from the south. This five-lane principal arterial reduces in geometry as it intersects with 13th Street just before crossing the Whitefish River. Most roadways are urban two-lane roadways.

Different size corridors can accommodate different amounts of traffic. Traffic volumes on a given roadway, should fall within the range shown on **Table 2-1**.

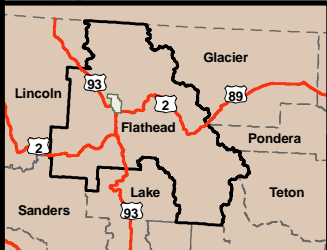
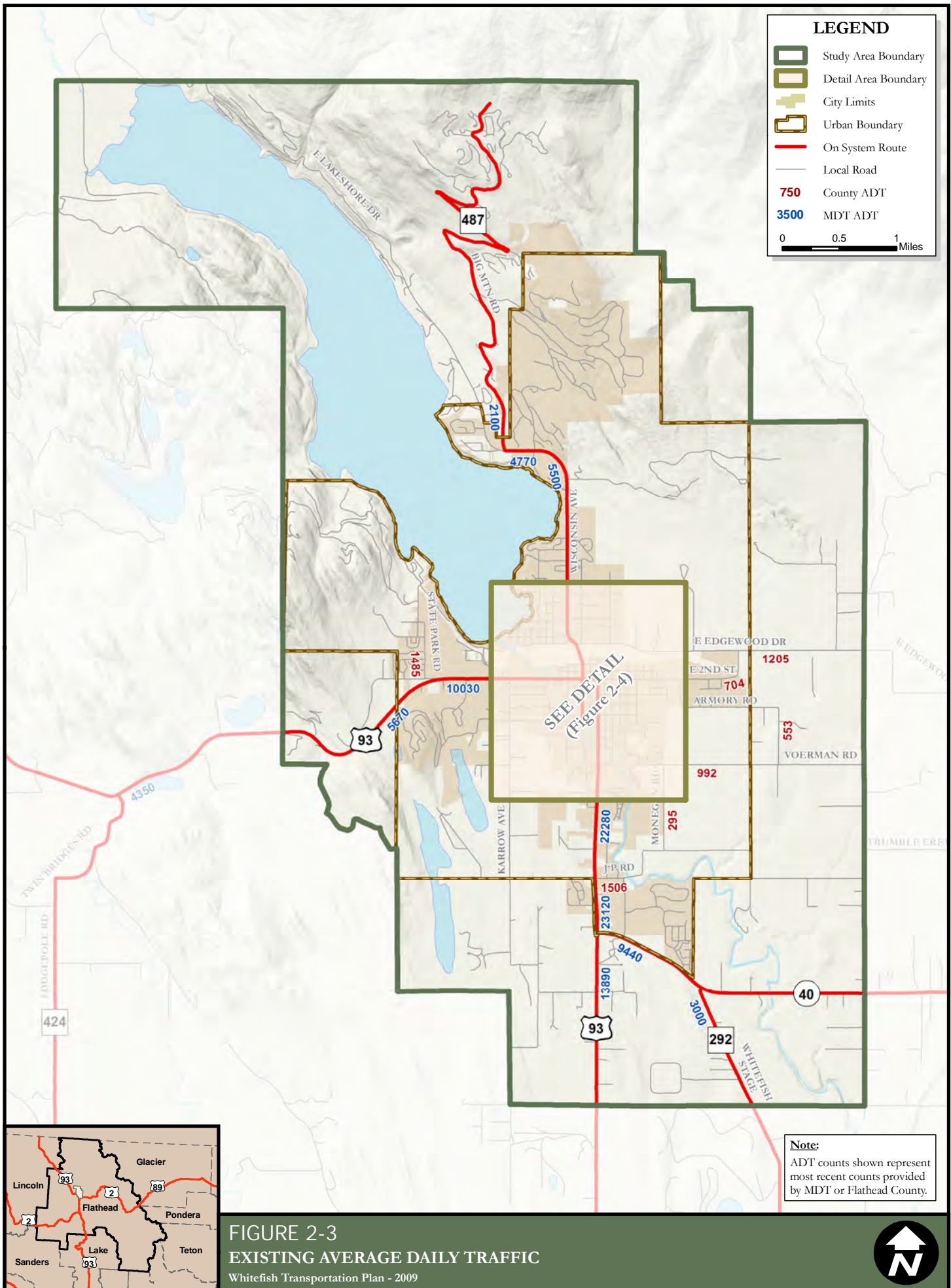
Table 2-1: Optimal Traffic Volume

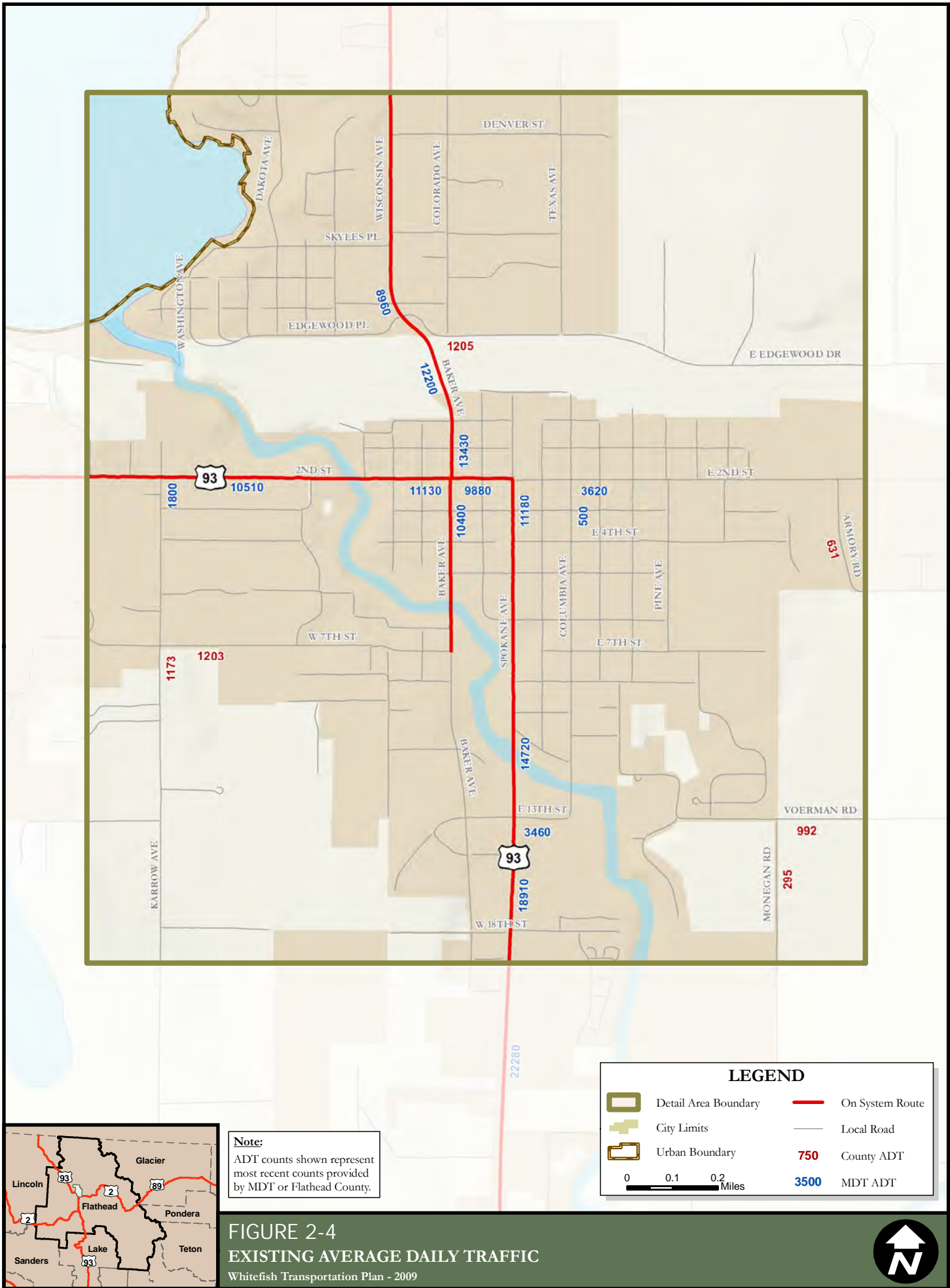
NUMBER OF LANES	TRAFFIC VOLUME
2	< 12,000
3	12,000 - 18,000
4	18,000 - 24,000
5	24,000 - 36,000
6	> 36,000

At the present time, there are only two locations where traffic volumes exceed what would normally be expected from a capacity standpoint given the current geometry of the roadway. This situation exists on the US Highway 93 corridor north of 13th Street, and also on Baker Avenue north of 2nd Street.

2.5 EXISTING TRAFFIC SIGNAL SYSTEM

The street network is often limited by the operation of its major signalized intersections. Currently, there are 8 signalized intersections in the Whitefish area. All traffic signals are owned and operated by the MDT with the exception of the traffic signal at Wisconsin Avenue and Edgewood Place. The majority of the signals exist along the US Highway 93 corridor through the city with three signals located on 2nd Street in the downtown core. The signals on 2nd Street are pre-timed signals that are in need of optimization to improve traffic flow (discussed later in this document). The locations of the 8 signalized intersections are as shown on **Figure 2-5**.





Note:
ADT counts shown represent most recent counts provided by MDT or Flathead County.

LEGEND

- Detail Area Boundary
- City Limits
- Urban Boundary
- On System Route
- Local Road
- 750 County ADT
- 3500 MDT ADT

0 0.1 0.2 Miles

FIGURE 2-4
EXISTING AVERAGE DAILY TRAFFIC
Whitefish Transportation Plan - 2009



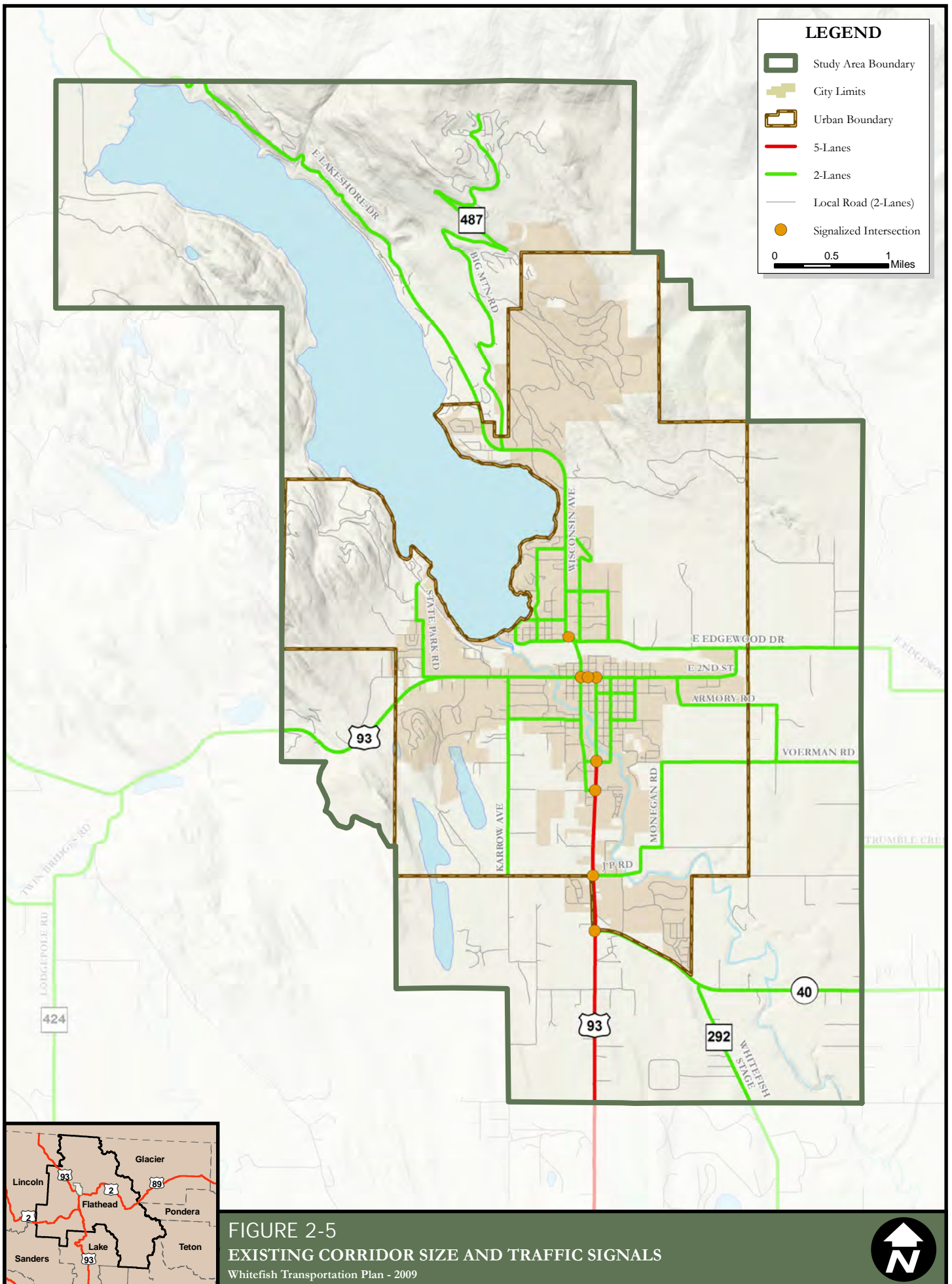


FIGURE 2-5
EXISTING CORRIDOR SIZE AND TRAFFIC SIGNALS
 Whitefish Transportation Plan - 2009



2.6 CRASH ANALYSIS

The MDT Traffic and Safety Bureau provided crash information and data for use in the Whitefish Transportation Plan. The crash information was analyzed to identify intersections with crash characteristics that may warrant further study. General crash characteristics were determined along with probable roadway deficiencies. The crash information covers the three-year time period from October 1, 2003 to September 30, 2006.

Three analyses were performed to rank the intersections based on different crash characteristics. First, the intersections were ranked by number of crashes. Using crash information provided by the MDT Traffic and Safety Bureau, the number of crashes was calculated for each intersection within the transportation planning boundary. For this analysis, intersections with 10 or more crashes in the three-year period were included. If an intersection did not have 10 crashes in the three-year period the data was available, it was not included at all in this analysis. A summary of these intersections, along with the number of crashes at each intersection, is shown in **Table 2-2**.

The second analysis involved a more detailed look at the crashes to determine the MDT “severity index rating”. The severity index is a rating that allows the analyst to see where the most severe types of crashes occur. Crashes were broken into three categories of severity: property damage only (PDO), non-incapacitating and possible injury crash, and fatality or incapacitating injury. Each of these three types is given a different rating: one (1) for a property damage only crash; three (3) for an injury crash; and eight (8) for a crash that resulted in a fatality.

The MDT severity index rating for the intersections in the analysis is shown in **Table 2-3**. The calculation used to arrive at the severity index rating is as follows:

$$\frac{[(\# \text{ PDO}) \times (1)] + [(\# \text{ Non-Incapacitating Crashes}) \times (3)] + [(\# \text{ Fatalities or Incapacitating Crashes}) \times (8)]}{\text{Total Number of Crashes in a Three-Year Period}} = (\text{MDT Severity Index Rating})$$

The third analysis ranked the number of crashes against the annual average daily traffic (AADT) at each intersection, expressed in crashes per million entering vehicles (MEV). A summary of the intersections in the analysis is shown in **Table 2-4**. The calculation used to arrive at the crash rates, expressed in crashes per million entering vehicles (MEV), as shown in **Table 2-4**, is as follows:

$$\frac{\text{Total Number of Crashes in a Three-Year Period}}{(\text{AADT for Intersection}) \times (3 \text{ years}) \times (365 \text{ days/year}) / (1,000,000 \text{ vehicles})} = (\text{Crash Rate})$$

Table 2-2: Intersections with 10 or More Crashes in the Three-Year Period (October 1, 2003 – September 30, 2006)

INTERSECTION	TYPE OF CONTROL*	# OF CRASHES
U.S. Hwy 93 & Montana Hwy 40	S	30
2nd Street & Baker Avenue	S	14
U.S. Hwy 93 & 13th Street	S	14
U.S. Hwy 93 & 2nd Street	S	11

*"S"=Signalized, "U-2W"=Unsignalized two-way stop controlled, "U-3W"=Unsignalized three-way stop controlled, "U-4W"=Unsignalized four-way stop controlled.

Table 2-3: Intersection Crash Analysis – MDT Severity Index Rating

INTERSECTION	TYPE OF CONTROL*	PDO	INJURY	SEVERITY INDEX
U.S. Hwy 93 & 13th Street	S	10	7	1.82
U.S. Hwy 93 & Montana Hwy 40	S	19	11	1.73
2nd Street & Baker Avenue	S	12	2	1.29
U.S. Hwy 93 & 2nd Street	S	10	1	1.18

*"S"=Signalized, "U-2W"=Unsignalized two-way stop controlled, "U-3W"=Unsignalized three-way stop controlled, "U-4W"=Unsignalized four-way stop controlled.

Table 2-4: Intersection Crash Analysis Crash Rate

INTERSECTION	TYPE OF CONTROL**	# OF CRASHES	VOLUME (VPD)*	RATE
U.S. Hwy 93 & Montana Hwy 40	S	30	32,510	0.84
2nd Street & Baker Avenue	S	14	20,050	0.64
U.S. Hwy 93 & 13th Street	S	17	28,610	0.54
U.S. Hwy 93 & 2nd Street	S	11	23,632	0.43

*Volume determined using MDT 2003 AADT counts. "vpd" stands for "vehicles per day".

**"S"=Signalized, "U-2W"=Unsignalized two-way stop controlled, "U-3W"=Unsignalized three-way stop controlled, "U-4W"=Unsignalized four-way stop controlled.

It is customary to give the intersections considered in the crash analysis a composite rating score based on the results of the three analyses presented above. This composite rating score requires the following criteria: First, the intersection would have a minimum crash rate of 1.0 crash per MEV. Second, it must have 10 or more crashes in the three years combined. Lastly, it must rate in the top 10 of one of the three previous categories. Using these criteria, the intersections were then rated based on their position on each of the three previous tables, giving each equal weight. None of the intersections identified in this analysis, however, had a minimum crash rate of 1.0 crash per MEV required to develop a composite rating as described above. The intersections that were identified in the previous tables are shown on **Figure 2-6** and **Figure 2-7** as are all crashes within the study area for the Whitefish Transportation Plan during the three-year time period selected for analysis.

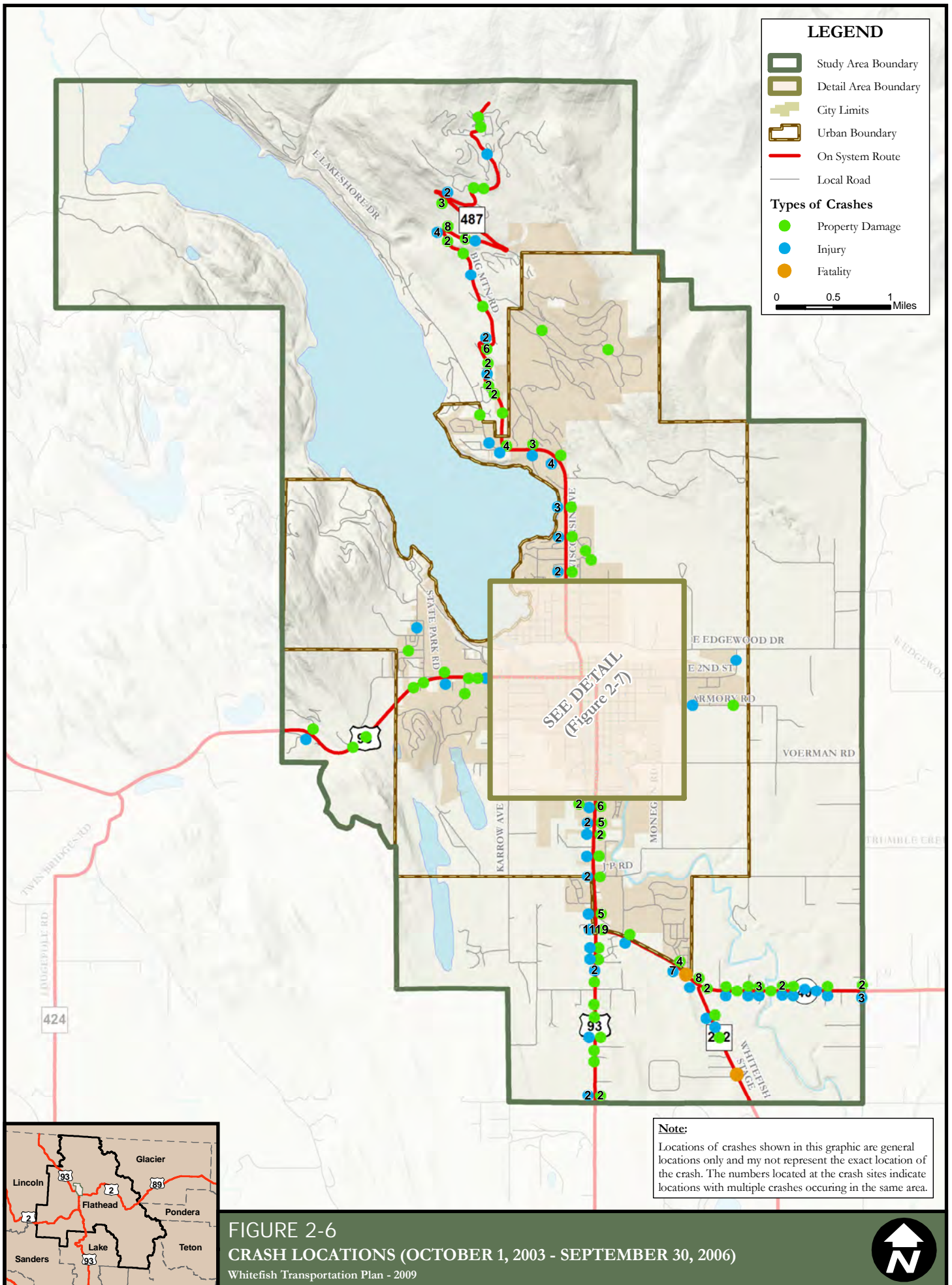
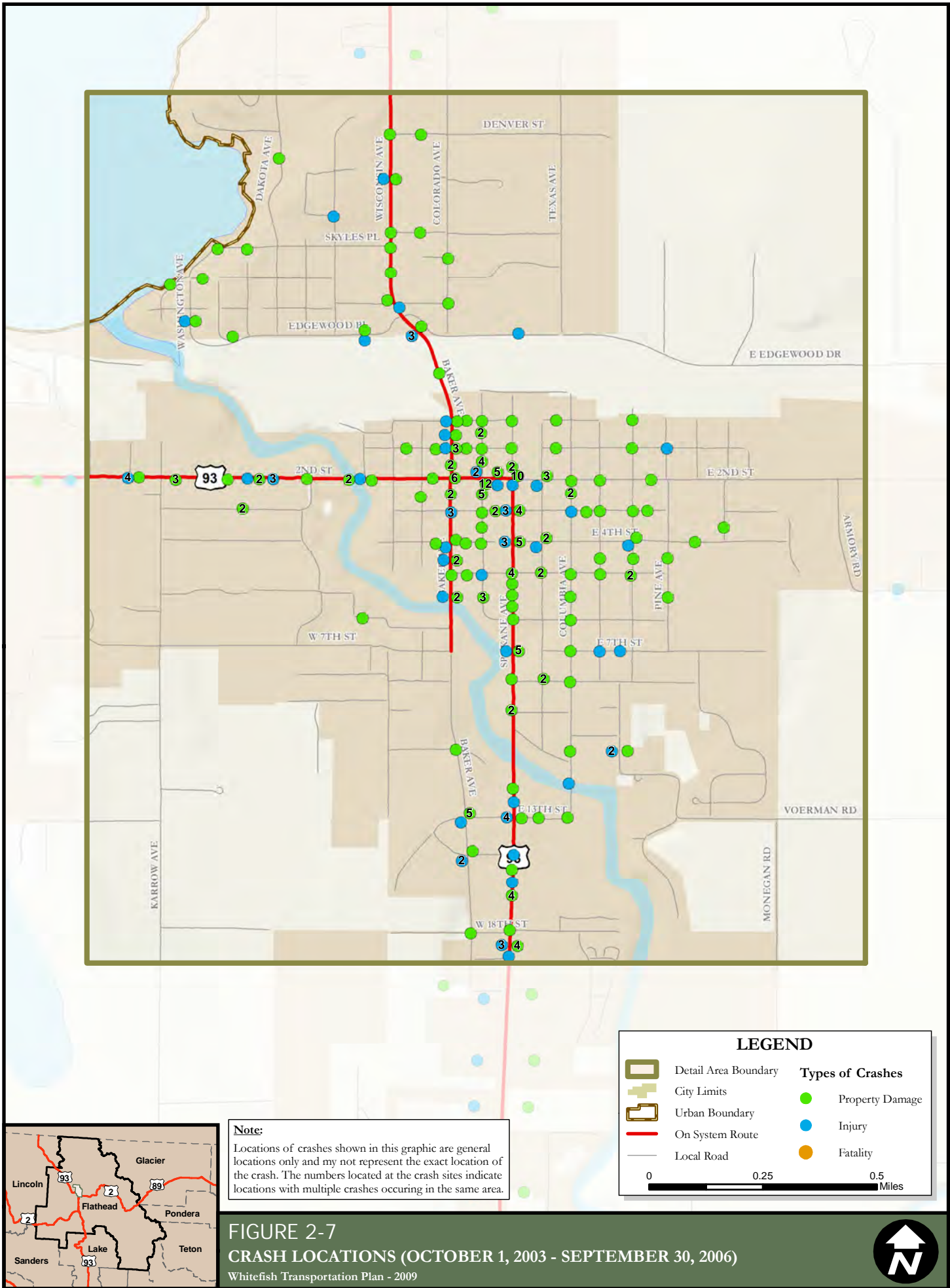


FIGURE 2-6
CRASH LOCATIONS (OCTOBER 1, 2003 - SEPTEMBER 30, 2006)
Whitefish Transportation Plan - 2009





2.7 EXISTING INTERSECTION LEVELS OF SERVICE

Urban road systems are ultimately controlled by the function of the major intersections. Intersection failure directly reduces the number of vehicles that can be accommodated during the peak hours that have the highest demand and the total daily capacity of a corridor. As a result of this strong impact on corridor function, intersection improvements can be a very cost-effective means of increasing a corridor's traffic volume capacity. In some circumstances, corridor expansion projects may be able to be delayed with correct intersection improvements. Due to the significant portion of total expense for road construction projects used for project design, construction, mobilization, and adjacent area rehabilitation, a careful analysis must be made of the expected service life from intersection-only improvements. If adequate design life can be achieved with only improvements to the intersection, then a corridor expansion may not be the most efficient solution. With that in mind, it is important to determine how well the major intersections are functioning by determining their Level of Service (LOS).

LOS is a qualitative measure developed by the transportation profession to quantify driver perception for such elements as travel time, number of stops, total amount of stopped delay, and impediments caused by other vehicles. It provides a scale that is intended to match the perception by motorists of the operation of the intersection. LOS provides a means for identifying intersections that are experiencing operational difficulties, as well as providing a scale to compare intersections with each other. The LOS analysis for the existing intersections was conducted according to the procedures outlined in the Transportation Research Board's *Highway Capacity Manual – Special Report 209* using the Highway Capacity Software, version 4.1f.

The LOS scale is based on the ability of an intersection or street segment to accommodate the amount of traffic using it. The scale ranges from "A" which indicates little, if any, vehicle delay, to "F" which indicates significant vehicle delay and traffic congestion. Under most circumstances, a LOS of C or better (i.e. A, B or C) is considered to be the standard by which traffic operations are judged. It must be recognized that the level of service scale relates to traffic operations, and do not necessarily take into account the concept of desirable "community values." For example, some communities may accept a lower level of service standard from a traffic operational perspective if other amenities are provided (i.e. sidewalks, bicycle lanes, street trees, etc.). In many smaller communities, the particular level of service that is deemed acceptable may be based on factors other than facilitating traffic flow and transportation operations.

Twenty-five intersections on the major street network in Whitefish were counted during the spring/summer of 2007. Ten other intersections included in this Plan were counted as part of previous projects. The intersections counted included 7 signalized intersections and 28 unsignalized intersections in the city and the county. Each intersection was counted between 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m., to ensure that the intersection's peak volumes were represented. Based upon this data, the operational characteristics of each intersection were obtained. Please note at the time the turning movement counts and LOS analyses were conducted, JP Road was an unsignalized intersection and this plan does not include an LOS analysis of the intersection under traffic signal control.

2.7.1 Signalized Intersections

For signalized intersections, recent research has determined that “average control delay” per vehicle is the best available measure of level of service. The amount of control delay that a vehicle experiences is approximately equal to the time elapsed from when a vehicle joins a queue at the intersection (or arrives at the stop line when there is no queue) until the vehicle departs from the stopped position at the head of the queue. Control delay takes into account uniform delay, incremental delay, and initial queue delay. The control delay is primarily a function of volume, capacity, cycle length, green ratio, and the pattern of vehicle arrivals. An intersection is determined to be functioning adequately if operating at LOS C or better. **Table 2-5** defines LOS in terms of average control delay per vehicle.

Table 2-5: Level of Service Criteria (Signalized Intersections)

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (SEC)
A	< 10
B	10 to 20
C	20 to 35
D	35 to 50
E	50 to 80
F	> 80

Using these techniques and the data collected in the spring/summer of 2007, the LOS for the signalized intersections was calculated. **Table 2-6** shows the AM and PM peak hour LOS for each individual leg of the intersections, as well as the intersections as a whole. The intersection LOS is shown graphically in **Figure 2-8** and **Figure 2-9**.

Table 2-6: 2007 AM and PM Peak LOS (Signalized Intersections)

INTERSECTION	AM PEAK HOUR					PM PEAK HOUR				
	EB	WB	NB	SB	INT	EB	WB	NB	SB	INT
Baker Avenue & 2nd Street	D	C	A	B	C	F	D	B	B	E
Central Avenue & 2nd Street	B	C	A	A	B	C	C	A	A	C
Spokane Avenue & 2nd Street	B	B	D	B	C	B	B	F	C	F
Spokane Avenue & 13th Street	C	C	B	C	C	C	C	B	D	C
Spokane Avenue & Commerce Street	C	C	C	C	C	C	C	C	C	C
U.S. Hwy 93 & Montana Hwy 40	C	F	C	C	F	C	F	C	E	F
Wisconsin Avenue & Edgewood Place*	B	B	A	A	A	B	B	A	A	A

*Intersection not counted by RPA.

The analyses showed that three unsignalized intersections currently have overall ratings of LOS E or F during the peak hours. These intersections include: Baker Avenue and 2nd Street, Spokane Avenue and 2nd Street, and U.S. Highway 93 and Montana Highway 40.

2.7.2 Unsignalized Intersections

Level of service for unsignalized intersections is based on the delay experienced by each movement within the intersection, rather than on the overall stopped delay per vehicle at the intersection. This difference from the method used for signalized intersections is necessary since the operating characteristics of a stop-controlled intersection are substantially different. Driver expectations and perceptions are also entirely different.

For two-way stop controlled intersections, the through traffic on the major (uncontrolled) street experiences no delay at the intersection. Conversely, vehicles turning left from the minor street experience more delay than other movements and at times can experience significant delay. Vehicles on the minor street, which are turning right or going across the major street, experience less delay than those turning left from the same approach. Due to this situation, the level of service assigned to a two-way stop controlled intersection is based on the average delay for vehicles on the minor street approach. For this reason, even though the traffic on the major street may not be delayed, the intersection may be assigned a poor LOS because entering or crossing traffic from the side streets experience lengthy delays.

Levels of service for all-way stop controlled intersections are also based on delay experienced by the vehicles at the intersection. Since there is no major street, the highest delay could be experienced by any of the approaching streets. Therefore, the level of service is based on the approach with the highest delay as shown in **Table 2-7**. This table shows the LOS criteria for both the all-way and two-way stop controlled intersections.

Table 2-7: Level of Service Criteria (Stop Controlled Intersections)

LEVEL OF SERVICE	AVERAGE DELAY PER VEHICLE (SEC)
A	< 10
B	10 to 15
C	15 to 25
D	25 to 35
E	35 to 50
F	> 50

It should be noted that the average delay per vehicle for stop controlled intersections associated with some LOS categories varies from those shown for signalized intersections. A detailed explanation of the reasons for the difference can be found in the *Highway Capacity Manual*. However, research has shown that motorists will typically “tolerate” longer delays at signalized intersections since they are aware that they will eventually be given a green cycle. At stop controlled intersections, motorists must rely on random gaps in traffic to advance and are somewhat less tolerant of delays.

Using the above guidelines, peak hour traffic volume and turning movement data collected in 2007, and calculation techniques for two-way stop controls and all-way stop controls, the LOS for notable unsignalized intersections in the study area was calculated. The results of these calculations are shown in **Table 2-8**. The intersection LOS is shown graphically in **Figure 2-8** and **Figure 2-9**.

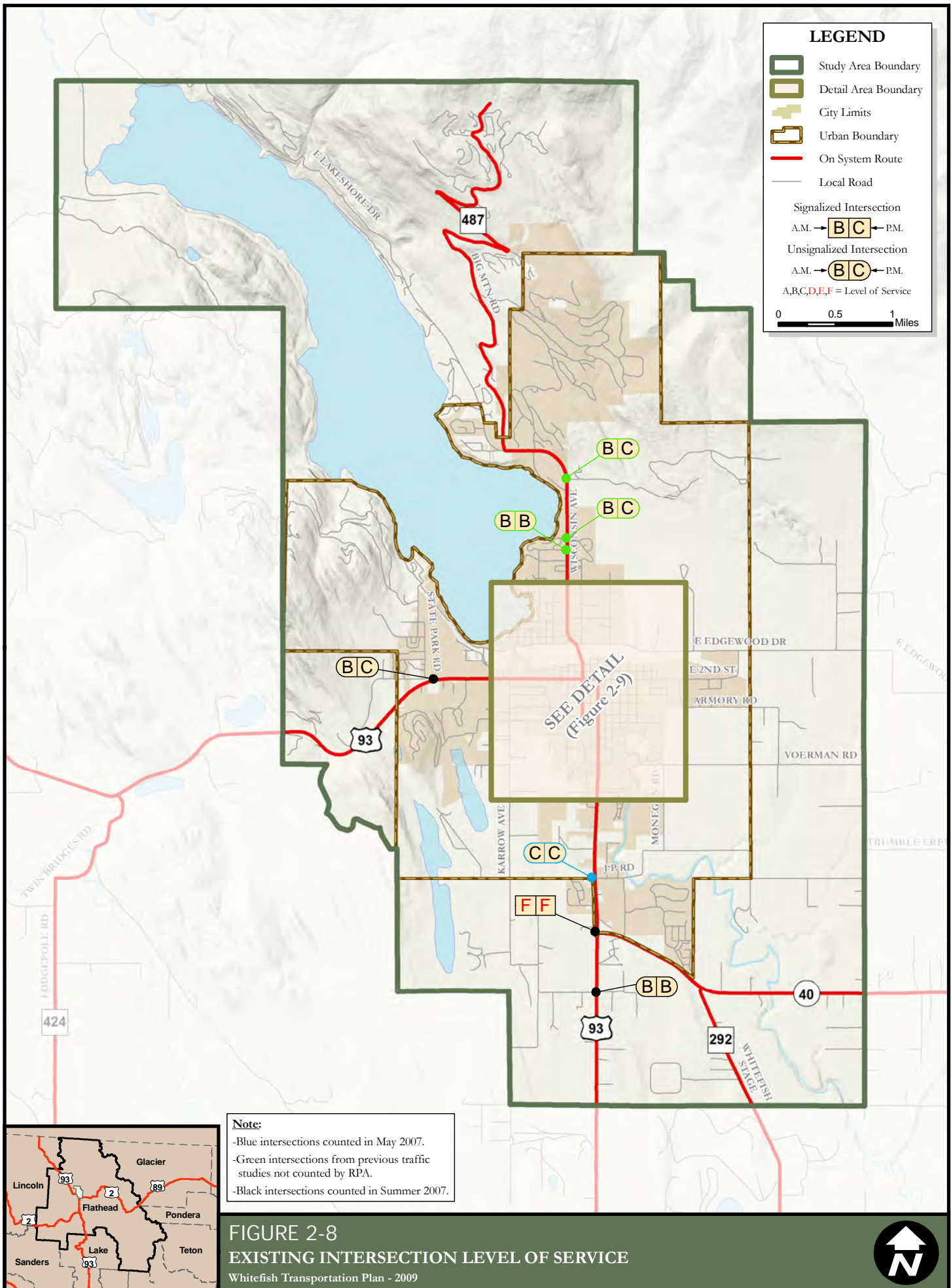
Table 2-8: 2007 LOS (Stop-Controlled Intersections)

INTERSECTION	AM	PM	INTERSECTION	AM	PM
Ashar Avenue & 7th Street	A	B	Pine Avenue & 7th Street	B	B
Baker Avenue & 4th Street	B	D	Spokane Avenue & 1st Street	A	A
Baker Avenue & 5th Street	B	C	Spokane Avenue & 4th Street	C	C
Baker Avenue & 7th Street	B	C	Spokane Avenue & 5th Street	C	D
Baker Avenue & 10th Street*	B	B	Wisconsin Avenue & Colorado Avenue*	B	C
Baker Avenue & 13th Street*	B	C	Wisconsin Avenue & Denver Street*	B	C
Baker Avenue & 15th Street*	B	B	Wisconsin Avenue & Glenwood Road*	B	B
Columbia Avenue & 7th Street	B	B	Wisconsin Avenue & Reservoir Road*	B	C
Fir Avenue & 2nd Street	B	B	Wisconsin Avenue & Skyles Place*	B	C
Fir Avenue & 4th Street	B	B	Wisconsin Avenue & Woodside Lane*	C	C
Kalispell Avenue & 2nd Street	C	C	U.S. Highway 93 & Blanchard Lake Road	B	B
Karrow Avenue & 7th Avenue	A	A	U.S. Highway 93 & JP Road**	C	C
Pine Avenue & 2nd Street	C	C	U.S. Highway 93 & Karrow Avenue	B	D
Pine Avenue & 4th Street	B	B	U.S. Highway 93 & State Park Road	B	C

* Intersections not counted by RPA.

** Note that JP Road was signalized in 2008 after turning movement count data was collected by RPA for the Transportation Plan.

Of these intersections, the LOS analyses reveal that three unsignalized intersections are currently functioning at LOS D or lower during the PM peak hour. These intersections include: Baker Avenue and 4th Street, Spokane Avenue and 5th Street, and U.S. Highway 93 and Karrow Avenue.



LEGEND

- Study Area Boundary
- Detail Area Boundary
- City Limits
- Urban Boundary
- On System Route
- Local Road

Signalized Intersection
 A.M. → ← P.M.

Unsignalized Intersection
 A.M. → ← P.M.

A,B,C,D,E,F = Level of Service

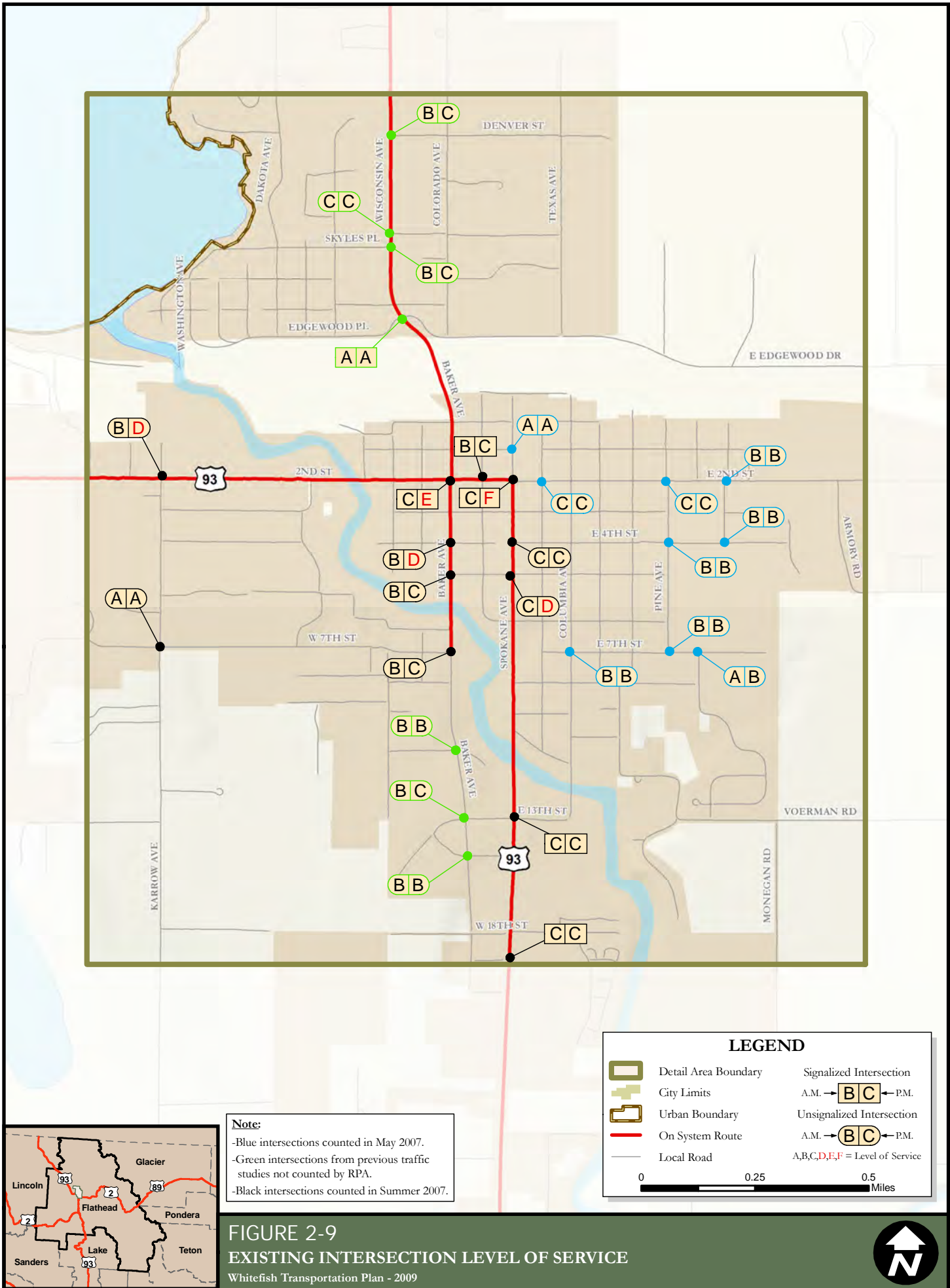
0 0.5 1 Miles

Note:

- Blue intersections counted in May 2007.
- Green intersections from previous traffic studies not counted by RPA.
- Black intersections counted in Summer 2007.

FIGURE 2-8
EXISTING INTERSECTION LEVEL OF SERVICE
 Whitefish Transportation Plan - 2009





Note:
 -Blue intersections counted in May 2007.
 -Green intersections from previous traffic studies not counted by RPA.
 -Black intersections counted in Summer 2007.

FIGURE 2-9
EXISTING INTERSECTION LEVEL OF SERVICE
 Whitefish Transportation Plan - 2009



2.8 NON-MOTORIZED TRANSPORTATION NETWORK

The City of Whitefish has prepared and approved the Whitefish Bicycle and Pedestrian Master Plan which identifies a safe, usable, and functional transportation system for pedestrians and bicyclists within the community. The City's Master Plan envisions construction of about 15 miles of paths within the general vicinity of the Whitefish community. The Master Plan is the product of many years of work between the City Council, the Whitefish Parks Board, and the Whitefish Pedestrian and Bicycle Advisory Committee, other supporting organizations and the public. A Pedestrian and Bicycle Path Advisory Committee established by the City helps guide the development of a non-motorized trail network in the community. The Committee has routinely updated the recommendations in the plan.

Figures 2-10 and 2-11 show the City's existing and proposed non-motorized transportation system.

A non-profit entity known as "Fish Trails" was created in 2004 by citizens and the City to organize fundraising, awareness and enthusiasm for the community's proposed non-motorized trail system. Several of the Fish Trails coordinators are also members of the Bike and Pedestrian Trails Committee and act as a liaison between the two groups.

In October 2005, the City of Whitefish and Flathead Gateway Partners (FGP) signed a memorandum of understanding (MOU) to establish a recreational loop trail as generally described in the Whitefish Area School Trust Lands Neighborhood Plan. The Neighborhood Plan is a land-use plan for the 13,000-plus acres of state lands surrounding Whitefish initiated by the DNRC and adopted by the State Land Board. A public-private partnership known as "A Trail Runs Through It" has led fundraising efforts to develop the trail and conserve surrounding forest lands for recreational access, watershed protection and wildlife habitat. The recreational trail is being developed in cooperation with the Department of Natural Resources and Conservation (DNRC), the United States Forest Service (USFS), will enhance access to public lands and interconnect with the City's pedestrian and bicycle trail system.

Both "Fish Trails" and "A Trail Runs Through It" are working cooperatively with the City to help implement projects to develop the proposed community trail network. Figures showing the proposed non-motorized transportation system and identified projects on the system are presented in **Chapter 6**.

The Whitefish Downtown Business District Master Plan advocates the development of a pedestrian-friendly environment to encourage visitors and residents to utilize downtown businesses. The Plan calls for extensive pedestrian improvements throughout the downtown to support and improve the viability of retail businesses, to improve pedestrian safety along and across 2nd Street, and provide connections to adjacent neighborhoods.

The Plan proposes the development of the "Whitefish Promenade"— an off-street, multi-use recreational trail around the downtown— intended to link adjacent neighborhoods, the city's pedestrian and bike network and parklands along the Whitefish River. The Plan also

called for a pedestrian-priority streetscape design for 2nd Street between Spokane and Baker Avenues.

2.9 PUBLIC TRANSPORTATION SERVICES

Whitefish is served by Rimrock Trail Lines with daily coach service to Missoula. In Missoula, passengers can make connections via other Rimrock buses or transfer to Greyhound system.

Eagle Transit provides general public transportation service in Flathead County and the Whitefish area. Eagle Transit, controlled by the Flathead County Area IX Agency on Aging, was initially focused on serving the elderly. In recent years, Eagle Transit has expanded to serve the disabled population and general public within the county. Eagle Transit currently provides a variety of services including the Kalispell city bus routes, county-wide “door to door” service with scheduled routes in Columbia Falls and Whitefish, and demand-response inter-city services. The “door to door” service varies by community and is designed to meet the needs of the elderly and disabled. Public transportation services and anticipated transportation needs over the 2007-2012 period in Whitefish (and Flathead County) are discussed in a Transit Development Plan (TDP) prepared for Eagle Transit by LSC Transportation Consultants in 2006.

Currently, Eagle Transit commuter buses between Kalispell and Whitefish operate between 6:30 a.m. and 6:10 p.m. Monday through Friday, with two designated stops (North Valley Hospital and the O’Shaughnessy Center) and seven requested stop locations in the Whitefish area. Buses headed to Kalispell currently leave designated stops in Whitefish twice each morning and buses from Kalispell arriving twice each evening. According to Eagle Transit’s current commuter schedules, buses between Whitefish and Columbia Falls are no longer offered.

Monthly passes for the Eagle Transit commuter buses are available for \$25 or passengers can pay \$1 each way. Each bus seats 23 passengers and has straps for 30 standing passengers plus a rack for two bicycles. The buses are fully accessible to wheelchair-bound passengers.

Locally, the SNOW (Shuttle Network of Whitefish) Bus operates three buses and provides complimentary transport to and from the Mountain Mall and the Whitefish Mountain Resort from late November through mid April.

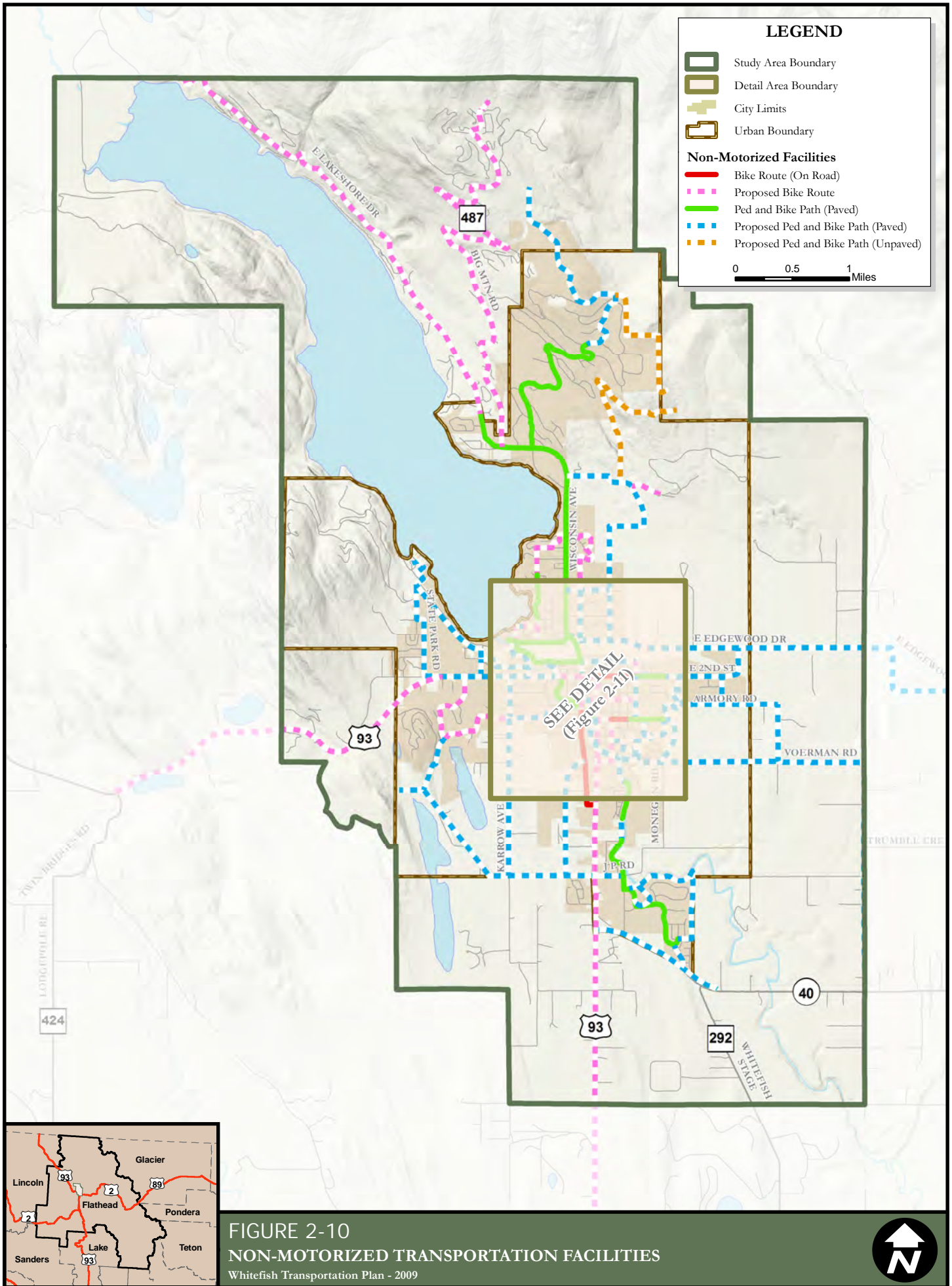


FIGURE 2-10
NON-MOTORIZED TRANSPORTATION FACILITIES

Whitefish Transportation Plan - 2009



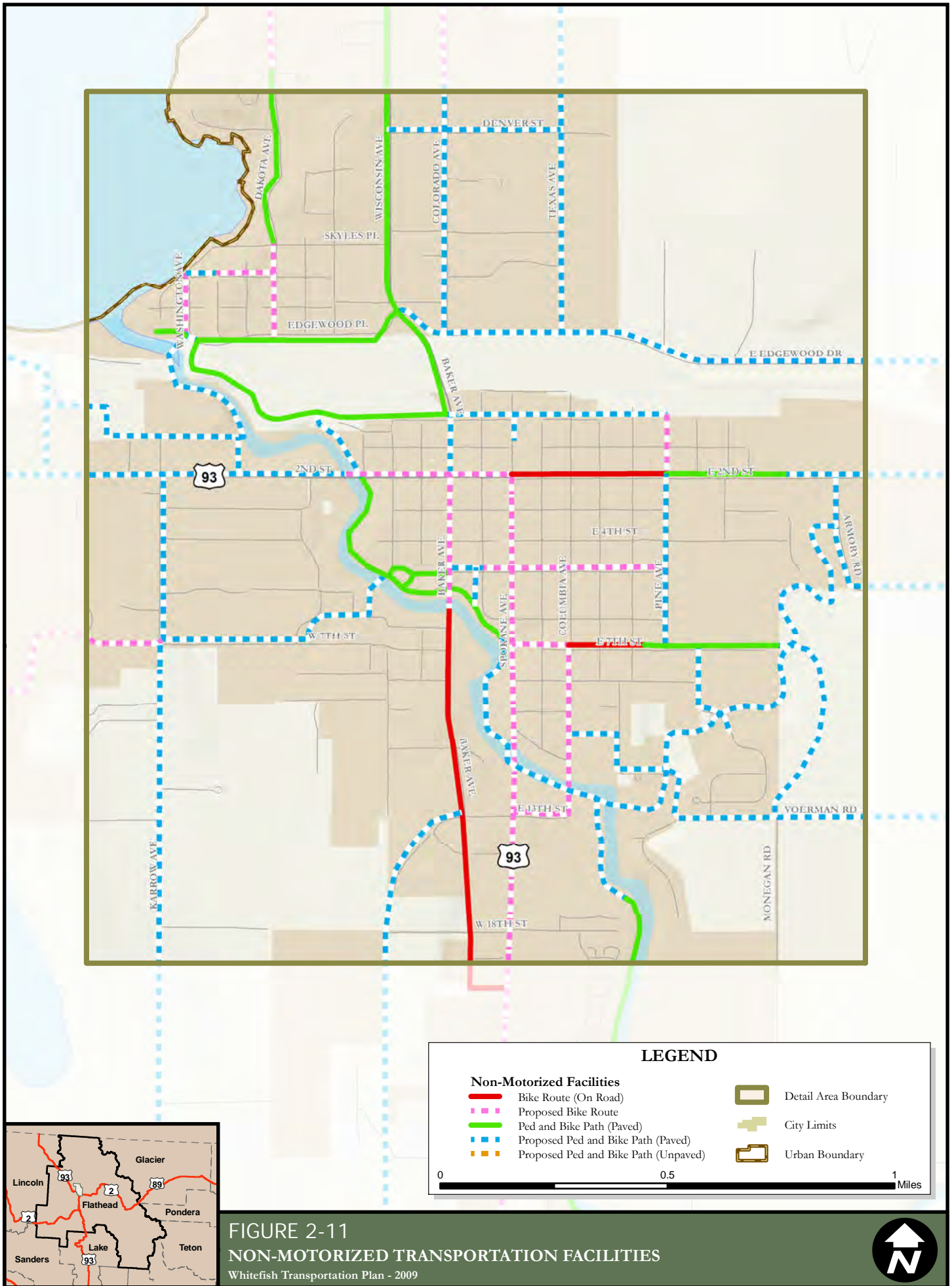


FIGURE 2-11
NON-MOTORIZED TRANSPORTATION FACILITIES

Whitefish Transportation Plan - 2009





CHAPTER 3:
Travel Demand Forecasting

CHAPTER 3: TRAVEL DEMAND FORECASTING

The method and process developed to predict growth in the Whitefish area over the next twenty years is described in this chapter of the Transportation Plan. Using population, employment and other socio-economic trends as aids, the future transportation requirements of the Whitefish area were defined. A model of the transportation system of the Whitefish area was built, and the additions and changes to the system that are projected to occur over the next twenty years were entered into the model to forecast the future transportation conditions. From this, various scenarios were developed to test a range of transportation improvements and establish their affects on the transportation system.

3.1 SOCIOECONOMIC TRENDS

Motor vehicle travel growth is directly correlated to population and economic growth. In the greater Whitefish area, this is also supplemented by the large influx of tourist travel throughout the year. The populations and economy of both Flathead County and the City of Whitefish have experienced significant growth in recent years. These changes are discussed in this chapter.

3.1.1 Population Trends

Table 3-1 shows that from 1960 through 2000, the county's population increased by nearly 126% representing about 41,500 new residents. Much of the population growth seen in Flathead County has occurred outside of the major cities in rural areas of the county. From 1960-2000, the rural population of Flathead County increased by nearly 190%. The growth seen in rural areas of the county was substantially higher than that seen in all of the cities in Flathead County over the same period.

Table 3-1 also presents population data and highlights population changes for the cities of Whitefish and Kalispell, Flathead County, and the State of Montana over each decade during the 1960 to 2000 period. Beginning in 1960, the City of Whitefish's population showed stable and positive growth posting population increases ranging from 10% to 18% during successive decades to the year 2000. Over this 40 year period, the City's population increased by 70% from 2,965 to 5,032 residents. This sustained growth can be attributed to the City's economic base becoming more diversified and the community's emergence as a year round resort area.

Based on Census data, the population of the City of Whitefish increased an average of about 1.75% per year between 1960 and 2000. During this same time, the population of rural areas of Flathead County increased at a rate of 4.7% per year. Between 1980 and 2000, the City's annual population growth rate was about 1.8% slightly above its 40-year average. The rate of growth for rural areas of Flathead County was about 2.5% per year during the same 20-year period.

Table 3-1: Historic Population Growth (1960 – 2000)

HISTORICAL U.S. BUREAU OF THE CENSUS DATA						
Geographic Area	1960	1970	1980	1990	2000	% Change (1960-2000)
City of Whitefish	2,965	3,349	3,703	4,368	5,032	70%
City of Kalispell	10,740	10,526	10,689	11,917	14,223	32%
Flathead County (Total)	32,965	39,460	51,966	59,218	74,471	126%
Flathead County (Rural)*	17,717	22,933	34,462	40,012	51,571	189%
State of Montana	674,767	694,409	786,690	799,065	902,195	34%

POPULATION CHANGE BY DECADE (% CHANGE)				
Geographic Area	1960-1970	1970-1980	1980-1990	1990-2000
City of Whitefish	13.00%	10.60%	18.00%	15.20%
City of Kalispell	-2.00%	1.50%	11.50%	19.30%
Flathead County (Total)	19.70%	31.70%	14.00%	25.80%
Flathead County (Rural)*	29.40%	50.00%	16.10%	28.90%
State of Montana	2.90%	13.30%	1.60%	12.90%

Source: US Bureau of the Census, Census of Population (1960 – 2000)

*Rural Flathead County population = total County population minus population of incorporated cities in the county.

Table 3-2 provides the most recent population estimates for the cities of Whitefish and Kalispell, Flathead County, and the State of Montana and shows the significant population increases that have occurred since 2000. As **Table 3-2** shows, the U.S. Census Bureau estimates the current (2008) population of the City of Whitefish at 8,281. This represents a total population change of more than 64% between 2000 and 2008 and translates to an average growth rate of 8.1% per year over the period. This rate is significantly higher than that experienced over the 1960-2000 period when the City's population increased by about 70% over the four decade period.

Table 3-2: Current Population Estimates and Growth Rates

GEOGRAPHIC AREA	2000 CENSUS	2008 ESTIMATE**	% CHANGE (2000-2008)	% ANNUAL GROWTH SINCE 2000
City of Whitefish	5,032	8,281	64.60%	8.10%
City of Kalispell	14,223	21,182	48.90%	6.10%
Flathead County (Total)	74,471	88,473	18.80%	2.40%
Flathead County (Rural)*	51,571	53,749	4.20%	0.50%
State of Montana	902,195	967,440	7.20%	1.00%

Source: Population Division, US Census Bureau release date July 1, 2009.

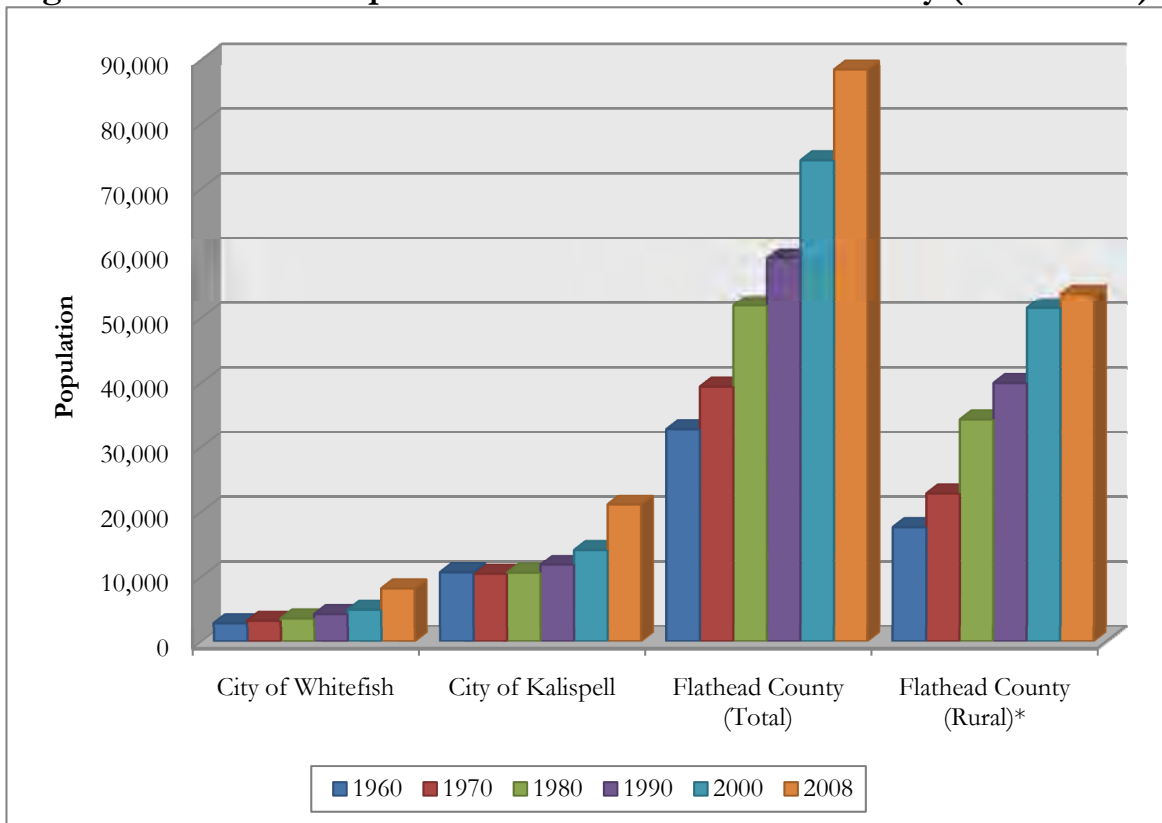
*Rural Flathead County population = total County population minus population of incorporated cities in the county.

**Population data for 2008 are estimates as of July 1, 2008.

Table 3-2 also shows that notable growth continued in Flathead County with the annual rate of growth being about three times higher than that of the State of Montana for the period. The data shows the population of the City of Kalispell increased by nearly 49% over the past 8 years; however, rural areas of Flathead County experienced population growth of around 4% over the same period. The population increases shown for Whitefish and other incorporated cities in the County over the past 8 years are likely due to recent annexations and the establishment of residences in previously approved developments in the communities.

Figure 3-1 illustrates population trends in Flathead County and incorporated cities within the county over the 1960 to 2008 period.

Figure 3-1: Historic Population Growth in Flathead County (1960 – 2008)



According to the data from the 1980 Census, 25% of the City of Whitefish's residents (excluding children 5 years of age or under) were not living in Flathead County in the previous 5 years. In 1990, the number of people living in Whitefish who had moved from outside Flathead County in the previous 5 years had increased to 27% and half of those new residents had lived in another state five years earlier. These migration trends continued and became more pronounced by the year 2000. The number of people in Whitefish (excluding those 5 years of age and younger) who moved to Whitefish from outside Flathead County increased to 33% (1,560) and about 24% of the City's population had moved in from out of state in the past 5 years.

The Census data shows similar trends for Flathead County. In 1990, about 20% of the County’s population had moved in from outside Flathead County in the previous 5 years. Data for the 2000 Census showed, 22% of the population had migrated to Flathead County over the previous 5 years. The Flathead County Growth Policy indicates that the majority of the estimated population increase since 2000 in Flathead County can be attributed to in-migration. The document suggests natural increases only account for about 18% of total population increase in the county since 2000.

These migration trends are due in part to the growing popularity of Whitefish and Flathead County as year round tourist and retirement destinations. New development in the County has also created year round construction employment opportunities and encouraged the in-migration of new permanent residents.

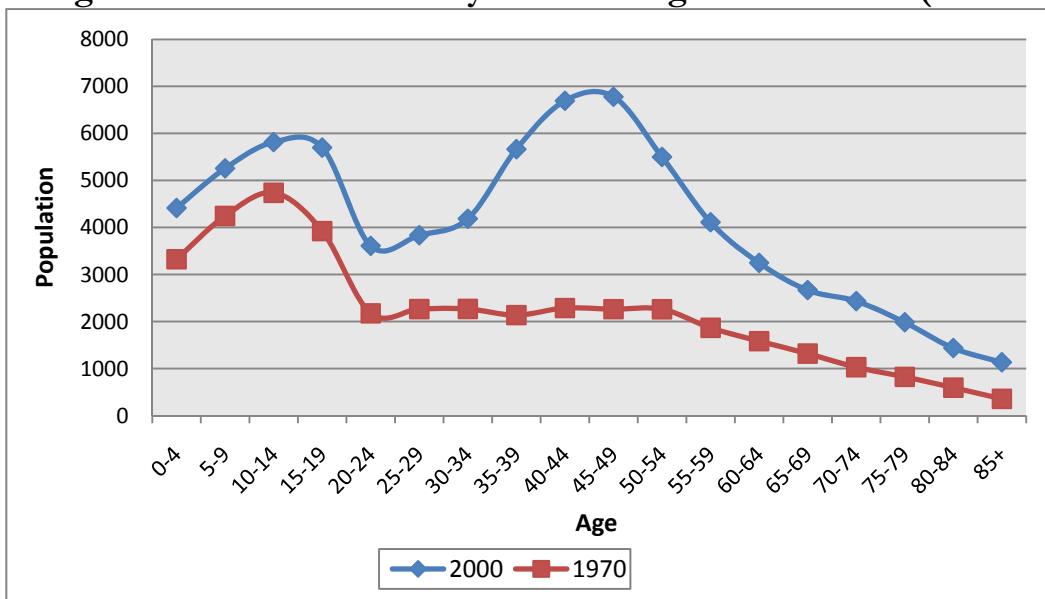
In recent decades there were other notable changes in Flathead County’s population. In Flathead County, and elsewhere in Montana and the nation, the population’s age profile got older. Between 1970 and 2000, the number of county residents under the age of 16 increased by 3,181 persons, residents age 16 to 64 increased by 26,298 persons, and residents 65 and older increased by 5,532 persons. This can be seen in **Table 3-3**. This information is also shown graphically on **Figure 3-2**.

Table 3-3: Flathead County Resident Age Distribution (1970 – 2000)

AGE GROUP	1970		2000		30-YR CHANGE
0-15	12,306	31.20%	15,487	20.80%	3,181
16-64	23,030	58.40%	49,328	66.20%	26,298
65+	4,124	10.50%	9,656	13.00%	5,532
Total	39,460	-	74,471	-	35,011

Source: US Bureau of the Census, Census of Population (1970 – 2000).

Figure 3-2: Flathead County Resident Age Distribution (1970 – 2000)



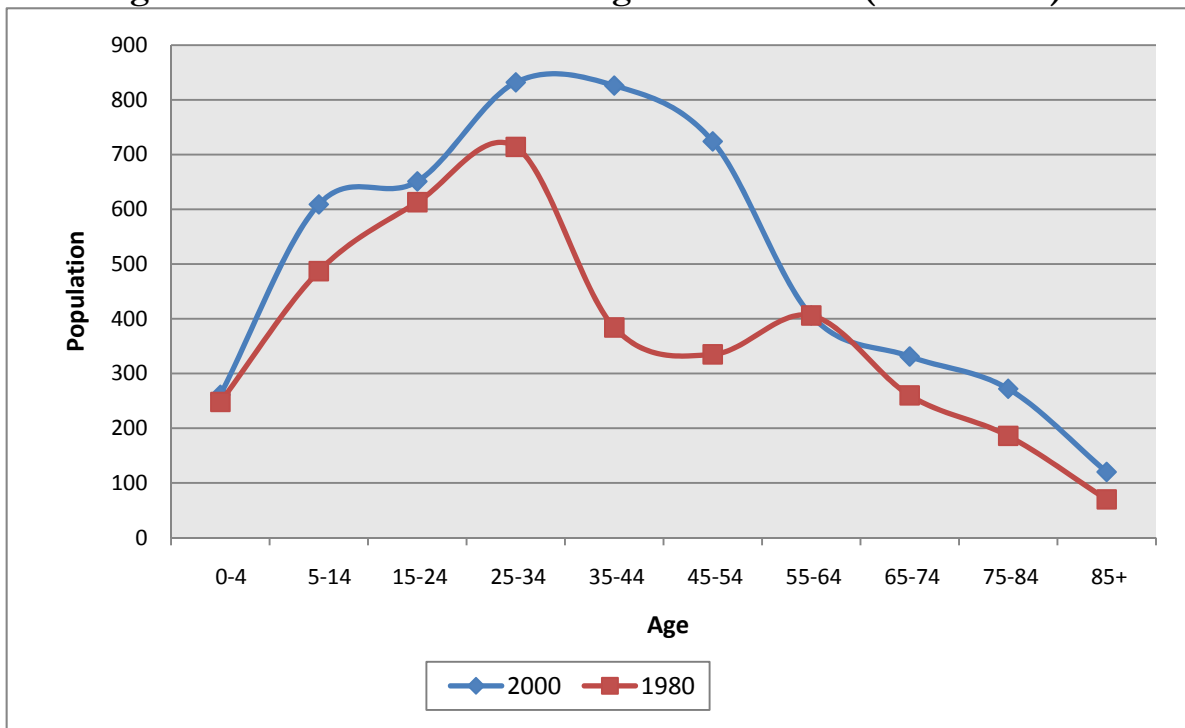
As seen in Flathead County, the age profile for the City of Whitefish has shifted as well. While age distribution data for the City of Whitefish is not available for 1970 as with Flathead County, **Table 3-4** shows the number of residents between 1980 and 2000 under the age of 16 increased 135 persons, residents age 16 to 64 increased by 987 persons, and residents 65 and older increased by 207. This information is shown graphically on **Figure 3-3**.

Table 3-4: Whitefish Resident Age Distribution (1980 – 2000)

AGE GROUP	1980		2000		20-YR CHANGE
0-15	735	19.80%	870	17.30%	135
16-64	2,452	66.20%	3,439	68.30%	987
65+	516	13.90%	723	14.40%	207
Total	3,703	-	5,032	-	1,329

Source: US Bureau of the Census, Census of Population (1980 – 2000).

