City Commission Agenda

for

March 17, 2009

***Please Note**: The City Commission agenda format allows citizens to speak on each issue prior to Commission action. We encourage your participation. Please keep your remarks concise and to the topic under consideration.*

CALL TO ORDER: 7:00 P.M.

PLEDGE OF ALLEGIANCE

ROLL CALL

PRESENTATIONS

Distinguished Budget Award

NEIGHBORHOOD COUNCILS

1. Miscellaneous reports and announcements.

PUBLIC HEARINGS

OLD BUSINESS

2. CDBG and HOME Program Proposed Use of Funds and Public Hearing Date for HUD Required Annual Action Plan. Action: Accept proposed use of funds for inclusion in the appropriate Annual Action Plan and set public hearing for April 7, 2009, on Proposed Annual Action Plan. ***(Presented by: Chris Imhoff)***

NEW BUSINESS

3. Great Falls Area Transportation Plan – 2009 with inclusion of public comments. Action: Adopt or deny Plan. ***(Presented by: Bill Walters)***

ORDINANCES/RESOLUTIONS

4. Ord. 3032, to Assign City Zoning to East Ridge Addition, Phase 5. Action: Accept Ord. 3032 on first reading and set public hearing for April 7, 2009. ***(Presented by: Bill Walters)***
5. Res. 9819, Authorizing the loan agreement with the Montana Board of Investments for $36,346 to fund the installation cost of eight City-owned street lights in Bootlegger Addition – Phase I. Action: Adopt or deny Res. 9819. ***(Presented by: Coleen Balzarini)***

CONSENT AGENDA *The Consent Agenda is made up of routine day-to-day items that require Commission action. Items may be pulled from the Consent Agenda for separate discussion/vote by any Commissioner.*

6. Minutes, March 3, 2009, Commission meeting.
7. Total Expenditures of $1,076,360 for the period of February 26 through March 11, 2009, to include claims over $5000, in the amount of $895,701.

8. Contracts list.
9. Set public hearing for April 7, 2009, on Res. 9818, Conditional Use Permit to allow an Animal Shelter at 826 25th Avenue NE.
10. Award Professional Services contract in the amount of $122,580 to Merrick & Company for the Digital Imagery and Topographic Mapping of the City of Great Falls and surrounding area.
11. Approve the 3rd Avenue Northwest Memorandum of Understanding.
12. Award bid for two new 2009 ¾ ton extended cabs with utility bodies to Bison Ford of Great Falls in the amount of $53,759.62.

Action: Approve Consent Agenda or remove items for further discussion and approve remaining items.

BOARDS & COMMISSIONS

13. Appointments, Advisory Commission on International Relationships. Reappoint Robin Baker and one new member for three-year terms through March 31, 2012.
14. Appointment, Native American Local Government Commission. Appoint one member to a four-year term through August 1, 2013.
15. Miscellaneous reports and announcements.

CITY MANAGER

16. Miscellaneous reports and announcements.

PETITIONS AND COMMUNICATIONS *(Public comment on any matter that is not on the agenda of the meeting and that is within the jurisdiction of the City Commission. Please keep your remarks to a maximum of 5 minutes)*

17. Miscellaneous reports and announcements.

CITY COMMISSION

18. Miscellaneous reports and announcements.

MOTION TO ADJOURN

Agenda # 2
Commission Meeting Date: March 17, 2009
CITY OF GREAT FALLS
COMMISSION AGENDA REPORT

Item:	CDBG and HOME Program Proposed Use of Funds and Public Hearing Date for HUD Required Annual Action Plan
From:	Community Development Department
Initiated By:	Chris Imhoff, CDBG/HOME Administrator
Presented By:	Chris Imhoff, CDBG/HOME Administrator
Action Requested:	Accept proposed use of CDBG and HOME funds and Set Public Hearing for April 7th, 2009

Suggested Motion:

1. Commissioner moves:

"I move to accept the proposed use of funds for the 2009/2010 Community Development Block Grant Program, for the American Recovery and Reinvestment Act and for the 2009/2010 HOME Program for inclusion in the appropriate Annual Action Plan and set the public hearing for April 7, 2009, on the 2009/2010 Proposed Annual Action Plan."

2. Mayor calls for a second, discussion, inquiries from the public, and calls the vote.

Staff Recommendation:

Staff recommends the City Commission (1) accept recommendations for funding 2009/2010 Community Development Block Grant projects and CDBG funds provided by the American Recovery and Reinvestment Act; (2) accept funding recommendations for the HOME program projects; and, (3) set April 7, 2009, as the public hearing date for the Proposed 2009/2010 Annual Action Plan.

Background:

Significant Impacts

Federal regulations require that the proposed use of Community Development Block Grant funds and HOME Program funds are included in the Annual Action Plan. Also, the appropriate Annual Action Plan needs to include the proposed use of CDBG funding for "shovel ready" projects provided to the City through the recently passed American Recovery and Reinvestment Act. The City Commission must officially adopt the Annual Action Plan and submit it to HUD before May 15, 2009 in order to receive 2009/2010 CDBG and HOME funds. The "shovel ready" projects must be bid out and under contract within 120 days of the signing of the agreement between HUD and the City for the American Recovery and Reinvestment Act CDBG funds.

Citizen Participation

The Proposed Annual Action Plan will be made available to the citizens of Great Falls for review and comment for a 30 day period beginning March 20, 2009, continuing through April 19, 2009. The public hearing on April 7 is a forum set to allow the citizens of Great Falls the opportunity to express their views on the proposed use of federal Community Development Block Grant and HOME Program dollars and each program's policies and performance.

Workload Impacts

Additional administrative responsibilities will result from the American Recovery and Reinvestment Act "shovel ready" projects. Staff is proposing to set aside 7% ($12,881) for administration costs.

Purpose

HUD requires that a public hearing be held regarding the proposed use of CDBG and HOME funds presented in the Annual Action Plan for upcoming funding year.

Project Work Scope

Not applicable

Evaluation and Selection Process

On April 19, 2005, the City Commission approved the 5 Year Consolidated Plan. Each year an Annual Action Plan is required to be submitted to the U.S. Department of Housing and Urban Development. The current Annual Action Plan will contain the proposed use of CDBG and HOME funds for the coming 2009/2010 Fiscal Year. The proposed use of an additional $248,811 of CDBG funds made available through the American Recovery and Reinvestment Act must be included in the time appropriate annual action plan. Community Development Block Grant project proposals were received on January 23, 2009. The Community Development Council met on February 17 to hear oral presentations by housing, and economic development applicants, on February 19 to hear oral presentations from the public service agency applicants, and on February 17 and 23 to hear oral presentations by applicants applying under the public facility priority. On March 2, 2009, the Community Development Council formulated its recommendations for both the regular annual allocation of CDBG funds and for the anticipated CDBG funds for shovel ready projects, and is presenting its funding recommendations to the City Commission during the March 17, 2009, City Commission meeting.

The HOME Program project proposals were also received on January 23, 2009. HOME Program funding recommendations will be presented to the City Commission during the City Commission meeting on March 17, 2009. The City Commission will make final funding decisions on the HOME and the CDBG proposals at the April 21, 2009, City Commission meeting.

Conclusion
The public hearing provides the citizens of Great Falls an important opportunity to comment on the proposed HUD Annual Action Plan including projects recommended for funding during the 2009/2010 program year.

Concurrences: Not applicable

Fiscal Impact: Conducting the Annual Action Plan public hearing is a pre-condition for the city receiving its annual allocation of HUD CDBG and HOME grant funds.

Alternatives: The hearing is a required for the city to be awarded 2009-2010 CDBG and HOME funding.

Attachments/Exhibits: CDBG, American Recovery and Reinvestment Act CDBG, and HOME Program Proposed use of funds

2009/2010 USE OF FEDERAL GRANT FUNDS
COMMUNITY DEVELOPMENT BLOCK GRANT

Affordable Housing

	Requested	CDBG Proposed	ARRA* Proposed
GREAT FALLS CITY COMMUNITY DEVELOPMENT—REHABILITATION SPECIALIST Provision of rehab counseling, loan processing, inspections and construction monitoring for all CDBG-funded City revolving loan housing programs for low income people	$61,845	$61,845	
NEIGHBORHOOD HOUSING SERVICES, INC. Revolving loan fund to provide down payment assistance, new construction, purchase and rehabilitation of houses and other activities addressing neighborhood revitalization activities in their CBDO-designated neighborhoods	$165,000	$165,000	

Economic Development

	Requested	CDBG Proposed	ARRA* Proposed
GREAT FALLS DEVELOPMENT AUTHORITY Expand revolving loan fund to provide gap financing to existing and start-up businesses to create new jobs for persons from low/moderate income households, agency located at 300 Central Avenue	$50,000	$50,000	
GREAT FALLS INTERNATIONAL AIRPORT AUTHORITY Upgrade hangar to provide aircraft paint facility at 1922 Airport Court to create job opportunities for persons from low/moderate income families	$100,000	$0	

Public Facility Improvements

	Requested	CDBG Proposed	ARRA* Proposed
BOYS & GIRLS CLUB OF CASCADE COUNTY Replace heating and cooling system with energy efficient system in building located at 600 1st Avenue Southwest which has programs to serve at-risk youth	$100,000	$0	
CENTER FOR MENTAL HEALTH Replace roofs in 3 buildings; replace exterior doors, screen doors, windows and heating/cooling units in 12 units (Wing B) of transitional living facility for people with severe mental illnesses located at 626 Central Avenue West Fund doors, windows & HVAC for 12 units Wing B with regular CDBG funds; fund roofs with ARRA funds	$126,169	$59,203	$61,000

*ARRA – American Reinvestment & Recovery Act

	Requested	CDBG Proposed	ARRA* Proposed
GATEWAY COMMUNITY SERVICES Replace air conditioning unit with energy efficient unit in facility located at 1220 Central Avenue which houses agency that provides comprehensive community-based alcohol and drug abuse treatment services and agency that provides health care services for urban Native Americans	$22,963	$21,954	
GREAT FALLS BASEBALL FOUNDATION Replace wheelchair lift to provide handicap and elderly accessibility at Centene Stadium in Legion Park located at 1015 25th Street North	$13,450	$13,450	
GREAT FALLS CITY PARK & RECREATION—COMMUNITY RECREATION CENTER Upgrade electrical system panel and wiring at Community Recreation Center located at 801 2nd Avenue North	$101,200	$101,200	
GREAT FALLS CITY PARK & RECREATION—MORONY NATATORIUM Purchase and install handicap accessible entrance doors, replace entrance flooring and replace handicap pool lift at public pool facility located at 111 12th Street North	$15,998	$15,998	
GREAT FALLS CITY PARK & RECREATION—ODDFELLOWS PARK Purchase and install handicap accessible play structure, 2 benches and borders for play area at Oddfellows Park located at 9th Avenue South & River Drive South	$32,300	$32,300	
GREAT FALLS CITY PUBLIC WORKS—HANDICAP RAMPS Install handicap ramps (curb cuts) to provide handicap accessibility on 8th Avenue North from 21st to 25th Street and 7th Avenue North from 15th Street to 25th Street and other areas at request of disabled citizens	$100,000	$0	$100,000
GREAT FALLS CITY PUBLIC WORKS—SIDEWALK REPLACEMENT Grant program to provide assistance to low income homeowners to remove and replace hazardous sidewalks in Census Tract 3 (15th to 25th Street North between 6th and 8th Avenue North) and other areas at request of low income homeowners	$75,000	$0	$75,000
GREAT FALLS SENIOR CITIZENS CENTER Purchase and install handicap accessible entrance door on west side entry of facility located at 1004 Central Avenue which houses programs to serve the elderly	$7,500	$7,500	

*ARRA – American Reinvestment & Recovery Act

	Requested	CDBG Proposed	ARRA* Proposed
HABITAT FOR HUMANITY Install sewer and water lines, excavate for foundation and install sidewalks and parking pads at 2525 Castle Pines Way and 1235 8th Avenue Northwest; install sidewalk and parking pad at 1429 1st Avenue Northwest	$25,000	$25,000	
KAIROS YOUTH SERVICES Replace windows at Portage Place, a co-ed therapeutic youth home for severely emotionally disturbed adolescents located at 4513 7th Avenue North	$6,000	$6,000	
WHITTIER PTA Purchase and install handicap accessible playground equipment at southeast playground of Whittier Elementary School located at 305 8th Street North	$36,600	$36,600	

Public Service Activities

	Requested	CDBG Proposed	ARRA* Proposed
AREA VIII AGENCY ON AGING Purchase food for Meals on Wheels, a citywide home delivery meal program for seniors who are handicapped or unable to prepare meals	$25,000	$25,000	
BOYS & GIRLS CLUB OF NORTH CENTRAL MONTANA Recreational/educational scholarships for summer program for children from low income families; administered at 2 Weed & Seed Safe Haven locations (Great Falls Housing Authority−1722 Chowen Springs Loop and Westside Unit−600 1st Avenue Southwest)	$34,620	$31,483	
CASA-CAN CHILDREN'S ADVOCATE NETWORK Purchase computer, camera, volunteer training materials and provide speakers and training conference expenses to expand volunteer program located at 415 2nd Avenue North which provides advocates for abused and neglected children in the legal system	$5,938	$4,438	
FAMILY CONNECTIONS Provide child care scholarships for low income families; program administered through agency located at 600 Central Plaza	$28,125	$20,625	

*ARRA – American Reinvestment & Recovery Act

	Requested	CDBG Proposed	ARRA* Proposed
GREAT FALLS CITY PARK & RECREATION—COMMUNITY RECREATION CENTER Provide scholarships for low income children for after school child care program, summer camp programs and lifeguard certification; programs offered at community center located at 801 2nd Avenue North and Morony Natatorium located at 111 12th Street North Fund lifeguard scholarships @ $1,000, balance toward other scholarships	$7,900	$6,038	
HANDS, INC. Provide child care scholarships for children from low income families; program offered at all Great Falls elementary schools	$25,000	$25,000	
QUALITY LIFE CONCEPTS Purchase and install ceiling track system and elevated bath tub at group home for people with developmental disabilities located at 144 Treasure State Drive Fund track system & asbestos inspection	$15,772	$7,966	
YOUNG PARENTS EDUCATION CENTER Provide day care scholarships and emergency housing scholarships for low income teen or young adult parents completing high school or GED programs; programs located at alternative high school at 2400 Central Avenue	$17,000	$17,000	

Administration

	Requested	CDBG Proposed	ARRA* Proposed
CDBG PROGRAM ADMINISTRATION General oversight, promotion, financial accountability, monitoring, reporting, and coordination of the CDBG program including activities to further fair housing and the Continuum of Care for Homelessness	$183,414	$183,414	$12,881

TOTAL CDBG FUNDING REQUESTED	**$1,198,380**	
TOTAL CDBG FUNDING RECOMMENDATION		**$917,014**
TOTAL ANTICIPATED CDBG GRANT		**$917,014**
TOTAL AVAILABLE CDBG GRANT FUNDS		**$917,014**
TOTAL CDBG ARRA FUNDING RECOMMENDATION		**$248,881**
TOTAL AVAILABLE CDBG ARRA* FUNDS		**$248,881**
TOTAL AVAILABLE CDBG & ARRA FUNDS		**$1,165,895**

*ARRA – American Reinvestment & Recovery Act

2009/2010 USE OF FEDERAL GRANT FUNDS
HOME INVESTMENT PARTNERSHIP PROGRAM

	Requested	HOME Proposed
NEIGHBORHOOD HOUSING SERVICES, INC. Owners in Partnership XVII—construct and rehabilitate single family houses and provide down payment and closing cost assistance for low income home buyers on citywide basis	$354,657	$354,657
HOME PROGRAM ADMINISTRATION General oversight, management, promotion, financial accountability, monitoring, and coordination of the HOME program	$39,400	$39,400

TOTAL HOME FUNDING REQUESTED	**$394,057**	
TOTAL HOME FUNDING RECOMMENDATION		**$394,057**
TOTAL ANTICIPATED HOME GRANT		**$394,057**
TOTAL AVAILABLE HOME FUNDS		**$394,057**

<Proposed funding list-updated>

Agenda #____3_____
Commission Meeting Date: March 17, 2009
CITY OF GREAT FALLS
COMMISSION AGENDA REPORT

Item:	Great Falls Area Transportation Plan Update - 2009
From:	Andrew Finch, Senior Transportation Planner
Initiated By:	Great Falls Transportation Planning Process
Presented By:	Bill Walters, Interim Planning Director
Action Requested:	City Commission adopt the report titled, "Great Falls Area Transportation Plan – 2009" with inclusion of public comments.

Suggested Motion:

1. Commissioner moves:

   "I move that the City Commission (approve/deny) the Great Falls Area Transportation Plan - 2009, with inclusion of public comments."

2. Mayor calls for a second, discussion, inquiries from the public, and calls the vote.

Planning Board Recommendation: At the conclusion of a public hearing held March 10, 2009, the Great Falls Planning Board passed a motion adopting, and recommending the City Commission adopt, the Great Falls Area Transportation Plan – 2009, with inclusion of public comments.

Background: The Great Falls Area's 20-year long range transportation plan was prepared in 2002/3 by the consulting firm of Robert Peccia & Associates. The plan was developed cooperatively by and between the consultant, the public and the participants of the Great Falls Area Transportation Planning Process, which primarily included the City of Great Falls, Cascade County, Great Falls Transit District, Montana Department of Transportation and the Great Falls City-County Planning Board. This plan was adopted in late 2003.

On August 10, 2005, President Bush signed a new Federal transportation act, titled "Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users", and referred to by the acronym "SAFETEA-LU". This act included new transportation planning requirements, including an increased emphasis on safety, security, coordination, environmental mitigation and fiscal constraint.

As part of the Montana Department of Transportation's efforts to ascertain statewide conformance with the new regulations, it hired a consultant in 2008 to review its current planning documents, including the transportation plans from the state's three metropolitan areas. The review identified areas of deficiency in Great Falls' long range transportation plan, and made recommendations for compliance.

To address identified deficiencies, and to bring the Transportation Plan current according to required update timeframes, the Great Falls City Planning staff performed a minor update of the Plan. Along with addressing deficiencies, the Plan's population, housing and employment assumptions and projections were reviewed for relevance. Due to the slow growth of the area, the demographic information used as the basis for the traffic model was deemed to be still relevant. Therefore, no update to the model or its conclusions was performed.

The major changes to the Plan included the following:

1) Chapter 6, "Downtown Parking, Access and Circulation" has been removed. This was a one-time study and is not a necessary component of every Plan update.
2) A new Chapter 6 titled, "Security," was added as a required element by the Federal Highway Administration (FHWA) and recommended by SAFETEA-LU.
3) Chapter 7, re-titled "Safety," was revised and added to as required by FHWA and Montana Department of Transportation (MDT), and recommended by SAFETEA-LU.
4) More detailed project cost estimates were prepared by consultant engineers, in anticipated year-of-expenditure dollars, as required by SAFETEA-LU. For a "fiscally constrained" plan (expected revenues match expected expenditures), this resulted in a re-shifting of projects based upon the new cost estimates in Chapters 5 (Bicycle projects), Chapter 10 (Short Range Projects) and Chapter 11 (Long Range Projects). A few new projects were also added, and built projects were dropped out.
5) The Transit District updated information on Transit in Chapter 5.
6) A new Chapter 13, "Environmental Mitigation," was added as required by SAFETEA-LU.
7) Cost information was updated in Chapter 14, "Financial Analysis". Chapter 15, "Implementation Strategy," was also updated to demonstrate "fiscal constraint" of the plan.
8) Figures (maps) were updated as appropriate to reflect new or updated information.
9) The remaining chapters received a full review and were either slightly revised or remained entirely unchanged.

Request for public review and comment, as well as notice for the Planning Board's public hearing, was advertised on February 15 and February 22, 2009. The draft Plan was advertised as being available on the City's website and in both the City and County Planning Offices. Comments have been received from representatives from EPA, Montana Department of Transportation, West Great Falls Flood Control and Drainage District and Recreational Trails, Inc. The suggested changes are minor, and staff recommends addressing the comments in the final document according to the attached sheet titled, "Public Comment Summary." No other public comment on the draft Plan has been received.

The current Transportation Plan's air quality conformance status expires on March 22, 2009. There will be a temporary lapse in conformity status until a conforming Plan update is approved.

Concurrences: The Great Falls City Planning Board approved the Plan on March 10, 2009. The Great Falls Transportation Advisory Committee (TAC) approved the Plan on March 12, 2009. The Cascade County Planning Board will consider the Plan on March 17, 2009. The Cascade County Commission will consider the Plan on March 24, 2009. Finally, the Policy Coordinating Committee (PCC) will consider the Plan on March 27, 2009.

The Federal Highway Administration, Montana Department of Transportation, and Environmental Protection Agency have all reviewed the Plan and have provided comment, and will need to provide final concurrence of the document after local consideration.

Fiscal Impact: Approval of the Plan will not have a fiscal impact. Implementation of projects from the Plan will have varying degrees of fiscal impact to the City that will not be known until projects are advanced for development. The City will weigh participation and fiscal impact at that time.

Alternatives: The City Commission could deny approval of the Transportation Plan. However, due to a lapse in air quality conformance status of the current (2003) Plan, such action would prohibit new area transportation projects from moving forward and could jeopardize receipt of Federal transportation dollars for local projects, including funds provided through the American Recovery and Reinvestment Act for the following projects: Pavement preservation projects on 1st Avenue North west of River Drive; Park Drive from 1st Avenue North to 6th Street; River Drive from 1st Avenue North to 9th Street; 6th Street North from 8th Avenue North to Central Avenue; and, new sidewalks at various locations around the City.

Attachments/Exhibits:

1. Great Falls Area Transportation Plan - 2009
2. Written Public Comment Summary

DRAFT
GREAT FALLS AREA
TRANSPORTATION PLAN — 2009

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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).

Central Business District (CBD) – The downtown area which is bounded by 3rd Avenue North, 2nd Avenue South, Park Drive, and 9th Street.

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. Posted speed limits on collectors typically range from 25 mph to 45 mph and can carry between 2,000 and 10,000 vehicles per day.

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. Posted speed limits on local roads typically range from 25 mph to 35 mph and designed for less than 3000 vehicles per day.

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.

Metropolitan Planning Organization (MPO) – The established forum for cooperative transportation decision making for the metropolitan planning area. The Metropolitan Planning Organization (MPO) of urban areas with a central city of 50,000 or more population is responsible for "…plans and programs which lead to the development and operation of an integrated, intermodal transportation system that facilitates the efficient, economic movement of people and goods". The Great Falls MPO is the Great Falls City-County Planning Board, which incorporates transportation planning as one of its many planning functions.

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. Posted speed limits on minor arterials typically range from 25 mph to 55 mph and can carry between 5,000 and 15,000 vehicles per day.

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.

Pavement Condition Index (PCI) – An indexed rating system by which roadway surfaces are evaluated and categorized. A PCI rating of 80 or better corresponds to a "good" condition, defined as a new street or streets which show little sign of age. A PCI between 50 and 79 corresponds to a "fair" condition and is given to streets which have a good driving surface, but which show some cracking or other signs of aging. A PCI rating below 50 corresponds to a "poor" condition, defined as streets showing heavy cracking, potholes, and/or rutting.

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.

Policy Coordinating Committee (PCC) – One of the committees in the Great Falls community (along with the TAC) responsible for overseeing transportation planning within the Great Falls Urbanized Area. The PCC includes representatives from the City of Great Falls, Cascade County, Great Falls Transit District, the Montana Department of Transportation (MDT), the Great Falls City-County Planning Board, and the Federal Highways Administration (FHWA).

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. The purpose of a principal arterial is to 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. The major purpose is to provide for the expedient movement of traffic. Posted speed limits on principal arterials typically range from 25 mph to 70 mph and typically carry between 10,000 vehicles per day and 35,000 vehicles per day.

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.

Technical Advisory Committee (TAC) – One of the committees in the Great Falls community (along with the PCC) responsible for overseeing transportation planning within the Great Falls Urbanized Area. The PCC includes representatives from the City of Great Falls, Cascade County, Great Falls Transit District, the Montana Department of Transportation (MDT), the Great Falls City-County Planning Board, and the Federal Highways Administration (FHWA).

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 roads 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
CFR	Code of Federal Regulations
CIP	Capital Improvement Program
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
GFIA	Great Falls International Airport
HCM	Highway Capacity Manual
HCS	Highway Capacity Software
ISTEA	Intermodal Surface Transportation Efficiency Act
ITE	Institute of Transportation Engineers
MDT	Montana Department of Transportation
MPO	Metropolitan Planning Organization
MUTCD	Manual on Uniform Traffic Control Devices
TEA-21	Transportation Efficiency Act for the 21st Century
TIP	Transportation Improvement Program

Chapter 1: Introduction and Background

This Transportation Plan is intended as a guide for the future of the Great Falls 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, foot, bicycle and transit. Recommended projects are intended to relieve existing problems and prepare the Great Falls transportation system to meet future needs.

This Plan also includes a detailed discussion of transportation demand management strategies including the methods that will provide the greatest benefit to the Great Falls 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 Great Falls community.

A third area that received significant attention is the standardization and formalization of street standards. Street standards are included for the major street network as well as local access streets. The developed street standards developed will allow appropriate right-of-way to be set aside to accommodate bicycles and pedestrians. These standards have been developed to extend and enhance the original vision of the city of Great Falls, as well as reflect the current vision as outlined in the 2005 Great Falls City Growth Policy.

This Plan also includes new elements (chapters) required and suggested by Federal transportation planning guidance as a direct result of the passage of SAFETEA-LU (Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users), the Federal transportation act of 2005. These elements include Safety, Environmental Mitigation, Transportation Security, and an increased emphasis on fiscal constraint – including more detailed project cost estimating in year-of-expenditure dollars.

1.1 Project Background

Not only is it a good practice, but to be eligible for Federal funding, all metropolitan planning areas in the United States are required to have a current transportation plan. These plans need to be updated every five years (at a minimum) for air-quality attainment areas and every four years (at a minimum) for air-quality non-attainment and maintenance areas. In 2002, Great Falls was designated as a "limited maintenance area" in terms of air quality considerations. Because of this, current Federal regulations require the Great Falls metropolitan planning organization to update the Transportation Plan on a five-year cycle. Great Falls has had transportation plans since the 1950s, with the most recent being prepared in 2002/03 by Robert Peccia & Associates of Helena. Much of this plan is based upon the data and analysis performed during preparation of that Plan, since recent review has shown it to be relevant and current. Therefore, this current Plan can be considered to be largely an update to the 2003 Plan.

The Great Falls Technical Advisory Committee (TAC) and Policy Coordinating Committee (PCC) oversee transportation planning for the Great Falls Urbanized Area. Both committees include representatives from the City of Great Falls, Cascade County, Great Falls Transit District, the Montana Department of Transportation (MDT), the Great Falls City Planning Board, Cascade County Planning Board and Federal Highway Administration (FHWA), as well as a few other area agencies with an interest in transportation planning and project development..

1.2 Study Area

The study area includes all of the area inside the designated urban boundary and the area beyond the urban boundary which is currently experiencing development pressures and would likely develop during the next twenty years. The study area boundary is shown on **Figure 1-1**.

1.3 Transportation Planning Vision, Goals, Objectives, Policies, and Strategies & Actions

The Great Falls City-County Comprehensive Plan was completed and adopted in 1999. Revised in 2003, the Plan was then referenced as the Great Falls City-County Growth Policy. This document is the most recent document that included transportation goals for the Great Falls area (both City and County areas) and therefore the goals, objectives, policies and strategies and actions from that document are included in this Plan.

The Policy contains a substantial transportation element, and through this element, a transportation vision and transportation goals were identified and developed. These visions and goals were guiding factors in the development of this Transportation Plan. In addition to the aforementioned planning documents, the transportation elements contained in the Missouri River Urban Corridor Plan, were also considered during the development of this Transportation Plan. Project specific goals, policies to achieve these goals, and strategies and actions to implement these policies were also developed as part of the plan development process.

The Transportation Plan vision, goals, objectives, policies, and strategies and actions were revisited and examined during the course of the Transportation Plan development. The transportation planning <u>vision</u> describes general, community wide values of what the community desires in their transportation system. The vision statements were referred to at public meetings and in the course of analysis of the existing transportation issues and recommended projects. The <u>goals</u> of the Growth Policy and as shown in this Transportation Plan were also revisited as the plan development progressed to ensure compatibility with original goal intentions. In order to achieve the stated goals, <u>objectives</u>, <u>policies</u> and <u>strategies and actions</u> were identified. These were the mechanisms through which conformance with the community's vision and goals could be measured.

The transportation planning vision, goals, objectives, policies, and strategies and actions should be utilized in future planning efforts within the community. The visions are a direct result of community input and desires. Future work efforts should always recognize this vision and strive to incorporate the themes contained therein into the planning process.

The transportation planning vision, goals, objectives, policies, and strategies and actions guiding the preparation of this Transportation Plan are as follows:

<u>Vision</u>

- *Great Falls should be a city of cohesive, distinct, diverse, attractive, and safe neighborhoods with a compact land-use pattern. The transportation and land use decisions made by the City and County should be mutually supportive.*

- *Our community should have a safe, accessible, and walkable Downtown supported by unique or specialized employment, civic, mixed-use, and commercial activities with adequate vehicular circulation and parking.*

- *Our community should feature a transportation system incorporating many modes of travel that will protect air quality, minimize traffic congestion, and support compact, efficient land use patterns. The system should fully integrate with public and private transportation facilities.*

- *Our community should grow in compact patterns that facilitate pedestrian, bicycle, and transit travel. Walking should be a practical, safe, and enjoyable means of travel throughout all neighborhoods and shopping areas. Bicycling should become a more viable transportation choice for all residents and visitors in Great Falls.*

- *Our community should have a comprehensive and fully accessible public transit system.*

- *Our community should have streets, trails and walkways that are planned, built, landscaped, and maintained as safe and attractive public spaces linking a balanced system of open lands, natural areas, recreational facilities, schools, and parks with trails and urban streetscapes.*

- *Our community should continually seek to protect and improve air quality as the area grows, through the creation and implementation of comprehensive programs and policies.*

View Figure 1-1

Goals

The Transportation Element of the Growth Policy includes the following goals.

- Provide a safe, efficient, accessible, and cost-effective transportation system that offers viable choices for moving people and goods throughout the community.
- Make transit and non-motorized modes of transportation viable alternatives to the private automobile for travel in and around the community.
- Provide an open public involvement process in the development of the transportation system and in the implementation of transportation improvements to assure that community standards and values, such as aesthetics and neighborhood protection, are incorporated.

The following goal was also developed as a part of this Transportation Plan to supplement the previously adopted goals.

- Provide a financially sustainable transportation plan that is actively used to guide the transportation decision-making process throughout the course of the next 20 years.

Objectives

These objectives were also developed for this Transportation Plan to provide measurable milestones in the creation of this document and to assist in achieving the goals stated above.

- Implement a comprehensive public involvement process.
- Review all existing and on-going planning reports and studies.
- Conduct a thorough data collection effort.
- Analyze multi-model systems including transit, bicycle and pedestrian systems.
- Evaluate truck route system.
- Review accident history.
- Examine population and employment growth trends.
- Develop a 20-year traffic model.

- Identify current and foreseeable traffic problems.
- Develop a prioritized list of projects that address traffic problems and deficiencies.
- Update street standards.
- Identify Transportation Demand Management strategies to provide alternatives to private vehicle travel.
- Develop a traffic calming program.
- Conduct a financial analysis to ensure the plan is financially feasible and sustainable.
- Add elements required by SAFETEA-LU.
- Ensure fiscal constraint.

The following policies, strategies, and actions were also developed as a part of the Growth Policy. These items further facilitate the goals and objectives stated above.

Policies

In order to achieve the Goals, the following policies are needed to guide decision-making and address the issues listed below.

1. Infill Development – The pattern of land use and development in the Great Falls area should continue to be consolidated and focused to control sprawl, encourage compatible infill and redevelopment, preserve open space, and promote the most cost-effective use of area services and infrastructure. It should reflect a mix of interdependent, compatible, and mutually supportive land uses. The land use pattern should be self-contained, promote compact pedestrian-oriented development, address transportation system needs, and enhance opportunities for walking, bicycling, and efficient transit service while increasing connectivity and smooth flow of all transportation modes throughout the community.

2. New Development - New development on the urban fringes or in rural areas should be planned and designed to achieve a high level of self-containment and a live-work-play orientation so that external vehicle trips are minimized. In addition, new development should give primary consideration to non-motorized circulation and to transit service.

3. Commercial, Office, and Industrial Uses – Commercial uses should be planned according to how they serve residential neighborhoods in the City and surrounding region. Further strip-commercial development along Principal and Minor Arterials should be avoided by encouraging more compact centers. Self-containment and a mix of complementary retail uses, entertainment, restaurants, offices, and even high-density residential should be encouraged. Downtown Great Falls should reemerge as a mixed-use, high-intensity activity center. Large industrial areas and employment centers should be planned and located based on site requirements, ease of access by multiple modes of transportation, environmental impacts, long-term relationships to residential uses, and the potential for generating related beneficial growth in the community.

4. Transportation and Land Use – The impact of development on existing and proposed transportation systems must be a major consideration in reviewing development proposals. As applicable, new development should be required to make transportation improvements and enhancements both on and off site to mitigate transportation impacts, including but not limited to the dedication of additional right-of-way and preservation of projected transportation corridors. Transportation facilities should be visually compatible with adjacent land uses and properties. Disruptions to residents, businesses, and visitors should be minimized during the construction and reconstruction of transportation facilities. Development proposals that affect State and Federal Routes shall be coordinated with the Montana Department of Transportation.

5. Planning and Participation – Community involvement in developing and amending both the Growth Policy and Transportation Plan is critical, and especially so during the design and programming of new transportation improvements. Neighborhoods should be viewed as key components when planning for infrastructure and municipal services.

6. Character and Change – The City and the County should protect physical elements that contribute to the individual identity of neighborhoods, like natural features, historic and cultural resources, parks, schools, and other focal points. Pedestrian and bicycle access to these resources should be improved. Discussions among developers, residents, and City or County agencies should be a part of the process of changing transportation facilities in the neighborhoods. Neighborhoods should incorporate mixed uses that are compatible in location and design. The stability and diversity of existing neighborhoods will be protected from the adverse effects of traffic movement. The emerging identities of new neighborhoods should include multiple transportation choices.

7. Air and Water Quality – Protecting and enhancing the area's air quality are primary goals in both the Growth Policy and Transportation Plan. Air quality can be protected by managing vehicle miles traveled and trips generated, and by using transit and non-motorized transportation modes. Water quality should be protected through responsible drainage practices.

8. Provision, Maintenance, and Funding of Community Infrastructure and Services – Appropriate service levels should be established and maintained. Needed capital improvements and their maintenance should be prioritized and funded as resources are available, but the maintenance and upgrading of the existing infrastructure should be considered as important as providing new infrastructure. Decisions to fund new infrastructure must consider long-term operation, maintenance, and opportunity costs, and should be consistent with the Growth Policy.

9. New Street Construction – The construction of any new street, regardless of how it is funded, should be in compliance with the Great Falls Urban Area Transportation Plan. Primarily, new streets should be logical and efficient extensions of existing streets. Functional classifications and standards should be consistent from one jurisdiction to the next. Land development must pay its fair share of the costs for public services and infrastructure. Local government agencies should cooperate with property owners and other governmental entities to equitably address the unique issues associated with the annexation of land and construction of new streets, sewers, etc.

10. Transportation Planning – Transportation planning should remain a cooperative, participatory effort among citizens (the primary customers of the system), and the local, State, and Federal governments. The transportation system should be planned to meet the area's present and future needs in a safe and efficient manner. The transportation network should be designed to maximize efficiency, maintain the highest possible safety standards, and minimize negative impacts on adjacent residents and neighborhoods. In order to derive the greatest value possible for its investments in infrastructure, local government should maintain existing facilities, remedy existing deficiencies, and provide new transportation facilities adequate to serve growth.

11. Transportation Choices – While State and local government should develop a transportation system that provides alternative choices of travel, private enterprise should be encouraged and supported to provide alternative transportation choices. Public transit should be supported as an essential public service. On-street bicycle lanes or off-street pedestrian /bicycle paths should connect all neighborhoods.

12. Concurrency – Transportation facilities and services to accommodate growth should be provided as development occurs using funds from both public and private sources as appropriate. New development must pay its fair share for transportation improvements and must not be allowed to become a burden on the existing tax base.

13. Transportation System Management and Transportation Demand Management - Local government should encourage both Transportation System Management (TMS) techniques and Transportation Demand Management (TDM) strategies to help preserve the capacity and function of the major transportation system.

14. Downtown - The movement of traffic to and from Downtown should be a prime consideration in planning, designing and building Principal and Minor Arterials, Collector Streets, traffic control devices, transit routes, and pedestrian/bicycle improvements.

15. Truck Traffic - The impact of through truck traffic on neighborhoods should be minimized through the adoption and enforcement of a revised Truck Route Plan.

16. Consistency with Growth Policy - The roadway improvement projects that are recommended in the Great Falls Urban Area Transportation Plan and related Transportation Improvement Program should be consistent with the goals and policies of the Transportation Element and Growth Policy.

17. Arterial Streets - Access points along Principal Arterials and Minor Arterials should be designed and limited to facilitate the safe and efficient movement of traffic. All new Arterials should be designed to accommodate transit use. New at-grade crossings of rail lines should be prohibited on all Arterials. New arterials should not be constructed within or through established neighborhoods. Improvements to existing Arterials within established neighborhoods should be allowed as well as improvements to existing railroad crossings located on Arterials.

18. Street Lighting - Glare and light pollution to the night sky and adjacent properties should be minimized through the use of appropriate lighting fixtures without compromising public safety.

19. Pedestrian and Bikeway Facilities - Pedestrian and bicycle facilities should be linked when planning transportation system improvements and when reviewing land development proposals. New public and private developments should accommodate the bicycle system by providing access to schools, parks, jobs, shopping centers, and transit facilities; and should provide users with facilities for safe and direct crossings of Principal and Minor Arterials. Developers should be required to install paths that connect to the bikeway system recommended in the Bikeway Facilities Plan. In some cases, it may be appropriate to relax a requirement, such as for a sidewalk on one side of the residential street, in favor of a comparable bicycle path in the development.

20. Transit Planning - Local government shall continue to participate in the Transit Development Program process, and should assist the Great Falls Transit District in aggressively marketing and promoting transit usage throughout the community.

21. Transit Facilities - All new development should be designed to accommodate and encourage public transit use where appropriate. Local government should participate with the State, other public agencies, and private companies in developing, promoting, and facilitating ridesharing through programs such as parking management, ride matching services, and preferential parking for carpools and vanpools.

22. Rail Transportation - It shall be the policy of local government to:

a.) Work cooperatively with the property owners and railroad operators to systematically eliminate unnecessary at-grade crossings of active trunk and feeder lines;

b.) Encourage efforts to maintain and improve the condition of rail lines throughout the Great Falls area in order to retain the effectiveness and competitiveness of freight rail;

c.) Support efforts to maintain or increase freight rail activity by encouraging expanded use by agricultural, commercial, and industrial interests;

d.) Not endorse any activities that would diminish existing rail service;
e.) Work cooperatively with the local jurisdictions, businesses, and railroad operators to protect all rail spurs from abandonment that currently serve businesses or have the potential to serve freight rail uses; and
f.) Not endorse the abandonment of any rail lines unless they are first considered for conversion to trails through the Federal "Rails to Trails" program or similar programs. Once converted, the trails should be connected to the facilities recommended in the Bikeway Facilities Plan.

23. Air Transportation Facilities - Local government should continue to recognize the Great Falls International Airport (GFIA) as the major commercial aviation facility in Cascade County, and keep its operation free from conflicting land uses to the extent possible.

24. Airport Master Plan - The Airport Authority Board should be encouraged to involve the City, County, and community in the review, update, and implementation of the Master Plan for the Great Falls International Airport.

Strategies and Actions

The following strategies and actions represent logical, effective steps for implementing the policies stated above. These policies, strategies, and actions are all focused toward achieving the goals. These strategies and actions are not listed in any priority. It should be noted that with the development and adoption of this Transportation Plan, many of the following strategies and actions have been addressed and/or implemented.

1. Adopt new standards and regulations that encourage pedestrian and bicycle-friendly development. As stated in the Growth Policy, the land development regulations for the Great Falls area should undergo substantial revisions. Specific regulations and incentives should be incorporated which encourage mixed and multiple use development and achieve a stronger live/work/play activity pattern within neighborhoods. New subdivisions and commercial developments should be designed to accommodate on- and off-street bicycle traffic in accordance with the Bikeways Facilities Plan. This would include preserving corridors and points of access for pedestrian/bicycle trails. Pedestrian circulation should be encouraged through a connected street layout, separated walkways, and direct connections to parks, schools, and neighborhood shopping. Adequate space should be provided in the right-of-way of new and improved Arterials and Collectors for transit use. Densities and land use patterns which make transit service more efficient should also be encouraged. Specific recommendations from the updated Transit Development Program (TDP) relating to transit operations on private property should also be implemented.

2. Initiate a pilot traffic-calming project in selected areas. Traffic safety and enforcement of speed limits in residential areas was a recurring theme at the Neighborhood Council meetings. Other communities, including some in Montana, have addressed these issues through a variety of approaches referred to as "traffic calming".

Many types of traffic calming techniques are available and all have different levels of effectiveness in different circumstances. Some traffic calming techniques serve the dual purpose of lowering vehicle speeds and making pedestrian travel easier. For example, when curb lines at street intersections are expanded into bulbs, the curb radius is decreased which forces vehicles making a right turn to decrease their speed. In addition, the bulbs also reduce the crossing distance for pedestrians, thereby making the street crossing easier and safer. A pilot project using a few selected techniques in residential areas with different traffic safety and enforcement problems would help to determine if traffic calming would be effective and desirable in the Great Falls area.

3. Review and update the Bikeway Facilities Plan to address, as a minimum, the following issues:

a.) Balance the plan with a variety of facilities to meet the needs of cyclists with different skill levels.
b.) Link parks, schools, and other activity centers.
c.) Link the River's Edge Trail to the area-wide bike route system wherever possible.
d.) Study the expansion of the existing trail system to connect to Wadsworth Park along the Sun River and flood control levees.
e.) Explore opportunities for unpaved multi-use trails for mountain bikes and hikers.
f.) Develop policies and procedures for obtaining easements or rights-of-way for non- motorized transportation corridors throughout the community.
g.) Coordinate the Bikeway Facilities Plan with recommendations in the *Park and Recreation Master Plan*. In some areas, the seven new trails recommended in the Master Plan duplicate routes in the proposed Bikeway Facilities Plan.

4. Create a City-County Bicycle and Pedestrian Advisory Committee to assist the Planning Board and staff with pedestrian and bicycle transportation issues. This would be a standing committee that would work on both current and long range issues and projects. The committee would review land development proposals and advise the Board and staff on what facilities and/or conditions might be necessary to facilitate biking and walking to, from, and within the proposed project. This committee would also monitor the effectiveness of policies and programs to encourage non-motorized travel set forth in the Growth Policy and the Urban Area Transportation Plan, and advise the Planning Board and Technical Advisory Committee. (Note: This committee would not duplicate or replace the current Trails Working Group.)

5. Review, update (if necessary), and implement the Urban Truck Route Facilities Plan which was adopted in the 1996 Urban Area Transportation Plan Update. Some of the roadway improvements recommended in this plan have been completed, including the 9th Street Bridge over the Missouri River and the reconstruction of River Road from 9th Street to 15th Street. However, additional efforts to formally establish a system of Urban Area Truck Routes should be pursued through amendments to the Great Falls City Code and Cascade County regulations. In addition, as part of this action, a routing plan for vehicles carrying hazardous material should be developed and implemented.

6. The City and County should examine the cost and feasibility of implementing a Transportation Demand Management (TDM) program in the Great Falls area. TDM programs can be an effective method to control the growth of vehicle trips associated with an expanding community. Because TDM programs may help to reduce trips and/or shift them to off-peak hours, the effective capacity of the roadway system can be expanded. This could delay the need to widen streets or make other capital improvements. Another potential benefit of a TDM program could be environmental, if reductions in vehicle trips and congestion enhance air quality. Among the possible actions that should be explored in the Great Falls area are:

a.) Determining the demand and need for establishing a TDM program as well as the cost and benefits;
b.) Encouraging and assisting in organizing programs like car pools, van pools, and ridesharing;
c.) Developing a prototype program and promoting it to employers to provide preferential parking for car pools, subsidized transit passes, and flexible work shifts;
d.) Pursuing the development of park-and-ride facilities at strategic locations in the community;
e.) Encouraging the development and utilization of telecommunications technology for home-based employment;
f.) Developing a public education program on the financial, social, and environmental costs of vehicular and alternative transportation;
g.) Requiring bike racks in new commercial/office/industrial developments and encouraging developers to make off-site improvements to bicycle and pedestrian facilities as partial mitigation for traffic impacts;
h.) Setting up a pilot TDM program for City and County employees and soliciting participation from other major employers; and
i.) Establishing methods for measuring the results of any TDM programs that may be implemented in order to evaluate the costs and benefits of such programs.

7. Provide sufficient resources to construct the trails and related facilities recommended in the City's 1995 *Comprehensive Park and Recreation Master Plan* and 1996 Bikeway Facilities Plan. Local government should commit resources to implement these plans in their respective annual capital programs. In addition, a detailed concept document illustrating trail locations and typical cross-sections should be developed. This document should be a highly visual representation of the community-wide pathway system and its potential benefits. Such a document could be used to "market" the system to potential developers, and also encourage the private sector, foundations, and individuals to participate in enhancing the facilities in the system.

8. Utilize the goals, objectives, and other recommendations in the Growth Policy in updating the 2000-2020 Great Falls Urban Area Transportation Plan and related documents. An on-going local transportation planning process is conducted in the Great Falls area in conformance with Federal laws. This program encompasses several elements, including the Urban Area Transportation Plan (20-year planning period), the Transportation Improvement Program (5-year funding cycle), and the Unified Planning Work Program (1 year program). To ensure local transportation planning is consistent with the community's needs and interests, and is sensitive to economic development, housing, environmental, and other community-wide concerns, the recommendations of the Growth Policy should be reflected in the Urban Area Transportation Plan and incorporated wherever possible.

9. Review design standards for all roadways. The current design standards for Local Streets, Collectors, Minor Arterials, and Principal Arterials focus only on traffic-related characteristic such as roadway widths and lane configurations between curb faces. However, the Arterials and Collector Streets should provide for the needs of pedestrians, bicyclists, and transit vehicles within or adjacent to the public right-of-way. Alternative designs incorporating bicycle, pedestrian, and transit facilities should be included into these standards so that they are not over-looked when roadways are constructed or improved. These road standards should be reviewed and revised as needed to bring them into conformance with the most modern practices as well as the recommendations in the Growth Policy. The City and County should each develop a "design manual" to clearly state the specifications and standards that will be required for designing and constructing new streets, sidewalks, pedestrian/bicycle facilities, and related improvements within their respective jurisdictions.

10. Adopt performance standards to guide paving or making other improvements to County roads, including policies or regulations requiring developers to be responsible for pro rata shares of roadway improvements. Many rural counties use performance standards or thresholds to determine when roadways need to be paved or otherwise upgraded. For example, a standard may state that a gravel road should be paved once its average daily traffic (ADT) exceeds 1,000 vehicles per day. Each new subdivision or development that contributes traffic to the roadway would be responsible for it's pro rata share of the costs of paving or other improvements. The County could hold the bonds, letters of credit, or cash payments received under this type of program until the threshold is reached and the improvements are needed.

11. Maintain and expand the City's tree planting program and other beautification efforts. In conjunction with the Community Beautification Association and other public or private groups/individuals, local government should continue and expand their efforts to plant trees and other landscaping along the community's major streets and entries. These efforts will benefit both the motorists and others using the transportation system, as well as nearby residents, by improving the community's appearance and softening the noise impact and air quality problems associated with major streets and highways. The City, County and State should design and construct roads and other transportation facilities with aesthetic features and landscaping consistent with nearby uses.

12. Work with State and Federal agencies for more flexibility in designing new roadways and improvements to existing roadways. Accepted design standards for highways and other major roadways in urban areas often do not take aesthetic considerations into account. They also tend to overlook the needs of pedestrians, cyclists, and public transit vehicles. These standards are often dictated by State and Federal agencies and originate from the American Association of Highway and Transportation Officials (AASHTO). Following the adoption of ISTEA in 1991, the National Highway System Designation (NHS) Act in 1995, the TEA-21 in 1998, it is clear that Congress made a commitment to preserving and protecting environmental and cultural values that may be affected by transportation facilities. Greater design flexibility and discretion for local communities to exercise that flexibility would tend to make major roads more attractive and more pleasant for transit riders and persons using non-motorized transportation alternatives, thus encouraging greater use of alternative transportation.

13. Improve access to new activities locating at Smelter Hill. As the City, County, ARCO, and other interested parties continue to work on a complete redevelopment program for the Smelter Hill property, efforts should be made to improve access to the site. The Master Plan prepared by the 1999 Comprehensive Plan Steering Committee identified potential uses for this site, including open space, trails, an amphitheater, an interpretive play area based upon the site's industrial past, and a footbridge across the Missouri River to the River's Edge Trail and Lewis and Clark Interpretive Center. All of these amenities should improve the community's recreational opportunities and economic development potential. However, in order for the community to completely benefit from the redevelopment of Smelter Hill, it is essential that safe, convenient, and enjoyable access be provided to the site for vehicles, bicyclists, and pedestrians.