Figure 3-3: Whitefish Resident Age Distribution (1980 – 2000)



3.1.2 Economy and Employment Trends

Flathead County has a diverse economic base, which includes: manufacturing (primary metals, wood products, and high-tech), transportation (railroads), tourism and travel, the federal government (including the USDA Forest Service and the National Park Service), growing areas of healthcare, specialized services, construction, and retail trade. Flathead County was historically a natural resource based economy; however, the economy has

changed and diversified over the last twenty years with strong growth in retail trade and service industries.

Table 3-5 and **Figure 3-4** compare Flathead County’s population with the increase in total employment over from 1970 through the year 2007. Between the years 1970 and 2007, the number of jobs in Flathead County more than tripled, from 15,627 jobs in 1970 to 63,320 jobs in 2007. Job growth in Flathead County steadily increased between 1970 and 2007 with the largest increase occurring during the 1990 to 2000 period. Between 1990 and 2000, the number of jobs in the county increased by nearly 16,000 representing an increase of nearly 50%. In 2007, the Flathead County economy supported an estimated 63,807 jobs, an increase of more than 14,500 jobs since the year 2000.

Table 3-5: Flathead County Population and Employment (1970 – 2007)

YEAR	POPULATION	EMPLOYMENT*
1970	39,460	15,627
1980	51,966	24,705
1990	59,218	33,258
2000	74,471	49,278
2007	86,844	63,807

Source: US Bureau of the Census, Census of Population (1970 – 2000).
 *Employment data is number of jobs, not number of employed people.

Figure 3-4: Flathead County Population and Employment (1970 – 2007)

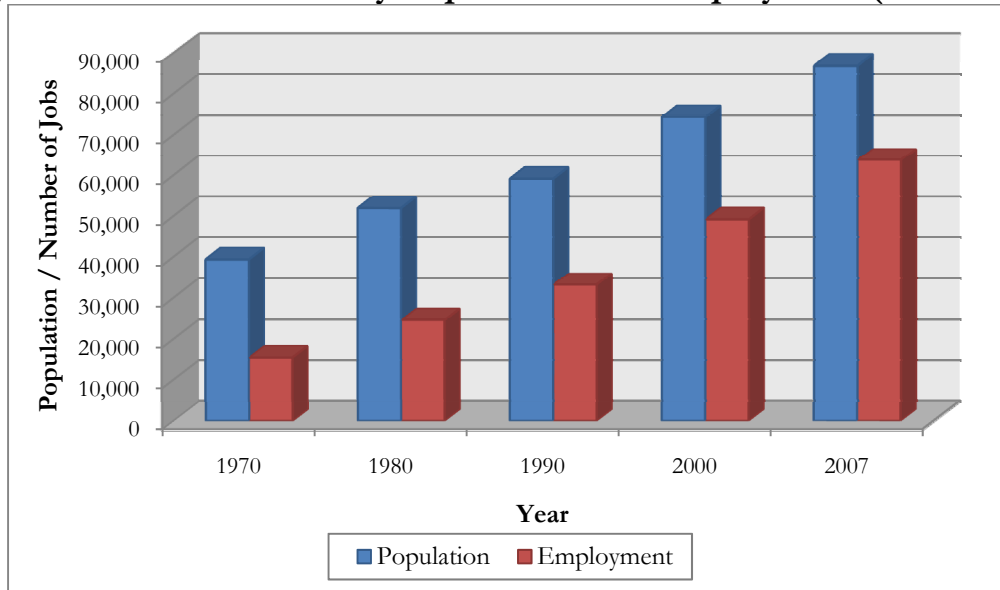


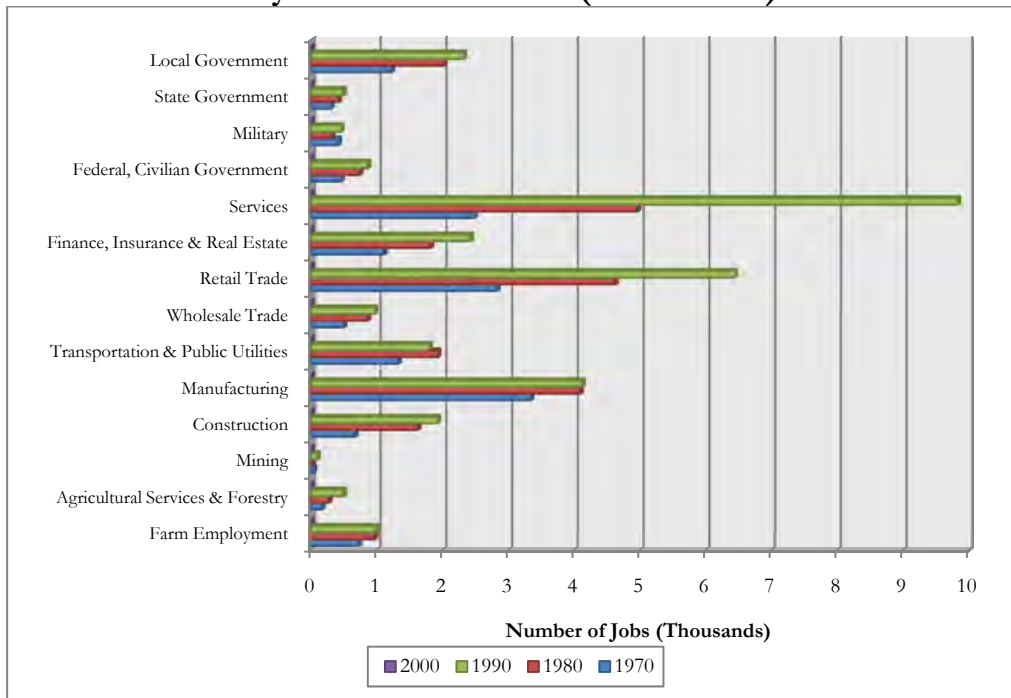
Table 3-6 displays countywide employment by economic sector from 1970 through 2000. This information is shown graphically in **Figure 3-5**.

Table 3-6: Flathead County Employment Trends by Economic Sector (1970 – 2000)

ECONOMIC SECTOR	1970	1980	1990	2000	CHANGE (1970-2000)
Farm Employment	730	975	994	1,124	394
Agricultural Services & Forestry	169	273	501	1,223	1,054
Mining	40	17	95	227	187
Construction	674	1,626	1,925	4,183	3,509
Manufacturing	3,345	4,095	4,127	5,106	1,761
Transportation & Public Utilities	1,327	1,928	1,803	2,205	878
Wholesale Trade	501	862	971	1,198	697
Retail Trade	2,831	4,634	6,443	9,873	7,042
Finance, Insurance & Real Estate	1,115	1,821	2,428	3,850	2,735
Services	2,484	4,969	9,832	15,600	13,116
Federal, Civilian Government	461	743	865	851	390
Military	416	318	459	389	-27
State Government	307	420	495	551	244
Local Government	1,227	2,024	2,320	2,898	1,671
Totals	15,627	24,705	33,258	49,278	33,651

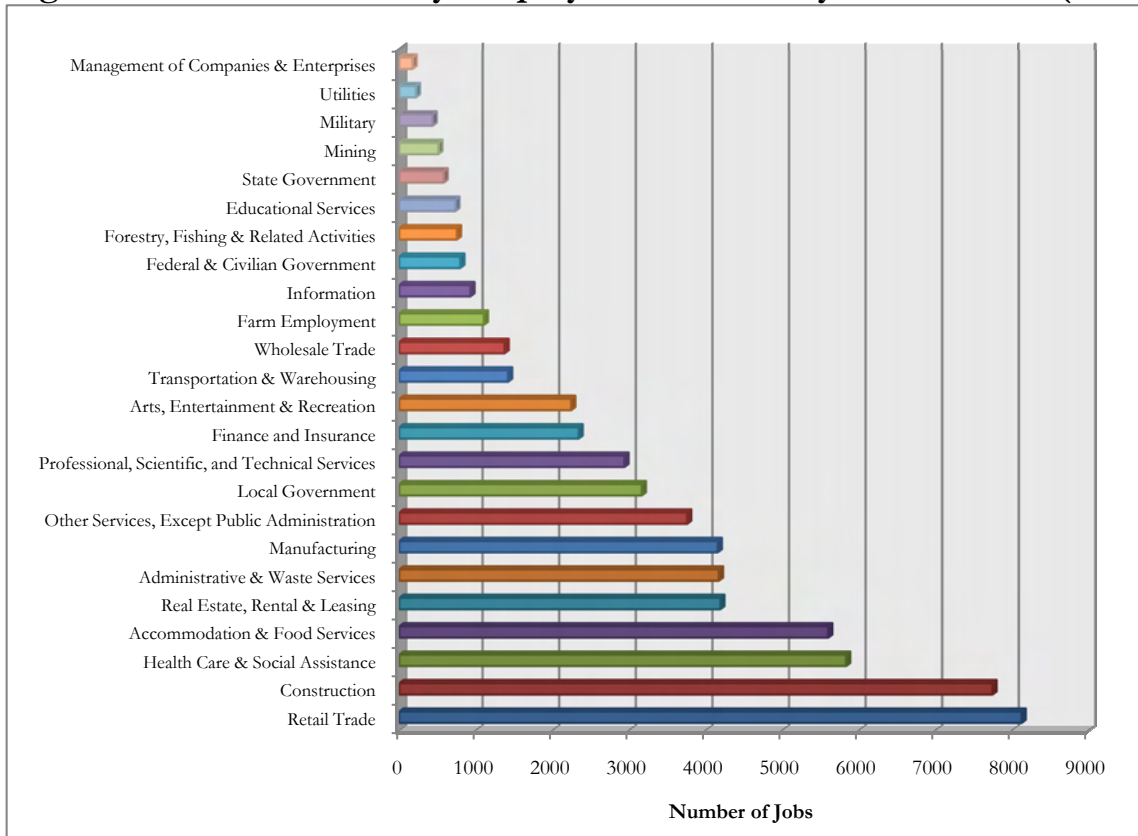
Source: US Department of Commerce, Bureau of Economic Analysis, REIS Data Series, 2000.

Figure 3-5: Flathead County Employment Trends by Economic Sector (1970 – 2000)



Another interesting breakdown of employment sectors in Flathead County is as shown in **Figure 3-6**. This graphic presents the Flathead County 2007 Employment, by economic center, as classified by the North American Industry Classification System (NAICS). This figure shows graphically what the highest employment sectors are in the County. Interestingly enough, the retail industry is the largest employment base in the County, followed by construction, health care, tourism and manufacturing rounding out the top five employment categories.

Figure 3-6: Flathead County Employment Trends by NAIC Sector (2007)



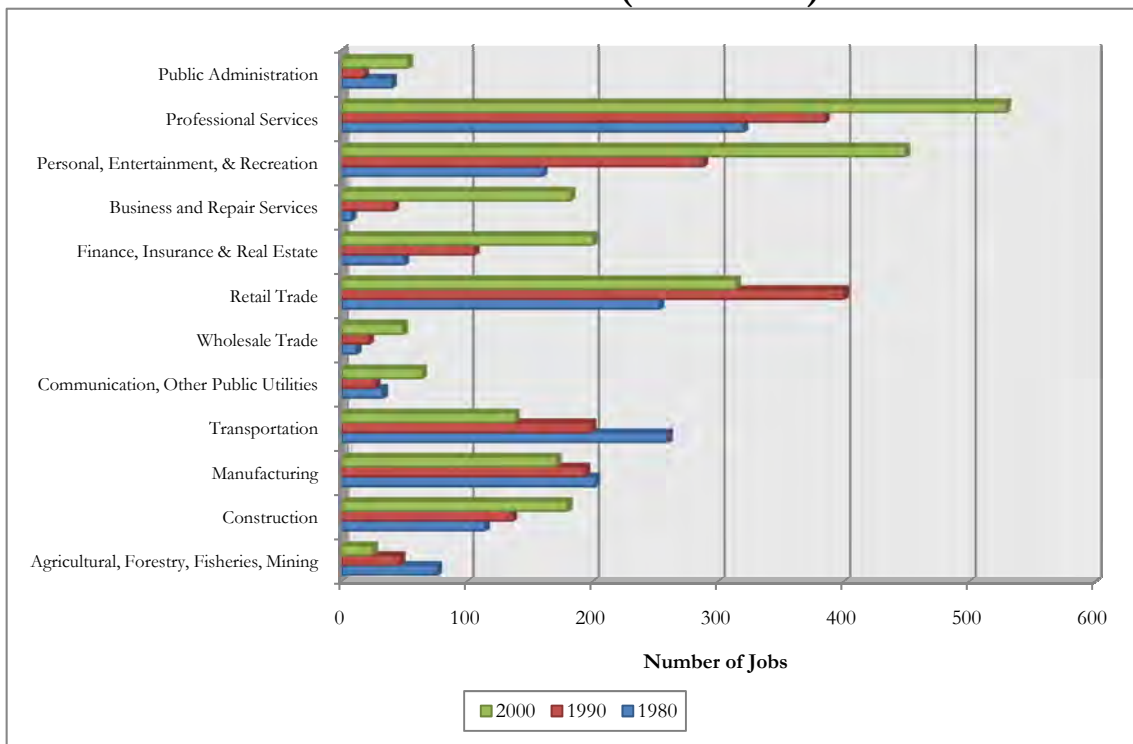
While there is no available information for the City of Whitefish on the number of jobs available as with Flathead County, the U.S. Census Bureau does keep track of the number of employees in the City. **Table 3-7** shows the number of employees within each economic sector for the City of Whitefish for 1980, 1990, and 2000. This information is shown graphically in **Figure 3-7**.

Table 3-7: City of Whitefish Employment by Economic Sector (1980 – 2000)

ECONOMIC SECTOR	1980	1990	2000	CHANGE (1980-2000)
Agricultural, Forestry, Fisheries, Mining	76	47	25	-51
Construction	114	136	180	60
Manufacturing	202	194	171	-31
Transportation	260	199	138	-122
Communication, Other Public Utilities	33	27	64	31
Wholesale Trade	12	22	49	37
Retail Trade	253	400	314	61
Finance, Insurance & Real Estate	50	106	200	150
Business and Repair Services	8	42	182	174
Personal, Entertainment, & Recreation	160	288	449	289
Professional Services	320	385	529	209
Public Administration	40	18	53	13
Totals	1,528	1,864	2,354	760

Source: US Department of Commerce, Bureau of Economic Analysis, REIS Data Series, 2000.

Figure 3-7: City of Whitefish Employment by Economic Sector (1980 – 2000)



The economic trend data presented in **Figure 3-6** and **Figure 3-7** is not surprising, given the fact that the retail and tourism sectors are large attractions to the Whitefish area. Many of the top economic sectors are types of business that feed off of this sector and/or are directly dependent on this sector. The healthcare industry is also a booming industry. This trend is seen all over Montana, and is likely to continue. The boom in the healthcare industry especially is a “high-growth” sector both in the state of Montana and nationally. This is partly due to the aging of our population.

The employment data presented in this section includes both full-time and part-time jobs. An interesting nuance over the past thirty years has been the change in workforce participation. There are many more women in the workforce now than there were thirty years ago. This relates partly to the change in demographics (families are having fewer children than thirty years ago) and also the availability of part-time jobs. Many part-time jobs include retail and tourism centered jobs, and these positions have attracted a greater proportion of women desiring part-time positions. In some cases, several part-time jobs are held. The fundamental importance of understanding economic trends is that eventually, the numbers and types of jobs equate to vehicle travel on our transportation system.

3.2 POPULATION AND EMPLOYMENT PROJECTIONS

Population and economic projections are used to predict future travel patterns, and to analyze the potential performance capabilities of the Whitefish area transportation system. Projections of the study area’s future population and employment are developed from both Flathead County trends (regression line projections), and recently completed Growth Policy effort. These two projection scenarios are provided through the year 2030 (the planning horizon).

The basic scenario that is presented is referred to as the “Moderate Growth” scenario. This is the scenario that is most likely to occur, based on past trends and what has happened in other Montana community’s over the past thirty years. This scenario was selected as the basis for the transportation modeling, and represents a continuation of the current population and growth trends already observed as presented in **Section 3.1**, such that adequate services and infrastructure will be planned for if the current levels of development continue. It assumes that the Flathead County population and economy will continue to grow at the same rate it has in the past decade. If this growth rate pattern does not develop further, or is not sustained, then demand will not occur as planned for in this Transportation Plan, and projects may be delayed or avoided.

A second scenario was also developed, and is referred to as the “Low Growth” scenario. It builds from much of the population and employment trends that were realized in the 1980’s, a period when economic growth was fairly flat due to many different circumstances. Lastly, a third growth scenario, referred to as a “High Growth” situation, was developed to reflect a more aggressive growth pattern in both population and employment. This growth trend is patterned after population and employment trends that were realized between 2000 and 2005, where economic growth was fairly higher than past years. A breakdown of the population and employment projections produced in each scenario, on a countywide basis

for Flathead County, are presented in **Table 3-8** and shown graphically in **Figure 3-8** and **Figure 3-9**.

Table 3-8: Flathead County Population and Employment Projections (2005 – 2030)

YEAR	LOW GROWTH		MODERATE GROWTH		HIGH GROWTH	
	POPULATION	EMPLOYMENT	POPULATION	EMPLOYMENT	POPULATION	EMPLOYMENT
	1.31%	1.00%	1.59%	1.88%	2.23%	4.01%
2005	83,172	54,942	83,172	54,942	83,172	54,942
2010	88,764	57,745	89,675	60,313	92,869	66,877
2015	94,733	60,690	97,127	66,210	103,696	81,406
2020	101,102	63,786	104,713	72,683	115,785	99,090
2025	107,900	67,040	112,516	79,788	129,284	120,616
2030	115,156	70,459	121,778	87,589	144,356	146,819

Figure 3-8: Flathead County Population Projections

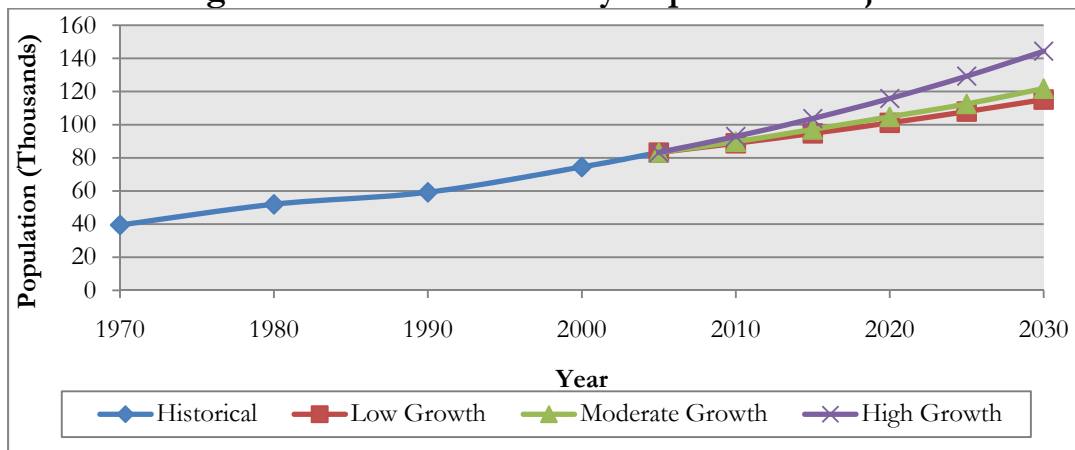
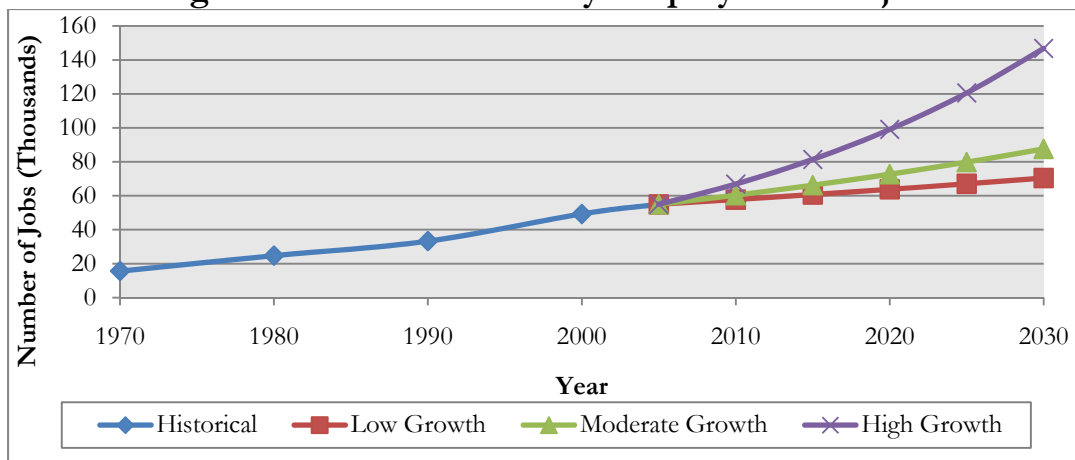


Figure 3-9: Flathead County Employment Projections



The projections of population and employment presented above are for all of Flathead County. The study area boundary for this Transportation Plan, however, is much smaller. Although County level projections are satisfactory to establish the overall growth rates and scenarios for future population and employment, this data was reviewed and supplemented to better address the study area for the Transportation Plan.

Forecasting growth for the study area was completed by reviewing and confirming those forecasts made as part of the Whitefish City-County Growth Policy. The Growth Policy, whose jurisdictional area is coincidental with the study area used for this Transportation Plan, forecasts population growth to the year 2017. The forecasted growth translates to a growth rate of 3.6% per year. The Growth Policy estimated that in 2005 there was a population of 11,500 people within the study area. A population of 17,500 was projected for the study area using current rates of development and absorption for the planning area. Although future population was only forecasted to the year 2017, it was assumed for the purposes of the Transportation Plan that growth would continue at a similar rate to the planning year 2030. This gives the study area a projected population of about 27,841 by the year 2030.

Table 3-9 presents population projections for the City of Whitefish and its planning jurisdictional area through the year 2030. Population projections for the years 2010, 2015, and 2020 represent proportional allocations of population over 5-year periods considering the total population growth between 2005 and 2025 under both low and high growth scenarios. The low scenario represents a growth rate of about 1% per year and the high scenario corresponds to a growth rate of about 3.6% per year. These growth rates were used to generate projections for the year 2030 under each scenario.

Future populations for the corridor study area were generated by first identifying the anticipated increases in dwelling (housing) units for each Census Block within the study area between the year 2000 and the year 2030. This data was conveniently obtained from inputs used for the urban travel demand model developed and maintained by the MDT with input provided by the Consultant. The total increase in dwelling units was multiplied by an average occupancy rate for dwelling units in the city to yield a total population increase for the corridor study area. This analysis identified an increase of nearly 630 housing units and a total population increase of about 1,290 residents by the year 2030. This total increase was then proportionally allocated over subsequent five-year periods starting between 2000 and 2030.

Please note the numbers shown in **Table 3-9** reflect the results of mathematical calculations to proportionately allocate population over time periods or reflect growth rates applied to known population totals. While the numbers suggest a high degree of accuracy, it is not possible to project future populations to the individual. It would be reasonable to round the projections to the nearest 50 or 100 for discussion purposes.

It should also be noted that projections of growth and development for the Whitefish area are based on historic trends and the community experienced an unprecedented period of growth during the 2000-2008 period. Recent economic conditions have slowed growth and development within the Whitefish area, Flathead County, and nationwide. While these conditions have and will negatively affect the rate of growth in the Whitefish area in the

short-term, it is unknown how long the economic slowdown will persist and there are few applicable statistics that can be relied upon to temper population and growth forecasts at this time. For this reason, it is important to keep in mind the population projections represent what might reasonably be expected within the next 20 to 25 years and that community growth could happen at a slower (or faster) rate depending upon the many factors that influence growth.

Table 3-9: Population Projections for the City of Whitefish and Whitefish Planning Jurisdictional Area (2000 – 2030)

YEAR	CITY OF WHITEFISH		WHITEFISH PLANNING JURISDICTIONAL AREA	
	LOW	HIGH	LOW	HIGH
2000 Census	5,032	5,032	--	--
2005 ^{(1)/(2)}	7,092	7,092	11,500	11,500
2008 ⁽¹⁾	8,281	8,281	--	--
2010 ⁽³⁾	7,429	8,481	12,141	14,462
2015 ⁽³⁾	7,766	9,871	12,783	17,424
2020 ⁽³⁾	8,102	11,260	13,424	20,386
2025 ⁽²⁾	8,439	12,649	14,065	23,348
2030 ⁽⁴⁾	8,813	14,617	14,791	27,841

Notes and Assumptions:

- (1) 2005 and 2008 estimates of population for City of Whitefish from *Annual Estimates of the Population for Incorporated Places in Montana, by County: April 1, 2000 to July 1, 2008*. Source: Population Division, U.S. Census Bureau Release Date: July, 2009
- (2) Projected 2005 population for the Whitefish Jurisdictional Area, and Year 2025 projections of population for the City of Whitefish and Whitefish Planning Jurisdictional Area from City's Growth Policy Update.
- (3) Population increases under the "Low" and "High" growth scenarios for the City of Whitefish and its planning jurisdictional area were proportionally allocated over 5-year periods based on the total population growth projected over the 2005-2025 period under each scenario.
- (4) Populations were projected for the year 2030 assuming a continuation of growth rates for the year 2005 through 2025 under the "Low" and "High" growth scenarios for the City of Whitefish and its planning jurisdictional area.
- (5) The corridor study area population was projected by examining projected increase in dwelling (housing) units for the year 2030 in each Census Block and applying an average population per housing unit for 2000 Census Blocks in the corridor study area to yield a total population increase by the year 2030. The total increase in population was then proportionally allocated over five-year periods between 2000 and 2030.

3.3 ALLOCATION OF GROWTH WITHIN THE STUDY AREA

MDT's modeling of future traveling patterns out to the year 2030 planning horizon required identification of future socioeconomic characteristics within each census tract and census block. County population and employment projections, coupled with the adopted Whitefish City-County Growth Policy, were translated to predictions of increases in housing and employment within the Greater Whitefish area. This information was developed through a parallel project - the MDT's "*Whitefish Urban*" design project. For that particular project, a land use committee was set up to discuss future dwelling units, retail and non-retail employment assignments. This information was projected out to the year 2030, and the subsequent data was entered into the urban travel demand model.

It is important to recognize the assignments of new residential and employment growth represent a “best guess” at how the community may grow based on recent trends. The assignments are generally consistent with the future land use planning assumptions and policies presented in the Whitefish City-County Growth Policy. The Growth Policy encourages infill development over sprawl and limits new zoning changes until 40% of existing lots are built out. The assumptions about the allocation of residential and commercial growth in the community will need to be revisited in future updates of the Transportation Plan to ensure consistency with the City’s Growth Policy and to determine necessary changes for new modeling efforts.

3.4 COMMITTED TRANSPORTATION IMPROVEMENTS

During the development of the traffic model, the existing road network is coded into the computer. This existing network is often called the “E Network.” Once the “E Network” is developed, the next step is to consider and incorporate (as appropriate) other committed improvement projects. Generally, committed improvements listed herein are only considered if they are likely to be constructed within a five-year timeframe and a funding source has been identified and is assigned to the specific project. Committed projects are only listed if the project will affect capacity and/or delay characteristics of a roadway facility and/or intersection. The addition of the committed improvement projects with the existing roadway network produces what is known as the “Existing plus Committed” network (referred to as the E+C Network). The E+C Network is then used for all future year analyses.

In the Whitefish area, the following projects are “committed” projects for purposes of the travel demand modeling:

CMSN-1 US Highway 93 (Whitefish-West)

This project includes the complete reconstruction of US Highway 93 west of Whitefish. This project is currently in the design stage and the most recent estimates place the total project cost at nearly \$38 million. Given the high cost of the project, MDT would likely split the project into several phases to better accommodate construction and anticipated funding. Funding for the project is unlikely before 2011; however, if money becomes available it could be moved ahead very quickly.

CMSN-2 Central Avenue (Railway to 3rd Street)

This City of Whitefish project calls for enhancements to the Central Avenue streetscape through mid-block crossings, decorative concrete, angled parking and raised intersections. Some turn lane restrictions and curb bulb-outs will be incorporated into the project. The first phase of construction on the project was completed in 2009.

CMSN-3 6th Street and Geddes Avenue

This City of Whitefish reconstruction project would rebuild portions of 6th Street and Geddes Avenue. The project will likely not be built until 2012 or later.

CMSN-4 MT Highway 40/Dillon Road/Conn Road Intersection

This MDT project, identified in early 2009, will improve 1.2 miles of MT Highway 40 east of Whitefish. The project is currently being designed and will include the installation of left turn lanes on MT Highway 40 at the intersection of Dillon Road and Conn Road. The intersection falls at the extreme east boundary of the study area for the Transportation Plan and is planned for implementation after 2013.

Note the Wisconsin Avenue Bike/Pedestrian Path was identified as CMSN-2 in the Public Review Draft Transportation Plan circulated in early 2008. This Community Transportation Enhancement Program (CTEP) project, completed in 2008, provided a shared-use bike/pedestrian path along Wisconsin Avenue.

3.5 TRAFFIC MODEL DEVELOPMENT

The land use, housing, and employment characteristics of the greater Whitefish area are factors that create the traffic patterns present in the community today. To build a model to represent these conditions, the population information was collected from the 2000 census, and employment information was gathered from the Montana Department of Labor and Industry, second quarter of 2007, and was carefully scrutinized by local agency planners and MDT modeling staff.

The roadway network/centerline information was provided by the Flathead County GIS office. This information was substantially supplemented by staff at the City of Whitefish, Flathead County, and the MDT whose local knowledge was used to increase the accuracy of the base model.

The GIS files, population census information, and employment information are readily available. The *TransCAD* software is designed to use this information as input data. *TransCAD* Version 4.0 was used as the transportation modeling software for this project. *TransCAD* performs a normal modeling process of generating, distributing and assigning traffic in order to generate traffic volumes. These traffic volumes are then compared to actual ground counts and adjustments are made to “calibrate”, or ensure the accuracy of, the model. This is further explained below.

It should be noted that since these models are based on forecasted land uses and existing travel patterns, the resulting modeled traffic volumes may or may not be attained. These traffic volume projections are used to assist in the evaluation of projected future conditions.

Trip Generation – Trip generation consists of applying nationally developed trip rates to land use quantities by the type of land use in the area. The trip generation considers two factors: trip production and trip attraction. Trip production and trip attraction helps to “explain” why the trip is made. Trip production is based on relating trips to various household characteristics. Trip attraction considers land uses or activities that might attract trip makers, such as offices, shopping centers, schools, hospitals and other households. The

number of productions and attractions in the area is determined and is then used in the trip distribution phase of model development.

Trip Distribution – Trip distribution is the process in which a trip from one area is connected with a trip from another area. These trips are referred to as trip exchanges.

Mode Split – Mode choice is the process by which the amount of travel will be made by each available mode of transportation. There are two major types: automobile and transit. The automobile mode is generally split into drive alone and shared ride modes. For the Whitefish travel demand model, there were no “mode split” assignments (i.e. all trips are assumed to be automobile mode).

Trip Assignment – Once the trip distribution element is completed, the trip assignment tags those trips to the Major Street Network (MSN). The variable that influence this are travel time, length, and capacity.

Due to the inherent characteristics of a traffic model, it is easy to add a road segment (or “link”) where none exists now or to widen an existing road and see what affect these changes will have on the transportation system. Additional housing and employment centers can be added to the system to model future conditions, and moved to different parts of the model area to see what affect different growth scenarios have on the transportation system. Thus, the land use changes anticipated between now and 2030 can be added to the transportation system, and the needed additions to the transportation system can then be identified. Further, different scenarios for how the greater Whitefish area may grow between now and 2030 can be examined to determine the need for additional infrastructure depending upon which one most accurately represents actual growth.

To develop a transportation model, the modeling area must be established. The modeling area is, by necessity, much larger than the Study Area. Traffic generated from outlying communities or areas contributes to the traffic load within the Study Area, and is therefore important to accuracy of the model. Additionally, it is desirable to have a large model area for use in future projects.

The future year model was developed specifically for the year 2030 planning horizon. The 2030 model is used in this document to evaluate future traffic volumes, since 2030 is the horizon year for this document. The information contained in the previous sections was used to determine the additions and changes to the traffic volumes in 2030.

The modeling area was subdivided by using census tracts and census blocks, as previously described in this chapter. Census blocks are typically small in the downtown and existing neighborhood areas, and grow geographically larger in the less densely developed areas. The census blocks and census tracts were used to divide the population and employment growth anticipated to occur between now and 2030.

3.6 NETWORK ALTERNATIVES TEST RUN ANALYSIS

Using the traffic model provided by MDT, it is possible to produce traffic assignments that predict the effects of major modifications and additions to the street network. Alternatives such as the addition of new arterial links, street closures, or the extension of existing routes were identified and discussed. Major improvements can then be grouped together and superimposed on the existing network. The impacts of implementing the alternative actions can then be determined for each test run. These tests help determine possible benefits and drawbacks of a variety of potential changes to the major street network.

Seventeen (17) “alternative scenarios” were test modeled. This section of the Plan contains the descriptions of the proposed modifications included in each model run, along with a brief description of the resulting traffic volume changes based on year 2030 projected traffic volumes from the *TransCAD* traffic model. **Table 3-10** identifies each of the alternative scenarios examined for the Transportation Plan and **Figure 3-10** shows the location of the roadway section(s) considered in each alternative scenario.

As noted earlier in this chapter, the “Moderate Growth” rate for the Whitefish planning area was selected as the basis for the transportation modeling since it represents a continuation of the current population and growth trends already observed in the community over the last decade. If this growth rate is not sustained, then demand will not occur as planned for in this Transportation Plan, and recommended projects may need to be delayed or not implemented.

Again, it must be noted that since these models are based on forecasted land uses and existing travel patterns, the resulting modeled traffic volumes may or may not be attained. These traffic volume projections are used to assist in the evaluation of projected future conditions.

Table 3-10: Whitefish Alternative Scenarios

Designation	Name	Designation	Name
AS-1	Western Route Alternative A	AS-10	Cow Creek Railroad Crossing
AS-2	Western Route Alternative B	AS-11	Armory Road Extension
AS-3	Western Route Alternative C	AS-12	7th Street Bridge
AS-4	Western Route Alternative D	AS-13	Wisconsin Avenue Improvements
AS-5	Baker Avenue Extension	AS-14 (a)	NE Extension to Texas Avenue
AS-6	13th Street Bridge	AS-14 (b)	NE Extension to Texas Avenue
AS-7	7th Street Extension	AS-15 (a)	NE Extension to Cow Creek
AS-8	Kalner Lane Extension	AS-15 (b)	NE Extension to Cow Creek
AS-9	Texas/Columbia Railroad Crossing		

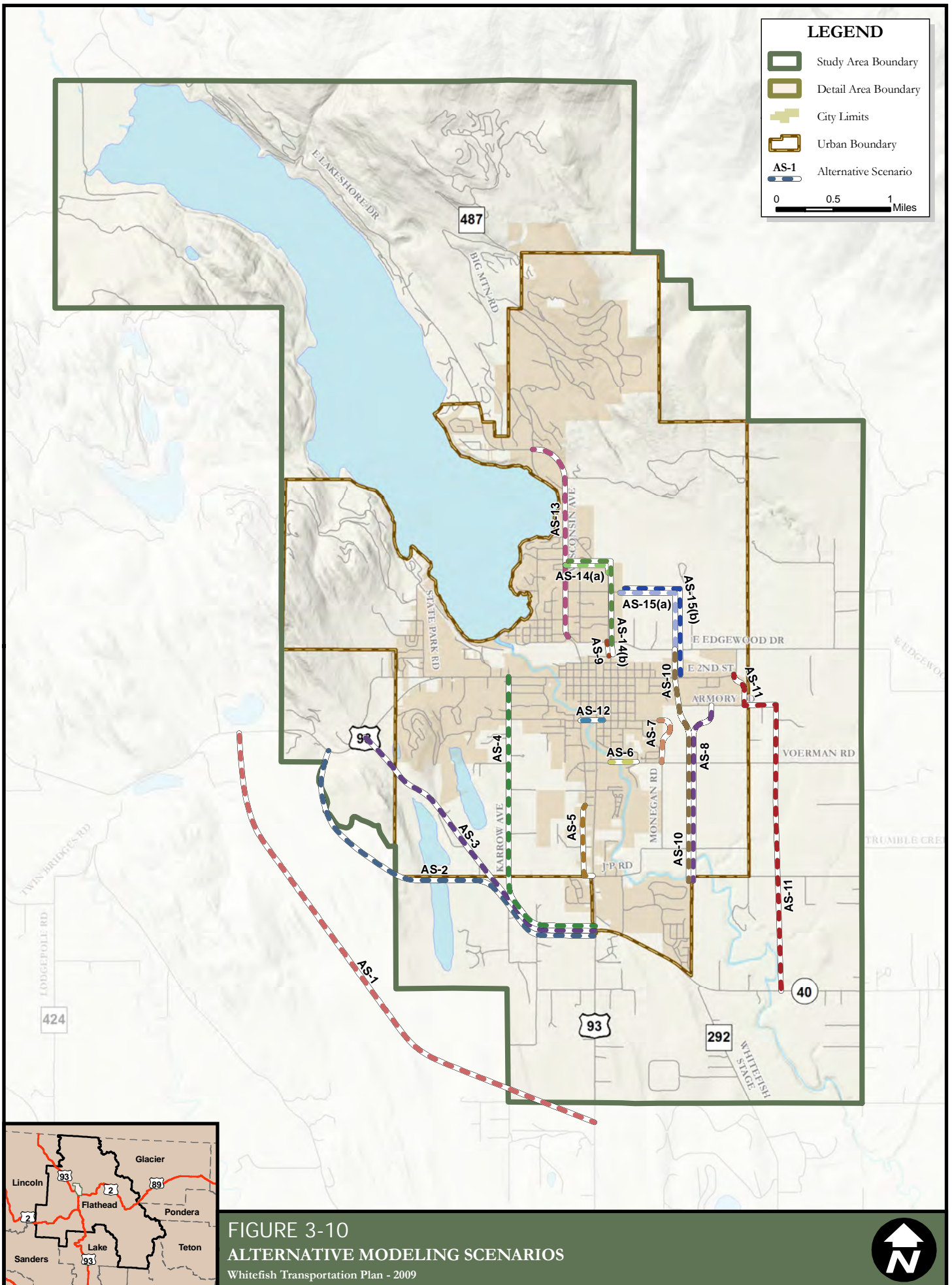


FIGURE 3-10
ALTERNATIVE MODELING SCENARIOS
 Whitefish Transportation Plan - 2009



ALTERNATIVE SCENARIO 1 (WESTERN ROUTE ALTERNATIVE A)

Description:

AS-1 consists of a western route that begins at an intersection with Highway 93 approximately 1.7 miles south of the intersection of Highway 93 and MT Highway 40. The route would travel in a northwesterly direction along an existing dirt road and through natural drainage swales to connect back with Highway 93. Adding this route serves traffic on Highway 93 that does not need to pass through Whitefish for its intended destination.

Resulting Traffic Volume Changes on Key Roads:

Table 3-11 presents traffic volume changes on representative road segments affected by this scenario.

Table 3-11: AS-1 (Western Route Alternative A)

Location	Year 2030 Volume with No Action	Year 2030 Volume with Alternative	Change in Volume	Percent Change
HWY 93 (north of AS-1)	23,100	20,200	-2,900	-12.60%
Blanchard Lake Rd (west of HWY 93)	5,900	4,600	-1,300	-22.00%
13th Street West (west of HWY 93)	4,800	4,000	-800	-16.70%
Spokane Ave just (south of 2nd St)	8,100	7,400	-700	-8.60%
Baker Ave (south of 2nd St)	12,300	11,900	-400	-3.30%
2nd St (west of Baker Ave)	10,500	9,700	-800	-7.60%
Karrow Ave (south of HWY 93)	8,000	2,700	-5,300	-66.30%
HWY 93 (west of Karrow Ave)	18,300	13,900	-4,400	-24.00%
HWY 93 (east of AS-1)	9,000	10,300	1,300	14.40%
AS-1 (south of HWY 93)	-	10,900	-	-
AS-1 (west of HWY 93)	-	8,900	-	-

Conclusions Based on Travel Demand Modeling for this Alternative Scenario:

This route creates a notable drop in traffic along Highway 93 in the Whitefish area and also decreases traffic volumes around Karrow Avenue.

This western route alternative was **not carried further** in this Transportation Plan in the form of a recommendation due to the significant environmental impacts associated with its construction, coupled with the lack of providing any significant benefits to the traffic volumes in the downtown core. Costs associated with this alternative were excessively high as well, due to expected right-of-way costs. Also, significant public resistance was expressed relative to this route and by affected residents in the Whitefish Hills development.

ALTERNATIVE SCENARIO 2 (WESTERN ROUTE ALTERNATIVE B)

Description:

AS-2 consists of a western route that begins at the intersection of MT Highway 40 and Highway 93. The route would then proceed to the northwest to meet with Blanchard Lake where a bridge would be needed to cross the lake. After the bridge, the alternative would head northwest to connect back with Highway 93. Adding this route serves traffic on Highway 93 that does not need to pass through Whitefish for its intended destination.

Resulting Traffic Volume Changes on Key Roads:

Table 3-12 presents traffic volume changes on representative road segments affected by this scenario.

Table 3-12: AS-2 (Western Route Alternative B)

Location	Year 2030 Volume with No Action	Year 2030 Volume with Alternative	Change in Volume	Percent Change
HWY 93 (north of AS-2)	29,300	25,700	-3,600	-12.30%
13th Street West (west of HWY 93)	4,800	3,900	-900	-18.80%
Spokane Ave just (south of 2nd St)	8,100	7,600	-500	-6.20%
Baker Ave (south of 2nd St)	12,300	12,000	-300	-2.40%
2nd St (west of Baker Ave)	10,500	9,500	-1,000	-9.50%
Karrow Ave (north of AS-2)	5,400	4,600	-800	-14.80%
Karrow Ave (south of HWY 93)	8,000	2,700	-5,300	-66.30%
HWY 93 (west of Karrow Ave)	18,300	13,900	-4,400	-24.00%
HWY 93 (east of AS-2)	9,100	5,500	-3,600	-39.60%
AS-2 (south of HWY 93)	-	6,800	-	-
AS-2 (west of HWY 93)	-	14,900	-	-

Conclusions Based on Travel Demand Modeling for this Alternative Scenario:

This route causes a notable decrease in traffic volume north of the intersection with MT Highway 40 on Highway 93. There is also a significant traffic volume reduction on Karrow Avenue. This western route alternative was **not carried further** in this Transportation Plan in the form of a recommendation due to the significant environmental impacts associated with its construction, coupled with the lack of providing any significant benefits to the traffic volumes in the downtown core. Significant public resistance was expressed relative to this route and by affected residents in the Whitefish Hills development. Costs associated with this alternative were excessively high as well, due to a crossing of Blanchard Lake and expected right-of-way costs. The route did not relieve traffic volume issues in the downtown core.

ALTERNATIVE SCENARIO 3 (WESTERN ROUTE ALTERNATIVE C)

Description:

AS-3 is similar to **AS-2** and consists of a route that begins at the intersection of Highway 93 and MT Highway 40. The route then travels northwest along an existing power line easement on the eastern side of Blanchard Lake. The route ends at an intersection with Highway 93.

Resulting Traffic Volume Changes on Key Roads:

Table 3-13 presents traffic volume changes on representative road segments affected by this scenario.

Table 3-13: AS-3 (Western Route Alternative C)

Location	Year 2030 Volume with No Action	Year 2030 Volume with Alternative	Change in Volume	Percent Change
HWY 93 (north of AS-3)	29,300	25,600	-3,700	-12.60%
13th Street West (west of HWY 93)	4,800	3,900	-900	-18.80%
Spokane Ave just (south of 2nd St)	8,100	7,200	-900	-11.10%
Baker Ave (south of 2nd St)	12,300	12,300	0	0.00%
2nd St (west of Baker Ave)	10,500	9,500	-1,000	-9.50%
Karrow Ave (north of AS-3)	5,400	3,900	-1,500	-27.80%
Karrow Ave (south of HWY 93)	8,000	2,500	-5,500	-68.80%
HWY 93 (west of Karrow Ave)	18,300	13,800	-4,500	-24.60%
HWY 93 (east of AS-3)	8,200	9,000	800	9.80%
AS-3 (south of HWY 93)	-	12,600	-	-
AS-3 (west of HWY 93)	-	15,000	-	-

Conclusions Based on Travel Demand Modeling for this Alternative Scenario:

This scenario has similar affects on traffic volumes as **AS-2**. Just like **AS-1** and **AS-2**, this route serves traffic on Highway 93 that does not need to pass through Whitefish, however it does not provide any significant relief to the downtown core in the future. This western route alternative was **not carried further** in this Transportation Plan in the form of a recommendation due to the significant environmental impacts associated with its construction.

ALTERNATIVE SCENARIO 4 (WESTERN ROUTE ALTERNATIVE D)

Description:

AS-4 starts in the same place and follows the same alignment as **AS-2** and **AS-3** until it intersects with Karrow Avenue, where it travels north to intersect with Highway 93. This alternative scenario provides additional south & west connectivity around Whitefish.

Resulting Traffic Volume Changes on Key Roads:

Table 3-14 presents traffic volume changes on representative road segments affected by this scenario.

Table 3-14: AS-4 (Western Route Alternative D)

Location	Year 2030 Volume with No Action	Year 2030 Volume with Alternative	Change in Volume	Percent Change
HWY 93 (north of AS-4)	29,300	24,800	-4,500	-15.40%
13th Street West (west of HWY 93)	4,800	4,200	-600	-12.50%
Spokane Ave just (south of 2nd St)	8,100	7,400	-700	-8.60%
Baker Ave (south of 2nd St)	12,300	12,300	0	0.00%
2nd St (west of Baker Ave)	10,500	9,600	-900	-8.60%
Karrow Ave (north of Blanchard Lake Dr)	5,400	13,900	8,500	157.40%
Karrow Ave (south of HWY 93)	8,000	8,600	600	7.50%
HWY 93 (east of Karrow Ave)	12,900	11,500	-1,400	-10.90%
AS-4 (west of HWY 93)	-	12,800	-	-

Conclusions Based on Travel Demand Modeling for this Alternative Scenario:

This connection does lower some traffic volume levels around the downtown area, and most notably traffic volumes on Highway 93 north of the intersection with MT Highway 40. However, this scenario would cause a significant traffic volume increase on Karrow Avenue. Although this western route alternative had the most benefits in terms of affecting downtown traffic volume relief out of the four considered alternatives, there are significant hurdles pertinent to its implementation. This includes traffic volume increases to Karrow Avenue, environmental impacts and funding limitations.

Karrow Avenue will be in need of improvements out to the planning horizon (year 2030) based on potential land use changes and resulting growth, however it is not recommended to reconstruct Karrow Avenue in the form of a "Bypass". Significant public resistance was expressed relative to this route and by affected residents along Karrow Avenue.

This western route alternative was **not carried further** in this Transportation Plan in the form of a recommendation.

ALTERNATIVE SCENARIO 5 (BAKER AVENUE EXTENSION)

Description:

AS-5 consists of a southern extension to Baker Avenue. The extension would start at 19th Street and would head south to connect with J.P. Road; approximately 0.68 miles long. This scenario creates another north south alternative to Highway 93.

Resulting Traffic Volume Changes on Key Roads:

Table 3-15 presents traffic volume changes on representative road segments affected by this scenario.

Table 3-15: AS-5 (Baker Avenue Extension)

Location	Year 2030 Volume with No Action	Year 2030 Volume with Alternative	Change in Volume	Percent Change
HWY 93 (north of J P Road)	10,600	9,200	-1,400	-13.20%
HWY 93 (south of 19th St)	35,700	26,300	-9,400	-26.30%
19th St (between Baker Ave and HWY 93)	10,400	2,700	-7,700	-74.00%
Baker Ave (north of 19th St)	10,200	10,500	300	2.90%
AS-5 (south of 19th St)	-	8,200	-	-
AS-5 (west of HWY 93)	-	7,700	-	-

Conclusions Based on Travel Demand Modeling for this Alternative Scenario:

The model for this scenario shows a significant reduction in traffic volumes on Highway 93 and 19th Avenue with only a modest addition to traffic volumes on Baker Avenue north of 19th Street. This connection was **deemed desirable and was carried forward** in the Transportation Plan (**MSN-4 in Chapter 6**).

ALTERNATIVE SCENARIO 6 (13TH STREET BRIDGE)

Description:

AS-6 calls for the addition of a bridge across the Whitefish River that would connect 13th Street and Voerman Road. This would allow for better east-west connectivity, especially in the southern portion of the city.

Resulting Traffic Volume Changes on Key Roads:

Table 3-16 presents traffic volume changes on representative road segments affected by this scenario.

Table 3-16: AS-6 (13th Street Bridge)

Location	Year 2030 Volume with No Action	Year 2030 Volume with Alternative	Change in Volume	Percent Change
13th Street (east of HWY 93)	9,600	11,200	1,600	16.70%
Shady River Lane (south of Voerman Rd)	1,500	1,600	100	6.70%
Voerman Rd (north of AS-6)	4,900	3,500	-1,400	-28.60%
Voerman Rd (east of AS-6)	4,700	5,300	600	12.80%
Columbia Ave (north of 13th St)	9,600	9,600	0	0.00%
10th St (between Columbia Ave and Park Ave)	5,000	3,400	-1,600	-32.00%
AS-6 (between 13th St and Voerman Rd)	-	3,100	-	-

Conclusions Based on Travel Demand Modeling for this Alternative Scenario:

13th Street would see an increase in traffic volumes, while 10th Street traffic volumes would be reduced due to the increase in alternate east-west connection roads. This connection was deemed **desirable and was carried forward** in the Transportation Plan (**MSN-12** in **Chapter 6**).

ALTERNATIVE SCENARIO 7 (7TH STREET EXTENSION)

Description:

AS-7 begins at the eastern end of 7th Street. The route would extend 7th Street to the east across Cow Creek, then to the south to connect with Voerman Road at the intersection with Monegan Road. This scenario adds connection to the south eastern side of Whitefish.

Resulting Traffic Volume Changes on Key Roads:

Table 3-17 presents traffic volume changes on representative road segments affected by this scenario.

Table 3-17: AS-7 (7th Street Extension)

Location	Year 2030 Volume with No Action	Year 2030 Volume with Alternative	Change in Volume	Percent Change
8th St (between Somers Ave and Park Ave)	3,000	1,900	-1,100	-36.60%
Pine Ave (north of 7th St)	3,400	4,900	1,500	44.10%
Voerman Rd (west of Monegan Rd)	4,700	3,800	-900	-19.10%
Voerman Rd (east of Monegan Rd)	9,400	8,300	-1,100	-11.70%
Monegan Rd (south of Voerman Rd)	5,700	6,700	1,000	17.50%
7th St (west of Pine Ave)	3,600	2,700	-900	-25.00%
AS-7 (east of 7th St and north of Voerman Rd)	-	4,700	-	-

Conclusions Based on Travel Demand Modeling for this Alternative Scenario:

The results of the travel demand modeling for this scenario would cause a decrease in traffic volumes on 8th Street, Voerman Road, and 7th Street, but would increase traffic volumes on Pine Avenue and Monegan Road. This connection was **deemed desirable and was carried forward** in the Transportation Plan (**MSN-7** in **Chapter 6**).

ALTERNATIVE SCENARIO 8 (KALNER LANE EXTENSION)

Description:

AS-8 creates an extension to Kalner Lane that heads north to cross Voerman Road. The extension would keep heading north until it connects with Armory Road at the intersection with Peregrine Lane. This scenario would call for a bridge to be built in order to cross the Whitefish River. This route would serve to connect the southern and eastern portions of Whitefish.

Resulting Traffic Volume Changes on Key Roads:

Table 3-18 presents traffic volume changes on representative road segments affected by this scenario.

Table 3-18: AS-8 (Kalner Lane Extension)

Location	Year 2030 Volume with No Action	Year 2030 Volume with Alternative	Change in Volume	Percent Change
MT HWY 40 (west of Kalner Lane)	15,500	13,900	-1,600	-10.30%
HWY 93 (north of MT HWY 40)	29,300	24,400	-4,900	-16.70%
Kalner Lane (north of MT HWY 40)	6,100	6,300	200	3.30%
Monegan Rd (west of AS-8)	4,300	5,900	1,600	37.20%
Monegan Rd (east of AS-8)	4,300	3,000	-1,300	-30.20%
Voerman Rd (west of AS-8)	9,400	8,300	-1,100	-11.70%
Voerman Rd (east of AS-8)	9,400	5,800	-3,600	-38.30%
Armory Rd (west of AS-8)	7,600	12,700	5,100	67.10%
AS-8 (south of Armory Rd)	-	10,200	-	-
AS-8 (north of MT HWY 40)	-	6,400	-	-

Conclusions Based on Travel Demand Modeling for this Alternative Scenario:

The travel demand modeling for this scenario showed a decrease in traffic volumes on Highway 93 north of MT Highway 40, as well as a decrease in traffic volumes on Voerman Road. The scenario would also increase traffic on Armory Road and Monegan Road to the west of the extension. This connection was **deemed desirable and was carried forward** in the Transportation Plan (**MSN-8** in **Chapter 6**).

ALTERNATIVE SCENARIO 9 (TEXAS/COLUMBIA RAILROAD CROSSING)

Description:

AS-9 calls for an elevated railroad crossing to be added to connect Texas Avenue with Columbia Avenue. This would create a link between parts of Whitefish to the south of the railroad tracks and the parts to the north. Currently the only links across the railroad tracks are the viaduct on 2nd Street, and the East 2nd Street at-grade railroad crossing.

Resulting Traffic Volume Changes on Key Roads:

Table 3-19 presents traffic volume changes on representative road segments affected by this scenario.

Table 3-19: AS-9 (Texas/Columbia Railroad Crossing)

Location	Year 2030 Volume with No Action	Year 2030 Volume with Alternative	Change in Volume	Percent Change
MT HWY 40 (west of Kalner Lane)	15,500	13,900	-1,600	-10.30%
HWY 93 (north of MT HWY 40)	29,300	24,400	-4,900	-16.70%
Kalner Lane (north of MT HWY 40)	6,100	6,300	200	3.30%
Monegan Rd (west of AS-8)	4,300	5,900	1,600	37.20%
Monegan Rd (east of AS-8)	4,300	3,000	-1,300	-30.20%
Voerman Rd (west of AS-8)	9,400	8,300	-1,100	-11.70%
Voerman Rd (east of AS-8)	9,400	5,800	-3,600	-38.30%
Armory Rd (west of AS-8)	7,600	12,700	5,100	67.10%
AS-8 (south of Armory Rd)	-	10,200	-	-
AS-8 (north of MT HWY 40)	-	6,400	-	-

Conclusions Based on Travel Demand Modeling for this Alternative Scenario:

Travel demand modeling showed this scenario creates a substantial decrease in traffic volumes along the 2nd Street viaduct and East 2nd Street railroad crossing, as well as reducing traffic volumes along Edgewood Place east of Texas Avenue. Increases in traffic would most notably occur on Columbia Avenue north of 2nd Street and Edgewood Place, west of Texas Avenue.

This connection was **not carried further** in this Transportation Plan, however, due to its significant financial implications and impacts to the surrounding neighborhoods. This potential crossing would occur over many rail lines and would not serve any future development in the community that is likely to happen to the northeast or southeast of its current limits.

ALTERNATIVE SCENARIO 10 (COW CREEK RAILROAD CROSSING)

Description:

AS-10 is an extension of Kalner Lane to the north to intersect with Armory Road. The route then continues along the existing Armory Road to intersect with 2nd Street. The scenario then calls for an elevated railroad crossing to connect with East Edgewood Drive.

Resulting Traffic Volume Changes on Key Roads:

Table 3-20 presents traffic volume changes on representative road segments affected by this scenario.

Table 3-20: AS-10 (Cow Creek Railroad Crossing)

Location	Year 2030 Volume with No Action	Year 2030 Volume with Alternative	Change in Volume	Percent Change
HWY 93 (north of MT HWY 40)	29,300	24,700	-4,600	-15.70%
MT Hwy 40 (west of AS-11)	13,200	14,000	800	6.10%
Dillon Rd (north of MT HWY 40)	4,500	2,600	-1,900	-42.20%
Voerman Rd (west of Armory Rd)	7,600	7,200	-400	-5.30%
Voerman Rd (east of Armory Rd)	8,800	6,100	-2,700	-30.70%
E Edgewood Dr (east of AS-11)	10,400	8,600	-1,800	-17.30%
Armory Rd (west of AS-11)	7,400	4,600	-2,800	-37.80%
Armory Rd (east of AS-11)	7,400	13,500	6,100	82.40%
Reimer Lane (south of Armory Rd)	1,400	7,100	5,700	407.10%
AS-11 (south of Reimer Lane)	-	8,100	-	-
AS-11 (north of MT HWY 40)	-	7,400	-	-

Conclusions Based on Travel Demand Modeling for this Alternative Scenario:

The model for this alternative scenario shows substantial decreases in traffic volumes along East Edgewood Drive east of **AS-10**, East 2nd Street to the east of Armory Road, Armory Road to the East of **AS-10**, and a somewhat more modest decrease along Highway 93 just north of MT Highway 40. Traffic volume increases are shown on Monegan Road to the west of **AS-10**, East Edgewood Drive west of **AS-10**, and a significant increase on Armory Road along **AS-10**. This connection was **deemed desirable and was carried forward** in the Transportation Plan (**MSN-9** in Chapter 6).

ALTERNATIVE SCENARIO 11 (ARMORY ROAD EXTENSION)

Description:

AS-11 consists of extending Armory Road to the south along Reimer Lane to connect with MT Highway 40, and the addition of an extension heading north to connect Armory Road to East 2nd Street at the railroad crossing. This scenario provides additional eastern and southeastern connectivity.

Resulting Traffic Volume Changes on Key Roads:

Table 3-21 presents traffic volume changes on representative road segments affected by this scenario.

Table 3-21: AS-11 (Armory Road Extension)

Location	Year 2030 Volume with No Action	Year 2030 Volume with Alternative	Change in Volume	Percent Change
HWY 93 (north of MT HWY 40)	29,300	25,100	-4,200	-14.30%
MT HWY 40 (west of Kalner Lane)	15,500	14,000	-1,500	-9.70%
Kalner Lane (north of MT HWY 40)	6,100	6,500	400	6.60%
Monegan Rd (west of AS-10)	4,300	5,800	1,500	34.90%
Monegan Rd (east of AS-10)	4,300	3,300	-1,000	-22.30%
Armory Rd (east of AS-10)	7,600	5,000	-2,600	-34.20%
Armory Rd (along of AS-10)	7,600	15,900	8,300	109.20%
E 2nd St (west of Armory Rd)	13,100	11,500	-1,600	-12.20%
E 2nd St (east of Armory Rd)	12,900	6,200	-6,700	-51.90%
E Edgewood Dr (west of AS-10)	13,900	16,100	2,200	15.80%
E Edgewood Dr (east of AS-10)	13,900	4,200	-9,700	-69.80%
AS-10 (Cow Creek R/R Crossing)	-	12,500	-	-
AS-10 (south of Armory Rd)	-	13,100	-	-
AS-10 (north of MT HWY 40)	-	6,900	-	-

Conclusions Based on Travel Demand Modeling for this Alternative Scenario:

The model results show a decrease in traffic volumes along Highway 93 north of MT Highway 40, Dillon Road, Voerman Road, East Edgewood Drive, and Armory Road west of **AS-11**. Significant traffic volume increases occur along Armory Road east of **AS-11** and along Reimer Lane, which is part of **AS-11**.

This connection was **not carried further** in this Transportation Plan, however, due to its difficulty in implementation and the benefits likely to be realized with **AS-10** and the associated recommended project (**MSN-9** in **Chapter 6**).

ALTERNATIVE SCENARIO 12 (7TH STREET BRIDGE)

Description:

AS-12 requires the addition of a bridge across the Whitefish River and one block of street construction to connect 7th Street at the intersections of Baker Avenue and Kalispell Avenue. This scenario creates added connectivity between the east and west sides of Whitefish across the Whitefish River.

Resulting Traffic Volume Changes on Key Roads:

Table 3-22 presents traffic volume changes on representative road segments affected by this scenario.

Table 3-22: AS-12 (7th Street Bridge)

Location	Year 2030 Volume with No Action	Year 2030 Volume with Alternative	Change in Volume	Percent Change
13th St W (west of HWY 93)	4,800	3,100	-1,700	-35.40%
HWY 93 (south of AS-12)	14,100	15,100	1,000	7.10%
HWY 93 (north of AS-12)	14,100	11,900	-2,200	-15.60%
2nd St (west of Spokane Ave)	11,100	9,300	-1,800	-16.20%
Baker Ave (north of 7th St)	11,800	13,000	1,200	10.20%
Karrow Ave (south of 7th St)	6,500	5,600	-900	-13.80%
Karrow Ave (north of 7th St)	8,600	8,500	-100	-1.20%
W 7th St (east of Karrow Ave)	11,400	10,800	-600	-5.30%
W 7th St (west of Baker Ave)	10,400	11,400	1,000	9.60%
AS-12 (between Baker Ave and Spokane Ave)	-	10,700	-	-

Conclusions Based on Travel Demand Modeling for this Alternative Scenario:

Overall traffic volume changes are minimal throughout the network under this scenario. However, it is felt that this scenario would help to create better flow throughout the system. This alternative was carried forward as **MSN-5** and **MSN-6** in Chapter 6.

Note that the Whitefish Urban Corridor Study includes a detailed examination of the operational benefits, estimated costs, and potential environmental effects of developing a new bridge at 7th Street.

ALTERNATIVE SCENARIO 13 (WISCONSIN AVENUE IMPROVEMENTS)

Description:

AS-13 calls for Wisconsin Avenue to be upgraded to a 3-lane urban design standard. This would create a center left-turn bay. This allows Wisconsin Avenue to have a higher vehicle capacity and better flow characteristics.

Resulting Traffic Volume Changes on Key Roads:

Table 3-23 presents traffic volume changes on representative road segments affected by this scenario.

Table 3-23: AS-13 (Wisconsin Avenue Improvements)

Location	Year 2030 Volume with No Action	Year 2030 Volume with Alternative	Change in Volume	Percent Change
Edgewood Pl (west of Wisconsin Ave)	11,200	9,200	-2,000	-17.90%
Edgewood Pl (east of Wisconsin Ave)	10,800	9,400	-1,400	-13.00%
Parkway Ave (west of Wisconsin Ave)	3,000	1,300	-1,700	-56.70%
Colorado Ave (east of Wisconsin Ave)	9,100	6,600	-2,500	-27.50%
Reservoir Rd (east of Lakeshore Dr)	6,800	5,800	-1,000	-14.70%
Wisconsin Ave (north of Edgewood Pl)	12,800	16,000	3,200	25.00%
Wisconsin Ave (south of Colorado Ave)	15,000	18,100	3,100	20.70%
E Lakeshore Dr (east of Murdock Lane)	19,200	18,300	-900	-4.70%

Conclusions Based on Travel Demand Modeling for this Alternative Scenario:

The model of this scenario shows modest decreases in traffic volumes in the area, with moderate increases along Wisconsin Avenue. This connection was **deemed desirable and was carried forward** in the Transportation Plan (**MSN-11** in **Chapter 6**).

ALTERNATIVE SCENARIO 14 (a) (NE EXTENSION TO TEXAS AVENUE)

Description:

AS-14 (a) creates a connection between Texas Avenue and Wisconsin Avenue. This scenario allows for better connectivity for the northern part of Whitefish.

Resulting Traffic Volume Changes on Key Roads:

Table 3-24 presents traffic volume changes on representative road segments affected by this scenario.

Table 3-24: AS-14 (a) (NE Extension to Texas Avenue)

Location	Year 2030 Volume with No Action	Year 2030 Volume with Alternative	Change in Volume	Percent Change
Edgewood Pl (east of Wisconsin Ave)	10,800	9,800	-1,000	-9.30%
Wisconsin Ave (south of AS-14 (a))	13,000	10,600	-2,400	-18.50%
Denver St (east of Wisconsin Ave)	3,200	100	-3,100	-96.90%
Denver St (west of Texas Ave)	4,600	200	-4,400	-95.70%
Colorado Ave (north of Denver St)	10,600	9,100	-1,500	-14.20%
AS-14 (a) (east of Wisconsin Ave)	-	4,300	-	-
AS-14 (a) (west of Texas Ave)	-	4,500	-	-

Conclusions Based on Travel Demand Modeling for this Alternative Scenario:

This scenario creates substantial traffic volume drops along Denver Street, and more moderate drops along Wisconsin Avenue and Colorado Avenue. This connection was **deemed desirable and was carried forward** in the Transportation Plan (**MSN-10** in **Chapter 6**).

ALTERNATIVE SCENARIO 14 (b) (NE EXTENSION TO TEXAS AVENUE)

Description:

AS-14 (b) consists of the Texas/Columbia Railroad Crossing in **AS-9** and adds it to the scenario described in **AS-14 (a)**. These combined scenarios provide improved connectivity for northern Whitefish.

Resulting Traffic Volume Changes on Key Roads:

Table 3-25 presents traffic volume changes on representative road segments affected by this scenario.

Table 3-25 AS-14 (b) (NE Extension to Texas Avenue)

Location	Year 2030 Volume with No Action	Year 2030 Volume with Alternative	Change in Volume	Percent Change
2nd St R/R Crossing	27,500	20,900	-6,600	-24.00%
Edgewood Pl (east of Wisconsin Ave)	10,800	7,000	-3,800	-35.20%
Edgewood Pl (west of Texas Ave)	9,100	11,900	2,800	30.80%
Edgewood Pl (east of Texas Ave)	12,800	7,100	-5,700	-44.50%
Columbia Ave (north of 2nd St E)	1,900	5,500	3,600	189.50%
East 2nd St R/R crossing	12,500	6,300	-6,200	-49.60%
Denver St (west of Texas Ave)	4,600	200	-4,400	-95.70%
Texas Ave (north of Edgewood Pl)	6,700	7,400	700	10.40%
AS-12 (b) (east of Wisconsin Ave)	-	4,600	-	-
AS-12 (b) (west of Texas Ave)	-	4,700	-	-

Conclusions Based on Travel Demand Modeling for this Alternative Scenario:

The travel demand model results indicate drops in traffic volumes along the 2nd Street viaduct, along Edgewood Place east of Wisconsin Avenue and east of Texas Avenue, along the East 2nd Street railroad crossing, and along Denver Street west of Texas Avenue. Traffic volume increases occur along Edgewood Place west of Texas Avenue and along Columbia Avenue north of East 2nd Street. This connection was **not carried further** in this Transportation Plan.

ALTERNATIVE SCENARIO 15 (a) (NE EXTENSION TO COW CREEK)

Description:

AS-15 (a) consists of an extension to Denver Avenue to the east and then south to intersect with East Edgewood Drive. This extension provides added connectivity for northeastern Whitefish.

Resulting Traffic Volume Changes on Key Roads:

Table 3-26 presents traffic volume changes on representative road segments affected by this scenario.

Table 3-26: AS-15 (a) (NE Extension to Cow Creek)

Location	Year 2030 Volume with No Action	Year 2030 Volume with Alternative	Change in Volume	Percent Change
Denver St (east of Wisconsin Ave)	3,200	3,600	400	12.50%
Denver St (west of Texas Ave)	4,600	6,400	1,800	39.10%
Colorado Ave (south of Denver St)	9,300	7,500	-1,800	-19.40%
Texas Ave (south of Denver St)	4,600	200	-4,400	-95.60%
E Edgewood Dr (west of AS-15)	13,900	6,900	-7,000	-50.40%
E Edgewood Dr (east of AS-15)	13,900	13,100	-800	-5.80%
AS-15 (a) (extension between Denver St and E Edgewood Dr)	-	6,200	-	-

Conclusions Based on Travel Demand Modeling for this Alternative Scenario:

The model shows significant traffic volume decreases along Texas Avenue south of Denver Street and along East Edgewood Drive west of **AS-15**. Traffic volume increases would result along Denver Street. This connection was **deemed desirable and was carried forward** in the Transportation Plan (**MSN-9** in **Chapter 6**).

ALTERNATIVE SCENARIO 15 (b) (NE EXTENSION TO COW CREEK)

Description:

AS-15 (b) consists of the extension to Denver Avenue described in **AS-15 (a)** and includes the Cow Creek Railroad Crossing found in **AS-10**. This scenario provides connectivity between northern and eastern Whitefish.

Resulting Traffic Volume Changes on Key Roads:

Table 3-27 presents traffic volume changes on representative road segments affected by this scenario.

Table 3-27: AS-15 (b) (NE Extension to Cow Creek)

Location	Year 2030 Volume with No Action	Year 2030 Volume with Alternative	Change in Volume	Percent Change
2nd Street R/R Crossing	27,500	24,800	-2,700	-9.80%
East 2nd Street R/R Crossing	12,500	5,100	-7,400	-59.20%
Armory Road (South of E 2nd St)	7,600	7,700	100	1.30%
East Edgewood Dr (east of AS-15)	13,900	5,100	-8,800	-63.30%
East Edgewood Dr (west of AS-15)	13,900	9,300	-4,600	-33.10%
Denver Street (east of Wisconsin Ave)	3,200	4,200	1,000	31.30%
AS-15 (b) (east of Texas Ave)	-	6,400	-	-
AS-15 (b) (Cow Creek R/R Crossing)	-	11,000	-	-

Conclusions Based on Travel Demand Modeling for this Alternative Scenario:

The travel demand model indicates that there would be substantial drops in traffic volume on East Edgewood Drive and along the East 2nd Street railroad crossing. The 2nd Street viaduct would see a modest drop while Denver Street would see an increase in traffic volumes. This connection was **not carried further** in this Transportation Plan.

3.7 CONCLUSIONS BASED ON ALTERNATIVE SCENARIO MODELING

The alternative scenarios modeled, and described above, are reflective of major street network (MSN) projects that may or may not have considerable value to the transportation conditions in the community. Many of the alternative scenarios modeled will be carried forward later in the Plan in the form of specific recommendations. These are primarily found in **Chapter 6**. A few of the scenarios do not appear to have substantial value and will not be considered further. Ultimately, the recommended projects defined in **Chapter 6** will be included to comprise what is known as the community's "Recommended Major Street Network". The Recommended Major Street Network is the future transportation system network that the community should be planning towards as land use changes occur over the planning horizon (year 2030). This network is shown graphically in **Chapter 6**.



CHAPTER 4:
Problem Identification

CHAPTER 4: PROBLEM IDENTIFICATION

This chapter identifies areas of the transportation system that do not meet the typical industry standards of traffic engineering and transportation planning, and also the expectations and/or perceptions of the community. In general, it is important to identify issues and problems before a series of mitigation strategies can be developed. The identification of “problems” is the result of extensive data collection, analysis, field observation, and public input. Over the development of this Transportation Plan, these tools have been used to assess all of the collected data to develop an understanding of the “problems” with the existing transportation system. This becomes a necessary step and forms the basis for developing mitigation strategies. The development of project recommendations will be the follow-up step to plan for the correction of the identified deficiencies. Identified deficiencies may fall into one or more of the following categories:

- Intersection levels of service
- Signal warrant guidelines
- Corridor capacity
- Safety (i.e. crash analyses)
- Pedestrian and bicycle facilities
- Growth Policy issues (transportation)

Each of these areas is expanded upon in this chapter.