14. Support the efforts of the Great Falls Transit District to make bus service more efficient and accessible throughout the community. The Transit Development Program (TDP) called for system improvements to be made in the years 1999 and 2000. The City and County can support the Transit District by implementing some of the actions in this section. For example, land development regulations should require bus shelters to be installed in conjunction with new development or redevelopment, where appropriate. Driveway aisles on private property should be designed to permit use by transit vehicles, and street standards should be revised to include transit facilities on designated routes. Future updates to the TDP should examine an expanded role for transit in the community.

15. The Transportation Element supports the concept of a South Arterial. The Growth Policy recommends a high priority be placed on planning to preserve right-of-way for a limited access freeway south of Great Falls. The City and County should also carefully regulate the design and location of future land uses, utilities, and major street intersections along the corridor where the South Arterial may be located.

1.4 Previous Transportation Planning Efforts

Past plans and studies were obtained and reviewed as a part of the data collection effort of developing this plan. Many applicable issues were identified from these plans and incorporated into the Great Falls Area Transportation Plan. The contributing documents include:

- Great Falls 2000-2020 Transportation Plan / Summary Report
- Great Falls Area Transportation Plan - 2003
- Transportation Improvement Plan
- 1996 Urban Truck Route Facilities Technical Memorandum
- Bikeway Facilities Technical Memorandum
- Transit Development Plan, Volume I: Existing Conditions
- Transit Development Plan, Volume III: Year 2000 Service Initiatives and 1999 Review
- 1996 Bikeways Facilities Technical Memorandum
- 1985 General Right-of-way Needs (with Updated Exhibit Used with 2000-2020 Plan)
- Community Transportation Enhancement Program – Project Status Report
- City of Great Falls Capital Improvement Plan, Street System
- 1999 Great Falls City–County Comprehensive Plan (2003 Growth Policy)
- Functional Classification Map
- Snow Removal Routes
- Capital Improvement Plan
- 1990 Impact of Transit on Vehicle Miles Traveled Technical Memorandum
- Great Falls City-County Planning Board Annual Report, 2001
- Forecasts for Growth in Population, Employment, Housing, Vehicle and Student Enrollment (1980)
- Missouri River Urban Corridor Plan
- Great Falls Medical District Plan
- Great Falls Student Safety Plan

1.5 SAFETEA-LU Transportation Planning Guidance

It is required by current Federal regulations that all metropolitan areas within the United States have a Transportation Plan. Such plans need to be updated every five years for the Great Falls Metropolitan Planning area. The purpose of preparing and updating the transportation plan, according to Federal statutes, is to “confirm the transportation plan's validity and consistency with current and forecasted transportation and land use conditions and trends and to extend the forecast period to at least a 20-year planning horizon.” Specific transportation planning requirements are expressed as guidelines in Part 450, Subpart C Section 322 of Title 23 of the United States Code (USC), which serves as the primary governing document for the preparation of transportation plans.

The preparation of the Great Falls Area Transportation Plan – 2009, complies with and follows all applicable regulations of SAFETEA-LU and Title 23 of the Code of Federal Regulations (CFR). The plan is a long term planning document extending to 2030.

Chapter 2: Existing Conditions

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.

2.1 Existing Street System

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 from 2006 and 2007 were used to determine the annual average daily traffic (AADT) volumes on the major street network. This data helps to determine current operational characteristics and changes since the 2003 Transportation Plan. The roadways and facilities on the major street network are shown on **Figure 2-1** and **Figure 2-2**. The information gathered and analyses performed include the following:

- Existing major street network review;
- Traffic volume counts;
- Corridor facility size;
- Pavement condition survey;
- Current traffic signal operation;
- Peak hour turning movement counts & Level of Service;
- Truck counts;
- Travel time and delay studies;
- Pedestrian and bicycle counts;
- ADA accessibility inventory on major street network;
- Sidewalk system inventory on major street network;
- Corridor street lighting inventory on major street network;
- Intersection geometrics;
- Existing Trail System; and
- Traffic accident data.

View Figure 2-1

View Figure 2-2

2.2 Existing Traffic Volumes and Corridor Facility Size

Traffic volumes within the Great Falls area are collected by the City of Great Falls and the Montana Department of Transportation (MDT). The traffic volumes collected are used to determine current traffic conditions and to provide reliable data on historic traffic volumes. Volumes are collected at approximately 280 locations, of which some are counted on a two-year rotation basis while others are counted annually.

Year 2006 and 2007 traffic volumes were used to determine the average daily traffic volumes on the major road segments within the community. This information is shown on **Figure 2-3**. This figure shows that high volume corridors in Great Falls include the 10th Avenue South/Country Club Boulevard corridor; the 6th Street Southwest corridor; portions of the Central Avenue West corridor, including the 1st Avenue North Bridge; and, the 3rd Street Northwest/Smelter Avenue/10th Street NE corridor. All of the stated corridors approach or exceed 17,000 vehicles per day (vpd), with maximum volumes reaching 35-40,000 on portions of 10th Avenue South.

Corridor facility size was also identified and is shown on **Figure 2-4**. The largest facility in Great Falls is 10th Avenue South between 2nd Street South and 20th Street South, which has a six-lane, raised-median cross-section with dedicated left-turn bays throughout its length.

2.3 Corridor Facility Size versus Traffic Volume

Corridors with differing lane configurations can accommodate different amounts of traffic. To ensure adequate traffic flow, traffic volumes, on a given roadway, should generally fall within the ranges shown on **Table 2-1**.

Table 2-1 – Optimal Traffic Volume for Number of Lanes

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

* for this Table, a three-lane facility is defined as one lane in each direction and a center turn-lane.

At the present time, there are very few locations within the Great Falls area where traffic volumes exceed the optimal levels for the number of lanes present. One such place is River Drive North, between 15th Street North and 25th Street North, which carries 14,800 vehicles per day (vpd). 10th Avenue South between 20th Street South and 38th Street South is also in excess of or approaching optimal traffic levels for the number of lanes present.

View Figure 2-3

View Figure 2-4

2.4 Pavement Survey

The 2003 Transportation Plan included a pavement condition assessment, and included a figure showing general pavement conditions of the streets on the major street network. The City of Great Falls Public Works Department anticipates hiring a consultant in the spring of 2009 for a full assessment of street conditions, which has not been done since 2002. It is recommended that the results of that condition analysis be used to identify and propose new pavement projects or make adjustments to pavement project priorities.

2.5 Existing Traffic Signal System

Currently, there are 89 signalized intersections in the Great Falls area. The majority of the signals are located on roadways with a functional classification of minor arterial or higher. **Figure 2-6** shows the signalized intersections.

View Figure 2-5

View Figure 2-6

2.6 Intersection Levels of Service

A major turning movement count effort was undertaken as a part of the 2003 Transportation Plan. During the summer of 2002, 92 intersections on the major street network were counted. Each intersection shown on **Figure 2-6** was counted from 7:00 a.m. to 9:00 a.m. and 3:30 p.m. to 6:00 p.m. Based upon this data, the operational characteristics of each intersection were obtained, and Level of Service (LOS) calculations were completed. Because area traffic counts indicate only minor changes in volumes from 2002/03 to 2006/07, this information and subsequent analysis is assumed to be accurate and relevant. Therefore, a new LOS survey was not performed for this Plan.

Level of Service (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 which is intended to match the perception by motorists of the operation of the intersection. Level of Service provides a means for identifying intersections which are experiencing operational difficulties, as well as providing a scale to compare intersections with each other. 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. The LOS analysis 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 4.1c.

Signalized Intersections

For signalized intersections, recent research has determined that average stopped delay per vehicle is the best available measure of Level of Service. The following table identifies the relationship between Level of Service (LOS) and average stopped delay per vehicle. The procedures used to evaluate signalized intersections use detailed information on geometry, lane use, signal timing, peak hour volumes, arrival types and other parameters. This information is then used to calculate delays and determine the capacity of each intersection. An intersection is determined to be functioning adequately if operating at LOS C or better.

Table 2-2
Level of Service Criteria – Signalized Intersections

Level of Service	Stopped Delay per Vehicle (sec)
A	< 10
B	10 to 20
C	20 to 35
D	35 to 50
E	50 to 80
F	> 80

Unsignalized Intersections

The Level of Service can be quantified for stop-controlled 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 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. The following table identifies the relationship between Level of Service and average control delay on the minor approach.

Table 2-3
Level of Service Criteria – Two-Way Stop Controlled Intersections

Level of Service	Average Control Delay (sec / veh)
A	< 10
B	10 to 15
C	15 to 25
D	25 to 35
E	35 to 50
F	> 50

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 on the following table.

Table 2-4
Level of Service Criteria – All-Way Stop Controlled Intersections

Level of Service	Control Delay (sec / veh)
A	< 10
B	10 to 15
C	15 to 25
D	25 to 35
E	35 to 50
F	> 50

Several signalized and unsignalized intersections on the major street network were examined for Level of Service. The location of these intersections is shown on **Figure 2-7** along with the existing level of service. The following intersections are presently functioning at Levels of Service lower than LOS C during either the AM or PM peak travel period.

Table 2-5
Intersections Experiencing LOS D, LOS E or LOS F

Intersection	*	AM Peak Hour LOS	PM Peak Hour LOS
10th Avenue S & 32nd Street S	S	C	D
Central Ave W & 3rd St NW	S	D	D
River Dr & 15th Street N	S	D	D
River Dr & 1st Avenue N	S	D	D
Smelter Ave & 10th Street NE	S	C	E
4th Ave SW & 6th St SW	U	B	E
10th Avenue S & 29th St S	U	C	F
15th St NE & Wire Mill Rd	U	C	E
Division Rd & Smelter Avenue	U	D	E
Fox Farm Rd & 18th Ave SW	U	F	F
River Dr & 25th Street N	U	F	F

* "S"= Signalized and "U" = Unsignalized

View Figure 2-7

2.7 Travel Time and Delay (Corridor Travel Speed)

General traffic and delay patterns were determined by performing a travel time and delay study. As was noted in the Level of Service analysis in the previous section, traffic counts have not increased significantly since the travel time and delay study was performed for the 2003 Transportation Plan. Therefore, the analysis and conclusions in this section, based upon 2002 data, are considered to be accurate and relevant.

For the travel time and delay analysis, thirteen routes were identified which included most of the major traffic routes through the area. Each roadway segment was traveled 12 times, six times in each direction. The roadways were traveled during the AM peak hour, the PM peak hour, and during the middle of the day. The AM peak hour analysis generally started about 7:45 a.m., the mid-day analysis was generally conducted between 12:30 p.m. and 2:00 p.m. and the P.M. peak hour analysis generally started about 4:30 p.m.. This information was used to determine the average travel speed and running speed for each corridor along with actual delay at intersections on these corridors. Travel speed is defined as the speed at which a vehicle travels between two points and includes all intersection delay. Running speed refers to the actual vehicle speed while the vehicle is in motion (travel speed minus delay). Delay is the amount of time spent not moving due to the traffic signal being red, or being unable to pass through unsignalized intersections. The information from the travel time and delay study is presented on **Figures 2-8 to 2-14**.

In most areas, the average running speed was relatively close to the posted speed limit for the route. Major intersection delays (greater than 25 seconds of average stopped time) were experienced at a number of intersections. The intersections and specific approaches where these delays occurred are shown on **Figures 2-9 to 2-14**.

2.8 Truck Traffic

Truck volumes were collected at all intersections during the preparation of the 2003 Transportation Plan. Because traffic volumes have not changed significantly since that time, these counts are assumed to be still representative of truck volumes, and therefore still relevant to this Plan. Truck volumes are shown on **Figure 2-7** where peak hour turning movement counts were collected. The truck volumes were collected to determine the amount of truck traffic present in Great Falls and the location of concentrated truck traffic volumes. The number of trucks in the traffic stream is important since high volumes of trucks will adversely affect the traffic flow during the peak travel times. The percentage of trucks during the AM peak hour and the PM peak hours, as compared to the total volume entering an intersection, is shown in **Table 2-6**. The data shown in **Table 2-6** shows that the following intersections have a higher than typical truck percentage during peak hours of the day (typically defined as being more than 6.0% of a total intersection traffic volume). Interestingly, all of the noted truck traffic at these intersections occurred during the AM peak hour.

- 3rd Street Northwest and Smelter Avenue (6.8 %);
- 10th Avenue South and 43rd Street South (6.8 %);

- 14th Street South and 8th Avenue North (7.9 %);
- 14th Street Southwest and 16th Avenue Southwest (8.5 %);
- 15th Street Northeast and North River Road (6.4 %);
- 15th Street North and 8th Avenue North (7.3 %);
- Northwest Bypass and 9th Street Northwest (7.9%);
- River Drive and 15th Street North (6.4%); and
- Smelter Avenue and 8th Street Northeast (7.4%)

Table 2-6
Percentage of Trucks Compared to Total Peak Hour Volumes

INTERSECTION	AM	PM	INTERSECTION	AM	PM
2nd St & 1st Ave N	1.9%	1.8%	10th Ave S & 20th St	3.8%	1.6%
2nd St & Central Ave	3.4%	1.8%	10th Ave S & 23rd St	3.5%	1.8%
2nd St & 1st Ave S	4.8%	1.4%	10th Ave S & 25th St	3.4%	1.8%
2nd St & 2nd Ave S	3.9%	1.3%	10th Ave S & 26th St	3.5%	1.6%
3rd St NW & Smelter Ave	6.8%	2.5%	10th Ave S & 32nd St	4.0%	1.6%
3rd St & 2nd Ave N	1.7%	1.3%	10th Ave S & 38th St	5.1%	2.3%
3rd St & 1st Ave N	0.9%	1.0%	10th Ave S & 43rd St	6.8%	3.7%
3rd St & Central Ave	2.8%	0.8%	10th Ave S & 49th St	4.2%	2.4%
3rd St & 1st Ave S	3.9%	2.8%	14th St & 8th Ave N	7.9%	3.9%
4th St & 2nd Ave N	1.5%	1.1%	14th St & 2nd Ave N	1.8%	1.2%
4th St & 1st Ave N	2.5%	1.8%	14th St & 1st Ave N	2.5%	0.9%
4th St & Central Ave	3.0%	2.0%	14th St & Central Ave	3.2%	1.2%
4th St & 1st Ave S	5.4%	4.5%	14th St SW & 16th Ave SW	8.5%	2.9%
5th St & 2nd Ave N	1.5%	1.2%	14th St SW & Marketplace	4.4%	2.0%
5th St & 1st Ave N	2.8%	2.4%	14th St SW & Ramp B	5.9%	2.1%
5th St & Central Ave	3.7%	1.9%	15th St NE & N River Rd	6.4%	3.5%
5th St & 1st Ave S	3.7%	2.2%	15th St & 8th Ave N	7.3%	3.5%
5th St & 2nd Ave S	3.3%	2.3%	15th St & 2nd Ave N	2.8%	1.4%
6th St & 2nd Ave N	1.2%	1.4%	15th St & 1st Ave N	4.2%	2.5%
6th St & 1st Ave N	2.6%	1.6%	15th St & Central Ave	4.0%	1.8%
6th St & Central Ave	2.9%	1.8%	25th St & 2nd Ave N	1.8%	1.7%
6th St & 1st Ave S	2.6%	1.5%	25th St & 1st Ave N	2.0%	0.9%
6th St & 2nd Ave S	4.0%	2.6%	25th St & Central Ave	3.4%	1.6%
7th St & 1st Ave N	3.3%	0.9%	26th St & 2nd Ave N	1.0%	0.5%
7th St & Central Ave	2.7%	1.5%	26th St & 1st Ave N	1.8%	0.6%
9th St & 8th Ave N	3.9%	2.5%	26th St & Central Ave	3.5%	1.6%
9th St & 2nd Ave N	3.2%	1.5%	38th St & 2nd Ave N	2.8%	0.5%
9th St & 1st Ave N	3.4%	1.5%	Central Ave W & 3rd St NW	2.8%	0.9%
9th St & Central Ave	2.8%	1.0%	Central Ave W & 6th St NW	5.5%	4.0%
9th St & 1st Ave S	1.5%	0.5%	Central Ave W & 9th St NW	2.8%	1.0%
9th St & 2nd Ave S	1.7%	0.8%	NW Bypass & 3rd St NW	5.5%	2.7%
10th Ave S & Fox Farm Rd	4.3%	2.4%	NW Bypass & 6th St NW	5.6%	2.9%
10th Ave S & 2nd St	3.0%	1.9%	NW Bypass & 9th St NW	7.9%	4.5%

10th Ave S & 5th St	3.0%	2.1%	Park Dr N & 1st Ave N	3.1%	1.4%
10th Ave S & 7th St	3.3%	2.1%	Park Dr N & Central Ave	4.2%	1.8%
10th Ave S & 9th St	3.5%	2.5%	River Dr & 1st Ave N	3.9%	1.9%
10th Ave S & 11th St	3.3%	1.8%	River Dr & 9th St N	3.9%	0.8%
10th Ave S & 13th St	2.9%	1.5%	River Dr & 15th St N	6.4%	3.5%
10th Ave S & 14th St	2.9%	1.7%	Smelter Ave & 8th St NE	7.4%	3.1%
10th Ave S & 15th St	3.1%	1.9%	Smelter Ave & 10th St NE	4.6%	4.0%

It is desirable to keep heavy loads on State and Federally financed and maintained roadways. These roadways are, for the most part, designated truck routes. In addition, the roadway design standards are intended to accommodate trucks, and built to sustain such traffic. Furthermore, it is desirable to keep residential neighborhoods safe and quiet. The City of Great Falls Municipal Code has a section which delineates the truck routes within the City. These designated truck routes, shown on **Figure 2-15,** have been designed to move truck traffic through Great Falls efficiently and with the least disruption to residential neighborhoods. There are no designated truck routes outside the City limits.

The importance of providing safe and efficient truck routes through the community cannot be understated. A large economic sector of the community relies on the presence of trucking for the convenient movement of goods throughout the Great Falls area. This is primarily due to Great Falls having easy access to rail transportation and to Interstate facilities. This is especially important given the presence of the *CANAMEX* (I-15) and the *Camino Real* (Highway 89/87) trade corridors. With the importance of the passage of the *North American Free Trade Agreement (NAFTA)* in 1993, the opportunities to promote regional and international trade within Great Falls has come to the forefront.

Many of the industrial activities and trucking firms generating truck traffic are located along or near River Drive (east of 9th Street); 57th Street North; 6th Street Southwest; Old Havre Highway; 15th Street Northeast; and Vaughn Road. Smaller concentrations of industrial activity are also located along 2nd, 3rd and 4th Streets South (south of 2nd Avenue South).

View Figure 2-8

View Figure 2-9

View Figure 2-10

View Figure 2-11

View Figure 2-12

View Figure 2-13

View Figure 2-14

View Figure 2-15

2.9 Bicycle / Pedestrian Traffic

Pedestrian and bicycle data were collected during the summer of 2002 and updated in 2008.

Bicycling in the Great Falls area is often recreational and the River's Edge Trail is extensively used for this purpose. However, there are residents who routinely bicycle to work or other destinations using City streets as well as the River's Edge Trail. Several bicycle routes have been designated within the City. Bicycle use by children is prevalent, but decreases when they reach driving age. Bicycling is also done by some students and faculty at the University of Great Falls and Montana State University-Great Falls College of Technology. However, these are commuter campuses (i.e., no on-campus housing), whose students and faculty most likely will continue to rely on the personal automobile as the primary mode of travel.

Concentrated pedestrian traffic is heavier in the Central Business District (CBD) than in other parts of the community. No extensive survey of pedestrian travel behavior has been conducted, so it is not possible to clearly identify pedestrian origins/destinations and major routes of travel. However, it is assumed that pedestrians have many of the same primary destinations as vehicular travelers – shopping, school, work, etc. - and that pedestrian travel is more prevalent in lower income neighborhoods where automobile ownership is more financially difficult.

Sidewalk locations and conditions for the major street network is shown in **Figure 2-16**. Note that sidewalks are present in all of the older parts of the City, including the CBD and the residential areas to the east. In the outlying areas south of 10th Ave South, west and north of the Missouri River, and east of 38th Street South, the presence of sidewalk becomes more sporadic. The major street network in the rural areas does not include sidewalks.

In order to qualify as having a sidewalk, a street segment had to have a concrete strip paralleling the street that was clearly provided for non-motorized traffic. Locations having asphalt or dirt trails were not generally considered to have sidewalks, although pedestrian movements were possible in many cases.

View Figure 2-16

2.10 Existing ADA Facilities

A survey of the major street network was done to identify the existence and location of wheelchair ramps. Due to the changing nature of ADA criteria, no effort was made to establish whether these wheelchair ramps met "ADA standards." **Figure 2-18** shows the location of all intersections on the major street network, and whether there are wheelchair ramps on all corners of the intersection, only some corners, or no corners. Because some intersections are "T" type intersections and do not have four full corners, and other intersections are not designed to accommodate pedestrian crossings, this survey should be considered a general indicator only of the sufficiency of facilities at a given intersection. Also, some intersections have ADA ramps but do not connect to a contiguous system of sidewalks. The Figure should be used as a starting point for prioritizing corridors for upgrades. At that point, each individual intersection should be separately evaluated for sufficiency of the existing ADA facilities, as well as the likelihood of use and need of new facilities that may be contemplated.

Note that in the outlying areas, where there are no sidewalk facilities, ADA facilities are lacking as well.

2.11 Lighted Corridors

Corridor lighting is an important element in street design. Inadequate corridor lighting can create traffic safety problems such as difficulty identifying the road alignment or the location and configuration of intersections. It is of particular concern for pedestrian and bicycle safety. Adequate corridor lighting encourages walking and bicycling as a means of travel. Corridor lighting also helps to reduce crime. Many intersections on the major street network are illuminated, but for a street segment to be considered "lighted", mid-block lighting along the corridor must also exist. **Figure 2-19** shows the location of all the lighted corridors in the study area.

Over-illuminating a corridor is also a possibility due to concerns about light pollution. Not every corridor has a need for high levels of lighting, and some corridors and adjoining neighborhoods may even benefit from lesser lighting levels. Street lighting should be carefully designed for levels appropriate to the neighborhood it traverses, as well as for the speed, width and traffic volumes of the corridor.

2.12 Existing/Proposed Trail System

Figure 2-20 shows the location of the existing trails network in the study area. This network is delineated in the *Comprehensive Park and Recreation Master Plan, (December, 1995)*. Although an update of this Master Plan is contemplated, no changes to the trail system have been initiated.

There is some overlap of facilities shown on this network as compared to the Existing Bikeway Network (see **Figure 5-2** in **Chapter 5** of this document). The existing trail system is included in this Transportation Plan merely for reference and to document that an existing trail system has been identified through previous planning efforts and does exist. This recreational trails system contrasts to the city's Existing Bikeway Network in that the identified trails are, for the most part, separated from actual street or road pavement surfaces. They are a combination of paved and unpaved pathways.

View Figure 2-18

View Figure 2-19

View Figure 2-20

Chapter 3: Travel Demand Forecasting

The method and process developed to predict growth in the Great Falls 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 Great Falls area was defined. A model of the transportation system of Great Falls 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 to establish their affects on the transportation system.

3.1 Socioeconomic Trends

Local and regional population and economic characteristics have important influences on motor vehicle travel in the Great Falls area. The Great Falls Transportation Study Area includes lands inside the City of Great Falls, Malmstrom Air Force Base, the unincorporated community of Black Eagle, Great Falls International Airport, and nearby suburban development.

The Great Falls Transportation Study Area serves as the population and economic center for Cascade County. The 2000 Census of Population reported that 67,600 of 80,200 (84%) Cascade County residents lived inside the Great Falls Transportation Study Area. During the same year, an estimated 42,000 of the county's 49,200 jobs (86%) were in this Study Area.