4.1 INTERSECTION LEVEL OF SERVICE

4.1.1 LOS Problems Based on Current Conditions

The results of LOS analyses for signalized and unsignalized intersections based on current conditions were presented in **Chapter 2** of this Transportation Plan. As noted earlier, intersections are judged to function adequately if they operate at LOS C or better. The LOS analyses revealed that six intersections currently function at LOS D or lower during peak hours. These intersections, highlighted in **Table 4-1**, are candidates for potential improvements to enhance their operation.

Table 4-1: Intersections Currently Functioning at a LOS D or Lower

INTERSECTION		AM PEAK HOUR LOS	PM PEAK HOUR LOS
Baker Avenue & 2nd Street	S	C	E
Baker Avenue & 4th Street	U	B	D
Spokane Avenue & 2nd Street	S	C	F
Spokane Avenue & 5th Street	U	C	D
U.S. Hwy 93 & Karrow Avenue	U	B	D
U.S. Hwy 93 & Montana Hwy 40	S	F	F

(S) Denotes signalized intersection (U) Denotes unsignalized intersection

4.1.2 Intersection LOS Problems Indicated by Projected 2030 Conditions

LOS analyses can also be completed for future conditions by using output from the travel demand model to help assess the potential impacts of traffic volume changes at key intersections. By calculating the percent change for each individual leg of an intersection, actual existing intersection data collected as part of this project can be adjusted to reflect a “future intersection data” scenario. This has been performed for the various study intersections, and the results of the LOS analyses for future year conditions for the signalized intersections in Whitefish are shown below in **Table 4-2** and **Table 4-3**. Please note the future year intersection analysis assumes no improvements are made to the existing transportation system.

Additionally, it is important to recognize that the results of the LOS analyses presented below were conducted using output from the travel demand model. The model relies on assumptions of future land use and employment in the area to help predict future travel patterns. Community growth and development may not occur in the manner predicted by the model and the results of the LOS analyses shown may not be representative of future conditions.

Table 4-2: 2030 AM Peak Hour LOS (Signalized Intersections)

INTERSECTION	APPROACH				INT
	EB	WB	NB	SB	
Baker Avenue & 2nd Street	F	E	A	B	E
Central Avenue & 2nd Street	C	C	A	A	C
Spokane Avenue & 2nd Street	B	B	E	C	D
Spokane Avenue & 13th Street	C	F	D	E	F
Spokane Avenue & Commerce Street	C	C	F	C	E
U.S. Hwy 93 & Montana Hwy 40	C	F	C	F	F
Wisconsin Avenue & Edgewood Place	B	C	A	A	B

Table 4-3: 2030 PM Peak Hour LOS (Signalized Intersections)

INTERSECTION	APPROACH				INT
	EB	WB	NB	SB	
Baker Avenue & 2nd Street	F	F	B	B	F
Central Avenue & 2nd Street	F	F	B	B	F
Spokane Avenue & 2nd Street	C	B	F	C	F
Spokane Avenue & 13th Street	F	F	F	F	F
Spokane Avenue & Commerce Street	F	F	F	F	F
U.S. Hwy 93 & Montana Hwy 40	C	F	C	F	F
Wisconsin Avenue & Edgewood Place	B	C	C	B	B

As **Tables 4-2** and **4-3** illustrate, the peak hour LOS at the signalized intersections along the U.S. Highway 93 corridor (U.S. Highway 93 South, Spokane Avenue, and 2nd Street) is

anticipated to progressively worsen as traffic volumes increase. Without improvements almost all intersections along these roadways may operate at LOS E or F during AM and/or PM peak hours by the year 2030. The signalized intersection at Wisconsin Avenue and Edgewood Place is anticipated to function acceptably (LOS B) during peak hours in the year 2030.

Table 4-4 presents the results of the LOS analysis for unsignalized (stop-controlled) intersections on the major street network based on projected year 2030 traffic conditions. As the table shows, numerous stop-controlled intersections within the community are anticipated to operate at LOS D or lower during AM and/or PM peak hours by the year 2030.

Table 4-4: 2030 Peak Hour LOS (Stop-Controlled Intersections)

INTERSECTION	AM	PM	INTERSECTION	AM	PM
Ashar Avenue & 7th Street	B	A	Pine Avenue & 7th Street	F	F
Baker Avenue & 4th Street	D	F	Spokane Avenue & 1st Street	A	B
Baker Avenue & 5th Street	C	F	Spokane Avenue & 4th Street	C	F
Baker Avenue & 7th Street	C	F	Spokane Avenue & 5th Street	D	F
Baker Avenue & 10th Street*	F	F	Wisconsin Avenue & Colorado Avenue*	C	F
Baker Avenue & 13th Street*	D	F	Wisconsin Avenue & Denver Street*	C	D
Baker Avenue & 15th Street*	B	B	Wisconsin Avenue & Glenwood Road*	B	B
Columbia Avenue & 7th Street	F	F	Wisconsin Avenue & Reservoir Road*	C	F
Fir Avenue & 2nd Street	F	F	Wisconsin Avenue & Skyles Place*	B	C
Fir Avenue & 4th Street	B	B	Wisconsin Avenue & Woodside Lane*	C	D
Kalispell Avenue & 2nd Street	C	B	U.S. Highway 93 & Blanchard Lake Road	D	F
Karrow Avenue & 7th Street	B	D	U.S. Highway 93 & JP Road**	F	F
Pine Avenue & 2nd Street	F	F	U.S. Highway 93 & Karrow Avenue	F	F
Pine Avenue & 4th Street	F	F	U.S. Highway 93 & State Park Road	F	F

* Intersections not counted by RPA.

** Note that JP Road was signalized in 2008 after turning movement count data was collected by RPA for the Transportation Plan.

A significant number of the unsignalized intersections where poor LOS ratings may occur in the future are located along Spokane and Baker Avenues. High traffic volumes during peak hours on Spokane and Baker Avenues would likely inhibit side street traffic movements and result in significant delays for motorists attempting to enter traffic flows on these streets. The poor overall peak hour LOS suggested for unsignalized intersections along Spokane

Avenue and Baker Avenue is the result of at least one of the movements at each intersection operating with significant delays and does not necessarily mean that the operations of all traffic movements at the intersection are poor. Analysis suggests most major street approaches on Spokane and Baker Avenues would likely operate at LOS B or higher in the peak hour through the year 2030.

Poor LOS ratings for unsignalized intersections may occur by the year 2030 along other roadway corridors including Wisconsin Avenue and U.S. Highway 93 South. Again, these operational problems would result from delays experienced by motorists on side streets attempting to enter traffic flows on the major streets. Strategies to address long minor street delays typically involve prohibiting some of the minor street movements or installing a traffic signal at the intersection if warranted.

4.2 SIGNAL WARRANT GUIDELINES

A signal warrant analysis was conducted to determine if any of the existing unsignalized intersections listed previously with levels of service of D or lower met signal warrants. According to the current edition of the *Manual on Uniform Traffic Control Devices (MUTCD)*, there are eight signal warrants that must be analyzed for the installation of a traffic control signal. The MUTCD states that a traffic signal should not be installed unless one or more warrants are satisfied. The eight signal warrants that must be analyzed are as follows:

1. **Eight-Hour Vehicular Volume** – This warrant is intended for application at locations where a large volume of intersection traffic is the principal reason to consider the installation of a traffic signal (Condition A) or where the traffic volume on the major street is so heavy that traffic on the minor street experiences excessive delay or conflict in entering or crossing the major street (Condition B) during any eight hours of an average day. The criteria for Warrant 1 may be met if either Condition A or Condition B is met. The combination of Condition A and B are not required.
2. **Four-Hour Vehicular Volume** – The Four-Hour Vehicular Volume signal warrant conditions are intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal.
3. **Peak Hour** – The Peak Hour signal warrant is intended for use at a location where traffic conditions are such that for a minimum of one hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street.
4. **Pedestrian Volume** – The Pedestrian Volume signal warrant is intended for application where the traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street.
5. **School Crossing** – This warrant addresses the unique characteristics that a nearby school may have on the roadways. It requires that the major roadway be unsafe to cross and that there are no other feasible crossings in the area.

6. **Coordinated Signal System** – Progressive movement in a coordinated signal system sometimes necessitates installing traffic control signals at intersections where they would not otherwise be needed in order to maintain proper platooning of vehicles.
7. **Crash Experience** – The Crash Experience signal warrant conditions are intended for application where the severity and frequency of crashes are the principal reasons to consider installing a traffic control signal.
8. **Roadway Network** – This warrant is intended for locations where the installation of a traffic signal may encourage concentration and organization of traffic flow on a roadway network.

The installation of a traffic signal must improve the overall safety and/or operation of the intersection. Satisfying one or more warrants alone does not in itself provide concrete justification to consider a signal. A thorough analysis that considers crash history, field conditions such as sight distance and speed limits and good engineering judgment must all be considered before the installation of a traffic signal is proposed.

It is appropriate to recognize that traffic signals provide for a wide array of advantages to the overall transportation system and the various users. They also have inherent disadvantages. A description of these advantages and disadvantages, as well as a discussion of potential alternatives to traffic control signals from the MUTCD is provided below.

4.2.1 Advantages of Traffic Signals

When properly used, traffic signals are valuable devices for the control of vehicular and pedestrian traffic. They assign the right-of-way to the various traffic movements and thereby profoundly influence traffic flow. Traffic control signals that are properly designed, located, operated, and maintained may have one or more of the following advantages:

- They provide for the orderly movement of traffic;
- They increase the traffic-handling capacity of the intersection if proper physical layouts and control measures are used, and if the signal timing is reviewed and updated on a regular basis (every 2 years) to ensure that it satisfies current traffic demands;
- They reduce the frequency and severity of certain types of crashes, especially right-angle collisions;
- They are coordinated to provide for continuous or nearly continuous movement of traffic at a definite speed along a given route under favorable conditions; and
- They are used to interrupt heavy traffic at intervals to permit other traffic, vehicular or pedestrian, to cross.

4.2.2 Disadvantages of Traffic Signals

Traffic signals are often considered a panacea for all traffic problems at intersections. This belief has led to traffic signals being installed at many locations where they are not needed,

adversely affecting the safety and efficiency of vehicular, bicycle, and pedestrian traffic. Traffic control signals, even when justified by traffic and roadway conditions, can be ill-designed, ineffectively placed, improperly operated, or poorly maintained. Improper or unjustified traffic signals can result in one or more of the following disadvantages:

- Excessive delay;
- Excessive disobedience of the signal indications;
- Increased use of less adequate routes as road users attempt to avoid the traffic control signals;
- Significant increases in the frequency of collision (especially rear-end collisions); and
- Engineering studies of operating traffic control signals should be made to determine whether this type of installation and the timing program meet the current requirements of traffic.

4.2.3 Alternatives to Traffic Control Signals

Since vehicular delay and the frequency of some types of crashes are sometimes greater under traffic signal control than under STOP sign control, consideration should be given to providing alternatives to traffic control signals, even if one or more of the signal warrants has been satisfied. Some of the available alternatives may include, but are not limited to, the following:

- Installing signs along the major street to warn road users approaching the intersection;
- Relocating the stop line(s) and making other changes to improve the sight distance at the intersection;
- Installing measures designed to reduce speeds on the approaches;
- Installing a flashing beacon at the intersection to supplement STOP sign control;
- Installing flashing beacons on warning signs in advance of a STOP sign controlled intersection on major- and/or minor-street approaches;
- Adding one or more lanes on a minor-street approach to reduce the number of vehicles per lane on the approach;
- Revising the geometrics at the intersection to channelize vehicular movements and reduce the time required for a vehicle to complete a movement, which could also assist pedestrians;
- Installing roadway lighting if a disproportionate number of crashes occur at night;
- Restricting one or more turning movements, perhaps on a time-of-day basis, if alternate routes are available;
- If the warrant is satisfied, installing multi-way STOP sign control;
- Installing a roundabout; and
- Employing other alternatives, depending on conditions at the intersection.

4.2.4 Potential New Locations for Traffic Signals in Whitefish

Through the review of existing and expected traffic conditions for the Whitefish area, the

following intersections were identified for further review of potential traffic signal warrants and subsequent traffic signal control:

- Baker Avenue and 13th Street; and
- Pine Avenue and 7th Street.

In reviewing the traffic signal warrants for the above intersections, it was concluded that none of the intersections currently meet any traffic signal warrants. However, it was concluded that the intersection of Baker Avenue/13th Street will likely meet at least one of the eight traffic signal control warrants under future conditions. For this reason, a project is recommended at this location (see project **TSM-3** in **Chapter 6**).

Although some discussion was heard from the general public on provision of a traffic signal at the intersection of Pine Avenue and 7th Street, it does not appear that a traffic signal control warrant is met, or will be met under future conditions.

The intersection of JP Road and US Highway 93 was identified as a likely new location for a traffic signal in the Draft Transportation Plan circulated in early 2008. Since that time, a signal has been installed at the intersection.

4.3 CORRIDOR VOLUMES, CAPACITY, AND LEVELS OF SERVICE

As noted earlier, the system of arterial and collector roadways (shown on **Figures 2-1** and **2-2**) represent the travel corridors of interest for the Whitefish Transportation Plan. These roadways were evaluated to determine their volume to capacity (v/c) ratios and corresponding levels of service in an effort to identify current and future problem areas.

4.3.1 Corridor Capacity Considerations

Roadway capacity is of critical importance when looking at the growth of a community. As traffic volume increases, the vehicle flow deteriorates. When traffic volumes approach and exceed the available capacity, the road begins to “fail”. For this reason, it is important to look at the size and configuration of the current roadways and determine if these roads need to be expanded to accommodate the existing or future traffic needs. The capacity of a road is a function of a number of factors including intersection function, land use adjacent to the road, access and intersection spacing, road alignment and grade, speed, turning movements, vehicle fleet mix, adequate road design, land use controls, street network management, and good planning and maintenance. Proper use of all of these tools will increase the number of vehicles that a specific lane segment may carry. However, the number of lanes is the primary factor in evaluating road capacity since any lane configuration has an upper volume limit regardless of how carefully it has been designed. The function of intersections, as discussed earlier in this chapter, is a very critical element and can artificially limit lane capacity.

The size of a roadway is based upon the anticipated traffic demand. It is desirable to size the arterial network to comfortably accommodate the traffic demand that is anticipated to occur 20 years from the time it is constructed. The selection of a 20-year design period represents a desire to receive the most benefit from an individual construction project’s service life

within reasonable planning limits. The design, bidding, mobilization, and repair to affected adjacent properties can consume a significant portion of an individual project's budget. Frequent projects to make minor adjustments to a roadway can therefore be prohibitively expensive. As roadway capacity generally is provided in large increments, a long term horizon is necessary. The collector and local street network are often sized to meet the local needs of the adjacent properties.

There are two measurements of a street's capacity, Annual Average Daily Traffic (AADT) and Peak Hour. AADT measures the average number of vehicles a given street carries over a 24-hour period. Since traffic does not usually flow continuously at the maximum rate, AADT is not a statement of maximum capacity. Peak Hour measures the number of vehicles that a street can physically accommodate during the busiest hour of the day. It is therefore more of a maximum traffic flow rate measurement than AADT. When the Peak Hour is exceeded, the traveling public will often perceive the street as "broken" even though the street's AADT is within the expected volume. Therefore, it is important to consider both elements during design of corridors and intersections.

Street size of the roadway and the required right-of-way is a function of the land use that will occur along the street corridor. These uses will dictate the vehicular traffic characteristics, travel by pedestrians and bicyclists, and need for on-street parking. The right-of-way required should always be based upon the ultimate facility size.

The actual amount of traffic that can be handled by a roadway is dependent upon the presence of parking, number of driveways and intersections, intersection traffic control, and roadway alignment. The data presented in **Table 4-5** below indicates the approximate volumes that can be accommodated by a particular roadway. As indicated in the differences between the two tables, the actual traffic that a road can handle will vary based upon a variety of elements including: road grade; alignment; pavement condition; number of intersections and driveways; the amount of turning movements; and the vehicle fleet mix.

Table 4-5: Approximate Volumes for Planning of Future Roadway Improvements

Road Segment	Volumes ¹	Volumes ²
Two Lane Road	Up to 12,000 VPD	Up to 15,000 VPD*
Three Lane Road	Up to 18,000 VPD	Up to 22,500 VPD*
Four Lane Road	Up to 24,000 VPD	Up to 30,000 VPD*
Five Lane Road	Up to 35,000 VPD	Up to 43,750 VPD*

¹Historical management conditions

²Ideal management conditions

*Additional volumes may be obtained in some locations with adequate road design, access control, and other capacity enhancing methods.

Roadway capacities can be increased under "ideal management conditions" (**Column 2** in **Table 4-5**) that take into account such factors as limiting direct access points to a facility, adequate roadway geometrics and improvements to sight distance. By implementing these control features, vehicles can be expected to operate under an improved Level of Service

and potentially safer operating conditions. **Table 4-5** shows a range of volumes for roadways developed in the future.

Table 4-5 shows capacity levels which are appropriate for planning purposes in developing areas within the study area. In newly developing areas, there are opportunities to achieve additional lane capacity improvements. The careful, appropriate, and consistent use of the capacity guidelines listed above can provide for long-term cost savings and help maintain roads at a scale comfortable to the community.

Two important factors to consider in achieving additional capacity are peak hour demand and access control. Traffic volumes shown in **Table 4-5** are 24-hour averages; however, traffic is not smoothly distributed during the day. The major street network shows significant peaks of demand, especially the work “rush” hour. These limited times create the greatest periods of stress on the transportation system. By concentrating large volumes in a brief period of time, a road’s short-term capacity may be exceeded and a road user’s perception of congestion is strongly influenced. The use of pedestrian and bicycle projects and TDM measures as discussed in **Chapter 6** can help to smooth out the peaks and thereby extend the adequate service life of a specific road configuration. The Transportation Plan strongly recommends the pursuit of such measures as low-cost means of meeting a portion of expected transportation demand.

Each time a roadway is intersected by a driveway or another street it raises the potential for conflicts between transportation users. The resulting conflicts can substantially reduce the roadway’s ability to carry traffic if conflicts occur frequently. This basic principle is the design basis for the interstate highway system, which carefully restricts access to designated entrance and exit points. Arterial streets are intended to serve the longest trip distances in an urbanized area and the highest traffic volume corridors. Access control is therefore very important on the higher volume elements of a community’s transportation system. Collector streets, and especially local streets, do provide higher levels of immediate property access required for transportation users to enter and exit the roadway network.

In order to achieve volumes in excess of that shown in **Column 2** of **Table 4-5**, access controls should be put in place by the appropriate governing body. It is strongly recommended that access control standards appropriate to each classification of street be incorporated into the subdivision and zoning regulations of the City of Whitefish and Flathead County. Follow up monitoring of the effects of access control will aid in future transportation planning efforts.

4.3.2 Traffic Volume Projections

The traffic model discussed in **Chapter 3** was used to produce traffic volume forecasts for the planning horizon year of 2030. For comparison purposes, modeled traffic volumes for the calibration year of 2003 are presented on **Figure 4-1** and **Figure 4-2**. Year 2030 traffic volume projections are presented in **Figure 4-5** and **Figure 4-6**. These projections indicate that the traffic volumes on some of the major corridors will increase significantly by the year 2030.

In addition to traffic volumes, the model was used to determine volume to capacity (v/c) ratios. The v/c ratio gives a numeric value for the level of actual volume on the roadway compared to the capacity of the roadway. A v/c ratio above 1.0, for example, means that the volume on the roadway is past the capacity level that the roadway is intended to handle. **Figure 4-3** and **Figure 4-4** show the v/c ratios for the calibration year of 2003 and future 2030 v/c ratios are shown on **Figure 4-7** and **Figure 4-8**.

It is important to recognize that the modeled volumes and v/c ratios for the year 2030 are based on the “Existing plus Committed” roadway network. In other words, these are the volumes and v/c ratios that may occur if only currently committed improvements are included with the existing transportation network. Similar graphics are presented in **Chapter 6** that show future values based on a “recommended” transportation system network.

4.3.3 Corridor Capacity Problems Indicated by the Travel Demand Model

Using the travel demand model developed for this project, it was possible to project the traffic volumes on all major roads within the study area. These roads were analyzed for the current year (2003) and year 2030 conditions to determine if the roads have an adequate number of lanes for the traffic volume. The best tool generated by the traffic model for comparing the current traffic volumes to the existing number of travel lanes on the major corridors is the v/c ratio. By definition, the v/c ratio is the result of the flow rate of a roadway lane divided by the capacity of the roadway lane. **Table 4-6** shows v/c ratios and their corresponding roadway corridor LOS designations.

Table 4-6: V/C Ratios & LOS Designations

V/C RATIO	DESCRIPTION	CORRIDOR LOS
<0.70	Well Under Capacity	LOS A and B
0.70 - 0.80	Under Capacity	LOS C
0.80 - 0.90	Congestion Begins	LOS D
0.90 - 1.00	At or Near Capacity	LOS E
> 1.00	Over Capacity	LOS F

An examination of the v/c ratios computed by the traffic model, and as shown graphically on **Figures 4-3, 4-4, 4-7, and 4-8**, shows portions of the road network that are at or near capacity under either existing or future conditions. The roadways listed below were identified by the traffic model as being at or above capacity which may indicate either existing or future operational problems. These roadways may be undersized for the current or expected traffic demand.

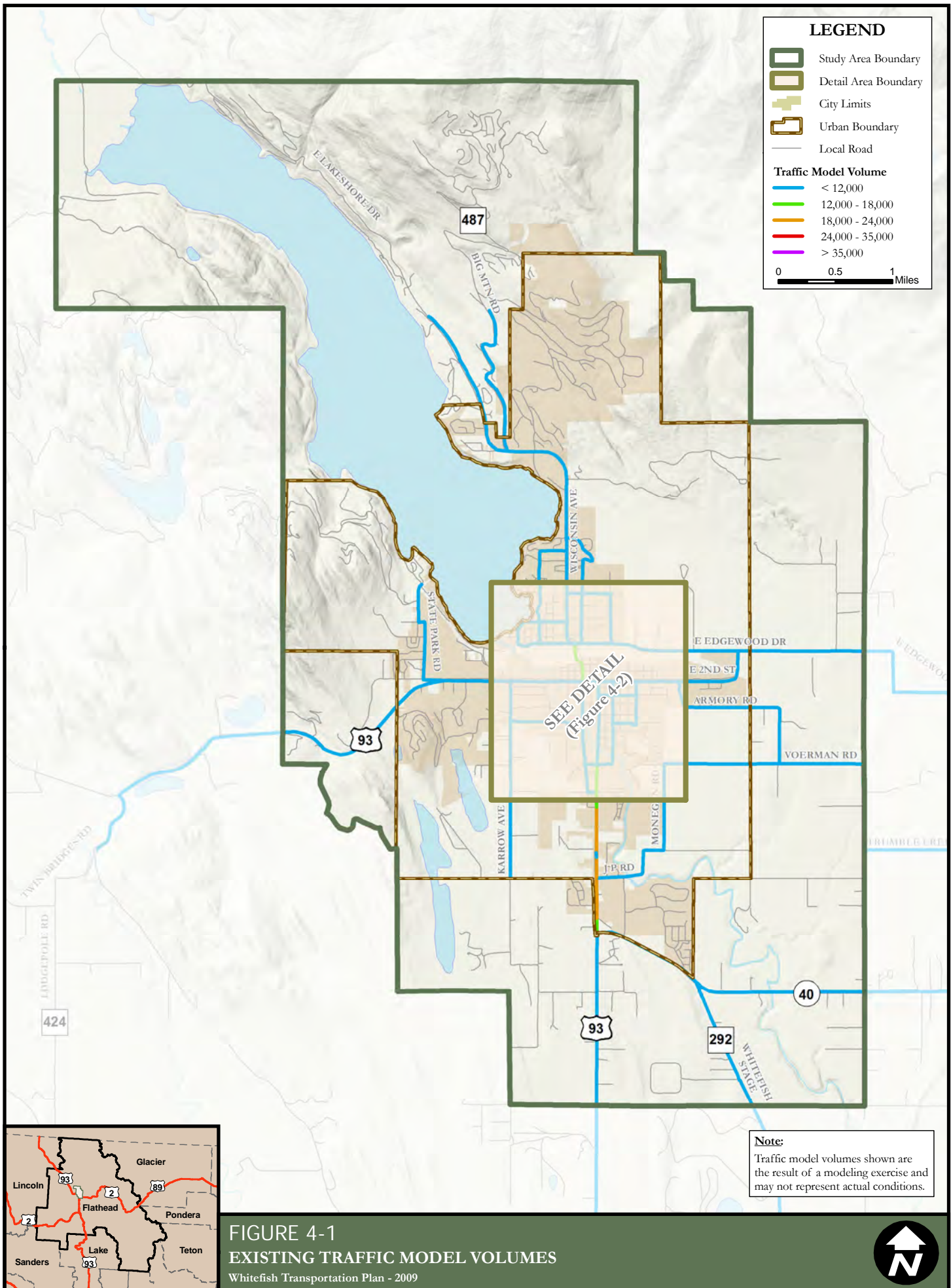
Roadways at or above capacity for existing (2003) conditions

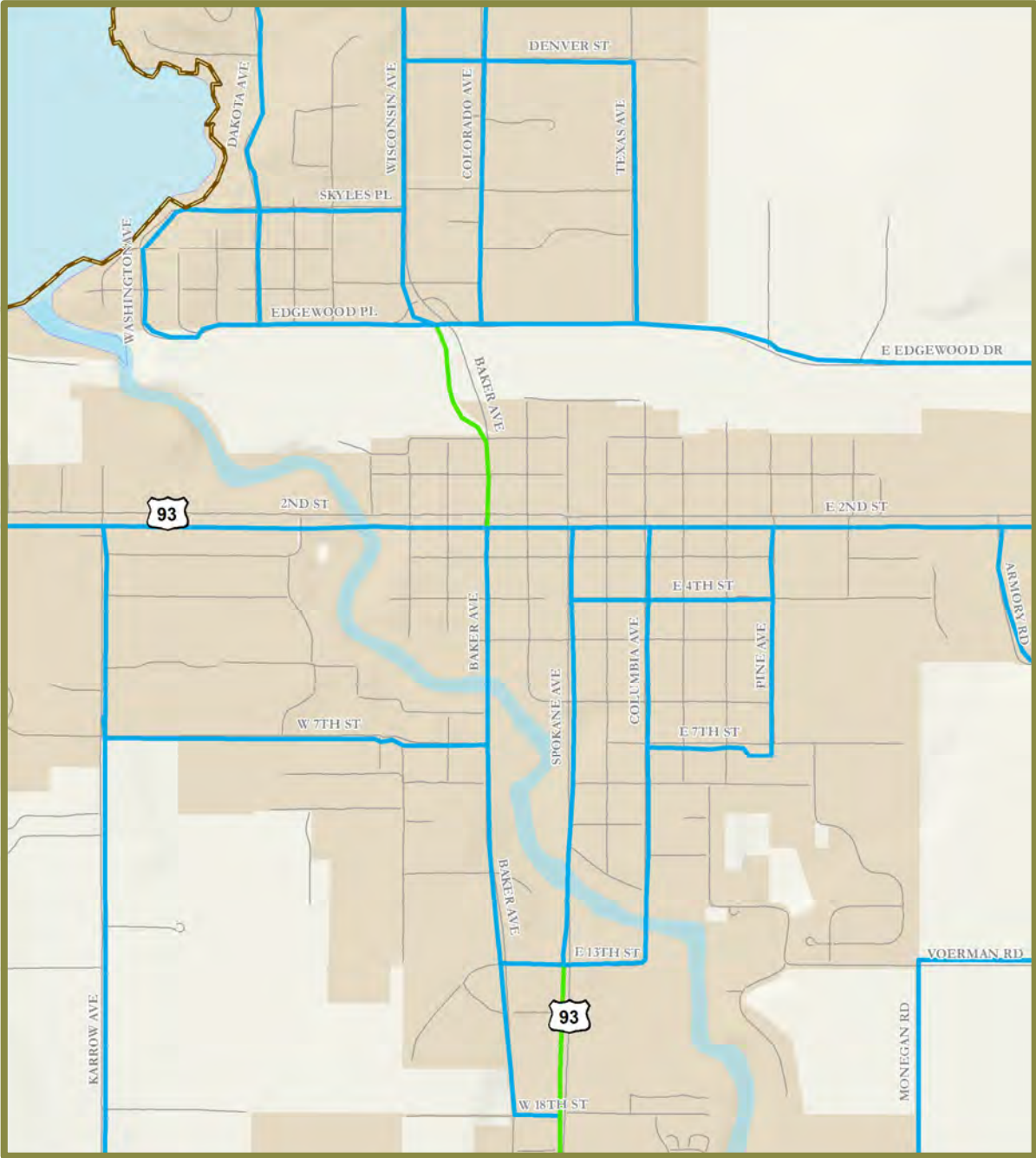
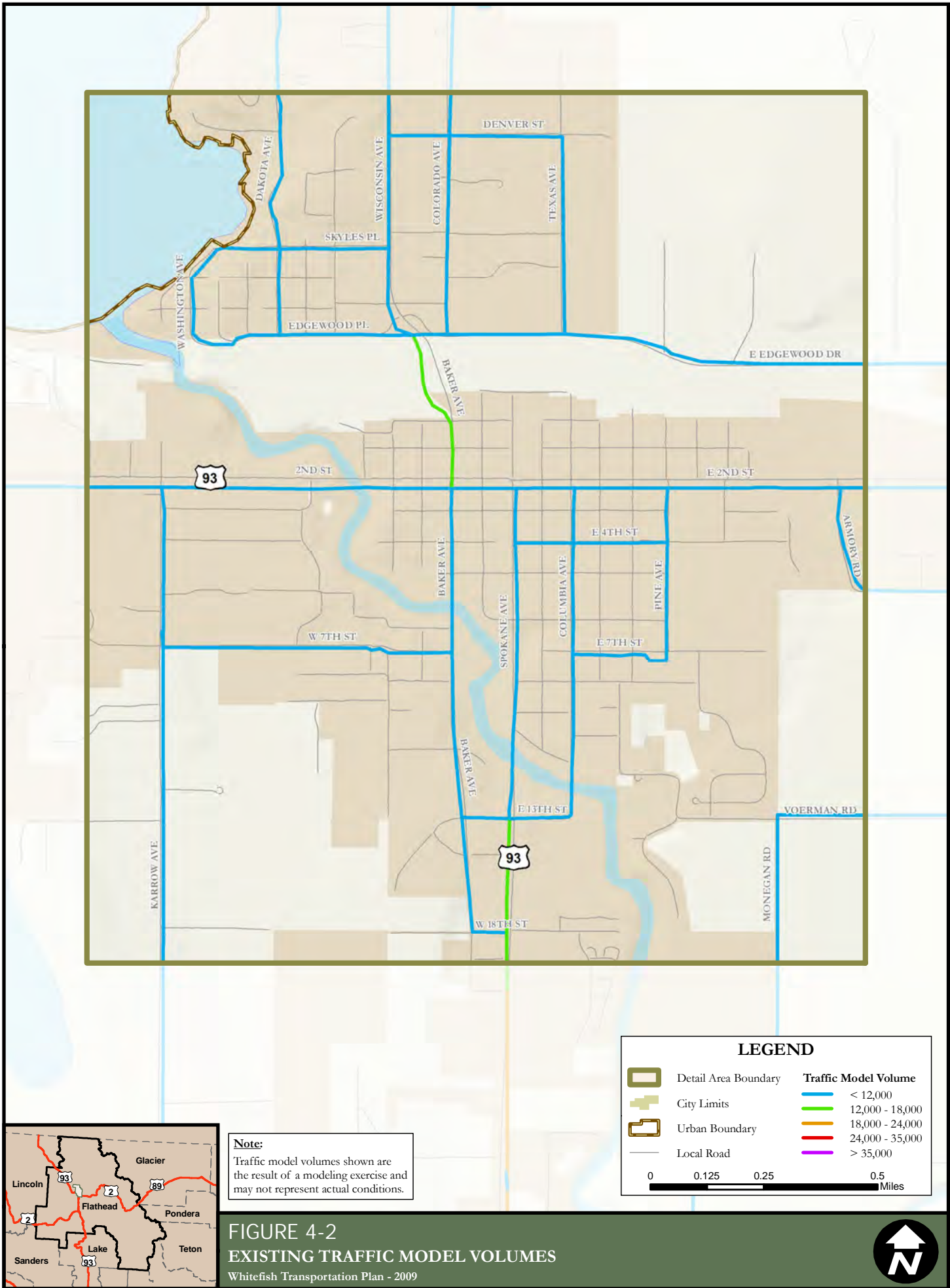
- **Baker Avenue** – 2nd Street to East Edgewood Drive

Roadways at or above capacity for future (2030) conditions

- **MT Highway 40** – Whitefish Stage to study area boundary
- **East Edgewood Drive** – Texas Avenue to East 2nd Street

- **Spokane Avenue** – East 13th Street to 6th Street
- **Baker Avenue** – West 15th Street to 7th Street
- **Baker Avenue** – 3rd Street to East Edgewood Drive
- **Wisconsin Avenue** – East Edgewood Drive to Skyles Place
- **Wisconsin Avenue** – Denver Avenue to Big Mountain Road
- **East 2nd Street** – Larch Avenue to East Edgewood Drive
- **2nd Street** – Central Avenue to Baker Avenue
- **US Highway 93** – O'Brien Avenue to Lion Mountain Loop Road
- **US Highway 93** – West 19th Street to MT Highway 40





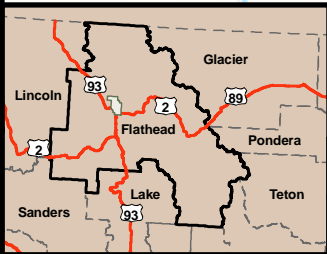
LEGEND

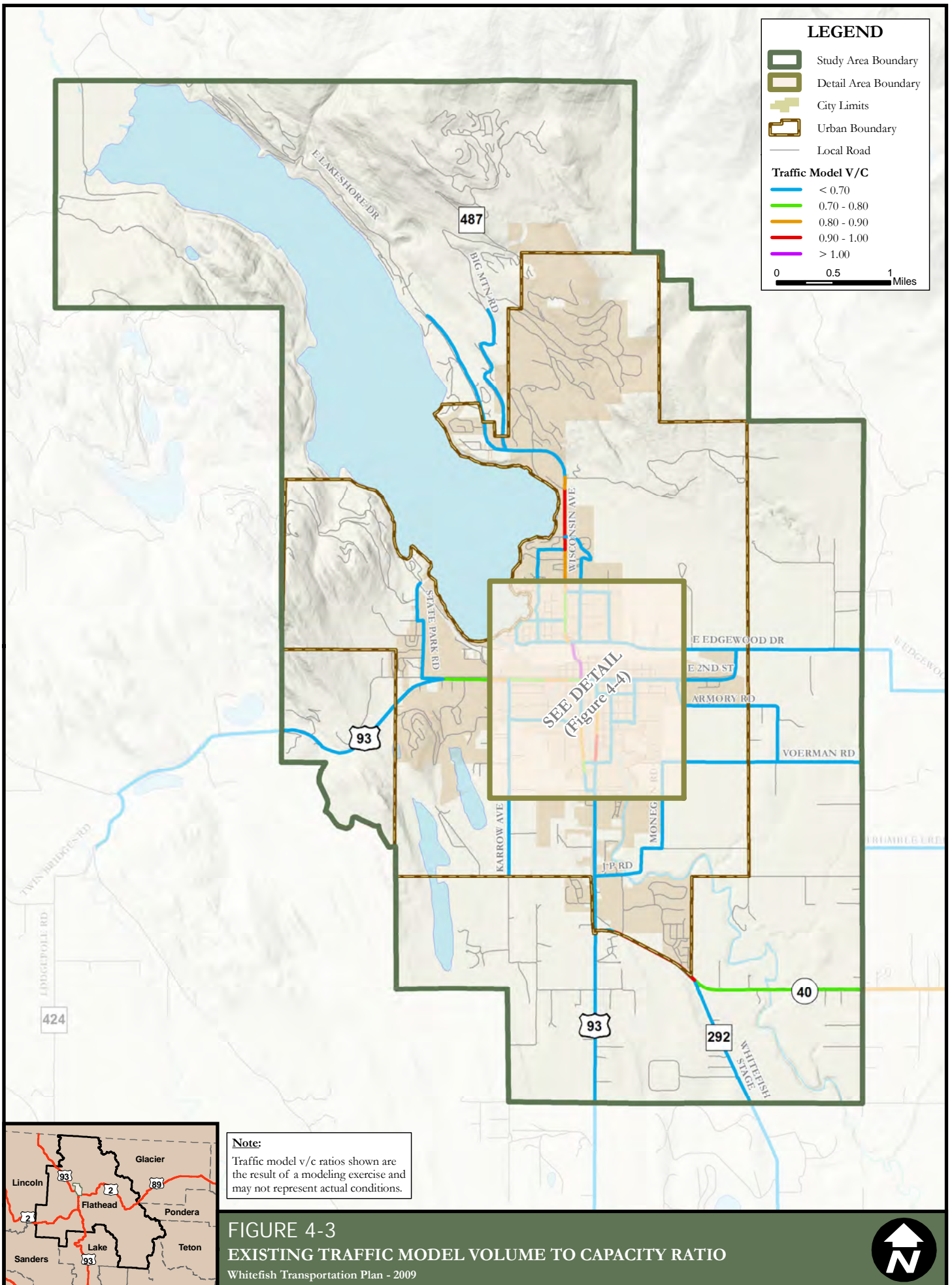
	Detail Area Boundary		Traffic Model Volume
	City Limits		< 12,000
	Urban Boundary		12,000 - 18,000
	Local Road		18,000 - 24,000
			24,000 - 35,000
			> 35,000

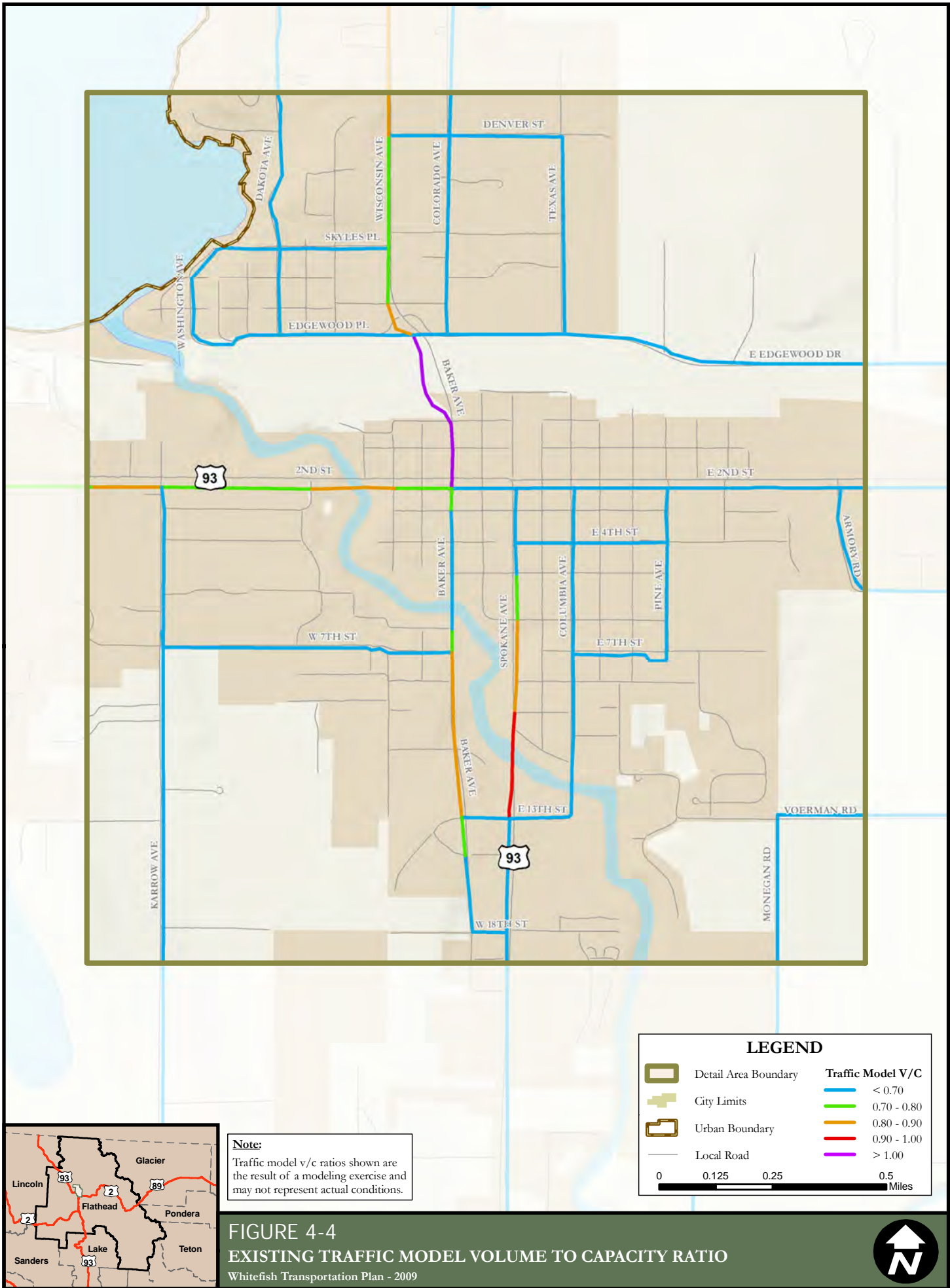
0 0.125 0.25 0.5 Miles

Note:
Traffic model volumes shown are the result of a modeling exercise and may not represent actual conditions.

FIGURE 4-2
EXISTING TRAFFIC MODEL VOLUMES
Whitefish Transportation Plan - 2009







Note:
 Traffic model v/c ratios shown are the result of a modeling exercise and may not represent actual conditions.

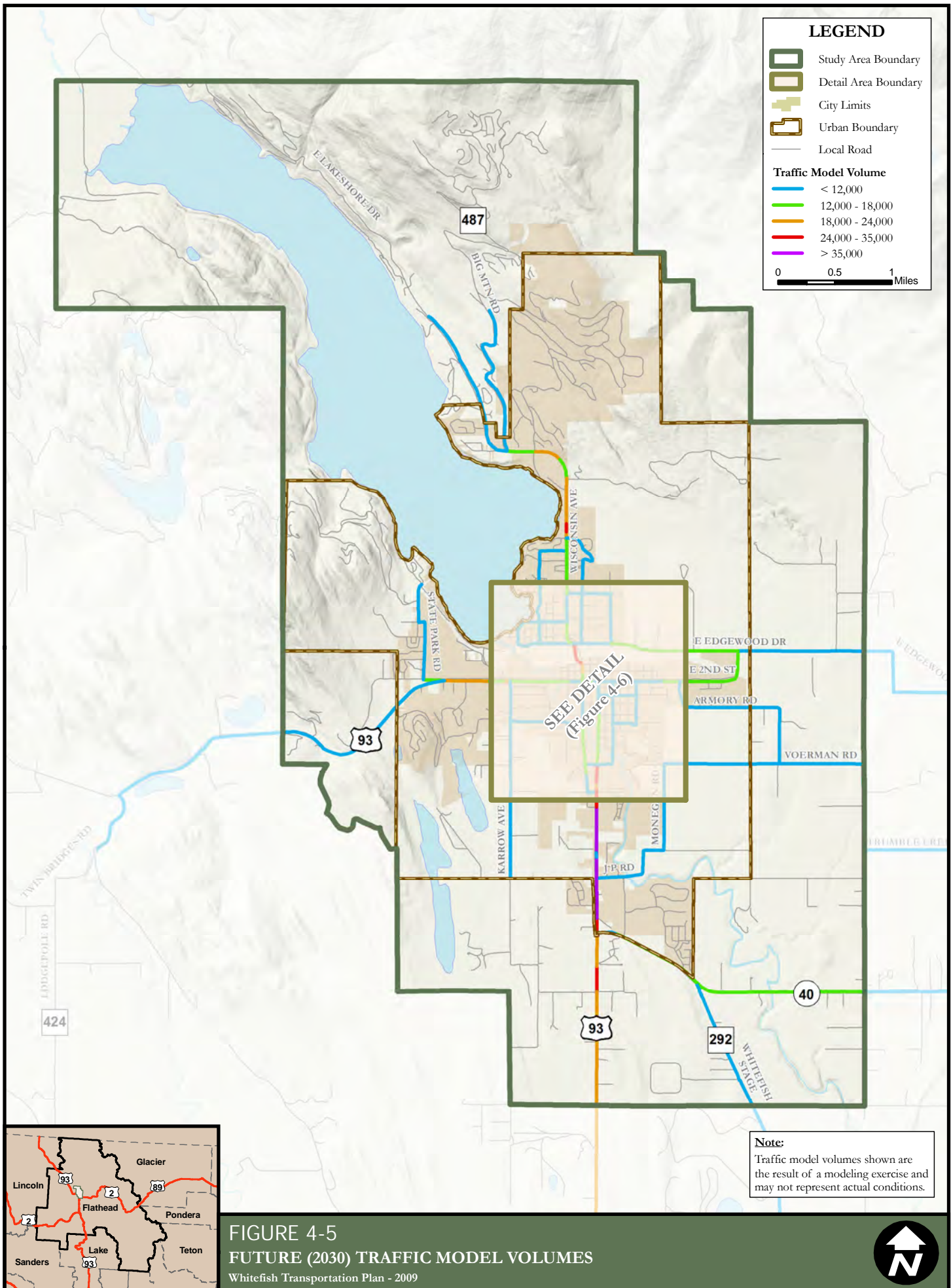
LEGEND

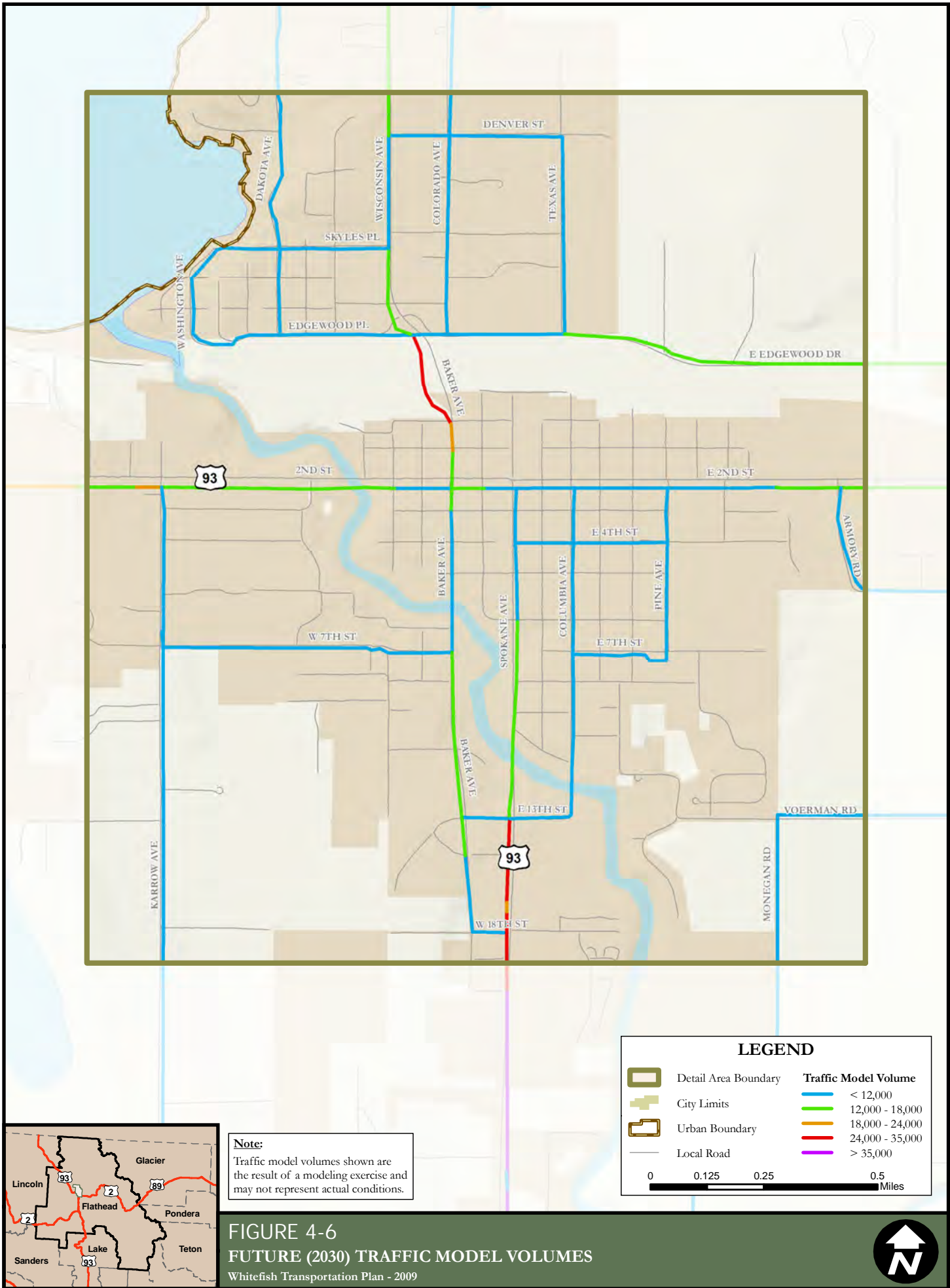
	Detail Area Boundary		Traffic Model V/C
	City Limits		< 0.70
	Urban Boundary		0.70 - 0.80
	Local Road		0.80 - 0.90
			0.90 - 1.00
			> 1.00

0 0.125 0.25 0.5 Miles

FIGURE 4-4
EXISTING TRAFFIC MODEL VOLUME TO CAPACITY RATIO
 Whitefish Transportation Plan - 2009



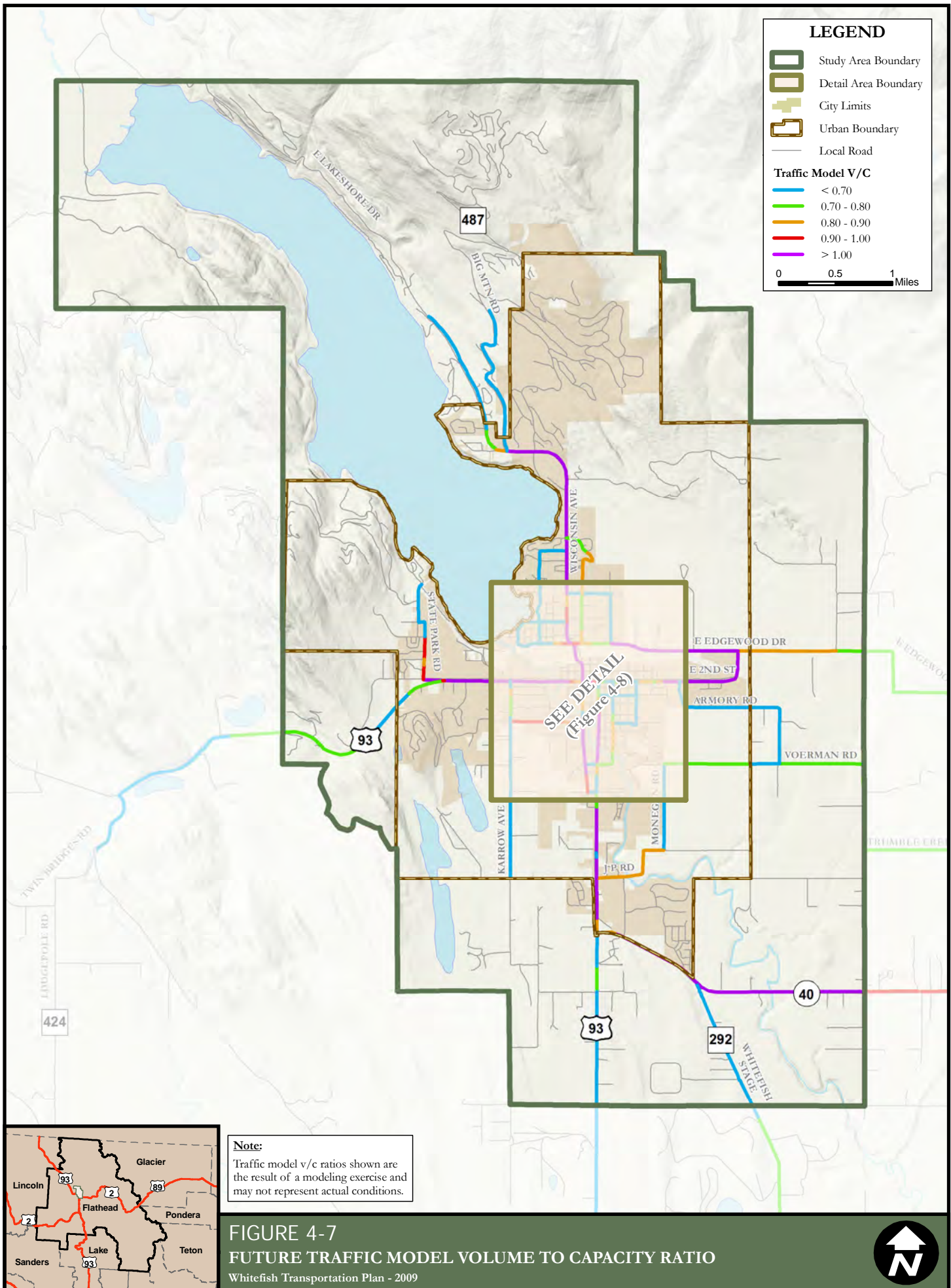




Note:
Traffic model volumes shown are the result of a modeling exercise and may not represent actual conditions.

FIGURE 4-6
FUTURE (2030) TRAFFIC MODEL VOLUMES
Whitefish Transportation Plan - 2009





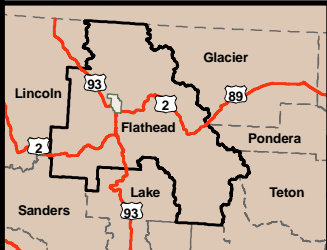
LEGEND

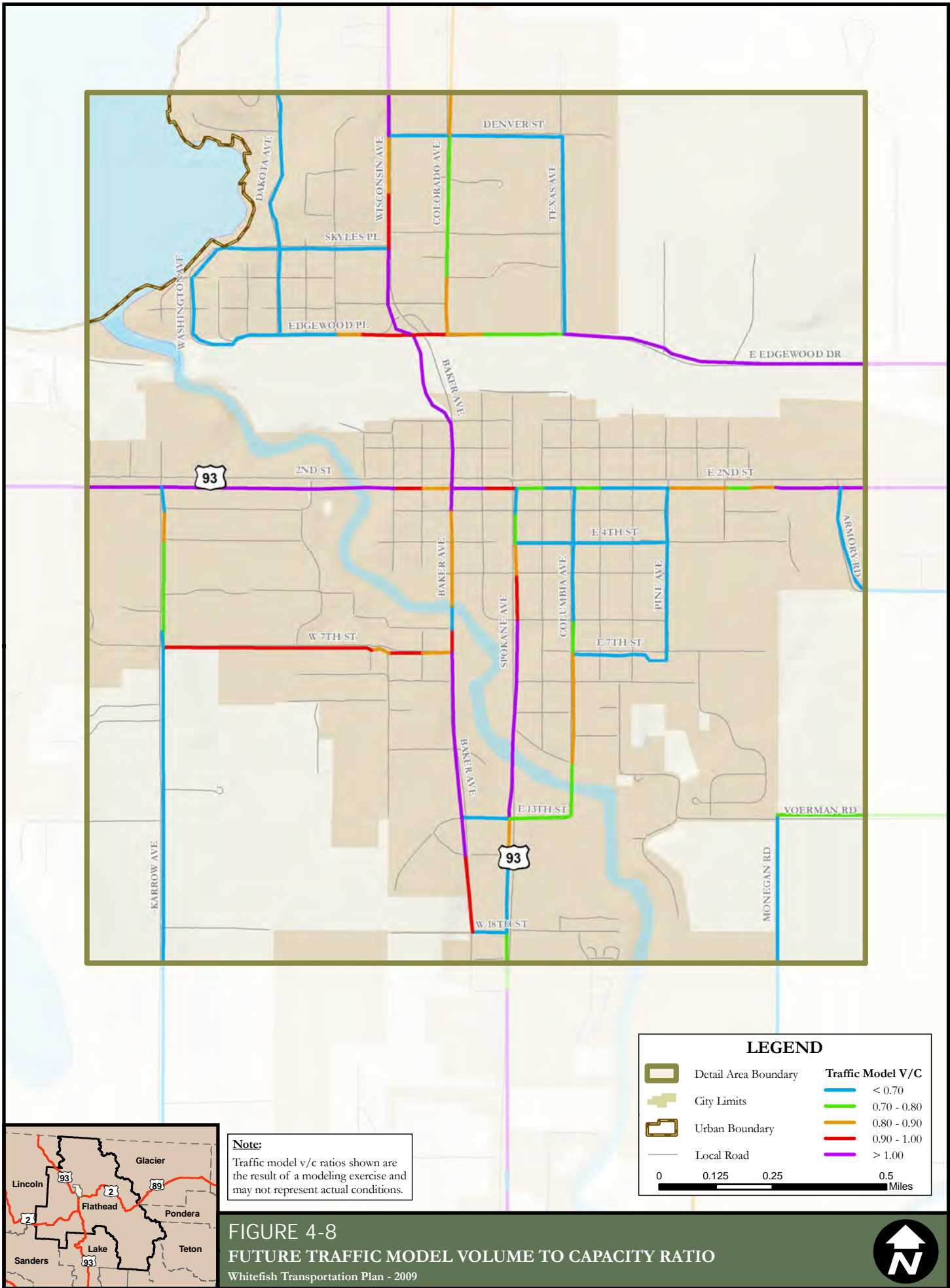
- Study Area Boundary
 - Detail Area Boundary
 - City Limits
 - Urban Boundary
 - Local Road
- Traffic Model V/C**
- < 0.70
 - 0.70 - 0.80
 - 0.80 - 0.90
 - 0.90 - 1.00
 - > 1.00
- 0 0.5 1 Miles

SEE DETAIL
(Figure 4-8)

Note:
Traffic model v/c ratios shown are the result of a modeling exercise and may not represent actual conditions.

FIGURE 4-7
FUTURE TRAFFIC MODEL VOLUME TO CAPACITY RATIO
Whitefish Transportation Plan - 2009





Note:
 Traffic model v/c ratios shown are the result of a modeling exercise and may not represent actual conditions.

LEGEND

	Detail Area Boundary		Traffic Model V/C
	City Limits		< 0.70
	Urban Boundary		0.70 - 0.80
	Local Road		0.80 - 0.90
			0.90 - 1.00
			> 1.00

0 0.125 0.25 0.5 Miles

FIGURE 4-8
FUTURE TRAFFIC MODEL VOLUME TO CAPACITY RATIO
 Whitefish Transportation Plan - 2009



4.4 CONCERNS INDICATED THROUGH THE CRASH ANALYSIS

The MDT Traffic and Safety Bureau provided the crash information and data used in this Transportation Plan to identify high crash locations. General crash characteristics were determined along with probable roadway deficiencies and solutions. The crash information covers the three-year time period from October 1, 2003 to September 30, 2006. **Section 2.6** in **Chapter 2** contains detailed information concerning the crash analysis prepared for this planning project. **Figures 2-6** and **2-7** show the locations of crashes within the community during the analysis period. Please note that the analysis in this section is the consultants' opinion and is not necessarily the view of MDT.

As described in **Chapter 2**, four intersections of interest were identified based on the number of crashes, severity, and crash rates that were experienced during the three-year analysis period. These intersections include:

- U.S. Highway 93 & Montana Highway 40
- 2nd Street & Baker Avenue
- U.S. Highway 93 (Spokane Avenue) & 13th Street
- U.S. Highway 93 (Spokane Avenue) & 2nd Street

Three of the intersections—2nd Street & Baker Avenue, U.S. Highway 93 (Spokane Avenue) & 13th Street, and U.S. Highway 93 (Spokane Avenue) & 2nd Street—are addressed in the Whitefish Urban Corridor Study. The predominant crash type at these intersections was rear-end collisions followed by right-turn and right angle collisions, left turn collisions, sideswipes, and collisions with fixed objects. These collision types are characteristic of roadways experiencing periods of traffic congestion. The lengthy queues of vehicles stopped at signalized intersections along Spokane Avenue and 2nd Street are likely contributing factors to some rear-end collisions at these locations. Providing adequate turn lanes at Baker and Spokane Avenues and coordinating signal operations along 2nd Street could help address congested traffic conditions.

A review of the crash history at the signalized intersection of U.S. Highway 93 & Montana Highway 40 showed the majority of the crashes involved two vehicles. The primary types of collisions were rear-end collisions followed by left turn and right turn collisions, and sideswipes.

Rear-end collisions are often the result of sudden and unexpected slowing or stopping coupled with inadequate following distance. Crashes involving left or right-turning vehicles and right angle collisions are often the result of drivers misjudging the speed and/or distance of oncoming traffic and mistakenly turning in front of or into an oncoming vehicle. Sideswipe collisions can suggest the need for improved centerline or lane markings. They can also be reflective of a narrow roadway, particularly in areas where parking exists along both sides of the street.

The fixed object collisions have been recorded at the intersections of Spokane Avenue and 2nd Street and 2nd Street and Baker Avenue, suggesting the need for geometric modifications to increase turning radii for large vehicles at these intersections.

4.5 PEDESTRIAN AND BICYCLIST FACILITIES

The City of Whitefish prepared and approved the Whitefish Bicycle and Pedestrian Master Plan which identifies a safe, usable, and functional transportation system for pedestrians and bicyclists within the community. The Bicycle and Pedestrian Master Plan identified several issues and constraints to trails development within the community including: land ownership and right-of-way issues; narrow rights-of-way, limited pavement width and steep shoulder areas along existing roads; and a limited number of locations for crossing the Whitefish River or Burlington Northern Santa Fe Railway.

Through the existing conditions analysis and public involvement the main themes of pedestrian problems are summarized below:

- Lack of ADA-compatible curb ramps throughout much of the city.
- Old, deteriorating sections of sidewalk or the absence of sidewalks in portions of the city.
- Unsigned or marked intersection crossings.
- Longstanding gaps in the planned pedestrian/bicyclist trail network.
- Lack of adequate pedestrian and bicyclist facilities or difficult on major streets. The photo below illustrates existing conditions and potential safety concerns for pedestrians along a portion US Highway 93 west of the downtown.



It should be noted that MDT's Whitefish West project and future US Highway 93 corridor improvements will provide improved pedestrian and bicyclist facilities when implemented.

4.6 GROWTH POLICY ISSUES - TRANSPORTATION

It is the intent of this portion of **Chapter 4** to reiterate the transportation-related issues as identified in the Whitefish City-County Growth Policy. The Growth Policy project was completed prior to the Transportation Plan and included considerable public participation activities, the definition of goal and objectives, and reviews by elected officials. As such, the Growth Policy did a commendable job of capturing sentiments and issues important to the community's citizens. For completeness, the identified issues related to "transportation" as

identified in the Growth Policy are contained herein, along with a brief statement about whether the issue has been or can be addressed via this Transportation Plan:

- Off-street routes called for in the Bicycle and Pedestrian Master Plan are often located along the Whitefish River, cross local streams, or traverse environmentally sensitive areas.

*This Transportation Plan supports the planned on-street and off-street non-motorized system. Information about the non-motorized transportation system is documented in **Chapters 2 and 6**.*

- Parallel collectors along both sides of Highway 93 South are not yet complete which add to congestion on the route (Spokane Avenue) during peak hours.

*This Transportation Plan supports the concept of parallel collectors to US Highway 93. Parallel collector roadways have been modeled using the travel demand model (see **Chapter 3**), and projects have been recommended (**MSN-2 and MSN-4 in Chapter 6**) to support this concept.*

- Mainly because of the Whitefish River, east-west street access is limited.

*This Transportation Plan recognizes the lack of east-west connectivity in the community. Several different crossings of the Whitefish river have been modeled using the travel demand model (see **Chapter 3**), and projects have been recommended (**MSN-5, MSN-6 and MSN-12 in Chapter 6**) to support this important need in the community.*

- Whitefish High School and Muldown Elementary are located within the eastside residential neighborhood. Therefore, daily traffic generated by the two schools infiltrates surrounding neighborhoods, and is a source of frequent complaints.

*This Transportation Plan recognizes the impact that school-related traffic has on the surrounding neighborhoods. Issues associated with school related traffic have been identified in **Chapter 7** of this Transportation Plan. Specific projects have been developed to strengthen the transportation network in this area in hopes of providing choices for private automobile travel. Specific projects in the school area that will help to alleviate these complaints are projects **TSM-5 and MSN-7** described later in **Chapter 6**.*

- Big Mountain Road provides the only general access for the Whitefish Mountain Resort as well as the many residential subdivisions on Big Mountain.

This Transportation Plan supports the conclusions portrayed in the Big Mountain Neighborhood Plan regarding primary and secondary access to the resort. Due to topography and other constraints, it is likely not feasible to develop an additional primary access serving the Whitefish Mountain Resort. Allowances for secondary emergency access (mainly egress) are in place and should accommodate emergency situations that could potentially arise.

- The Wisconsin Avenue viaduct is the only grade-separated crossing of the BNSF rail facilities connecting downtown Whitefish to the northern neighborhoods of the city, to Iron Horse, and to Big Mountain.

*This Transportation Plan recognizes the impact that having only one grade-separated crossing of the BNSF rail facilities has on overall traffic flow. Different locations for additional crossings were modeled in **Chapter 3**. This Transportation Plan recommends planning for an additional crossing near the theoretical extension of Kalner Lane (Cow Creek area). This location appears to be the most feasible area for a new crossing in that it minimizes the number of rail lines to be crossed and would benefit both existing and the future land uses in the southeast and northeast parts of the community (see projects **MSN-8** and **MSN-9** in **Chapter 6**).*

- Street standards should be “neighborhood sensitive” in much the same manner as land development regulations. Also, flexibility is needed for infill projects and those in environmentally sensitive areas.

*This Transportation Plan recognizes this desire and agrees with the neighborhood, local context street standards presented in the Growth Policy. They are reiterated in **Chapter 7** of this Transportation Plan. It must be made clear, though, that for most local streets, the local government entity (in this case the city of Whitefish) has direct control over roadway geometry and function, and can therefore dictate the elements of roadway typical sections. Roadway geometry is dictated by MDT’s standards for collector and arterial roadways that are on the Federally adopted “urban aid system.” This is an important point, because the MDT utilizes “urban design standards” for the various roadway types classified as collectors and above based on dialogue and consensus with many local Montana governments dating back to the early 1990’s.*

- Residential collectors should be designed to carry traffic efficiently, but also to control vehicle speeds through residential neighborhoods.

*This Transportation Plan recognizes this concept and offers general guidance on types of traffic calming features that may be appropriate for the community to consider on various roadways. This guidance is contained in **Chapter 5** of the Transportation Plan.*

- U.S. Highway 93 runs through the middle of downtown, dividing it into a north half and south half at 2nd Street. A by-pass of some kind has long been discussed in the community, but transportation planning thus far has shown it to be infeasible.

*The concept of a by-pass is not carried forward in this Transportation Plan. For a by-pass project to be justifiable, it must prove to be a substantial benefit under both present day and future conditions, and be weighted heavily against all impacts (i.e. environmental, financial, neighborhood sensitivity, etc.). A discussion of the effort made regarding a by-pass in this Transportation Plan is presented in **Chapter 3**, and also summarized in **Chapter 7**. The U.S. Highway 93 Somers to Whitefish West Final Environmental Impact Statement (FEIS) concluded a potential “by-pass” to be unwarranted.*

Although a by-pass route would offer an alternative to the use of US Highway 93 through Whitefish, a by-pass would not solve the future traffic issues along the US Highway 93 corridor. Modeling results showed a bypass would draw traffic but would not significantly reduce traffic volumes on Spokane Avenue or 2nd Street through downtown Whitefish. Without such a reduction, it is difficult to justify the large expense and environmental consequences of developing an entirely new route around Whitefish.

This Transportation Plan (and the Whitefish Urban Corridor Study) take the position that the community is better served by strengthening the existing transportation grid system, providing additional east-west connectivity where possible, and requiring new roadway corridor development in vacant land if and when the land develops.



CHAPTER 5: Traffic Calming

CHAPTER 5: TRAFFIC CALMING

Traffic calming refers to a number of methods used to reduce vehicle speeds, improve safety, and enhance the quality of life. In the simplest definition, it is changing the physical environment to reduce the negative effects of motor vehicle use, alter driver behavior and improve conditions for pedestrians and other non-motorized street users. Recognizing that traffic calming may be able to help address neighborhood and regional traffic concerns, this chapter discusses traffic calming measures potentially applicable to the Whitefish area and outlines a process by which a traffic calming program can be carried out in the community.

The overriding goals of traffic calming are to:

- Improve the quality of life in an area;
- Address the wishes and needs of the people living in or using an area for purposes other than motorized transit;
- Create safe, attractive streets;
- Help to reduce the negative effects of motor vehicles on an area such as pollution; and
- Promote pedestrian, bicycle and transit use.

To that end, the following objectives are identified to assist in meeting the stated goals:

- Achieve slow speeds for motor vehicles;
- Reduce collision frequency and severity;
- Increase the safety, and the perception of safety, for non-motorized users of the street(s);
- Reduce the need for police traffic enforcement;
- Enhance the attractiveness of the street environment (streetscaping);
- Encourage water absorption into the ground;
- Increase access for all modes of transportation; and
- Reduce cut-through motor vehicle traffic.

Traffic calming techniques cannot be used with the same degree of success on all roadway facilities. Traffic calming is rarely seen on roadway facilities higher than a collector roadway functional classification. This is primarily due to roadways functionally classified higher than a collector having the primary purpose of moving traffic, whereas for collector and local roadways the primary purpose tends to shift more towards serving adjacent land uses and infiltration into neighborhoods. In some circumstances, traffic calming can be applied to a minor arterial roadway with low traffic volumes.

5.1 PURPOSE OF TRAFFIC CALMING

Traffic calming is comprised of the three “E’s,” Education, Enforcement and Engineering. The Institute of Transportation Engineers (ITE) defines traffic calming as a “combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver

behavior, and improve conditions for non-motorized street users.” It is used on local streets to discourage non-local traffic. Non-local traffic is not invested in the neighborhood, and therefore has less respect for speed limits, and the non-vehicular elements of the street environment. Certain, limited traffic calming measures are appropriate for slowing traffic on collectors or minor arterials as well.

Because traffic calming includes an educational or enforcement campaign, or an engineering study, it can result in the physical construction of traffic elements designed to reinforce the perceived need for caution by the users of the transportation system. The need for physical traffic calming devices indicates the transportation user’s consistent failure to appropriately interact with the surroundings. Regardless of any traffic calming measures installed, the primary responsibility for safe use of the streets lies with the individual driver, cyclist, or pedestrian.

The success of traffic calming measures on a local street depends upon strong support by residents in the immediate area. Additionally, the traffic calming measures need to address situations that a number of residents agree should be addressed. Situations that many people agree exist and that could respond to traffic calming techniques will have more support from the neighborhood, and will better enhance the neighborhood environment. Traffic calming projects which involve installing “hard” improvements should meet several criteria before being considered for implementation, because they can be disruptive to the residents in the surrounding area, difficult to fund and maintain, and difficult to remove once installed.

Traffic calming is a series of techniques designed to lower vehicle speeds, reduce the amount of cut-through or non-local traffic, and in certain cases, decrease truck traffic. The goal of these techniques is to keep traffic on a local street local. Other goals which traffic calming can achieve include the following:

- Reduce air and noise pollution caused by vehicles;
- Reduce the frequency and severity of accidents;
- Improve the street environment through increased landscaping;
- Improve the quality of life for residents;
- Promote walking and bicycling;
- Reduce the need for police enforcement;
- Address speeding or other problems on collectors or minor arterials; and
- Improve pedestrian safety.

Traffic calming elements can be incorporated into the initial design of subdivision, or can be retrofitted into existing subdivisions. The City of Whitefish has many streets which already contain Traffic calming measures. These include on-street parking, and sidewalks separated from the street by a planting strip. Other techniques can include landscaped medians, pedestrian bulb-outs at corners, traffic circles or other intersection design techniques as well as other mid-block design techniques.

There are however, several circumstances where traffic calming becomes necessary. One of the most common circumstances is when the arterial system is congested or has turn

restrictions. This set of circumstances will lead to arterial traffic detouring into an adjacent neighborhood. Local streets near a heavily used arterial can experience arterial traffic.

During street construction traffic calming issues may be raised. Detours are necessary but frustrating for residents. However, when motorists use alternate routes instead of the designated detours, concerns with congestion, speed, pollution and enforcement become real. But these issues are temporary, and temporary measures are appropriate to address them. Some examples of temporary traffic calming measures include the items listed below, and are shown in the graphical matrix located at the end of the chapter.

- Removable median curbs to constrict, or choke, a roadway;
- Removable median curbs placed to form a traffic circle within an intersection;
- Removable median curb placed to form forced turn diverters;
- Temporary bollards to close off traffic to a roadway; and
- Temporary speed bumps.

Very few traffic calming techniques are appropriate for use on arterials, because they interfere with an arterial's ability to move people and vehicles quickly from one place to another. The techniques which are appropriate for the arterial system are summarized later in this technical memorandum.

5.2 HISTORY OF TRAFFIC CALMING

Traffic calming techniques originated in Germany in the 1960's with the "pedestrianization" of downtown shopping areas. This idea expanded to the Netherlands in the 1970's where the concept was applied to residential streets to better integrate motorized and non-motorized traffic. The Dutch believed the street served as an extension of the residents' yard. This philosophy resulted in giving pedestrians priority over automobiles. Based on this philosophy, the Dutch installed obstacles, bends, and bottlenecks at regular intervals to prevent vehicular traffic from moving at speeds higher than pedestrians could walk. Germany developed the more modern concept of area-wide traffic calming, which considers the entire road system in order to avoid merely shifting one problem to another location.

Over the past 30 years, traffic calming techniques have expanded throughout the globe, including Japan, Australia, and in North America. In Montana, the cities of Missoula and Bozeman both have formal traffic calming programs. These two programs are substantially different, but each community is satisfied with their program. In the Northwest, traffic calming techniques have been adopted in most of the larger cities, with active programs in Seattle and Bellevue, WA, and Portland and Eugene, OR.

In Missoula, and other Northwest U.S. communities, the concept of area-wide traffic calming has been adopted, with the emphasis on improving neighborhood street systems rather than alleviating a problem at a specific location. Due to this philosophy, these traffic-calming programs are known as Local Area Traffic Management Programs, Neighborhood Traffic Management Programs, Neighborhood Traffic Control Programs, or something similar.

5.3 TYPES OF TRAFFIC CALMING MEASURES

Traffic calming measures typically fit into one of six categories: 1) passive measures; 2) deflection; 3) narrowing; 4) diversion and restriction; 5) education and enforcement and 6) signage and pavement markings.

Descriptions of a wide variety of physical traffic calming measures, as well as the advantages and disadvantages of each are presented in the following pages. A general magnitude cost range is shown for a basic installation of each measure. These costs can increase significantly with the addition of irrigation systems and street lighting, or the acquisition of right-of-way. Beautification amenities, such as brick pavers or extensive landscaping, can also dramatically impact project costs.

When implementing physical traffic calming measures, several guidelines should be taken into consideration:

- 1) attempt less restrictive measures before resorting to road closures and other route modifications;
- 2) space devices 300 to 500 feet apart in order to restrict speeds to a 20 to 25 mile per hour range; and
- 3) make the appropriate accommodations for drainage and snow removal, as well as considering the needs of emergency vehicles, pedestrians, and bicyclists. Road closure or obstruction, for example, can often be achieved through the use of traversable barriers that allow for the passage of bicycles, pedestrians, and emergency vehicles.

5.3.1 *Passive Measures*

There are several passive techniques that produce a calming effect on traffic. These measures are usually built into the design of the street. Examples of passive forms of traffic calming include tree-lined streets, streets with boulevards separating the sidewalks, streets with raised center medians, on-street parking, highly visible pedestrian crossings, and relatively short building set-back distances. Each of these elements has the tendency to slow vehicle speeds without actually restricting or interfering with the flow of traffic. The best results are usually obtained when two or more of these techniques are used in combination.

5.3.2 *Vertical Deflection Methods*

❖ *Speed Bumps, Humps, Tables, and Cushions*

Speed bumps, humps, tables, and cushions are all design features which are raised above the roadway. The differences between the four types are in their geometry.

Speed bumps are the smallest and are generally 3 to 6 inches high and 1 to 3 feet long. They are typically used in parking lots and low speed residential areas. Speed bumps slow vehicles traveling at slow speeds



down to approximately 5 miles per hour. Vehicles traveling at higher speeds may be impacted less by the bumps.



Speed humps are larger than speed bumps and range from 3 to 4 inches high and 10 to 14 feet long. They can be used on streets where a low speed limit is desired. Speed humps generally can slow vehicles down to approximately 15 miles per hour. If traveled over at higher speeds the vehicle will experience a severe jolting effect.

A speed table is a lengthened speed hump with a flat top. Speed tables are typically long enough so that the entire wheelbase of a car rests on the table. The design of speed tables allows for higher speeds than those of speed humps, but creates a smoother ride for larger vehicles. The height of speed tables is similar to speed humps, but the length can vary. A typical 22 foot long speed table has a design speed of approximately 30 miles per hour.



Speed cushions are a series of speed humps installed across the width of the roadway with spaces between them. The spaces are spaced so that emergency vehicles can pass between them without being affected by the bumps. Ordinary cars have smaller axels and will therefore need to travel over the bump with at least one side of their car. Speed cushions have about the same effect on slowing cars down as speed humps do while still allowing emergency vehicles to be unaffected by them.

These traffic calming measures can be placed at spaces ranging from 250 feet to 800 feet to gain a continuous effect on slowing vehicle speeds. If they are placed at distances greater than 800 feet, there is enough room between them for driver to speed up between the devices which will limit their effectiveness.

It should be noted that speed bumps, as defined herein, should not be used on the public street system, and are more applicable to private roadway facilities, accesses, and parking lots.

Advantages:

- Slows traffic down
- Increases safety levels
- Decreases traffic volume
- Self-enforcing
- Relatively inexpensive

Disadvantages:

- May promote speeding between them
- May increase volume on other streets
- Difficult to properly construct

Special Considerations:

- Emergency vehicles
- Drainage
- Signage
- Snow Removal

Estimated Cost:

- \$1,000 to \$8,000

❖ *Raised Intersections*

Raised intersections are flat raised areas around the intersection with ramps attaching each approach to the intersection. The ramps and/or the intersection can be made out of a textured or painted material to make them stand out visually. By raising the level of the intersection and the cross walks, the area becomes more noticeable to the driver. This creates a safer environment for pedestrians crossing at the intersection. Raised intersections are ideal in areas with heavy pedestrian traffic and on-street parking that doesn't allow for other measures to be taken.

**Advantages:**

- Improved safety for vehicles and pedestrians
- Can be visually appealing
- They work for the entire intersection, not just one street
- Better for emergency vehicles than speed humps

Disadvantages:

- Increases turning difficulty
- Increased maintenance
- Requires additional signage
- Less effective at reducing speeds than speed humps and speed tables
- Can be expensive depending on the materials used

Special Considerations:

- Emergency vehicles
- Drainage
- Signage
- Snow Removal

Estimated Cost:

- \$4,000 to \$12,500 depending on materials used and size of intersection

❖ Raised Crosswalks

Raised crosswalks are simply speed tables that have crosswalk signage and markings to allow for pedestrians to cross the roadway. The raised level of the crosswalk makes it more visible to the driver and therefore safer for the pedestrians. Raised crosswalks are ideal in locations where there is heavy pedestrian traffic and high vehicle speeds. Raised crosswalks have the advantage of slowing vehicles down who drive over them and alerting vehicles to possible pedestrian traffic in the area.

**Advantages:**

- Improved safety for vehicles and pedestrians
- Can be visually appealing
- Effective at reducing vehicle speeds
- Makes the crosswalk and pedestrians more visible

Disadvantages:

- May promote speeding between them
- Difficult to properly construct
- May slow down emergency vehicles

Special Considerations:

- Emergency vehicles
- Drainage
- Signage
- Snow Removal

Estimated Cost:

- \$2,500 to \$8,000

❖ Textured Pavement

Textured pavement can be created by either stamping the pavement or by using an alternative material like brick or cobblestone. The purpose of both methods is to create a surface that is unpleasant to drive over at high speeds due to the uneven texture of the surface. If driven over at higher speeds the texture will cause a noticeable vibration to the car, much like a rumble strip does. The variation in the surface will also cause an audible difference when driven over. Generally the



pavement area that is textured is either painted a different color or the materials used are of a different color. The change in color makes the area stand out visually and will alert the driver that caution needs to be taken in the area. Textured pavement creates a space that acts less as a roadway and more like a pedestrian zone causing drivers to take greater care. Warning signs can also be used in conjunction with the textured pavement to increase their effectiveness. Textured pavement can also be used to highlight crosswalks or other areas of interest.

Advantages:

- Can reduce vehicle speeds
- Can increase driver awareness
- Provide visual and physical warnings to the driver
- Can be used to highlight most areas
- Aesthetically pleasing if properly designed

Disadvantages:

- May be difficult for pedestrians and bicyclists
- Can be very expensive depending on material and area covered
- Can add additional noise to the area
- Maintenance issues may arise

Special Considerations:

- Emergency vehicles
- Snow Removal
- Maintenance

Estimated Cost:

- Varies by design

❖ Rumble Strips

Rumble strips are grooved patterns placed in the pavement perpendicular to the direction of travel. When a vehicle passes over a rumble strip the driver receives an audible warning (rumbling sound) and feels a vibration. Rumble strips are used to alert the driver to use caution in the area or to alert them to changes in traffic characteristics. They can be painted a different color or be made of a different material than the road surface so that they stand out to the driver. This method is commonly used in high speed areas to give the driver advance warning to slow down or about an upcoming intersection.



The FHWA classifies rumbles strips into three types:

- **Shoulder rumble strips (SRS)** are the most common type and are located on the road shoulder of expressways, interstates, parkways, and two-lane rural roadways.

They are intended to alert the driver when they encroach onto the shoulder.

- **Centerline rumble strips (CRS)** are located along the centerline of the roadway and are often used on two-lane rural roadways. They alert the driver that they are encroaching into the centerline.
- **Transverse rumble strips (TRS)** are installed on approaches to intersections, toll plazas, horizontal curves, and work zones. They alert the driver that they are approaching an area of concern and that they should use caution.

Advantages:

- Can reduce vehicle speeds
- Can increase driver awareness
- Provide visual and physical warnings to the driver
- Relatively inexpensive

Disadvantages:

- May be difficult for pedestrians and bicyclists
- Can add additional noise to the area
- Maintenance issues may arise

Special Considerations:

- Emergency vehicles
- Snow Removal
- Maintenance

Estimated Cost:

- \$1,000 to \$5,000

5.3.3 Horizontal Deflection Methods

❖ **Chicanes**

Chicanes are offset curb extensions that form S-shaped curves which cause a deviation in the vehicle's path of travel. They realign the road horizontally to force the driver to alter their path causing them to slow down. Chicanes can also be created by alternating parking between each side of the road. Chicanes can be effective at reducing vehicle speeds without the noise and inconvenience of speed bumps or other methods.



Advantages:

- Can reduce vehicle speeds
- Easily negotiated by emergency vehicles
- Imposes minimal inconvenience on local traffic
- Reduces pedestrian crossing distance

- Can be aesthetically pleasing

Disadvantages:

- May create opportunities for head-on conflicts
- Expensive
- If not designed properly drivers may deviate from their lane
- May lose some on-street parking

Special Considerations:

- Lighting
- Drainage
- Maintenance

Estimated Cost:

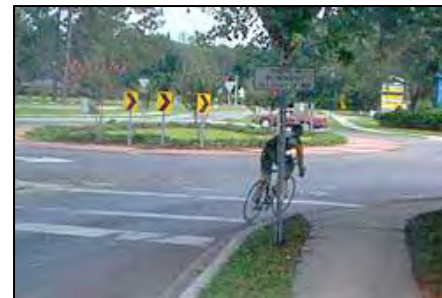
- \$15,000 to \$40,000

❖ **Traffic Circles and Roundabouts**

Traffic circles are raised circular islands placed in the center of the intersection about which drivers must navigate around. They cause vehicles to slow down through the intersection because they are forced to make turning movements. They are very effective at slowing vehicle speeds down. Pedestrian safety is also increased due to the decrease in speeds. Large vehicles may have trouble navigating around the traffic circles, especially when making left-hand turns. Traffic circles work well for low volume intersections where speeding is a common problem.



Roundabouts are larger traffic circles with splitter islands and yield signs at each entry way. They are intended for larger intersections with higher traffic volumes. Roundabouts provide refuge areas on the splitter islands which allow crossing pedestrians a place of refuge so that they only have to cross one direction of traffic at a time. Large trucks may have problems navigating around roundabouts, although the use of mountable islands or aprons helps to accommodate larger vehicles.



Roundabouts and traffic circles both slow drivers down and decrease the number of conflict points from the 32 present in a standard four-legged intersection to only 8 in a roundabout or traffic circle. The decrease in speed and number of conflict points has resulted in a reduction of 90% of fatal intersection crashes compared to signalized intersections.

Advantages:

- Vehicle speed reduction

- Increased vehicle and pedestrian safety
- No traffic signals

Disadvantages:

- May be difficult for large trucks to navigate around
- May require additional right-of-way and/or loss of on-street parking
- May cause difficulties for sight impaired pedestrians

Special Considerations:

- Emergency vehicles
- Maintenance
- Large trucks
- Signage

Estimated Cost:

- Varies based on size and materials used

❖ Intersection Realignment

This method changes the alignment of a standard T-intersection with a straight approach into curving streets that connect at right angles. The previously straight through movement at the intersection becomes a sweeping turn that causes the driver to slow down to take the corner.



Intersection realignment is one of the few traffic calming methods available for T-intersections. This method forces drivers to slow down through the intersection which makes for a safer environment for drivers on the side street.

Advantages:

- Good at reducing speeds at T-intersections
- Increases safety for motorists at the intersection
- May provide space for landscaping

Disadvantages:

- Can cause confusion regarding priority movements
- Curb realignment can be costly
- May require additional right-of-way

Special Considerations:

- Lighting
- Signage
- Drainage

Estimated Cost:

- \$5,000 to \$20,000

5.3.4 Horizontal Narrowing Methods

❖ Neckdown

Neckdowns are curb extensions put in place at intersections. They reduce pedestrian crossing distance while drawing attention to crosswalks. Neckdowns cause vehicles to slow down at intersections and around corners due to the narrower lanes. The most common place for a neckdown is in an area where there is substantial pedestrian traffic and other traffic calming methods would be unacceptable due to noise or other constraints. Neckdowns also create additional area that can be used for landscaping.



Advantages:

- Reduces pedestrian travel distance
- May be aesthetically pleasing
- May slow vehicle speeds down, especially right turns
- Increases awareness of pedestrians
- Easily negotiated by large and emergency vehicles
- Creates protected on-street parking bays

Disadvantages:

- Unfriendly to bicyclists unless they are designed to accommodate them
- Landscaping may cause sight problems
- Doesn't force vehicles to slow down

Special Considerations:

- Lighting
- Signage
- Drainage
- Maintenance
- Bicyclist constraints

Estimated Cost:

- \$20,000 to \$80,000 for all four corners

❖ Chokers

Chokers are similar to neckdowns but are placed at midblock locations rather than at intersections. They narrow the travel lanes by increasing the length of the sidewalks or by increasing landscape areas. This method creates a narrower roadway section that may cause the driver to slow down. Chokers can be installed so that they only allow for one lane of traffic



to pass through at a time. Only allowing for one traffic lane on a two-lane road works well for areas that are prone to significant speeding problems; this method, however, can create problems with head-on conflicts. Chokers also provide protected parking areas and can add additional area for landscaping.

Advantages:

- If used at a crosswalk they can reduce pedestrian travel distances
- May be aesthetically pleasing
- Easily negotiated by large and emergency vehicles
- Create protected on-street parking bays

Disadvantages:

- Effect on vehicle speed is limited
- Unfriendly to bicyclists unless designed to accommodate them
- May need to eliminate some on-street parking

Special Considerations:

- Lighting
- Signage
- Drainage
- Maintenance
- Bicyclist constraints

Estimated Cost:

- \$8,000 to \$20,000

❖ **Center Island Narrowing and Pedestrian Islands**



A center island narrowing is a raised island in the center of the street that narrows the overall width of the travel lanes. When the islands have an opening and allow a crosswalk to go through them they are called pedestrian islands. The islands create a refuge for crossing pedestrians which makes it so that they only have to cross one direction of traffic at a time. This, combined with the islands also increasing visual awareness to the area, can create a safer environment for crossing pedestrians. The installation of the islands may narrow the travel lanes and cause vehicles to deviate from a straight path in order to travel around them. This may force the vehicles to slow down in the area.

Advantages:

- Increases pedestrian safety
- May be aesthetically pleasing
- Provide a refuge for pedestrians
- Possible traffic and vehicle speed reduction

Disadvantages:

- Limited reduction in vehicle speed
- May need to eliminate some on-street parking

Special Considerations:

- Lighting
- Signage
- Drainage
- Maintenance

Estimated Cost:

- \$5,000 to \$15,000

❖ Angle Points

Angle points are created by placing offset curb extensions on the side of the road in order to narrow the street and create angled deviations in the path of travel. Angle points cause vehicles to take an S-shaped path through the area in much the same way chicanes do. They are also similar to chokers but are shorter and are offset if installed on both sides of the street. Having to deviate from a straight path causes the driver to slow down and be more alert to the area. Angle points can require additional attention to be paid to the area which allows for safer pedestrian travel. Some designs may allow drivers to cut across and take a straight path through the angle point. This design is advantageous for emergency vehicles as they do not generally need to slow down for these zones.

**Advantages:**

- Minor inconvenience to drivers
- Shorter crossing distance for pedestrians
- Provide additional spacing for landscaping
- Effective at slowing vehicle speeds when used in series

Disadvantages:

- Unfriendly to bicyclists unless designed to accommodate them
- Causes conflict between opposing drivers arriving simultaneously
- Drivers may deviate from their path to cut through in a straight line
- Limited speed control if not designed properly

Special Considerations:

- Lighting
- Signage
- Drainage
- Maintenance

Estimated Cost:

- \$8,000 to \$20,000

5.3.5 Diversion and Restriction Methods**❖ Half Closures**

Half closures are put in place to block a single lane of traffic. They can be used to prevent vehicles from entering a road but still allow vehicles to exit the road. This is an effective means of limiting traffic on a roadway and also limiting turns off of the intersecting roadway. Half closures are generally made by extending the curb or placing a barrier to block entry. Ample signage must be put into place to alert drivers to the partial closure. Half closures are commonly used in

areas where a residential road is experiencing heavy amounts of traffic due to its connection to a main road. Most of this traffic can be attributed to cut-through traffic and can be significantly decreased through the use of half closures.

Advantages:

- Reduces through traffic in one direction
- Allows two-way traffic on the remainder of the street
- Provides space for landscaping
- Two-way bicycle access can be maintained
- Emergency vehicles can drive around barrier if needed

Disadvantages:

- Reduces access for residents or businesses
- May increase trip length
- Increases volumes on other streets
- Drivers may be able to drive around the barrier

Special Considerations:

- Emergency vehicle access
- Signage
- Maintenance

Estimated Cost:

- \$10,000 to \$40,000

❖ Full Closures

Full street closures are created by placing barriers at an existing intersection. The full closures can be done to create a dead end or a cul-de-sac style road. An opening or trail can be placed to connect pedestrians and bicycles to the abutting road. The type of barrier used to create the closures can range from a bollard style to a full landscaped closure. A landscaped style is more aesthetically pleasing to the area, but is also much more expensive than placing bollards to stop vehicle traffic. Another method commonly used to create road closures is installing curb extensions to the roadway.



Road closures are very effective at lowering traffic volumes on the roadway. Cut through traffic can be greatly reduced through the use of full closure. It is common to use full closures to limit the amount of traffic on a residential street that was connected to a main street. By closing the connection to the main street, the traffic that previously used the residential street to connect to the main street would diminish thereby decreasing the overall traffic on that road. This

does, however, create more traffic on other roads in the area since those vehicles would still have to access the main street via another street.

Advantages:

- Eliminates through traffic
- Improves safety for all street users
- Can still have pedestrian and bicycle access
- Can be aesthetically pleasing

Disadvantages:

- May inhibit emergency vehicles
- Reduces access to properties
- May increase trip lengths
- Increases volumes on other streets
- Can be expensive

Special Considerations:

- Emergency vehicle access
- Signage
- Drainage
- Maintenance

Estimated Cost:

- \$15,000 to much higher depending on design

❖ Diagonal Diverters

Diagonal Diverters consist of a barrier being placed diagonally across a four-legged intersection which interrupts the traffic flow across the intersection. The traffic is diverted away from and is not allowed to drive straight through the intersection. The diverter gets rid of conflict points caused by thru traffic and turning movements within the intersection. They also discourage non-local traffic flow in the area, but still allow for local traffic. This method is effective in areas where there are problems with cut through traffic. The diverter needs to be visible enough to alert the driver to slow down and make the turn.



Advantages:

- Eliminates through traffic and reduces traffic volumes
- Not a full road closure
- Provides space for landscaping
- Reduces traffic conflict points
- Increases pedestrian safety
- Can include bicycle path connection

Disadvantages:

- May be an inconvenience to area businesses or residents
- May inhibit emergency vehicles
- Can be expensive if done as a retrofit
- Cause circuitous routs

Special Considerations:

- Emergency vehicle access
- Lighting
- Signage
- Drainage
- Maintenance

Estimated Cost:

- \$10,000 to \$80,000

❖ Median Barriers

Median barriers are put in place in the middle of intersections to restrict cut-through movements at a cross street. They also restrict left-turns onto the cross streets from the main street. Putting a median barrier in place will reduce the number of conflict points and therefore increase the safety of the intersection. The barrier can be used as a pedestrian refuge for people



wanting to cross the main street. This, along with the reduction in left-turns, increases pedestrian safety at the intersection. Median barriers also reduce traffic volumes on the side streets while increasing the traffic flow on the major street since there will no longer be vehicles stopping to take left-turns at the intersection. This type of barrier can work well in areas where the side street has turned into a popular cut-through street or in areas where there are problems with people stopping to make left-turns. The median barrier does restrict all vehicles, including emergency vehicles. However, the barrier can be designed so that emergency vehicles can travel around them if needed.

Advantages:

- Lowers traffic volumes on the side street
- Provides space for landscaping
- Reduces traffic conflict points and increases safety
- Increases pedestrian safety

Disadvantages:

- May be an inconvenience to area businesses or residents
- May inhibit emergency vehicles
- Require additional street width on the major street

Special Considerations:

- Emergency vehicle access
- Lighting
- Signage
- Drainage
- Maintenance

Estimated Cost:

- \$15,000 to \$20,000 per 100 feet

❖ **Forced Turn Islands**

Forced turn islands are small traffic islands placed at intersections to restrict and channelize turning movements. They are generally put in place to block left-turn and through movements while still allowing for right-turn movements. This method is commonly used where smaller side streets intersect with a larger major street. Heavy left-turn or through traffic off of side streets can cause safety and traffic problems for the area. Restricting the movements from the side streets can increase the safety and traffic levels of the intersection. Forced turn islands are common place for parking lots or similar areas that have multiple entrances and exits. The islands encourage people wanting to turn left or go straight out of the area to use the designated intersections that don't have the forced turn islands; the designated intersections are generally larger safer intersections.



Advantages:

- Provides space for landscaping
- Reduces traffic conflict points and increases safety
- May reduce cut through traffic
- Causes vehicles to use designated intersections

Disadvantages:

- May be an inconvenience to area businesses or residents
- Driver may be able to maneuver around the island
- Diverts traffic to other roads
- May inhibit emergency vehicles
- May increase cornering speeds

Special Considerations:

- Emergency vehicle access
- Lighting
- Signage
- Maintenance

Estimated Cost:

- \$4,000 to \$8,000

❖ Gateway

A gateway is an entry treatment to the roadway or surrounding area that creates a sense of passage or change in traffic conditions to the area. Gateways can consist of vertical elements such as posts, trees, bushes, signs, poles, or columns. They can also be formed using curb extensions, changes in pavement color or type, or any other method that creates a sense of entry into an area. Gateways can cause a small reduction in traffic volume because they can make drivers feel uncomfortable about entering the area. A slight speed reduction can also be achieved through the use of narrowing the roadway at the gateway. Safety levels in the area may be increased as well since attention would be drawn to the area.

**Advantages:**

- May slow vehicle speeds
- Highlights the intersection
- Increased pedestrian safety
- Aesthetically pleasing
- Does not inhibit emergency vehicles
- Possible small volume reduction

Disadvantages:

- Increased maintenance

- May have limited effect
- Can increase the difficulty level to maneuver the area
- Can be very expensive

Special Considerations:

- Lighting
- Signage
- Drainage
- Maintenance

Estimated Cost:

- \$4,000 to much higher depending on design

5.3.6 Other Traffic Calming Methods

❖ **Police Enforcement**

Increasing the level of police enforcement on streets that are prone to speeding problems can be an effective way to reduce the number of speeding vehicles. Additional police enforcement can help to discourage drivers from breaking speed limit laws in the area. The speed reduction, however, usually is only reduced for a short period of time or as long as the enforcement is maintained. In order to have a long term effect on speeding, police enforcement must be conducted on a repetitive non-routine basis together with signage and/or brochures to indicate that enforcement will be increased in the area. There can be significant budget and manpower constraints to having continual police enforcement. Using police personnel to enforce speed limits is typically a low priority for police departments and the cost of continually enforcing speed limits can be unjustifiable.



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Advantages:

- Effective at slowing vehicle speeds down
- Widely accepted
- Increases safety level of the area

Disadvantages:

- Requires continual enforcement
- Not of high priority to police departments
- Expensive

Special Considerations:

- Signs
- Continual enforcement

Estimated Cost:

- Varies

❖ Decreased Speed Limits

Decreasing speed limits in an area prone to speeding is a simple low cost approach to trying to deter drivers from breaking the speed limit. However, the posted speed limit is generally ignored by the driver. Drivers generally travel at speeds they consider reasonable and are often influenced by other drivers in the area. There is usually little to no effect on vehicle speeds by simply lowering the speed limit in the area. To have an effect on vehicles, the lower speed limits must be accompanied by other means of speed control. These other means could be increased law enforcement, speed bumps, or any other method that would help promote lower speeds in the area. Decreasing speed limits in areas such as school zones is common and does tend to have some effect on speeding. The effect can be much higher by using law enforcement to help monitor the area. Speed restrictions and how speed limits may be adjusted are discussed in 61-8-303, 61-8-309, and 61-8-309, Montana Code Annotated.



help promote lower speeds in the area. Decreasing speed limits in areas such as school zones is common and does tend to have some effect on speeding. The effect can be much higher by using law enforcement to help monitor the area. Speed restrictions and how speed limits may be adjusted are discussed in 61-8-303, 61-8-309, and 61-8-309, Montana Code Annotated.

Advantages:

- Low cost
- Useful when done in conjunction with other speed control methods
- Useful in areas such as school zones

Disadvantages:

- Little to no effect on vehicle speeds when done alone
- Often times ignored
- Requires additional measures

Special Considerations:

- Signs
- Enforcement
- Maintenance
- May require a speed zone study

Estimated Cost:

- Minimal

❖ Variable Speed Display Board

Variable speed display boards are commonly placed in areas that are prone to high levels of speeding. The boards display the speed limit for the road to the driver and also have built in speed sensors that detect and display their actual speed. Their current speed is then displayed on the board to alert the driver to how fast they are going compared to the actual speed limit in hopes that they will keep their speeds at or below the speed limit. The board can have a computer that can



be used to detect what time of day the most number of people are speeding in an area so that additional enforcement can be placed there if needed. The boards basically run themselves and can be powered from batteries or by solar power. The portable boards work well for moving to different areas where speed is of concern. Permanent boards can also be installed at problematic locations. One concern with these boards is that it may encourage certain groups of drivers to speed if not monitored.

Advantages:

- Widely accepted
- Basically run themselves
- Can save data and be used to determine problem areas and times
- Works as a driver education method
- Portable

Disadvantages:

- May require additional enforcement
- Can encourage speeding of some groups of drivers
- Vandalism may occur
- Limited effectiveness when not used in conjunction with additional enforcement

Special Considerations:

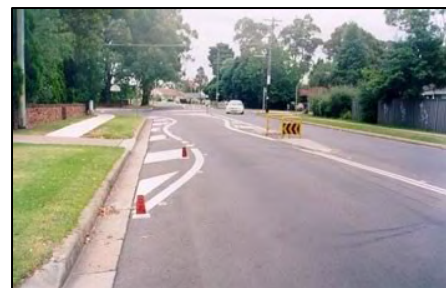
- Signing
- Enforcement level
- Maintenance

Estimated Cost:

- \$10,000 to \$20,000

❖ **Pavement Markings**

Pavement markings can be used for anything from on-street parking, to accentuating already existing features, to creating new features. Using pavement markings to indicate areas where on-street parking would occur creates a safer parking environment and also directs traffic in the area. A slight speed reduction may occur if the travel lanes are narrowed due to the markings. When pavement markings are used to accentuate already existing features, they can make the features look bigger and give advanced warning about them. Pavement markings can also be used to create turning lanes and to direct traffic flow without having to use expensive medians or curbs.



Pavement markings are generally not overly effective on vehicle speed reduction unless they create the impression of a narrowed roadway. While pavement markings don't force drivers to act, they do give them guidance on how to act.

Advantages:

- Inexpensive
- Can accentuate already existing features
- Can help create areas of caution
- Gives guidance to the drives

Disadvantages:

- Limited effect on vehicle speed reduction
- Must be maintained
- Not easily visible under snow or water

Special Considerations:

- Maintenance
- Signage
- Visibility

Estimated Cost:

- Varies

5.4 TRAFFIC CALMING NEEDS IN WHITEFISH

During the development of this Transportation Plan, several specific areas were identified for potential traffic calming measures. Again, traffic calming is generally in response to something that isn't quite working as intended. The City does occasionally receive complaints from its citizens regarding the need for traffic calming.

ISSUE 1 – Speeding and safety is a concern through many of the neighborhoods near the High School and the Muldown Elementary School.

Although there are recommendations for additional road connections in this area, traffic calming in the existing neighborhood may be feasible. Typically, traffic calming features adjacent to school neighborhoods usually include a mixture of traffic circles, raised intersection tables, and/or curb bulb-outs to neck-down the travel lane width at neighborhood intersections. These should all be explored with neighborhood representatives before implementation. It should be recognized that these types of features can reduce emergency service response time, hamper snow removal activities and/or result in the loss of on-street parking adjacent to the intersections.

ISSUE 2 – Speeding and safety along Wisconsin Avenue.

Chapter 6 contains several short range and long-range recommendations for the Wisconsin Avenue corridor. As a major arterial, traffic calming typically is not applied to this type of facility. Potential traffic calming remedies could, however, include features that change the perception of the driving environment. This would include landscaping and features to affect the streetscape along the sides of the road (street trees, etc.) and/or narrow median islands within the roadway itself. Any type of traffic calming along this facility would be met with modest improvement to the issues more fully identified in Chapter 6.

ISSUE 3 – Safety & speeding issues around the schools.

Chapters 6 and 7 provide mechanisms to temper some of the school related issues. Again, traffic calming in the existing neighborhoods around the schools may be feasible. Typically, traffic calming features adjacent to school neighborhoods usually include a mixture of traffic circles, raised intersection tables, and/or curb bulb-outs to neck-down the travel lane width at neighborhood intersections. These should all be explored with neighborhood representatives before implementation.

ISSUE 4 – More crossing guards are needed around the schools.

Although this is not necessarily a “traffic calming” feature, the concept of additional crossing guards is generally accepted as desirable by most citizens. Implementation hurdles are realized, though, based on lack of financial resources. Although a volunteer crossing guard program could be explored in the future, there are issues with volunteers not showing up (for example when ill) and not having a formal back-up process in place.

Chapter 7 includes a section on school-related transportation considerations and discusses three locations where additional crossing guards would be beneficial.

ISSUE 5 – Citizens need a point of contact to explore traffic calming.

As a matter of practice, all requests and/or complaints should be directed to the Public Works Department for consideration. The potential examples and remedies presented in Section 5.3 of this chapter can be examined and applied by city engineering staff as appropriate.

5.5 TRAFFIC CALMING TECHNIQUES APPLICABLE TO COLLECTORS AND MINOR ARTERIALS

A few of the measures described earlier in this chapter are applicable to collectors and minor arterial street conditions. These measures do not fall under the suggested Traffic Calming Program process outlined previously and would need to be done at the discretion of City staff. The measures are restricted to horizontal deflection and include the following:

- Mid-block median;
- Curb bulb outs/neckdown; and
- On-street parking.

These measures can be used to slow traffic where chronic speeding problems have been shown to exist, or to accommodate pedestrian traffic. The mid-block median usually is present on arterials due to another piece of infrastructure, such as a railroad track which passes over the street, or an overhead pedestrian crossing structure.

On-street parking almost always occurs in a residential area, but also can occur in retail or industrial sections of the community. Judicious use of on-street parking can influence the traffic flow and help regulate traffic speeds on collectors or minor arterials. Bulb outs, also

called neckdowns, can be used to create the illusion for the driver that the roadway is narrowing. This perception will cause the driver to slow down. A secondary benefit of the bulb outs is the decreased walking distance for pedestrians at the crosswalks. Bulb outs generally are wide enough for a car to park in their “shadow”. This generally creates good separation between the parked cars and the moving traffic.

5.6 INCORPORATING TRAFFIC CALMING IN NEW STREET DESIGNS

Roadway designs for new development should be appropriate for the intended function of each street or street segment. Those designed to function as part of the major street system (major collectors and arterials), should be designed primarily to move traffic in as efficient, convenient, and safe a manner as possible. Local streets and residential collectors, on the other hand, should be designed to provide access to properties while discouraging through-traffic and higher travel speeds that often accompany it. As a result, new developments should include traffic calming strategies to reinforce the appropriate functions of local streets. These would include layout and connectivity of street systems and pedestrian/bicycle facilities, intersection treatments, and basic design standards for width, curvature, parking, and landscaping. Specific traffic calming features which are easily incorporated into the design phase include: gateway treatments; street narrowing; short block lengths; small corner radii; surface valley gutters; “T” intersections; roundabouts; and landscaping to create a “closed-in” environment.

It should be noted that Section 8.11 in City of Whitefish’s “2009 Engineering Standards” addresses traffic calming. While there are no requirements identified, the section provides some guidelines to help incorporate traffic calming principles into a new developments.

5.7 SAMPLE TRAFFIC CALMING PROGRAM FOR WHITEFISH

A Traffic Calming Program for the Whitefish area would provide a regular and ongoing opportunity for neighborhoods to nominate, test, and implement improvements to address problems with the local street network. The process should be standardized to minimize administrative effort and cost, while ensuring that improvements are necessary, effective and safe. The process could be repeated as necessary to ensure that resident concerns are addressed with reasonable timeliness, and that projects are advanced in an orderly and efficient manner.

Traffic calming is a physical construction designed to reinforce the perceived need for caution by the user of the transportation system. The primary responsibility for safe use of the streets lies with the individual driver, bicyclist, or pedestrian. The need for physical traffic calming devices indicates a consistent occurrence of failure by the transportation user to appropriately interact with their surroundings.

It is likely that the large majority of traffic calming issues would focus on traffic problems that occur within the city limits. Therefore, this program has been developed with the City in mind. It is also very possible that similar problems would arise within the County jurisdiction. In those cases, the same program should be implemented with the County, assuming the same role applies as that described for the city.

Traffic calming projects depend on the strong support by residents in the immediate area. Traffic calming methods should also be used only to address real, rather than perceived, problems. For these and other related reasons, traffic calming projects should meet several criteria before being considered for implementation.

The suggested Traffic Calming Program is a three-phase process consisting of 12 individual steps. The main activities of each of the phases are as follows: Phase I) identification and verification of a traffic problem; Phase II) selection and implementation of educational activities and enforcement techniques; and Phase III) selection and implementation of physical traffic calming measures. Each phase requires the participation of the neighborhood residents, the City, and the City Engineering Department.

5.7.1 Sample Traffic Calming Program for Existing Streets

The following is a sample three-phase procedure for implementing traffic calming measures on existing facilities. In order to accommodate seasonal changes, special events or any other irregular circumstances, the process may be altered or accelerated at the discretion of the City Engineer. The traffic calming program for existing streets shown below is intended for application to local streets only.

PHASE I

- Step 1:** A Citizen contacts the City Engineering Department about a traffic problem. The City Engineer responds by sending the Citizen information about the Traffic Calming Program and an Investigation Request Form.
- Step 2:** The Citizen completes the “Investigation Request Form” and returns it to the City Engineer. The form should include a description of the problem and location, as well as the signatures of 10 other neighborhood residents from separate households who agree that the problem exists. A Neighborhood Contact is also identified on the form. After receipt of the form, the City Engineer contacts neighborhood residents to discuss the nature of the perceived problem. The information gathered in this step helps determine the types of studies needed to be performed in Step 3.
- Step 3:** The City Engineer conducts a field review of the location, and collects the appropriate data in order to determine whether or not the perceived problem actually exists. In most cases, accident records should be reviewed, and traffic volumes measured. Depending upon the nature of the complaint, a speed study, truck count, or cut-through study may also be appropriate. In order to be considered for a traffic calming project, the location must have traffic volumes of at least 800 vehicles per day. It must meet at least one of the following criteria: three or more accidents in a 12-month period; an 85th percentile speed that is at least five (5) miles per hour over the posted speed limit; or truck volumes exceeding 10 percent of the total traffic volume.

After the field data is collected and reviewed, the City Engineer informs the Neighborhood Contact of the results. If the location does not meet the above criteria, the City Engineer meets with neighborhood residents to review the study results and discuss other options. At this point, the Traffic Calming Program is concluded. If the problem location meets the required criteria, the City Engineer reviews the Phase II process with the Neighborhood Contact.

PHASE II

- Step 4:** The City Engineer determines the boundaries of the affected neighborhood. Neighborhood boundaries will typically follow arterial streets or other natural breaks. The City Engineer schedules a neighborhood meeting to discuss possible Phase II solutions to the problem. The City Engineer gives the Neighborhood Contact a map of the designated boundaries so he/she can inform area residents of the meeting. At the meeting, the City Engineer presents a range of appropriate measures. Potential Phase II measures will emphasize the least intrusive measures, consisting of enforcement, educational activities, and/or minor physical changes (brush trimming, and sign or pavement marking installation).
- Step 5:** The Neighborhood Contact circulates a Phase II Petition within the defined boundaries. The petition identifies the proposed education and enforcement techniques, and asks residents to indicate their approval. If the petition is not signed by 40 percent of the property owners within the defined neighborhood, the process is terminated. If the petition is signed by at least 40 percent of the property owners, the City and/or Neighborhood will then implement the Phase II measures.
- Step 6:** Approximately 90 days after implementation of the Phase II measures, the City repeats the data collection efforts. (This 90-day period may be modified by the City to accommodate seasonal conditions and other factors.) If the problem has been resolved, the education and enforcement activities can be tapered off and the process concluded. If the situation arises again at a later date, as confirmed by data, the process can begin again at Step 6.

PHASE III

- Step 7:** If the traffic problem has not been resolved by the Phase II measures, the City Engineer conducts an engineering study to determine a range of appropriate physical improvements to the location. Initially, less restrictive measures such as vertical or horizontal deflection of the roadway are preferable to roadway obstruction techniques.
- Step 8:** The City Engineer schedules a neighborhood meeting to review the Phase III improvement options. The Neighborhood Contact is responsible for notifying area residents about the meeting. The City Engineer facilitates the neighborhood meeting. Based on resident input, a preferred solution is selected from the range

of possible solutions. If a temporary version of this traffic-calming device is not practical, proceed to Step 11.

- Step 9:** If a temporary traffic-calming device is suitable, the Neighborhood Contact circulates a Phase III Petition for Temporary Measures. The process ends if the petition is not signed by 50 percent of the property owners within the defined boundaries. If at least 50 percent of the property owners sign the petition, the City constructs a temporary version of the preferred traffic-calming device.
- Step 10:** After one year, the City repeats the data collection process to determine whether or not the temporary device is effective. If it is found to not be effective, the City Engineer notifies the Neighborhood Contact, and the device is removed. The process can then be repeated from Step 7.
- Step 11:** If the temporary device is effective, the City Engineer develops a preliminary design and cost estimate for a permanent traffic calming device(s), and determines who will finance the permanent solution. The City then provides Neighborhood Contact with this information and indicates that the area property owners are receptive to a Petition for Permanent Measures.
- Step 12:** The Neighborhood Contact circulates a Phase III Petition for Permanent Measures, which includes a copy of the preliminary design and cost estimate, as well as an explanation of financial responsibility. If the petition is not signed by 70 percent of the area property owners, the process is terminated and any temporary devices removed. If at least 70 percent of the property owners sign the petition, the City Engineer performs a final design, and constructs a permanent traffic-calming device.

There are numerous points at which the traffic calming implementation process can be terminated due to lack of neighborhood support. Should neighborhood sentiment change at a later date, the process may be resumed at the same step where it left off.

5.5.2 Project Costs

Traffic problems on existing streets are usually caused by one of the following situations: poor initial street design; inadequacy of the major street network; or commercial and/or residential development adjacent to the neighborhood. The cost of financing traffic calming projects to resolve such problems should be distributed accordingly. As part of the initial investigation, the nature and cause of the traffic problem will be identified. The City would use this information to determine the appropriate division of project costs and identify who (the City, neighborhood residents, developers, other parties) may be involved in paying for the traffic calming measures.

The costs of Steps 1 through 11 would typically be borne by the City. Permanent Phase III construction (Step 12) will be financed by some combination of neighborhood contributions, development fees, and funds from other sources.

5.5.3 Removal of Permanent Traffic Calming Devices

Refer to the local policy for removal of a permanent traffic calming device. The neighborhood residents will be responsible for paying the cost of removing traffic calming devices.



CHAPTER 6: Recommended Projects

CHAPTER 6: RECOMMENDED PROJECTS

This Plan includes a variety of recommended programs and improvement projects. These projects are needed to meet the anticipated traffic demands of the year 2030. This chapter summarizes the recommended programs and projects.

Relative priorities for implementation have been assigned to the recommended Transportation System Management (TSM) and Major Street Network (MSN) improvement projects. The suggested project prioritization is only intended to provide a general idea of project need at the time this Transportation Plan was prepared. Changes in traffic conditions or future development may alter actual project needs.

The recommended priorities were established based on the following criteria:

- | | |
|------------------------------|---|
| “A” Priority Projects | These projects are the highest priority and should be completed as soon as funding is available. The projects are needed to accommodate existing traffic conditions due to failing levels of service at intersections or exceeded capacities along corridors. They also include planning studies necessary to developing desired infrastructure or transportation services. |
| “B” Priority Projects | Medium priority projects that are not necessarily needed at this time. These projects should be considered as needed as future funds become available. The projects are generally needed due to anticipated future growth and are likely the result of current conditions being unable to handle future growth. |
| “C” Priority Projects | Low priority projects that are considered to be future project considerations. These projects are recommended to be built by developers or as development occurs in the area. It is expected that these projects are only necessary if development occurs in the area. |

6.1 RECOMMENDED TRANSPORTATION SYSTEM MANAGEMENT (TSM) IMPROVEMENTS

Transportation System Management (TSM) projects are relatively low cost, “tune-up” type improvements. These are projects that do not require excessive planning to begin and/or high costs to construct or implement. They are commonly referred to as projects that can help to “tweak” the operation of the transportation system. For the purposes of this Plan, an improvement project was classified as a TSM project if the estimated cost of the project was generally less than \$500,000. The cost estimates included in this section are provided for planning purposes only. New traffic signal systems typically cost between \$200,000 and \$300,000. Lane modifications, beyond just changing pavement markings, were estimated to cost \$60,000 per approach. If applicable, each project

included some basic storm drainage improvements. The cost estimates **do not include any right-of-way costs**, but do include design and construction costs. All costs are in year 2009 dollars.

TSM-1 (ACCESS CONTROL STUDY OF US HIGHWAY 93 SOUTH)

Problem: The presence of numerous accesses along US Highway 93, between MT 40 and 13th Street, are expected to cause potential safety and operational issues in the future due to increasing traffic volumes on US Highway 93. Additionally, many in the community have expressed the desire for increased beautification in the corridor.

Recommendation: It is recommended that the City of Whitefish and the MDT enter into a formal project agreement to develop an “Access Control Plan” for the section of US Highway 93 between MT 40 and 13th Street. This is an implementation strategy that will carry out the recommendations contained in the original US Highway 93 Somers to Whitefish West Final Environmental Impact Statement.

An informal working committee has been set-up and is in operation within the Whitefish community to develop this “Access Control Plan.” The current efforts should be formalized to follow the conventional steps of an Access Control Plan. These steps include a series of formal public outreach activities, as well as “one-on-one” meetings with individual landowners. This project is being led by the City of Whitefish, through a steering committee consisting of City staff and business owners.

Estimated Cost: \$60,000

Implementation Priority: A

TSM-2 (13TH STREET/US HIGHWAY 93 INTERSECTION)

Problem: Lane use designations and striping could be revised to facilitate traffic flows.

Recommendation: The west and east legs of this intersection (i.e. 13th Street) should be modified with pavement markings to provide designated left-turn bays on each leg, adjacent to combination through and right-turn lanes on each leg. This provides a more typical lane use geometry, and would better match actual travel patterns being observed. It is expected this could be accomplished with striping, other pavement markings and signing.

This project is located along a section of US Highway 93 being addressed by MDT in the Whitefish Urban Corridor Study. Since MDT maintains jurisdiction over US Highway 93, the recommendations included in the Corridor Study for this location should be reviewed and coordination should occur with MDT about the implementation of suggested interim improvements at this intersection.

Estimated Cost: \$25,000

Implementation Priority: A

TSM-3 (INTERSECTION OF BAKER AVENUE/13TH STREET)

Problem: Side street delay and increased development pressures.

Recommendation: It is recommended to install a traffic signal at this intersection when signal warrants are met. This may require the City of Whitefish to conduct a “traffic signal warrant analysis” on a two-year cycle; however, volume projections and network development will necessitate a signalized control at this location. Additionally, it is recommended that the need for improved pedestrian crossing provisions be examined in conjunction with a future traffic signal installation at this intersection.

The City’s new Emergency Services Center is under development in the Baker Commons Subdivision southwest of this intersection. Signalization of the intersection (including a traffic signal priority control device that allow for signal preemption) would enhance the efficiency of emergency services responses from the new center. Additionally, Flathead Avenue will ultimately be extended from the intersection through the subdivision to West 18th Street where a future east-west connection between Baker and Karrow Avenues is recommended.

The Whitefish Urban Corridor Study considers the future use of Baker Avenue and 13th Street to help accommodate future traffic through the City. The recommendations included in the Corridor Study relevant to Baker Avenue and 13th Street should be reviewed and coordination should occur with MDT regarding the implementation of suggested improvements at this intersection.

Estimated Cost: \$250,000

Implementation Priority: B

TSM-4 (WHITEFISH BEACH)

Problem: Poor traffic circulation with high levels of pedestrian and bicycle traffic.

Recommendation: Modify the portion of Lakeside Boulevard and Skyles Place along Whitefish Beach to seasonally accommodate one-way vehicular traffic and two-way bicycle traffic with parking. Appropriate signage, striping, and temporary barriers should be used to differentiate between bike lanes, driving lanes, and parking areas.

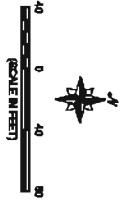
Figures 6-1 and 6-2 show a conceptual layout for the portion of Lakeside Boulevard and Skyles Place along Whitefish Beach that accommodates one-way vehicular traffic and two-way bicycle traffic with parking.

Estimated Cost: \$30,000

Implementation Priority: A



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- ADVANTAGES**
- IMPROVED SAFETY
 - SLOWER VEHICLE SPEEDS
 - BETTER DEFINED PARKING
 - IMPROVED TRAFFIC FLOW
 - REDUCED TRAFFIC DELAYS

- DISADVANTAGES**
- LIMITED ACCESS
 - ONE-WAY TRAFFIC
 - EMERGENCY VEHICLE ACCESS
 - POTENTIAL FOR CONFLICTS ON ADJACENT ROUTES



WHITEFISH BEACH CONCEPTUAL PLAN
 TSM-4
SITE PLAN
Figure 6-1



TSM-5 (8TH STREET ONE-WAY ROADWAY)

Problem: Poor traffic circulation in school area. Need for additional route choice.

Recommendation: It is recommended to construct a one-way, context sensitive roadway facility along the 8th Street right-of-way between Ashar Avenue and easterly limits of the existing 8th Street facility. This project has been debated in the community off and on for several years. The one-way flow (from east to west) will help alleviate traffic congestion along 7th Street and provide an additional option. The new roadway must be designed with sensitivity to the adjacent private school (Whitefish Christian Academy) and incorporate pedestrian and bicyclist amenities.

Estimated Cost: \$200,000

Implementation Priority: B

TSM-6 (COMMUNITY SIDEWALK INVENTORY)

Problem: Gaps in existing sidewalk system, areas with poor sidewalk conditions, potential ADA-compliance issues, need to assess pedestrian crossing locations and facilities.

Recommendation: Comments received on the Public Draft Transportation Plan from City Planning staff and the Planning Board indicated the need for a comprehensive sidewalk program for the City. As a first step in developing a comprehensive sidewalk program for the City, it is recommended that a study be conducted to inventory existing sidewalk facilities to identify gaps, relationships to the City's trail system, condition and ADA-compliance issues, and pedestrian crossing provisions. This study can lay the foundation for future capital improvements planning to maintain and upgrade the City's sidewalk system.

Estimated Cost: \$40,000

Implementation Priority: A

TSM-7 (WHITEFISH PUBLIC TRANSIT PLANNING STUDY)

Problem: Desire for future expansion of transit services in the community.

Recommendation: Undertake a planning study to help prepare the community for the expansion of public transit services. Such a study could be used to explore the potential for a fixed route shuttle service within the community and develop standards for desirable infrastructure features like bus pullouts, waiting areas or bus shelters, signage, and park-and-ride lots. Numerous comments received on the Public Draft Transportation Plan advocated adding services or facilities to improve transit within the community. Establishing what level of transit service is desired by the community, identifying opportunities to partner to provide such services, and establishing the type and extent of services and

facilities that can reasonably be provided given available funding is essential to expanding public transit in Whitefish.

Estimated Cost: **\$50,000**

Implementation Priority: A

TSM-8 (BICYCLE AND PEDESTRIAN MASTER PLAN UPDATE)

Problem: Ongoing need to stay current with planning for non-motorized transportation system.

Recommendation: Update the Whitefish Bicycle and Pedestrian Master Plan to reflect the current status of the planned non-motorized trail system, planned projects, and appropriately reflect the recommendations made in this Transportation Plan.

Estimated Cost: **\$15,000**

Implementation Priority: A

SUMMARY OF RECOMMENDED TSM PROJECTS AND PRIORITIES

Table 6-1 summarizes the recommended TSM projects and presents their corresponding implementation responsibilities and relative priority for implementation.

**Table 6-1
Recommended TSM Improvements and Suggested Priorities**

Project #	Project Name	Planning Level Cost Estimate	Implementing Responsibility	Relative Priority
TSM-1	Access Control Study of US Highway 93 South	\$60,000	MDT and City	A
TSM-2	13th Street/US Highway 93 Intersection	\$25,000	MDT and City	A
TSM-3	Baker Avenue/13th Street Signal	\$250,000	City	B
TSM-4	Whitefish Beach	\$30,000	City	A
TSM-5	8th Street One-Way Roadway	\$200,000	City	B
TSM-6	Community Sidewalk Inventory	\$40,000	City	A
TSM-7	Whitefish Public Transit Planning Study	\$50,000	City	A
TSM-8	Update Bicycle and Pedestrian Master Plan	\$15,000	City Pedestrian & Bicycle Committee	A
TOTAL ESTIMATED COST OF TSM PROJECTS		\$670,000		

6.2 RECOMMENDED MAJOR STREET NETWORK (MSN) IMPROVEMENTS

Recommended Major Street Network (MSN) improvements are needed to meet the anticipated traffic demands of the Year 2030. A major street network project is any road or street improvement project that requires substantial financing and significant planning and design efforts to implement. Listed below are recommendations that will help meet the anticipated traffic demands and create a more efficient traffic network. **Figures 6-3 and 6-4** show the locations of the MSN projects.

The MSN improvements identified in this section include several “Committed” Major Street Network (CSMN) improvement projects that were described in **Chapter 3** of this Transportation Plan. The listed MSN projects also include “future” projects that may be necessary or beneficial to meeting long-term travel demands within the community as dictated by new development. While they are not necessary to serve current development, implementing these projects would help to create a well established grid system when additional development does occur in various areas within the community. A good grid system of roads and streets is a key to ensuring the traffic network functions effectively in the future.

The recommended major improvement projects are shown below, in no particular order of importance or priority. Estimated costs for each improvement have been provided for planning purposes, and are based on various street standards used by the City of Whitefish and the MDT, as appropriate. Each project includes some basic storm drainage improvements. The cost estimates **do not include any right-of-way costs**, but do include design and construction costs. All costs are in year 2009 dollars. All of these improvements should include adequate and safe pedestrian and bicyclist accommodations and the use of separated paths should be considered where appropriate.

COMMITTED MSN IMPROVEMENT PROJECTS

CMSN-1 (US HIGHWAY 93 [WHITEFISH-WEST])

This project includes the complete reconstruction of 5.2 miles of US Highway 93 west of Whitefish. The project is planned for phased construction and currently is estimated to cost about \$38 million. Funding for the project is unlikely before 2011; however, if money becomes available it could be moved ahead very quickly.

CMSN-2 (CENTRAL AVENUE - RAILWAY TO 3RD STREET)

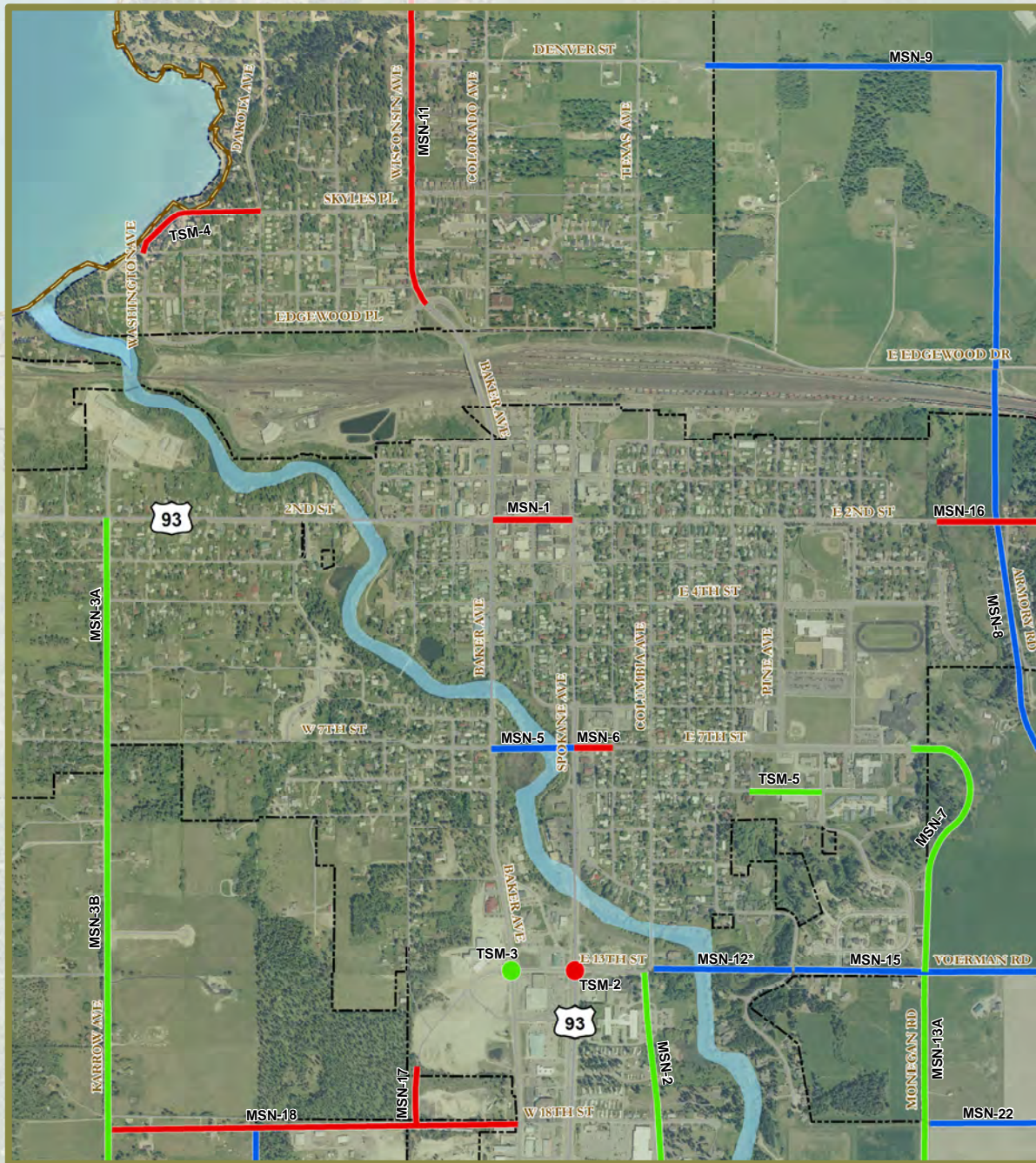
This City of Whitefish project would enhance Central Avenue streetscape through the addition of mid-block crossings, decorative concrete, angled parking and raised intersections. Some turn lane restrictions and curb bulb-outs will be incorporated into the project. The Central Avenue reconstruction project is currently in the design phase. An associated reconstruction project on 3rd Street between Spokane and Baker Avenues was undertaken and completed by the City in 2009.

CMSN-3 (6TH STREET AND GEDDES AVENUE)

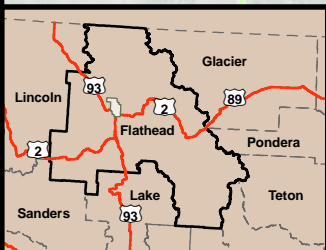
This City of Whitefish project would reconstruct portions of 6th Street and Geddes Avenue. The project is currently designed but will likely not be built until 2012 or later.

CMSN-4 (MT HIGHWAY 40/DILLON ROAD/CONN ROAD INTERSECTION)

This MDT project would remedy a crash trend involving left-turning vehicles on Montana Highway 40 at the route’s intersection with Dillon and Conn Roads. The project begins at milepost 2.6 just



*MSN-12 (13th Street Bridge): Please note the Whitefish City Council has recommended that a TSM project be completed at some future date to further examine east-west connectivity and the bridge crossing issue in the area, including additional travel demand modeling for a potential crossing at 18th Street instead of 13th Street.



LEGEND

	Detail Area Boundary		On System Route
	City Limits		Local Road
	Urban Boundary		"A" Priority Project
	Conservation Easement		"B" Priority Project
			"C" Priority Project

0 0.25 0.5 Miles

FIGURE 6-4
RECOMMENDED PROJECTS AND SUGGESTED PRIORITIES
 Whitefish Transportation Plan - 2009



west of MT Highway 40's intersection with Dillon Road/Conn Road and extends 1.2 miles to the east. The project is planned for implementation beyond 2013 depending on the availability of funding.

RECOMMENDED MSN IMPROVEMENTS

MSN-1 (2ND STREET IMPROVEMENTS AND SIGNAL UPGRADES)

Problem: Traffic congestion resulting from the lack of signal coordination along 2nd Street at Spokane, Central, and Baker Avenues and the lack of appropriate left turn and/or right turn lanes at the Spokane and Baker Avenue.

Recommendation: Maintain a two-lane roadway that provides one lane in each direction and provides appropriate dedicated turn lanes at the intersections with Spokane and Baker Avenues. The project would include the following elements:

- Install new traffic signals and upgrade the signal control infrastructure needed to synchronize all traffic signals along 2nd Street.
- Provide left turn lanes and shared through/right turn lanes on all approaches at the intersection of 2nd Street and Spokane Avenue.
- Prohibit left turns from 2nd Street onto Central Avenue.
- Maintain parking along both sides of the street for one-half block east and west of Central Avenue.
- Provide left dedicated left turn lanes for all approaches and dedicated right turn lanes on the north and east approaches at 2nd and Baker.

The Whitefish Downtown Business District Master Plan recommends a configuration for 2nd Street and identifies other desired amenities along the roadway.

The Whitefish Urban Corridor Study addresses operational issues on 2nd Street and at 2nd Street's intersections with Spokane and Baker Avenues. The study recognizes and acknowledges the potential benefits offered by modifying and coordinating all traffic signals on 2nd Street and adding necessary turn lanes at 2nd Street's intersections with Spokane and Baker Avenues. Since MDT maintains jurisdiction over US Highway 93, the recommendations included in the Corridor Study relevant to 2nd Street should be reviewed and coordination should occur with the agency regarding the implementation of any interim improvements.

Estimated Cost: **\$2.0 M**

Implementation Priority: **A**

MSN-2 (COLUMBIA AVENUE SOUTH EXTENSION)

Problem: Limited north-south routes on the south end of Whitefish as well as increasingly high traffic volumes on US Highway 93. Need for traffic relief associated with schools.

Recommendation: This recommendation is to construct an extension of Columbia Avenue to the south from the intersection with 13th Street to JP Road. This will help alleviate escalating traffic levels from US Highway 93 and provide an alternate north-south route on the south end of Whitefish.

Completion of this street will be developer driven. The City will not generally fund uncompleted segments of the street as a capital project, but will instead require it to be constructed by developers as projects are planned and built that will rely on the streets for access. For example, developers of the Banks at Whitefish are responsible for extending Columbia Avenue from 13th Street to their south property boundary and a portion of Whitefish Avenue behind the Mountain Mall was recently built through the River's Edge development.

An arterial street standard is appropriate, and should consist of one travel lane in each direction, bike lanes on each side, curb and gutter, boulevard, sidewalk, and appropriate turn bays (or center two-way, left-turn lane) at major intersections.

The proposed alignment crosses lands in both the City and County.

Estimated Cost: **\$2.3 M**

Implementation Priority: B

MSN-3 (KARROW AVENUE RECONSTRUCTION)

Problem: Poor connectivity west of US Highway 93 along with increasing traffic demands on US Highway 93 and Karrow Avenue.

Recommendation: Reconstruct Karrow Avenue to a three-lane minor arterial roadway section with pedestrian and bicyclist facilities between 7th Street and US Highway 93 (Project MSN-3A) and a two-lane rural section with a separated pedestrian and bicycle path south of 7th Street (Project MSN-3B). This is a long-term need that will be necessary to accommodate future development patterns in this area. This is coupled with the need for pedestrian and bicycle facilities along the corridor.

An arterial street standard is appropriate for Karrow Avenue north of 7th Street within the City, and should consist of one travel lane in each direction, bike lanes on each side, curb and gutter, boulevard, sidewalk, and appropriate turn bays (or center two-way, left-turn lane) at major intersections. The rural design section recommended for Karrow south of 7th Street (in the County) recognizes the need to provide an upgraded roadway with pedestrian and bicyclist accommodations sensitive to the lower density development pattern and rural character of lands southwest of Whitefish.

Note that this recommendation is not intended to provide a bypass to US Highway 93; however, the project will likely be needed to facilitate growth

likely to occur along the roadway if and when vacant lands are developed. A portion of the alignment abuts an area set aside in a conservation easement.

Estimated Cost: \$4.2 M

Implementation Priority: B

MSN-4 (BAKER AVENUE EXTENSION)

Problem: Limited north-south routes on the south end of Whitefish as well as increasingly high traffic volumes on US Highway 93.

Recommendation: This recommendation is to construct an extension of Baker Avenue to the south from the intersection with West 19th Street to JP Road. This will help alleviate escalating traffic levels from US Highway 93 and provide an alternate north-south route on the south end of Whitefish. An arterial street standard is appropriate and should accommodate one travel lane in each direction, bike lanes (or a separated bike and pedestrian path) on each side, curb and gutter, boulevard, sidewalk, and appropriate turn bays (or center two-way, left-turn lane) at major intersections.

Like Columbia Avenue, completion of this street will be developer driven. The City will not generally fund uncompleted segments of this street but will instead require developers to construct portions of the roadway as projects relying on Baker Street for access are planned and built.

Estimated Cost: \$1.6 M

Implementation Priority: B

MSN-5 (7TH STREET BRIDGE)

Problem: Limited east-west connectivity across the Whitefish River.

Recommendation: It is recommended that a bridge be constructed along 7th Street across the Whitefish River to link Spokane and Baker Avenues. At a minimum, it is recommended that the new bridge be constructed to provide one travel lane in each direction, adequate turn lanes at the intersections with Baker and Spokane Avenue, and bike lanes and sidewalks on each side. Traffic signals would be needed at the new intersections with Baker and Spokane Avenues. The installation of traffic signals requires that one or more traffic signal warrants be met.

The Whitefish Urban Corridor Study includes a thorough examination of the concept of providing a bridge at 7th Street to connect Spokane and Baker Avenues and extending 7th Street between Spokane and Kalispell Avenues. The Corridor Study recognizes the long-term benefits of enhancing east-west connectivity along 7th Street and to traffic flows within the community. However, the operational analyses done for the Corridor Study suggest travel demands on US Highway 93 could be accommodated without the 7th Street bridge over the short-term if other corridor improvements are implemented.

The Corridor Study also notes the high costs of providing a bridge at 7th Street and its potential environmental effects.

Estimated Cost: \$10.2 M

Implementation Priority: C

MSN-6 (7TH STREET CONNECTION - SPOKANE AVENUE TO KALISPELL AVENUE)

Problem: Limited east-west connectivity and lack of a street connection between Spokane and Kalispell Avenues at 7th Street.

Recommendation: This recommendation was identified as an interim project associated with the 7th Street Bridge project in the Public Draft of the Transportation Plan and has been recommended by City transportation documents for many decades. This one-block connection could be facilitated by commercial redevelopment or a City decision to make this connection and its implementation could occur independently from a 7th Street bridge project. The street connection would enhance connectivity and provide another route to and from schools. This project could necessitate the installation of a traffic signal and lane modifications at the intersection of 7th Street and Spokane Avenue. The installation of traffic signals requires that one or more traffic signal warrants be met.

The Whitefish Urban Corridor Study examines the overall benefits and effects of adding the 7th Street Bridge and connecting Spokane and Kalispell Avenues at 7th Street. Since MDT maintains jurisdiction over US Highway 93, coordination with the agency will be required if a decision is made to construct the project.

Estimated Cost: \$500,000

Implementation Priority: A

MSN-7 (7TH STREET TO VOERMAN ROAD CONNECTION)

Problem: Limited north-south connectivity on the eastern edge of Whitefish. School-related traffic in the Creekwood area.

Recommendation: This recommendation, initially identified in the Southeast Whitefish Transportation Plan, would construct an extension of 7th Street eastward across Cow Creek and then south to the Voerman Road/Monegan Road intersection. This recommendation adds a connection to the south eastern side of Whitefish and would cross both City and County lands. The roadway extension to Monegan Road would likely be developer driven.

The roadway is envisioned as a collector and should include one travel lane in each direction, curb and gutter, boulevards, sidewalks and/or other appropriate pedestrian and bicyclist facilities.

The Southeast Whitefish Transportation Plan also recommended that

sufficient right-of-way be acquired to accommodate the construction of a roundabout at the intersection of Voerman and Monegan Roads. A roundabout can allow for slight offsets in the alignment of intersection legs, help regulate travel speeds, and does not require the installation of stop or traffic signal controls. This Plan supports the use of a roundabout at this location and recommends the feature be included as part of the 7th Street Extension project. The roundabout could also be considered when future improvements occur to Monegan or Voerman Roads as recommended by MSN-13 or MSN-15.

Estimated Cost: **\$1.3 M** (with roundabout)

Implementation Priority: B

MSN-8 (KALNER LANE EXTENSION)

Problem: Limited north-south connection from MT Highway 40 along with limited railroad crossings.

Recommendation: This recommendation consists of rebuilding Kalner Lane from MT Highway 40 and extending it to the north across to the railroad tracks to intersect with East Edgewood Drive. This recommendation would create additional north-south access off of MT Highway 40 to the eastern portion of Whitefish and provide a potential new location for a grade-separated crossing of the BNSF Railway. The railroad crossing would also serve to relieve traffic pressure off of the current crossings while creating better north-south traffic flow. A new crossing of the Whitefish River would also be required with this project.

The proposed alignment would cross both City and County lands. The completion of this roadway would be developer driven. It should be noted that Whitefish City-County Growth Policy recommends that no additional lands in the Monegan corridor be designated for residential development until either Monegan Road is extended to 7th Street (as proposed in MSN-7) or Voerman Road is extended west to 13th Street (MSN-12).

The Southeast Whitefish Transportation Plan identified Kalner Lane as a future collector roadway. Depending on its urban or rural setting, the roadway should include one travel lane in each direction, curb and gutter, boulevards, sidewalks and/or appropriate pedestrian and bicyclist facilities.

Estimated Cost: **\$15.0 M**

Implementation Priority: C

MSN-9 (NE EXTENSION - DENVER AVENUE TO EAST EDGEWOOD DRIVE)

Problem: Limited connectivity around the north and northeastern part of Whitefish.

Recommendation: Provide a new road connection from the east end of Denver Avenue to East Edgewood Drive. Denver Avenue should be reconstructed and extended eastward join a new north-south connection to East Edgewood Drive. The

north-south connection would generally align with the Kalner Lane Extension (MSN-8). This will create better connectivity in the northeastern part of Whitefish. The completion of this road would be developer driven.

The roadway is envisioned as a collector and should include one travel lane in each direction, curb and gutter, boulevards, sidewalks and/or other appropriate pedestrian and bicyclist facilities.

Estimated Cost: \$2.3 M

Implementation Priority: C

MSN-10 (NE EXTENSION - WISCONSIN AVENUE TO TEXAS AVENUE)

Problem: Limited connectivity around the northern part of Whitefish.