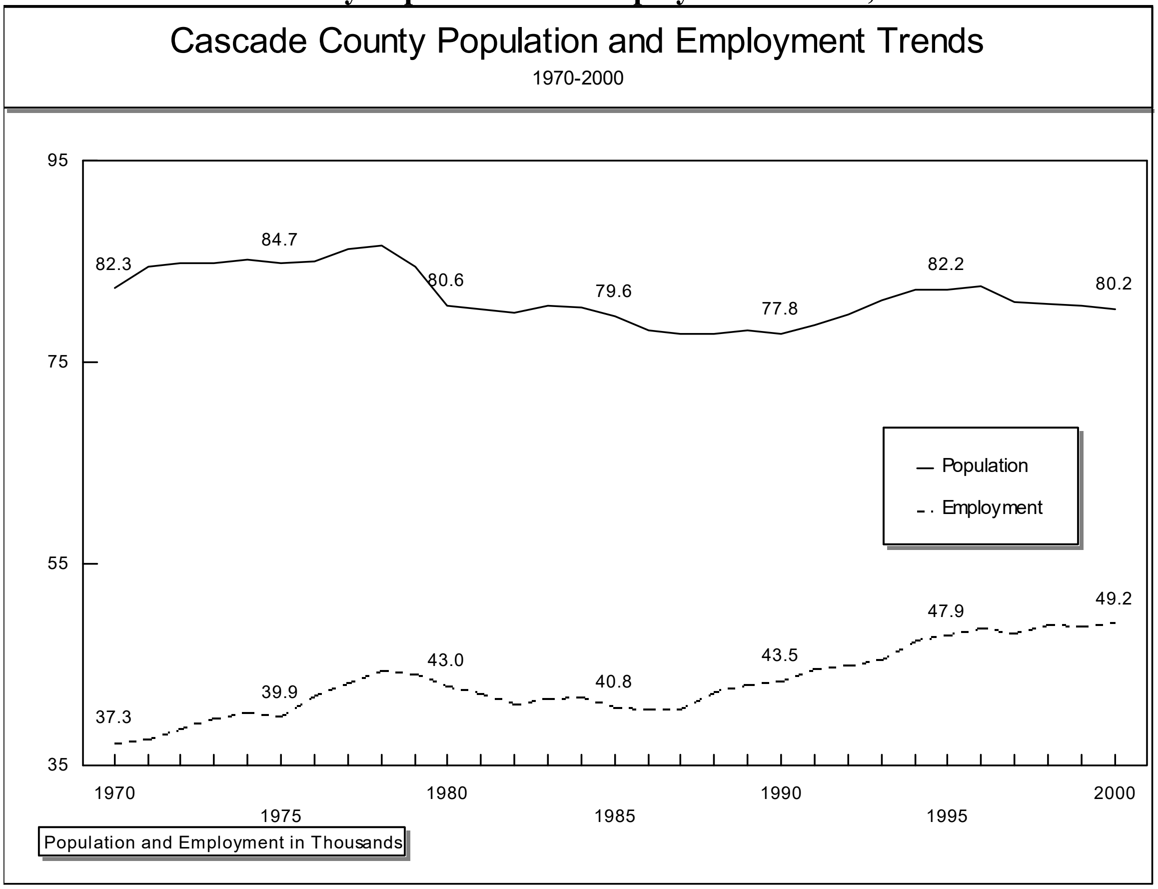
Table 3-1 displays Cascade County's total population and employment in 1970, 1980, 1990, and 2000. **Figure 3-1** displays year-to-year change in county employment during the same time period. Of interest is that in these thirty years, the county experienced a net population loss of 2,100 people (-3%), while undergoing a net increase of 11,900 jobs (+32%). The county lost population in the 1970s and 1980s, and gained population in the 1990s. The county gained 5,700 jobs in the 1970s, 500 jobs in the 1980s, and 5,700 jobs in the 1990s.

Table 3-1
Cascade County Population and Employment Trends, 1970-2000

Year	Population	Employment
1970	82,300	37,300
1980	80,600	43,000
1990	77,800	43,500
2000	80,200	49,200

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

Figure 3-1
Cascade County Population and Employment Trends, 1970-2000



In recent decades there were other notable changes in Cascade County's population and economy. In Cascade 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 decreased by 9,242 persons, residents age 16 to 64 increased by 3,020 persons, and residents 65 and older increased by 4,775 persons. The median age of county residents grew from 25.1 to 36.7. This can be seen in **Table 3-2**.

As "Baby Boomers" got older, they simply had fewer children than their parents. An obvious effect of a decrease in the county's younger population was a decline in school enrollment. Some Great Falls area schools were closed.

While Cascade County's younger population was decreasing in size, its 16 and older population was growing. The number of county residents age 16 to 64 grew by over 3,000. The number of county residents age 65 and older grew by nearly 4,800. In the 1970-2000 period, the number of county residents old enough (age-eligible) to drive cars grew by nearly 8,000 people.

Table 3-2
Comparison of Resident Age Distribution
Cascade County
1970-2000

Age Group	**1970**	**2000**	**30-Yr Change**
0-15	27,640 (33.8%)	18,398 (22.9%)	-9,242
16-64	47,692 (58.3%)	50,711 (63.1%)	+3,020
65+	6,473 (7.9%)	11,248 (14.0%)	+4,775
Total	81,804 (100.0%)	80,357 (100.0%)	-1,447
Median Age	25.1	36.7	

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

Growth in the county's 16 and older population also helped to increase the size of Cascade County's labor force. The size of the county's labor force also increased due to greater participation by the county's female residents. In 1970, the county had 11,008 female workers. In 1970s, 1980s, and 1990s the rate of labor force participation among county women was increasing. In 2000, the number of women workers was 17,220, a net increase of over 6,000 women in the Cascade County work force. There has been an overall increase in work trips per household. **Table 3-3** presents this data.

Table 3-3
Comparison of Labor Force Participation by Males and Females Cascade County, 1970-2000

	1970	**2000**	**30-Yr Change**
Males			
Pop +16	26,845	30,353	+3,508
In Labor Force	21,296	20,055	-1,241
Females			
Pop +16	27,377	31,590	+4,213
In Labor Force	11,008	17,220	+4,471
Totals			
Pop +16	54,222	62,943	+8,721
In Labor Force	32,804	37,375	+4,471

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

Another population change, which has affected the travel patterns in the Great Falls area, has been a decrease in the size of Cascade County households. Between 1970 and 2000, the average household for Cascade County decreased from 3.14 to 2.45 persons per household. Even though the number of persons living in housing decreased, the number of occupied housing units in the county increased by 5,275 (see **Table 3-4**).

Table 3-4
Occupied Housing Units and Household Size
Cascade County
1970-2000

	1970	2000	30-Yr Change
Persons Living in Housing Units	79,284	78,740	-544
Occupied Housing Units	27,272	32,547	+5,275
Ave. Household Size	3.14	2.45	-22%

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

Most new housing in Cascade County was in the Great Falls area, to the southwest, southeast, and north of Great Falls. Travel by people living in these new houses added significantly to trips and travel patterns on Great Falls area roadways.

Changes in the characteristics and locations of Great Falls area businesses and employment also have had important effects on the Study Area's travel patterns. These changes also are affecting Great Falls travel patterns. **Table 3-5** shows Cascade County employment by economic sector from 1970 to 2000. In recent decades, the Cascade County economy has become much more oriented toward service and retail-type employment. Growth in service and retail enterprises has helped to offset important losses in heavy manufacturing, railroad, military and federal government employment.

Health care, social, recreation, technical, business, financial, and insurance activities experienced the greatest job growth in the Service Sector. Health care has experienced major growth and is focused in the vicinity of the city's two hospitals. Most of the growth in the area's Retail Sector was in eating and drinking businesses. Of interest is that transitions in the Cascade County economy are contributing to increases in travel on Great Falls area roads. Service and retail businesses typically generate more vehicle trips per job than heavy manufacturing, railroad, military, and federal government activities. Retail and many types of service businesses are oriented to serving drive-in customers and delivering services to other business and home sites. Many retail and service businesses vie for locations along major travel corridors. Turning movements to and from these businesses often complicate traffic movements on the major roads.

Table 3-5
Employment Trends by Economic Sector
Cascade County
1970-2000

Economic Sector	1970	1980	1990	2000	1970-2000
Farm Employment	1,328	1,039	1,036	1,320	-8
Agricultural Services & Forestry	134	153	366	NA	NA
Mining	55	60	66	NA	NA
Construction	2,114	2,226	1,862	2,742	628
Manufacturing	2,920	1,661	1.246	1,410	-1,510
Transportation & Public Utilities	2,216	2,196	2,361	1,924	-212
Wholesale Trade	1,758	3,216	2,361	1,924	166
Retail Trade	6,266	7,771	8,685	10,274	4,008
Finance, Insurance & Real Estate	2,785	3,794	3,124	4,174	1,389
Services	6,497	10,297	12,191	15,246	8,749
Government	11,224	10,560	10,425	9,339	-1,885
Federal, Civilian	2,315	1,773	1,780	1,526	-789
Military	5,785	4,990	4,725	3,905	-1,880
State & Local	3,124	3,797	3,920	3,908	784
State	NA	659	885	877	NA
Local	NA	3,138	3,035	3,031	NA
TOTALS	**37,297**	**42,973**	**43,530**	**49,163**	**11,866**

Source: Bureau of Economic Analysis, U.S. Department of Commerce, 2003

3.2 Population and Employment Projections

<u>Note on relevance of data</u>: Although the original horizon year for the projected conditions was 2025, staff review of current socioeconomic conditions in the study area, and taking into consideration the recent economic downturn, resulted in a conclusion that, due to limited growth and recent slowing in the economy, the projections for 2025 are still relevant and should be used to represent 2030 traffic conditions.

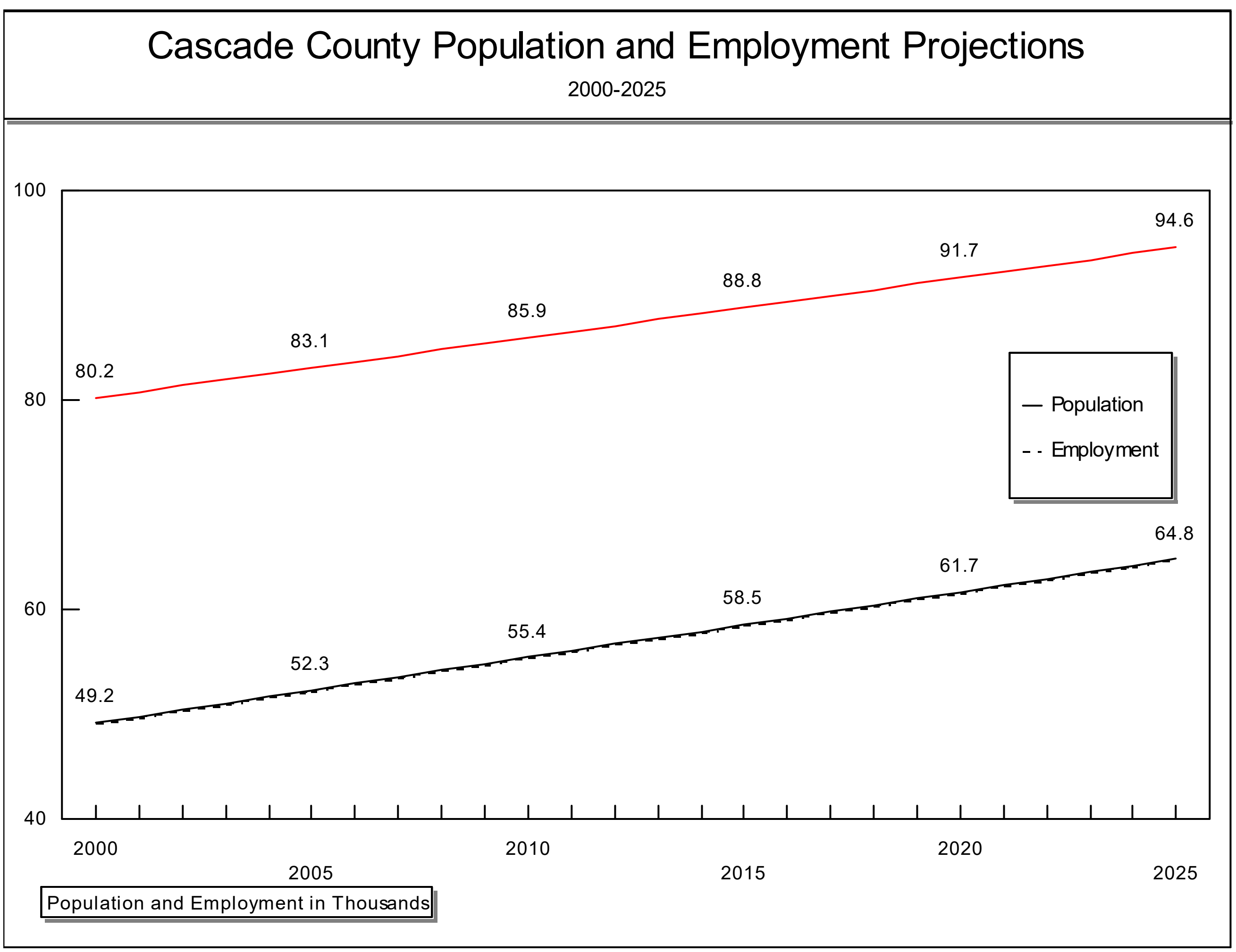
Projections are used to predict future travel patterns and analyze the potential performance capabilities of the Study Area's road network. Population and employment projections were developed for Cascade County for the 2000 to 2025 period (refer to **Table 3-6** and **Figure 3-2**), and, after review, these estimates can be considered to be accurate out to 2030. The vast majority of countywide population and economic activity will continue to be located in the Great Falls Transportation Study Area. Great Falls will continue to serve as the population and economic center of north-central Montana (the Golden Triangle Region).

Population and employment projections were built from trends occurring in the 1990s. In the 2010 to 2030 period, Cascade County population is projected to increase by over 14,000 people. In the 1990s, children of "Baby Boomers" were emerging in the economy and as householders. As they age, this generation will exert increasing influences on Great Fall's population and economic development patterns. Labor force participation is likely to remain high for persons in the future 16-64 age groups. Importantly, in the early 2000s, "Baby Boomers" will begin to leave the work force. Their decisions as to whether they will remain in Montana or retire elsewhere will have major population and economic impacts on Great Falls. It may also be that many older people will stay active in the economy. There may be an increase in part-time employment of workers who are of retirement age. Average household sizes in the Cascade County area will continue to get smaller and the number of housing units in the planning area of Cascade County will continue to increase.

Table 3-6
Population and Employment Projections
Cascade County
2000-2025

Year	Population	Employment
2000	80,200	49,200
2010	85,900	55,400
2020	91,700	62,000
2030	94,600	64,800

Figure 3-2
Cascade County Population and Employment Projections, 2000-2025



In the 30-year projection period the population of the Great Falls Study Area is expected to grow to about 80,000 people, an increase of 12,000 people and nearly 5,000 housing units. In the time period addressed by the Transportation Plan, a large percentage of the Great Falls area population will be in driving and working age groups. After 2010, there will start to be a large increase in older drivers.

From 2000 to 2030, full and part-time employment in Cascade County is projected to rise from 49,200 to 64,800 jobs. Employment in the Study Area is predicted to increase from 42,000 to about 55,000 jobs. A breakdown of employment projects by sector is shown in **Table 3-7**.

Table 3-7
Employment Projections by Economic Sector
Cascade County
2000-2025

Economic Sector	2000	2010	2020	2025	2000-2030
Farm Employment	1,320	1,311	1,303	1,298	- 22
Agricultural Services	578	788	999	1,104	+ 526
Mining	152	226	301	338	+ 186
Construction	2,742	3,717	4,693	5,180	+2,438
Manufacturing	1,410	1,667	1,924	2,052	+ 642
Transportation & Public Utilities	2,004	1,806	1,608	1,509	- 495
Wholesale Trade	1,924	1,744	1,563	1,473	- 451
Retail Trade	10,274	11,633	12,992	13,672	+3,398
Finance, Insurance & Real Estate	4,174	5,131	6,088	6,567	+2,393
Services	15,246	18,261	21,275	22,783	+7,537
Government	9,339	8,261	8,003	7,671	-1,668

Job growth is predicted to be greatest in the service and retail-type businesses. This will mean increased travel on Great Falls area roads. New and expanded service businesses will provide activities at their business location and/or individual households, businesses, and sites chosen by their customers. Most retail business will seek locations which are highly accessible to their customers. This will often be along major roadways. Employment in construction will benefit from new residential and business development, and will occur in locations experiencing housing and job growth.

3.3 Allocation of Growth within the Study Area

Montana Department of Transportation's modeling of travel patterns in 2010, 2020 and 2030 required identification of future socioeconomic characteristics within each Transportation Analysis Zone (TAZ) and census block. County population and employment projections were translated to predictions of increases in housing and employment within the Great Falls Transportation Study Area. About 85% of future population and employment in Cascade County were allocated to the Great Falls

Transportation Study Area. Remaining population and employment projections were dispersed into outlying areas of the county.

A Land Use Advisory Committee was formed to discuss and reach consensus on the distribution of future housing and employment growth in the planning area. The committee's membership was recruited from the staff of public agencies and utilities familiar with ongoing development trends in the "Greater Great Falls" area. The committee included staff from the following organizations:

- Great Falls City-County Planning;
- Great Falls City Building Department;
- Northwestern Energy;
- Quest Communications;
- Energy West;
- United States Postal Service;
- Great Falls City-County Health Department; and
- AT&T Cable.

The committee's work considered recent land use trends, land availability and development capabilities, land use regulations, planned public improvements, and known development proposals.

The Land Use Advisory Committee predicted significant new housing development in the southwest area of the Great Falls Study Area. Substantial new housing development will occur on both sides of Fox Farm Road. Beginning in the Park Garden Road area, infilling and new residential subdivisions will progress southward to the Dick Road area. Less intensive housing development will extend south of Dick Road all the way to the Missouri River.

Another area predicted to experience substantial residential growth is in the north-central section of the Study Area. Considerable residential development is predicted for the general area north of Skyline Drive, between 6th Street Northwest and Bootlegger Trail. Residential development also is predicted for lands in southeastern Great Falls. To the south, some development will occur in the general area of Lower River Road and 13th Street South. Another area predicted to see some residential growth is in northeastern Great Falls. This area is to the west of the Air Force Base, in the general vicinity of 57th Street North and 10th Avenue South. Many other locations in the planning area are predicted for smaller scale residential development.

Considerable additional commercial development and employment will occur in southwestern Great Falls. The most intensive retail growth is predicted on lands to the south of the I-15 Spur, in the vicinity of 14th Street South and Market Place Drive.

To the east, 10th Avenue South is a well-established commercial corridor. Between 2000 and 2010, lands along 10th Avenue South have been experiencing and are expected to continue to experience upgrading of existing retail land uses, as well as new development on currently undeveloped lands. Some new retail development also is expected on lands on both sides of the Missouri River within the city limits. On the west side of the Missouri River, new retail development is predicted along undeveloped, or re-developed, sections of 3rd Street Northwest, the Northwest Bypass, and Smelter Avenue. To the east of the River, new development will occur in the general area between River Drive and 2nd Street South. The airport and Great Falls Central Business District (CBD) also will experience retail employment growth.

Great Falls will continue to experience growth in the medical services industry. Growth in Great Falls medical employment and other types of service business is expected to occur in the general area of the community's two hospitals, but also in area retail centers where satellite medical offices have been built. Service sector employment also will occur on both sides of the Missouri River in the city limits; most notably, near 3rd Street Northwest (on the west side of the River) and River Drive (on the east and south sides of the River). Additional service employment will occur in commercial areas on the south side of Interstate Spur 315, along 10th Avenue South, at the Airport, in Black Eagle, and in the Great Falls CBD. The Land Use Advisory Committee foresaw less intensive service developments in many other Great Falls locations.

Major industrial job growth is predicted for the Airport area. Industrial development also is predicted northwest of Great Falls in the Stuckey Road vicinity, near and to the north of Black Eagle, to the northeast near 18th Avenue North, to the east near 38th Street North and south of 10th Street North. The airport, CBD, and southwestern area are predicted to attract the greatest additional government employment.

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." At this time all committed improvement projects were considered. A committed improvement project is one that has been approved by the Policy Coordinating Committee (PCC), and has a committed funding source in place. The committed improvements listed below are those assumed to occur by the end of 2005. The projects listed are only listed if the project will affect capacity and/or delay characteristics of a roadway facility and/or intersection. This distinction is necessary since some committed improvement projects, likely to occur before the end of year 2005, are not listed here since they will not have an effect on the traffic model. Those committed improvement projects not included in the traffic model, as well as those extending out beyond the year 2005, are listed later in this plan in **Chapter 10** and **Chapter 11**.

The addition of the committed improvements through year 2005 with the existing roadway network produces what is known as the "Existing plus Committed" network (referred to as the E+C Network). It is the E+C Network that is used for all future year analyses. The committed improvements included in the modeling process are listed below:

- Reconstruct the Northeast Bypass (from 2nd Avenue North to 38th Street North) to a major arterial standard;
- Reconstruct 6th Street Northwest (from Northwest Bypass to Central Avenue West) to minor arterial standards;
- Make geometric improvements to the intersection of 10th Avenue South and 38th Street South by widening the north approach to provide a separate right-turn lane and a shared left turn/through lane;
- Make geometric improvements to the intersection of 10th Avenue South and 29th Street South by widening the south approach to provide a separate right-turn lane and a shared left turn/through lane;
- Make geometric improvements to provide separate left-turn lanes for both 13th Avenue South approaches at the intersection of 13th Street South;
- Reconstruct 9th Street North (from 2nd Avenue North to 2nd Avenue South) to minor arterial standards (four lanes), along with reconstructing 2nd Avenue North (between Park Drive and 15th Street North) to a two-lane roadway; and
- Extend 18th Avenue North to Giant Springs Road (reconstruct/upgrade).

3.5 Traffic Model Development

The location and proximity of residential land uses, employment centers and shopping opportunities determine what the travel patterns will be in any given area. Great Falls is a compact community with no significant bedroom communities and very little sprawl. It has major employers at the east end and in downtown Great Falls. Retail opportunities are located along 10th Avenue South, 3rd Street Northwest, and downtown, with other locations scattered throughout the city. Residential portions of Great Falls fall mostly on the east side of the Missouri River, with the more established neighborhoods lying between 10th Avenue South and River Drive. However, the growing areas of Great Falls lie on the west side of the Missouri, notably to the northwest and southwest.

All of the characteristics of the various areas of Great Falls combine to create the traffic patterns present in Great Falls today. To build a model to represent this condition, the population information was collected from the 2000 census, and employment information was gathered from the Montana Department of Labor and Industry, third quarter of 2000, and was carefully scrutinized by local agency planners and MDT modeling staff. As indicated previously in this Chapter, the 2000 figures, and subsequent analyses and conclusions, are considered to be an accurate base for this 2009 Plan.

The roadway network / centerline information came from the TIGER® line files for Cascade County. The term TIGER® comes from the acronym **T**opologically **I**ntegrated **G**eographic **E**ncoding and **R**eferencing which is the name for the system and digital database developed at the U.S. Census Bureau to support its mapping needs, including the census. This information was substantially supplemented by input from staff at the Great Falls City–County Planning Department (now Great Falls Planning Department) which has substantial local knowledge and were able to increase the accuracy of the base model.

The TIGER files, population census information, and employment information are readily available. The TransCAD software is designed to use this information as input data. TransCAD has been developed by the Caliper Corporation of Newton, Massachusetts, and 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.

Due to the inherent characteristics of a traffic model, it is easy to add a road segment, or "link", where none exists now or 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 over the next 20 years can be added to the transportation system, and the needed additions to the transportation system can then be identified. Additionally, different scenarios for how Great Falls may grow 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.

NOTE: Future year models were initially developed for 2015 and 2025. After review of growth assumptions, these model years can be assumed to be 2020 and 2030, and the related model runs, analyses and conclusions are accurate for and can be effectively applied to the years 2020 and 2030. For ease of interpretation, the years 2020 and 2030 are used throughout this Chapter from this point forth.

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 **Sections 3.1, 3.2** and **3.3** was used to determine the additions and changes to the traffic volumes in 2030.

The modeling area was subdivided into transportation analysis zones (TAZ's). The boundary of each TAZ was selected to ensure that each TAZ had uniform land use characteristics. As is typical of TAZ's, they are small in the downtown area, and grow geographically larger in the less densely developed areas. The TAZ's developed for this project are shown on **Figure 3-9**, located at the end of this chapter. The TAZ's were used to divide the population and employment growth anticipated to occur between now and 2030. Under other circumstances, the TAZ's are also used for input into the model. However for this project, the census blocks were used for input into the model, and the TAZ information was converted into census block information.

3.7 Traffic Volume Projections

The traffic model was used to produce traffic forecasts for the years 2010, 2020, and 2030. These traffic volume projections are presented in **Figures 3-3 through 3-5.** These projections indicate that most traffic volumes exhibit only moderate increases on the major corridors over the next 20 years. There are some exceptions, however, that must be noted. Areas that exhibit a "larger than moderate" increase in traffic volumes by the planning horizon year of 2030 include: the Fox Farm Road corridor (18,200 vehicles per day (vpd)); River Drive North, between 15th Street North and 25th Street North (19,200 vpd); the 15th Street North Bridge crossing (17,500 vpd); the Central Avenue West Bridge crossing (34,200 vpd); and portions of 10th Avenue South. The volumes shown in **Figures 3-3** through **3-5** are based on the assumptions and street network of this plan. Modifications to the street network or development that differs from the assumptions used for the model may create a different future demand pattern.