Recommendation: Create a connection between Texas Avenue and Wisconsin Avenue at the south edge of Crestwood. This will provide better connectivity in the northern part of Whitefish. The proposed alignment is generally located within the City and abuts a conservation easement. Conservation easements in the vicinity of this project are shown on **Figure 6-3**. The completion of this roadway would be developer driven.

The roadway should be built to a collector street standard. This would include one travel lane in each direction, curb and gutter, boulevard, sidewalk, and appropriate pedestrian and bicycle facilities.

Estimated Cost: \$1.1 M

Implementation Priority: C

MSN-11 (WISCONSIN AVENUE IMPROVEMENTS)

Problem: The existing corridor experiences congestion and delay, which will only increase due to projected growth in the area. Due to inherent funding limitations, long-term prospects for complete reconstruction is somewhat limited. A series of smaller scale, incremental projects are warranted. This typically would involve the addition of left-turn bays, bus pullouts, pedestrian crossings and future traffic signals.

Recommendation: (Long Term) Reconstruct Wisconsin Avenue between Edgewood Place and Big Mountain Road to a three-lane urban minor arterial section. It is expected that a minimum of one travel lane in each direction, bike lanes on each side, curb and gutter, boulevard, sidewalks, and appropriate turn bays (or center two-way, left-turn lane) at major intersections or access points will be required.

Estimated Cost: \$5.7 M

Implementation Priority: A

Funding: Whitefish has a Surface Transportation Program Urban Highways (STPU) balance of about \$1,305,000 for FFY 2010 and receives about \$171,000 in STPU funds each year. This projection is based on the best

information available from MDT and is subject to change given funding uncertainties and future congressional/federal actions. Wisconsin Avenue and portions of Baker Avenue and East Lakeshore Drive, and Big Mountain Road are on the Urban Highway System.

Recommendation: (Short Term) The projects recommended below should be considered as incremental projects that may help relieve safety and operations concerns along Wisconsin Avenue. It has to be recognized that even these incremental projects have hurdles relative to implementation, chiefly with available right-of-way, storm drainage and utilities. These projects can be good candidates for implementation; however, and will offer immediate relief while funds accumulate for the long-term reconstruction project.

Project A

Left-turn bays along Wisconsin Avenue at Skyles Place
(Estimated Cost = \$120,000)

Project B

Left-turn bays along Wisconsin Avenue at Denver Avenue
(Estimated Cost = \$120,000)

Project C

Left-turn bays along Wisconsin Avenue at Glenwood
(Estimated Cost = \$120,000)

Project D

Left-turn bays along Wisconsin Avenue at Colorado Avenue
(Estimated Cost = \$120,000)

Project E

Left-turn bays along Wisconsin Avenue at Reservoir Road
(Estimated Cost = \$120,000)

Project F

Develop a Plan for bus pull-outs along Wisconsin Avenue and install pullouts at desirable locations (i.e. in the vicinity of the ice rink parking lot). Bus pullouts should include an appropriate covered bus shelter, and should complement the recently constructed bicycle/pedestrian path.
(Estimated Cost = \$ 5,000-10,000 for pullout plan)
(Estimated Cost = \$85,000/pullout)

Project G

Monitor the intersection of Wisconsin Avenue and Alpine Market for satisfaction of traffic signal control warrants. Currently, the intersection does not meet any of the eight signal warrants. However, with potential development traffic the intersection may warrant traffic signal control and left-turn bays in the future.
(Estimated Cost = \$5,000)

Project H

Monitor effectiveness of existing pedestrian signals at both locations on Wisconsin Avenue. It is recognized that a sky bridge may be installed at the crossing location near the Whitefish Lake Lodge.

(Estimated Cost = \$5,000)

MSN-12 (13TH STREET BRIDGE)*

Problem: Limited east-west connectivity across the Whitefish River.

Recommendation: Construct an east-west road segment across the Whitefish River connecting East 13th Street and Voerman Road. The project involves only lands within the City. This proposed road connection and new bridge was identified as a desirable long-term improvement in the Southeast Whitefish Transportation Plan and is carried forward in this Transportation Plan.

Like the 7th Street Bridge (MSN-5), the 13th Street Bridge project is viewed as a beneficial long-term improvement to the transportation network. However, it is recognized this project may not be constructed within the planning horizon for the Plan due to the high costs associated with providing a bridge at this location, public opposition, impacts to parkland and other environmental impact considerations. As noted in the Southeast Whitefish Transportation Plan, designating this project as a long-range MSN improvement will allow this road connection to be reconsidered in future transportation planning efforts or as new development in the area makes this connection more desirable.

The roadway is envisioned as a collector and should include one travel lane in each direction, curb and gutter, boulevards, sidewalks and/or other appropriate pedestrian and bicyclist facilities.

Estimated Cost: \$7.9 M

Implementation Priority: C

*** Note:** The Whitefish City Council has recommended that a TSM project be completed at some future date to further examine east-west connectivity and the bridge crossing issue in this area, including additional travel demand modeling for a potential crossing at 18th Street instead of at 13th Street.

MSN-13 (MONEGAN ROAD RECONSTRUCTION)

Problem: Increased need to handle traffic volumes on the southeast side of Whitefish along with limited connectivity in the area.

Recommendation: Reconstruct Monegan Road south from the intersection with Voerman Road then east to the projected intersection with Reimer Lane (see MSN-22). Currently, this segment has a gravel surface and is projected to see an increase in traffic volumes as development increases in the area. The north-

south section of Monegan Road crosses lands within the City and County. The east-west section of Monegan Road is located entirely within the County. Separate projects are envisioned for the City portion (Project MSN-13A) and the County portion (Project MSN-13B) of Monegan Road.

The roadway is envisioned as a collector and depending on its urban or rural setting should include one travel lane in each direction, curb and gutter, boulevards, sidewalks and/or other appropriate pedestrian and bicyclist facilities.

Estimated Cost: \$2.1 M

Implementation Priority: B

MSN-14 (JP ROAD RECONSTRUCTION)

Problem: Increased need to handle traffic volumes on the southeast side of Whitefish along with limited connectivity in the area.

Recommendation: Reconstruct JP Road eastward from the intersection of River Lakes Parkway to the intersection with Monegan Road. With growth expected to occur around this area, JP Road will act as a key access to development in the area. The project involves only lands located within the County.

The roadway is envisioned as a collector and depending on its urban or rural setting should include one travel lane in each direction, curb and gutter, boulevards, sidewalks and/or other appropriate pedestrian and bicyclist facilities.

Estimated Cost: \$2.3 M

Implementation Priority: C

MSN-15 (VOERMAN ROAD RECONSTRUCTION)

Problem: Increased need to handle traffic volumes on the southeast side of Whitefish along with limited connectivity in the area.

Recommendation: Reconstruct Voerman Road east from Shady River Lane to Reimer Lane (see MSN-22). The project involves some City lands but is located primarily within the County.

The roadway is envisioned as a collector and depending on its urban or rural setting should include one travel lane in each direction, curb and gutter, boulevards, sidewalks and/or other appropriate pedestrian and bicyclist facilities. The City's Bicycle and Pedestrian Master Plan recommends a paved pedestrian and bicycle path be developed along the roadway.

Estimated Cost: \$1.4 M

Implementation Priority: C

MSN-16 (EAST 2ND STREET - COW CREEK TO BNSF)

Recommendation: Reconstruct East 2nd Street from the Cow Creek crossing to the BNSF crossing. The street should be reconstructed to a collector street standard. This would include one travel lane in each direction, curb and gutter, boulevard, and a pedestrian and bicycle path as recommended in the Bicycle and Pedestrian Master Plan. This project is identified in the City's 2007/08 to 2011/12 Capital Improvements Plan. The proposed improvements to East 2nd Street are necessary to help ensure safe accessibility for kids and other community members to the existing recreational facilities such as the skate park and ball fields located on the east edge of Whitefish.

Estimated Cost: \$2.0 M (from CIP)

Implementation Priority: A

MSN-17 (FLATHEAD AVENUE EXTENSION)

Recommendation: Extend Flathead Avenue from the intersection of 13th Street and Baker Avenue through the Baker Commons Subdivision to West 18th Street. The proposed alignment involves mostly City land but also crosses two parcels currently in the County.

Consistent with other roads in the subdivision, the roadway should be built to a collector street standard. This would include one travel lane in each direction, curb and gutter, boulevard, sidewalks, and appropriate bicycle facilities.

Estimated Cost: \$550,000

Implementation Priority: A

MSN-18 (WEST 18TH STREET EXTENSION)

Recommendation: Extend and reconstruct West 18th Street from its intersection with Baker Avenue westward to Karrow Avenue. The proposed alignment would cross both City and County lands. Acquiring the needed right-of-way for this through street from Baker Avenue to Karrow Avenue should be a high priority for the City.

The roadway should be built to a collector street standard. This would include one travel lane in each direction, curb and gutter, boulevard, sidewalks, and appropriate bicycle facilities. Combined with the Flathead Avenue Extension (MSN-17), this project will enhance east-west connectivity between Karrow and US 93 in the area.

Estimated Cost: \$1.6 M

Implementation Priority: A

MSN-19 (OLD MORRIS TRAIL EXTENSION)

Recommendation: Extend and reconstruct Old Morris Trail from its intersection with Blanchard Lake Road north to the future extension of 18th Street (see MSN-

18). The project would cross both City and County lands and a portion of the proposed alignment would abut a conservation easement area. Conservation easements in the vicinity of this project are shown on **Figure 6-3**. The completion of this roadway would be developer driven.

The roadway should be built to provide a two-lane rural section with a separated pedestrian and bicycle path. The rural design recognizes the long-term need to provide an upgraded roadway with pedestrian and bicyclist accommodations corresponding to the lower density development pattern and rural character of lands in the area.

Estimated Cost: \$1.4 M

Implementation Priority: C

MSN-20 (REIMER LANE EXTENSION)

Recommendation: Extend and reconstruct Reimer Lane from its intersection with Voerman Road (see MSN-15) south to Monegan Road (see MSN-13). The project is located entirely within the County and would require a crossing of Haskill Creek. Improving Reimer Lane was identified as part of a recommended future collector roadway between MT Highway 40 and the Armory Road in the Southeast Whitefish Transportation Plan. The completion of this roadway would be developer driven.

At a minimum, the roadway should be built to provide a two-lane rural section with a separated pedestrian and bicycle path. The rural design recognizes the long-term need to provide an upgraded roadway with pedestrian and bicyclist accommodations corresponding to the lower density development pattern and rural character of lands southeast of Whitefish.

Estimated Cost: \$2.5 M

Implementation Priority: C

MSN-21 (MONEGAN ROAD-VOERMAN ROAD CONNECTION)

Recommendation: Create a new north-south road segment between Voerman Road (MSN-15) and Monegan Road (MSN-13). The project is located within the County.

Completion of this roadway would depend on future development in the area and be developer driven. It should be noted that Whitefish City-County Growth Policy recommends that no additional lands in the Monegan corridor be designated for residential development until either Monegan Road is extended to 7th Street (as proposed in MSN-7) or Voerman Road is extended west to 13th Street.

The roadway is envisioned as a collector and depending on its urban or rural setting should include one travel lane in each direction, curb and gutter, boulevards, sidewalks and/or appropriate pedestrian and bicyclist facilities.

Estimated Cost: \$750,000

Implementation Priority: C

MSN-22 (MONEGAN ROAD-REIMER LANE CONNECTION)

Recommendation: Create a new east-west road segment between Monegan Road (MSN-13) and Reimer Lane (MSN-20). The project is located entirely within the County. The completion of this roadway would depend on future development in the area and be developer driven. As with MSN-21, development in this area is subject to the concurrency policy contained in the Growth Policy that recommends that no additional lands in the Monegan corridor be designated for residential development until at least one other road connection is made in the area.

The roadway is envisioned as a collector and depending on its urban or rural setting should include one travel lane in each direction, curb and gutter, boulevards, sidewalks and/or appropriate pedestrian and bicyclist facilities.

Estimated Cost: **\$1.0 M**

Implementation Priority: **C**

SUMMARY OF RECOMMENDED MSN IMPROVEMENTS AND PRIORITIES

Table 6-2 summarizes the recommended MSN projects presented above along with their corresponding implementation responsibilities and relative priority for implementation. The suggested priorities are also highlighted on **Figures 6-3** and **6-4**.

Table 6-2
Recommended MSN Improvements and Suggested Priorities

Project #	Project Name	Planning Level Cost Estimate	Implementing Responsibility	Relative Priority
MSN-1	2nd Street Improvements and Signal Upgrades	\$2.0 M	MDT in cooperation with City	A
MSN-2	Columbia Avenue South Extension	\$2.3 M	City/Developers Flathead County	B
MSN-3A MSN-3B	Karrow Avenue Reconstruction MSN-3A (City Portion) MSN-3B (County Portion)	\$4.2 M	City/Developers Flathead County	B
MSN-4	Baker Avenue Extension	\$1.6 M	City/Developers Flathead County	B
MSN-5	7th Street Bridge	\$10.2 M	City in cooperation with MDT	C
MSN-6	7th Street Connection (Spokane Avenue to Kalispell Avenue)	\$500,000	City in cooperation with MDT	A
MSN-7	7th Street to Voerman Road Connection and Roundabout	\$1.3 M	City/Developers Flathead County	B
MSN-8	Kalner Lane Extension	\$15.0 M	City/Developers Flathead County	C
MSN-9	NE Extension (Denver to East Edgewood Drive)	\$2.3 M	Developers Flathead County	C

MSN-10	NE Extension (Wisconsin to Texas Avenue)	\$1.1 M	City/Developers	C
MSN- 11	Wisconsin Avenue Improvements	\$5.7 M	City MDT	A
MSN-12	13th Street Bridge*	\$7.9 M	City	C
MSN-13A MSN-13B	Monegan Road Reconstruction MSN-13A (City Portion) MSN-13B (County Portion)	\$2.1 M	City Flathead County	B
MSN- 14	JP Road Reconstruction	\$2.3 M	Flathead County	C
MSN-15	Voerman Road Reconstruction	\$1.4 M	Flathead County City	C
MSN-16	East 2nd Street (Cow Creek to BNSF)	\$2.0 M	City	A
MSN- 17	Flathead Avenue Extension	\$550,000	City	A
MSN-18	West 18th Street Extension	\$1.6 M	City Flathead County	A
MSN-19	Old Morris Trail Extension	\$1.4 M	Developers Flathead County	C
MSN- 20	Reimer Lane Extension	\$2.5 M	Developers Flathead County	C
MSN-21	Monegan Road-Voerman Road Connection	\$750,000	Developers Flathead County	C
MSN-22	Monegan Road-Reimer Lane Connection	\$1.0 M	Developers Flathead County	C
TOTAL ESTIMATED COST OF MSN PROJECTS		\$ 69.7 M		

A = Immediate need (high priority) **B** = Near future need (medium priority) **C** = Long-term need (low priority)

* Note: The Whitefish City Council has recommended that a TSM project be completed at some future date to further examine east-west connectivity and the bridge crossing issue in this area, including additional travel demand modeling for a potential crossing at 18th Street instead of 13th Street.

6.3 OTHER RECOMMENDED ROADWAY PROJECTS

In addition to the Major Street Network (MSN) projects described earlier, there are other roadway projects that should still be considered for the community. Many of these projects have been defined through previous “Capital Improvement Plans (CIP’s)” or transportation planning efforts undertaken by the City of Whitefish. As the following table shows, many of the identified projects have been completed; however, many other projects remain relevant. **Table 6-3** shows how these projects have been considered by this Transportation Plan:

Table 6-3
Past Area Transportation Planning Projects and Plan Recommendations

#	Project	Description	Comments
Projects from Whitefish Downtown Business District Master Plan			
A-1	HWY 93 Couplet	Provide a "contra-flow" lane along Baker Avenue to improve access options. Provide a couplet along Spokane Avenue and Baker Avenue.	Configurations for US Highway 93 are analyzed and considered in the Whitefish Urban Corridor Study
A-2	New 7th Street Bridge	Provide a new bridge crossing at Seventh Street that would connect Baker Avenue and Spokane Avenue.	Addressed in Corridor Study and included as MSN-5
A-3	2nd Street Improvements Between Spokane Ave and Baker Ave	Provide turn lanes and improve truck-turning radii at the intersection of Second Street and Baker Avenue. Prohibit left turn lanes from Second Street onto Central Avenue.	Configurations for 2nd Street are analyzed and considered in the Corridor Study. MSN-1 includes turn lane recommendations and signal upgrades for intersections on 2nd Street.
Projects from Southeast Whitefish Transportation Plan			
B-1	Kalner Lane (Alternative E)	Provide a new route beginning at the intersection of Peregrine Lane and Armory Road then continue west then south along the half section line. The route then continues south across Voerman Road and Monegan Road then travels across the river along the eastern boundary of the Riverside at Whitefish development to intersect with MT Highway 40.	Modified and recommended in MSN-8
B-2	(Alternative F)	Provide a new route that would begin at East Second Street between Armory Fields and the airport. The route would then follow the east side of the Armory Fields and extend south along the section line to connect with Armory Road. Armory Road would then be extended from the intersection with Voerman Road south to intersect with MT Highway 40.	Analyzed as Alternative Scenario 11 in this Transportation Plan but not identified as recommended MSN. This Plan recommends construction of a new north-south connection between Voerman Road and Monegan Road at Reimer Lane (see MSN-20) which is located along the alignment for the connection between MT Highway 40 and Armory Road in the Southeast Whitefish Transportation Plan.
B-3	Seventh Street (Alternative B)	Extend Seventh Street to the east and south to connect with Voerman Road at the intersection of Monegan Road.	Recommended in MSN-7
B-4	Voerman Road (Alternative C)	Extend Voerman Road to the west across the river to connect with Columbia Avenue.	Recommended in MSN-12

City of Whitefish Capital Improvements Projects			
C-1	JP Road Reconstruction	Street Reconstruction	Completed
C-2	Central Avenue Reconstruction	Railway to 3rd Street	Partially Complete, part of CMSN-2
C-3	Flint Avenue & 6th Street	Culvert and channel improvements	Part of CMSN-3
C-4	Colorado Avenue Reconstruction	Edgewood to Woodside replacement/upgrade street and utility upgrades in accordance with street reconstruction priorities	Completed
	6th and Geddes Reconstruction	Connection between 2nd Street & Baker via 6th Street, Flint, 5th, Geddes, Jennings Road	Implementation 2011/12 Recommended as CMSN-3
C-6	Traffic Signal @ 13th & Baker	Traffic Signal Installation when warranted	Implementation Beyond 2011/12 Recommended as TSM-3
	7th Street (Karrow to Baker)	Street Reconstruction	Implementation Beyond 2011/12 Recommended
C-8	East 2nd Street (Cow Creek to BNSF)	Street Reconstruction	Implementation Beyond 2011/12 Recommended as MSN-16
	East Edgewood (Wisconsin to City Limits)	Street Reconstruction	Implementation Beyond 2011/12 Recommended
C-10	Somers Avenue (2nd to 8th Street)	Street Reconstruction	Implementation Beyond 2011/12 Recommended
	Denver Avenue (Wisconsin to Texas)	Street Reconstruction	Implementation Beyond 2011/12 Recommended
C-12	5th Street (Baker to Pine Ave)	Street Reconstruction	Implementation Beyond 2011/12 Recommended
Projects from Whitefish City-County Master Plan			
D-1	HWY 93 Widening (1)	Widen US 93 from MT 40 north to the Whitefish River to accommodate two through travel lanes in each direction and a center landscaped median incorporating left-turn lanes where needed.	Widening done between Hwy 40 and 13th Street. Local efforts underway to develop plans for medians on Hwy 93 South.
D-2	HWY 93 Widening (2)	Widen US 93 from Karrow Avenue west to Lion Mountain Road to incorporate a center landscaped median with left-turn lanes where needed and one through lane in each direction.	Improvements to Hwy 93 in this area will be addressed in MDT's Whitefish-West project (CMSN-1)
D-3	Wisconsin Avenue	Between the viaduct and Big Mountain Road, add detached bicycle paths and turn lanes at high volume intersections, striping and signage to prohibit passing on the entire length, and caution pedestrian/bicycle signage. Prepare an alignment study for widening, boulevard landscaping, and storm sewer facilities.	Partially completed with construction of Wisconsin Avenue Bike/Pedestrian Path and addressed as part of MSN-11
D-4	Spokane Avenue	Between the Whitefish River and 7th Street, restripe and prohibit on-street parking to accommodate four through traffic lanes.	Configurations for US Highway 93 are analyzed and considered in the Whitefish Urban Corridor Study
D-5	2nd Street	Widen west of the Whitefish River to incorporate a center median with left-turns without restricting the numerous adjacent residences and small businesses.	Improvements to Hwy 93 in this area will be addressed in MDT's Whitefish-West project (CMSN-1)

D-6	7th Street (1)	Construct an extension of 7th Street east of Spokane Ave to Kalispell Ave to accommodate one lane in each direction. Repave and install sidewalks between Spokane Avenue and Pine Avenue. Designate as route to Whitefish schools.	Discussed in Corridor Study and partially addressed in MSN-6
D-7	6th Street	Repave and install sidewalks between Spokane Avenue and Pine Avenue.	Incomplete, Recommended
D-8	7th Street (2)	Add 25 mph speed limit signage and increase speed enforcement between Karrow and Baker. Install curve warning sign for east and westbound traffic at O'Brien Avenue.	Completed
D-9	Baker Avenue	Stripe left-turn lane from southbound Baker Avenue to eastbound 1st Street to reduce turn movements at the intersection of 2nd Street and Baker Avenue.	Incomplete, Recommended
D-10	East 2nd Street	Include curb, gutter and sidewalk in the developed areas and widened shoulders for pedestrians and bicyclists in the more rural areas.	Incomplete, Recommended
Projects from South Whitefish Transportation Planning Project			
E-1	Just south of and parallel to the western portion of JP Road		Incomplete, Re-evaluate
E-2	To the west of and parallel to HWY 93		Incomplete, Re-evaluate
E-3	JP Road		Completed
E-4	To the east of and parallel to HWY 93		Addressed as part of MSN-2
E-5	Flathead Avenue	Roadway construction west of the Baker Avenue and 13th Street intersection within Baker Commons Subdivision	Partially complete with new development in Baker Commons. Modified and addressed as MSN-17.
E-6	Greenwood Drive / 18th Street		East of Highway 93 complete
E-7	Commerce Street		Incomplete, Re-evaluate
E-8	West 19th Street		Incomplete, Re-evaluate
E-9	Flathead Avenue	Roadway construction west of the Baker Avenue and 13th Street intersection within Baker Commons Subdivision	Addressed by MSN-17
Projects from Transportation and Storm Drainage Master Plan			
F-1	Dakota Avenue Reconstruction 2	Reconstruction of Dakota Avenue from Marina Crest to Glenwood Road	Incomplete, Recommended
F-2	Dakota Avenue Reconstruction 1	Reconstruction of Dakota Avenue from Skyles Place to Marina Crest. New pedestrian/bicycle facilities to be included.	Completed
F-3	Skyles Place One-Way	Convert to a one-way street during the summer between Idaho Avenue and Dakota Avenue to provide a pedestrian/bicycle route to City Beach	Modified and included as TSM-4
F-4	Washington Avenue Reconstruction	Reconstruction of roadway and sidewalks between Woodland Place and Lakeside Boulevard.	Incomplete, Recommended
F-5	Woodland Place Reconstruction	Reconstruction between Dakota Avenue and Iowa Avenue with new sidewalks.	Incomplete, Recommended
F-6	Minnesota Avenue Reconstruction	Reconstruction of roadway and sidewalks between Edgewood Place and Skyles Place.	Incomplete, Recommended

F-7	Colorado Avenue Reconstruction & Pedestrian/Bicycle Facilities	Reconstruction from Edgewood Place to Dugans Way with new pedestrian/bicycle facilities being constructed from Edgewood Place to Mountain Trails Park.	Completed
F-8	Texas Avenue Reconstruction	Reconstruction between Edgewood Place and Denver Street.	Addressed by MSN-10
F-9	Railway Street Reconstruction	Reconstruction between O'Brien Avenue and Baker Avenue.	Completed
F-10	1st Street Reconstruction 1	Reconstruction of roadway and sidewalks between Miles Avenue and Central Avenue.	Completed
F-11	2nd Street Pedestrian Facilities	New sidewalk installation on the south side from Good Avenue to approximately one half block west of Lupfer Avenue.	Incomplete, Recommended
F-12	Lupfer Avenue Reconstruction	Reconstruction of roadway and sidewalks from 2nd Street to 5th Street.	Incomplete, Recommended
F-13	4th Street Reconstruction	Reconstruction of roadway and sidewalks from the Mountain View Manor to Baker Avenue.	Incomplete, Recommended
F-14	1st Street Reconstruction 2	Reconstruction of roadway and sidewalks from Kalispell Avenue to Fir Avenue.	Incomplete, Recommended
F-15	East 2nd Street Reconstruction	Reconstruction of roadway and sidewalks from Spokane Avenue and Larch Avenue with new sidewalks being installed on the south side between Pine and Larch and on the north side for the half block west of Larch.	Completed
F-16	3rd Street Reconstruction/Overlay	Reconstruction of roadway and sidewalks from Kalispell Avenue to Park Avenue and a pavement overlay between Park Avenue and Pine Avenue.	Incomplete Recommended
F-17	4th Street Reconstruction	Reconstruction from Pine Avenue to Fir Avenue with curb and gutter being placed on the south side inline with that on adjacent blocks to separate the high school parking area from the roadway.	Incomplete, Recommended
F-18	Columbia Avenue Reconstruction	Reconstruction of roadway and sidewalks between Railway Street and 7th Street.	Completed
F-19	6th Street Reconstruction	Reconstruction from Central Avenue to Pine Avenue with new sidewalks to be included.	Incomplete, Recommended
F-20	7th Street Reconstruction	Roadway and sidewalk reconstruction from Pine Avenue to Cow Creek with the sidewalks being separated from the curb by a four to five foot grass boulevard if possible.	Completed
F-21	Kalispell Avenue Reconstruction	Reconstruction with new sidewalks from 4th Street to Riverside Avenue.	Incomplete, Recommended
F-22	9th Street Reconstruction	Reconstruction with new sidewalks from Spokane Avenue and Columbia Avenue.	Incomplete, Recommended
F-23	Park Avenue Reconstruction	Reconstruction with new sidewalks from 8th Street to 450 feet south of 10th Street.	Incomplete, Recommended
F-24	Riverside Avenue Reconstruction	Reconstruction with new sidewalks from Spokane Avenue and Columbia Avenue.	Incomplete, Recommended
F-25	Greenwood Drive		Completed

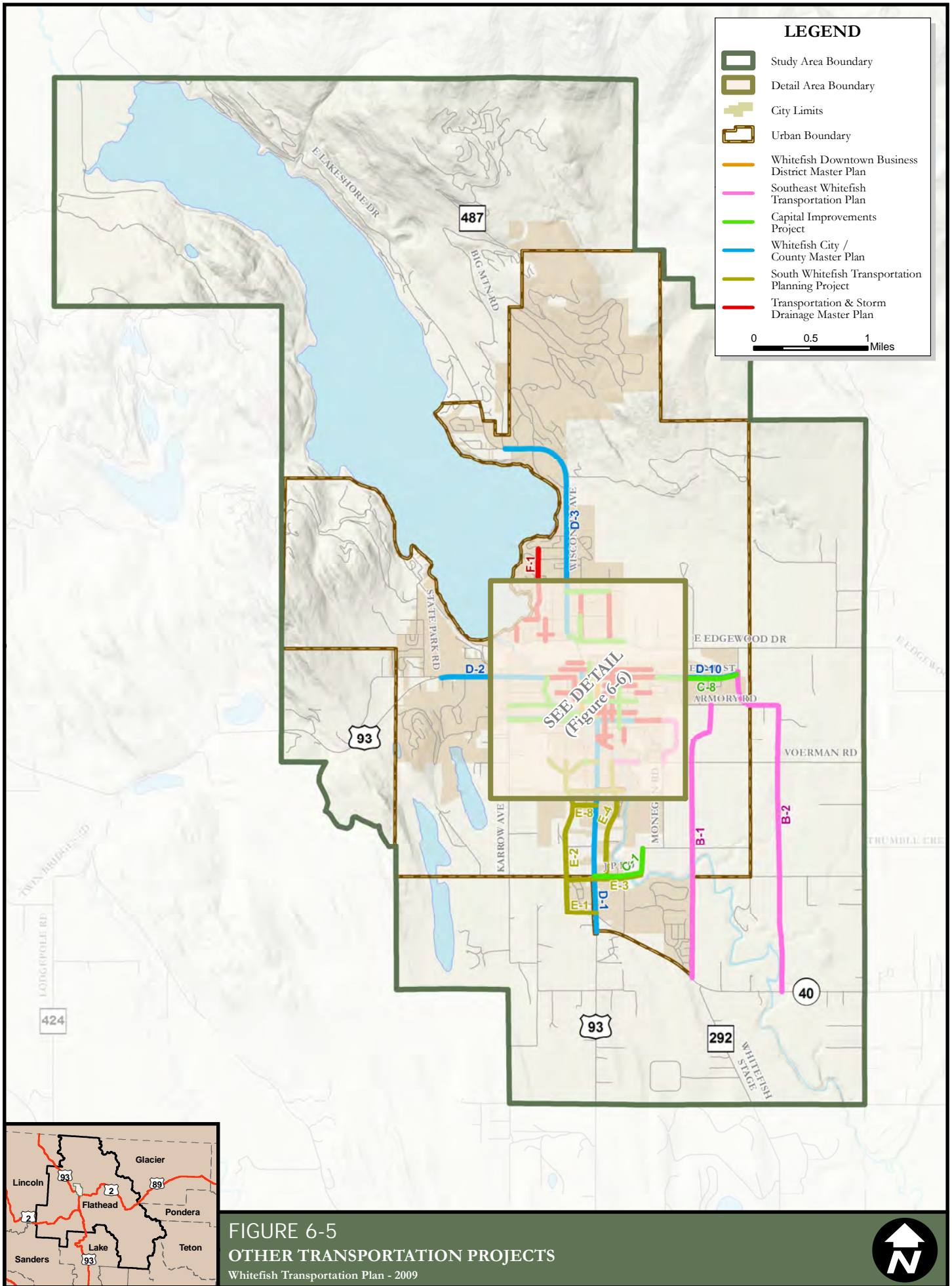


FIGURE 6-5
OTHER TRANSPORTATION PROJECTS
 Whitefish Transportation Plan - 2009



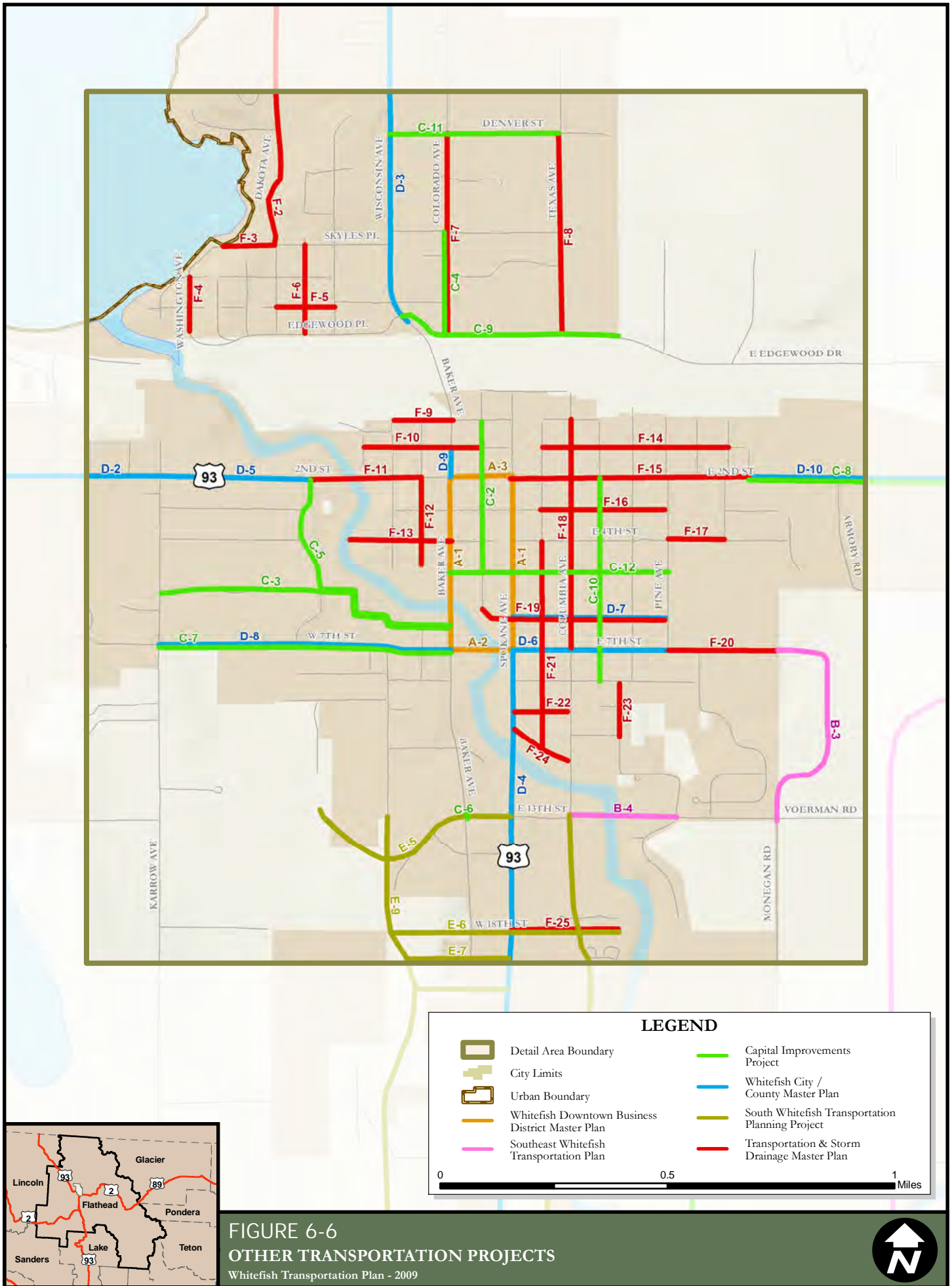


FIGURE 6-6
OTHER TRANSPORTATION PROJECTS
 Whitefish Transportation Plan - 2009



6.4 RECOMMENDED MAJOR STREET NETWORK

The major street network consists of all principal arterial, minor arterial, and collector routes. Local streets generally are not included on the major street network. The existing “functional classification” system in place within the City of Whitefish was used as a basis for developing the major street network for this Transportation Plan.

Establishing a plan for the future layout of a community’s streets and roads is essential to proper land development and community planning. With an approved major street network, planners, landowners, and developers will know where the future roadway corridors need to be located. This will assist everyone involved in anticipating right-of-way needs and appropriate land uses. The study area was examined to determine the most appropriate placement for the future major street network, based on projected traffic volumes and likely development patterns.

The future route locations shown are conceptual in nature and may vary based on topography, wetlands, land ownership, and other unforeseen factors. The purpose of these figures is to illustrate what the anticipated network might look like at full build-out. It is likely that many of the new roadway corridors shown will not be developed for many decades to come. On the other hand, if development is proposed in a particular area, the recommended major street network will insure that the proper roadway corridors will be established in a manner that produces an efficient and logical future road network. It is important to note that presenting the major street network at this time is not intended to control or influence development. It is presented in an effort to help plan for the future development of the road system in the community.

Figure 6-7 shows the major street network and provides an indication of the future functional classifications that may be associated with the network assuming projects recommended in this Plan are implemented and community growth occurs as projected. It is important to recognize that the functional classifications for roads on the major street network may evolve over time as development occurs and existing roadways are improved or as new links are added. For example, if Kalner Lane was improved to link Highway 40 with East 2nd Street, the roadway may ultimately function more like an arterial instead of a collector roadway as shown on **Figure 6-7**.

The acquisition of right-of-ways for these future road corridors should be a high priority for the community. It is essential that these corridors be dedicated for roadway use before an area develops. This will help insure that the roadway corridors remain clear of development constraints and available for use when the future need arises.











Interpretation of Map

This map presents the Recommended Major Street Network. It shows how the street network should develop over time and is intended to be used as a planning tool. It will assist in the evaluation of long-term traffic needs when planning future developments.

The route alignments shown are conceptual in nature. The actual alignments may vary based on development patterns, geographic features, and other issues unknown at this time. Most of these routes are not recommended for construction at this time. The development of these conceptual routes will take decades to become reality, and will only become roads if traffic needs materialize as a result of development in the area.

It is important to note that although this major street network is recommended as part of the Transportation Plan, it does not reflect the federally approved functional classification criteria which is based on current conditions rather than anticipated future conditions.

LEGEND

-  Study Area Boundary
 -  City Limits
 -  Urban Boundary
- Functional Classification**
-  Principal Arterial
 -  Minor Arterial
 -  Collector (Urban)
 -  Major Collector (Rural)
 -  Minor Collector (Rural)
 -  Future Connection
 -  Local Road
- 0 0.5 1 Miles

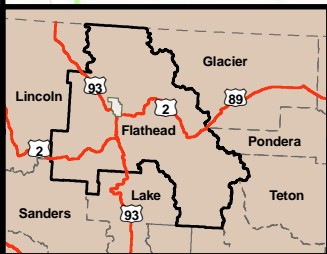
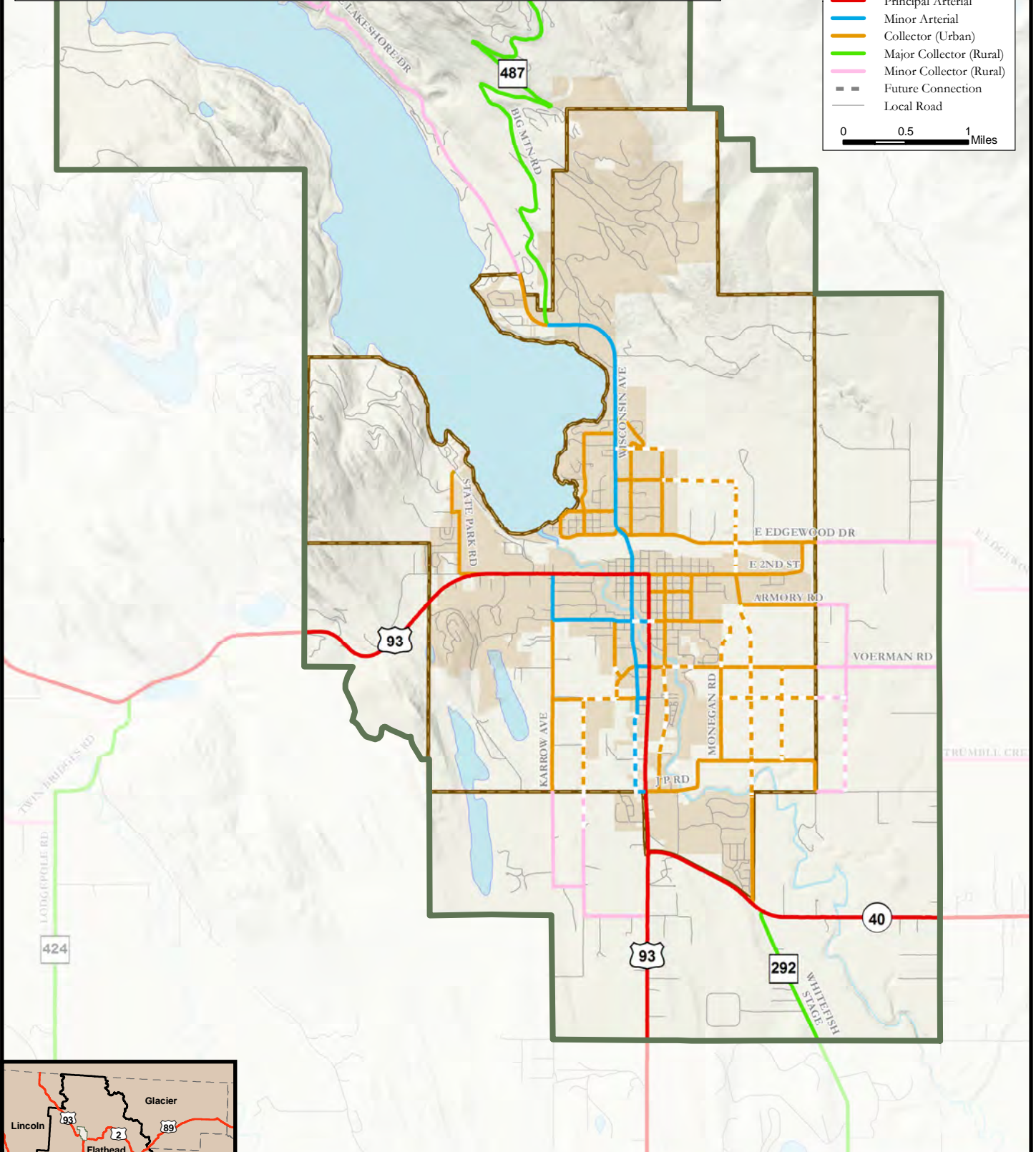


FIGURE 6-7
FUTURE MAJOR STREET NETWORK
 Whitefish Transportation Plan - 2009



6.5 RECOMMENDED NON-MOTORIZED NETWORK IMPROVEMENTS

The Whitefish Bicycle and Pedestrian Master Plan identifies a safe, usable, and functional transportation system for pedestrians and bicyclists within the community. This Transportation Plan endorses the development of the non-motorized transportation system as proposed in the City's Bicycle and Pedestrian Master Plan. It is recommended that the Bicycle and Pedestrian Master Plan be updated to identify imminent or planned projects, revisit priorities for trail development, and consider the future pedestrian and bicyclist needs associated with the recommendations for major street system improvements made in this Transportation Plan.

Tables 6-4 and **6-5** identify planned non-motorized network improvements to be made in the Whitefish area. The locations of the proposed pedestrian and bicyclist facilities are shown in **Figures 6-8** and **6-9**.

Table 6-4

Trails Listed by Name in the Whitefish Bicycle and Pedestrian Master Plan

#	Trail Description and Status
A-1	<p>U.S. Highway 93 Corridor</p> <ul style="list-style-type: none"> ▪ Trail completed along US Highway 93 from Highway 40 to 13th Street. ▪ Proposed pedestrian and bicyclist facilities along Spokane Avenue north of 13th Street (portion of proposed "Whitefish Promenade" identified in Whitefish Downtown Business District Master Plan. ▪ Proposed paved pedestrian and bicycle path from the Whitefish River to the west past Whitefish Lake Golf Course to Twin Bridges Road.
A-2	<p>Wisconsin Avenue - Big Mountain Road</p> <ul style="list-style-type: none"> ▪ Proposed paved pedestrian and bicycle path along Wisconsin Avenue from 2nd Street to Big Mountain Road. ▪ Pedestrian and bicyclist facilities in place from 2nd to Edgewood Place. Construction of a shared-use bike/pedestrian path along Wisconsin Avenue from Edgewood to Alpine Court completed during 2008. ▪ Proposed bicycle route along Big Mountain Road
A-3	<p>East Lakeshore Drive</p> <ul style="list-style-type: none"> ▪ Proposed bicycle route along East Lakeshore Drive from Big Mountain Road to the northwest ▪ Construction of a shared-use bike/pedestrian path along East Lakeshore Drive from Big Mountain Road to Alpine Court completed during 2008.
A-4	<p>Edgewood Place - City Beach</p> <ul style="list-style-type: none"> ▪ Existing paved pedestrian and bicycle path along Edgewood Place from Washington Avenue to Wisconsin Avenue ▪ Proposed paved pedestrian and bicycle path along Edgewood Place from Wisconsin Avenue east outside the city
A-5	<p>Dakota Avenue - Colorado Avenue</p> <ul style="list-style-type: none"> ▪ Proposed paved pedestrian and bicycle path from the Colorado/Wisconsin intersection to Dakota/East Marina Crest Lane. The trail would extend east from Dakota along Marina Crest Lane and connecting into the Wisconsin trail. ▪ A short portion of this route is already constructed as a paved pedestrian and bicycle path
A-6	<p>Railway Street - Pine Avenue</p> <ul style="list-style-type: none"> ▪ Proposed paved pedestrian and bicycle path along Railway Street between Baker and Pine Avenues ▪ Proposed bicycle path along Pine Avenue between Railway Street and 2nd Street. ▪ Existing paved pedestrian and bicycle path along Railway Street between O'Brien and Baker Avenues ▪ Baker to beyond Miles Avenue completed (part of BNSF Loop).

A-7	<p>2nd Street East</p> <ul style="list-style-type: none"> ▪ Proposed paved pedestrian and bicycle path along East 2nd Street between East Edgewood Place and Armory Road. ▪ Existing paved pedestrian and bicycle path along East 2nd Street between Armory Road and Pine Avenue. ▪ Portion of Pine/Armory that crosses Cow Creek to Armory Road not completed but planned. ▪ Existing paved pedestrian and bicycle path along East 2nd Street between Pine and Spokane Avenues
A-8	<p>Armory Road - Armory Fields</p> <ul style="list-style-type: none"> ▪ Proposed paved pedestrian and bicycle path along Armory Road starting at 2nd Street then easterly to the Armory Fields complex ▪ This trail includes Dodger Avenue between Armory Road and 2nd Street East
A-9	<p>7th Street - Columbia Avenue</p> <ul style="list-style-type: none"> ▪ Proposed bicycle route along 7th Street from Highway 93 to Columbia Avenue, then continuing south along Columbia Avenue to 13th Street, then west to Highway 93 existing bicycle route along 7th Street between Columbia Avenue and Park Avenue ▪ Existing paved pedestrian and bicycle path along 7th Street from Park Avenue to the end of the road
A-10	<p>Baker Street - Riverside/Baker Parks</p> <ul style="list-style-type: none"> ▪ Proposed bicycle route along Baker Avenue from 2nd Street south across the Whitefish River ▪ Existing bicycle route along Baker Avenue from the Whitefish River south to 19th Street, then to Highway 93
A-11	<p>Karrow Avenue - 7th Street</p> <ul style="list-style-type: none"> ▪ Proposed paved pedestrian and bicycle path starting at the intersection of 2nd Street and Karrow Avenue, traveling south along Karrow Avenue to 7th Street, then east along 7th Street to Riverside Park
A-12	<p>10th Street - Voerman Road</p> <ul style="list-style-type: none"> ▪ Proposed paved pedestrian and bicycle path that extends easterly from the intersection of 10th Street and Columbia Avenue through neighborhoods adjoining the Whitefish River and across Cow Creek to join Voerman Road ▪ The trail then proceeds due east for about a mile along Voerman Road
A-13	<p>Golf Course - Whitefish State Park</p> <ul style="list-style-type: none"> ▪ Proposed paved pedestrian and bicycle path that runs from the Whitefish River Trail near City Beach around the perimeter of Whitefish Lake Golf Course along U.S. Highway 93 and State Park Road to end at Whitefish State Park
A-14	<p>Edgewood - Birch Drive - State Park Road</p> <ul style="list-style-type: none"> ▪ Proposed paved pedestrian and bicycle path that begins at the proposed Whitefish River Crossing at Edgewood near the BNSF trestle, crosses the tracks via Birch Drive, and continues to State Park Road via the 30-foot-wide Lakeside Avenue right-of-way and through City Park (golf course) property
A-15	<p>Grouse Mountain - 7th Street</p> <ul style="list-style-type: none"> ▪ Proposed bicycle route that winds through the Grouse Mountain development and connects U.S. Highway 93 with Karrow Avenue via Fairway Drive and 7th Street
A-16	<p>5th Street</p> <ul style="list-style-type: none"> ▪ Proposed paved pedestrian and bicycle path that extends from Baker Park due east along 5th Street to Muldown Elementary and Whitefish High Schools
A-17	<p>Whitefish River Trail</p> <ul style="list-style-type: none"> ▪ Proposed paved pedestrian and bicycle path along the Whitefish River from Railway Street to 2nd Street ▪ Existing paved pedestrian and bicycle path that extends along the Whitefish River from Railway Street to where the river is joined by Cow Creek ▪ Some small sections of the trail are already built.
A-18	<p>Cow Creek Trail</p> <ul style="list-style-type: none"> ▪ Proposed paved pedestrian and bicycle path that generally parallels the creek and extends from 2nd Street East southwesterly along the city limits before joining the Whitefish River Trail near the Duck Inn

Table 6-5
Other Trails Shown in the Whitefish Bicycle and Pedestrian Master Plan

#	Trail Description and Status
B-1	<p>Iron Horse–Whitefish Mountain Resort</p> <ul style="list-style-type: none"> ▪ Proposed paved pedestrian and bicycle path to Whitefish Mountain Resort via Iron Horse and a bike path through a proposed subdivision just north of Lookout Road all the way to the Whitefish Mountain Resort property. ▪ Whitefish Mountain Resort has agreed (in principle) to then carry it into the village area.
B-2 & B-3	<p>Stoltze Trail (Iron Horse Trail)</p> <ul style="list-style-type: none"> ▪ Proposed unpaved pedestrian and bicycle path extending from Reservoir Road and continuing along the northeast part of the city boundary including a portion of Huckleberry Lane
B-4	<p>Reservoir Road East</p> <ul style="list-style-type: none"> ▪ Proposed bicycle route that runs east along Reservoir Road ▪ May not be likely if MSN-9 and MSN-10 are implemented and include separated pedestrian and bicycle paths.
B-5	<p>Texas Avenue (Edgewood-Reservoir Road Connection)</p> <ul style="list-style-type: none"> ▪ Proposed paved pedestrian and bicycle path that starts at East Edgewood Place, then travels north along Texas Avenue and connects with Rick Oshay Road ▪ Path then continues north to Reservoir Road, then follows Reservoir Road east to Wisconsin Avenue ▪ May not be likely if MSN-9 and MSN-10 are implemented and include separated pedestrian and bicycle paths.
B-6	<p>Armory Road</p> <ul style="list-style-type: none"> ▪ Proposed paved pedestrian and bicycle path that starts at Voerman Road and travels north along Armory Road until Armory Road turns west ▪ MSN-20 discusses recommendations for a road connection with pedestrian/bicyclist facilities along Reimer Lane between Voerman and Monegan Roads.
B-7	<p>Kalner Lane</p> <ul style="list-style-type: none"> ▪ Proposed paved pedestrian and bicycle path from JP Road and the Whitefish River along the south bank to the vicinity of Kalner then south to Hwy 40 through the Riverside subdivision (that portion already built). MSN-8 discusses recommendations for Kalner Lane.
B-8	<p>Highway 40</p> <ul style="list-style-type: none"> ▪ Proposed paved pedestrian and bicycle path that starts at the intersection of Highway 40 and Highway 93 then heads east along Highway 40 to the intersection with Whitefish Stage Road.
B-9	<p>Karrow Avenue</p> <ul style="list-style-type: none"> ▪ Proposed paved pedestrian and bicycle path that starts at the intersection with Blanchard Lake Road and heads north along Karrow to US 93. ▪ MSN-3 discusses recommendations for Karrow Avenue.
B-10	<p>Mountainside Drive - Blanchard Lake</p> <ul style="list-style-type: none"> ▪ Proposed paved pedestrian and bicycle path that starts at the intersection of Mountainside Drive and Fairway Drive then follows Mountainside Drive south to Blanchard Lake Road, then follows Blanchard Lake south and east to Karrow Avenue, then goes east to connect to JP Road.
B-11	<p>Waverly Place</p> <ul style="list-style-type: none"> ▪ Proposed bicycle route along Waverly Place between Dakota Avenue and Idaho Avenue ▪ Proposed paved pedestrian and bicycle path along Waverly Place between Idaho Avenue and Washington Avenue

B-12	<p>Denver Street</p> <ul style="list-style-type: none"> ▪ Proposed paved pedestrian and bicycle route along Denver Street between Wisconsin Avenue and Texas Avenue
B-13	<p>1st Street and 2nd Street Connection</p> <ul style="list-style-type: none"> ▪ Proposed paved pedestrian and bicycle route between 1st Street and 2nd Street just to the west of the Whitefish River. ▪ The current bike plan carries this trail north from 2nd connecting into the existing trail around and under the BNSF river trestle on the east side of the river. ▪ Work is underway to secure an easement that would allow for a crossing of the river north of the BNSF and traverse south along the west side of the river to 1st St and ultimately to the US 93 trail.
B-14	<p>Baker Avenue</p> <ul style="list-style-type: none"> ▪ Proposed paved pedestrian and bicycle facilities along Baker Avenue between 2nd and Railway Streets
B-15	<p>5th Street and Central Avenue</p> <ul style="list-style-type: none"> ▪ Proposed paved pedestrian and bicycle route along 5th Street to Central Avenue and then south to the Whitefish River Trail.
B-16	<p>Voerman Road to East 7th Street Connection</p> <ul style="list-style-type: none"> ▪ Proposed paved pedestrian and bicycle route that connects the east end of 7th Street to the intersection of Voerman Road and Monegan Road (following the alignment determined for MSN-7).
B-17	<p>13th Street – JP Road Connection</p> <ul style="list-style-type: none"> ▪ Proposed paved pedestrian and bicycle route that starts at the intersection of 13th Street and Baker Street then heads southwest. The City’s future trail map suggests this trail would continue south from the Baker Commons Subdivision to a future westerly extension of JP Road. ▪ The recent development at Baker Commons will affect the routing of trail B-17.
B-18	<p>Whitefish River Trail Extension</p> <ul style="list-style-type: none"> ▪ Proposed paved pedestrian and bicycle route that starts at the intersection of the Whitefish River Trail and Cow Creek Trail and follows the Whitefish River south.

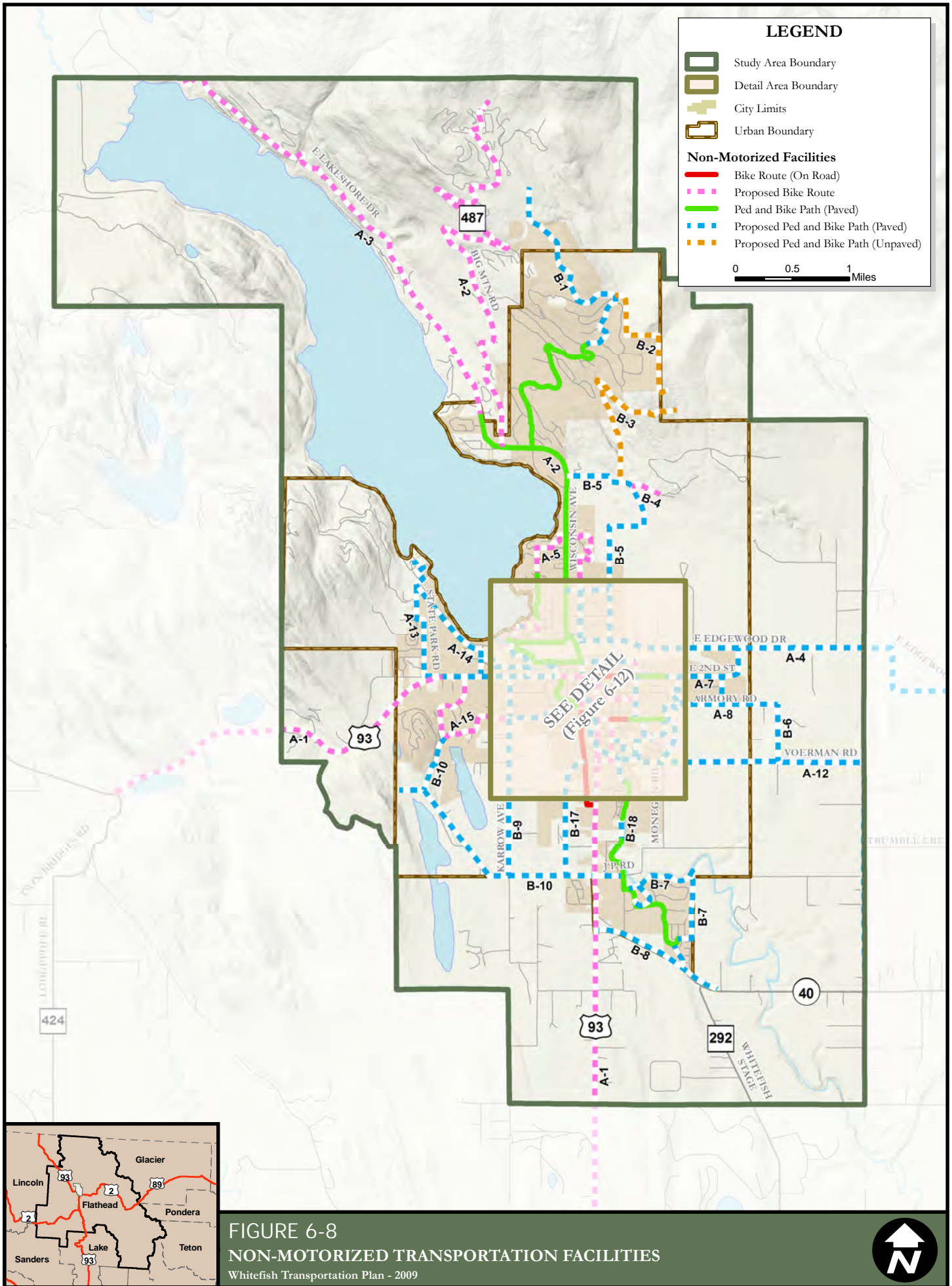


FIGURE 6-8
NON-MOTORIZED TRANSPORTATION FACILITIES

Whitefish Transportation Plan - 2009



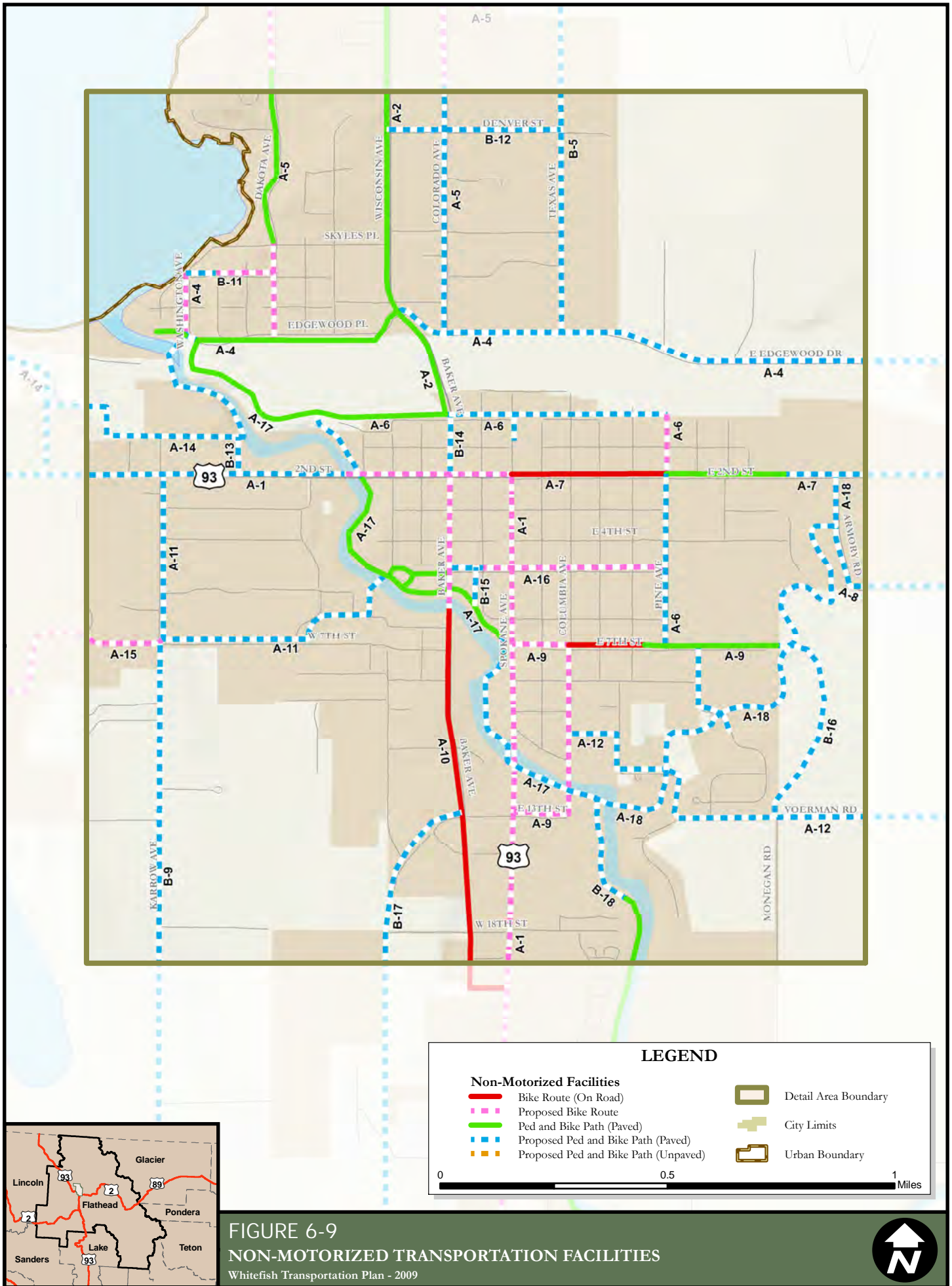


FIGURE 6-9
NON-MOTORIZED TRANSPORTATION FACILITIES

Whitefish Transportation Plan - 2009





CHAPTER 7:
Miscellaneous Transportation System Considerations

CHAPTER 7: MISCELLANEOUS TRANSPORTATION SYSTEM CONSIDERATIONS

7.1 ROADWAY TYPICAL SECTIONS

Roadway typical sections, which generally identify the cross-section elements and features of a given roadway, impact a transportation system in ways more than just carrying vehicles. Roadway widths and adjacent streetscaping can create a “feel” of a roadway corridor and define the context of the roadway in a given situation. Historically, in most roadway systems, the standard response to travel needs has been to build “bigger and better” facilities. This philosophy has resulted in more lane-miles through the expansion of existing roadways, the addition of new roadway corridors, as well as a primary focus on transportation system management (i.e. smaller projects to enhance the operation or safety of the system). These have all been performed under the guise of moving more cars.

Increasingly, though, a divergent trend has emerged focusing on moving people, improving the quality of the travel environment such that a given roadway is in context with the adjacent land use, and shortening travel distances in an effort to extend available resources. This trend away from the “bigger is better” philosophy will be increasingly important in our community’s urban areas as desires for context sensitivity are heightened.

This background is an overriding theme in the Whitefish City-County Growth Policy. The “Transportation Element” in the document discusses “neighborhood sensitive” street standards, and portrays potential context sensitive roadway typical sections for local and residential street sections. It is the intent of this section of the Transportation Plan to point out the opportunities (pros) and constraints (cons) that may ultimately be realized with the use of the alternative street sections.

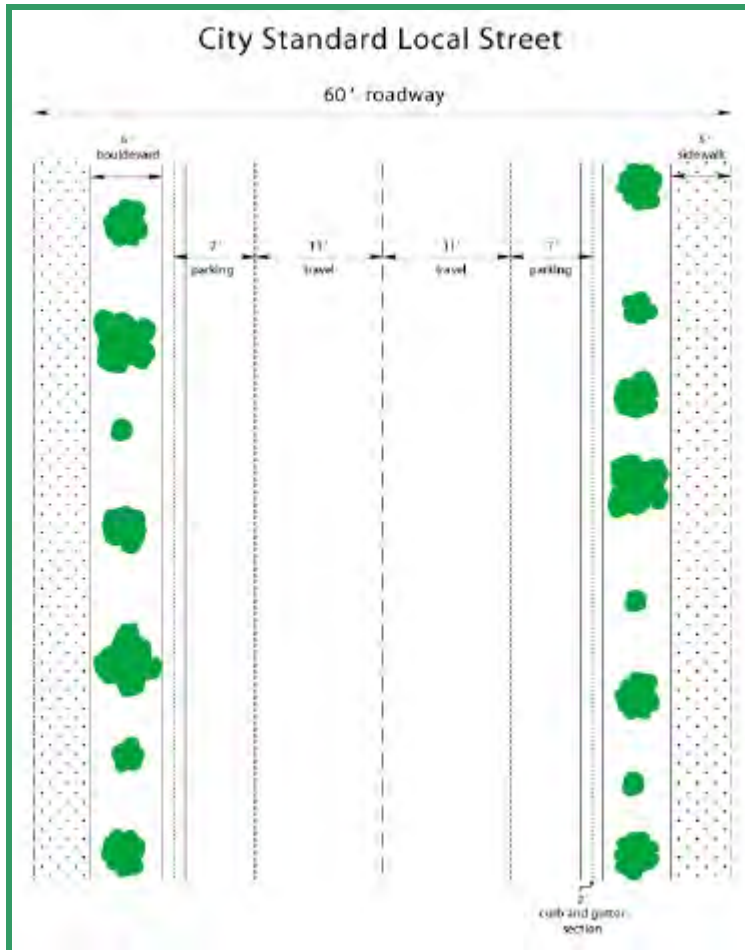
First and foremost it must be recognized that for most local streets, the local government entity (in this case the City of Whitefish) has direct control over roadway geometry and function, and can therefore dictate roadway typical section appearance. For roadways that are generally collector and above (i.e. minor arterial, principal arterial, interstate), if the facilities are on the Federally adopted “urban aid system” then the roadway geometry is dictated by MDT roadway standards. This is an important point, because the MDT has developed “urban design standards” for the various roadway types classified as collectors and above based on dialogue and consensus with many local Montana governments dating back to the early 1990’s.

That being said, though, there is a trend to narrower lane widths on many local roadways, and the intent of the Whitefish City-County Growth Policy is to provide alternatives that may be considered in residential areas as developments are contemplated. These alternative sections, as shown in the Growth Policy, are reiterated herein.

7.1.1 City Standard Local Street (60’ Right-of-Way)

The city standard local street has a 60-foot right-of-way width. Travel lanes are 11-feet in

width and 7-foot-wide parking lanes are provided on each side of the street. The total pavement width is 34-feet. In addition, there is a 6-foot boulevard with street trees, and a 5-foot sidewalk on each side.



Pros:

- Emergency service providers are in favor of the 11-foot travel lanes.
- On-street parking is provided via 7-foot parking lane widths.
- Snow storage is available in the boulevard areas.
- Concrete sidewalks are available for pedestrian safety.

Cons:

- Wider travel lane widths can encourage traveling over the acceptable speeds in neighborhoods.
- There are no on-street bicycle/pedestrian facilities present.
- On-street parking can cause concerns with pedestrians trying to cross the street due to sight visibility.

7.1.2 Alternate Residential Street Section (56' Right-of-Way)

The city alternate residential street section has sidewalks on both sides of the roadway, however, parking is eliminated on one side of the street. This is done so the roadside boulevards can be widened to 7.5-foot (instead of 6-foot). Additionally, travel lanes are reduced to 10-foot in width (each direction) to slow speeds. The total right-of-way width for this section is 56 feet.



Pros:

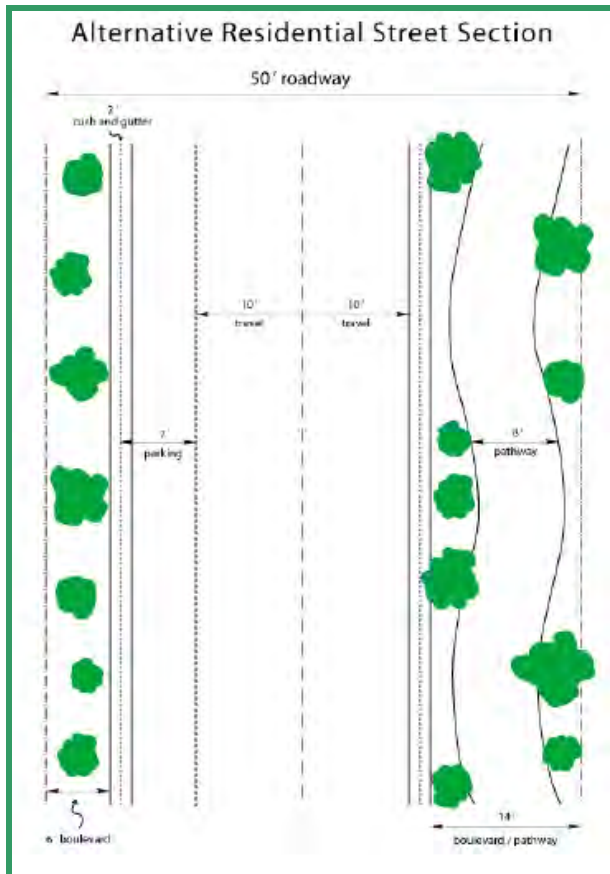
- Ten foot travel lane widths have a tendency to slow vehicle travel speed.
- Pedestrian crossing distances are somewhat reduced with the narrower typical section.
- Additional snow storage is available due to the wider boulevards.
- Concrete sidewalks are available for pedestrian safety.

Cons:

- Parking is only available on one side of the roadway. May cause blockage in traffic flow when drop-off/pick-up occurs at private residences at “non-parking” side of street.
- There are no on-street bicycle/pedestrian facilities present.
- On-street parking can cause concerns with pedestrians trying to cross the street due to sight visibility.
- Ten foot travel lanes are generally the minimum fire service trucks can maneuver.

7.1.3 Alternate Residential Street Section (50' Right-of-Way)

This city alternate residential street section only uses 50 feet of right-of-way width. It provides for parking on one side of the street, with a standard boulevard (6-foot width). On the other side of the street, the boulevard is wider to accommodate a meandering 8-foot wide separated bike/pedestrian path.



Pros:

- Ten foot travel lane widths have a tendency to slow vehicle travel speed.
- Pedestrian crossing distances are somewhat reduced with the narrower typical section.
- Additional snow storage is available due to the wider boulevards.
- Concrete sidewalks are available for pedestrian safety.

Cons:

- Parking is only available on one side of the roadway. May cause blockage in traffic flow when drop-off/pick-up occurs at private residences at “non-parking” side of street.
- There are no on-street bicycle/pedestrian facilities present.
- On-street parking can cause concerns with pedestrians trying to cross the street due to sight visibility.
- Ten foot travel lanes are generally the minimum fire service trucks can maneuver.

7.1.4 Typical Section Summary

In conclusion, the alternate local street sections have both pros and cons associated with them. There will be numerous cases where narrow roadway sections will be necessary within narrower right-of-way widths. These will chiefly be founded in urban infill areas and existing neighborhoods where existing right-of-way may be an issue. Also, mixed-use design guidelines are increasingly trying to achieve walkability and context sensitivity, and the presented section may in fact achieve the desired end product of creating a more neighborhood friendly design.

A final note must be made, however, regarding the alternate typical sections. For most major roadways in the community (i.e. collectors and above), urban roadway standards do exist through both the MDT and the City of Whitefish.

It must be made very clear that the alternate roadway sections presented earlier will not be allowed on those roadways falling under MDT jurisdiction. Again, reference is made to the MDT's "urban design standards" for the various roadway types classified as collectors and above currently in effect. The City does have roadway typical sections on record for different local, collector, arterial, and rural streets. These will be the default sections for those roadways not on the "urban aid system", as well as those roadways not requiring higher sensitivity to "context sensitive design" principles. The reader is referenced to the City of Whitefish "2009 Engineering Standards" for typical section drawings associated with the following roadway types:

- Arterial Street (No Parking) – Standard Drawing **SD-10**;
- Collector Street (Parking on One Side) – Standard Drawing **SD-9**;
- Collector Street (No Parking) – Standard Drawing **SD-8**;
- Local Street (Parking on Both Sides) – Standard Drawing **SD-3**;
- Local Street (Parking on One Side) – Standard Drawing **SD-4**;
- Local Street (No Parking) – Standard Drawing **SD-5**;
- Local Street (With Bike Lanes and No Parking) – Standard Drawing **SD-6**; and
- Low Impact Design (LID) Rural Street (No Parking) – Standard Drawing **SD-7**.

7.2 URBAN AND SECONDARY HIGHWAY DESIGNATIONS

It is appropriate when completing a comprehensive Transportation Plan to discuss the Urban Highway system designations in place in the community. The formal system in place in the Whitefish area consists of both Urban and Secondary Highways. Because these roads are Montana systems, the Federal government has no direct involvement in the designations.

Urban and Secondary Highways are designated by the Montana Transportation Commission, in cooperation with local governing authorities. When revisions to the system are proposed, the Transportation Commission may require when adding mileage that a reasonably equal amount of mileage be removed. This is not an absolute, and situations do exist where mileage is added without a corresponding reduction. With that in mind, to meet eligibility

requirements for placement on a system of Urban and Secondary Highways, the following criteria must be met:

Secondary Highways – The route must be outside a designated urban area and must be functionally classified as either a rural minor arterial or major collector.

Urban Highways – The route must be within a designated urban area and must be functionally classified as either an urban arterial or collector.

As conditions change in the community, driven by outlying growth and travel characteristic shifts, it is advisable to revisit the urban and secondary highway designations from time to time. To add or delete a route from these systems, the “six-step” process outlined below must be followed:

1. Requests for new route designations or changes in existing designations are initiated by the local government. Requests must have the support of local elected officials from both the city and county and local transportation committees (if applicable).
2. MDT staff reviews the requests to determine whether the routes meet eligibility requirements.
3. If a route does not meet functional classification eligibility requirements, MDT staff advises the local government about the process and need for a formal review of the routes functional classification and conducts the review.
4. If necessary, MDT staff advises the local government about the Montana Transportation Commission policy that requires no significant net changes in secondary and urban highway mileage within the affected county or urban area as a result of designation changes. Local governments may have to adjust their original request to comply with this requirement.
5. If the proposal meets all eligibility requirements and complies with Transportation Commission policy, MDT staff asks the Transportation Commission to approve the request.
6. If the Transportation Commission approves the request, MDT staff notifies the affected local governments and makes appropriate changes in MDT records.

The Whitefish Urban Corridor Study examines numerous potential configurations for US Highway 93 through the community. Several of these configurations make use of Baker Avenue and 13th Street to help accommodate future travel demands. Should such a configuration be advanced, MDT and the City of Whitefish, would need to make a decision about formally adding Baker Avenue between 7th and 13th Street and 13th Street between Spokane and Baker Avenues as part of the State-designated Urban Highway System. This would need to occur before Urban Highway System funds allocated to the City could be used to pay for improvements to Baker Avenue or 13th Street.

7.3 CORRIDOR PRESERVATION

Corridor preservation is the application of measures to prevent or minimize development within the right-of-way of a planned transportation facility or improvement within a defined corridor. That includes corridors, both existing and future, in which a wide array of transportation improvements may be constructed including roadways, bikeways, multi-use trails, equestrian paths, high occupancy vehicle lanes, fixed-rail lines and more.

7.3.1 Benefits of Corridor Preservation

Corridor preservation is important because it helps to ensure that a transportation system will effectively and efficiently serve existing and future development within a local community, region or state, and prevent costly and difficult acquisitions after the fact. Corridor preservation policies, programs and practices provide numerous benefits to communities, taxpayers and the public at large. These include, but are not limited to, the following:

- **Reducing transportation costs by preservation of future corridors in an undeveloped state.** By acquiring or setting aside right-of-way well in advance of construction, the high cost to remove or relocate private homes or businesses is eliminated or reduced.
- **Enhancing economic development by minimizing traffic congestion and improving traffic flow, saving time and money.** Low cost, efficient transportation helps businesses contain final costs to customers and makes them more competitive in the marketplace. Freight costs, for instance, accounts for ten percent of the value of agricultural products, the highest for any industry.
- **Increasing information sharing so landowners, developers, engineers, utility providers, and planners understand the future needs for developing corridors.** An effective corridor preservation program ensures that all involved parties understand the future needs within a corridor and that state, local and private plans are coordinated.
- **Preserving arterial capacity and right-of-way in growing corridors.** Corridor preservation includes the use of access management techniques to preserve the existing capacity of corridors. When it is necessary, arterial capacity can be added before it becomes cost prohibited by preserving right-of-way along growing transportation corridors.
- **Minimizing disruption of private utilities and public works.** Corridor preservation planning allows utilities and public works providers to know future plans for their transportation corridor and make their decisions accordingly.
- **Promoting urban and rural development compatible with local plans and regulations.** The state and local agencies must work closely together to coordinate

their efforts. Effective corridor preservation will result in development along a transportation corridor that is consistent with local policies.

To effectively achieve the policies and goals listed above, corridor management techniques can be utilized. These techniques can involve the systematic application of actions that:

- Preserve the safety and efficiency of transportation facilities through **access management**; and,
- Ensure that new development along planned transportation corridors is located and designed to accommodate future transportation facilities (**corridor preservation measures**).

7.3.2 Corridor Preservation Measures

Another tool used to fulfill the policies and goals listed earlier in this chapter is that of specific corridor preservation measures. The development of a Corridor Preservation Ordinance could accomplish the following:

- Establish criteria for new corridor preservation policies to protect future transportation corridors from development encroachment by structures, parking areas, or drainage facilities (except as may be allowed on an interim basis). Some possible criteria could include the on-site transfer of development rights and the clustering of structures;
- Establish criteria for providing right-of-way dedication and acquisition while mitigating adverse impacts on affected property owners; and
- Establish criteria by which land dedication requirements can be identified and set forth as roughly proportionate to the transportation impacts generated by a proposed project.

7.3.3 Corridor Plans

The Land Use Element of the Whitefish City-County Growth Policy calls for the City to prepare or facilitate the development of corridor plans for all major transportation corridors. Corridor plans are intended to address land use, transportation function and modes, and other issues and concerns identified in the Growth Policy. The development of corridor plans will support the corridor preservation measures discussed previously in this section. The document identified five corridors as needing detailed study including:

- U.S. Highway 93 South
- U.S. Highway 93 North
- Montana Highway 40
- Wisconsin Avenue
- U.S. Highway 93/Spokane Avenue

As previously noted, MDT (in cooperation with the City) is preparing the Whitefish Urban Corridor Study that addresses US Highway 93 (Spokane Avenue and 2nd Street) between 13th Street and Baker Avenue. The focus of the corridor study is transportation-related and it does not address all of the aspects of urban design listed as essential elements of “corridor plans” in the Growth Policy.

The development of future corridor studies will require coordination between the City, MDT, FHWA, the business community, home owners, developers, and the general public. All of these entities are “stakeholders” and need to be involved in formulating plans and making decisions for the identified transportation corridors in Whitefish. Both MDT/FHWA and Flathead County represent potential funding partners for corridor planning affecting routes under their jurisdiction and both agencies need to be involved since many decisions made about land use and development could potentially affect the transportation facilities they maintain. Likewise, these agencies must be agreeable to helping the City implement desired changes to roadways in the identified corridors.

Montana’s largest communities have typically formed Transportation Coordinating Committees (TCC) in an effort to foster cooperation and enhance coordination among various jurisdictions and agencies. TCC’s commonly include representatives of MDT, FHWA, cities, counties, and planning boards within these jurisdictions. The purpose of the TCC is to develop and keep current transportation planning as an integral part of comprehensive regional planning and guide the development of transportation programs. TCCs are typically formed through a Memorandum of Agreement among the involved agencies. Forming a TCC may be an effective way for the Whitefish community to ensure linkages are maintained between transportation and land use planning and to coordinate transportation needs among various jurisdictions and agencies.

7.3.4 Access Management in Roadway Corridors

Access management techniques are increasingly fundamental to preserving the safety and efficiency of a transportation facility. Access control can extend the carrying capacity of a roadway, reducing potential conflicts and facilitating appropriate land usage. There are six basic principles of access management that are used to achieve the desired outcome of safer and efficient roadways. These principles are:

- Limit the number of conflict points.
- Separate the different conflict points.
- Separate turning volumes from through movements.
- Locate traffic signals to facilitate traffic movement.
- Maintain a hierarchy of roadways by function.
- Limit direct access on higher speed roads.

It is recommended that local government adopt a set of Access Management Regulations through which the need for access management principles can be evaluated on a case-by-case basis. For roadways on the State system and under the jurisdiction of the MDT, access control guidelines are available which define minimum access point spacing, access geometrics, etc., for different roadway facilities. For other roadways (non-State), the

adoption of an access classification system based upon the functional classification of the roadway (principal arterial, minor arterial or major collector) is desirable. These local regulations should serve to govern minimum spacing of drive approaches/connections and median openings along a given roadway in an effort to fit the given roadway into the context of the adjacent land uses and the roadway purpose.

The preparation and adoption of a local Access Management Ordinance should be pursued that can adequately document the local government's desire for standard approach spacing, widths, slopes and type for a given roadway classification. Different types of treatments that can assist in access control include:

- Non-traversable raised medians
- Frontage roads
- Consolidation and/or closure of existing accesses to the roadway
- Directional raised medians
- Left-turn bay islands
- Redefinition of previously uncontrolled access
- Raised channelization islands to discourage turns
- Regulate number of driveways per property

7.4 PAVEMENT PRESERVATION STRATEGIES

Pavement preservation represents a proactive approach in maintaining existing community roads. It enables communities to reduce costly, time consuming rehabilitation and reconstruction projects and the associated traffic disruptions. With timely preservation the traveling public can be provided improved safety and mobility, reduced congestion, and smoother, longer lasting pavements. This is the true goal of pavement preservation. A Pavement Preservation Program consists primarily of three components:

- Preventive maintenance;
- Minor rehabilitation (non structural); and
- Routine maintenance activities.

An effective pavement preservation program can benefit communities by preserving investment on their roadways, enhancing pavement performance, ensuring cost effectiveness, extending pavement life, reducing user delays, and providing improved safety and mobility.

Pavement preservation is a combination of different strategies which, when taken together, achieve a single goal. It is useful to clarify the distinctions between the various types of maintenance activities, especially in the sense of why they would or would not be considered preservation. For a treatment to be considered pavement preservation, one must consider its intended purpose. The distinctive characteristics of pavement preservation activities are that they restore the function of the existing system and extend its service life, not increase its capacity or strength.

7.4.1 Definitions for Pavement Preservation Programs (from US Department of Transportation memorandum H1AM-20)

Pavement Preservation is "...a program employing a network level, long-term strategy that enhances pavement performance by using an integrated, cost-effective set of practices that extend pavement life, improve safety and meet motorist expectations." (Source: FHWA Pavement Preservation Expert Task Group)

An effective pavement preservation program will address pavements while they are still in good condition and before the onset of serious damage. By applying a cost-effective treatment at the right time, the pavement is restored almost to its original condition. The cumulative effect of systematic, successive preservation treatments is to postpone costly rehabilitation and reconstruction. During the life of a pavement, the cumulative discount value of the series of pavement preservation treatments is substantially less than the discounted value of the more extensive, higher cost of reconstruction and generally more economical than the cost of major rehabilitation. Additionally, performing a series of successive pavement preservation treatments during the life of a pavement is less disruptive to uniform traffic flow than the long closures normally associated with reconstruction projects.

Preventive Maintenance is "a planned strategy of cost-effective treatments to an existing roadway system and its appurtenances that preserves the system, retards future deterioration, and maintains or improves the functional condition of the system (without significantly increasing the structural capacity)." (Source: AASHTO Standing Committee on Highways, 1997)

Preventive maintenance is typically applied to pavements in good condition having significant remaining service life. As a major component of pavement preservation, preventive maintenance is a strategy of extending the service life by applying cost-effective treatments to the surface or near-surface of structurally sound pavements. Examples of preventive treatments include asphalt crack sealing, chip sealing, slurry or micro-surfacing, thin and ultra-thin hot-mix asphalt overlay, concrete joint sealing, diamond grinding, dowel-bar retrofit, and isolated, partial and/or full depth concrete repairs to restore functionality of the slab; e.g., edge spalls, or corner breaks.

Pavement Rehabilitation consists of "structural enhancements that extend the service life of an existing pavement and/or improve its load carrying capacity. Rehabilitation techniques include restoration treatments and structural overlays." (Source: AASHTO Highway Subcommittee on Maintenance)

Rehabilitation projects extend the life of existing pavement structures either by restoring existing structural capacity through the elimination of age-related, environmental cracking of embrittled pavement surface or by increasing pavement thickness to strengthen existing pavement sections to accommodate existing or projected traffic loading conditions. Two sub-categories result from these distinctions, which are directly related to the restoration or increase of structural capacity.

Minor rehabilitation consists of non-structural enhancements made to the existing

pavement sections to eliminate age-related, top-down surface cracking that develop in flexible pavements due to environmental exposure. Because of the non-structural nature of minor rehabilitation techniques, these types of rehabilitation techniques are placed in the category of pavement preservation.

Major rehabilitation “...consists of structural enhancements that both extend the service life of an existing pavement and/or improve its load-carrying capability.”
(Source: AASHTO Highway Subcommittee on Maintenance Definition)

Routine Maintenance “consists of work that is planned and performed on a routine basis to maintain and preserve the condition of the highway system or to respond to specific conditions and events that restore the highway system to an adequate level of service.”
(Source: AASHTO Highway Subcommittee on Maintenance)

Routine maintenance consists of day-to-day activities that are scheduled by maintenance personnel to maintain and preserve the condition of the highway system at a satisfactory level of service. Examples of pavement-related routine maintenance activities include cleaning of roadside ditches and structures, maintenance of pavement markings and crack filling, pothole patching and isolated overlays. Crack filling is another routine maintenance activity which consists of placing a generally, bituminous material into “non-working” cracks to substantially reduce water infiltration and reinforce adjacent top-down cracks. Depending on the timing of application, the nature of the distress, and the type of activity, certain routine maintenance activities may be classified as preservation. Routine Maintenance activities are often “in-house” or agency-performed and are not normally eligible for Federal-aid funding.

Other activities in pavement repair are an important aspect of any construction and maintenance program, although they are outside the realm of pavement preservation:

- ***Corrective Maintenance*** activities are performed in response to the development of a deficiency or deficiencies that negatively impact the safe, efficient operations of the facility and future integrity of the pavement section. Corrective maintenance activities are generally reactive, not proactive, and performed to restore a pavement to an acceptable level of service due to unforeseen conditions. Activities such as pothole repair, patching of localized pavement deterioration, e.g. edge failures and/or grade separations along the shoulders, are considered examples of corrective maintenance of flexible pavements. Examples for rigid pavements might consist of joint replacement or full width and depth slab replacement at isolated locations.
- ***Catastrophic Maintenance*** describes work activities generally necessary to return a roadway facility back to a minimum level of service while a permanent restoration is being designed and scheduled. Examples of situations requiring catastrophic pavement maintenance activities include concrete pavement blow-ups, road washouts, avalanches, or rockslides.
- ***Pavement Reconstruction*** is the replacement of the entire existing pavement structure by the placement of the equivalent or increased pavement structure.

Reconstruction usually requires the complete removal and replacement of the existing pavement structure. Reconstruction may utilize either new or recycled materials incorporated into the materials used for the reconstruction of the complete pavement section. Reconstruction is required when a pavement has either failed or has become functionally obsolete.

7.5 PUBLIC TRANSIT CONSIDERATIONS

7.5.1 Transit Partnerships with Eagle Transit & Glacier National Park

During the development of this Transportation Plan, dialogue occurred with both Eagle Transit (the Flathead Valley's primary transit provider) and also with Glacier National Park (GNP) representatives, to discuss ways to heighten awareness of the benefits of transit service over the planning horizon. There has been much excitement regarding transit recently due to the unveiling of the transit service as part of the "Going-to-the-Sun" Road Rehabilitation. The transit service was unveiled during the summer of 2007 and is a cooperative agreement between Glacier National Park, the MDT and Flathead County that allowed for the purchase, operation and maintenance of the transit buses.

In February 2008, Eagle Transit began offering scheduled inter-city public bus service to commuters traveling between Kalispell and Whitefish, Whitefish and Columbia Falls, and Kalispell and Columbia Falls. The new service was the result of a cooperative agreement between Flathead County, MDT and the National Park Service that provided Eagle Transit with access to a fleet of buses typically used only during July and August in Glacier National Park. The agreement has allowed Eagle Transit to use the GNP's vehicles for transit service between the three Flathead Valley communities for much of the year and enabled the National Park Service to continue meeting its summer transit needs in the Park.

A fundamental premise of establishing partnerships among Glacier National Park, Eagle Transit, and the cities in the Flathead Valley is that there are many gateways to the Park and other area destinations. The City of Whitefish itself is a primary example. Visitors flock to the area during both winter and summer months. Providing alternative transportation that allows a visitor arriving in Whitefish to take transit to a lodge in Glacier National Park, view the Park's offerings in transit and by walking, and return back to the community can truly enhance the user experience and serve to shift travel modes. This type of example will take years and years before it could become the "norm". However, community leaders and its citizens should be encouraged to begin planning for this type of interaction and begin establishing partnerships with all the relevant entities/agencies.

Along with the discussion of transit, a discussion of "Intelligent Transportation Systems (ITS)" is relevant. In its simplest form, ITS in Montana has recently manifested itself in the form of certain recognizable features such as the 511 system and traveler kiosks. Making current, up-to-date information available to the traveling public will be by necessity important as the planning horizon continues. Given the fact that Glacier National Park is such a world-wide destination, enabling and encouraging local communities to forge partnerships with the GNP and make information available is a worthy endeavor.

7.5.2 Public Transit Opportunities and Recommendations

In addition to the discussion above regarding partnerships with Glacier National Park, other opportunities were identified pertinent to public transportation in Whitefish. These opportunities and associated recommendations are discussed below:

- Consider future busing opportunities to Whitefish Mountain Resort for special events and/or tourist hiking. Although implementation details would have to be worked out, all believe it is a worthy goal to reduce the number of vehicle trips on the roadway system by developing alternative forms of transportation. Free (and/or subsidized) transit for special events at Whitefish Mountain Resort is one potential opportunity that should be fully explored as the community grows.
- Consider heightened public transit usage and priority in the community for the Fourth of July festivities. An initial concept pertinent to this discussion is to allow public transit to enter and exit the City Beach area before the private automobile in hopes of encouraging citizens and tourists to use public transit. Again this ties into removing as many private automobiles from the roadway system as possible. Private vehicle parking areas would need to be identified off-site, such that patrons can park their cars and access public transit. Many suggestions for such parking areas have been made (Mountain Village, O'Shaughnessy Center, Safeway, etc.); however, additional work would have to be completed before randomly selecting parking lots for public transit transfer points.
- In spirit with the previous discussion in **Section 7.5.1**, the potential for free (or subsidized) busing to Glacier National Park should be explored in conjunction with perhaps a tourist hiking program. This could be complemented by Whitefish's "Over the Hill Gang" hikes. This represents a long-term opportunity that could also help to reduce private automobiles on the roadway system.
- A major objective of the Whitefish City-County Growth Policy is to increase public transit opportunities and to encourage intercity transit usage. With this in mind, the city should continue to support agreements with Eagle Transit and encourage them or other enterprises to expand existing services to provide daily and year-round public transportation options in Whitefish. Explore the possibilities of working with these transit providers (or other potential partners like the operator of the Snow Bus serving Whitefish Mountain Resort) to develop a shuttle service that operates on a fixed route within the city. Potential stops could include locations like downtown Whitefish, Grouse Mountain Lodge/golf course, the Mountain Mall, and other notable lodging, commercial and recreational areas in the city.

In addition to enhancing transportation choices and reducing private vehicle travel, such a service has the potential to become a desirable amenity for visitors to Whitefish and residents. The use of unique or highly visible transit vehicles (i.e. "green" buses or trolley cars) could help heighten public awareness and ridership. Funding such a service presents challenges due to the need for substantial investments to cover operating and maintenance costs and infrastructure needs.

Lastly, major employment centers should work with Eagle Transit and explore encouragement programs that allow employees to utilize public transit. This mechanism to reduce the dependence on the private automobile will take several years in the making. However, as fuel prices rise and public transit becomes more available, the employment community should encourage transit usage through subsidized bus passes, allowance for transit schedule uncertainties, etc.

- One concept that was identified through this planning project was the idea of making a bicycle rental program available in the community. This type of program is somewhat common in several places in Europe. The basic concept is that at key locations, locked bicycles are available for usage and can be accessed through a credit card kiosk. When the bicycle is returned, the bicycle is locked and the receipt is distributed. They are generally available at major locations (such as train stations, parking garages, tourist destinations), and could be an alternative transportation feature unique to the community of Whitefish.
- Any future public transit growth and/or capital facility should consider environmentally sound features (such as bio-diesel fuel). In addition, bike racks and covered bike parking should be considered as appropriate.
- Ensuring transit vehicles are equipped with bike racks is a simple way to make public transportation a convenient option for both work commutes and recreational trips. The commuter buses serving Whitefish used by Eagle Transit are capable of carrying bicycles.

Bicycle racks suitable for buses typically cost \$500-\$1,000 for a high-quality model that can carry two bicycles. The costs of adding racks could be paid for through private fund raising efforts, capital expenditures by Eagle Transit or other transit providers, or through the use of federal/state Community Transportation Enhancement Program (CTEP) or Congestion Management Air Quality (CMAQ) funding.

- The Whitefish City-County Growth Policy and comments received on the Whitefish Transportation Plan clearly indicate that many in the community support the concept of expanding public transit services. This support is based on the belief that transit and non-motorized modes represent wise personal transportation choices that support key goals like reducing energy consumption, alleviating traffic congestion, and decreasing the “carbon footprint” of the community. Expanding public transportation also presents an opportunity to help create energy efficient land use patterns in the community.

With this in mind, the City should consider undertaking a planning study to help prepare the community for the expansion of public transit services. Such a study could be used to explore and develop standards for desirable infrastructure features like transit pullouts, waiting areas or bus shelters, signage, and park and ride lots. Since park and ride lots offer the potential to serve as future transit hubs, the study could also explore potential locations and development costs for park and ride lots and examine the potential for a fixed route shuttle service within the community.

- Where practicable, consideration should be given to incorporating transit pullouts in major new developments in the community. This must be tempered with the reality of available transit services, planned or potential transit routes, and overall system usage. However, major developments located along important corridors should be reviewed to determine if transit pullouts can be incorporated into the development's frontage.
- Plans developed for major transportation corridors listed in the Growth Policy should consider future public transit needs and address suitable locations for bus stops, bus pullouts, covered waiting areas, and park-and-ride lots.

7.6 TRANSPORTATION DEMAND MANAGEMENT (TDM)

Transportation Demand Management (TDM) measures came into being during the 1970s and 1980s in response to a desire to save energy, improve air quality, and reduce peak-period congestion. TDM strategies focused on identifying alternates to single occupant vehicle use during commuting hours. Therefore, such things as carpooling, vanpooling, transit use, walking and bicycling for work purposes are most often associated with TDM. Many of these methods were not well received by the commuting public and therefore, provided limited improvement to the peak-period congestion problem.

Due to the experiences with these traditional TDM measures over the past few decades, it became clear that the whole TDM concept needed to be changed. TDM measures that have been well received by the commuting public include flextime, a compressed workweek and telecommuting. In addition to addressing commute trip issues, managing demand on the transportation system includes addressing traffic congestion associated with special events, such as special activities at the Whitefish Mountain Resort, and special downtown events. A definition of TDM follows:

TDM programs are designed to maximize the people-moving capability of the transportation system by increasing the number of persons in a vehicle, or by influencing the time of, or need to, travel. (FHWA, 1994)

Since 1994, TDM has been expanded to also include route choice. A parallel arterial with excess capacity near a congested arterial can be used to manage the transportation system to decrease congestion for all transportation users.

The Whitefish area is projected to grow. The accompanying expansion of transportation infrastructure is expensive and usually lags behind growth. Proper management of demand now will maximize the existing infrastructure and delay the need to build more expensive additional infrastructure. TDM is an important and useful tool to extend the useful life of a Transportation System.

As communities such as Whitefish grow, the growth in number of vehicles and travel demand should be accommodated by a combination of road improvements; transit service improvements; bicycle and pedestrian improvements; and a program to reduce travel

(vehicle trips and the vehicle miles traveled) via transportation demand management in conjunction with appropriate land use planning.

TDM strategies should be considered an important part of the Whitefish Transportation Plan due to their inherent ability to provide better predictability and choice to the user. TDM measures can also be applied to non-commuter traffic and are especially easy to adapt to tourism, special events, emergencies and construction. Overall, congestion can be managed or reduced on a long-term basis through the use of appropriate TDM strategies.

7.6.1 TDM Strategies and Their Effectiveness

The following list of TDM strategies may be beneficial in the Whitefish community over the planning horizon. Many of these have been used by other communities in the United States and include:

- **Bicycling** - Bicycling can substitute directly for automobile trips. Communities that improve cycling conditions often experience significant increases in bicycle travel and related reductions in vehicle travel. Incentives to increase bicycle usage as a TDM strategy include: construction improvements to bike paths and bike lanes; correcting specific roadway hazards (potholes, cracks, narrow lanes, etc.); development of a more connected bikeway street network; development of safety education, law enforcement and encouragement programs; and the solicitation and addressing of bicycling security/safety concerns. Potential costs of this TDM strategy are expenses associated with creating and maintaining the bikeway network, potential liability and accident risks (in some cases), and increased stress to drivers. The size of the community and the fact the City of Whitefish has plans for an extensive network of pedestrian and bicycle trails suggests this is a viable TDM measure.
- **Walking** - Walking as a TDM strategy has the ability to substitute directly for automobile trips. A relatively short non-motorized trip often substitutes for a longer car trip. For example, a shopper might choose between walking to a small local store versus driving a longer distance to shop at a supermarket. Incentives to encourage walking in a community can include: making improvements to sidewalks, crosswalks and paths by designing transportation systems that accommodate special needs (including people using wheelchairs, walkers, strollers and hand carts); providing covered walkways, loading and waiting areas; improving pedestrian accessibility by creating location-efficient, clustered, mixed land use patterns; and soliciting and addressing pedestrian security/safety concerns. Costs are similar to that of bicycling and are generally associated with program expenses and facility improvements. Since the City has plans for an extensive network of pedestrian and bicycle trails, this is a reasonable TDM measure in Whitefish.
- **Ride Sharing (Carpooling)** - Carpooling is traditionally one of the most widely considered TDM strategies. The idea is to consolidate drivers of single occupancy vehicles into fewer vehicles, with the result being a reduction in congestion. Carpooling is generally limited to those persons whose schedules are rigid and not

flexible in nature. Studies have shown that carpooling is most effective for longer trips greater than ten miles in each direction. Aside for the initial administrative cost of set-up and marketing, ridesharing also may encourage urban sprawl by making longer-distance commutes more affordable.

Transit agencies sometimes consider ridesharing as competition that reduces transit ridership. Ridesharing is a strategy that would work within the Whitefish area, especially if set up through the larger employers. An extensive public awareness campaign describing the benefits of this program would help in selling it to the general public.

- **Vanpooling** - Vanpooling is a strategy that encourages employees to utilize a larger vehicle than the traditional standard automobile to arrive at work. Vans typically hold twelve or more persons. Vanpooling generally does not require high levels of subsidy usually associated with a fixed-route or demand-responsive transit service. They can often times be designed to be self-sufficient. The van is typically provided by the employer, or a vanpool brokerage agency, which provides the insurance. The costs of a vanpooling program are very similar to those of ridesharing.
- **Park & Ride Lots** - Park and ride lots are effective for communities with substantial suburb to downtown commute patterns. Park and ride consists of parking facilities at transit stations, bus stops and highway on ramps, particularly at the urban fringe, to facilitate transit and rideshare use. Parking is generally free or significantly less expensive than in urban centers. Costs are primarily associated with facility construction and operation.
- **Traditional Transit** - Traditional transit service is an effective TDM strategy, especially in a highly urban environment. Several methods to increase transit usage within the community are to improve overall transit service (including more service, faster service and more comfortable service), reduce fares and offer discounts (such as lower rates for off-peak travel times, or for certain groups), and improved rider information and marketing programs. The costs of providing transit depend on many factors, including the type of transit service, traffic conditions and ridership. Transit service is generally subsidized, but these subsidies decline with increased ridership because transit services tend to experience economies of scale (a 10% increase in capacity generally increases costs by less than 10%). TDM strategies that encourage increased ridership can be very cost effective. These strategies may include offering bicycle carrying components on the transit vehicle, changing schedules to complement adjacent industries, etc.
- **Traffic Calming** - Traffic Calming (See **Chapter 5**) refers to various design features and strategies intended to reduce vehicle traffic speeds and volumes on a particular roadway. Traffic Calming projects can range from minor modifications of an individual street to comprehensive redesign of a road network. Traffic calming can be an effective TDM strategy in that its use can alter and/or deter driver characteristics by forcing the driver to either use a different route or to use an alternative type of transportation (such as transit, bicycling, walking, etc.). Costs of

this TDM strategy include construction expenses, problems for emergency and service vehicles, potential increase in drivers' effort and frustration, and potential problems for bicyclists and visually impaired pedestrians.

- **Flextime** - When provided by employers, flextime allows workers to adjust their commuting time away from the peak periods. This means that employees are allowed some flexibility in their daily work schedules. For example, rather than all employees working 8:00 to 4:30, some might work 7:30 to 4:00, and others 9:00 to 5:30. This provides the workers with a less stressful commute, allows flexibility for family activities and lowers the number of vehicles using the transportation system during peak times. This in turn can translate into reduced traffic congestion, support for ridesharing and public transit use, and benefits to employees. Flextime allows commuters to match their work schedules with transit and rideshare schedules, which can significantly increase the feasibility of using these modes. Costs for implementing this type of TDM strategy can include increased administrative and management responsibilities for the employer, and more difficulty in evaluating an employee's productivity.
- **Alternate Work Schedule** - A related but more expansive strategy is to provide an alternate work schedule. This strategy involves using alternate work hours for all employees. It would entail having the beginning of the normal workday start at a time other than 8:00 a.m. For example, starting the workday at 7:30 a.m. would allow all employees to reach the work site in advance of the peak commute time. Additionally, since they will be leaving work at 4:30 p.m., they will be home before the peak commute time, and have more time in the evening to participate in family or community activities. This can be a very desirable side benefit for the employees. This has a similar effect on traffic as flextime, but does not give individual employees as much control over their schedules.
- **Compressed Work Week** - A compressed work week is different from offering "flextime" or the "alternate work schedule" in that the work week is actually reduced from the standard "five-days-a-week" work schedule. A good example would be employers giving their workers the opportunity to work four (4) ten-hour days a week. A compressed work week reduces commute travel (although this reduction may be modest if employees take additional car trips during non-work days or move farther from worksites). Costs for implementing this type of TDM strategy may be a reduction in productivity (employees become less productive at the end of a long day), a reduction in total hours worked, and it may be perceived as wasteful by the public (for example, if staffing at public agencies is low on Fridays).
- **Identifying and using special routes and detours for emergencies or special events** - This type of TDM strategy centers around modifications to driver patterns during special events or emergencies. They can typically be completed with intensive temporary signing or traffic control personnel. Temporary traffic control via signs and flaggers could be implemented to provide a swift and safe exit after applicable events.

- **Preferential parking for rideshare/carpool/vanpools** - This concept ties into the discussion above regarding reducing the number of single occupancy vehicles on the roadway system. Preferential parking, such as delineating spaces closer to an office for riders sharing their commute or reduced rate/free parking, can be an effective TDM strategy.
- **Telecommuting** - Telecommuting in the work place offers a good chance to reduce the dependence to travel to work via car or bus. This is especially true in technical positions and some fields in the medical industry (such as medical transcription). Additionally, opportunities for distance learning, shopping via computers, basic health care services and recreation also exist and can serve to reduce vehicular travel on the transportation system.

Telecommuting is usually implemented in response to an employee request, more so than instigated by the employer. Since telecommuting reduces commute trips, it can significantly reduce congestion and parking costs. It is highly valued by many employees and tends to increase their productivity and job satisfaction. Costs associated with this TDM strategy include increased administrative and management responsibilities, and more difficult evaluation of employee productivity. Some employees find telecommuting difficult and isolating. Telecommuting also may reduce staff coverage and interaction, and make meetings difficult to schedule. Many employers in Montana have tried and currently allow some form of telecommuting.

- **Subsidized transit by employers** - A subsidized transit program, typically offered by employers to their employees, consists of the employer either reimbursing or paying for transit services in full as a benefit to the employee. This usually comes in the form of a monthly or annual transit pass. Studies show that once a pass is received by an employee, the tendency to use the system rises dramatically.
- **Required densification/mixed use elements for new developments** - Requiring new developments to be dense and contain mixed-use elements will ensure that these developments are urban in character and have some services that can be reached by biking, walking or using other non-automobile methods. This also relates to the concept of “linked” or “shared” trips presented later in this chapter. As new developments are proposed, local and regional planners have the opportunity to dictate responsible and effective land use to encourage “shared” trips and reduce impacts to the surrounding transportation system.
- **Transit Oriented Development (TOD)** - Transit Oriented Development (TOD) refers to residential and commercial areas designed to maximize access by transit and non-motorized transportation, and with other features to encourage transit ridership. A TOD usually consists of a neighborhood with a rail or bus station, surrounded by relatively high-density development, with progressively lower-density spreading outwards. Transit Oriented Development generally requires about seven residential units per acre in residential areas and twenty-five employees per acre in commercial centers to adequately justify transit ridership. Transit ridership is also affected by factors such as employment density and clustering, demographic mix (students,

seniors and lower-income people tend to be heavy transit users), transit pricing and rider subsidies, and the quality of transit service. This type of development could potentially work well within Whitefish and its outlying areas as development occurs and as transit services within the community are enhanced.

By capitalizing on the use of these options, the existing vehicular infrastructure can be made to function at acceptable levels of service for a longer period of time. Ultimately, this will result in lower per year costs for infrastructure replacement and expansion projects, not to mention less disruption to the users of the transportation system.

In evaluating local options for TDM it is suggested to look for programs and alternatives that have been successfully implemented in Montana. Online resources like the “Travel Demand Management Toolbox” (available at <http://ops.fhwa.dot.gov/tdm/toolbox.htm>) developed by the FHWA and the Victoria Transport Policy Institute’s “TDM Encyclopedia” (available at <http://www.vtpi.org/tdm/tdm12.htm>) provide reference materials and other relevant information about a wide range of measures to help manage traffic congestion by better managing demand.

7.7 US HIGHWAY 93 BYPASS DISCUSSION

This Transportation Plan does not recommend the development of a bypass corridor to the existing US Highway 93 facility through the community. The concept of a bypass has historically been debated. Proponents of the bypass have stated that it will reduce overall traffic volumes in the downtown, detour high truck traffic and make the business district more “community oriented”. Opponents of the bypass have stated that a bypass would never be built, would likely cause unacceptable environmental consequences and would be financially unattainable.

This Transportation Plan did examine a potential westerly bypass via a travel demand modeling exercise, and also has looked at other constraints associated with potential routes. These have been explained in **Chapter 3** of this Transportation Plan. From a pure traffic analysis discussion, a bypass does not solve the future traffic issues examined out to the planning horizon (year 2030) along US Highway 93. If a bypass is to be considered as feasible, it must show significant traffic reduction to its parallel facility to warrant the expense and environmental consequences of its development. Travel demand modeling of the various bypass alternatives do not show a bypass as a “cure-all” to the future traffic issues associated with US Highway 93 traffic flow.

Because of this, any recommendation to carry the bypass concept forward will not be implementable, feasible and/or fundable in the public venue, nor will State and Federal jurisdictions program resources accordingly. The community of Whitefish is better served by strengthening the transportation grid system, providing additional east/west connectivity, and requiring roadway corridor development in vacant land **if and when** the land develops. The recommended projects contained in **Chapter 6** will all serve to contribute to a strong grid street system that will provide choices for the traveling public. This should be tempered with other transportation system improvements and policies, such as public transit and non-motorized facilities that have been recommended elsewhere in this Transportation Plan.

7.8 SCHOOL TRANSPORTATION CONSIDERATIONS

During the development of this Transportation Plan, there were several issues identified from the public and the project oversight committee relative to the community's schools. Within the Whitefish School District, there are currently five (5) public schools as noted below:

- Muldown Elementary School (Kindergarten through 4th Grade)
- Central School (5th Grade through 8th Grade)
- Whitefish High School (9th Grade through 12th Grade)
- Whitefish Independent High School (10th Grade through 12th Grade)
- Olney-Bissel School (Kindergarten through 8th Grade) – not in study area boundary

In addition, there are several private schools in the community. These include the Whitefish Christian Academy and the Children's House Montessori School.

The following start and stop times are currently in place for the four Whitefish public schools within the study area boundary of this planning project:

Muldown Elementary School

Kindergarten 8:45 am to 3:15 pm

Grades 1 thru 4 8:35 am to 3:30 pm

Central School

Grades 5 thru 8 8:30 am to 3:22 pm

Whitefish High School

Grades 9 thru 12 8:40 am to 3:30 pm

Independent High School

Grades 10 thru 12 8:15 am to 3:30 pm

7.8.1 Transportation-Related Issues and Items of Concern

Many of the issues that have been identified by the public and the City of Whitefish staff are issues commonly expressed in other small communities. These issues are reiterated herein, however it must be recognized as a prelude to the narrative that funding is typically the biggest hurdle to accommodating many of these recognized and/or perceived problems. An example readily apparent is that of crossing guards. Almost all agree crossing guards are a desirable feature around the community's schools; however, funding the guards given limited school district financial resources are often a hurdle that cannot be overcome. Staggering school start and stop times appears proactive and easy to do; however, academic requirements set forth in the "No Child Left Behind" legislation means optimizing available time and leaves little room for drastic changes in schedules.

The following items of concern were raised by members of the general public and the city of Whitefish staff – in no order of importance:

- **School Busing** – The overall perception is that there is very little busing of students in the community. Individual comments regarding this have centered on the potential for more busing of students in an effort to remove the private automobile as the mode of choice from the transportation system. The perception by those making this comment suggest the school district should increase the level of busing in the community. Implementation hurdles exist to this, though, chiefly revolving around funding limitations. As a long term goal, however, it may be something the community can work towards as time goes on.
- **School Access** – There were several issues identified with overall access to some of the community’s schools. This was chiefly centered on Muldown Elementary School and the Children’s House Montessori School. Most of the traffic accessing these locations mingles with the Whitefish High School traffic at Pine Avenue and effects two major intersections (Pine Avenue/7th Street and 7th Street/Ashar Avenue). It is recommended in this plan (**Chapter 6**) that two additional connections be developed in this area to provide additional options to access these schools. Project number **MSN-7** in **Chapter 6** is intended to provide an easterly extension of 7th Street and wrap southerly to connect with Voerman Road at the intersection with Monegan Road. Project number **TSM-5** is intended to provide a one-way exit route along 8th Street between Ashar Avenue (easterly project limit) and the existing 8th Street terminus (westerly project limit).
- **School Crossing Guards** – The issue of the need for additional crossing guards in the community was made by several citizens, parents and city staff. Specific reference for additional crossing guards was made for the intersections of:
 - Pine Avenue/7th Street;
 - 7th Street/Ashar Avenue; and
 - 2nd Street/Baker Avenue.

Again, the subject of additional crossing guards is generally accepted as desirable by all parties. Implementation hurdles are realized, though, based on lack of financial resources. Although a volunteer crossing guard program could be explored in the future, there are issues with volunteers not showing up (for example when ill) and not having a formal back-up process in place.

- **Central School (Whitefish Middle School) Issues** – There were several comments made during the development of this Plan that the Middle School has major traffic issues. The school is located downtown and school traffic mixes with commuter traffic. Most parents drive their kids to school. Car-pooling could be better encouraged by the school and it would be helpful to have a school directory for the parents.

From a traffic flow perspective, the school has separated its bus loading and unloading zone from the major traffic obstacles. The designated bus loading and unloading areas are on the east side of the school (Kalispell Avenue).

The availability of parking along the street faces adjacent to the school is limited, and the lack of parking space is compounded by the tendency of parents to always want to drop their children off as close as possible to the school front doors. During the development of the City's new parking facilities (initially proposed as a parking garage) at the northwest corner of Spokane Avenue and 2nd Street, some preliminary discussions occurred about allocating a certain amount of parking space in the facility for the school's use. Ultimately, the City developed a surface parking lot at this location and did not dedicate any parking for the school in the lot. While parking spaces may be available, the parking spaces all have a 2-hour limit.

It may be beneficial to provide a map at the beginning of each school year showing parents where the school district would like to have students picked up and dropped off. It must be recognized, though, that parents generally will pick-up and drop-off their students where it is convenient for them to do so, and not necessarily where the District and/or City would like it to occur.

- **Whitefish High School** – Issues associated with the Whitefish High School were also identified during the course of this Transportation Plan development. Concerns were expressed due to the campus having no lunch facilities and being an “open” campus since many students leave school over the lunch hour. The local PTA is very interested in closing the high school campus for freshman and sophomores; although that particular student group is either non-driving age or beginning drivers.

Final comments indicate there is very little incentive for high school kids to walk and/or bike to school and there is very little busing of kids. Therefore, most kids drive to school, mainly by themselves. Public comments received stated the Creekwood neighborhood has become the main transportation route between school and the soccer/baseball fields and other activities. Apparently, the Creekwood Homeowners Association has complained numerous times to the police department concerning school traffic speeding through the neighborhood. The Homeowners Association has resorted to making their own signs placed on tree stumps throughout the neighborhood asking drivers to please slow down. Suggestions have been made the high school should consider some incentive for kids to walk and/or bike to school and the speeding issue in this neighborhood should be given further attention.

7.8.2 Safe Routes to School Program

Many of the issues identified previously could best be fleshed out through a formal Safe Routes to School (SRTS) program. Although many of the school related issues do fall within the purview of a citywide Transportation Plan, requests for incentives, traffic control and speeding relief are often symptoms of a greater issue that may not be resolved by infrastructure modifications alone. The formal SRTS program is the logical venue to build community consensus on school related programs and issues.

Safe Routes to School is a national effort to bring schools and communities together to make walking and bicycling to school safer and improve the health of our children. The

Montana SRTS Program is in place and offers guidance on developing a successful SRTS program and showing how such efforts can help make a difference in the quality of life for children and in school neighborhoods. The overriding goal of SRTS is to increase the number of students that walk or bicycle to school along safe routes. Meeting this goal is critical to the health and welfare of our children.

The Montana SRTS Program is administered by the MDT and helps make positive changes that allow parents and children in grades K-8 to choose a safer and healthier way to get to school. A formal SRTS program will offer ways to help meet community goals and objectives by changing behaviors to ensure:

- The community, especially parents and school officials, believes in the value of walking and bicycling to school and encourages children to do so.
- The community considers the safety needs of children walking or bicycling in their neighborhoods when planning for residential and school areas.
- Streets and roads in the community are designed to encourage walking and bicycling, with sidewalks, bicycle paths or bicycle lanes, and traffic-calming measures.
- Drivers are educated to understand behaviors of child pedestrians and bicyclists and how safe driving can decrease traffic congestion and reduce the risk of injuries.
- Children and parents understand how to walk and bicycle safely and assertively.
- Officials enforce laws that support and protect walkers and bicyclists.

SRTS programs help change behaviors by combining aspects of health, fitness, traffic relief, environmental awareness and safety. Comprehensive and effective SRTS programs typically include **Evaluation, Education, Encouragement, Enforcement, and Engineering** strategies. These strategies (sometimes called the 5E's) are described below:

- **Evaluation:** Collecting data and assessing existing conditions to identify potential problems and collecting data after SRTS activities are introduced to measure the success of your efforts.
- **Education:** Teaching children about the broad range of transportation choices, instructing them in important lifelong bicycling and walking safety skills, and launching driver safety campaigns in the vicinity of schools. Educational components are also often directed at parents and drivers.
- **Encouragement:** Using events and activities to promote walking and bicycling.
- **Enforcement:** Partnering with local law enforcement to ensure traffic laws are obeyed in the vicinity of schools (this includes enforcement of speeds, yielding to pedestrians in crossings, and proper walking and bicycling behaviors), and initiating community enforcement, such as crossing guard programs.
- **Engineering:** Making operational changes or physical improvements to the infrastructure around schools to reduce speeds and conflicts between with motor vehicle traffic, and establish safer and fully accessible crossings, walkways, trails and bicycle facilities.

Although each strategy can be implemented by itself, the most successful SRTS programs combine multiple strategies. By directly or indirectly incorporating some or all of these strategies, SRTS programs offer parents a chance to work in partnership with their children's school, the community, local governments to create a healthy lifestyle for children and a safer environment for all.

Montana's SRTS Program offers funding through a competitive application process for non-infrastructure and infrastructure projects within a 2-mile radius of schools serving children in grades K-8. Non-infrastructure (or behavioral) projects generally include activities associated with **Education, Encouragement, Enforcement** and **Evaluation** strategies. Infrastructure projects are focused on specific facilities (crosswalks, sidewalks, and pathways) associated with the **Engineering** strategy.

It is highly recommended that a formal Safe Routes to School (SRTS) program be developed for the Whitefish Schools serving students in grades K-8. Grant funds are available to assist with this through the MDT. The MDT has prepared a very thorough SRTS Guidebook that provides technical assistance for schools and communities in Montana interested in establishing SRTS programs. Whether a school or community is new to the idea of SRTS or they have already identified problems and started working towards a plan, the Guidebook contains several needed anecdotes that will help the SRTS effort. This document is organized into chapters devoted to various aspects of SRTS and provides:

- An overview of SRTS and why it's needed in our communities;
- Guidance on how to start a program and establish goals;
- Ways to identify and document conditions limiting walking and bicycling to school;
- Ideas to educate and encourage safer walking and bicycling;
- Descriptions of different types of physical improvements that may create safe walking and bicycling routes to your school;
- Enforcement ideas to change hazardous driver behaviors; and
- Ideas to help you fund and implement SRTS activities and projects.

The Montana SRTS Guidebook outlines a proven process for developing and implementing SRTS plans. It highlights resources in Montana that can be accessed and use to support SRTS efforts in the community or school.

The Montana SRTS Guidebook can be viewed at the at the following web address:
http://mdt.mt.gov/pubinvolve/saferoutes/docs/safe_routes_guidebook.pdf

7.9 TRANSPORTATION CONCURRENCY FOR NON-MOTORIZED FACILITIES

Providing transportation infrastructure at the same time as, or in advance of, development can be much more cost-effective than retrofitting inadequate transportation infrastructure after development has occurred. Ensuring that well-connected facilities for all transportation modes are available provides the public with viable alternatives as they choose how they move around and through communities. Multiple travel modes are often accommodated

along the same transportation corridors, such as sidewalks, pedestrian and bicycle trails, public transit, and private and commercial travel on arterial streets.

The “Community Facilities Element” of the Whitefish City-County Growth Policy recommends that the city “formulate and adopt a **concurrency policy** for sidewalks, parks, bike and pedestrian ways, and other related facilities that integrates with an overall master plan for such facilities.” Concurrency simply means that the necessary public facilities and services are available at the time the actual impacts of new development occur. Transportation concurrency links a community’s land use plans with its transportation and capital improvement plans, providing a tool for effectively managing the growth. Concurrency policies are often viewed as a way to make communities more livable and sustainable because facilities and services keep pace with population growth.

Under such policies, a developer has the option of delaying (or phasing) a proposed development until all applicable facilities are in place, or paying for necessary upgrades “up front” so the development can proceed. In the latter case, the developer is typically reimbursed by subsequent developers who are also making use of the same infrastructure and/or local government. Concurrency can also work together with impact fee programs.

As the Growth Policy points out, concurrency requirements are generally in place for streets, water, wastewater, and drainage facilities within Whitefish even though the City has not adopted a formal concurrency policy. Subdivisions are not approved unless essential infrastructure is extended to the subject property. Likewise, new developments are not approved without adequate vehicle circulation and access provisions. However, there are no such requirements in place with respect to non-motorized transportation facilities such as sidewalks and bicycle and pedestrian trails.

Should the City choose to proceed with the development of a concurrency policy for non-motorized transportation facilities, the effort would require: inventorying existing facilities; defining what constitutes an adequate level of service for non-motorized facilities; and establishing a list of planned improvements with likely implementation dates based on recommendations from the Bicycle and Pedestrian Master Plan and/or the city’s existing Capital Improvements Plan. This information is essential to measuring whether the service needs of a new development exceed existing capacity and any scheduled improvements in the capital improvements program for that period. If adequate capacity is not available, then three options exist for the developer—provide the necessary facility or service improvements, provide a monetary contribution toward such improvements, or wait until local government provides the necessary improvements.

A concurrency policy for non-motorized facilities would need to be discussed and formally adopted by the City Council after soliciting public comments on the proposed policy. Once adopted, new developments would need to undergo a concurrency review to determine if there is adequate capacity on each of the impacted transportation facilities to accommodate the impact of the proposed new development. The concurrency policy could also be comprehensive and address streets and roadways within the community as well as non-motorized facilities.



CHAPTER 8: Financial Analysis

CHAPTER 8: FINANCIAL ANALYSIS

The previous chapters of this Plan identify problems with the transportation system and recommend appropriate corrective measures. This chapter focuses on the financial mechanisms that are traditionally used to finance transportation improvements. Transportation improvements can be implemented using federal, state, local and private funding sources. Historically, federal and state funding programs have been used almost exclusively to construct and upgrade the major roads in the greater Whitefish area. Considering the current funding limits of these traditional programs, and the anticipated road development needs of the community, it is apparent that a greater amount of the financing will be required from local and private sources if these needs are to be met.

Much of the following information concerning the federal and state funding programs was assembled with the assistance of the Statewide and Urban Planning Section of the Montana Department of Transportation (MDT). The intent is to identify the traditional federal, state and local sources of funds available for funding transportation related projects and programs in the Whitefish area. A narrative description of each potential funding source is provided including: the source of revenue; required match; purpose for which funds are intended; means by which the funds are distributed; and the agency or jurisdiction responsible for establishing priorities for the use of the funds.

8.1 FUNDING SOURCES

The following list includes federal and state funding sources developed for the distribution of Federal and State transportation funding. This includes Federal funds the State receives under the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)-enacted on August 10, 2005. The list also includes local funding sources available through the city and county, as well as private sources. It should be understood that other funding sources are possible, but those listed below reflect the most probable sources at this time. A narrative description of each source is provided in the following sections of this chapter.

Federal Funding Sources

- National Highway System (NHS)
- Surface Transportation Program (STP)
 - *Primary Highway System (STPP)**
 - *Secondary Highway System (STPS)**
 - *Urban Highway System (STPU)**
 - *Community Transportation Enhancement Program (CTEP)**
- Highway Safety Improvement Program (HSIP)
 - *High Risk Rural Roads Program (HRRR)*
- Highway – Railway Crossing Program (RRX)

- Highway Bridge Replacement and Rehabilitation Program (HBRRP)
 - *On-System Bridge Replacement and Rehabilitation Program*
 - *Off-System Bridge Replacement and Rehabilitation Program*
- Coordinated Border Infrastructure Program (CBI)
- Congestion Mitigation & Air Quality Improvement Program (CMAQ)
 - *CMAQ (formula)*
 - *Montana Air & Congestion Initiative (MACI)–Guaranteed Program (flexible)**
 - *Montana Air & Congestion Initiative (MACI)–Discretionary Program (flexible)**
 - *Urban High Growth Adjustment (flexible)**
- Urban Highway Preservation (UHP) (Equity Bonus)*
- Safe Routes To School (SRTS)
- Federal Lands Highway Program (FLHP)
 - *Public Lands Highways (PLH)*
 - *Parkways and Park Roads*
 - *Indian Reservation Roads (IRR)*
 - *Refuge Roads*
- Congressionally Directed Funds
 - *High Priority Projects (HPP)*
 - *Transportation Improvements Projects*
- Transit Capital & Operating Assistance Funding
 - *Discretionary Grants (Section 5309)*
 - *Capital Assistance for the Elderly and Persons with Disabilities (Section 5310)*
 - *Financial Assistance for Rural General Public Providers (Section 5311)*
 - *New Freedoms Program (5317)*
 - *Job Access Reverse Commute (JARC) (5316)*

State Funding Sources

- State Funded Construction (SFC)
- TransADE

Local Funding Sources

- City Funds
- County Road Funds
- Private Funds
- Future Potential Funds

8.2 FEDERAL AID FUNDING PROGRAMS

The following summary of major Federal transportation funding categories received by the State through the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)-enacted on August 10, 2005, includes state developed implementation/sub-programs. In order to receive project funding under these programs, projects must be included in the State Transportation Improvement Program (STIP).

National Highway System (NHS)

The purpose of the National Highway System (NHS) is to provide an interconnected system of principal arterial routes which will serve major population centers, international border crossings, intermodal transportation facilities and other major travel destinations; meet national defense requirements; and serve interstate and interregional travel. The National Highway System includes all Interstate routes, a large percentage of urban and rural principal arterials, the defense strategic highway network, and strategic highway connectors.

Allocations and Matching Requirements

NHS funds are Federally apportioned to Montana and allocated based on system performance by the Montana Transportation Commission. The Federal share for NHS projects is 86.58% and the State is responsible for the remaining 13.42%. The State share is funded through the Highway State Special Revenue Account.

Eligibility and Planning Considerations

Activities eligible for the National Highway System funding include construction, reconstruction, resurfacing, restoration, and rehabilitation of segments of the NHS. Operational improvements as well as highway safety improvements are also eligible. Other miscellaneous activities that may qualify for NHS funding include research, planning, carpool projects, bikeways, and pedestrian walkways. The Transportation Commission establishes priorities for the use of National Highway System funds and projects are let through a competitive bidding process. US Highway 93 and MT Highway 40 are on the National Highway System.

Surface Transportation Program (STP)

Surface Transportation Program (STP) funds are Federally apportioned to Montana and allocated by the Montana Transportation Commission to various programs including the Surface Transportation Program Primary Highways (STPP), Surface Transportation Program Secondary Highways (STPS), and the Surface Transportation Program Urban Highways (STPU).

- *Primary Highway System (STPP)**

The Federal and State funds available under this program are used to finance transportation projects on the state-designated Primary Highway System. The Primary Highway System includes highways that have been functionally classified by the MDT as either principal or minor arterials and that have been selected by the

Transportation Commission to be placed on the Primary Highway System [MCA 60-2-125(3)].

Allocations and Matching Requirements

Primary funds are distributed statewide [MCA 60-3-205] to each of five financial districts, including the Missoula District. The Commission distributes STPP funding based on system performance. Of the total received, 86.58% is Federal and 13.42% is State funds from the Highway State Special Revenue Account.

Eligibility and Planning Considerations

Eligible activities include construction, reconstruction, rehabilitation, resurfacing, restoration and operational improvements. The Transportation Commission establishes priorities for the use of Primary funds and projects are let through a competitive bidding process. There are no Primary Highways within the Whitefish Transportation Plan boundary.

- *Secondary Highway System (STPS)**

The Federal and State funds available under this program are used to finance transportation projects on the state-designated Secondary Highway System. The Secondary Highway System highways that have been functionally classified by the MDT as either rural minor arterials or rural major collectors and that have been selected by the Montana Transportation Commission in cooperation with the boards of county commissioners, to be placed on the secondary highway system [MCA 60-2-125(4)].

Allocations and Matching Requirements

Secondary funds are distributed statewide (MCA 60-3-206) to each of five financial districts, including the Missoula District, based on a formula, which takes into account the land area, population, road mileage and bridge square footage. Federal funds for secondary highways must be matched by non-federal funds. Of the total received 86.58% is Federal and 13.42 % is non-federal match. Normally, the match on these funds is from the Highway State Special Revenue Account.

Eligibility and Planning Considerations

Eligible activities for the use of Secondary funds fall under three major types of improvements: Reconstruction, Rehabilitation, and Pavement Preservation. The Reconstruction and Rehabilitation categories are allocated a minimum of 65% of the program funds with the remaining 35% dedicated to Pavement Preservation. Secondary funds can also be used for any project that is eligible for STP under Title 23, U.S.C.

MDT and county commissions determine Secondary capital construction priorities for each district with final project approval by the Transportation Commission. By state law the individual counties in a district and the state vote on Secondary funding priorities presented to the Commission. The Counties and MDT take the input from citizens, small cities, and tribal governments during the annual priorities process.

Projects are let through a competitive bidding process. Secondary highways around the Whitefish area include S-292 (Whitefish Stage Road), and S-487 (Big Mountain Road).

- *Urban Highway System (STPU)**

The Federal and State funds available under this program are used to finance transportation projects on the state-designated Urban Highway System. The Urban Highway System is described under MCA 60-2-125(6), as those highways and streets that are in and near incorporated cities with populations of over 5,000 and within urban boundaries established by the MDT, that have been functionally classified as either urban arterials or collectors, and that have been selected by the Montana Transportation Commission, in cooperation with local government authorities, to be placed on the Urban Highway System.

Allocations and Matching Requirements

State law [MCA 60-3-211] guides the allocation of Urban funds to projects on the Urban Highway System in the fifteen urban areas through a statutory formula based on each area's population compared to the total population in all urban areas. Of the total received, 86.58% is Federal and 13.42% is non-federal match typically provided from the Special State Revenue Account for highway projects.

Eligibility and Planning Considerations

Urban funds are used primarily for major street construction, reconstruction, and traffic operation projects on the 390 miles on the State-designated Urban Highway System, but can also be used for any project that is eligible for STP under Title 23, U.S. C. Priorities for the use of Urban funds are established at the local level through local planning processes with final approval by the Transportation Commission.

Because the Urban Highway System includes transportation infrastructure that crosses the line between incorporated and unincorporated areas, it is important that city and county governments work together to identify and address urban highway needs. Consideration of cooperative efforts between city and county governments to address urban highways (roads and bridges) should be incorporated into the planning and implementation of the county CIP as appropriate.

Whitefish's FFY 2009 urban funding balance is currently \$1,133,818. The annual allocation of urban funds for Whitefish is \$171,104 (total dollars, Federal plus State match). We assume this allocation will remain constant through the life of the plan. A portion of Baker Avenue, Wisconsin Avenue, East Lakeshore Drive, and Big Mountain Road (within the urban limits of Whitefish) are on the Urban Highway System.

- *Community Transportation Enhancement Program (CTEP)**

Federal law requires that at least 10% of STP funds must be spent on transportation

enhancement projects. The Montana Transportation Commission created the Community Transportation Enhancement Program in cooperation with the Montana Association of Counties (MACO) and the League of Cities and Towns to comply with this Federal requirement.

Allocations and Matching Requirements

CTEP is a unique program that distributes funding to local and tribal governments based on a population formula and provides project selection authority to local and tribal governments. The Transportation Commission provides final approval to CTEP projects within the State's right-of-way. The Federal share for CTEP projects is 86.58% and the Local and tribal governments are responsible for the remaining 13.42%.

Eligibility and Planning Considerations

Eligible CTEP categories include:

- Pedestrian and bicycle facilities
- Historic preservation
- Acquisition of scenic easements and historic or scenic sites
- Archeological planning and research
- Mitigation of water pollution due to highway runoff or reduce vehicle-caused
- Wildlife mortality while maintaining habitat connectivity
- Scenic or historic highway programs including provisions of tourist and welcome center facilities
- Landscaping and other scenic beautification
- Preservation of abandoned railway corridors (including the conversion and use for bicycle or pedestrian trails)
- Control and removal of outdoor advertising
- Establishment of transportation museums
- Provisions of safety and educational activities for pedestrians and bicyclists

Projects addressing these categories and that are linked to the transportation system by proximity, function or impact, and where required, meet the "historic" criteria, may be eligible for enhancement funding.

Projects must be submitted to the local government to the MDT, even when the project has been developed by another organization or interest group. Project proposals must include evidence of public involvement in the identification and ranking of enhancement projects. Local governments are encouraged to use their planning boards, where they exist, for the facilitation of public participation or a special enhancement committee. The MDT staff reviews each project proposal for completeness and eligibility and submits them to the Transportation Commission and the federal Highway Administration for approval.

The City of Whitefish has a current balance of \$266,349 and the estimated 2010 allocation is \$29,511 (Federal). Flathead County is allocated approximately \$302,455 annually (Federal). There is currently a balance of \$918,511 for this program. The balances represent funds not obligated towards a selected project.

*State funding programs developed to distribute Federal funding within Montana

Highway Safety Improvement Program (HSIP)

Allocations and Matching Requirements

HSIP is a new core funding program established by SAFETEA-LU. HSIP funds are Federally apportioned to Montana and allocated to safety improvement projects identified in the strategic highway safety improvement plan by the Commission. Projects described in the State strategic highway safety plan must correct or improve a hazardous road location or feature, or address a highway safety problem. The Commission approves and awards the projects which are let through a competitive bidding process. Generally, the Federal share for the HSIP projects is 91.24% and the State is responsible for 8.76%.

Eligibility and Planning Considerations

There are two set aside programs that receive HSIP funding: the Highway – Railway Crossing Program and the High Risk Rural Roads Program.

High Risk Rural Roads Program (HRRR)

Funds are set aside from the Highway Safety Improvement Program funds apportioned to Montana for construction and operational improvements on high-risk rural roads. These funds are allocated to HRRRP projects by the Commission. If Montana certifies that it has met all of the needs on high risk rural roads, these set aside funds may be used on any safety improvement project under the HSIP. Montana's set aside requirement for HRRRP is approximately \$700,000 per year.

Highway - Railway Crossing Program (RRX)

Funds are Federally apportioned to Montana and allocated by the Commission for projects that will reduce the number of fatalities and injuries at public highway-rail grade crossings; through the elimination of hazards and/or the installation/upgrade of protective devices.

Highway Bridge Replacement and Rehabilitation Program (HBRRP)

Allocations and Matching Requirements

HBRRP funds are Federally apportioned to Montana and allocated to two programs by the Montana Transportation Commission. In general, projects are funded with 86.58% Federal and the State is responsible for the remaining 13.42%. The State share is funded through the Highway State Special Revenue Account. The Montana Transportation Commission approves projects which are then let to contract through a competitive bidding process.

- *On-System Bridge Replacement and Rehabilitation Program*

The On-System Bridge Program receives 65% percent of the Federal HBRRP funds. Projects eligible for funding under the On-System Bridge Program include all highway bridges on the State system. The bridges are eligible for rehabilitation or replacement. In addition, painting and seismic retrofitting are also eligible under this program. MDT's Bridge Bureau assigns a priority for replacement or rehabilitation of structurally deficient and functionally obsolete structures based upon sufficiency ratings assigned to each bridge. A structurally deficient bridge is eligible for rehabilitating or replacement; a functionally obsolete bridge is eligible only for rehabilitation; and a bridge rated as sufficient is not eligible for funding under this program.

- *Off-System Bridge Replacement and Rehabilitation Program*

The Off-System Bridge Program receives 35% percent of the Federal HBRRP funds. Projects eligible for funding under the Off-System Bridge Program include all highway bridges not on the State system. Procedures for selecting bridges for inclusion into this program are based on a ranking system that weighs various elements of a structures condition and considers local priorities. MDT Bridge Bureau personnel conduct a field inventory of off-system bridges on a two-year cycle. The field inventory provides information used to calculate the Sufficiency Rating (SR).

Coordinated Border Infrastructure Program (CBI)

CBI funds are Federally apportioned to Montana and allocated by the Commission based on system performance and project eligibilities. These funds may be used on projects within 100 miles of the international border to improve transportation, safety, regulation, or improved planning/coordination to streamline international motor vehicle and cargo movements. The Montana Transportation Commission approves projects which are then let to contract through a competitive bidding process. The Federal share is 86.58% and the State is responsible for 13.42%.

Congestion Mitigation & Air Quality Improvement Program (CMAQ)

Federal funds available under this program are used to finance transportation projects and programs to help improve air quality and meet the requirements of the Clean Air Act. Montana's air pollution problems are attributed to carbon monoxide (CO) and particulate matter (PM10 and PM2.5).

Allocations and Matching Requirements

CMAQ funds are Federally apportioned to Montana and allocated to various eligible programs by formula and by the Commission. As a minimum apportionment state a Federally required distribution of CMAQ funds goes to projects in Missoula since it is Montana's only designated and classified air quality non-attainment area. The remaining, non-formula funds, referred to as "flexible CMAQ" is directed to areas of the state with

emerging air quality issues through various state programs. The Transportation Commission approves and awards both formula and non-formula projects on MDT right-of-way. Infrastructure and capital equipment projects are let through a competitive bidding process. Of the total funding received, 86.58% is Federal and 13.42% is non-federal match provided by the state for projects on state highways and local governments for local projects.

Eligibility and Planning Considerations

In general, eligible activities include transit improvements, traffic signal synchronization, bicycle pedestrian projects, intersection improvements, travel demand management strategies, traffic flow improvements, and public fleet conversions to cleaner fuels. At the project level, the use of CMAQ funds is not constrained to a particular system (i.e. Primary, Urban, and NHS). A requirement for the use of these funds is the estimation of the reduction in pollutants resulting from implementing the program/project. These estimates are reported yearly to FHWA.

- *CMAQ (formula)*

Mandatory CMAQ funds that come to Montana based on a Federal formula and are directed to Missoula, Montana's only classified, moderate CO non-attainment area. Not applicable to Whitefish.

- *Montana Air & Congestion Initiative (MACI)–Guaranteed Program (flexible)**

This is state program funded with flexible CMAQ funds that the Commission allocates annually to Billings and Great Falls to address carbon monoxide issues in these designated, but “not classified”, CO non-attainment areas. The air quality in these cities is roughly equivalent to Missoula, however, since these cities are “not classified” so they do not get direct funding through the Federal formula. Not applicable to Whitefish.

- *Montana Air & Congestion Initiative (MACI)–Discretionary Program (flexible)**

The MACI – Discretionary Program provides funding for projects in areas designated non-attainment or recognized as being “high-risk” for becoming non-attainment. Since 1998, MDT has used MACI-Discretionary funds to get ahead of the curve for CO and PM10 problems in non-attainment and high-risk communities across Montana. District Administrators and local governments nominate projects cooperatively. Projects are prioritized and selected based on air quality benefits and other factors. The most beneficial projects to address these pollutants have been sweepers and flushers, intersection improvements and signal synchronization projects. The City of Whitefish is designated as a PM-10 non-attainment area.

- *Urban High Growth Adjustment (flexible)**

Urban High Growth Adjustment funds are distributed to urban areas in Montana where population increased by more than 15% between the 1990 and 2000 censuses. These funds are available thru 2011. Kalispell, Bozeman, and Missoula are the areas

currently eligible for funding through this source. The intent of this funding is to address backlogged needs in these very rapidly growing cities. Nominations for the use of these funds are established at the local level similar to STPU funds. These funds may be spent on the Urban Highway System for projects eligible for either STPU or CMAQ funds.

*State funding programs developed to distribute Federal funding within Montana

Urban Pavement Preservation (UPP) (Equity Bonus)*

The Urban Pavement Preservation Program is a state program that addresses urban highway system preservation needs. The program is funded from federal Equity Bonus funds that are appropriated to each State to ensure that each State receives a specific share of the aggregate funding for major highway programs. The program funds cost-effective treatments for the preservation of the existing Urban Highway System to prevent deterioration while maintaining or improving the functional condition of the system without increasing structural capacity.

Allocations and Matching Requirements

The Transportation Commission determines the annual funding level for this program for preservation projects in the fifteen urban areas. Projects are funded with 86.58% Federal and the State is responsible for the remaining 13.42%. The State share is funded through the Highway State Special Revenue Account. The Montana Transportation Commission approves projects which are then let to contract through a competitive bidding process.

Eligibility and Planning Considerations

Activities eligible for this funding include pavement preservation treatments on the Urban Highway System based on needs identified through a locally developed and maintained pavement management system. Priorities are developed by MDT Districts based on the local pavement management system outputs and consideration of local government nominations with final approval by the Transportation Commission. Projects are let through a competitive bidding process.

*State funding programs developed to distribute Federal funding within Montana

Safe Routes To School (SRTS)

Allocations and Matching Requirements

Safe Routes To School funds are Federally apportioned to Montana for programs to develop and promote a safe environment that will encourage children to walk and bicycle to school. Montana is a minimum apportionment state, and will receive \$1-million per year, subject to the obligation limitation. The Federal share of this program is 100%.

Eligibility and Planning Considerations

Eligible activities for the use of SRTS funds fall under two major categories with 70% directed to infrastructure improvements, and the remaining 30% for behavioral (education) programs. Funding may be used within a two mile radius of K-8 schools for improvements

or programs that make it safer for kids to walk or bike to school. SRTS is a reimbursable grant program and project selection is done through an annual application process. Eligible applicants for infrastructure improvements include local governments and school districts. Eligible applicants for behavioral programs include state, local and regional agencies, school districts, private schools, non-profit organizations. Recipients of the funds will front the cost of the project and will be reimbursed during the course of the project. For grant cycle information visit: <http://www.mdt.mt.gov/pubinvolve/saferoutes/>

Federal Lands Highway Program (FLHP)

FLHP is a coordinated Federal program that includes several funding categories.

- *Public Lands Highways (PLH)*

Discretionary

The PLH Discretionary Program provides funding for projects on highways that are within, adjacent to, or provide access to Federal public lands. As a discretionary program, the project selection authority rests with the Secretary of Transportation. However, this program has been earmarked by Congress under SAFETEA-LU. There are no matching fund requirements.

Forest Highway

The Forest Highway Program provides funding to projects on routes that have been officially designated as Forest Highways. Projects are selected through a cooperative process involving FHWA, the US Forest Service and MDT. Projects are developed by FHWA's Western Federal Lands Office. There are no matching fund requirements.

- *Parkways and Park Roads*

Parkways and Park Roads funding is for National Park transportation planning activities and projects involving highways under the jurisdiction of the National Park Service. Projects are prioritized by the National Park Service and approved and developed by FHWA's Western Federal Lands Office. There are no matching fund requirements.

- *Indian Reservation Roads (IRR)*

IRR funding is eligible for multiple activities including transportation planning and projects on roads or highways designated as Indian Reservation Roads. Funds are distributed to Bureau of Indian Affairs (BIA) area offices in accordance with a Federal formula and are then distributed to projects on individual reservations. Projects are usually constructed by BIA forces. There are no matching fund requirements. Any public road within or leading to a reservation is eligible for the Indian Reservation Road funding. In practice, IRR funds are only rarely expended on state designated roads. MDT staff is aware of only two secondary routes that

have received IRR funding support. These are S-418, Pryor Road, in the Crow Reservation; and S-234, Taylor Hill Road, that leads to the Rocky Boy's Reservation.

- *Refuge Roads*

Refuge Roads funding is eligible for maintenance and improvements of refuge roads, rest areas, and bicycle and pedestrian facilities. Allocations are based on a long-range transportation improvement program developed by the US Fish and Wildlife Service. There are no matching fund requirements.