View Figure 3-3

View Figure 3-4

View Figure 3-5

3.8 Network Alternative Test Runs 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 by the Technical Advisory Committee (TAC). Major improvements were then grouped and superimposed on the existing network. The purpose of grouping the proposed network improvements together was to reduce the amount of times the traffic model would have to be run and analyzed. Modifications to the network were grouped together only if the likelihood of them not impacting or being impacted by each other was probable. The impacts of implementing the alternative actions were then determined for each test run. These tests helped to determine possible benefits and drawbacks of a variety of possible changes to the major street network.

Nineteen separate scenarios were test modeled. Thirteen of the model runs examined the traffic volume changes resulting from various modifications to the street network. The remaining six scenarios were performed under a separate feasibility study being performed by another transportation engineering consultant (i.e. south arterial / north bypass feasibility study). The various traffic model alternative test runs are presented graphically in **Figures 3-6** thru **3-8**.

Listed below are narrative descriptions of the proposed modifications for each model run, along with a brief description of the results. All results reflect year 2030 projected traffic volumes from the *TransCAD* traffic model. This is the extent of the planning horizon for this Transportation Plan. For comparison purposes, future traffic volumes for the year 2030 **without** the transportation network modifications, as described below, can be seen in **Figure 3-5**.

TEST RUN NO. 1 included adding the following modifications to the E+C network:

- Extend 36th Avenue Northeast from its westerly end to 6th Street Northwest.
- Add an upgraded roadway facility for 10th Avenue North between 38th Street North and 57th Street North.
- Add a partial south arterial facility consisting of two-lanes between Fox Farm Road and Upper River Road.

Test No. 1 Results:

Upgraded 10th Avenue North

- 10th Avenue North (carries Average Daily Traffic [ADT] between 800 - 1,800 vehicles per day (vpd)).
- River Drive North - east of 38th Street North (ADT decreased by 500 vpd).
- 57th Street North (traffic volumes essentially remained unchanged).
- 8th Avenue North (traffic volumes increased by 100 vpd).
- 38th Street North – south of 10th Avenue North (ADT remained neutral).

<u>Extended 36th Avenue Northeast</u>

- 36th Avenue Northeast (extended roadway carries ADT equal to 200 vpd).
- 6th Street Northwest (negligible increase in ADT was seen on this roadway).

<u>Partial South Arterial Facility</u>

- Partial South Arterial (carries ADT volume of 7,850 vpd).
- Fox Farm Road – south of Park Garden Road (ADT decreased from 15,540 vpd to a new ADT of 9,500 vpd).
- Fox Farm Road – north of Park Garden Road (ADT decreased by 6,000 vpd).
- Flood Road – south of Park Garden Road (ADT decreased from 2,300 vpd to a new ADT of 1,500 vpd).
- Flood Road – north of Park Garden Road (ADT decreased by 1,000 vpd).
- Upper River Road (ADT increased by 3,000 vpd to a new ADT of approximately 3,500 vpd).
- 40th Avenue South (ADT increased from 500 vpd to a new ADT of 5,300 vpd).
- 13th Street South (various segments ADT increased between 3,000 vpd and 4,000 vpd).

<u>TEST RUN NO. 2</u> included the following modifications to the E+C network:

- All aspects of Test Run No. 1, except the partial south arterial link were modeled as a four-lane roadway facility (instead of a two-lane roadway) between Fox Farm Road and Upper River Road.

Test No. 2 Results:

Test run number two (2) results were identical to those from test run number one (1). No traffic volume changes were noted by increasing the south arterial partial link from a two-lane arterial to a four-lane arterial facility.

<u>TEST RUN NO. 3</u> included the following modifications to the E+C network:

- All aspects of Test Run No. 1, except the partial south arterial link, were modeled as a two-lane facility between the Gore Hill interchange east to 13th Street South.

Test No. 3 Results:

<u>Upgraded 10th Avenue North</u>

- Impacts are identical to Test Run Number 1.

<u>Extended 36th Avenue Northeast</u>

- Impacts are identical to Test Run Number 1.

<u>Partial South Arterial Facility</u>

- Partial South Arterial (carries ADT volume of 9,550 vpd east of Fox Farm Road and ADT of 5,800 vpd west of Fox Farm Road).

- Fox Farm Road – south of Park Garden Road (ADT decreased from 15,540 vpd to a new ADT of 7,000 vpd).
- Fox Farm Road – north of Park Garden Road (ADT decreased by 7,000 vpd).
- Flood Road – south of Park Garden Road (ADT decreased from 2,300 vpd to a new ADT of 1,200 vpd).
- Flood Road – north of Park Garden Road (ADT decreased by 3,800 vpd).
- 40th Avenue South (ADT increased from 500 vpd to a new ADT of 7,200 vpd).
- 13th Street South (various segments ADT increased between 3,000 vpd and 4,000 vpd).
- Interstate I-15 (ADT volumes remained fairly constant, with biggest increase being equal to an additional 600 vpd occurring just south of the Sun River).

TEST RUN NO. 4 included the following modifications to the E+C network:

- All aspects of Test Run No. 1, except the partial south arterial link was modeled as a four-lane roadway facility (instead of a two-lane roadway) between the Gore Hill interchange east to 13th Street South.

Test No. 4 Results:

Test run number four (4) results were identical to those from test run number three (3). No traffic volume changes were noted by increasing the south arterial partial link from a two-lane arterial to a four-lane arterial facility.

TEST RUN NO. 5 included the following modifications to the E+C network:

- Vacate North River Road between 9th Street North and 15th Street North.
- Add a connection to the Emerson junction interchange allowing full, double access vehicular movements.
- Add a small segment of 15th Street Northwest, from the westerly edge of 10th Avenue Northwest south to the Northwest Bypass.

Test No. 5 Results:

Vacated North River Road

- US Highway 87 Bridge Crossing (ADT decreased from 17,500 vpd to a new ADT of 15,000 vpd).
- 10th Street North Bridge Crossing (ADT increased from 18,150 vpd to a new ADT of 20,500 vpd).
- River Drive – segment between 10th Street North and 15th Street North (ADT increased from 10,700 vpd to a new ADT of 13,100 vpd).
- Smelter Avenue, between 10th Street North and 15th Street North (ADT increased from 3,600 vpd to a new ADT of 5,600 vpd).
- 38th Street North – south of 10th Avenue North (ADT increased by 800 vpd).

Emerson Junction Interchange

- Vaughn South Frontage Road (ADT increased from 3,350 vpd to a new ADT of 7,100 vpd). The directional split on this roadway was 48 percent eastbound and 52 percent westbound.
- Interstate 15 – south of Emerson Junction (ADT increased from 10,200 vpd to a new ADT of 10,600 vpd).
- Interstate 15 – northwest of Emerson Junction (ADT decreased from 12,500 vpd to a new ADT of 7,700 vpd).

15th Street Northwest

- New 15th Street Northwest link (ADT projected volume equals of 685 vpd).

TEST RUN NO. 6 included the following modifications to the E+C network:

- Modify the one-way couplet on 5th Street North and 6th Street North to two-lane traffic facilities between 8th Avenue North and 10th Avenue South.

Test No. 6 Results:

North / South Streets

- 5th Street North – north of Central Avenue (ADT increased by 2,000 - 3,000 vpd).
- 5th Street South – south of Central Avenue (ADT increased by 3,000 - 5,500 vpd).
- 6th Street North – north of Central Avenue (ADT decreased by 200 - 700 vpd).
- 6th Street South – south of Central Avenue (ADT decreased by 1,000 - 1,500 vpd).

East / West Avenues

- 2nd Avenue North – west of 5th Street North (ADT decreased between 100 - 200 vpd). The immediate block to the west decreased by 1,900 vpd.
- 2nd Avenue North – east of 5th Street North (ADT decreased by 300 vpd).
- 1st Avenue North – west of 5th Street North (ADT increased by 200 vpd).
- 1st Avenue North – east of 5th Street North (ADT increased by 200 vpd).
- Central Avenue – west of 5th Street North (ADT increased by 400 - 900 vpd).
- Central Avenue – east of 5th Street North (ADT remained constant, except the immediate block to the east decreased by 900 vpd).
- 1st Avenue South – west of 5th Street North (ADT decreased by 200 - 500 vpd).
- 1st Avenue South – east of 5th Street North (ADT decreased by 300 - 500 vpd). The immediate block to the east increased by 300 vpd.
- 2nd Avenue South – west of 5th Street North (ADT decreased by 200 vpd).
- 2nd Avenue South – east of 5th Street North (ADT increased by 200 vpd). The immediate block to the east increased by 500 vpd.

<u>Park Drive</u>

- Park Drive – west of 5th Street North (ADT decreased by 500 vpd).
- Park Drive – between 5th and 6th Street North (ADT increased 700 vpd).

<u>TEST RUN NO. 7</u> included the following modifications to the E+C network:

- Modify the one-way couplet on 5th Street North and 6th Street North to two-lane traffic facilities between 2nd Avenue North and 10th Avenue South.

Test No. 7 Results:

<u>North / South Streets</u>

- 5th Street North – north of 2nd Avenue North (ADT change is negligible).
- 5th Street South – south of 2nd Avenue North (ADT increases between 500 - 4,500 vpd).
- 6th Street North – north of 2nd Avenue North (ADT change is negligible).
- 6th Street South – south of 2nd Avenue North (ADT decreased by 500 - 1,500 vpd).

<u>East / West Avenues</u>

- 2nd Avenue North – west of 5th Street North (ADT increases between 50 - 300 vpd).
- 2nd Avenue North – east of 5th Street North (ADT decreased by 100 vpd). Between 5th Street South and 6th Street South the volume decrease was 2,100 vpd.
- 1st Avenue North – west of 5th Street North (ADT increases up to 100 vpd over ADT volumes calculated on the "E+C Network).
- 1st Avenue North – east of 5th Street North (ADT increased by 200 vpd). Between 5th Street South and 6th Street South the volume increase was 500 vpd.
- Central Avenue – west of 5th Street North (ADT increased between 50 - 750 vpd).
- Central Avenue – east of 5th Street North (ADT remained constant). Between 5th Street South and 6th Street South the volume decrease was 1,000 vpd.
- 1st Avenue South – west of 5th Street North (ADT decreased between 200 - 500 vpd).
- 1st Avenue South – east of 5th Street North (ADT decreased between 200 - 500 vpd). Between 5th Street South and 6th Street South the volume increase was 400 vpd.
- 2nd Avenue South – west of 5th Street North (ADT decreased by 200 vpd).
- 2nd Avenue South – east of 5th Street North (ADT increased by 200 vpd). Between 5th Street South and 6th Street South the volume increase was 800 vpd.

<u>Park Drive</u>

- Park Drive – west of 5th Street North (ADT decreased by 100 vpd).
- Park Drive – between 5th and 6th Street North (ADT decreased by 100 vpd).

TEST RUN NO. 8 included the following modifications to the E+C network:

- Modify the one-way couplet on 5th Street North and 6th Street North to two-lane traffic facilities between 2nd Avenue North and 2nd Avenue South

Test No. 8 Results:

North / South Streets

- 5th Street North – north of 2nd Avenue North (ADT change is negligible).
- 5th Street South – south of 2nd Avenue North (ADT change is negligible).
- 6th Street North – north of 2nd Avenue North (ADT change is negligible).
- 6th Street South – south of 2nd Avenue North (ADT change is negligible).

East / West Avenues

- 2nd Avenue North – west of 5th Street North (ADT increases between 200 - 300 vpd).
- 2nd Avenue North – east of 5th Street North (ADT remained constant).
- 1st Avenue North – west of 5th Street North (ADT increases up to 100 vpd).
- 1st Avenue North – east of 5th Street North (ADT increased by 200 vpd).
- Central Avenue – west of 5th Street North (ADT increased between 50 - 300 vpd).
- Central Avenue – east of 5th Street North (ADT remained constant).
- 1st Avenue South – west of 5th Street North (ADT decreased between 200 - 300 vpd).
- 1st Avenue South – east of 5th Street North (ADT change is negligible).
- 2nd Avenue South – west of 5th Street North (ADT decreased by 200 vpd).
- 2nd Avenue South – east of 5th Street North (ADT increased by 300 vpd).

TEST RUN NO. 9 included the following modifications to the E+C network:

- Close River Drive between 1st Avenue North and 6th Street North.
- Add an upgraded roadway facility for Flood Road between Dick Road and Park Garden Road.

Test No. 9 Results:

Close River Drive (between 1st Avenue North and 6th Street North)

- River Drive – between 6th Street North and 9th Street North (ADT volumes decreased from 8,000 vpd to a new ADT of 5,600 vpd).
- 8th Avenue North – east of 6th Street North (ADT volumes increased by 400 vpd).
- Park Drive – between 1st Avenue North and 6th Street North (ADT increased from 3,800 vpd to a new ADT of 7,150 vpd).
- Smelter Avenue – west of 10th Street North (ADT increased by 800 vpd).
- 2nd Avenue North, 1st Avenue North & Central Avenue (ADT generally increased by 400 vpd for each roadway).

- 9th Street North and 14th/15th Street North Couplet (ADT volume increased by about 300 vpd).

Flood Road Upgrade

- Flood Road – south of Park Garden Road (ADT increased from 2,300 vpd to 5,900 vpd).
- Flood Road – north of Park Garden Road (ADT increased from 12,900 vpd to 14,400 vpd).
- Fox Farm Road – south of Park Garden Road (ADT decreased from 15,500 vpd to a new ADT of 13,000 vpd).
- Fox Farm Road – north of Park Garden Road (ADT decreased from 21,400 vpd to a new ADT of 20,600 vpd – near 10th Avenue South intersection).
- 1st Avenue North Bridge Crossing (ADT change is negligible).
- 3rd Street Northwest (ADT change is negligible).
- River Drive – south of 1st Avenue North (ADT decreased from 9,200 vpd to a new ADT of 8,800 vpd).

The following test runs examine possible roadway improvements to the area surrounding the Great Falls International Airport. The improvements contemplated were entered into the traffic model as TEST RUN NUMBERS 10, 11 and 12.

TEST RUN NO. 10 included the following modifications to the E+C network:

- Add a north access road from the northerly boundary of airport property to a new interchange connecting to Interstate 15 (in the vicinity of 13th Avenue Southwest).

Test No. 10 Results:

North Airport Access Road

- North Airport Access Road (carries an expected ADT volume of 1,800 vpd).
- Airport Road – in front of terminal (ADT decreases from 7,000 vpd to 5,200 vpd).
- Interstate 15 - northeast of Gore Hill interchange (ADT decreases from 23,300 vpd to 21,500 vpd).
- 13th Avenue Southwest (ADT volumes increase from 2,600 vpd to 4,100 vpd).
- 10th Avenue South – west of Fox Farm Road (ADT volumes decreased by 600 vpd).

TEST RUN NO. 11 included the following modifications to the E+C network:

- All aspects of Test Run No. 10, plus
- Add an interchange to Interstate 15 just south of Central Avenue West, linking the BNSF rail yards to I-15. This modification creates two (2) additional interchanges in the test model run for this scenario.

Test No. 11 Results:

North Airport Access Road

- Impacts are identical to Test Run Number 10, with the addition that Central Avenue West, east of interchange, experiences a slight change in traffic volumes (ADT increases from 10,000 vpd to 10,800 vpd).

TEST RUN NO. 12 included the following modifications to the E+C network:

- Add a modified southwest access road serving the airport property from its west boundary, connecting to a new interchange with Interstate 15 near the westerly projection of 53rd Avenue Southwest. The road was modeled with a wider traveling surface shoulders, increased vehicle travel speed and appropriate intersection connections/geometries.

Test No. 12 Results:

Southwest Airport Access Road

- New Southwest Airport Access Road (carries an expected ADT volume of 400 vpd).
- Airport Road – in front of terminal (ADT decreases from 7,000 vpd to 6,600 vpd).
- Tri-Hill Frontage Road – (ADT change is negligible)

TEST RUN NUMBERS 13 thru 18 involve the full South Arterial option, as well as a North Arterial roadway addition. These six options were investigated under a separate feasibility study conducted concurrently with this Transportation Plan. A detailed analysis was not presented in the body of this Plan, but was referenced due to the potential impact one or more of the alternatives may have on the transportation system. The alternatives modeled were as follows:

TEST RUN NO. 13 included the following modifications to the E+C network:

Added to the model for Test Run No. 13 was a new southern controlled access route, built to interstate highway facility standards. For modeling purposes only, the southern route was aligned so as to originate at the Gore Hill interchange of Interstate 15, and terminate at the intersection of 57th St. South and 10th Ave. South, near Malmstrom Air Force Base. The facility was modeled with full-access, grade-separated interchanges at its intersections with Fox Farm Rd., Upper River Rd./40th Ave. South, 13th St. South/33rd Ave. South and the southerly projection of 26th St. South. At-grade intersections were modeled at the Gore Hill interchange and 57th St. terminus points. Final location and alignment of a roadway will be determined through future study and analysis.

Test Run No. 13 Results:

- Southern Freeway Corridor - carries an ADT fluctuating between 11,900 and 16,250 west of 26th St. South, and an ADT of approximately 8,900 east of 26th St. South.
- Interstate 15 - between the Gore Hill Interchange and I-315 (ADT decreased from 21,000 to 20,300)
- Flood Rd. - south of Park Garden Rd. (ADT decreased from 2,350 to 950)
- Fox Farm Rd. - south of Park Garden Rd. (ADT decreased from 17,200 to 6,750)
- 13th St. South - south of 24th Ave. South (ADT increased from 6,650 to 12,250)
- 26th St. South - south of 24th Ave. South (ADT increased from 750 to 3,150)
- 6th St. Southwest - north of 10th Ave. South (ADT decreased from 21,200 to 17,050)
- 57th St. North - north of 10th Ave. South (ADT increased from 8,600 to 10,100)
- Interstate 315 - between 14th St. Southwest and Fox Farm Rd. (ADT decreased from 26,950 to 22,750)
- 10th Ave. South - between Fox Farm Rd. and 2nd St. (ADT decreased from 32,150 to 23,700)
- 10th Ave. South - between 14th St. and 15th St. (ADT decreased from 36,150 to 31,750)
- 10th Ave. South - between 26th St. and 39th St. (ADT decreased from 27,200 to 22,900)
- 10th Ave. South - between 43rd St. and 57th St. (ADT decreased from 14,550 to 11,750)

System-wide reduction in traffic volume (from E+C) = 1.1%
System-wide reduction in VMT (from E+C) = 0.1%
System-wide reduction in VHT (from E+C) = 5.5%

TEST RUN NO. 14 included the following modifications to the E+C network:

For Test Run No. 14, a similarly aligned southern limited access arterial route was included in the network in place of the interstate-type facility modeled in Test Run No. 13. The new arterial was modeled as a four-lane principal urban arterial facility, with at-grade intersections (as opposed to grade-separated interchanges) in locations identical to those described in the Test Run No. 13 model. An additional at-grade intersection was included at the route's intersection with 20th St. South. Final location and alignment of a roadway will be determined through future study and analysis.

Test Run No. 14 Results:

- Southern Arterial Corridor - carries an ADT fluctuating between 2,850 and 10,650 west of 26th St. South, and an ADT of approximately 3,000 to the east.
- Interstate 15 - between the Gore Hill Interchange and I-315 (ADT decreased from 21,000 to 19,350)
- Flood Rd. - south of Park Garden Rd. (ADT decreased from 2,350 to 1,050)
- Fox Farm Rd. - south of Park Garden Rd. (ADT decreased from 17,200 to 7,150)

- 13th St. South - south of 24th Ave. South (ADT increased from 6,650 to 11,350)
- 26th St. South - south of 24th Ave. South (ADT decreased from 750 to 450)
- 6th St. Southwest - north of 10th Ave. South (ADT decreased from 21,200 to 17,850)
- 57th St. North - north of 10th Ave. South (ADT increased from 8,600 to 9,200)
- Interstate 315 - between 14th St. Southwest and Fox Farm Rd. (ADT decreased from 26,950 to 24,400)
- 10th Ave. South - between Fox Farm Rd. and 2nd St. (ADT decreased from 32,150 to 26,900)
- 10th Ave. South - between 14th St. and 15th St. (ADT decreased from 36,150 to 35,200)
- 10th Ave. South - between 26th St. and 39th St. (ADT decreased from 27,200 to 25,750)
- 10th Ave. South - between 43rd St. and 57th St. (ADT decreased from 14,550 to 13,150)

System-wide reduction in traffic volume (from E+C) = 2.1%
System-wide reduction in VMT (from E+C) = 2.0%
System-wide reduction in VHT (from E+C) = 3.3%

TEST RUN NO. 15 included the following modifications to the E+C network:

The model for Test Run No. 15 would be identical to that for Test Run No. 14, except that the arterial facility would be modeled as a two-lane rural highway, instead of a four-lane urban arterial facility. Final location and alignment of a roadway will be determined through future study and analysis.

Test Run No. 15 Results (model and resulting ADTs identical to those for Test Run No. 14):

- Southern Rural Corridor - carries an ADT ranging from 5,400 to 10,650 west of 13th St. South, and an ADT of approximately 3,000 to the east
- Interstate 15 - between the Gore Hill Interchange and I-315 (ADT decreased from 21,000 to 19,350)
- Flood Rd. - south of Park Garden Rd. (ADT decreased from 2,350 to 1,050)
- Fox Farm Rd. - south of Park Garden Rd. (ADT decreased from 17,200 to 7,150)
- 13th St. South - south of 24th Ave. South (ADT increased from 6,650 to 11,350)
- 26th St. South - south of 24th Ave. South (ADT decreased from 750 to 450)
- 6th St. Southwest - north of 10th Ave. South (ADT decreased from 21,200 to 17,850)
- 57th St. North - north of 10th Ave. South (ADT increased from 8,600 to 9,200)
- Interstate 315 - between 14th St. Southwest and Fox Farm Rd. (ADT decreased from 26,950 to 24,400)
- 10th Ave. South - between Fox Farm Rd. and 2nd St. (ADT decreased from 32,150 to 26,900)

- 10th Ave. South - between 14th St. and 15th St. (ADT decreased from 36,150 to 35,200)
- 10th Ave. South - between 26th St. and 39th St. (ADT decreased from 27,200 to 25,750)
- 10th Ave. South - between 43rd St. and 57th St. (ADT decreased from 14,550 to 13,150)

System-wide reduction in traffic volume (from E+C) = 2.1%
System-wide reduction in VMT (from E+C) = 2.0%
System-wide reduction in VHT (from E+C) = 3.3%

TEST RUN NO. 16 included the following modifications to the E+C network:

Added to the model for Test Run No. 16 was a new northern controlled access route, built to interstate highway facility standards similar to that for Test Run No. 13. For modeling purposes only, the northern route was aligned so as to originate at Interstate 15 just west of the Emerson Interchange of Interstate 15, and terminate at the intersection of 57th St. North and River Dr., near Malmstrom Air Force Base. The facility was modeled so as to include full-access, grade-separated interchanges at its intersections with Stuckey Rd., 6th St. Northwest, Section Line Rd., the Old Havre Highway, and Wire Mill Rd./Black Eagle Rd. At-grade intersections were modeled at the Emerson and 57th St. terminus points. Final location and alignment of a roadway will be determined through future study and analysis.

Test Run No. 16 Results:

- Northern Freeway Corridor - carries an ADT fluctuating between 2,250 and 2,550 west of the Old Havre Highway, and an ADT ranging from 5,950 to 6,900 to the east.
- Interstate 15 - between I-315 and the Central Ave. West Interchange (ADT decreased from 10,550 to 10,350)
- 6th St. Northwest – north of the Northwest Bypass (ADT increased from 1,100 to 1,350)
- Old Havre Highway – between Smelter Ave. and 15th St. Northeast (ADT increased from 10,900 to 12,550)
- 15th St. North – on the 15th St. Bridge (ADT decreased from 16,900 to 13,250)
- 57th St. North - north of 10th Ave. South (ADT increased from 8,600 to 9,450)
- Smelter Ave. – west of 10th St. Northwest (ADT decreased from 23,450 to 22,000)
- Northwest Bypass - between Watson Coulee Rd. and 9th St. Northwest (ADT decreased from 15,350 to 13,700)
- Central Ave. West – east of Interstate 15 (ADT decreased from 12,000 to 11,550)
- River Dr. – east of 15th St. North (ADT decreased from 13,000 to 8,100)
- 10th Ave. South - between Fox Farm Rd. and 2nd St. (ADT decreased from 32,150 to 31,850)

- 10th Ave. South - between 14th St. and 15th St. (ADT decreased from 36,150 to 36,000)
- 10th Ave. South - between 26th St. and 39th St. (ADT decreased from 27,200 to 26,700)
- 10th Ave. South - between 43rd St. and 57th St. (ADT decreased from 14,550 to 14,400)

System-wide reduction in traffic volume (from E+C) = -0.5% (represents a net increase)
System-wide reduction in VMT (from E+C) = -2.2% (represents a net increase)
System-wide reduction in VHT (from E+C) = 0.9%

TEST RUN NO. 17 included the following modifications to the E+C network:

For Test Run No. 17, a similarly aligned northern limited access urban arterial route was included in the network in place of the interstate facility modeled in Test Run No. 16. The new arterial was designed as a four-lane principal arterial facility, with at-grade intersections (as opposed to grade-separated interchanges) in locations identical to those described in the Test Run No. 16 model. In addition, at-grade intersections were included at the arterial route's intersections with the Bootlegger Trail and Watson Coulee Road. Final location and alignment of a roadway will be determined through future study and analysis.

Test Run No. 17 Results:

- Northern Arterial Corridor - carries an ADT ranging from 200 to 450, west of the Old Havre Highway, and an ADT ranging from 700 to 1,300 to the east.
- Interstate 15 - between I-315 and the Central Ave. West Interchange (ADT increased from 10,550 to 10,650)
- 6th St. Northwest – north of the Northwest Bypass (ADT increased from 1,100 to 1,200)
- Old Havre Highway – between Smelter Ave. and 15th St. Northeast (ADT decreased from 10,900 to 10,600)
- 15th St. North – on 15th St. Bridge (ADT decreased from 16,900 to 16,150)
- 57th St. North - north of 10th Ave. South (ADT remained at 8,600)
- Smelter Ave. – west of 10th St. Northwest (ADT decreased from 23,450 to 23,050)
- Northwest Bypass - between Watson Coulee Rd. and 9th St. Northwest (ADT decreased from 15,350 to 15,000)
- Central Ave. West – east of Interstate 15 (ADT decreased from 12,000 to 11,950)
- River Dr. – east of 15th St. North (ADT decreased from 13,000 to 12,150)
- 10th Ave. South - between Fox Farm Rd. and 2nd St. (ADT decreased from 32,150 to 32,100)
- 10th Ave. South - between 14th St. and 15th St. (ADT decreased from 36,150 to 36,050)

- 10th Ave. South - between 26th St. and 39th St. (ADT decreased from 27,200 to 27,100)
- 10th Ave. South - between 43rd St. and 57th St. (ADT decreased from 14,550 to 14,400)

System-wide reduction in traffic volume (from E+C) = 0.1%
System-wide reduction in VMT (from E+C) = -1.9% (represents a net increase)
System-wide reduction in VHT (from E+C) = -0.5%

TEST RUN NO. 18 included the following modifications to the E+C network:

The model for Test Run No. 18 was identical to that for Test Run No. 17, except that the urban arterial facility was modeled as a two-lane rural highway facility, instead of a four-lane urban arterial facility. Final location and alignment of a roadway will be determined through study and analysis.

Test Run No. 18 Results (model and resulting ADTs identical to those for Test Run No. 17):

- Northern Rural Corridor - carries an ADT ranging from 200 to 450 west of the Old Havre Highway, and an ADT ranging from 700 to 1,300 to the east
- Interstate 15 - between I-315 and the Central Ave. West Interchange (ADT increased from 10,550 to 10,650)
- 6th St. Northwest – north of the Northwest Bypass (ADT increased from 1,100 to 1,200)
- Old Havre Highway – between Smelter Ave. and 15th St. Northeast (ADT decreased from 10,900 to 10,600)
- 15th St. North – on the 15th St. Bridge (ADT decreased from 16,900 to 16,150)
- 57th St. North - north of 10th Ave. South (ADT remained at 8,600)
- Smelter Ave. – west of 10th St. Northwest (ADT decreased from 23,450 to 23,050)
- Northwest Bypass - between Watson Coulee Rd. and 9th St. Northwest (ADT decreased from 15,350 to 15,000)
- Central Ave. West – east of Interstate 15 (ADT decreased from 12,000 to 11,950)
- River Dr. – east of 15th St. North (ADT decreased from 13,000 to 12,150)
- 10th Ave. South - between Fox Farm Rd. and 2nd St. (ADT decreased from 32,150 to 32,100)
- 10th Ave. South - between 14th St. and 15th St. (ADT decreased from 36,150 to 36,050)
- 10th Ave. South - between 26th St. and 39th St. (ADT decreased from 27,200 to 27,100)
- 10th Ave. South - between 43rd St. and 57th St. (ADT decreased from 14,550 to 14,400)

System-wide reduction in traffic volume (from E+C) = 0.1%

System-wide reduction in VMT (from E+C) = -1.9% (represents a net increase)
System-wide reduction in VHT (from E+C) = -0.5% (represents a net increase)

TEST RUN NO. 19 included the following changes to the E+C Network:

- Modify the one-way couplet on 1st Avenue North & 2nd Avenue North (between 15th Street North and 38th Street North) to two-lane, two-way facilities.

Test Run No. 19 Results:

Downtown Street Grid

- 2nd Avenue North - east of 25th Street North (ADT increased by 4,000 vpd).
- 2nd Avenue North - west of 25th Street North (ADT increased by 4,000 vpd).
- 1st Avenue North - east of 25th Street North (ADT decreased by 2,100 vpd).
- 1st Avenue North - west of 25th Street North (ADT decreased by 1,000 to 2,000 vpd).
- Central Avenue – east of 25th Street North (ADT decreased by 1,600 vpd).
- Central Avenue – west of 25th Street North (ADT decreased by 1,800 vpd).
- North / South Streets (exhibited negligible changes in overall ADT volumes).

View Figure 3-6

View Figure 3-7

View Figure 3-8

View Figure 3-9

Chapter 4: Projected Traffic Conditions (2030)

This chapter of the Transportation Plan examines projected traffic conditions in the year 2030. The year 2030 is the extent of the planning horizon for this Transportation Plan. By using socio-economic and land use projections described earlier in **Chapter 3**, traffic conditions and traffic volumes can be predicted out to the planning horizon. Through this endeavor, potential future problems to the transportation system can be identified and corresponding solutions can be planned.

***Note on relevance of data*: Although the original horizon year for the projected conditions was 2025, staff review of socioeconomic conditions and traffic volumes in the study area resulted in a conclusion that, due to limited growth, the projections for 2025 are still relevant and should be used to represent 2030 traffic conditions.**

4.1 Projected Intersection Level of Service Calculations (2030)

Urban road systems are ultimately controlled by the function of its major intersections. Intersection congestion directly reduces the number of vehicles that can be accommodated during the hours of peak traffic, as well as 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 cannot be achieved with only improvements to the intersection, then a corridor expansion may be the most efficient solution. With that in mind, it is important to determine how well the major intersections are functioning by determining their Levels of Service (LOS). The LOS analyses used in this study were based upon parameters outlined in the Transportation Research Board's ***Highway Capacity Manual - Special Report 209 (HCM)***, and the ***Highway Capacity Software (HCS)***.

The LOS analysis evaluates the operation of the intersection and provides the results of the analysis using a grading system that ranges from LOS A to LOS F. The best grade is LOS A, which indicates smooth operation, no traffic congestion and ample reserve capacity. Grades of LOS B or LOS C are both considered acceptable with only a small amount of traffic congestion and moderate vehicle queue lengths. A grade of LOS D is the beginning of the unacceptable range. LOS D is an indication that, although the intersection continues to operate, it experiences traffic congestion and long vehicle queues. As traffic demand approaches or exceeds the available capacity, intersection failure occurs. This is indicated by a grade of LOS E. When the intersection fails, vehicles can no longer pass through the intersection during a single green phase of the signal cycle, resulting in extensive amounts of traffic congestion and long vehicle queues. LOS F is an indication of an over-saturated condition. When this occurs in several locations within an urban area, a condition commonly known as "grid-lock" usually occurs.

The LOS analyses of the existing conditions of major intersections in Great Falls are presented in **Chapter 7**. These analyses were completed by using traffic count data taken during the summer of 2002.

Projections for traffic volumes were made for 94 intersections on the major street network, which included all signalized intersections and a select few high-volume unsignalized intersections. These projections were based on growth rates and model runs for the year 2025, and have been determined to be accurate representations of projected conditions in the year 2030. This data was then used to determine the LOS for the intersections under anticipated peak hour conditions for future years. Using the current street layouts, lane-use configurations, and traffic control, combined with the projected traffic volumes, the analyses indicated that nine intersections will operate at LOS D, two at LOS E, and ten intersections will be over saturated at LOS F. The results of the analyses are presented in **Figure 4-1**. The results clearly show that several corridors will need to be expanded and many intersections will need to be upgraded and have high volume traffic control measures installed during the next 20 years.

The following intersections are projected to have a LOS D, E or F under future 2030 traffic conditions:

- Park Garden Road and Fox Farm Road (unsignalized)
- Fox Farm Road and 18th Avenue Southwest (unsignalized)
- 10th Avenue South / Fox Farm Road / 6th Street Southwest (signalized)
- 10th Avenue South and 2nd Street South (signalized)
- 10th Avenue South and 7th Street South (signalized)
- 10th Avenue South and 9th Street South (signalized)
- 10th Avenue South and 14th Street South (signalized)
- 10th Avenue South and 26th Street South (signalized)
- 10th Avenue South and 29th Street South (unsignalized)
- 10th Avenue South and 32nd Street South (signalized)
- 6th Street Southwest and 4th Avenue Southwest (unsignalized)
- 3rd Avenue South and 2nd Street South (unsignalized)
- 3rd Street Northwest and Central Avenue West (signalized)
- 1st Avenue North and River Drive (signalized)
- 3rd Street Northwest and 16th Avenue Northwest (unsignalized)
- Smelter Avenue and Division Road (unsignalized)
- Smelter Avenue and 10th Street Northeast (signalized)
- River Drive North and 15th Street North (signalized)
- River Drive North and 25th Street North (unsignalized)
- 15th Street Northeast and Wire Mill Road (unsignalized)
- 13th Avenue South and 9th Street South (unsignalized)

The intersections noted above account for 21 intersections out of the total 94 intersections examined. Correspondingly, 73 of the studied intersections are projected to have acceptable Levels of Service (i.e. LOS A, LOS B, or LOS C) out to the planning horizon of year 2030.

View Figure 4-1

4.2 Projected Corridor Facility Size versus Traffic Volume (2030)

Roadway capacity is of critical importance when looking at the growth of a community. As traffic volume increases, 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 or reconfigured 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 in **Section 4.1**, is a very critical element and can artificially limit lane capacity. The model discussed in **Chapter 3** assumed that intersections will not artificially limit corridor capacity. The approximate volume capacity of typical existing road segments was discussed in **Chapter 2**. **Table 7-8**, located on **page 7-10** in **Chapter 7**, shows a range of volumes for roadways developed in the future.

Table 7-8 is a capacity level which is appropriate for planning purposes in growth areas of 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 enhancing mechanisms listed above can provide for long-term cost savings and help maintain roads at a scale comfortable to the community.

Using the traffic model developed for this project, it was possible to determine projected traffics volume on all major roads within the study area. These roads were analyzed for the year 2005, year 2015 and year 2025 conditions to determine if the roads have adequate numbers of lanes for the traffic volumes. Planning staff review has determined these figures are still relevant, and can be used to represent projected conditions in the years 2010, 2020 and 2030, respectively.

Figures 3-3, 3-4 and 3-5 presented in **Chapter 3** show the projected traffic volumes for the various years within the study area. The best tool generated by the traffic model for comparing the future traffic volumes to the existing number of travel lanes on the major corridors is the volume to capacity ratio (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 4-1** shows “v/c ratios” and their corresponding roadway corridor “level-of-service” designations.

Table 4-1
V/C Ratios & LOS Designations

V/C Ratio	Description	Corridor LOS
< 0.59	Well Under Capacity	LOS A and B
> 0.60 – 0.79	Under Capacity	LOS C
> 0.80 – 0.99	At or Nearing Capacity	LOS D and E
> 1.00	Over Capacity	LOS F

An examination of the "v/c ratios" computed by the traffic model for the project, and as shown graphically on **Figures 4-2**, **4-3** and **4-4**, shows that the following facilities are either over capacity or are at or nearing capacity, and consequently are roadways that may be currently undersized:

Projected Year 2010

- 10th Avenue South, between 20th Street South and 26th Street South (Over Capacity).
- 10th Avenue South, between 6th Street Southwest and 2nd Street South (At or Near Capacity).
- 10th Avenue South, between 26th Street South and 33rd Street South (At or Near Capacity).

Projected Year 2020

- 10th Avenue South, between 20th Street South and 26th Street South (Over Capacity).
- 10th Avenue South, between 14th Street Southwest and 2nd Street South (At or Near Capacity).
- 10th Avenue South, between 11th Street South and 14th Street South (At or Near Capacity).
- 10th Avenue South, between 26th Street South and 35th Street South (At or Near Capacity).
- Fox Farm Road, between 18th Avenue Southwest and Alder Drive (At or Near Capacity).
- Gore Hill /I-15 interchange overpass structure (At or Near Capacity).

Projected Year 2030

- 10th Avenue South, between 20th Street South and 30th Street South (Over Capacity).
- 10th Avenue South, between 14th Street Southwest and 2nd Street South (Over Capacity).
- Gore Hill /I-15 interchange overpass structure (Over Capacity).
- 10th Avenue South, between 2nd Street South and 14th Street South (At or Near Capacity).
- 10th Avenue South, between I-15 exit and 14th Street Southwest (At or Near Capacity).
- 10th Avenue South, between 30th Street South and 38th Street Southwest (At or Near Capacity).
- Fox Farm Road, between 26th Avenue Southwest and Alder Drive (At or Near Capacity).

- 1st Avenue North, between River Drive and Park Drive (At or Near Capacity).

The above facilities are estimated to lack adequate lane capacity to handle the anticipated traffic extending out to the years 2010, 2020 and 2030.

View Figure 4-2

View Figure 4-3

View Figure 4-4

Chapter 5: Pedestrian, Bicycle and Transit Analysis

5.1 Introduction

Alternative modes of transportation to the private automobile are increasingly an important component of transportation planning. As population grows and the community expands, and the resulting impacts of more traffic become evident on the roadway network, it becomes necessary to expand the role of other transportation choices.

Bicyclists, pedestrians and transit riders comprise the majority of the community's alternative transportation modes and are system users with unique transportation needs and characteristics. These users, in concert with the more traditional vehicular travelers, form a transportation system commonly known as "multi-modal". Multi-modal travel characteristics are an important part of this Transportation Plan. Providing choices for the recreational and commuter traveler, and for those using alternate travel modes to fulfill their daily needs, improves the quality of living in a community and can ultimately relieve pressures on the transportation system. These "alternative" modes of travel can reduce the amount of vehicles on the roadway network, which benefits the entire community by reducing the need for capacity expansion projects, improves air quality, and reduces congestion and travel times.

As stated in **Chapter 1** of this Plan, this document strives to satisfy and incorporate the *Vision* defined for the community under past planning efforts. The *Vision* relies heavily on alternate modes of transportation, improvements to noise and air quality, and encouragement to use bicycling, walking and transit facilities. To reach this *Vision*, the following goals and strategies discussed in **Chapter 1** are restated below:

- Make transit and non-motorized modes of transportation viable alternatives to the private automobile for travel in and around the community.
- Provide transportation choices to the conventional automobile mode of travel through development and encouragement of public transit, on-street bicycle lanes, and off-street pedestrian/bicycle paths, with interconnection to area neighborhoods.
- Provide pedestrian and bikeway facilities and link them together when planning transportation system improvements and when reviewing land development proposals.
- Explore transit planning and development programs to aggressively market and promoting transit usage throughout the community.

This chapter of the Transportation Plan will examine the three primary alternative modes of transportation used in the Great Falls urban area; pedestrians, bicyclists, and transit riders. All three user groups have different travel patterns and different usages. They also have a mixed medium upon which they travel.

5.2 Pedestrian Analysis

Existing Sidewalk Network

The urban area pedestrian transportation system is comprised mainly of sidewalks adjoining the street network, with area trails also serving area pedestrians. In some cases, especially on low-volume rural roadways, the road surface itself serves pedestrian movements, although area transportation and land use professionals are working to provide separated facilities on new or reconstructed roadways, as well as in existing subdivisions where such facilities are lacking.

As a starting point to examining the adequacy of the existing sidewalk facilities in the community, an inventory of existing pedestrian infrastructure on the major roadway network was performed. The results of this data collection effort are contained in **Chapter 2** of this Transportation Plan. **Figure 2-16** identifies the presence or lack of sidewalks along the major street network.

Figure 2-16 can be used to help identify areas where improvements might be warranted when roadway reconstruction projects take place, or when sidewalk construction projects are contemplated. For example, **Figure 2-16** shows that the downtown Central Business District (CBD) has a complete sidewalk system, with sidewalks generally on both sides of a given street for full, continuous pedestrian movements throughout the district. However, when looking at other areas of the community, continuous pedestrian travel is not always possible. For instance, segments along 13th Avenue South have gaps in the sidewalk continuity that could be filled to provide a continuous sidewalk system. The same can be stated for many areas of the City, although recent projects have improved the sidewalks in a number of areas, especially near schools and along major arterials such as 3rd Avenue Northwest and 10th Avenue South.

The inventory of the existing sidewalk system is a useful tool to identify potential sidewalk system additions. It should be noted that many of the trails shown as part of the bikeway network also serve pedestrians, although the separated trails are not shown on **Figures 2-16**.

ADA Access

Another measure that enables transportation planners to look at the adequacy of an existing pedestrian system is the presence of wheelchair-accessible ramps along the sidewalk system. The presence of existing wheelchair accessible ramps was inventoried and is as shown on **Figure 2-17** in **Chapter 2**. This figure shows several intersections where wheelchair access ramp installation should be considered. The Central Business District (CBD) includes ramps at nearly all intersections, providing for full movement throughout the district. However, many of the area's major corridors and commercial areas do not have full access at all intersection corners. **Figure 2-17** should be used as a guide for identifying ADA access needs, and to prioritize new ADA ramp projects. The Figure should be used only as a guide, however, since some intersections do not have full sidewalks, or are "T" intersections where ramps on all sides are not appropriate. For example, there are some "T" intersections along busy corridors, where pedestrians should only cross at signalized intersections, and existing center raised medians prohibit street crossings. Any proposed project should include a full site investigation for a full scoping for appropriateness.

It should also be noted that many areas on **Figure 2-17** that show no wheelchair access ramps are along rural roadway sections (i.e. no sidewalk and/or curb & gutter is evident along the roadway). In circumstances like this, it is reasonable to expect no ramps are needed unless or until other upgrades occur. It is recommended that areas shown on **Figure 2-17** that do not have any wheelchair access ramps be evaluated for potential construction of ramps as funding and value to the system become known.

Transition Plans

The 1990 Americans with Disabilities Act (ADA) required all public organizations to adopt a Transition Plan identifying physical obstacles limiting access to programs, services and activities by persons with disabilities. Specifically, The ADA requires public agencies with more than 50 employees to make a transition plan. The transition plan must include a schedule for providing access features, including curb ramps for walkways. (28 CFR §35.150(d)(2)). The schedule should first provide for pedestrian access upgrades to State and local government offices and facilities, transportation, places of public accommodation, and employers, followed by walkways serving other areas. 28 CFR §35.150(d)(2). The transition plan should accomplish the following four tasks:

1. identify physical obstacles in the public agency's facilities that limit the accessibility of its programs or activities to individuals with disabilities;

2. describe in detail the methods that will be used to make the facilities accessible;

3. specify the schedule for taking the steps necessary to upgrade pedestrian access to meet ADA and Section 504 requirements in each year following the transition plan; and,

4. indicate the official responsible for implementation of the plan. (28 CFR §35.150(d)(3). (9-12-06))

While the City of Great Falls prepared and implemented a Transition Plan in the early and mid-1990s, there may have been no provision for public street accessibility (i.e., curb ramps) and other related improvements. Likewise, research has not produced a Cascade County Transition Plan relative to public streets.

ADA street network deficiencies (as related in **Chapter 2**) have been identified in the Urban Area on the major street network, and the City is currently implementing strategies for upgrade. However, this has not been documented in a Transition Plan. Cascade County, due to its rural nature, has very few such facilities. It is recommended that the

City of Great Falls document current deficiencies and its strategy for upgrading facilities, and that Cascade County also perform an analysis for compliance with ADA. Finally, it is recommended that MDT coordinate with local jurisdictions when updating its statewide Transition Plan.

Committed Project

A current, committed project, funded through the MACI program, includes ADA upgrades to intersections on urban routes, and is expected to be initiated in 2009 or 2010.

Proposed Improvements to Benefit Pedestrians

A variety of projects are being recommended in this Transportation Plan document to benefit pedestrian travel within the community. Some of these projects are already planned or being designed. Several funding scenarios are available to implement these projects, including those listed in the following section. Note that pedestrian facilities that are also shared with bicyclists are shown in the following section.

> Montana Air & Congestion Initiative (MACI) Sidewalk Program: The MACI program was instituted several years ago as a means to reduce air pollution directly attributable to vehicles within a community. Up until 1998, the City of Missoula was the only Montana city eligible to receive funding under this program. Under the Federal transportation bill known as TEA-21, the cities of Great Falls and Billings became eligible to participate in the MACI program. The program is administered through the Montana Department of Transportation (MDT). Approximately 14 locations throughout the city have been identified for sidewalk installation projects, mainly to "fill-in-the-gap" along an existing sidewalk corridor, with priority areas near schools. The majority of these locations will be completed in 2009, and these locations are not shown in this Plan, as they have been considered completed for the purposes of this Plan. However, this Plan recommends a continuation of the program, and identification of new priority projects for construction.

> Community Transportation Enhancement Program (CTEP): Each year, the City of Great Falls and Cascade County receive an allocation of Federal funds to be used on eligible activities. One of the eligible categories is "bicycle and pedestrian facilities", which includes sidewalks, trails, and related amenities and facilities. Both local entities have, in past years, used a portion of their allocations on pedestrian projects. One committed project is to construct a sidewalk along a portion of 23rd Street South. While this Plan does not identify every CTEP project, it does recognize the value of this program to fund necessary pedestrian projects.

5.3 Bicycle Analysis

Background / Existing Bikeway Network

Formal planning activities for a bikeway network in the Great Falls community officially began over twenty-five years ago in the fall of 1975. This first formal planning endeavor was a joint effort between the Great Falls City – County Planning Board and the former Citizens Involvement Committee – Bikeways Task Force. This joint planning effort culminated with the creation of a twenty year, comprehensive bikeway network of roughly 46 miles of bicycling facilities. The recommended network was devised to accommodate a multitude of special needs, notably recreational usages, home-to-work usages, proximity to shopping centers, and proximity to schools. The recommended network consisted of a system of bike paths, bike lanes, and bike routes. The information generated from this effort was bound under a document titled "The 1976 Bikeway Plan".

The 1976 Bikeway Plan document was approved, adopted and incorporated in the local Transportation Plan. Since the Plan's initial creation, the document has been periodically reviewed in conjunction with other planning efforts taking place within Great Falls. The most recent revision to the original bikeway plan occurred during May of 1996. The primary purposes for the review and subsequent revision were as follows:

- To identify completed bicycling facilities since the original Bikeway Plan.
- To delete inappropriate bicycling facilities from the Bikeway Plan.
- To recommend new bicycling facilities to reflect current opportunities & possibilities.
- To recommend an updated network of bicycling facilities.

After the original Bikeway Plan was reviewed and projects identified for deletion and/or addition, findings were issued under a document prepared by the Great Falls City – County Planning Board, in conjunction with the Local Trails Working Group, known as the Bikeway Facilities Technical Memorandum. This technical memorandum contained all known and applicable information on the "formal" bikeway network in the community and has been the most current planning document to date since its creation in May of 1996. As part of this transportation planning effort, the existing bikeway network map was first reviewed and updated to show bicycle facility projects that had been completed since 1996. This update was prepared graphically and is contained in **Figure 5-1**. After updating the existing bikeway network, a series of public meetings, as described earlier in **Chapter 1**, was held with the area bicycle users. As a result of the meetings, an updated Bikeway Network was created to provide for future bicycling opportunities and uses in the community.

Committed Bikeway Network Projects

Bikeway facility improvements identified as priorities in the 2003 Transportation Plan have been committed (priorities 1, 2 and 4) and are scheduled to be let for construction in 2009. The final identified priority (priority 3), improvements from the west end of Warden Bridge, has been approved for a CTEP project, and will begin design in 2009.

The three combined projects scheduled for construction in 2009 are as follows:

- 38th Street North/6th St SW Bridge Underpass/8th Ave N bike route signs: A separated bike path along 38th Street North, north of 10th Avenue North follows the west side of 38th Street North, along the easterly edge of the American Legion ballparks, crossing River Drive North at the signalized intersection, crossing the railroad tracks at the current River Drive North crossing and generally Giant Springs Road to tie into the existing River's Edge Trail. The project has been tied to two other bike facility improvements, including a "loop" trail taking bicyclists off the south end of the 6th Street SW Bridge, allowing them to go under the roadway using the river bridge crossing. Also, bike route signs will be installed on 8th Avenue North.