Congressionally Directed Funds

The categories listed below describing the programs for congressionally directed funds are specific to the current transportation funding bill (SAFETEA-LU). It should be recognized that there is no guarantee that these programs will be in place during the next Transportation Authorization Bill. The "Congressionally Directed Funds" programs are as follows:

- *High Priority Projects (HPP)*

High Priority Projects are specific projects named to receive Federal funding in SAFETEA-LU Section 1702. HPP funding authority is available until expended and projects named in this section are included in Montana's percent share of the Federal highway funding program. The Montana Transportation Commission approves projects which are then let to contract through a competitive bidding process. In Montana, the Federal share payable for these projects is 86.58% Federal and 13.42% non-Federal. Montana receives 20% of the total project funding named in each year 2006 thru 2009. These funds are subject to the obligation limitation.

- *Transportation Improvements Projects*

Transportation Improvement Projects are specific projects named to receive Federal funding in SAFETEA-LU Section 1934. Transportation Improvement Project funding authority is available until expended and projects named in this section are not included in Montana's percent share of the Federal highway funding program. The Montana Transportation Commission approves projects which are then let to contract through a competitive bidding process. In Montana, the Federal share payable on these projects is 86.58% Federal and 13.42% non-Federal. Montana receives a directed percent of the total project funding named in each year as follows: 2005 – 10%, 2006-20%, 2007-25%, 2008-25%, 2009-20%. These funds are subject to the obligation limitation.

Transit Capital & Operating Assistance Funding

The MDT Transit Section provides federal and state funding to eligible recipients through federal and state programs. Federal funding is provided through the Section 5310 and Section 5311 transit programs and state funding is provided through the TransADE program. The new highway bill SAFETEA-LU brought new programs for transit "New

Freedoms and Job Access Reverse Commute (JARC). All projects funded must be derived from a locally developed, coordinated public transit-human services transportation plan (a “coordinated plan”).

The coordinated plan must be developed through a process that includes representatives of public, private, and nonprofit transportation and human service providers and participation from the public. The following programs may be an eligible source of funding for Whitefish area transit needs.

- *Discretionary Grants (Section 5309)*

These grants provide capital assistance for fixed guide-way modernization, construction and extension of new fixed guide-way systems, bus and bus-related equipment and construction projects. Eligible applicants for these funds are state and local public bodies.

- *Capital Assistance for the Elderly and Persons with Disabilities (Section 5310)*

The Section 5310 Program provides capital assistance to providers that serve elderly persons and persons with disabilities. Eligible recipients must have a locally developed coordination plan. Federal funds provide 86% of the capital costs for purchase of buses, vans, wheelchair lifts, communication, and computer equipment. The remaining 14% is provided by the local recipient. Application for funding is made on an annual basis.

- *Financial Assistance for Rural General Public Providers (Section 5311)*

The purpose of the Section 5311 Program is to assist in the maintenance, development, improvement, and use of public transportation systems in rural areas (areas under 50,000 population). Eligible recipients are local public bodies, incorporated cities, towns, counties, private non-profit organizations, Indian Tribes, and operators of public transportation services. A locally developed coordinate plan is needed to receive funding assistance. Funding is available for operating and capital assistance. Federal funds pay for 86% of capital costs, 54% for operating costs, 80% for administrative costs, and 80% for maintenance costs. The remainder, or required match, (14% for capital, 46% for operating, 20% for administrative, and maintenance) is provided by the local recipient. Application for funding is made on an annual basis.

- *New Freedoms Program (5317)*

The purpose of the New Freedom Program is to provide improved public transportation services, and alternatives to public transportation, for people with disabilities, beyond those required by the Americans with Disabilities Act of 1990 (ADA). The program will provide additional tools to overcome barriers facing Americans with disabilities who want to participate fully in society. Funds may be used for capital expenses with Federal funds provided for up to 80 percent of the cost of the project, or operating expenses with Federal funds provided for up to 50 percent of the cost of the project. All projects funded must be derived from a locally developed, coordinated public transit-human services transportation plan (a “coordinated plan”).

- *Job Access Reverse Commute (JARC) (5316)*

The purpose of this grant program is to develop transportation services designed to transport welfare recipients and low income individuals to and from jobs and to develop transportation services for residents of urban centers and rural and suburban areas to suburban employment opportunities. Funds may be used for capital and operating expenses with Federal funds provided for up to 50 percent of the cost of the project.

8.3 STATE FUNDING SOURCES

State Funded Construction (SFC)

Allocations and Matching Requirements

The State Funded Construction Program, which is funded entirely with state funds from the Highway State Special Revenue Account, provides funding for projects that are not eligible for Federal funds. This program is totally State funded, requiring no match.

Eligibility and Planning Considerations

This program funds projects to preserve the condition and extend the service life of highways. Eligibility requirements are that the highways be maintained by the State. MDT staff nominates the projects based on pavement preservation needs. The District's establish priorities and the Transportation Commission approves the program.

TransADE

The TransADE grant program offers operating assistance to eligible organizations providing transportation to the elderly and persons with disabilities.

Allocations and Matching Requirements

This is a state funding program within Montana statute. State funds pay 50 percent of the operating costs and the remaining 50 percent must come from the local recipient.

Eligibility and Planning Considerations

Eligible recipients of this funding are counties, incorporated cities and towns, transportation districts, or non-profit organizations. Applications are due to the MDT Transit Section by the first working day of February each year. To receive this funding the applicant is required by state law (MCA 7-14-112) to develop a strong, coordinated system in their community and/or service area.

8.4 LOCAL FUNDING SOURCES

State Fuel Tax - City and County

Under 15-70-101, MCA, Montana assesses a tax of \$.27 per gallon on gasoline and diesel fuel used for transportation purposes. Each incorporated city and town receives a portion of the total tax funds allocated to cities and towns based on:

1. The ratio of the population within each city and town to the total population in all cities and towns in the State;
2. The ratio of the street mileage within each city and town to the total street mileage in all incorporated cities and towns in the State. The street mileage is exclusive of the Federal-Aid Interstate and Primary System.

Each county receives a percentage of the total tax funds allocated to counties based on:

1. The ratio of the rural population of each county to the total rural population in the State, excluding the population of all incorporated cities or towns within the county and State;
2. The ratio of the rural road mileage in each county to the total rural road mileage in the State, less the certified mileage of all cities or towns within the county and State; and
3. The ratio of the land area in each county to the total land area of the state.

All fuel tax funds allocated to the city and county governments must be used for the construction, reconstruction, maintenance, and repair of rural roads or city streets and alleys. The funds may also be used for the share that the city or county might otherwise expend for proportionate matching of Federal funds allocated for the construction of roads or streets on the Primary, Secondary, or Urban Systems. Priorities for these funds are established by the cities and counties receiving them.

For State Fiscal Year 2010, the combined allocation for the City of Whitefish and Flathead County was approximately \$593,427 (Whitefish - \$155,981 and Flathead County - \$437,446) in state fuel tax funds. The amount varies annually, but the current level provides a reasonable base for projection throughout the planning period.

In addition, local governments generate revenue through a variety of other funding mechanisms. Typically, several local programs related to transportation exist for budgeting purposes and to disperse revenues. These programs are tailored to fulfill specific transportation functions or provide particular services.

The following text summarizes programs that relate to transportation financing through the city and county.

8.5 CITY OF WHITEFISH

General Fund

This fund provides revenue for most major city functions like the administration of local government, and the departments of public services, including police, fire, and parks. Revenues for the fund are generated through the general fund mill levy on real and personal property and motor vehicles; licenses and permits; state and federal intergovernmental revenues; intergovernmental fund transfers; and charges for services.

Minor transportation-related services are supported by this fund through the City of Whitefish Police Department. The police department is responsible for enforcing traffic laws on the street system.

Resort Tax Funds

The City of Whitefish is one of seven incorporated areas within Montana that collects “resort” taxes. In Whitefish, the resort tax amounts to a two (2) percent tax on businesses such as restaurants, hotels and tourist-oriented retail stores. The fundamental idea behind resort taxes is to allow places that get a lot of tourism to pay for the wear-and-tear on local infrastructure.

During the fiscal year 2009, the City of Whitefish collected about \$1,600,000 from resort tax revenue. Sixty-five percent of annual revenue goes to street improvement projects, 25 percent goes to tax relief and the last 10 percent is divided between contributing businesses and local parks. The resort tax program will continue through the year 2023.

It should be noted that the most recent (July 2008) information from the U.S. Bureau of the Census, estimates the population of the City of Whitefish to be nearly 8,300 residents. This population substantially exceeds the upper population threshold for resort communities of 5,500 established by State law. The 2009 Legislature considered a bill to adjust the upper threshold population level requirement for resort communities. The Legislature did not change the upper population limit but revised the law to consider the population at the time of the most recent federal census instead of the federal population estimates produced annually. This means, the City of Whitefish has the authority to collect resort tax until the data from the 2010 census becomes available. Because the resort tax comprises an important source of local funds, it is likely the 2011 Legislature will be asked to once again consider increasing the population threshold for resort communities.

Transportation Impact Fees

This method of funding transportation improvements will be considered by the City of Whitefish based on projects and results contained in this Transportation Plan document. Although at times controversial, this exaction on private development can help to soften development’s impact on the surrounding transportation system.

Impact Fees are increasingly being considered as a potential method for financing transportation infrastructure needs. Presently, the only communities utilizing impact fees are the city of Bozeman, the city of Missoula, and Gallatin County. Developer exactions and fees allow growth to pay for itself. The developers of new properties should be required to provide at least a portion of the added transportation system capacity necessitated by their development, or to make some cash contribution to the agency responsible for implementing the needed system improvements.

Establishment of an equitable fee structure would be required to assess developers based upon the level of impact to the transportation system expected from each project. Such a fee structure could be based upon the number of additional vehicle trips generated, or upon

a fundamental measure such as square footage of floor space. Once the mechanism is in place, all new development would be reviewed by the local government and fees assessed accordingly.

The City of Whitefish has adopted impact fees to help fund trails, the park maintenance facility, the emergency services building, city hall, water and sewer facilities, and storm water facilities.

Special Revenue Funds

These funds are used to budget and distribute revenues that are legally restricted for a specific purpose. Several such funds that benefit the transportation system are discussed briefly in the following paragraphs.

Special Improvement District (SID) Revolving Fund

This fund provides financing to satisfy bond payments for special improvement districts in need of additional funds. The city can establish street SID's with bond repayment to be made by the adjoining landowners receiving the benefit of the improvement. The city has provided labor and equipment for past projects through the General Fund, with an SID paying for materials.

Gas Tax Apportionment

Revenues are generated through State gasoline taxes apportioned from the State of Montana. Transfers are made from this fund to the General Fund to reimburse expenditures for construction, reconstruction, repair and maintenance of streets. Half of the City's allocation is based upon population, and half is based on the miles of streets and alleys in the City. The City Gas Tax Fund received an allocation of approximately \$155,981 for state fiscal year 2010.

Tax Increment Financing (TIF)

The funds generated from a new tax increment financing TIF district could be used to finance projects including street and parking improvements; tree planting; installation of new bike racks; trash containers and benches; and other streetscape beautification projects within the downtown area.

8.6 FLATHEAD COUNTY

Road Fund

The County Road Fund provides for the construction, maintenance, and repair of all county roads outside the corporate limits of cities and towns in Flathead County. Revenue for this fund comes from intergovernmental transfers (i.e., State gas tax apportionment and motor vehicle taxes), and a mill levy assessed against county residents living outside cities and

towns. Flathead County's State fiscal year gas tax apportionment added approximately \$437,466 to the Road Fund.

County Road Fund monies are primarily used for maintenance with little allocated for new road construction. It should be noted that only a small percentage of the total miles on the county road system are located in the study area. Projects eligible for financing through this fund will be competing for available revenues on a county-wide basis.

Bridge Fund

The Bridge Fund provides financing for engineering services, capital outlays, and necessary maintenance for bridges on all off-system and Secondary routes within the county. These monies are generated through intergovernmental fund transfers (i.e., vehicle licenses and fees), and a county-wide mill levy. There is a taxable limit of four mills for this fund.

Special Revenue Funds

Special revenue funds may be used by the county to budget and distribute revenues legally restricted to a specific purpose. Several such funds that benefit the transportation system are discussed briefly in the following paragraphs.

Capital Improvements Fund

This fund is used to finance major capital improvements to county infrastructure. Revenues are generated by loans from other county funds, and must be repaid within ten years. Major road construction projects are eligible for this type of financing.

Rural Improvement District (RID) Revolving Fund

This fund is used to administer and distribute monies for specified RID projects. Revenue for this fund is generated primarily through a mill levy and through motor vehicle taxes and fees. A mill levy is assessed only when delinquent bond payments dictate such an action.

Special Bond Funds

A fund of this type may be established by the county on an as-needed basis for a particularly expensive project. The voters must approve authorization for a special bond fund. The county is not currently using this mechanism.

8.7 PRIVATE FUNDING SOURCES AND ALTERNATIVES

Private financing of highway improvements, in the form of right-of-way donations and cash contributions, has been successful for many years. In recent years, the private sector has recognized that better access and improved facilities can be profitable due to increases in land values and commercial development possibilities. Several forms of private financing for transportation improvements used in other parts of the United States are described in this section.

Development Financing

The developer provides the land for a transportation project and in return, local government provides the capital, construction, and necessary traffic control. Such a financing measure can be made voluntary or mandatory for developers.

Cost Sharing

The private sector pays some of the operating and capital costs for constructing transportation facilities required by development actions.

Transportation Corporations

These private entities are non-profit, tax exempt organizations under the control of state or local government. They are created to stimulate private financing of highway improvements.

Road Districts

These are areas created by a petition of affected landowners, which allow for the issuance of bonds for financing local transportation projects.

Private Donations

The private donation of money, property, or services to mitigate identified development impacts is the most common type of private transportation funding. Private donations are very effective in areas where financial conditions do not permit a local government to implement a transportation improvement itself.

Private Ownership

This method of financing is an arrangement where a private enterprise constructs and maintains a transportation facility, and the government agrees to pay for public use of the facility. Payment for public use of the facility is often accomplished through leasing agreements (wherein the facility is rented from the owner), or through access fees whereby the owner is paid a specified sum depending upon the level of public use.

Privatization

Privatization is either the temporary or long-term transfer of a public property or publicly owned rights belonging to a transportation agency to a private business. This transfer is made in return for a payment that can be applied toward construction or maintenance of transportation facilities.

General Obligation (G.O.) Bonds

The sale of general obligation bonds could be used to finance a specific set of major highway improvements. A G.O. bond sale, subject to voter approval, would provide the financing

initially required for major improvements to the transportation system. The advantage of this funding method is that when the bond is retired, the obligation of the taxpaying public is also retired. State statutes limiting the level of bonded indebtedness for cities and counties restrict the use of G.O. bonds. The present property tax situation in Montana, and recent adverse citizen responses to proposed tax increases by local government, would suggest that the public may not be receptive to the use of this funding alternative.

Tax Increment Financing (TIF)

Increment financing has been used in many municipalities to generate revenue for public improvements projects. As improvements are made within the district, and as property values increase, the incremental increases in property tax revenue are earmarked for this fund. The fund is then used for improvements within the district. Expenditures of revenue generated by this method are subject to certain spending restrictions and must be spent within the district. Tax increment districts could be established to accomplish transportation improvements in other areas of the community where property values may be expected to increase.

Multi-Jurisdictional Service District

This funding option was authorized in 1985 by the State Legislature. This procedure requires the establishment of a special district, somewhat like an SID or RSID, which has the flexibility to extend across city and county boundaries. Through this mechanism, an urban transportation district could be established to fund a specific highway improvement that crosses municipal boundaries (e.g., corporate limits, urban limits, or county line). This type of fund is structured similar to an SID with bonds backed by local government issued to cover the cost of a proposed improvement. Revenue to pay for the bonds would be raised through assessments against property owners in the service district.

Local Improvement District

This funding option is only applicable to counties wishing to establish a local improvement district for road improvements. While similar to an RSID, this funding option has the benefit of allowing counties to initiate a local improvement district through a more streamlined process than that associated with the development of an RSID.

8.8 SUMMARY OF CURRENT FINANCIAL STATUS

Current financial information was obtained from the MDT Urban Planning Section to get a picture of the projected revenue available for funding transportation projects in the Whitefish area over the next 20 years. This information is summarized in **Table 8-1**.

Table 8-1: Projected Funding Available for Transportation Projects

Funding Source	Current Account Balance	Current Annual Allocation	Projected Annual Allocation	Revenue Projection 2020	Revenue Projection 2030
STP – Urban	\$1,133,818*	\$171,104	\$171,104**	\$3.02 M***	\$4.73 M***
CTEP – City	\$266,349*	\$29,511	\$29,511**	\$0.53 M***	\$0.83 M***
State Fuel Tax – City		\$155,981	\$155,981	\$1.72 M***	\$3.28 M***
Transportation Impact Fees		*****	*****	*****	*****
Total	\$1,400,167	\$351,082	\$351,082	\$5.27 M	\$8.84 M

* Unobligated 2009 Carryover Balance per MDT Urban Planning.

** Allocations beyond SAFETEA-LU (FFY 2009) are being estimated based on current allocation levels.

*** Year 2020 and 2030 estimates are based on the current carryover plus annual allocations equal to the current annual allocations. It is important to note that the projected funding estimates are based on the best information available at the time and that there is no guarantee that these funding sources will be available beyond SAFETEA-LU.

***** The annual allocation for transportation impact fees is unknown at this time.

Notes: Although SAFETEA-LU only provides for Federal funding through FFY 2009, 2020 and 2030 projections are based on continuance of current levels of funding unless otherwise noted. Estimated Federal fund allocations do not include amounts of any required local matching funds.



APPENDIX A:
Public Comments and Responses

APPENDIX A: PUBLIC COMMENTS AND RESPONSES

A.1: JANUARY 10, 2008 PUBLIC MEETING ON THE FIRST PUBLIC DRAFT TRANSPORTATION PLAN

#	Oral Comments or Questions Received at the Meeting	Responses Provided at the Meeting
1	What is meant by a “parallel connector” and what is its purpose?	Mr. Key explained that a parallel connector is an alternate route that parallels an arterial roadway (like Spokane Avenue). Jeff took the opportunity to provide information to the audience on functional classifications of roadways and the range of traffic volumes generally associated with each classification.
2	A bypass route has been advocated for a long time in Whitefish. Would the need for a bypass be offset if Spokane and Baker Avenues were configured as one-ways?	As indicated during the presentation, modeling done for the Transportation Plan suggests that future traffic volumes would still be significant even with a bypass in place. Mr. Key explained that the Corridor Study is taking a detailed look at a variety of potential configurations for Spokane and Baker Avenues. The work done for the Corridor Study will help establish the most desirable and effective long-term configuration for US 93.
3	The presence of large trucks in the downtown is undesirable and should be addressed now. Continuing the existing situation over the planning horizon is unacceptable.	Comment is noted.
4	Is there sufficient existing right-of-way along Wisconsin and Karrow Avenues to accommodate the recommended upgrades suggested in the Transportation Plan?	Mr. Key explained that he did not know for sure if existing rights-of-way would be sufficient to adequately improve these corridors. He noted that Wisconsin Avenue has a particularly narrow right-of-way. He also noted that the costs of right-of-way acquisition will be sizable for some projects but it may be possible to make some interim improvements without new right-of-way in some areas.
5	All major roads in Whitefish feed into the downtown area. If development continues in the center of the community, the need for a bypass will be greater.	Jeff commented that continuing development will point toward future revisions of the Transportation Plan and growth assumptions.
6	If Karrow Avenue is improved, won't it function as a “defacto” bypass?	Jeff acknowledged that if Karrow were improved, some people would undoubtedly find and use the roadway as an alternate route to US 93. The recommendations for Karrow Avenue contained in the Plan call for “context sensitive” reconstruction as the area becomes more developed. The roadway can be designed in a manner that would help influence the type of vehicles that can use the roadway and travel speeds.
7	I applaud you for putting recommendations forth in the Transportation Plan that can be commented on by the community.	One of the original reasons that a bypass was suggested years ago was the potential for a major impact on the downtown. With the downturn in logging presently underway, maybe logging trucks won't represent such a concern in the future.
8	Karrow is quite busy on the section between 7th and US 93.	Comment is noted.
9	South of 7th to US 93 (south of Whitefish) receives light vehicle traffic. This area would be difficult and expensive to improve due to the presence of wetlands and the need for three or more residential relocations (these properties exist nearly adjacent to the existing roadway). Several large property owners along Karrow Avenue have no desire to sell property or develop. There is not a very desirable location to join US 93 south of town due to the rolling terrain.	Comment is noted. Jeff asked if the audience saw the need for some improvements to Karrow Avenue. The general sentiment was that if development occurs, then it should be improved by the developers.
10	Can you provide information about the type of non-motorized improvements being proposed in the Plan?	Jeff stated that the Plan generally incorporates the recommendations and identified projects listed in the City's Pedestrian and Bicyclist Master Plan.

11	Baker and US 93 (2nd Street) poses a huge bottleneck due to the lack of a left turn lane. Adding such a feature could provide substantial traffic relief in the area.	Comment is noted.
12	Are there any short-term plans for addressing major issues like the congestion experienced at Baker and 2nd Street?	Jeff noted that the Plan does recommend various interim measures like adding left turn bays on 2nd Street or changing signal timings. He noted that such improvements may result in the loss of some on-street parking near the intersection and that there are right-of-way limitations on one corner of the intersection. He also indicated that various interim improvements have been recommended on the Wisconsin Avenue corridor.
13	Improving the south to north left turn movement at Baker and 2nd should be a high priority.	There is more room on the south side of the intersection than on the northside.
14	Is there any plan for removing police cars that routinely park along Baker Avenue?	John Wilson indicated that the City has started the process for developing a new emergency services center and a new building is still more than a year away from happening.
15	Is the Wisconsin Avenue bike path ever going to get built?	Jeff indicated that the bike path project had to be rebid due to high costs and few bidders in 2007. He noted that the project has been awarded and construction will begin this spring and be completed in 2008.
16	The proposed improvements to Old Morris Trail may not be viable as recommended due to the existence of a conservation easement on some property in the area.	Comment is noted. The recommended road project on Old Morris Trail (MSN-19) was reviewed for a potential conflict with the conservation easement. This review showed that the project is adjacent to but not within the conservation easement. Figure 6-3 shows the location of MSN-19 relative to conservation easements in the area.
17	A member of the audience suggested prioritizing those feasible measures that can help ease congestion in downtown Whitefish.	Comment is noted.
18	What kind of suggestions are in the Plan for public transportation?	Jeff stated that public transportation is discussed in Chapter 9 and includes an idea for partnering with Glacier National Park to provide transit services in nearby communities like Whitefish. Glacier National Park will have a fleet of busses that won't be used year round so there may be an opportunity to use these vehicles for part of the year. He also mentioned some opportunities to develop transit services around special events in Whitefish like the 4th of July. Eagle Transit now offers bus service between Whitefish and Kalispell. Jeff commented that the Plan recommends planning for future transit (like bus pullouts) when new developments are being considered. The community could also consider establishing a bike rental program to enhance alternate transportation in the community.
19	Does the Plan contain any language about bus transportation from Whitefish to Kalispell?	Eagle Transit now offers such service between Whitefish and Kalispell. Chapter 7 includes a discussion of the service.
20	What about another railroad overpass? There is a need for such a facility due to enhance emergency response times within the community.	Proposed MSN-8 (Kalner Lane Extension) includes a new grade-separated crossing of the railroad. This location was chosen over several others because it crosses only a few railroad lines and other potential crossing locations would either have negative effects on residential neighborhoods or be too far out of town to provide much benefit.
21	How do you connect Kalner Lane to Highway 40 without creating another problem intersection?	The intersection of Kalner Lane and Highway 40 would require design modifications and reconfiguration to ensure it functions well for all traffic movements. This intersection would likely meet one of the eight required signal warrants and the installation of a signal or roundabout would accommodate traffic turning left or right from Kalner Lane.
22	When making the proposed east-west connection between 13th Street and Voerman Road (MSN-12), what types of difficulties do you envision?	This connection would require the construction of a new bridge across the Whitefish River. Acquiring right-of-way and constructing a bridge would be expensive. Road and bridge construction also have the potential to impact wetlands and the riparian habitat.
23	Twenty years ago the general feeling in many communities (including Whitefish) was that a bypass could kill a small town. Now the situation	Comment is noted.

	has changed in Whitefish so that if we don't get a bypass it will harm the downtown. Before the idea of a bypass is dropped, it is essential that folks recognize that through traffic from Canada and other growth areas north of Whitefish will continue to create traffic impacts in Whitefish.	
24	I appreciate that the Transportation Plan does not support a bypass. Traffic from logging and chip trucks is slowing.	Comment is noted.
25	Wildlife populations need to be considered when planning for transportation since conflicts between wildlife and traffic can occur.	Comment is noted. Jeff pointed out that current highway designs often contain accommodations for wildlife like over or under crossings and ensuring fish passage in culverts.
26	Has anyone investigated Farm-to-Market Road as a truck bypass?	Jeff stated that Farm-to-Market Road is generally too far west of Whitefish to have much of an effect on traffic flows in town. Such routes need to be convenient to be attractive alternatives to existing routes.
27	If a bypass route is considered, it must connect to Highway 40 since trucks are often headed for destinations to the east and already use that highway.	Comment is noted.
28	How much would a bypass cost?	Very preliminary cost estimates were prepared for the four western route alternatives evaluated in the Transportation Plan. These options had potential construction costs that were very conservatively estimated at ranging from \$4 to \$10 million not including right-of-way costs. Right-of-way costs could be considerable given the cost of land in the Flathead Valley. There are also considerable costs for preliminary design engineering activities that would be incurred, typically about 10-15% of the construction cost.
29	What is the process from this point forward and how do projects recommended in the Plan get implemented?	<p>Jeff responded that the draft Transportation Plan will be reviewed at a Planning Board work session on January 17 and at a public hearing held by the Planning Board. The City Council will also conduct a public hearing on the Transportation Plan and will be asked to formally adopt the Plan.</p> <p>Implementing individual projects will require decisions from MDT and the City depending upon the road system (state-maintained or local systems) affected by the projects. Projects under the jurisdiction of MDT would be subject to their project development procedures and activities. Major projects under the jurisdiction of the City would be advanced through the City's Capital Improvements Program and budgeting processes. Public review and comment opportunities for individual projects would typically be available as projects are being developed by both MDT and the City.</p>
30	The figure showing recommended improvements (Figure 8-1) shows various lines going across lands where no roads exist. Would these lines affect the sale of property? Are these lines "set in stone"?	Jeff stated that the lines represent potentially desirable transportation links for the community's transportation network. However, if there is no development planned for a property crossed by one of the "lines" then nothing is likely to happen. John Wilson also commented that the City would not be involved in the sale of property where a new road was proposed. They would only be involved when a plan to develop the property came up for consideration by the City. In that case, the City would refer to the Transportation Plan recommendations and request that the developer provide right-of-way or at least plan for a future roadway.
31	<p>Scott Sorensen (Written Comment Left at the Meeting)</p> <p>As a four-term (I was just appointed to my fifth term) Whitefish City-County Planning Board member, I think the two biggest needed major projects are 1) Wisconsin Avenue from the viaduct to Whitefish Mountain Resort Road and 2) a car/truck 93 bypass on the west side of town. Both have been needed for years. Everything else is less needed.</p>	Comments are noted.

A.2: WRITTEN PUBLIC COMMENTS RECEIVED AFTER THE PUBLIC MEETING & BY JANUARY 31, 2008 DEADLINE FOR COMMENTS

#	Written Public Comments	Written Responses Provided
1	<p>(Ernie Baker, 1-10-08)</p> <p>My name is Ernie Baker and I am contacting you regarding recent articles in local newspapers regarding the work you are doing on the Transportation Plan for the City of Whitefish.</p> <p>Of interest to me is the plan to extend Denver Avenue east...I own most of the involved land and am curious as to how the plan could have reached this point without some sort of formal contact with me from either you or the City of Whitefish...</p> <p>There is no easement for Denver Avenue to cross my land to join with East Texas Avenue.. The Denver Avenue easement stops on the 93 meridian which is my west boundary...</p> <p>East Texas Avenue is not actually an Avenue in any respect....It is a private easement 18 feet in width...It has also been fenced off for many years and never used by the general public....As the property has been in my family for approximately 120 years this something I am well aware of.</p> <p>Another issue I have is that any East-West road across my property impairs me from using my property in the way established for the last century...It would basically isolate my lower north 40 acres from the 11 acres on the south which would not allow me to use my property as one, making it impossible to successfully pasture and service the horses I raise..</p> <p>Also of interest here is that my meadow is in a very sensitive area and probably the closest and last natural meadow in close proximity to Whitefish.. I have wild mint, wild strawberries and many other different varieties of plants that are native and special, one of which is a wild flower called Dodecatheon that is a protected plant in many States....Each spring this flower numbers in the thousands in my meadow..</p> <p>Depending on the width of the proposed road, which I would assume would be 60 feet, the City would be taking over 60,000 square feet of my property and ruining the vista and privacy I have enjoyed my whole life....20,000 foot lots adjacent to my property are listed for 150,000 dollars per lot...In my opinion my property is worth much more than that and it not for sale...</p> <p>I have also noticed that when taxing property, the City appears to use a formula of using frontage foot on a City road....It is not my intent to have 1,400 feet of road forced down my throat and then later be taxed on same....</p> <p>In ending, take note that I find it interesting that the City promotes green space and then has the arrogance to position themselves to in the future condemn that same space and violate it with a road or path of any sort, so please take this as notification that the current Transportation Plan concerning my property is not accepted or welcome. I respectfully request that you address this issue during your future presentations and studies.</p>	<p>(Jeff Key, 1/10/08)</p> <p>Good afternoon Mr. Baker:</p> <p>Thank you for your well worded comments. They reflect a full grasp of the area, your interests and the difficulties of implementing transportation improvements.</p> <p>First off, I'd start by saying that the information contained within the first "Public Draft" of the Transportation Plan is by no means an endorsement by the City of Whitefish. As the Plan continues, there will be tweaks, additions, removals and clarifications of recommendations in the Plan. That being said, the recommendations are the Consultants attempt (i.e. myself) at trying to find ways to improve the community's transportation system over the next twenty years.</p> <p>Regarding issues such as you have brought up, I try to make it very clear in the actual report that these types of projects will never happen without landowner support at the time that a landowner may chose to develop their property. This is always a contentious issue (i.e. who are you to tell me that you are putting a road through my property?). In my mind, if a landowner does not ever come forward to develop a particular piece of land, than the recommended "road/corridor" will never happen. However if a landowner eventually chooses to develop a particular piece of property, there is some value into setting aside the appropriate easement/right-of-way for future transportation system needs.</p> <p>Your input as stated in your email is exactly what we are hoping for as we consider revisions/iterations of this Plan. Generally speaking, until a report is available and contains some recommendations, it is difficult to get people engaged on this subject.</p> <p>For starters, I will take your email as official comment on the Public Draft and will review it accordingly with the City of Whitefish when the time comes. The Plan has several milestones going forward over the coming months that will allow for revisions and due considerations. This will include the Planning Board, the City Council and several meetings between staff and myself.</p> <p>I do take your comments to heart. I will follow up with you at the appropriate time after all the comments come in on this first draft and when we have had a chance to review all of the issues that are going to pop up.</p> <p>Thank you Mr. Baker.</p>
2	<p>(Aleisa Stevens, 01/21/08)</p> <p>I think that it is good to start planning now for the future. I live in Blanchard Hollow which is off of Blanchard Lake Drive. I drive Karrow/Blanchard Lake Road everyday. I would like to see the 2 lanes widened with a bike/pedestrian path, but I don't think that turn bays or a third lane is necessary. At this time it is a rural area with many single family driveways entering the roadway and I think that it is going to stay this way for awhile longer. I am in favor of widening only if it doesn't</p>	<p>As a result of comments on the Public Draft Transportation Plan, the recommended major street network improvement project for Karrow Avenue (MSN-3) has been revised to include a three-lane urban minor arterial roadway section with pedestrian and bicyclist facilities between 7th Street and US 93 and a two-lane rural section designed in a context sensitive manner providing a separated pedestrian and bicycle path south of 7th Street. We believe this recommendation</p>

	<p>become a truck route (by-pass) around Whitefish. Keep the 98 degree corners and a low speed limit, 45mph tops.</p> <p>As for downtown, I have watched the traffic out my office window for the last 10 years. The traffic consists of 1. passenger cars and trucks, 2.construction trucks (dump. lowboy, and supply delivery), 3.recreational vehicles, 4.logging/chip trucks in that order. The logging industry has been on a downward trend for the last 20 years and will continue in that direction for the foreseeable future. Logging and chip truck traffic through Whitefish will become almost non-existent.</p> <p>I think that the intersections at 93/Baker and 93/Central should be made into no left turn coming from the east or west. Add a left turn arrow to the existing lights north south on 93/Baker and east and west at Spokane and 2nd(near the proposed parking garage).</p> <p>Make 3rd and Baker and 1st and Baker 4 way stops.</p> <p>On page iv of the executive summary there is an error in the definition of NEPA. The acronym stands for the National Environmental Policy Act, not protection act.</p>	<p>recognizes the need to provide a higher design facility within the City of Whitefish and a roadway compatible with the lower density development pattern on lands southwest of Whitefish.</p> <p>Your comments are noted.</p> <p>The Transportation Plan recommends improvements to 2nd Street including the traffic signal modifications and the addition of appropriate dedicated turn lanes at 2nd Street's intersections with Baker and Spokane Avenues. Such changes are evaluated in the Whitefish Urban Corridor Study.</p> <p>Your comments are noted. The Whitefish Urban Corridor Study discusses current and future traffic operations on Baker Avenue and poses recommendations for the future use of the roadway to accommodate projected travel demands.</p> <p>This correction has been made.</p>
<p>3</p>	<p>(Kris and Tom Mann, January 10, 2008)</p> <p>Dear Mr. Key:</p> <p>Thank you for answering my e-mail this morning. Unfortunately, I will be unable to attend the meeting since the weather is unfavorable and I am recovering from orthopedic surgery.</p> <p>In the event that you are unfamiliar, East Texas Avenue is a dirt and gravel easement road, which serves five families. My family owns the majority of East Texas, we plow it, gravel it, and privately maintain it with no help from the County or City.</p> <p>The issue I wish to address concerns that fact that I am a county resident, not a city resident. All of our property, which includes East Texas Avenue, lies within Flathead County, not the City of Whitefish. East Texas Avenue is our eastern border. Our western border is the city/county line. In the 14 years that we have lived on East Texas Avenue, we have been erroneously called to jury duty in the City of Whitefish numerous times, and just this past November, we received ballots to vote in the City election. Despite our advice over the years, the City has never corrected their misconception. We are not City residents.</p> <p>Transportation Plan MSN #7 calls to extend Denver Avenue to East Texas, and improve East Texas to one lane in each direction, with curbs, gutters and sidewalks. East Texas right now is 18 feet wide in most places.</p> <p>My question is whether the City can take land which is not in the city, but rather in the county, for the purpose of a building a city road. That would leave East Texas Avenue stranded between two county properties as an island, if you will. Our property is zoned WA-15. We have a horse and tree farm. Other properties along East Texas include a Thoroughbred breeding farm, and an active hay farm. During the haying season, we have agricultural equipment parking on and using East Texas Avenue regularly. Because of the agricultural nature and various large acreages, I can't imagine the City would annex these properties.</p> <p>I will address other issues and ask questions when the city/county issue can be legally determined.</p>	<p>(Jeff Key, 1/10/08)</p> <p>Good Afternoon Kristine - Thanks for your interest and comment. I'm sorry you will not be able to attend.</p> <p>I will forward your comment regarding the City/County "legal" issue to the City, as I am definitely not qualified to answer that question. Regarding your other comment though about improvements to East Texas Avenue, I would offer the following for consideration.</p> <p>First off, I'd start by saying that the information contained within the first "Public Draft" of the Transportation Plan is by no means an endorsement by the City of Whitefish. As the Plan continues, there will be tweaks, additions, removals and clarifications of recommendations in the Plan. That being said, the recommendations are the Consultants attempt (i.e. myself) at trying to find ways to improve the community's transportation system over the next twenty years.</p> <p>Regarding issues such as you have brought up, I try to make it very clear in the actual report that these types of projects will never happen without landowner support at the time that a landowner may chose to develop their property. This is always a contentious issue (i.e. who are you to tell me that you are putting a road through my property?). In my mind, if a landowner does not ever come forward to develop a particular piece of land, than the recommended "road/corridor" will never happen. However if a landowner eventually chooses to develop a particular piece of property, there is some value into setting aside the appropriate easement/right-of-way for future transportation system needs.</p> <p>Your input as stated in your email is exactly what we are hoping for as we consider revisions/iterations of this Plan. Generally speaking, until a report is available and contains some recommendations, it is difficult to get people engaged on this subject.</p> <p>For starters, I will take your email as official comment on the Public Draft and will review it accordingly with the City of Whitefish when the time comes. The Plan has several milestones going forward over</p>

	<p>I hope that you will accept this letter as an official comment, and I will look forward to attending the next meeting.</p> <p>Thank you.</p>	<p>the coming months that will allow for revisions and due considerations. This will include the Planning Board, the City Council and several meetings between staff and myself.</p> <p>I do take your comments to heart. I will follow up with you at the appropriate time after all the comments come in on this first draft and when we have had a chance to review all of the issues that are going to pop up.</p> <p>Regarding the specifics of "East Texas Avenue", I will have to verify what the intent of this recommendation was. I think the recommendation is to provide a future connection if and when development occurs in the vicinity of East Texas Avenue (i.e. east of East Texas Avenue) to ultimately tie into a potential route south of the railroad tracks. Again, these recommendations and implementation would ultimately hinge on the landowners affected developing their property.</p> <p>Thank you Kristine.</p> <p>Jeff Key, P.E. Robert Peccia & Associates</p>
<p>4</p>	<p>(John Wilson, 1/11/08)</p> <p>I just wanted to follow up on a comment I made to Dan regarding this email, actually regarding the Mann's property. I told him this property was in the City, but Kristine is correct – it is not. You may already have a clear understanding and my misinformation to Dan may not matter at all, but I didn't want to plant any seeds of confusion.</p>	<p>Comments are noted.</p>
<p>5</p>	<p>(George Shryock, 01/11/08)</p> <p>The Transportation Plan has an alternative to connect 13th Street and Voerman Road with a bridge that would necessarily cross the now city-owned Rivertrail Park. I want to convince the city to remove this alternative because I donated the parklands on the condition that they remain in a natural state because of their environmental sensitivity and proximity to my property. I have fought this plan since I learned of it in 2001. The proposed bridge site on the west side of the river from the park (owned by North Valley Hospital) brought attention to my argument last year. After years of frustration, I had local attorney Sean Frampton write a letter to the City in April 2007 asking to meet on this issue or face a lawsuit. A meeting was declined but a written reply from the city attorney, John Phelps, told me I had no case and not to waste my time and money nor the city's. After considering my options, I decided to delay legal action and try once again, using a more public voice, to have the City Council strike this option. To this end, I am detailing the public record that demonstrates the city's knowledge of the natural park condition before voting to approve Rivertrail Subdivision.</p> <p>The Whitefish City Manager, Gary Marks, states in the January 18, 2007 issue of the Whitefish Pilot that he can find no evidence of a "deal" with the city to keep Rivertrail Park in a natural state, as is my contention. Donated by me in 1994 as part of parkland dedication for my 5-lot Rivertrail Subdivision, I had spent considerable time, energy, and money insuring that it would remain in a natural state before I would donate it. Since the Southeast Whitefish Transportation Plan came out in 2001 with a potential bridge directly across it (connecting 13th Street with Voerman Road), I have been a vocal opponent of this alternative. Marks also said the opinions [to keep the park in a natural state] of a couple of [city] staff members do not bind the City. I intend to show that the "deal" is likely a legal condition, and certainly an ethical one.</p> <p>Marks went on to say protecting low-income families by choosing the most efficient transportation option was part of the city's rational. However, the transportation plan projects eventual build-out of Whitefish's southeast area to contain between 1000-2000 homes over the next thirty years, and few, if any, of these homes will be affordable to low</p>	<p>We acknowledge your opposition to the proposed 13th Street-Voerman Road connection and new bridge (MSN-12). The maps in the Transportation Plan provide guidance for future road locations as the community grows and properties in outlying areas are subdivided. The lines on the map show potentially desirable corridor locations that tie into the existing transportation network. They are not intended to formally establish an alignment for future roads and they are in no way binding.</p> <p>In order for this project to be advanced, the City would need to justify the need for and benefits of this road connection as well as its ability to fund such an improvement. If the project appeared favorable after these efforts, project development and preliminary engineering work would be necessary to obtain public and landowner input and to identify a desirable alignment for the new road and bridge. Alignments to avoid or minimize impacts to the park are possible but probably not without acquisition of private lands (with potentially high costs and condemnation issues).</p> <p>It is very possible that a variety of factors identified through these efforts could prevent the implementation of this project. Such factors could include:</p> <ul style="list-style-type: none"> ▪ Excessive project development costs and funding limitations; ▪ Incompatible development on properties in the area (like the former North Valley Hospital site); and ▪ Public opposition. <p>We acknowledge that the potential costs of this project may be high and could be significantly influenced by the length of bridge required and the need to acquire any private lands for</p>

income families. In addition, I have heard estimates to build this bridge (nearly a 1000 feet long with abutments) could range from 10-20 million dollars, in spite of ridiculously low estimate of four million in the current version of the plan. Obviously, this bogus argument flies in face of the evidence and common sense.

I would like to present the public record that the city and I worked together in 1993-94 to form an agreement to protect the sensitive riparian zone of where Cow Creek enters the Whitefish River. In a January, 2007 Whitefish City Council meeting, Councilor Chris Conklin said she was not willing to take any options [for possible east-west transportation routes] off the table. My contention is that this route should never have been on the table.

Let me review the facts. Local landscape architect Bruce Boody designed Rivertrail Subdivision for me on a 7-acre tract where Cow Creek enters the Whitefish River, and it went to final plat in June of 1994. This included 300 feet of Whitefish River frontage. He had been in contact with the Whitefish Parks & Recreation Department and bike path board, and they were keenly interested in having an easement through the property along the river as the most direct route to the schools. Being very much in favor of the bike path project, but very concerned about the environmental impact of the creek area, I entered into discussions with them. I invited Jim Ponek, the Parks Director at the time, along with some park board members, to view the property. We had a number of following discussions about how to protect the area should I be willing to donate the 4-acre riparian zone. I emphasized to them that I would not allow any development of the area except for the bike path should I decide to donate. Mr. Ponek agreed, except for a picnic table along the river. The Park Board thought that the best mechanism for my donation would be a city park, which would also be of some benefit to me (saving me about \$13,000 in cash-in-lieu of parkland and a tax deduction, but a pittance compared to the value of the parcel). The minutes from the park board and city council show their intentions to preserve it as a natural park.

Whitefish Park Board Minutes, September 14, 1993 state: "They were impressed with the property it would be an excellent park area and a bike/walking path along the river. Brian [Sullivan] explained that Mr. Shryock could dedicate the area as a homeowners park, deed the property to the conservation people or dedicate it as a City park, he was impressed with the property and felt it should be preserved, it would be a bonus for the City if they could get this property.

After much discussion, consensus of the Board was to accept the land instead of cash-in-lieu of parkland, and Kim Speed made a motion, seconded by K.C. Zwislser, that Director Ponek write a letter to the City Council expressing the Boards approval of accepting the parkland dedication to the City when this subdivision was reviewed by the City Council. The motion passes unanimously." [Note: Board members present at this meeting were Jim Mohn, Mike Fitzgerald, Kim Speed, K.C. Zwislser, and Brian Sullivan along with Park and Recreation Director Jim Ponek.]

Jim Ponek did write that letter to the Council on October 4, 1993, via Steve Kountz, the Senior Planner for the Flathead Regional Development Office, who was presenting the planning office's recommendations for the City in regards to my subdivision to the Council. In that letter Ponek says, "The Park Board is extremely excited about the River Trail Project proposed by George and Jane Shryock. The 4.05 acre proposed for parks would be developed in the future as part of the Bike/Walking Trail, and surrounded by a natural park setting." I might add that Jim Ponek left Whitefish in 1998 for a similar position in Southern California, but I was able to track him down recently. He remembered our discussions almost word for word and is willing to corroborate these events. Learning of the proposed bridge route through the park left him flabbergasted and disappointed with the City.

right-of-way. The cost estimate initially provided for the bridge was based on MDT bid tabulations that current at the time the initial version of the Plan was produced. The cost we presented reflects a much shorter bridge (500 feet) since we assumed the alignment established for a river crossing at this location would be designed to minimize the length of span required due to cost reasons and potential effects to the river, its riparian areas and Cow Creek.

The SE Whitefish Transportation Plan identified the bridge as a very desirable connection but acknowledged the project could be prohibitively expensive. Although the proposed connection is unlikely to be funded in the foreseeable future, it is recommended for inclusion in the Transportation Plan in the hope that funding would be available in the future.

Note: The Whitefish City Council has recommended that a TSM project be completed at some future date to further examine east-west connectivity and the bridge crossing issue in this area, including additional travel demand modeling for a potential crossing at 18th Street instead of at 13th Street.

Thank you for providing background about the origins of River Trail Park and discussions of issues regarding its use and development.

There are a series of other documents emanating from the subdivision review process that address and support my contention that the City Council was fully informed about keeping the park in a natural state. They voted for the approval of the subdivision after a thorough hearing of the natural park proposal in light of all these documents:
 September 30, 1993-The Environmental Assessment performed by Bruce Boody states: C. WILDLIFE 1-3. The area of Rivertrail is not designated as critical habitat for any major species of fish or wildlife, although the area is likely used as a wildlife corridor and may offer some winter browse. Neighbors have observed deer and moose in the cow creek bottoms at various times. Muskrat and mink have been observed in Cow Creek. 4.05 acres is proposed for public parklands. This contains all floodplain, wetland areas, and two peninsulas and riverfront areas. This will provide cover for wildlife. A minimum area for roads is proposed. All building areas are designated. (Continuing later) "J. PARKS AND RECREATION FACILITIES 1. The amount of Park Land to be donated to the City of Whitefish is 4.05 acres. This is in excess of 56% of the total 7.2 acres of land in the subdivision. This donation will allow for many uses: an area for wildlife movement and winter feeding and shelter, area for a future city pedestrian/bicycle trail system and public access to the Whitefish River and Cow Creek. It is hoped that this donation will be a key piece of property for the future of the City Park System."

October 13, 1993-The Rivertrail Subdivision Report #WPP-93-11 prepared by Flathead Regional Development Office for the Whitefish City-County Planning Board and the Whitefish City Council: "B. Effects on Wildlife and Wildlife Habitat: Effects on wildlife would be substantially mitigated by the proposed designation of the streamside area as a public park. The streamside area is anticipated to provide habitat for a variety of birds and small animals. The southwest corner of the site along the Whitefish River is mapped as a waterfowl nesting area by the Montana Department of Fish, Wildlife, and Parks. The submitted environmental assessment indicates that the creek bottom may function as a wildlife corridor and provide winter browse, as well as that deer, moose, muskrat, and mink [we have also observed fox, bald eagle, heron, kingfisher, many nesting duck species, beaver, and bear]. The proposed park is anticipated to continue to allow wildlife movement and waterfowl nesting."

October 21, 1993-Whitefish City-County Planning Board minutes: "George Shryock, the applicant/developer, apprised the Board on the acquisition of this property, which his wife and he purchased to build their home on. He felt that the staff report was well written and well thought out. His proposal does comply with the Master Plan, it provides infill development, and utilities service the site. He met with the majority of the neighbors to get input. The parkland dedication is about 12 times of what is required by subdivision law. He wants to encourage the river trail concept." "Bruce Boody, who did the design work, spoke in favor of the project. The conscientious plan kept the surface coverage to a bare minimum. He feels too many developments lock the community out. This development provides a benefit to the community by dedicating 56% of the site, located in a critical riparian area, as a public park." "Mollie Bruce, is the neighbor to the south of this project. She commended George in soliciting their comments and felt he was a very good neighbor. She was also very much in favor of the parkland dedication, as it will benefit the neighborhood tremendously." "Adi VonGontard, owns property adjacent to this project, and praised George for being sensitive to the land and to the neighbors. His concern was with the City's intentions for the park land. He would like to see the land left in a natural with pedestrian and bike trails" [in response to Von Gontard's concerns]"Brian Sullivan, member of the Park Board, explained the Board generally requests cash-in-lieu of parkland as it is too expensive to develop parks. However, in this case, the value of the land is to keep it in its natural state to preserve green areas in the City of Whitefish. This is an extremely nice area, and provides wildlife habitat. The most development would be a walking path. Speaking for the Park Board, they want this property as a greenbelt for future bike paths, not another sports complex."

November 15, 1993-City Council Minutes quoting FRDO Planner Steve Kountz addressing the Council before the vote: "Effects on the

Thank you for providing background about the origins of River Trail Park and discussions of issues regarding its use and development.

environment and on wildlife were addressed by the proposed park. It is anticipated that the creek and the riparian area provide habitat for birds and small animals, most of it is dedicated as parkland and is anticipated that it be kept in a natural state.”

November 15, 1993- George Shryock addressing the Council: “George Shryock, owner of the development, said there is no parking in the park, he talked to Jim Ponek, Park Director, and his idea about this park was that it be a critical link to the river trail system to town. It is not his intention that this be a developed park and the Park Board has stated that their intention was to leave it in a natural state.”

A letter to Steve Kountz from the Montana Department of Fish, Wildlife, & Parks written by Dan Vincent, Regional Supervisor: “My staff has reviewed the proposed preliminary plat for the Rivertrail Subdivision. The location and density of the lots is acceptable. My staff likes the dedication of lot 8 to public parkland. This will help maintain the integrity of the Cow Creek riparian zone.”

June 13, 1994-The recorded Rivertrail Subdivision Plat reads: “The lands included into the Public Park are hereby dedicated to the public forever.” The surveyor who wrote this language is Brian Sullivan, owner of F&H Surveying, who was also the park board member quoted above. He was recently contacted and will stand by the language (meaning these are parklands forever and cannot be used for another purpose).

July 16, 2001-Whitefish City Council minutes from 5c) Southeast Whitefish Transportation Plan as Mayor Feury opened the Public Hearing: 1. George Shryock lives off of Park Avenue. He said that he has studied the draft and there are no easy solutions. He said he favors the extension of 7th Street as an alternative to best increase flow, but does ask that the proposal to extend Voerman Road to Columbia Avenue be stricken from the plan. He is against it because it goes through a natural park he donated to the City, it comes out at North Valley Hospital and he talked to the chief executive officer there and he was not in favor of it, and the bridge would be very expensive.”

September 17, 2001-Whitefish City Council Minutes-“Councilor Hope said he did not support the river crossing from Voerman Road to 13th Street, crossing over land dedicated for parkland and bike trails at River Trail Park. He feels a bridge through that property would detract from that. He said when the South 93 Transportation Plan arrows were used instead of lines and he said if this were approved he would like an indistinct symbol to indicate a river crossing. Councilor Gwiazdon asked if the bike path couldn't be incorporated, at least not blocked, with a bridge. Public Works Director John Wilson said it could, but a bridge would definitely be a visual impact to the neighbors. He agreed it was a dilemma, but his feeling was that City would not do it unless it becomes a dire need. He said if the point of urban density make is a necessity to require river crossing, unfortunately this location is perfect because of road alignment and highway access. Public Works Director Wilson pointed out the land required for connection is owned by the hospital on the west side of the river and they may build something there before a bridge and road are constructed that prevent connection.” [later in his support to a motion by Councilor Flemming to strike the bridge alternative Hope was queried if he wasn't taking a long-range approach]“Councilor Hope said he is taking a long-range approach but feels in the future a natural park and walkway will be more appreciated than a bridge, which is why he supports Councilor Flemming's motion.” [note: Flemming's motion which included deleting the alternative showing an extension and river crossing of Voerman Road (Alternative C of the Southeast Whitefish Transportation Plan) went down 4-2. Curiously, Flemming voted “no” to her own motion or it would have tied; also, note that Councilor Hope uses the terminology “a natural park” because he was on the Council seven years prior when the park was donated and understood what had transpired.

Therefore, the motion to remove the parklands from the transportation plan nearly passed six years ago but went down after a confused discussion as evidenced by the minutes. Unfortunately, I was not present

We believe the roadway connection and bridge could be designed in a “context-sensitive” manner that attempts to minimize impacts to the natural setting, maintains wildlife habitat and accommodates wildlife movements, and allows for the development of pedestrian/bicyclist trail facilities through the area. The project would be subject to a variety of environmental regulations protecting water quality and riparian areas including Section 404 of the federal Clean Water Act, the Montana Stream Protection Act, and would need to meet the requirements of the City's Critical Areas Ordinance.

	<p>at this meeting. It is important to note that during this interchange John Wilson, City Engineer, told the Council that a bridge “would definitely by a visual impact to the neighbors” which means the neighbor’s property value is negatively affected, and the City recognizes that fact.</p> <p>Council members in 2001, for the most part, were not fully aware of the park’s “natural state” conditions when that vote took place. Today, the Council and city management are even further removed and need to become current with the efforts that took place in 1993-94, despite Gary Mark’s assertion that he had found no evidence of a deal to keep the park natural. It is my desire to make the Council more aware of the facts of this issue through a public campaign. The current bad light on the city after losing lawsuit after lawsuit in regards to land planning need not continue. Citizens need to be able to trust working with the City, especially in regards to philanthropic endeavors such as the bike path and protecting sensitive areas. Elected council members need good information from city management to make the most informed decisions. It is time to bring this need for accountability to public scrutiny.</p> <p>I recently met again with Brian Sullivan of F & H Surveying who produced and recorded the plat for Rivertrail Subdivision and the park. I asked him to clarify the legal language on the plat dedicating the parklands: “The lands included in the Public Park are hereby dedicated to the public forever.” He wrote this language using surveying terminology so he checked over his reference sources. His reply was, “it means what it says”. When I asked him if these parklands could be used for a major connecting bridge between 13th and Voerman Road he replied, “Absolutely not.” That will continue to be my stand regardless of the decisions of those responsible for the adoption of the Whitefish Transportation Plan.</p>	<p>Your comments are noted.</p>
<p>6</p>	<p>(Patti Codiga, 01/12/08)</p> <p>Thank you for taking the time to meet with everyone this week in Whitefish regarding the traffic and improvement plans for our city. You were patient and very approachable with our concerns and questions.</p> <p>I am the one that lives on Old Morris Trail that asked a couple questions regarding this particular lane. My property also overlooks Karrow Avenue from the western ridge, on the south end, and am not in favor of any improvements done to this road. This is a very rural area and one of the last few wonderful areas to walk along a country road just outside of Whitefish. The wetlands at the south end provide abundant wildlife and the traffic is minimal, especially at the south end. Residents already use this road to drive into town or to skip town and head south to Kalispell. I don't know of anyone that would want to see gutters and sidewalks on this country road. Those that use it for biking have plenty of room, because of the lack of traffic on this road.</p> <p>Please reconsider improving this rural road.</p>	<p>As a result of comments on the Public Draft Transportation Plan, the recommended major street network improvement project for Karrow Avenue (MSN-3) has been revised to include a three-lane minor arterial roadway section with pedestrian and bicyclist facilities between 7th Street and US 93 and a two-lane rural section with a separated pedestrian and bicycle path south of 7th Street.. We believe this recommendation recognizes the need to provide a higher design facility within the City of Whitefish and a roadway compatible with the lower density development pattern on lands southwest of Whitefish.</p>
<p>7</p>	<p>(Don and Judy Spivey, 01/16/08)</p> <p>Comments on the Whitefish Transportation Plan</p> <p>I would like to compliment all involved in the preparation of the first draft of the Whitefish Transportation Plan. As the first such plan for Whitefish, it is full of useful information and recommendations that should help our community make sound and informed transportation related decisions.</p> <p>However, I do have some comments and suggestions to make. For me, it is difficult to make truly informed comments without the availability of the companion Urban Corridor Study as “the devil is in the details.” Thus I will make comments as I can and assume you will fit them wherever they belong as you consider them.</p> <p>First, a general observation: The title should say Whitefish Transportation Plan 2008, not 2007, as this will not be adopted until at least the end of the first quarter in 2008. I will try to group my comments in the following general categories.</p>	<p>We will ensure the title of the Transportation Plan reflects its adoption date.</p>

<p><u>Alternative SW transportation corridors</u></p> <p>Many of your comments about a “bypass” are valid but your own transportation models show significant value associated with at least two of the alternatives studied. I, for one, have never viewed any of these SW alternatives in and of themselves as solutions to all the downtown transportation challenges, but I have always felt they were only one critical component of long term traffic solutions for 2030. Tables 3-13 (AS-3) and 3-14 (AS-4) show that adequately. One way or another traffic in that quadrant will increase dramatically over time whether via carefully planned routes or haphazardly on it’s own. I think the latter would be the wrong way.</p> <p>Any new traffic routes intended to carry significant traffic volumes (both cars and trucks) will cause localized community angst. However, as a community we do have to address traffic challenges in ways that will optimize solutions that benefit the community as a whole.</p> <p>I would choose SW traffic solutions in the following priority:</p> <p>AS-3 This alternative seems to be the least disruptive to persons and properties as an easement currently exists for most of the route, if that BPA easement can also be changed to allow a roadway. It also connects into US 93 south at the optimal location for alternative traffic flow (the intersection of 40 & 93). I would also propose a separated Bike and Pedestrian Route along the entire route with an additional bike and pedestrian route along Karrow where that alternative crosses to the US 93/Karrow intersection.. As this is the most expensive of my choices that fact alone may doom it to failure independent of other challenges.</p> <p>AS-4 and derivatives I too am convinced that traffic volumes on Karrow will increase significantly over time and that road system will have to be upgraded to accommodate increased volumes independent of any other SW traffic considerations—as noted in the Transportation Plan (MSN-2). That increase dictates that the US 93 West design effort currently underway recognize and accommodate significant turning volume increases for both cars and trucks at the Karrow intersection. That in turn leads to considerations of multiple traffic flow alternatives for both car and truck traffic involving Karrow.</p> <p>AS-4 would be my first choice with the addition of a separated Bike and Pedestrian Path along the entire route connecting into our 7th St. route and the planned bike path along US 93 at the Karrow intersection. The derivative alternatives I’d recommend for consideration in my preferred priority are:</p> <p>Karrow to an extension of JP road from US 93 to Karrow. The Northern Lights Subdivision behind WBC already has reserved open space where a significant portion of such a road could be built. Again a separated bike and pedestrian path the entire way connecting to the existing bike path at the US 93/ JP road intersection. This route would carry traffic to a logical US 93 intersection well south of the core traffic area and convenient to many south Whitefish activity centers.</p> <p>Karrow to the proposed 13th St. extension and thence to the US 93/13th St. intersection. Again a separated bike and pedestrian path along the entire route connecting into our bike path as it passed along the western edge of the Whitefish River in that area. This would bypass most of the core area and connect into US 93 where it widens into a 4 lane road allowing more efficient traffic flow both south and north.</p> <p>Karrow to 7th St and then to the 7th St/ US 93 intersection—again a separated bike and pedestrian path the entire distance connecting to the</p>	<p>We acknowledge that western route alternatives would present attractive options to the existing street system. As we indicate in the Transportation Plan, due to the anticipated high costs, environmental concerns and likely public opposition, we feel the community is better served by focusing on other more doable projects that can benefit traffic flows and accessibility. If the Whitefish community determines that a western route (bypass) is desirable and essential to serve future development, then local efforts to advance the idea should be pursued further.</p> <p>Your comments are noted.</p> <p>Please note that as a result of comments on the Public Draft Transportation Plan, the recommended major street network improvement project for Karrow Avenue (MSN-3) has been revised to include a three-lane minor arterial roadway section with pedestrian and bicyclist facilities between 7th Street and US 93 and a two-lane rural section designed in a context sensitive manner providing a separated pedestrian and bicycle path south of 7th Street. We believe this recommendation recognizes the need to provide a higher design facility within the City of Whitefish and a roadway compatible with the lower density development pattern on lands southwest of Whitefish</p> <p>To date, we have not included a recommendation for a westward extension of JP Road from US 93 to Karrow. We believe there are issues associated with this related to the steep grade required on a roadway connection just west of US 93 and JP Road. There is also a subdivision above US 93 at the theoretical extension of JP Road to the west. A pedestrian and bicycle path could probably be put in but a roadway connection may not be feasible. New homeowners in the area may not support such a connection.</p> <p>The revised Transportation Plan has dropped the 13th Street Extension due to the existing and future development patterns in the area. Flathead Avenue and a connection to O’Brien Avenue will ultimately be developed in Baker Commons. Flathead Avenue will link Baker and 13th Street to the West 18th Street Extension (MSN-18) a proposed roadway connection between Baker and Karrow Avenues. We have noted the project should include sidewalks and appropriate bicycle facilities.</p> <p>We do not include a project to upgrade 7th Street west of Baker in the Transportation Plan. However, the City’s capital</p>
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<p>planned 7th St. path. Clearly the least desirable to me but it could carry significant traffic around the core area.</p> <p>It would seem to me that any of the above alternatives would optimize US 93 traffic volume relief (both cars and trucks) in the core of the city.</p> <p>Alternative North/South Traffic Considerations</p> <p>In this section I will discuss current viaduct challenges, Wisconsin, Big Mountain Road, Whitefish Mountain Resort secondary access, the Baker and Columbia extensions as well as the 2nd proposed viaduct and associated ingress/egress alternatives.</p> <p>Viaduct(s) There doesn't seem that there is much that can be done to address the current viaduct as it is the only safe way across the BNSF tracks. Although US 93 does tend to divide the north south sections of Whitefish, the railroad is the most significant north/south divider today. There continues to be today and, I suspect, in the future, significant development activity north of those tracks. Juggling traffic flows on the current Spokane, 2nd St, Baker corridors just moves the problems from one road to another and does not solve long term traffic problems with the viaduct, e.g., moving truck traffic (even just that component headed across the viaduct) to Baker relieves some congestion on Spokane and 2nd between Spokane and Baker but it makes Baker a real logjam and just rearranges the traffic problems at the Baker/ 2nd St. intersection. For example, accessing our post office at 4th and Baker is a challenge today and would become much worse if truck traffic is routed past their parking entrance. That kind of traffic rearrangement might also necessitate upgrades to Baker and possibly even a new Whitefish River bridge.</p> <p>The only solution, which you properly recommended, is a 2nd viaduct. I also believe that you placed it in the only viable and practical location. That 2nd viaduct could become a designated truck route as well and that would once and for all truly address the north/south mess at the 2nd/Baker intersection. The recommended route south from that proposed viaduct across the river to Kalner lane ending at Hwy 40 is fine over time but we could access that viaduct off JP Road and or Monegan and or Voerman at several alternative points sooner, and I suspect at less cost. The recommended routes north from that viaduct to connect to Wisconsin are also good but we could start with just the connection to Edgewood thence west to the current signaled intersection at Wisconsin. I believe that in your discussion of this 2nd viaduct, more should be said about it's potential for solving everyone's concerns about north/south congestion in the core of the community. Any discussion of this viaduct and new connectors to the south and north need to include discussion of the need for associated separated bike and pedestrian pathways. This proposed system from Hwy 40 all the way to Wisconsin are logical new north south connectors for bike and pedestrian traffic connecting to our Wisconsin, Edgewood, Voerman/Monegan trails and all the way to Hwy 40. The Edgewood and Hwy 40 intersections connect as well to eventual long range County trail systems.</p> <p>As to Wisconsin itself I believe your recommendations are good but I would like to add a recommendation for some traffic control facility where the bike path crosses Wisconsin. In section 5.2 you discuss Signal Warrant Guideline as well as alternatives to traffic control signals. I would defer to you expertise to pick the best and safest solution and recommend it in the plan. This will instantly become a serious safety issue this Spring when the first section of the Wisconsin bike path is completed and opened for use.</p> <p>The redo of the upper portion of the Big Mountain Road is wonderful and the state should be thanked for that very expensive project. I realize there is no funding to finish the redo to East Lakeshore Dr. but it seems</p>	<p>improvement plan identifies this as a potential future project. A separated pedestrian and bicycle path south of 7th Street has been identified as a desired feature of the recommended improvement project for Karrow Avenue (MSN-3).</p> <p>Your comments are noted.</p> <p>The travel demand modeling of Alternative Scenarios presented in Chapter 3 of the Transportation Plan review the potential effects of adding a new viaduct on future traffic volumes on key roads in the community. The modeling suggests significant decreases in traffic on roads in the eastern portion of Whitefish. The modeling also shows the potential for reducing traffic on Spokane Avenue, 2nd Street, and Baker Avenue within central Whitefish. However, these reductions are generally in the range of only 10-15% and these key roads in the core of the city would still see significant traffic volumes. The results suggest a second viaduct would be beneficial but would not alleviate the congestion within the core of the city.</p> <p>We have modified the description of MSN-7, MSN-8 and MSN-9 to indicate that the projects should include "sidewalks and/or other appropriate pedestrian and bicyclist facilities."</p> <p>The Wisconsin Avenue bike/pedestrian path project was completed during 2008. The project includes several designated crossings on Wisconsin delineated by pavement markings, pedestrian crossing warning signs, and signs requiring drivers to yield to those crossing the street. While the crossing areas offer the potential for conflicts between pedestrians/bicyclists and motorists (not unlike unmarked crossing locations along any other busy street in Whitefish), a problem related to pedestrian or bicyclist crossings must first manifest itself before design changes can be justified and implemented if necessary.</p> <p>Reconstructing the lower portion of Big Mountain Road would be under MDT's jurisdiction. Their project development process typically includes public meetings to</p>
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<p>obvious that it needs to be done within the scope of this plan, i.e., by 2030. Significant development activity with associated traffic volume is pending along that route. The ski bus in the Winter is excellent and a big success and a Gondola from someplace in Whitefish to the Whitefish Mountain Resort has frequently been recommended—possibly these alternative transportations mechanisms to reduce vehicle traffic on that road deserve a place in the plan. Again I would like a bike path designated along that road although there are tentative plans for a safe route through Iron Horse and a planned development to the north which would ultimately reach the edge of the Whitefish Mountain Resort properties.</p> <p>A 2nd route to the resort is, as you noted, unlikely ever to happen on the front of the mountain but when the County was considering whether to redo the current road or to find another alternative primary route, a route up through Haskell Basin was viable and was considered even though the final decision was to redo the current road. Thus if there is ever a need for another primary route there is a viable alternative, though I'm sure it would be very expensive.</p> <p>As to the current emergency secondary route off the mountain, that has been a concern for many years. The current route is provided by an agreement between the Whitefish Mountain Resort and Stoltz. If that agreement does not include a permanent easement for that route I would recommend that be considered as a recommendation in this plan. I would further recommend that it be maintained to an acceptable County road standard to insure it's safe use when needed. That too may be a part of the current agreement but, if not, it too should be considered as a recommendation in this plan.</p> <p>Both the Baker and Columbia extensions south have been debated for years and it is good that they are now a part of this plan. Specificity of where you recommend placing them is the most sensitive and potentially the most important missing link. From my perspective a logical choice, if feasible, would be along the boundary between the Business and residential zones on either side of the US 93 corridor. Currently that's roughly 600 ft. both east and west of that corridor. That location would provide desirable secondary access to corridor businesses relieving even more of the congestion on US 93 south and provide a convenient divider between residential and business activities.</p> <p>I don't know whether these are considered minor arterials or collectors but in either case there are some challenges particularly on Columbia in town. There are intersection bump outs that certainly slow traffic and the road width is rather narrow when one considers cars parked on both sides and the need for two operable traffic lanes between them (nearly impossible to accommodate on parts of Columbia). That seems a potential problem for these levels of road classification. Once again I would like to see discussion of extending the current Baker Ave. bike lane (preferably a separated bike and pedestrian path as it is extend south to JP Road) where it can connect to the existing bike trail at that location.</p> <p>Non-motorized Transportation</p> <p>As you indicated in your O'Shaughnessy presentation this subject is very important. I'm not sure just how to address it adequately. I have already addressed this in some of my earlier comments. It is clear to me that if the adopted version of this plan included many of the new roads, bridges and connectors recommended, we will have to reexamine our current Bike & Pedestrian Master Plan in order to optimize the relationship of our non-motorized system to the proposed transportation network.</p> <p>Rather than examine the Plan on a road by road basis I will make my comments more general, recognizing that once a plan is adopted we will have to reconsider our current Bike and Pedestrian Master Plan in detail. Against the backdrop of the adopted plan we will present any recommended modifications to council for adoption. I will also comment on tables 8.2 and 8.3 as there are a few updates that need to be made.</p> <p>City Beach I like what you recommended. If adopted by the city we will</p>	<p>seek input on important issues and design considerations. It is our understanding that the Bicycle and Pedestrian Master Plan already includes a recommendation for a bike path along Big Mountain Road.</p> <p>While the Plan could make such recommendations, this issue would seem to be something that has to be determined through an agreement or modification to an existing agreement between Whitefish Mountain Resort and Stoltz because it involves private landholdings.</p> <p>We do not disagree with your suggestion for the locations of these road extensions. However, the Transportation Plan is only intended to suggest logical locations for these proposed road extensions and not establish a proposed alignment for each road. Detailed preliminary engineering work along with landowner and public input is necessary (and essential) to establishing the most desirable future locations of these roadways.</p> <p>The extensions of Columbia and Baker are probably best developed to an arterial standard. We noted sidewalks and bike lanes would be desirable along these routes.</p> <p>We agree that the Bicycle and Pedestrian Master Plan will need to be reviewed and updated to reflect recommendations in the Transportation Plan. We will include such a recommendation with revisions to Transportation Plan.</p>
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<p>consider modifying our current bike and pedestrian plan beginning at the Skyles/Dakota intersection--extending a trail along Skyles to intersect with the Wisconsin bike path.</p> <p>Schools. Access to schools is a critical part of our non-motorized planning. The recommended 7th St. changes (new MSN-5 and MSN-6) will create a school transportation corridor from Grouse Mountain all the way to and beyond the schools to the east. We have plans to provide a separated bike path on 7th in the western end, roughly from Geddes to Karrow. As 7th gets remodeled/upgraded and the bridge and connector to Kalispell is built (new MSN-6), we will have to reconsider our bike paths in that area. Children riding to school will tend to take that direct route across the bridge, continuing east on 7th to the schools. For safety reasons, if possible, we like to provide separated bike and pedestrian paths wherever we anticipate children traveling. At the 7th St. Bridge we might also consider a connector to our bike path crossing under that bridge at that point. MSN-6 will also carry children and bikes to Voerman where it will connect to planned Monegan/Voerman bike paths in that area, and across the river connecting to the playing fields to the south. For safety reasons, I believe the community would prefer a separated bike and pedestrian path along MSN-6.</p> <p>Bridge across the Whitefish River on US 93 just north of 13th St. We have always wanted and have requested of MDT and the relevant design firm, a suspended bike and pedestrian path under the subject bridge. That allows us to safely transition our Whitefish River Bike & Pedestrian path from the east to the west bank where we have easements and will be building the path south to the playing fields. It is my understanding that we have general agreement on that solution and I would like to insure that it is included in any design work on that section of the US 93 urban corridor reconstruction.</p> <p><u>General comments on Table 8-2</u></p> <p>A-1 South section done from Hwy 40 to 13th St. US 93 West is proposed and hopefully planned all the way past Twin Bridges Road.</p> <p>A-2 Wisconsin under contract</p> <p>A-5 The Colorado/Wisconsin intersection to Dakota/East Marina Crest Lane is still in plan. However, the primary route in that area has been modified, extending east from Dakota along Marina Crest Lane and connecting into the Wisconsin trail (short section already in place).</p> <p>A-6 Baker to beyond Miles Ave. completed (part of BNSF Loop).</p> <p>A-7 Portion of Pine/Armory that crossed Cow Creek to Armory not completed but planned.</p> <p><u>General comments on Table 8.3</u></p> <p>B-1 We have tentative plans to WMR via Iron Horse and a bike path through a proposed subdivision just north of Lookout Rd, all the way to the WMR property. The WMR has agreed (in principle) to then carry it into the village area.</p> <p>B-2 I don't know where that might be?</p> <p>B-4 & B-5 Interesting but not likely, particularly if MSN-6 and MSN-7 are built and we provide separated bike paths along those new roads (which should be part of those project recommendations).</p> <p>B-7 We have plans to build a path from JP Road and the river along the south bank to the vicinity of Kalner then south to Hwy 40 through the Riverside subdivision (that portion already built). We consciously deleted the Whitefish River section from Kalner to Hwy 40 for several practical reasons.</p>	<p>We acknowledge in our discussion of the 7th Street Connection between Spokane and Kalispell Avenues (MSN-6) that this link will enhance access to schools. Providing appropriate pedestrian and bicyclist facilities would be an important element of this project.</p> <p>We are aware of previous discussions of this issue and the local desire for this improvement is noted in the Whitefish Urban Corridor study. Issues noted in the study include the cost of replacing the culverts with a bridge and the condition of and remaining service life of the culverts conveying the Whitefish River at this location.</p> <p>Your comments about Table 8-2 are noted. The table (now renumbered as Table 6-4 in this document) has been revised, where appropriate, to reflect your comments.</p> <p>Your comments about Table 8-3 are noted. The table (now renumbered as Table 6-5 in this document) has been revised, where appropriate, to reflect your comments.</p> <p>Trail #B-2 will be identified as the "Stolze Trail" instead of the Northeast Trail. We will also combine this with trail B-3 since older trails mapping we reviewed suggests these may be portions of the same trail.</p>
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<p>B-9 That should extend all the way to the bike path on US 93 at the Karrow intersection—discussed earlier.</p> <p>B-11 The Waverly Place paths will not be built if the proposed City Beach changes are adopted—too steep and challenging to build and to traverse--City Beach proposal much more sensible.</p> <p>B-12 Bit of a problem with the west end of that route. Wisconsin path is on the other side of Wisconsin at that point presenting a major safety concern crossing Wisconsin at that intersection, unless you are proposing some associated traffic control solution?</p> <p>B-13 Our current bike plan carries the system north from 2nd connecting into the existing trail around and under the BNSF river trestle on the east side of the river. We are also working with Idaho Timber to secure an easement that would allow us to cross the river north of the railroad and traverse south along the river on the west side to 1st St connecting into the US 93 trail in that section.</p> <p>B-15 5th and 6th streets are parallel east/west corridors and I am not sure how you go south to the river? If we do all the 7th St projects we would probable focus on connecting along that street and into the river trail at the new bridge—discussed earlier.</p> <p>B-16 I don't know where Windy Flats is located. Do you mean where you propose to terminate MSN-5 at the intersection of Voerman and Monegan?—discussed earlier.</p> <p>B-17 I don't know what southwest means? There is a bike lane on Baker today from that intersection south to 19th St. As you propose to extend Baker south (MSN-3 in the Public Review Draft Plan) a separated bike and pedestrian path is needed to the JP Road intersection—discussed earlier.</p> <p>B-18 That is already part of our Bike and Pedestrian Master Plan and some small sections are already built. However our current plan includes a bridge across the river at Cow Creek and that will surely go through some reevaluation and probable redesign if the 13th St. Bridge (MSN-10 in the Public Review Draft Plan) proposal is adopted.</p> <p><u>General comments about Non- motorized transportation</u></p> <p>It is my belief that our community has embraced the need to expand non-motorized transportation options. This has certainly been amplified by the current and projected energy costs. As this plan proposes rebuilding existing roads or adding new ones, serious consideration should be given to providing separated bike and pedestrian trails wherever and whenever there is a potential tie-in to existing or planned trails. Building these trails face many challenges. Progress is much slower than most of us would like. Since this plan is intended to give thoughtful guidance through 2030 we should make this component of the plan a real focus element. As a community we have reached a point that when a subdivision is reviewed, non-motorized solutions are active considerations and we are generally successful in getting them provided when they intersect in some way with our existing and planned trail system.</p> <p><u>Public Transportation and related topics</u></p> <p>Concerns about the lack of public transit and the need to expand it in our community and in the Flathead Valley are amplified by energy costs and related environmental climate change considerations (carbon footprints). Sections 9.2 and 9.3 address some aspects of this challenge but I think</p>	<p>Please review our response to a similar comment presented earlier.</p> <p>We changed the description to read a proposed paved pedestrian and bicycle route along 5th Street to Central Avenue and then south to the Whitefish River Trail. We will name this trail “5th Street-Central Avenue” in Table 6-5.</p> <p>This proposed paved pedestrian and bicycle route would connect the east end of 7th Street to the intersection of Voerman Road and Monegan Road (generally following an alignment determined for MSN-7 (old project MSN-5 in the Public Review Draft Transportation Plan).</p> <p>The City’s future trail map suggests this trail would start at the intersection of 13th Street and Baker Street and follow Flathead Avenue through Baker Commons before continuing south to a future extension of JP Road.</p> <p>We changed the title of this trail to “Whitefish River Trail Extension” and indicated in Table 8-2 that some small sections of the Whitefish River Trail are already built.</p> <p>We believe the desirability of providing separated bike and pedestrian trails along already designated routes and new road connections may best be addressed in an update of the City’s Bicycle and Pedestrian Master Plan. Locations for such facilities can be identified in updated trail mapping for the Plan.</p> <p>We will add the following text at the end of the introductory paragraph of Section 6.2 Recommended Major Street Network (MSN) Improvements:</p> <p>“... as possible. All of these improvements should include adequate and safe pedestrians and bicyclist accommodations and the use of separated paths should be considered where appropriate.”</p>
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<p>these sections need additional focus and attention.</p> <p>The role of the Non-motorized support system cannot be overstated—particularly within our urban boundaries:</p> <p>Adding new trails--discussed earlier.</p> <p>Promoting and encouraging biking and walking not only for health but to reduce vehicle usage, traffic congestion and the associated carbon footprint. We do that today by promotional activities such as Nation Trails Day events, bike races, support for bike touring companies and activities and special events offered by our local bike shops. We should do more.</p> <p>Bike rental programs as you described: some communities have free bike use programs. We should provide more bike racks. Fundamental to really making such programs succeed is more available safe bike trails—we're working on that as we have funds and right of ways available to utilize.</p> <p>Flathead County through their Parks Department has received a grant and support from the National Park Service to finally create a county-wide trail system plan. We are supporting that effort and that should ultimately enhance non-motorized usage throughout our valley.</p> <p>Car-pooling is another successful way of reducing vehicle congestion and our carbon footprint. This is done routinely and successfully around nearly every major urban area across the country. As a community we should look carefully at this option and be prepared to provide the necessary support, e.g., parking and consideration from area businesses recognizing the need to accommodate consequential schedule flexibility.</p> <p>Public transit within our own community and around the valley is an obvious focus item and you have talked about it involving Glacier National Park and Eagle Transit. We also have a small local and seasonal transit system—the snow busses. Glacier Park busses, both sizes, are potentially available from October through May and do represent an asset worth considering by both Eagle Transit and local communities. Our few local snow busses are used only from December through April and are stored away for the remainder of the year. During their limited season many people use them to get from point to point around town—not just to get to WMR. Whitefish could consider an approach used by many parks and similar crowded facilities. That is, to provide a parking space at both ends of town and a frequent shuttle service that wanders through town dropping and picking up people at frequent locations continuing on to the parking lot at the other end of town and then returning. We could use the snow busses or some other more quaint and attractive set of vehicles. This would certainly mitigate some of the traffic congestion in town and possibly reduce the need for expensive parking structures.</p> <p>This would be particularly useful during the busy summer months.</p> <p>As you noted, it might be attractive to find ways to provide transportation to Glacier Park from Whitefish during the summer. Some resorts and tour operators already offer this but providing a service more available to everyone at an attractive price could help keep visitors in Whitefish, and again, reduce traffic volumes</p> <p>As I understand the situation, Eagle Transit is ready to move ahead on expanded transit service between communities and as a community we should pursue that option aggressively. If we also provided parking for commuters to accompany such service it would enhance it's use and acceptance in the community. As you said, employer encouragement and support would also help make such a public transit expansion attractive.</p>	<p>We have included new text in Chapter 7 that indicates the Growth Policy and comments received on the Transportation Plan suggests considerable community interest and support for increased public transit in Whitefish. These comments are followed up with a new recommendation for the city to undertake a planning study to help prepare the community for the expansion of public transit services. Such a study could be used to explore and develop standards for desirable infrastructure features like transit pullouts, waiting areas or bus shelters, signage, and park and ride lots.</p> <p>Chapter 7 of the Transportation Plan contains a suggestion to provide bike racks and covered bicycle parking as appropriate in the community.</p> <p>Your comments are noted.</p> <p>We acknowledge that the community has an interest in expanding public transit options and that such options may become more desirable as the costs of private transportation increase. However, practically speaking, only limited services exist at present and financing for such services is limited at best. Please note we have added several new recommendations to Chapter 7 of the Transportation Plan with respect to planning for the future expansion of transit in the Whitefish area.</p> <p>In February 2008, Eagle Transit began offering scheduled inter-city public bus service to commuters traveling between Kalispell and Whitefish, Whitefish and Columbia Falls, and Kalispell and Columbia Falls. The new service was the result of a cooperative agreement between Flathead County, MDT and the National Park Service that provided Eagle Transit</p>
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<p>The rising costs of energy may get the job done all by itself.</p> <p><u>Some general road observations</u></p> <p>Your crash analysis supports my strong belief that we need to do more to make the Whitefish Stage, Hwy 40 intersection less dangerous, especially during the winter months. The addition of the turning lane for westbound traffic certainly helps but providing a safe turning lane onto Whitefish Stage for eastbound traffic is still needed.</p> <p>The current hospital entrance on Hwy 40 for westbound patients or visitors is an accident waiting to happen. That turn is an abrupt 90 degree right turn with a center divider without any turning lane as you approach from the East on a 70 MPH highway. No one will drive all the way around to alternatives on US 93. The hospital is “in your face” as you approach from the east inviting one to make that dangerous right turn. A safe right turn lane is needed.</p> <p>I have no idea why you proposed FMSN-2 with FMSN-1 so close by. FMSN-1 makes good sense as it hits 93 at a signaled intersection and 13th continues across the river to the east side. FMSN-2 connects at a very awkward point on 93--maybe even a dangerous point. Instead, I would recommend moving FMSN-2 south as an extension of JP Road west to Karrow. I believe that is sensible and safer as it connects into a signaled intersection leading to many frequently accessed south Whitefish locations.</p> <p>I am unsure why FMSN-3 is needed but defer to your traffic expertise.</p>	<p>with access to a fleet of buses typically used only during July and August in Glacier National Park. The agreement has allowed Eagle Transit to use the Park’s vehicles for transit service between the three Flathead Valley communities for much of the year and enabled the National Park Service to continue meeting its summer transit needs.</p> <p>The crash analysis completed for the Transportation Plan shows a total of 18 crashes occurred near the MT 40 and Whitefish Stage Road intersection over the three-year study period. Twelve of the crashes involved only one vehicle and 6 involved two vehicles (including 1 head-on, 2 rear-end, and 3 right angle collisions). Only 1 accident occurred in the intersection with most (16 crashes) occurring on the west and east approaches within about 0.1miles of the junction.</p> <p>The westbound MT 40 approach has been widened and a left turn lane has been provided for traffic turning onto Whitefish Stage Road. The eastbound MT 40 approach has a painted median and a wide paved shoulder that many eastbound motorists apparently use as a right turn lane to Whitefish Stage Road from MT 40. This shoulder area could be repainted fairly easily to designate a deceleration and right turn lane for westbound motorists wishing to access Whitefish Stage Road. Although only 4 of 18 crashes near the vicinity of the intersection were listed as related to the intersection, 10 crashes on the approaches to the intersection occurred at night. The addition of overhead lighting in the vicinity of the intersection may be a desirable improvement.</p> <p>We acknowledge your comments. However, without a crash history at this location, it is difficult to justify making changes at the hospital entrance on Highway 40. Being as Highway 40 was specifically identified in the Growth Policy as one of five areas for a future corridor study, it may be most appropriate to address the issue of access control and turn lanes along the highway in such a study.</p> <p>We have dropped the 13th Street Extension (former FMSN-1) and now recommend just developing a connection along West 18th Street (MSN-18) with utilizing Flathead Avenue and an extension of O’Brien Avenue.</p> <p>The Old Morris Trail Extension (formerly FMSN-3 and now identified as MSN-19) was viewed as a potential north-south alignment that could ultimately connect to sections of existing roadway and better serve the southwestern portion of the Whitefish community.</p>
<p>8 (Mary Jo Look, 01/18/08)</p> <p>Just thought I would mention 2 things that have come to my attention. I know you do not want to hear about an "alternate road - by-pass", but before you totally remove it from the files, I would like to mention - I was talking to a neighbor, Jeff, who is an employee of Plum Creek Lumber, about Highway 93W and a "alternate road" to Highway 40. (I thought I heard someone, at the last meeting, imply that there would be a decrease of logging trucks). I asked my neighbor, Jeff, about that, and he said that it is most likely that there will be more logging trucks from the West. Their destination is Columbia Falls and Evergreen from Eureka and West (and then vice versa) so the "alternate" would be more direct and also avoid the 3 traffic lights in Whitefish - which could cut down</p>	<p>Travel demand modeling of the various bypass alternatives do not show a bypass as a “cure-all” to the future traffic issues associated with US Highway 93 traffic flow. While such a facility could reduce the number of commercial trucks passing through the community, we believe Whitefish is better served by strengthening the transportation grid system, providing additional east/west connectivity, and requiring roadway corridor development in vacant land if and when the land develops.</p>