  Estimated Cost: $ 307,000 (MACI)

<u>Proposed Bikeway Network and System Improvements</u>

The projects described below and shown graphically on **Figure 5-3** are a direct result of the public participation process, interaction with various members of the Great Falls Planning staff and others involved with this project, and on the recommendations and experience of the traffic consultant preparing this Transportation Plan. The main goals of this updated network are to encourage expansion to the southwest portion of the community, improve crossing opportunities along major arterial corridors (such as 10th Avenue South), help create a grid system of bikeway facilities in the Central Business District (CBD), and improve access to the River's Edge Trail. The recommended projects for future needs of the bicycle system are listed below. Note that the estimated costs presented include only construction costs and not engineering, inspection, or right-of-way acquisition (if needed). Estimated costs are in year-of-expenditure dollars.

- BIKE-1. River's Edge Trail - South Loop: Complete the south loop of Rivers Edge Trail. Completed loop would extend from the end of Rivers Edge Trail at Garden Home Park along Bay Drive to the end of the trail at Overlook Drive and Warden Park. BIKE-1 is separated into 4 phases for scheduling and estimating purposes.

  - BIKE-1A – Bay Dr to 6th St SW – Construct 10' wide sidewalk from south end of Bay Drive separated trail along Huffman Ave to 3rd St SW. Cross 3rd St. SW and construct separated trail westward along existing utility easement to 6th St SW. Landowner approval required.

    Estimated Cost: $205,100
    (Source: Private; CTEP)

  - BIKE-1B. 6th St SW. Replace existing deteriorated asphalt bike trail along east side of 6th St SW between Country Club Boulevard/I-315 and RR crossing.

    Estimated Cost: $25,300
    (Source: Private; CTEP)

- BIKE-1C. Sun River Connection. Construct separated bike trail on north side of Country Club Boulevard between Fox Farm Road and Warden Bridge.

  Estimated Cost: $725,600
  (Source: Private; CTEP; Rec. Trails Grant)

- BIKE-1D. Construct separated bike trail from south end of existing River's Edge Trail at Overlook Drive and Warden Park, northeastward along the south shoulder of Overlook Drive to the intersection of 10th Avenue South. Cross 10th Ave S and 2nd St S at existing pedestrian crossings and connect to existing widened sidewalk on north side of 10th Ave S.

  Estimated Cost: $115,800
  (Source: Private; CTEP)

- BIKE-2. Riverview Connection: Provide Bike/Ped connection to River’s Edge Trail from Riverview neighborhoods. Bike facility would extend eastward from Riverview Elementary along Smelter Ave to 3rd Street NW where it would cross to connect to 4th St NE, which it would follow to River’s Edge Trail at West Bank Park.

  Estimated Cost: $130,400
  (Source: Private; CTEP; SRTS)

- BIKE-3. 36th Street and Fairway Drive: Designate a bike route beginning at the south end of the new 38th St Connection separated trail, extending westward 2 blocks along Fairway Drive and then extending south 20 blocks along 36th Street to 10th Avenue South.

  Estimated Cost: $15,500

- BIKE-4. 8th Avenue South Bike Route: Designate bike route on 8th Ave S to provide parallel route to 10th Ave South. Construct separated trail through Chowen Park and Dudley Anderson Park.

  Estimated Cost: $101,600

- BIKE-5. 2nd Street South: Designate a Bike Route along 2nd Street from 10th Avenue South to Gibson Park. Include Sharrow pavement markings along the route.

  Estimated Cost: $16,800

- BIKE-6. 4th Avenue North and 52nd Street: It is recommended that the bike route designation on 4th Avenue North, west of 38th Street North, be extended eastward to 52nd Street. The bicycle route designation should also be extended south on 52nd Street to the intersection with 2nd Avenue North. Included with this recommendation is to mark the area described with appropriate “bike route” designation signs.

Estimated Cost: $4,400

- BIKE-7. 11th Avenue South, 23rd Street South and 16th Avenue South: It is recommended that a new bicycle lane be designated on 11th Avenue South (between 39th Street South and 23rd Street South), 23rd Street South (between 11th Avenue South and 16th Avenue South), and on 16th Avenue South (between 23rd Street South and 20th Street South). This new facility will serve to provide bicycle commuter access to the large employment centers surrounding Benefis East, and provide a route south of 10th Avenue South. Again, it is recommended to mark the area described under this project with eight inch wide white paint lanes and appropriate "bike route" designation signs.

  Estimated Cost: $24,300

- BIKE-3. Fox Farm Connection: It is recommended that a new bicycle path connection be installed underneath the west end of the Warden Bridge. This path would begin at the east end of Meadowlark Drive, cross a private lot on a proposed easement, traverse along the south right-of-way of 10th Avenue South, pass underneath the west end of the Warden Bridge, then traverse back to the west to tie into the north side of 10th Avenue South and to the bike/pedestrian facility on the north side of the Warden Bridge. A private access easement may also be required.

  Estimated Cost: $169,000

- BIKE-9. Gore Hill Interchange Connection: Provide for a separated bike path connecting the Gore Hill interchange to the westerly end of Park Garden Road and southerly end of Marketplace Drive. This link would serve to enhance bicycling opportunities for future development around the airport area (including and especially residential subdivisions on Gore Hill), as well as extend the system to the southwest portion of the community. This trail has been proposed as part of subdivision proposals in the area, provided by the developer.

  Estimated Cost: $93,300

View Figure 5-2

View Figure 5-3

- BIKE-10. Park Garden Road (west of Fox Farm Road): It is recommended that a bicycle lane be designated on Park Garden Road from its intersection with Fox Farm Road west to the intersection with Marketplace Drive. This would involve the use of the existing at-grade crossing of the BNSF railroad grade. This link would ultimately tie into the recommended bike path extending up to the Gore Hill interchange.
  Estimated Cost: $ 11,200

- BIKE-11. 26th Street South, 24th Avenue South, 13th Street South, 23rd Avenue South and 9th Street South: It is recommended that a new bicycle lane be designated on 26th Street South (between 16th Avenue South and 24th Avenue South), 24th Avenue South (between 13th Street South and 26th Street South), 23rd Avenue South (between 9th Street South and 13th Street South) and on 9th Street South (between 17th Avenue South and 24th Avenue South). In addition, a short segment of 13th Street South (between 21st Avenue South and 24th Avenue South) is recommended for a new bicycle lane designation. The existing roadways are fairly narrow for this purpose, and as such any bicycle facility built here in the future would have to be on a newly widened shoulder. This is a long-range project, recommended for implementation as development occurs to this outlying area.
  Estimated Cost: $ 29,700

- BIKE-12. Central Avenue West (between 34th Street Northwest and the I-15 interchange): Provide for a bicycle facility along this corridor. Widen the paved shoulders to allow striping a bicyce lane along the edge of the travel lanes. Adequate right-of-way exists throughout this corridor, and this improvement could extend westerly to connect with the Sun River dike trail currently planned for in the bicycle network. This improvement also could be done in conjunction with a roadway reconstruction/upgrade project.
  Estimated Cost: $ 412,500

- BIKE-13. 13th Avenue South: It is recommended that a bike route be designated for the extension of 13th Avenue South between 4th Street South and 9th Street South. This project would provide continuity along 13th Avenue South to the west. A short segment of this route would be on 7th Street South. A connection through Warden Park, between Overlook Drive and 4th Street South, is in place but needs asphalt surfacing.
  Estimated Cost: $ 38,200

- BIKE-14. 13th Avenue Southwest and 13th Avenue Southwest: Designate a bike route along 13th Avenue SW (west of 6th ST SW) and 14th ST SW to Park Garden Rd.
  Estimated Cost: $ 6,600

- BIKE-15. 36th Avenue Northeast (west of 9th Street Northeast): This portion of 36th Avenue Northeast is recommended for addition to the official "bicycle route" for the community. The area has undergone substantial development in recent years, and will continue to do so. A wide roadway, the proximity of an already designated bike route (9th Street Northeast), and the presence of a school near the west end of the roadway make this a desirable addition. It is recommended the route be extended westerly to the intersection of 6th Street Northwest (once that roadway facility is constructed), as well as extending a marked bicycle lane south on 6th Street Northwest to its intersection with Smelter Avenue.

Estimated Cost: $ 21,200

- BIKE-16. 67th Street North: Extend connection from River's Edge Trail at the Rainbow Dam Overlook south and southeasterly towards Malmstrom Air Force Base on a separated trail. Follow old roadbed initially and then parallel Giant Springs Road/67th Street North to intersection with 18th Avenue North.

  Estimated Cost: $ 237,100

- BIKE-17. Upper River Road, 19th Avenue South and 17th Avenue South: Widen shoulders and designate a bike lane along Upper River Road (just south of Overlook Drive) extending south to 19th Avenue South, then east along 19th Avenue South, north to 17th Avenue South and then east on 17th Avenue South to the intersection with 4th Street South. This could be done in conjunction with a roadway improvement project.

  Estimated Cost: $ 277,000

- BIKE-18. 14th Street North, 15th Street North, and 12th Avenue North: Designate a bike lane along 14th Street North and 15th Street North (north of 8th Avenue North) to 12th Avenue North. Also on 12th Avenue North, east of 15th Street North, to the River's Edge Trail. This route is presently being used to some extent by area bicyclists. This project would provide another access to the River's Edge Trail.

  Estimated Cost: $ 129,900

- BIKE-19. 36th Avenue NE, 15th Street NE: Designate a bike route from 36th Ave NE and 9th St NE, east along 36th Ave NE, south along 15th St NE to separated trail at Railroad Ave.

  Estimated Cost: $ 11,600

- BIKE-20. Lower River Road: Construct separated trail from existing River's Edge Trail at Overlook Drive, south along Lower River Rd until it narrows, then transition to bike lanes with a widened shoulder and end at around 24th Ave S.

  Estimated Cost: $ 333,800

- BIKE-21. Bike racks in Central Business District (CBD): It is recommended that bike racks be installed within the limits of the CBD to the greatest extent possible. Some racks are already evident, but the presence of more racks per block may encourage more bicycle usage in the downtown area.

  Estimated Cost: $ 10,000 (BID)

- BIKE-22. Inventory and Modify Signing and Pavement Markings on Bicycle Facilities: A common theme noted at the various public meetings, over the course of the project, has been the lack of adequate pavement markings delineating bicycle facilities and the lack of actual signs marking the various facilities. Questions ranged from why designated bicycle routes weren't marked on the asphalt, to why 6th Street Southwest does not have a painted bike lane with symbols and words. A recommendation would be to update signing and pavement markings as funding becomes available and as appropriate. High volume bicycle routes should receive priority over less used facilities.

Estimated Cost: Unknown

- BIKE-23. Bicycle Education Program: It is advised to create a bicycle education program with an educational brochure and possible bicycle group involvement with the schools. The brochure would be utilized to discuss the different types of bicycling facilities in the community, and the laws and regulations pertinent to vehicular traffic and bicycling concerns. Special consideration should be given to educating bicyclists about the benefits of helmet usage. The intended audience would be the schools, the Malmstrom Air Force Base, and any others deemed appropriate.

  Estimated Cost: $ 10,000 (SRTS)

- BIKE-24. Sun River Dike Trail: This path is defined in the bicycle network. An agreement should be reached with the "West Great Falls Flood Control and Drainage District" regarding access easements. In conjunction with working with the District to provide access easements and better signing, the opportunity exists for one or two parking lots and interpretive displays at access points along the dike.

  Estimated Cost: Unknown
  (included as an illustrative project)

TOTAL BIKEWAY NETWORK AND SYSTEM PROJECTS = $3,462,900

Fiscal Constraint

Even though specific funds have not been identified for many of the proposed projects, past success in receiving Community Transportation Enhancement Program (CTEP) funds for trail projects have shown that, traditionally, approximately half of the yearly allocations have been available for trail projects. Because the estimated CTEP allocations until 2030 are projected to be $6.8 million, excluding local match (13.42%), it is assumed that there will be enough funds available over the life of the plan to fund the recommend project list (the total of which is estimated at approximately half of the 20-year CTEP Federal amount).

In addition, the following projects are considered fundable, based upon current funding commitments and availability of CTEP funds in the near future:

Project I.D.	Estimated Cost*	Funding Sources
BIKE-1A	$205,1000	CTEP; Private
BIKE-1B	$25,300	CTEP; Private
BIKE-1C	$725,600	CTEP; Private; Rec Trails Grant
BIKE-1D	$115,800	CTEP; Private
BIKE-2	$130,400	CTEP; SRTS; Private

* In anticipated year-of-expenditure

Further projects are fundable with traditional funding sources (CTEP, MACI, PRIVATE, STP, Recreational Trails Grant, Safe Routes to School, etc.), but funding cannot be guaranteed at this time. Funding should be assigned on a case-by-case basis as funding opportunities arise.

5.4 Transit Analysis

History of Existing Transit System

The history of the existing public transit system in Great Falls goes back to 1978 when, by voter referendum, the establishment of a Transit District was approved. The purpose of the Transit District is to provide an alternative form of transportation to residents of the City of Great Falls. Funding for the district is provided by a combination of fare collections, property tax revenue, and Federal funds. (including a yearly transfer of air quality improvement funds from the MACI program). Passenger service within the transit district commenced in February, 1982.

Since the creation of the Great Falls Transit District, a variety of studies and plans have been created to assist the District with operations, and specific measures to improve financial sustainability and customer needs were identified. Several component studies were undertaken as part of a larger "Transit Development Plan (TDP)" completed by Nelson\Nygaard Consultants between 1998 and 2000. Much of the existing and proposed information presented herein relies heavily on the TDP prepared and completed by Nelson\Nygaard Consultants. This plan contained three volumes of information:

- Volume 1: Existing Conditions
  This portion of the TDP offered a detailed analysis of ridership characteristics and other key planning information for the system as it existed in 1998. The work effort included a ridership count by stop location and by trip, as well as data from an on-board questionnaire.

- Volume 2: Partial Service and Implementation Plans
  This volume laid out the proposed 1999 restructuring of the District's management and operations, and included a large public involvement component.

- Volume 3: Year 2000 Service Initiatives and 1999 Review
  This final volume of the TDP brought the Plan up-to-date through January 2000, and essentially served to summarize all needed recommendations for the Great Falls Transit District Transit Development Plan. The primary elements of this volume were a service analysis to identify areas of service design improvement coupled with recommendations for capital improvements and marketing initiatives.

Existing Transit System

Currently, the Great Falls Transit District operates seven lines on weekdays with hourly service. Six of these lines also operate every 30 minutes during the peak hours (6:30 a.m. to 9:30 a.m. and 2:30 p.m. to 6:30 p.m.). This allows for extensive coverage during both school hour and commuter business hour travel times. Saturday service was eliminated in July of 2008, due to increased operating costs and shortfalls in funding. The service will be reinstated upon obtaining adequate funding. There is no transit service provided on Sundays.

The seven lines radiate from a timed-transfer point downtown at 1st Avenue South and 4th Street (referred to as the Downtown Timed Transfer Hub). Lines one through four also make timed connections at 57th Street South and 3rd Avenue South (called the East End Timed Transfer Hub). To reduce the need for transferring, six of the eight lines operate as through-routed pairs. For example, buses from Line 1 continue onto Line 2 and vice versa, so that one could ride from 35th Street and Central Avenue to Holiday Village Shopping Center on 10th Avenue South without transferring. Lines 3 and 4 also operate as a pair, as do lines 5 and 6.

A short description of the seven transit lines shown on **Figure 5-3**, along with their primary service market and basic ridership characteristics, are as follows:

Line 1 (Southeast): this route serves various medical facilities, shopping destinations, lower and higher educational facilities, and residential areas. The presence of all these components makes Line 1 the strongest line in the Great Falls system. Line 1 achieves this performance despite being very slow and circuitous. This line snakes its way through the area on minor streets, rather than running straight along an east – west roadway route. Line 1 gets relatively strong ridership all day, without a significantly strong morning or evening peak.

Line 2 (Central): this route serves Central Avenue from the Central Business District (CBD) to 44th Street, then turns south and east along 3rd Avenue South to the East End Timed Transfer Hub, where buses turn around and become Line 1. Line 2 serves numerous public and private schools, some commercial areas, and extensive residential areas. This line's high demand areas occur mostly around the schools on Central Avenue. Line 2 is comparatively consistent in its productivity throughout its entire length, with boardings occurring along the entire route, with primary focus centered on the various adjacent schools.

Line 3 (North Central): this route primarily runs along 8th Avenue North and has consistently low ridership when compared to the boardings of Lines 1 and 2. Line 3 runs adjacent to residential areas, a few small commercial centers, and services the Malmstrom Air Force Base. Ridership is generally low along the entire route, with the exception of each end. Line 3 is the only line that has a significant morning and evening peak at typical work-commute hours, with virtually no school hour peak.

Line 4: (South Central): Line 4 has rather high boarding counts between the CBD and 20th Street South. Daily activity is strongest in the early morning and mid-afternoon. These times correspond with school arrivals and releases. Additionally, there is a slight peak in the late evening, including some commuter traffic.

Line 5 (Northwest): Line 5 has high boardings around CM Russell High School, and in the older west side neighborhood around 3rd Avenue Northwest and 14th Street Northwest. Except for these two areas, each end of the line and Central Avenue West are the only areas of any significant activity. Ridership peaks in the early morning and in the mid-afternoon, corresponding to the beginning and end of school.

Line 6 (Northeast): Ridership on Line 6 occurs primarily at a few locations: the transit center, North Middle School and Wal-Mart. There are also a number of boardings around the node of commercial land uses at the intersection of 10th Avenue North and 14th Street North, which includes the Great Falls Transition Center. Daily activity on Line 6 is greatest in the morning and in the mid-afternoon, corresponding with school hours.

Line 7 (Southwest): This route serves a mostly residential area with the Marketplace Shopping Center located at the end of the line. Ridership has significantly increased during the last couple of years. This is the only route which runs on an hourly basis. There are no significant peaks during the day on Line 7.

The current transit rate schedule is shown as **Table 5-1**.

Table 5-1 – Transit Rate Schedule (2008)

Fare / Pass Type	Rate
Fare:	
Regular Fare	$ 1.00
Student Fare	$ 0.75
Senior Citizen & Disabled	$ 0.50
Children (5 yrs & under)	Free
Paratransit Service Clients	Free (with I.D.)
Passes:	
Regular Punch Pass (11 rides)	$ 10.00
Student Punch Pass (15 rides)	$ 10.00
Senior Citizen & Disabled Punch Pass (21 rides)	$ 10.00
Regular Monthly Pass	$ 30.00
Student Monthly Pass	$ 25.00
Senior Citizen & Disabled Monthly Pass	$ 21.00
Day Pass (Unlimited rides for one day)	$ 4.00

Existing Transit Goals

One of the immediate goals of the Great Falls Transit District will be to work towards implementation of the remaining, unimplemented service design changes recommended in the current Transit Development Plan completed by Nelson\Nygaard Consultants. Another immediate goal is to reinstate the Saturday service, which was cut in July of 2008. Local government should continue to support the Transit District to the greatest extent possible. In some cases, this may be in the form of requirements that a new development provide some sort of infrastructure compatible with transit facility usage. It may also mean expansion of Transit District boundaries as development occurs around the perimeter of the community. The four basic goals that govern the day-to-day operation of the system, and which were presented in previous study efforts, are as follows:

- Resolve running time and reliability problems;

- Improve ridership using the existing resources available;
- Respond to Transit District Board desires regarding new service; and
- Minimize disruption for existing riders.

Planned, Committed Route Improvements

As of this writing of the Transportation Plan document, there are only three planned, committed improvements known for the transit operations. All three involve modifications to the existing routes serving the community. Although many changes were identified and recommended as part of the previously mentioned Transit Development Plan, inadequate funding and unavailable personnel dictate that these items be placed on hold (they are described in greater detail in the following section of this Chapter). The three known and committed route changes are as shown on **Figure 5-4**.

Paratransit Operations

There are a number of paratransit operators that provide an alternative transit mode of travel to system users in the community. First and foremost is the paratransit known as the "Access Transportation Service", which is the ADA paratransit service provided by Great Falls Transit. The service is restricted to eligible registrants based on a functional assessment administered by the Great Falls Transit staff. The service is provided "in house" using GFTD employees and vehicles.

In addition to the service provided by the GFTD, there are several retirement developments that provide service to residents of the various retirement facilities. Some of the facilities that are served by Aging Services are The Lodge, Cambridge Court, Cambridge Place, and Rainbow Retirement Center.

Inter-City Transit

Finally, more traditional intercity bus service is available in the Great Falls community via Greyhound Bus Lines and Rimrock Trailways, via the route to Butte which connects to other intercity service. The Northern Transit Interlocal provides service between Great Falls and Shelby. The service was established in 2008.

View Figure 5-4

View Figure 5-5

Identified Transit Needs

The Transit Development Plan prepared as a part of past planning efforts identified several service design needs that were recommended for implementation. These needs are very valid and still warranted. The Great Falls Transit District plans to eventually implement the recommendations below upon realization of improved funding mechanisms.

Needs identified by the Transit District are as follows:

Consistent All-Day Schedule Pattern: one need identified during prior planning efforts was that of "timed-transfer" system. A timed-transfer system is one in which a service pattern is recognized that allows for the consistent and uniform scheduling pattern to move users throughout the day. The schedule is set up to optimize the operation of the transit system itself, and is not necessarily the most convenient schedule for the users of the system. The system provides for a consistent schedule at known times throughout the day (for example buses leave every :17 and :47 minutes after the hour), as well as providing a known down time at transfer points (say every 5 minutes). Currently, the transit system does not operate on a "timed-transfer" system, but rather operates on a system of coordinated schedules where all buses converge downtown every hour, and in some cases every half hour.

Evening and Weekend Service Demand: another need that has been identified, but not addressed, is that of longer service into the evenings and increased weekend service. Requests for these services changes have been made historically from the users of the system. Many businesses in Great Falls stay open into the evening, long after the transit service has shut down. Although extension of service longer in the evenings and into the weekend is a worthy endeavor, the TDP suggests this issue be deferred until more urgent priorities and fiscal constraints are eliminated.

Further Redesign Options: there are a variety of service redesign options recommended in the TDP prepared in May, 2000. It is clearly stated that any redesigns must address clearly identified problems. Suggestions were made for improving ridership and operations on Routes 1, 4 and 7. They are not reiterated in this document. The concluding statement on this identified need was that the Great Falls Transit should continue to operate the present network and conduct a new study of ridership by stop before any service route changes are made.

Fixed Stops: the need to go to a "fixed stop" system exclusively was identified as a beneficial improvement over the current system. Currently, the system operates on a combination of fixed stops and flag stops, whereby passengers can hail a bus at any safe location. Flag stop systems are common in smaller communities, and they have obvious advantages to the regular rider, but they also can present safety problems. A fixed stop system eliminates most of the inherent problems.

Marketing and System Image: it was suggested that the Great Falls Transit become more visible in the community through an extensive marketing program. This could serve to increase ridership on the system and present a more modern system image. Some of the suggestions contained in the TDP include advertising at fixed stops, providing electric overhead signs at the next fleet replacement for each bus, re-evaluation of advertising "bus wraps" on the buses, and an enhanced electronic brochure of the system and costs.

Rolling Stock Capital Needs: The GFTD operates with a fleet of twenty buses on the Fixed Route side and nine minivans on the Paratransit side of the operation. Thirteen buses are 1991 35' Gillig Phantom models, which have a useful life of 12 years. 2009 marks the beginning of the 18th year these buses have been in service. Four buses are 1999 25' Bluebird Transhuttle models, which have a useful life of 7 years. 2009 marks the beginning of the 10th year these buses have been in service. Finally, four buses are 2003 35' Gillig Lowfloor models, which have a useful life of 12 years. 2009 marks the beginning of the 6th year these buses have been in service.

Federal funding has been earmarked by Congress for two new buses that will replace two of the 1991 Gillig Phantom buses. These new buses will be 2009 30' Gillig Lowfloor models with a 12-year useful lifespan.

This leaves fifteen buses in need of replacement. At a 2008 cost of $320,000 each, $5,120,000 is needed to accomplish this replacement, and the cost will continue to rise.

Five Paratransit vans are 2003 Chevrolet Venture vans, which were converted for Paratransit use by the Braun Corporation and have a useful life of seven years or 100,000 miles. All five have reached, or will reach in early 2009, the 100,000 mile threshold. It will cost $200,000 to replace these vans, at 2008 prices.