	<p>travel time. He would give me the name of the person for you to talk to at Plum Creek Lumber if you would like to call him. Jeff also said that even if MDT didn't think an "alternate" was necessary now, that it would likely be within 10 years.. With more logging trucks and the growth in Eureka and areas West, there will also be an increase of large semi-trucks that will be servicing those new businesses and with the increase of Canadians coming to and going through Whitefish will have a big impact on the traffic through town - as they proceed south to Kalispell or to Highway 40 - to Highway 2 East or South, or Glacier Park . A large number of these trucks and automobiles would likely take the "alternate" if Whitefish was not their destination point.</p> <p>The other issue is "pollution". Whitefish is known as not having the best air quality now. I feel that this could be a serious issue and should be taken under consideration also, as with all the added traffic, it will only get worse.</p> <p>I hope you will take these concerns into your consideration.</p>	<p>Whitefish's air quality concerns are related to particulate matter, a portion of which comes from dust stirred up by vehicle traffic. The city has implemented measures like street sweeping and requirements for paving to address this issue. Reducing vehicle delays on the road network will also be a way to help lower other vehicle-generated pollutants.</p>
<p>9</p>	<p>(Don and Judy Spivey, 01/20/08)</p> <p>In my earlier comments I talked about inter-city shuttles, car-pooling, public transit between communities and expanded transit to glacier Park. I also suggested parking lots at either end of town as "transportation hubs". These hubs could serve to facilitate all of the above including sno-busses in the winter. If done effectively this collection of alternative transit solutions should substantially reduce traffic through the core of the city, reduce our carbon footprint, improve the quality of life for everyone living and visiting here and reduce the need for parking in town--all changes everyone seems to want.</p> <p>On public radio the other day there was a discussion of a different traffic solution being introduced in Germany--I think it was called "traffic sharing" wherein nearly all traffic control--signs, signals, cross-walks, etc. were removed resulting in the motorists and pedestrians having to think about what they were doing. Sounds crazy but it seems to be working there. Traffic slowed by itself, less apparent congestion, fewer accidents and angry people and the communities where it is in place seem to like it--Just a thought.</p> <p>In case I didn't indicate it earlier, I do think the "grid approach" you've taken to facilitate transit in and around Whitefish is good--even though I thought it might be tweaked a bit. Talk to you again when I return from Seattle early in February.</p>	<p>Please review our previous responses to similar comments offered in your 01/16/08 comments on the Transportation Plan.</p> <p>Your comments are noted.</p> <p>Your comments are noted.</p>
<p>10</p>	<p>(Rosella Mosteller, 01/21/08)</p> <p>I am happy for the access of this proposal to public comment and hope that this will aid planners in a constructive, amiable solution to the transportation flow in the City of Whitefish.</p> <p>I perused the transportation proposal for the City of Whitefish and would like to see a scenic route through the city. Seems like Karrow Avenue is a prime route for this purpose. I personally find a three lane arterial route with bike paths to be nearer to a "bypass" and wonder what that would do in the long run both to the visual impact to the City of Whitefish and its potential to be a leader in aesthetics, practicality, and vision as Montana grows. With regards to traffic calming I found the change of pattern in the roadway an interesting solution to increase driver awareness and hope that it could be designed in a way that the downside of the solution had less impact.</p>	<p>If Karrow were improved, some people would undoubtedly find and use the roadway as an alternate route to US 93. The recommendations for Karrow Avenue contained in the Plan call for "context sensitive" reconstruction as the area becomes more developed. The roadway can be designed in a manner that would help influence the type of vehicles that can use the roadway and travel speeds.</p>
<p>11</p>	<p>(unknown, 01/28/08)</p> <p>I am NOT in favor of the proposed improvements on Karrow Ave extending from 7th ave. south to hwy 93. Specifically, I do not want to see this roadway turned into a 3 lane arterial. I would support bike/pedestrian lane, it is used by alot of non motorized travelers and I am in favor of improving it for that use only! Let's not assume or promote development in this area, and spend our funds on the projects that need help now.</p>	<p>The recommendations for Karrow Avenue contained in the Plan call for "context sensitive" reconstruction as the area becomes more developed. The roadway can be designed in a manner that would help influence the type of vehicles that can use the roadway and travel speeds and accommodate non-motorized transportation modes in a safe manner.</p>

	<p>Specifically the congestion in town and creating better movement of that traffic. I only support bike lanes for a project on Karrow, NO 3 -lane road inviting more dump trucks and travel, currently it can handle the traffic it sees and hopefully it will see very little development in the future!!!!</p> <p>I would also like to see emphasis on public transportation. Many people travel south to work in kalispell and would love to jump on a bus (environmentally friendly, bio diesel, electric).</p> <p>I'd like to see if we could work on decreasing traffic with commuter friendly schedules, etc. This in the long run will benefit the congestion.</p>	<p>Your comments are noted.</p> <p>In late February 2008, Eagle Transit began offering scheduled inter-city public bus service to commuters traveling between Kalispell and Whitefish, Whitefish and Columbia Falls, and Kalispell and Columbia Falls. The new service was the result of a cooperative agreement between Flathead County, MDT and the National Park Service that provided Eagle Transit with access to a fleet of buses typically used only during July and August in Glacier National Park. The agreement has allowed Eagle Transit to use the Park's vehicles for transit service between the three Flathead Valley communities for much of the year and enabled the National Park Service to continue meeting its summer transit needs.</p>
<p>12</p>	<p>(Anne Shaw Moran, 01/31/08)</p> <p>I provided thorough detail on these comments on the record at the Transportation Plan hearing held earlier this month in Whitefish; these are a brief description of same as I understand our comments may not have been captured. If you need additional information, please feel free to contact me at: Anne Shaw Moran, P.O. Box 4472, Whitefish, MT 59937, 406-862-7342 (home), 406-751-2274 (daytime) or asm@digisys.net . Thank you for this opportunity to comment.</p> <p>I noted first in the hearing that I am a resident who owns several properties around Whitefish, including my primary residence on West Third Street, a former Whitefish City Council member, and a land planner in my "day job." Looking at maps in the area, it would seem logical that enhancing Karrow Avenue to handle additional traffic would seem logical, however my field experience in that area leads me to strongly disagree. Here's why:</p> <p><u>Planning Issues:</u></p> <p>Intersection with Highway 93 and Baker is driving almost all traffic decisions in town. Until that is mitigated, I believe you will find that almost any traffic flow assumptions you make are artificially generated because most residential traffic patterns occurring presently are rooted in reaction to that clog.</p> <p>Northbound turning west has many more left turn needs than southbound turning east. Southbound turning east will likely prove worst in winter between 4:00 p.m. – 6:00 p.m., weekends in particular (I studied Big Mountain traffic patterns when employed up there, and they are the primary feeder of steady southbound traffic to that intersection). Summer would be steady but not so burdened at particular hours. Northbound traffic is constant, as Baker is a major feeder to the center, west, and north of town.</p> <p><u>Karrow Avenue:</u></p> <p>Traffic counts between 7th and 93 South (i.e., Coffee Traders) would be critical to this study, for two reasons: 1) Is the route currently even being used much? I have driven it averaging twice/day for several years and have yet to count more than 4 cars (usually it's none) at any time on that entire stretch of Karrow. The traffic from 7th to 93 North is busier, and if you properly analyze it, you will find (as most of the hearing attendees agreed) that a great deal of that traffic pertains to attempts to avoid the Baker/93 bottleneck. 2) Would the proposed route in reality end up as a "non-bypass bypass"? I did socioeconomic analyses of the Whitefish area in the early 90s when the Canadian exchange rate mirrored what it is now, and most summer and winter traffic coming from Canada had either Whitefish (Big Mtn. winter) or Glacier Park as primary destinations (as opposed to Kalispell) and I doubt this has changed much; I think you'll</p>	<p>We acknowledge Ms. Moran's similar verbal comments at the January 2008 public meeting.</p> <p>Your comments and observations are noted.</p> <p>Your comments and observations are noted.</p> <p>Your comments and observations are noted.</p>

<p>find it will have limited appeal to out-of-town traffic, and it is not being proposed in your program as a truck bypass. Local traffic knows about the option already and doesn't use it. Of course, some still goes through to Kalispell, but not nearly the numbers of the other two destinations. The expense of upgrading this road would be huge for what the true use is likely to be.</p> <p><u>Other issues on the proposed Karrow reconstruction:</u></p> <p>Trucks are the one kind of traffic that the locals would truly like to see routed around Whitefish, and this proposal is "non-truck." However, even a truck bypass would be a declining priority and I do not concur that a true truck bypass is a growing Whitefish need. Logging and chip truck use has substantially declined since 1986-87 (when the Whitefish City Council first considered the idea of a bypass), with the closure of American Timber and Plum Creek's transition to real estate related work, though some construction related traffic has obviously increased due to the prior building boom (this is local in nature, however, and by all accounts is leveling off). The decrease in timber-related truck traffic is highly likely to continue.</p> <p>Tourism traffic continues to be welcome in Whitefish—in fact, I think you'd have merchants complaining if you tried to reroute it—and the only complaint I have ever heard about it pertains to that bottleneck Baker/93 intersection. Again, this is the root of all Whitefish's traffic problems, and it amazes me that we have not addressed it given its proximity to the City Offices and the staff's undoubted awareness of the issue. Why can't this be dealt with?</p> <p>If Karrow were widened, two and possibly three houses might need to be condemned in order to facilitate the wider right-of-way. What kind of cost would be involved if eminent domain were exercised? Even having a plan that indicates this road could occur will absolutely create some long-term property value issues for those homeowners, especially given that we've just seen the legal case pertaining to the Flathead County Planning Department where it has been proven that planning documents can be thus interpreted, so caution is critical and appropriate.</p> <p>If Karrow were widened, a wetlands area would also be significantly impacted. In addition, there are several types of wildlife regularly seen in the area that would have to be addressed in your scoping.</p> <p>Construction would be a huge issue, as rerouting Karrow traffic would be a four or five mile rerouting for some residents. The reconstruction of 1/2 block of Karrow immediately contiguous to 93 W. last summer demonstrated that in spades—local residents were very upset by that project, and (perhaps unfairly) lost a great deal of faith in City personnel and their City Council representation as a result of it. If you want to push a "hot button" in southwest Whitefish, just mention road reconstruction and the City of Whitefish in the same breath.</p> <p>Most important, both of the intersections where Karrow meets Hwy 93 have the potential to become very dangerous intersections if traffic is increased to regular streams at those intersections, and mitigating these risks would be phenomenally expensive (if it's even possible) given the topography. At 93 south, Karrow spills onto 93 sufficiently below the crest of a hill that the intersection is masked from oncoming, northbound traffic traveling at highway speeds toward Whitefish from Kalispell. Even if the community and MDT were in favor of another traffic light on 93 (and nobody wants that), the light itself would likely fall beneath the hill's crest, so you'd have high-speed traffic approaching blindly toward an intersection. Without traffic signals, it would be even more dangerous. On 93 North, the situation is even worse—there is a fairly steep hill between the cemetery and the intersection, which cars already often slide down in winter. The intersection would be right at the bottom of that hill, requiring people to try to stop on a downhill incline in a community where the roads are icy 5+ months of the year, and a traffic signal would likely only exacerbate the risk. Correcting these topographical situations would be costly and not feasible, so we'd most likely end up with dangerous intersections burdened by too much traffic.</p>	<p>Your comments are noted.</p> <p>Your comments are noted.</p> <p>Eminent domain is more expensive and time consuming than the traditional method of land acquisition through negotiated purchase. Land acquired through eminent domain is often acquired at a price above fair market value. Unfortunately, the related legal fees frequently offset any sales price premium benefits for the landowner. The acquiring agency is often affected even more by the premium price and legal costs associated with eminent domain.</p> <p>Your comments are noted.</p> <p>Your comments are noted.</p> <p>Your comments and observations are noted.</p>
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	<p>In addition, the landowners in the area appear to be mostly set on holding onto their land (the ones I know who own the biggest acreage in the area have turned down any number of offers to develop and have no intention at this time of bending on that attitude, and with a declining market, their minds are not likely to change). Why do taxpayers have to pay for this? When and if the area develops and needs construction to handle the traffic, then do what everyone else does and let the developer pay for the road improvements.</p> <p>Spend the comparatively small dollars to effect a left-turn fix at the intersection on Baker/Second, then watch what happens with the traffic for awhile to see what Whitefish truly needs to spend, and where. Just because the funding may become available doesn't mean it should be spent. Whitefish's taxes are high enough, and what we already pay should be channeled to more appropriate improvements.</p>	<p>Your comments are noted.</p> <p>The Transportation Plan recommends improvements to 2nd Street including traffic signal modifications and the addition of appropriate dedicated turn lanes at 2nd Street's intersections with Baker and Spokane Avenues. Such changes are evaluated in the Whitefish Urban Corridor Study.</p>
<p>13</p>	<p>(Gloria Speer, 01/31/08)</p> <p>We attended the public meeting that you facilitated in Whitefish regarding the new transportation plan. We wanted to provide you some input on our views.</p> <p>1) Regarding Baker & 2nd street: Currently there are left-hand turn lanes in the north and south bound directions on Baker Avenue. However, there are no turn signals to facilitate left-hand turns. At times, only one car is able to make a left-hand turn during one light cycle. In the winter, there are commonly MANY MANY cars coming off of Big Mountain heading in the southbound direction causing this intersection to back up in the northbound direction, making it almost impossible to make a left-hand turn onto Hwy 93 when heading northbound on Baker. We have sat through 5 traffic light cycles on this intersection in the past.</p> <p>2) Regarding the bypass: We agree that the majority of trucking traffic seen in town is "destination" traffic that is serving the local community, bound for Whitefish or Big Mountain, not Eureka or Canada. If a bypass is necessary, using the existing routes of KM Ranch Road or Farm To Market road seems a much more efficient option, as it would also be able to connect with the new Kalispell bypass.</p> <p>3) Regarding 13th street & Hwy 93: This intersection seems poorly designed as the west-bound and east-bound left-hand turn lanes are combined with the thru lane and the right-hand turn lanes are by themselves. This causes large backups while thru traffic waits in line behind left-hand turn traffic. This left-hand turn problem causes traffic to be backed up all the way on to the bridge on Columbia Avenue every day after school. It seems that this problem could be easily mitigated with a left-hand turn signal or possibly changing the thru lane to be routed with the right-hand turn lane. As has been noted, the lack of east-west connectors causes this intersection to be heavily used for school traffic trying to get from the east side of town to the west, and also onto Hwy 93.</p> <p>4) Regarding the proposed 7th street bridge between Baker & Hwy 93: We believe this is a great idea to connect the east and west sides of the community.</p> <p>Thanks much for your effort on this</p>	<p>Your comments are noted. Please note the Transportation Plan recommends improvements to 2nd Street including traffic signal modifications and the addition of appropriate dedicated turn lanes at 2nd Street's intersections with Baker and Spokane Avenues. Such changes are evaluated in the Whitefish Urban Corridor Study.</p> <p>Your comments are noted.</p> <p>The Transportation Plan recommends a project at the intersection of 13th Street and Spokane Avenue (TSM-2) that would modify pavement markings and provide designated left turn lanes on the east and west legs of 13th Street. The other lane on the east and west approach would be combination through-right turn lanes.</p> <p>Your comments are noted. In addition to enhancing east-west connectivity in Whitefish, travel demand modeling done for the Plan suggests the addition of a bridge at 7th Street could benefit traffic flows on the US 93 corridor. However, there are high costs and environmental issues associated with providing a bridge at this location. The Plan notes that MSN-5 (7th Street Bridge) is a desirable long term improvement, but its implementation is beyond the planning horizon for this study. The Whitefish Urban Corridor Study also addresses that benefits and issues associated with extending 7th Street across the river.</p>
<p>14</p>	<p>(unknown, 01/31/08)</p> <p>I agree with the finding that most traffic coming through Whitefish is destination Whitefish traffic and a by-pass would be under utilized. I also feel that if a by-pass is considered it should be in a location further north</p>	<p>Your comments are noted. Farm to Market Road is beyond the planning area for this Transportation Plan.</p>

<p>west of Whitefish possibly connecting with KM Ranch road or Farm to Market road.</p> <p>Farm to Market Road could connect directly into the proposed Kalispell By-pass. The Karrow Avenue route would be going directly through what in 20 to 25 years will be Whitefish residential neighborhoods.</p> <p>A left turn signal light is needed at the corner of Baker and Highway 93. There is already a left turn lane on baker going north or south. This should be just a matter of changing lights as there is already a signal at that location. This would go a very long way in controlling congestion and increasing driver and pedestrian safety at that intersection.</p>	<p>Please see the response to Gloria Speer’s comment # 2 above.</p>
<p>15 (D.L. Blank, 01/31/08)</p> <p>Here are my comments on the draft of the Whitefish Transportation Plan.</p> <p>I see two major omissions from the plan. One is a lack of consideration for existing conservation easements and important natural habitats like wetlands and riparian areas. Future roads are drawn right through these very inappropriate places.</p> <p>Another is the Travel Demand Forecasting makes no attempt at forecasting the price of gasoline. I realize we cannot predict this with accuracy. But the same is true for all the predictions in the plan. It is obvious that the price of gas is trending upwards, and it is also obvious that this impacts travel.</p> <p>The best way to deal with the need for new roads is prevention. Land use is key. Growth Management areas should be implemented.</p> <p>I am very glad the plan does discuss Transportation Demand Management, but it needs more emphasis on it. Public transit, bicycling, walking, etc is better than driving for our physical and mental health and the health of the community. I consistently connect with far more friends and neighbors when I do my errands by bicycle than when I do the same</p>	<p>We obtained a map prepared by the Flathead County GIS Department showing the locations of conservation easements, waterbodies, and wetlands included on the National Wetlands Inventory in the Whitefish area (available from the City’s website). Recommended road projects were then reviewed for potential conflicts with such areas. This review showed that projects MSN-3, MSN-10, and MSN-19 are adjacent to but not within any areas under conservation easements. Figure 6-3 shows the location of these projects relative to areas under conservation easements.</p> <p>There are road projects that, if implemented, would require crossings of the Whitefish River and other streams and some that may encroach on wetlands associated with these riparian areas. We believe these improvements have merit based on the travel demand modeling done for the Plan and can be designed and built to minimize effects on these sensitive areas. A variety of federal and state water quality regulations (such as Section 404 of the federal Clean Water Act, the Montana Stream Protection Act, and local floodplain regulations) are already in place to protect water quality, surface waters and wetlands. The City’s Critical Areas Ordinance is an additional permit requirement that must be considered with the implementation of transportation projects in the community.</p> <p>We acknowledge that the price of gasoline has already and will likely continue to affect travel patterns. However, the travel demand model used for the Transportation Plan does not use the price of gasoline as an input.</p> <p>Other than recognizing that the total amount of vehicle travel will likely decrease and the use of alternate travel modes will increase, we cannot predict with any certainty what the actual consequences of rising gasoline prices will be on travel within Whitefish. Development patterns within the community and the lack of readily available alternate transportation modes for all residents dictate that private vehicles will continue to be relied upon to meet the majority of personal transportation needs. The spike in gasoline prices during 2008 had significant impacts on the amount of vehicle miles traveled in Montana and nationally.</p> <p>Your comments are noted.</p> <p>Your comments and opinions are noted.</p>

errands by car. Roads are very expensive to build and maintain. This plan lists the estimated cost to build each segment. It should also list the on-going cost of maintaining that segment, including snowplowing, etc. A faster, more efficient road system encourages more driving and more sprawl. When people want some peace and quiet, fresh air, or to go for a walk, they are less likely to just walk out the back door if we have more roads and more traffic. They have to get in their car to find these things, and the problem spirals.

The bicycle/pedestrian network is very important and should have priority. Bicycling is an ideal form of transportation when separated from vehicle traffic. Otherwise, the risks are quite high. Bicycle paths should be well separated from automobiles. A bicycle lane in the road is a poor second best and is far too risky when there is snow on the road, so it is not an all-season solution the way a separate bike/pedestrian path is.

Reconsider road sections that put unnecessary curves in a bike path paralleling a road. A bicyclist paralleling a river might be out for dawdling recreation, but generally riding beside a road is done to get to a destination efficiently. The bike path should be designed to be effective for bicyclists, not for the visual amusement of drivers. The same goes for sidewalks. My friend who walks the curving sidewalks next to highway 93 south of Whitefish every day hates the extra distance the curves make him cover. I feel the same way when I walk there next to all the noisy and smelly traffic.

Public transit should have a provision for carrying bicycles. This would help make public transit more effective for areas that are not very dense. A person can bike to the bus, and then use the bike to connect from the bus to their destination. I have enjoyed this method when traveling in other areas. I met a couple in Glacier Park who were shocked and stranded when they found out they could not take their bikes on that bus system.

The talk about traffic calming, "neighborhood sensitive", and "context sensitive design" sounds great. But many of the roads discussed in this plan would be collectors and arterials. Thus they would be forced into design standards by the MDT, without local control. These neighborhoods would become sacrifice zones to asphalt and traffic. Whitefish is still suffering the effects of having local desires overridden by the MDT when highway 93 south of Whitefish was rebuilt.

I am especially concerned about Karrow Avenue and 7th St. A bridge at 7th Street would funnel traffic through previously quiet residential neighborhoods. Both the cost and the environmental damage would be severe. I question the computer modeling result that it would not increase traffic much. Traffic would be hugely affected by which bridges are built first, and by the design of highway 93. One proposal has a couplet on 2nd Street and 7th, which would probably push long-time residents out of their homes, and crimp property values.

Many of the same issues exist on Karrow Avenue. The route runs at the edge of an important wetland which harbors uncommon wildlife like sandhill cranes and great grey owls and close to lakes, including Blanchard Lake which has rare species. The three lane design is excessive. Residents would probably not have any control over the design. The plan says the Karrow "recommendation is not intended to provide a bypass to US highway 93". But, obviously it would be used that

We recognize that non-motorized forms of transportation are an important mode and need to be accommodated within Whitefish. However, we disagree that this should be the priority of the Plan since it can only replace a portion of all the travel that is done within the community. Whitefish has designated an extensive network of bicycle and pedestrian trails for a community of its size and aggressively pursued the development of the network. We think the Transportation Plan supports this local desire for accommodating non-motorized transportation in Whitefish by incorporating the recommendations and identified projects listed in the City's Pedestrian and Bicyclist Master Plan.

Your comments are noted. The exact alignment of pedestrian and bicycle paths is typically determined as projects are implemented.

Please note the Eagle Transit Transit Development Plan (TDP) Update - Final Report prepared in 2005 identifies the addition of bike racks on transit vehicles as a desired capital improvement over the 2007-2012 period addressed in the TDP.

Functional classification for roadways typically reflects the type of service they provide regardless of their administrative or jurisdictional responsibility. Most roadways in Whitefish will remain under "local control" and subject to engineering standards established by the City. MDT design standards apply to roadways that are part of the federal aid system such as US Highway 93 through the City, Wisconsin Avenue, and portions of Baker Avenue.

The addition of a new bridge at 7th Street (MSN-5) shows the potential for decreases in traffic on Spokane Avenue, 2nd Street and on portions of Baker Avenue. The inclusion of a bridge at 7th Street was recommended as part of the Preferred Alternative in the U.S. Highway 93 Somers-Whitefish Final EIS and remains an essential element of several design configurations examined in the Whitefish Urban Corridor Study.

As a result of comments on the Public Draft Transportation Plan, the recommended major street network improvement project for Karrow Avenue (MSN-3) has been revised to include a three-lane minor arterial roadway section with pedestrian and bicyclist facilities between 7th Street and US 93 and a two-lane rural section with a separated pedestrian and bicycle path south of 7th Street.. We believe this

	<p>way, resulting in a heavy increase in traffic in what is presently a quiet rural scenic route.</p> <p>Please include these concerns in the re-write of this plan.</p>	<p>recommendation recognizes the need to provide a higher design facility within the City of Whitefish and a roadway compatible with the lower density development pattern on lands southwest of Whitefish.</p>
<p>16</p>	<p>(Laurence and Barbara Magone, 01/31/08)</p> <p>Regarding MSN-2 (Karrow Avenue Reconstruction), we realize that someday (by2030), Karrow Avenue will need to be upgraded to accomodate the likely future development of the vacant lands scattered along the roadway. However, we feel that proposing a three-lane minor(?) arterial roadway runs the REAL risk (as others have already expressed) that it could too easily "grow into a US 93 bypass by default", to which we are strongly opposed. As has been expressed many times, most, if not all, Karrow Avenue residents wish to preserve as much of the rural character of the area as possible, and a bypass will certainly not accomplish this desire.</p> <p>We also suggest that you place priorities on the recommended MSN Improvements from your perspective and based upon the studies and sound analysis that you've done. And, good job--thanks!</p>	<p>Please see the response to a similar comment from D.L. Blank above.</p> <p>Priorities will be assigned to recommended projects.</p>
<p>17</p>	<p>(Dick Zoellner, 01/24/08)</p> <p>I am writing in regards to the Whitefish Traffic Plan of 2008. I have many concerns.</p> <p>I first would like to know exactly where the roads are. The map is quite unclear. If the exact location of the proposed roads is not known, they should be deleted from the map, unless the City of Whitefish is prepared to buy the right-of-ways. If the road locations are known exactly, then all property owners affected should be notified and a meeting set up with the appropriate officials so this can be discussed. I believe that many of the landowners that have property directly on these proposed "lines on the map" have no idea any of this has been proposed. Even a very arbitrary line on a map can hugely impact property values and quality of life in an area, and these property owners need to be well informed of what is going on.</p> <p>My second concern is that many of these proposed roads are in the "donut area" outside of city limits, but still controlled by city decisions. This is very troubling to me as a landowner in this area, because we citizens in these areas cannot vote for City decisions or run for City Council, but are directly affected by these proposals and plans.</p> <p>I hope you understand my concerns and that they can be addressed before more confusion is created and the City ends up with more court battles at taxpayers' expense.</p>	<p>The maps in the Transportation Plan provide guidance for future road locations as the community grows and properties in outlying areas are subdivided. The lines on the map simply show potentially desirable corridor locations that tie into the existing transportation network. They are not intended to formally establish an alignment for future roads and they are in no way binding. Detailed preliminary engineering work along with landowner and public input is necessary to establishing the locations of these future roadways.</p> <p>If there is no development planned for a property crossed by one of the "lines" then nothing is likely to happen. However, as development proposals for affected properties come forward, these "lines on the map" provide valuable guidance for both developers and local government. Developers can use information about desired transportation links when laying out new subdivisions and local government (either City or County) can refer to the Transportation Plan recommendations for guidance about linking proposed developments with the existing road and street network.</p> <p>The City of Whitefish would only be involved when a plan to develop the property within their jurisdictional area comes up for consideration. Any future roads, especially those shown outside of city limits, would most likely only be built by developers as they plan for new land uses and increases in density on such properties.</p> <p>We acknowledge your concern, but this issue cannot be addressed or remedied by the Transportation Plan.</p>
<p>18</p>	<p>(Margaret Murdock, 01/28/08)</p> <p>An extension of Texas Ave. to Reservoir Rd. is senseless.</p> <p>The property over which this proposed extension would be constructed is under conservation easement. It is a wetland. Disturbance in this region impacts water quality at Whitefish Lake.</p>	<p>A roadway connection between Texas Avenue and Reservoir Road is not proposed in the Transportation Plan. The Plan does recommend two projects in this area—MSN-9 (NE Extension Denver Avenue to East Edgewood Drive) and MSN-10 (NE Extension Wisconsin Avenue to Texas Avenue). MSN-9 would provide a new connection between Denver Avenue and East Texas Avenue. MSN-10 would</p>

	<p>Texas Ave. may as well “dead end” where it is rather than ¼ mi. farther north. There it would encounter the mountain side at the foot of the city reservoir. A turn to the west brings you to Wisconsin Ave, a super busy road way. A turn to the east would bring you to a residential area where it would “dead end”.</p> <p>Section lines are provided for roads. You don’t have to “take” private property for public use.</p>	<p>create a connection between the north end of Texas Avenue and Wisconsin Avenue and intersect with Colorado Avenue.</p> <p>Mapping from the Flathead County GIS Department showing the locations of lands in the Whitefish area under conservation easements (available from the City’s website) were reviewed to determine if these projects potentially affect conservation easements in the northeast Whitefish. MSN-9 would not conflict with any conservation easements. MSN-10 be adjacent to but is not proposed within a conservation easement held by the Nature Conservancy. Figure 6-3 shows these projects relative to the conservation easement.</p> <p>Please see the response to a similar comment by Mr. Zoellner presented above.</p>
<p>19</p>	<p>(Gregg Alexander, 02/01/08)</p> <p>I agree with the report findings that Whitefish has a traffic flow problem, however I feel that a bypass around Whitefish utilizing the Karrow Ave./Blanchard Lake Road corridor is not the answer to its traffic woes. Baker Ave was the "bypass" around Whitefish in its inception, however as the town grew, it became just another overused street. The Karrow/Blanchard area has been named as the next expansion area for the town to grow into. Why would you want to repeat the mistake that was made over 50 years ago? In my opinion, the only logical bypass around Whitefish is in the Farm to Market, or KM ranch road area. This bypass could then be made to connect to Columbia Falls via Hogdson Road to access the industrial section concerning the mill access.</p> <p>To try to facilitate a bypass in the next expansion area is absurd. The report already states that the amount of traffic it would relieve is minimal. The majority of truck traffic in town services the town, and in the case of automobile traffic, the majority of that is seasonal destination traffic. A "close to town bypass" is a short term fix for a long term project that needs to be studied with the long term facts in mind.</p>	<p>Your comments and opinions are noted.</p>
<p>20</p>	<p>(Cheryl Watkum, 02/06/08)</p> <p>Enjoyed our phone conversation last week. Since you gave me extra time, I’m sending a few comments on the WF Transportation Plan.</p> <p>I live at 145 Old Morris Trail. Our property is in conservation easement.</p> <p>I do not believe Karrow/Blanchard Lake Road should be 3 lanes. There are currently large tracts of property. I drive this road as often as 4 times a day & most times pass one car. At 9 or 5 maybe 5 cars. Most people would rather keep up their speed on Highway 93. A walk/bike path would be great – far more people use this road on foot.</p> <p>I would suggest cutting through Lazy Grizzly Lane to Baker. Use 93 – Baker Karrow as a by-pass. You have serves on 93 before you enter town proper.</p>	<p>We obtained a map prepared by the Flathead County GIS Department showing the locations of lands in the Whitefish area under conservation easements (available from the City’s website). The recommended road project on Old Morris Trail (MSN-19) was reviewed for a potential conflict with the conservation easement. This review showed that the project is adjacent to but not within the conservation easement. Figure 6-3 shows this project relative to the conservation easement.</p> <p>As a result of comments on the Public Draft Transportation Plan, the recommended major street network improvement project for Karrow Avenue (MSN-2) has been revised to include a three-lane minor arterial roadway section with pedestrian and bicyclist facilities between 7th Street and US 93 and a two-lane rural section designed in a context sensitive manner providing a separated pedestrian and bicycle path south of 7th Street. We believe this recommendation recognizes the need to provide a higher design facility within the City of Whitefish and a roadway compatible with the lower density development pattern on lands southwest of Whitefish.</p> <p>Your comments are noted.</p>

A.3: WRITTEN COMMENTS RECEIVED FROM CITY OF WHITEFISH PLANNING STAFF ON FEBRUARY 14, 2008

#	Written Comments Received	Consultant Responses
1	<p style="text-align: center;">TRANSPORTATION PLAN - 2007 STAFF REPORT GROWTH POLICY AMENDMENT; WGPA-08-07 FEBRUARY 14, 2008</p> <p>A report to the Whitefish City-County Planning Board and the Whitefish City Council regarding an amendment to the Whitefish Growth Policy to adopt a Transportation Plan. A public hearing is scheduled before the Whitefish City-County Planning Board on February 21, 2008 and a subsequent hearing is set before the City Council on March 17, 2008.</p> <p><u>BACKGROUND</u></p> <p>The Whitefish Transportation Plan 2007 Public Review Draft has been given to the Planning Board and City Council for review, comment, and adoption. This plan has been prepared for the City of Whitefish by consultants Robert Peccia and Associates, in conjunction with the Montana Department of Transportation and the Federal Highway Administration. They were assisted by a Project Oversight Committee (POC) and a Citizens Advisory Committee (CAC). Three public meetings were held to get community feedback and input.</p> <p>This plan works as a companion document to the 2007 Whitefish City-County Growth Policy, as well as the Downtown Business District Master Plan, and a future downtown “Pre-NEPA” corridor study.</p> <p>It should be noted that the future right-of-way layouts shown in the plan have raised some concerns with several private land owners that the City is planning on building new roads through their properties. The maps show future road locations as a guide as the community grows and properties in outlying areas are subdivided. The lines on the map are simply placeholders showing optimal corridor locations that tie into existing transportation grids, and they are in no way binding. Any future roads, especially those shown outside of city limits, would most likely only be built by developers as those areas increase in density through development in the years to come.</p> <p>Several key issues are outlined below for review, including the plan’s relationship with the Growth Policy, as well as other elements such as the list of priority projects, Levels of Service, impact fees, and a city-wide sidewalk program.</p> <p><u>PROJECT SCOPE</u></p> <p>The study area encompasses the entire Whitefish planning jurisdiction. The plan is meant to be a guide for future growth of the Whitefish area transportation system, including travel by private vehicles, public transportation, and foot and bicycle traffic. It describes the existing systems, including traffic volumes, traffic signals, crash analysis, and non-motorized transportation projects. It looks forward at travel demand forecasting, and projected traffic conditions. It recommends several traffic calming methods, and it identifies specific problems with intersections and signals and outlines potential improvements to the network. The plan recommends several projects in an attempt to relieve existing problems, as well as to prepare the system to meet future demands. It concludes with a financial analysis of the funding sources and alternatives.</p> <p><u>RELATIONSHIP WITH THE GROWTH POLICY</u></p> <p>It is important to review the Transportation Plan 2007 in light of the recently adopted 2007 City-County Growth Policy, which featured a chapter on transportation planning issues. Section 1.3.2-1.3.4 on pages 1-7 and 1-8 summarize the transportation-related goals, policies, and recommended actions of the Growth Policy.</p> <p>The Recommended Actions from the transportation element of the Growth Policy are listed below, along with a brief synopsis of how the Transportation Plan 2007 addresses these issues item by item.</p>	

2007 GROWTH POLICY, TRANSPORTATION, RECOMMENDED ACTIONS:

1. *Make construction of new sidewalks and pathways a priority in areas where they do not currently exist.*

While many of the projects listed in the plan contain references to new or widened sidewalks on particular streets, the Transportation plan should lay out a comprehensive sidewalk program for the City, including a plan to improve pedestrian crossings. The bike and pedestrian trail section could be also expanded, with additional ideas presented for a comprehensive wayfinding and interpretive signage program, a possible bicyclist/tourist info center, and other ideas.

2. *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.*

The Transportation Plan does a good job of envisioning and recommending street extensions and future transportation grids.

3. *It is highly recommended that no additional land in the Monegan Road area be designated for urban or suburban development until such time as additional connections are made available.*

The Plan roughly outlines the locations of future connections in the Monegan Road area on Figure 8-1.

4. *Through the community-wide transportation plan, explore possibilities for an additional grade separated crossing of the BNSF rail facilities.*

The Transportation Plan shows alternatives for grade separated crossings of BNSF facilities, and contains models of additional crossings in Chapter 3. The plan's recommended future crossing is an extension of Kalner Lane in the Cow Creek area.

5. *The City shall make the provision of sidewalks, pathways, and other non-motorized transportation facilities part of a concurrency program and policy.*

Concurrency programs for non-motorized travel were not addressed by the Transportation plan. Concurrency was a concern raised by many citizens during the public outreach portion of the Growth Policy's development; and, therefore was developed into a recommended action. Concurrency is intended to ensure all the facilities are in place at the time of the impact of the development. Concurrency programs can work hand-in-hand with impact fee programs.

6. *The City shall research and develop a set of alternative "neighborhood sensitive" designs for local residential streets.*

Chapter 9 of the Plan provides some sample neighborhood sensitive street standards, but the plan reiterates that the City of Whitefish has direct control over street geometry and function in the city limits.

7. *The City shall develop a menu of traffic calming measures for use residential collector streets.*

Chapter 7 of the plan significantly addresses traffic calming.

8. *Through the community-wide transportation plan, the City shall assess the need and feasibility of a highway by-pass to alleviate through traffic in the downtown area.*

Highway by-pass and alternative route options are discussed in Section 8 of Chapter 9, although the plan does not recommend that the City pursue a bypass at this time (see page vi of Executive Summary). This is a major community issue, and should be discussed in more detail by the Planning Board and Council, and issues related to alternative routes such as along the power lines

Developing a comprehensive sidewalk program for the City is a good idea; however, it was not within the scope of work for the Transportation Plan to inventory and assess all of the sidewalks within the community. Likewise, the scope of work for this project did not include updating the City's Bicycle and Pedestrian Master Plan. We believe that the Bicycle and Pedestrian Master Plan will need to be reviewed and updated to reflect recommendations in the Transportation Plan. We will include such a recommendation with revisions to Transportation Plan.

We have added a new section in Chapter 7 of the Transportation Plan discussing Transportation Concurrency for non-motorized facilities.

We agree.

<p>could be explored further.</p> <p>9. <i>Continue support for federal funding that will keep Amtrak passenger service operating in Montana.</i></p> <p>This issue is more easily addressed by elected officials than in a transportation plan.</p> <p>10. <i>Continue to support agreements with Eagle Transit and the Snow Bus, and encourage them or other enterprises to expand existing services to provide daily and year-round public transportation options in Whitefish.</i></p> <p>This issue is discussed in 9.2 and 9.3, which provides some recommendations, but it could perhaps be explored in more depth and should be a high priority for the City. Additional transit related issues such as park and rides are discussed on 9-12 under TDM Strategies, but the section should be expanded and potential sites explored. A park and ride for Whitefish Mountain Resort should be discussed. Also, there should be a mention of the need for bike racks on buses.</p> <p>11. <i>Coordinate with the Montana State Department of Transportation in developing corridor studies for state highways within the planning jurisdiction.</i></p> <p>In 9.5, corridor preservation is discussed, but coordination with the State for future corridor studies and plans as outlined in the Growth Policy is not discussed.</p> <p>12. <i>Explore alternative vehicular routes to the Whitefish Mountain Village.</i></p> <p>The plan supports the conclusions of the Big Mountain Neighborhood Plan regarding primary and secondary access to the resort, but due to topography and other constraints, the plan does not feel that it is feasible to provide an additional primary access to the resort. Expanded secondary and emergency access is supported. As mentioned above, park and ride options should be further developed to reduce traffic and parking issues.</p> <p>OTHER ISSUES</p> <p>Several other issues that should be considered were brought to light during the staff review process.</p> <p>Chapter 8 contains a list of recommended projects, both transportation system management (TSM) improvements, major street network (MSN) improvements, future major street network improvements (FMSN), and non-motorized network improvements, as well as a list of other recommended roadway projects. These should be reviewed, and recommended priorities set.</p> <p>The community's acceptable Level of Service (LOS – see chapter 2) for various intersections and streets should be discussed, and perhaps set in the plan. Often the character of streets and downtowns are compromised to achieve high LOS. As the last paragraph on page 2-29 discusses, some communities will accept a lower level of service rather than sacrifice amenities such as street trees, sidewalks, bicycle lanes, etc. Such priorities are a policy call, and the need for</p>	<p>We agree.</p> <p>In response to this comment, we will include a new recommendation for the City to consider undertaking a planning study to help prepare the community for the expansion of public transit services. Such a study could be used to explore and develop standards for desirable infrastructure features like transit pullouts, waiting areas or bus shelters, signage, and park and ride lots. Since park and ride lots offer the potential to serve as future transit hubs, the study could also explore potential locations and development costs for park and ride lots and examine the potential for a fixed route shuttle service within the community. Due to the lack of funding sources and uncertainties about existing and future transit services in Whitefish, we do not believe it is appropriate at this time to designate park and ride locations.</p> <p>Please note the Eagle Transit Transit Development Plan (TDP) Update, Final Report prepared in 2005 identifies the addition of bike racks on transit vehicles as a desired capital improvement over the 2007-2012 period addressed in the TDP. A recommendation for equipping existing and future transit vehicles serving Whitefish with bike racks has been added to the Plan.</p> <p>We have made additional comments regarding interagency coordination on transportation planning matters in the referenced section.</p> <p>See our response to comment #10 above.</p> <p>The implementing responsibility for recommended transportation projects (City of Whitefish, Flathead County, or MDI) and suggested priorities have been identified in the Executive Summary of the Plan.</p> <p>We believe priorities for non-motorized facilities should be set as part of an update to the City's Bicycle and Pedestrian Master Plan. We have included such a recommendation in the revised Transportation Plan.</p> <p>Establishing acceptable levels of service for the City's intersections was not within the negotiated scope of work for the Transportation Plan.</p>
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	<p>circulation must be balanced by decision makers against other things such as community character. The discussion of impact fees for transportation improvements on page 10-16 is a good first step, but additional discussion may need to take place on how they can be further utilized to fund new roads, sidewalks, bike trails and other improvements.</p> <p>Many of the road corridors shown in the plan are county or state jurisdiction rather than the City of Whitefish. Plans and methods for coordinating with these other agencies on plans and improvements should be discussed.</p> <p>The need for a Sidewalk Program is mentioned above in the Growth Policy section, and the outline, locations, mechanism, and desired results of such a program would be a nice addition to the plan. Safety issues should be explored and prioritized, such as lack of walkways near schools, un-signed intersections, and other issues.</p> <p>PUBLIC COMMENT Public comments received by the consultants either in written form at the public meetings are attached. Some of the comments have responses from the consultant included. There will be opportunity for additional public comment at both the Planning Board and City Council meetings.</p> <p>Overall Recommendation: Staff recommends the Planning Board review and recommend appropriate changes as needed to the Transportation Plan 2007 document, and that it be forwarded it to the City Council with a recommendation for adoption.</p>	<p>It is our understanding that the City has enacted Ordinance No. 07-25 which has an expressed purpose of funding new facilities including paved trails.</p> <p>We have made additional comments regarding interagency coordination on transportation planning matters in Chapter 7 of the Transportation Plan.</p> <p>Developing a comprehensive sidewalk program for the City was not within the negotiated scope of work for the Transportation Plan. However, we have included this as a new recommendation in the Plan.</p> <p>The Planning Board and City Council was provided with and Executive Summary of the Draft Corridor Study for review with the updated version of this Transportation Plan.</p>
<p>2</p>	<p>A bypass route has been advocated for a long time in Whitefish. Would the need for a bypass be offset if Spokane and Baker Avenues were configured as one-ways?</p>	<p>Travel demand modeling performed for the Transportation Plan and the US Highway 93 Urban Corridor Study examined the effects of adding a western route around the southwestern portion of Whitefish and design options that included one-way configurations on Spokane and Baker Avenues.</p> <p>Adding a new transportation link, like a western route around Whitefish, has the potential to directly and indirectly change travel patterns within the community. Various western routes around southwestern Whitefish were examined in an effort to identify such changes and determine if there would be any potential benefits (primarily traffic reductions) to the US 93 corridor. The modeling showed such routes would potentially carry notable amounts of traffic. However, they did little to reduce traffic on US 93 through the City and would not address long-term traffic issues identified for the US 93 corridor.</p> <p>Changing the design configuration of Spokane and Baker Avenues to one-ways would only change how traffic negotiates these existing roadways. While a new travel route within the community has the potential to change travel patterns, changing the design configurations of individual streets in the center of Whitefish would do little to change travel patterns or potential travel desires at the edges of the community.</p>

A.4: WRITTEN COMMENTS RECEIVED FROM CITY OF WHITEFISH CITY-COUNTY PLANNING BOARD ON MARCH 25, 2008

#	Written Comments Received	Consultant Responses
1	<p>On March 20, 2008, the Whitefish City-County Planning Board held a work session on the January 1 Public Draft of the Whitefish Transportation Plan 2007.</p> <p>This letter serves as a summary of comments from the Planning Board to the consultant as well as to the Whitefish City Council. We understand that since the Transportation Plan is an amendment to the 2007 Whitefish City-County Growth Policy, and that the Planning Board needs to have one additional public hearing to forward the document to the City Council with a recommendation. We would like to hold that meeting in early May, assuming the consultant has provided us with a revised Public Draft for review and we can review it in tandem with the Downtown Pre-NEPA Corridor Study. Even under those circumstances, the Board as well as the public at large will have only two weeks to review the Plans before being asked for comment.</p> <p>First and foremost, the Planning Board found it difficult to give an objective review of the Public Draft 2007 Transportation Plan in the absence of the corridor study that the executive summary and scope of work refers to as a companion document (page iv). The corridor study is a vital and integral component of any decision making that must occur in reviewing transportation needs and solutions. The Planning Board strongly recommends that these two documents be reviewed and approved in tandem by the City Council.</p> <p>All suggested implementation scenarios shown in the plan need to be considered and weighed against the newly adopted 2007 Growth Policy and the community goals outlines, and be designed so that transportation corridors encourage infill rather than development sprawl in rural areas.</p> <p>Additionally, the Critical Areas Ordinance needs to be taken into account, and proposed alternative improvements be designed to minimize impacts to critical areas such as wetlands, riparian areas on the Whitefish River, and other water bodies.</p> <p>Transportation projects listed in the implementation priorities need to be separated and individually prioritized into projects within the city limits and those outside where the County or State have road powers.</p> <p>Additionally, the Planning Board recommends that the Transportation Plan be reexamined in light of the Bicycle and Pedestrian Master Plan and that both documents be modified to accommodate new suggested transportation corridors. New corridors shown in the Transportation Plan need to be designed to accommodate bicycle and pedestrian paths which are insulated from the roadways. The bike and pedestrian trail section could be further expanded with additional ideas presented for a comprehensive and consistent City way finding and interpretive signage program, a possible bicyclist/tourist information center downtown, and other ideas.</p>	<p>The Planning Board and City Council was provided with and Executive Summary of the Draft Corridor Study for review with the updated version of this Transportation Plan.</p> <p>The travel demand modeling done for the Transportation Plan was based on allocations of community growth and employment consistent with assumptions discussed in the Growth Policy.</p> <p>Projects implemented by MDT are subject to evaluation under the National Environmental Policy Act (NEPA) and the Montana Environmental Policy Act (MEPA). These processes govern how projects are developed and have inherent obligations to demonstrate compliance with all applicable environmental regulations. A variety of federal and state water quality regulations (such as Section 404 of the federal Clean Water Act, the Montana Stream Protection Act, and local floodplain regulations) are already in place to protect water quality, surface waters and wetlands. The City's Critical Areas Ordinance is an additional permit requirement that must be considered with the implementation of transportation projects in the community.</p> <p>The implementing responsibility for recommended transportation projects (City of Whitefish, Flathead County, or MDT) and suggested priorities have been identified in the Executive Summary of the Plan.</p> <p>The scope of work for the Transportation Plan does not include making modifications to the Bicycle and Pedestrian Master Plan. While not explicitly stated, we believe there is an inherent obligation to accommodate pedestrians and bicyclists with all recommended major street network improvement projects listed in the Plan. We also recognize that the Plan may contain projects not previously addressed in the Bicycle and Pedestrian Master Plan. Therefore, after the Transportation Plan has been finalized, the Bicycle and Pedestrian Master Plan should be revisited and maps should be updated to show desired pedestrian and bicyclist facilities for any newly identified transportation corridors. The update could address ideas for a City way finding and interpretive</p>

While many of the projects listed in the plan contain references to new or widened sidewalks on particular streets, the Transportation Plan should lay out a comprehensive sidewalk/trail/path program for the City, including a plan to improve pedestrian crossings. The outline, locations, mechanism, and desired results of such a program would be a nice addition to the plan. Safety concerns should be explored and prioritized, such as lack of walkways near schools, unsigned intersections, and other issues. Locations for pedestrian crosswalks should be located where appropriate and after carefully considering traffic engineering studies for conformance with the National Sign Code and MDT guidelines.

The Planning Board feels strongly that a priority improvement project involves the 7th Street to Karrow Avenue corridor, for a pedestrian and bike path, as well as Karrow Avenue from 7th Street to Highway 93, as it is an area within the City heavily used for walking, biking and running. As for the remainder of Karrow Avenue (outside city limits), the recommendations in the plan far exceed what is appropriate in light of the Growth Policy, current and projected uses for the area and to limit the public using that road as a defacto downtown bypass. The Planning Board feels that it should remain two lanes (instead of three), with drainage swales rather than curb and gutter, although a single, separated pedestrian and bike path is greatly encouraged.

We recognize that East/West conductivity is an issue but is important to consider all other options before we consider building roads and bridges in sensitive areas. The 7th and 13th Street bridge locations shown in the plan do not make economic, environmental, or logistic sense, we recommend that those projects not be considered as desirable alternative scenarios and the millions proposed be re-allocated to projects that better mitigate traffic volumes. Public hearings with public input should also help shape which of these projects should be priorities.

signage program, a possible bicyclist/tourist information center downtown, and other ideas. Priorities for improvement projects should be considered and included in an update of the Bicycle and Pedestrian Master Plan.

Developing a comprehensive sidewalk program for the City is a good idea. However, it was not within the negotiated scope of work for the Transportation Plan to inventory and assess all of the sidewalks within the community. The Transportation Plan has been revised to include a recommendation for a comprehensive study of sidewalks and trails in the community. Such a document would support the development of a concurrency policy for non-motorized facilities and should include an inventory of existing non-motorized facilities, a discussion of level of service standards/guidelines for sidewalks and trails, and an assessment of the adequacy of these existing facilities.

Chapter 7 of the Plan recommends that a formal Safe Routes To School (SRTS) be developed for Whitefish schools. SRTS programs typically include an engineering evaluation to assess the adequacy of infrastructure (crosswalks, sidewalks, pathways and trails) along routes typically used by students to walk or bicycle to school. Additionally, the corridor study will assess pedestrian crossing facilities and needs on the Spokane Avenue, 2nd Street and Baker Avenue.

As a result of comments on the Public Draft Transportation Plan, the recommended major street network improvement project for Karrow Avenue (MSN-3) has been revised to include a three-lane minor arterial roadway section with pedestrian and bicyclist facilities between 7th Street and US 93 and a two-lane rural section designed in a context sensitive manner providing a separated pedestrian and bicycle path south of 7th Street. We believe this recommendation recognizes the need to provide a higher design facility within the City of Whitefish and a roadway compatible with the lower density development pattern on lands southwest of Whitefish.

Establishing a transportation system with enhanced east-west and north-south connectivity is a basic premise of the Transportation Plan and a way to help address some of the fundamental reasons for traffic problems in the community.

The addition of a new bridge at 7th Street shows the potential for notable decreases in traffic on Spokane Avenue, 2nd Street and on portions of Baker Avenue. A bridge at 7th Street was recommended in the U.S. Highway 93 Somers-Whitefish Final EIS and numerous design configurations (with and without a bridge at 7th Street) have been evaluated in the Whitefish Urban Corridor Study. The corridor study also discusses the traffic circulation benefits potentially realized by the provision of the bridge, its potential costs, and its potential environmental effects. Work for the corridor study established the cost of a bridge at 7th Street to be very expensive (estimated to be nearly \$10.2 million) and identified difficulties that may be encountered in getting permit approvals for the new structure. Long-term, a bridge at 7th Street his location has long-term merits given the enhancements to traffic circulation that it could provide in the community.

<p>The Planning Board feels that the City Beach re-routing plan should be a high priority for implementation, and should be put into place this summer, if possible.</p> <p>The Monegan Road area remains a concern, and should be a high priority area. Access from Voerman Road to the schools should be improved so that school traffic does not go through Creekwood and other residential subdivisions.</p> <p>The Transportation Plan mentions that the City has direct control over street geometry and functions, and some neighborhood sensitive street standards are considered in the plan. The Planning Board feels it is imperative that the City have flexibility with their road standards for neighborhood sensitive designs, and not automatically require curb and gutters or 60' wide rights-of-ways for small cul-de-sacs, for example. The city should use low impact designs utilizing low-impact design standards where appropriate.</p> <p>While the Planning Board does not dispute the findings of the Plan with regard to the bypass issue, we feel that we need to have the downtown corridor plan in hand in order to make a meaningful recommendation on whether a bypass would be an effective solution.</p> <p>The Plan should accommodate mass transit in any corridor plans, including standards and recommended locations for bus stops, pullouts, covered waiting areas, signage, park and rides, with convenience to the public a priority.</p> <p>Additionally, options, funding sources, and recommendations for a looping city shuttle bus that would have a route that would include stops downtown, at Grouse Mountain Lodge/golf course, the Mountain Mall, City Beach, the High</p>	<p>The provision of a roadway segment and new bridge linking 13th Street east of Spokane Avenue with Voerman Road was initially proposed in the Southeast Whitefish Transportation Plan. This road connection and new bridge, particularly when paired with a recommended north-south road connection linking Voerman Road/Monegan Road to 7th Street (MSN-7), would substantially improve accessibility in the southeast portion of Whitefish. Travel demand modeling shows this combination of improvements could result in beneficial traffic reductions on the US 93 corridor.</p> <p>Your comments are noted.</p> <p>The 7th Street Extension (MSN-7) discussed above would provide a link between Voerman Road/Monegan Road and the schools in the southeastern portion of Whitefish. As discussed above, the effectiveness of such a link would be enhanced by a new east-west road connecting 13th Street and Voerman Road.</p> <p>We have noted that the Growth Policy recommends that that no additional lands in the Monegan corridor be designated for residential development until better road access exists in the area.</p> <p>Your comments are noted. Chapter 1 of the Transportation Plan acknowledges and incorporates “transportation related” goals and objectives from the Whitefish City-County Growth Policy adopted in 2007. The 4th bullet item on page 1-6 under section 1.3.1 indicates “the City shall be open to the use of alternative street standards that preserve and enhance the character and qualities of neighborhoods while still meeting general transportation and public safety needs.” Sections 1.3.2 and 1.3.3. Section 1.3.4 of the Plan reference a recommended action from the Growth Policy that calls for the City to research and develop a set of alternative “neighborhood sensitive” designs for local residential streets.</p> <p>Your comments are noted.</p> <p>We agree that future transit needs and provisions should be considered as transportation corridors are developed or improved within the community. We have added a new recommendation that states plans developed for major transportation corridors listed in the Whitefish City-County Growth Policy should accommodate mass transit and address suitable locations for bus stops, bus pullouts, covered waiting areas and park and rides.</p> <p>We also added a new item that recommends the City to consider undertaking a planning study to help prepare the community for the expansion of public transit services. Such a study could be used to explore and develop standards for desirable infrastructure features like transit pullouts, waiting areas or bus shelters, signage, and park and ride lots.</p> <p>During 2005, Flathead County (on behalf of Eagle Transit) contracted with LSC Transportation Consultants, Inc. to prepare a Transportation Development Plan Update covering the 2007-2012 period. The plan specifically focused on</p>
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<p>School, the skate park, Alpine Village Market, the Wave/Safeway, and other destinations should be explored in the plan.</p> <p>The Transportation Plan goes into detail about Levels of Service (LOS) for various intersections and streets. The Plan should make it clear that when considering transportation corridors and intersections, designing for a high LOS at the expense of other important amenities such as street trees, bike lanes, wide sidewalks and other amenities needs to be considered carefully so that community character is protected and enhanced.</p> <p>We appreciate the opportunity to provide input into this very important document for the City of Whitefish's future. Let us move forward with a plan that thoroughly considers all aspects of the quality of life we enjoy, and keeps us all walking, riding, and driving safely on beautiful, well-designed streets and sidewalks.</p> <p>On behalf of the Whitefish City-County Planning Board, Francis J. Sweeney, Chairman</p>	<p>general public transportation issues throughout Flathead County and examined transit needs, funding alternatives, and programs for the communities within Flathead County. LSC released the Eagle Transit TDP Update, Final Report in February 2006. A copy of the TDP can be viewed at the following link: http://www.lscs.com/projects/Eagletdp/final.htm</p> <p>The keys to offering a service like the suggested shuttle bus system in Whitefish is to identify an entity (or entities) willing to “take the lead” for planning, financing, and operating transit within the community and to have sufficient ridership to support the transit service. The Transportation Plan (in Chapter 7) includes a recommendation for supporting agreements with existing transit service providers (Eagle Transit and the SNOW bus) in the community and encouraging them (or others) to expand existing services and offer new public transportation options within Whitefish. Eagle Transit operates a fixed route system in Kalispell and may be the logical provider for expanded transit in Whitefish.</p> <p>One of the principal challenges facing any transit system is developing a funding system that supports capital investments (buses, maintenance facility, etc.) and provides a stable source of revenue for operations and maintenance. Chapter 8 in the Transportation Plan provides a brief discussion of several key current federal and state programs that can provide funding for transit services. These programs (which typically require local matching funds) and other financial considerations for transit are discussed in more detail in Chapter X in the Eagle Transit TDP Update.</p> <p>As indicated earlier in this response, the Plan acknowledges and incorporates “transportation related” goals and objectives from the Whitefish City-County Growth Policy adopted in 2007. One of the policies elaborated in the Plan (on page 1-6) is that the City shall be open to the use of alternative street standards that preserve and enhance the character and qualities of neighborhoods while still meeting general transportation and public safety needs. This is consistent with what the Planning Board is requesting in the comment.</p> <p>If a comprehensive transportation concurrency policy is developed by the City, the policy could explore and establish LOS standards/guidelines for roads and streets as well as non-motorized facilities.</p>
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