Four Paratransit vans are 2005 Chevrolet Venture vans, which were converted for Paratransit use by the Braun Corporation and have a useful life of 7 years or 100,000 miles. All four have approximately 50,000 miles on them and will reach the end of their useful life in early 2011.

As of December of 2008, the only means of replacement of rolling stock has been through Congressional Earmarks. While Federal operating funds are eligible for capital use, the GFTD has been unable to meet the growing need for operating funding. This makes using operating dollars for capital vehicle replacement an unlikely scenario. Finding a long-term solution to capital needs must be a priority of the Transit District.

Federal economic recovery efforts and actions should be investigated for possible sources of funding capital needs.

Operating Needs: As fuel and other operating costs rise, and as area development and growth occurs and transits routes expand, further sources for operating funding should be investigated. Additional Federal funds, in the form of transportation funding authorizing bills, special appropriations or Federal economic stimulus efforts, should be pursued.

Additional local funding options such as expansion of the Transit District boundaries should also be explored.

Committed Transit Projects

The Transit District has secured an appropriation for the purchase of two new buses and construction of a new vehicle wash system, in the amount of $787,920. This amount includes $656,600 in federal funds (80%), matched with $131,320 in local funds (20%). The buses and wash system are expected to cost $794,317.50. Any cost above the earmark will be provided by the Transit District.

Operating support through the MACI program has been relied upon since the passage of SAFETEA-LU. A yearly transfer of $450,000 ($562,500, with local match) has occurred. While this support cannot be guaranteed, a transfer of a like amount through the end of the planning horizon has been assumed in this Plan.

With the approval of the local transportation planning process, this support may continue. However, it should not be relied upon as a guaranteed source of operating revenue.

Chapter 6: Security

As a result of the “9-11” terrorist attacks, as well as recent destructive hurricanes Katrina and Rita, concern about national security has become prevalent in many areas of American society, including government. This heightened interest resulted in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) of 2005 and its subsequent transportation planning provisions including a requirement for “security” to be incorporated into Transportation Plans.

6.1 Definition

“Security” means different things in different contexts. In the context of transportation planning, the Federal Highway Administration provides the following definition:

TRANSPORTATION SECURITY is “...the freedom from intentional harm and tampering that affects both motorized and nonmotorized travelers, and may also include natural disasters. Security goes beyond safety and includes the planning to prevent, manage, or respond to threats of a region and its transportation system and users.” (*Source: The Transportation Planning Process: Key Issues - A Briefing Book for Transportation Decisionmakers, Officials, and Staff, updated September 2007- Publication Number: FHWA-HEP-07-039)*

In other words, the safety of transportation users from intentional harm and their ability to use transportation systems in the event of an emergency are key elements in the consideration of transportation security.

6.2 Coordination and Consultation

Local entities responsible for developing and implementing security (including response to natural disasters) were contacted and their plans consulted in the development of this chapter, including the Great Falls Fire & Rescue Department, the Great Falls Transit District and Cascade County Disaster and Emergency Services. In addition, the Department of Homeland Security and its Transportation Security Administration were consulted through information provided on their respective websites. Finally, the Transportation Research Board’s report, “Incorporating Security into the Transportation Planning Process” (2005) and the Codified Federal Register’s guidance on Metropolitan Transportation Planning and Programming were also reviewed.

6.3 Terrorism Attacks on the Transportation System

A transportation user has a reasonable expectation to use the transportation system safely. However, worldwide, terrorists have used public transportation as a target for attacks. Subways have been high-profile targets of terrorist attacks, and bus and roadside bombings have occurred in many countries. Airplanes have been targets of terrorist hijackers for decades. Such targets in the United States, however, have been few, and what attempts that have taken place have been concentrated in major metropolitan areas where populations are larger and denser, and where public transportation is more prevalent than in the Great Falls area.

The potential for attacks on roadways exists, especially at critical links in the road system – bridges, tollgates, major intersections, etc. Terrorists are attempting to make an impact, and disruptive, damaging and high-profile attacks tend to drive the selection of targets.

In the wake of recent natural disasters, such as hurricane Katrina, the White House expanded its definition of "Homeland Security" to include "...acknowledging that while we must continue to focus on the persistent and evolving terrorist threat, we also must recognize that certain non-terrorist events that reach catastrophic levels can have significant implications for homeland security."

The White House's *National Strategy for Homeland Security*, as updated October 9, 2007, includes a number of goals that could be applied to transportation. According to the Federal Homeland Security's website, "the *Strategy* provides a common framework through which our entire Nation – Federal, State, local, and Tribal governments, the private and non-profit sectors, communities, and individual citizens – should focus its homeland security efforts on the following four goals:

1. Prevent and disrupt terrorist attacks To prevent and disrupt terrorist attacks in the United States, we are working to deny terrorists and terrorist-related weapons and materials entry into our country and across all international borders, disrupt terrorists' ability to operate within our borders, and prevent the emergence of violent Islamic radicalization in order to deny terrorists future recruits and to defeat homegrown extremism.

2. Protect the American people, our critical infrastructure, and key resources. To protect the lives and livelihoods of the American people, we must undertake measures to deter the threat of terrorism, mitigate the Nation's vulnerability to acts of terror and the full range of man-made and natural catastrophes, and minimize the consequences of an attack or disaster should it occur.

3. Respond to and recover from incidents that do occur. To save lives, mitigate suffering, and protect property in future catastrophes, we must strengthen the foundation of an effective, coordinated response. This includes clarifying roles and responsibilities across all levels of government and the private and non-profit sectors. We must also focus on ensuring we have the operational capabilities and flexibility necessary to facilitate both short-term recovery and an effective transition to long-term rebuilding and revitalization efforts.

4. Continue to strengthen the foundation to ensure our long-term success. To fulfill these responsibilities over the long term, we will continue to strengthen the principles, systems, structures, and institutions that cut across the homeland security enterprise and support our activities to secure the Homeland. Ultimately, this will help ensure the success of our *Strategy* to secure the Nation.

While the goals are general, they frame the basic intent of Homeland Security, and define the policy at a national level. The Transportation Security Administration is the agency charged with implementing transportation security throughout the country, with an emphasis on air traveler security. In addition, according to its website, “TSA's Office of Transportation Sector Network Management leads the unified national effort to protect and secure our nation's intermodal transportation systems... The Office of Transportation Sector Network Management developed and is in the process of executing, a strategy to ensure effective, efficient, and standardized operations within and among transportation modes.”

The Office’s website also refers to a document titled, “Transportation Systems Sector Specific Plan”, and has links to various “Modal Annex Plans”, which are subsets of the overall Plan. One of interest to surface transportation is the “Highway Infrastructure and Motor Carrier Modal Annex”. That document, along with those of other modes, can be found at http://www.tsa.gov/what_we_do/tsnm/index.shtm for a more detailed review.

6.4 Emergency Evacuation Plans and Routes

Traditionally, emergency transportation has been a consideration of transportation planning. This includes the safe and efficient movement of emergency response vehicles (i.e., police, fire, ambulance and sheriff vehicles). However, in the case of natural or man-made disasters, transportation routes must also consider the safe, efficient and effective movement of people from one area of a community to another. Examples of such movements would be mass evacuations that may be needed in the event of a flood, an explosion at an oil refinery, or terrorist attack at Malmstrom Air Force Base.

These evacuation plans are typically addressed in community Emergency Preparedness Plans. The City of Great Falls has recently hired an Emergency Preparedness Officer to assist in the preparation of an Emergency Preparedness Plan. Currently, emergency response actions are guided by the Cascade County Emergency Operations Plan, last updated by the Cascade County Disaster and Emergency Services department in November of 2003.

The City of Great Falls has initiated efforts to prepare an Emergency Response Plan for its jurisdiction. Currently, Cascade County has a plan that covers the entire county, including the incorporated communities within its boundaries. The current Cascade County plan has an Annex titled, “Weapons of Mass Destruction/Terrorism”, which makes passing reference to potential terrorist attacks on the transportation system, and provides an incident response plan. However, no evacuation plan is provided, since specific scenarios are not discussed in detail.

The most current version of the Cascade County Emergency Response Plan is incorporated by reference into this Chapter. Upon completion of the Great Falls Emergency Response Plan, it will also be considered a part of this Chapter.

6.5 Transit, Rail and Air Transportation Security

While the security of all modes of transportation is a concern, security of transit is addressed locally by the Great Falls Transit District; security of rail transportation by the Burlington Northern-Santa Fe Railroad (BNSF); and, security of air travel is addressed by the Great Falls International Airport. Similarly, security at the Montana Air National Guard and Malmstrom Air Force Base is the responsibility of the respective military units. No attempt is made under this plan to supersede these efforts, nor is there a need to replicate the work that has been done by the above referenced entities. Those interested in learning more may reference the Great Falls Transit District's document titled, "System Security and Emergency Preparedness Plan" for information on transit/bus security information. The Great Falls International Airport or the Transportation Security Administration should be contacted directly for air transportation security information, BNSF for railroad security, and the MANG and USAF for the military installation security.

6.6 Recommendations

As agencies charged with security develop new and expand existing emergency response plans, and as surface transportation system operators begin to look at security, the following recommendations should be considered:

- Large scale events should have evacuation plans. Inclusion of such plans should be encouraged in such event planning.
- As owners of the local transportation system (such as BNSF Railroad, Montana Department of Transportation, City of Great Falls and Cascade County) identify specific structures, facilities or other elements of the transportation system that are at high risk of attack, steps should be taken in a timely manner to make them secure.
- During the preparation of the City of Great Falls' emergency response plan, large scale evacuation plans should be considered. Such plans could include recommendations for:
    - coordinated signals during the evacuation.
    - identified evacuation routes away from "high-risk areas" or key transportation facilities. Examples may include the petroleum refinery, major bridges, rivers, Malmstrom Air Force Base, Great Falls International Airport and Air National Guard, etc.
    - Detour plans and other alternate routes should also be generally identified.
    - Long-term detours in the event of a major failure (i.e., bridge collapse) or catastrophic event (i.e., destructive flood) should also be identified.
    - Coordination with Cascade County for those areas surrounding the City Limits. Such areas could include the west side near the Sun River; Fox Farm Road area south of the City; Gibson Flats; Black Eagle; County lands between the City and Malmstrom Air Force Base; etc.)
- Above items recommended for the Great Falls emergency response plan should also be included in any update of the Cascade County emergency response plan.
- Any security measures contemplated for implementation should take into full account the privacy of the transportation user and make every attempt to preserve their privacy, while still providing a safe, secure transportation system.

The above recommendations should be forwarded to the appropriate implementing agencies for consideration.

6.7 Conclusion

The security of our local transportation network relies on the individual and cooperative efforts of numerous public agencies and private entities. The public agencies range from Federal to local, and the private entities from national corporations to private individuals. Each has an interest in the security of the transportation system, whether it is a property interest, legislative mandate, corporate directive, or something as basic as a desire for personal safety.

In short, the security of the surface transportation system relies on each interested party doing its part to prevent and prepare for an incident, and all parties coming together in times of crisis. Each agency with an interest must begin to identify how to 1) prevent security failures and 2) deal efficiently and effectively when security incidents occur.

6.8 On-Line Transportation Security Resources

Strategies for addressing security in surface transportation are currently evolving, with new methods being developed as studies are completed around the nation. A short list of links to the most relevant websites is provided below to help security practitioners to better frame the issue, to plan and to prepare.

Emergency Transportation Operations (FHWA)
http://www.ops.fhwa.dot.gov/OpsSecurity/

Emergency Transportation Operations Planning Documents (FHWA) – provides links to a number of documents relating to operations (mainly during emergency events). A few examples include:

- *Managing Pedestrians During Evacuation of Metropolitan Areas*
- *Using Highways During Evacuation Operations for Events with Advance Notice*
- *Final Report for the Application of Technology to Transportation Operations in Biohazard Situations*
- *Simplified Guide to the Incident Command System for Transportation Professionals*

http://www.ops.fhwa.dot.gov/opssecurity/evac_plan_doc_flyer/index.htm

Transportation Sector Network Management (Transportation Security Administration) – Includes a link to the *Transportation Systems Sector Specific Plan* that includes, among other modes, a Highway, a Freight Rail and a Transit Modal Plan.

Surface Transportation Security (Transportation Research Board of the National Academies) – Provides links to a number of relevant reports and websites.
http://www.trb.org/Activities/Security/TransportationSecurity3.asp

Chapter 7: Safety

Safety is a primary consideration when considering improvements to the transportation system. Improving congestion, level of service at intersections, repairing deteriorating roadways, building new sidewalks and installing bicycle lanes are all examples of improvements to the system that benefit the safety of the users. Many of these topics are dealt with in other chapters of this Plan; however, it is worth considering safety-specific issues as a stand-alone chapter. To that end, this chapter of the Transportation Plan reviews safety issues, identifies areas where improvements could reduce hazards and increase the safety of the transportation system, and reviews non-infrastructure efforts (i.e., behavioral oriented programs) that could improve the safety of the transportation system. The deficiencies may fall into one or more of the following categories:

- Intersection Level of Service;
- Signal warrant analysis;
- Corridor Level of Service;
- Crash analysis;
- Pedestrian and bicycle opportunities;
- Truck traffic; and,
- Safety Programs

7.1 Intersection Level 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 expense of road construction projects, a careful analysis must be made of the expected service life from intersection-only improvements. If adequate service life can't 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).

In order to calculate the LOS, 94 intersections on the major street network were counted during the summer of 2002. These intersections included all signalized intersections and a select few high-volume unsignalized intersections. Each intersection was counted between 7:00 a.m. and 9:00 a.m., and between 3:30 p.m. and 6:00 p.m. Based upon this data, the operational characteristics of each intersection were obtained.

The intersections counted included Great Falls' 80 signalized intersections and 12 unsignalized intersections. The majority of the signalized intersections are located along 10th Avenue South, in the Central Business District, on Central Avenue West, 3rd Street NW / Smelter Avenue, 9th Street, the 14th / 15th Street corridor and the 25th / 26th Street corridor.

Five coordinated networks exist, although some are coordinated only during certain portions of the day. These networks are shown in **Chapter 2** on **Figure 2-6**. The rest of the signalized intersections operate independently.

Level of Service (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. Level of Service provides a means for identifying intersections that are experiencing operational difficulties, as well as providing a scale to compare intersections with each other. 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. The scale ranges from "A" which indicates little, if any, vehicle delay, to "F" which indicates significant vehicle delay and traffic congestion. The LOS analysis 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 4.1c.

Signalized Intersections

For signalized intersections, recent research has determined that average stopped delay per vehicle is the best available measure of Level of Service. The following table identifies the relationship between Level of Service and average stopped delay per vehicle. The procedures used to evaluate use of signalized intersections includes gathering detailed information on geometry, lane use, signal timing, peak hour volumes, arrival types and other parameters. This information was then used to calculate delays and determine the capacity of each intersection. An intersection functions adequately if it operates at LOS C or better. **Table 7-1** defines the LOS by stopped delay for signalized intersections.

Table 7-1
Level of Service Criteria – Signalized Intersections

Level of Service	Stopped 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 summer of 2002, the LOS for the signalized intersections was calculated. **Tables 7-2 and 7-3** show the AM and PM peak hour LOS for each individual leg of the intersections. The intersection LOS is shown graphically on **Figure 2-7** in **Chapter 2.**

Table 7-2
2002 AM Peak LOS- Signalized Intersections

INTERSECTION	EB	WB	NB	SB	INT	INTERSECTION	EB	WB	NB	SB	INT
2nd St & 1st Ave N	A	---	B	B	A	10th Ave S & 20th St	A	B	D	D	A
2nd St & Central Ave	A	B	B	A	B	10th Ave S & 23rd St	A	A	C	C	A
2nd St & 1st Ave S	---	A	A	A	A	10th Ave S & 25th St	A	A	C	C	B
2nd St & 2nd Ave S	B	---	B	B	B	10th Ave S & 26th St	C	C	D	---	C
3rd St NW & Smelter Ave	A	A	---	A	A	10th Ave S & 32nd St	C	C	D	D	C
3rd St & 2nd Ave N	---	A	B	B	A	10th Ave S & 38th St	B	B	C	C	B
3rd St & 1st Ave N	A	---	B	C	A	10th Ave S & 43rd St	B	B	B	B	B
3rd St & Central Ave	B	B	B	---	B	10th Ave S & 49th St	B	B	B	B	B
3rd St & 1st Ave S	---	A	B	B	A	14th St & 8th Ave N	B	C	---	A	B
4th St & 2nd Ave N	---	A	B	B	A	14th St & 2nd Ave N	---	B	---	B	B
4th St & 1st Ave N	A	---	B	B	A	14th St & 1st Ave N	A	---	---	B	B
4th St & Central Ave	A	A	B	B	A	14th St & Central Ave	A	A	---	A	A
4th St & 1st Ave S	---	A	A	A	A	14th St SW & 16th Ave SW	D	C	B	B	B
5th St & 2nd Ave N	---	A	---	C	A	14th St SW & Marketplace	B	---	A	A	A
5th St & 1st Ave N	A	---	---	B	A	14th St SW & Ramp B	C	C	A	A	B
5th St & Central Ave	B	B	---	A	A	15th St NE & N River Rd	C	C	A	B	B
5th St & 1st Ave S	---	B	---	A	A	15th St & 8th Ave N	B	B	B	---	B
5th St & 2nd Ave S	B	---	---	A	A	15th St & 2nd Ave N	---	B	B	---	B
6th St & 2nd Ave N	---	B	A	---	B	15th St & 1st Ave N	B	---	B	---	B
6th St & 1st Ave N	A	---	C	---	A	15th St & Central Ave	B	B	B	---	B
6th St & Central Ave	B	B	A	---	B	25th St & 2nd Ave N	---	A	---	B	B
6th St & 1st Ave S	---	A	A	---	A	25th St & 1st Ave N	B	---	---	B	B
6th St & 2nd Ave S	A	---	A	---	A	25th St & Central Ave	B	B	---	B	B
7th St & 1st Ave N	A	---	B	B	A	26th St & 2nd Ave N	---	A	B	---	B
7th St & Central Ave	A	A	B	B	A	26th St & 1st Ave N	A	---	A	---	A
9th St & 8th Ave N	B	C	B	B	B	26th St & Central Ave	B	B	B	---	B
9th St & 2nd Ave N	---	B	B	B	B	38th St & 2nd Ave N	B	B	B	B	B
9th St & 1st Ave N	B	---	B	B	B	Central Ave W & 3rd St NW	C	C	E	D	D
9th St & Central Ave	B	B	B	B	B	Central Ave W & 6th St NW	C	C	C	C	C
9th St & 1st Ave S	---	B	B	B	B	Central Ave W & 9th St NW	A	A	B	B	A
9th St & 2nd Ave S	B	---	A	A	A	NW Bypass & 3rd St NW	C	---	C	C	C
10th Ave S & Fox Farm Rd	C	C	C	B	C	NW Bypass & 6th St NW	C	C	B	B	C
10th Ave S & 2nd St	C	B	A	C	C	NW Bypass & 9th St NW	B	B	A	B	B
10th Ave S & 5th St	C	C	C	C	C	Park Dr N & 1st Ave N	B	---	B	B	B
10th Ave S & 7th St	B	B	C	C	B	Park Dr N & Central Ave	---	B	B	A	B
10th Ave S & 9th St	C	C	D	C	C	River Dr & 1st Ave N	D	D	D	D	D
10th Ave S & 11th St	A	A	C	C	A	River Dr & 9th St N	C	C	C	B	C

10th Ave S & 13th St	B	B	C	C	C	River Dr & 15th St N	C	F	D	D	D
10th Ave S & 14th St	C	C	C	C	C	Smelter Ave & 8th St NE	A	B	---	C	B
10th Ave S & 15th St	B	B	C	---	C	Smelter Ave & 10th St NE	B	D	D	D	C

Table 7-3
2002 PM Peak LOS- Signalized Intersections

INTERSECTION	EB	WB	NB	SB	INT	INTERSECTION	EB	WB	NB	SB	INT
2nd St & 1st Ave N	A	---	C	C	A	10th Ave S & 20th St	A	B	D	D	B
2nd St & Central Ave	B	B	B	B	B	10th Ave S & 23rd St	A	A	D	C	B
2nd St & 1st Ave S	---	A	B	B	A	10th Ave S & 25th St	A	A	C	C	B
2nd St & 2nd Ave S	B	---	B	B	B	10th Ave S & 26th St	C	C	D	---	C
3rd St NW & Smelter Ave	A	A	---	C	B	10th Ave S & 32nd St	D	C	E	D	D
3rd St & 2nd Ave N	---	A	C	B	B	10th Ave S & 38th St	B	B	C	D	B
3rd St & 1st Ave N	A	---	C	C	A	10th Ave S & 43rd St	B	B	B	B	B
3rd St & Central Ave	A	A	B	---	A	10th Ave S & 49th St	A	A	B	B	B
3rd St & 1st Ave S	---	A	B	B	A	14th St & 8th Ave N	C	C	---	A	B
4th St & 2nd Ave N	---	A	B	B	A	14th St & 2nd Ave N	---	B	---	B	B
4th St & 1st Ave N	A	---	C	C	B	14th St & 1st Ave N	B	---	---	B	B
4th St & Central Ave	B	B	B	B	B	14th St & Central Ave	B	B	---	A	B
4th St & 1st Ave S	---	B	B	B	B	14th St SW & 16th Ave SW	D	C	B	B	C
5th St & 2nd Ave N	---	A	---	B	A	14th St SW & Marketplace	B	---	A	A	B
5th St & 1st Ave N	A	---	---	B	B	14th St SW & Ramp B	C	C	B	B	B
5th St & Central Ave	B	B	---	B	B	15th St NE & N River Rd	C	C	A	B	B
5th St & 1st Ave S	---	B	---	B	B	15th St & 8th Ave N	B	B	B	---	B
5th St & 2nd Ave S	B	---	---	A	B	15th St & 2nd Ave N	---	B	B	---	B
6th St & 2nd Ave N	---	B	B	---	B	15th St & 1st Ave N	B	---	B	---	B
6th St & 1st Ave N	A	---	B	---	A	15th St & Central Ave	C	A	C	---	C
6th St & Central Ave	B	B	A	---	B	25th St & 2nd Ave N	---	A	---	B	B
6th St & 1st Ave S	---	B	B	---	B	25th St & 1st Ave N	B	---	---	B	B
6th St & 2nd Ave S	A	---	B	---	A	25th St & Central Ave	B	B	---	B	B
7th St & 1st Ave N	B	---	B	B	B	26th St & 2nd Ave N	---	A	C	---	B
7th St & Central Ave	A	A	B	B	B	26th St & 1st Ave N	B	---	B	---	B
9th St & 8th Ave N	B	B	C	C	C	26th St & Central Ave	B	B	B	---	B
9th St & 2nd Ave N	---	B	B	B	B	38th St & 2nd Ave N	B	B	B	B	B
9th St & 1st Ave N	B	---	B	B	B	Central Ave W & 3rd St NW	C	D	D	D	D
9th St & Central Ave	B	B	B	B	B	Central Ave W & 6th St NW	C	C	D	D	C
9th St & 1st Ave S	---	B	B	B	B	Central Ave W & 9th St NW	B	A	B	B	B
9th St & 2nd Ave S	B	---	B	A	B	NW Bypass & 3rd St NW	C	---	C	C	C
10th Ave S & Fox Farm Rd	C	C	C	C	C	NW Bypass & 6th St NW	C	C	C	B	C
10th Ave S & 2nd	B	E	A	D	C	NW Bypass & 9th St NW	B	B	B	B	B
10th Ave S & 5th St	B	C	D	D	C	Park Dr N & 1st Ave N	B	---	C	B	B
10th Ave S & 7th St	B	B	D	D	B	Park Dr N & Central Ave	---	B	B	B	B
10th Ave S & 9th St	C	C	D	E	C	River Dr & 1st Ave N	E	D	E	E	D
10th Ave S & 11th St	A	A	D	D	A	River Dr & 9th St N	C	C	C	B	C
10th Ave S & 13th St	C	C	B	C	C	River Dr & 15th St N	C	E	D	E	D
10th Ave S & 14th St	C	C	D	D	C	Smelter Ave & 8th St NE	A	C	---	C	B
10th Ave S & 15th St	C	C	D	---	C	Smelter Ave & 10th St NE	B	D	F	D	E

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 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.

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 on the following table.

Table 7-4 shows the LOS criteria for both the all-way and two-way stop controlled intersections.

Table 7-4
Level of Service Criteria –Stop Controlled Intersections

Level of Service	Delay (sec / veh)
A	< 10
B	10 to 15
C	15 to 25
D	25 to 35
E	35 to 50
F	> 50

Using the above guidelines, the data collected in the summer of 2002, and calculation techniques for two-way stop controls and all-way stop controls, the LOS was calculated for twelve intersections. The results of these calculations are shown in **Table 7-5**. The intersection LOS is shown graphically on **Figure 2-7** in **Chapter 2.**

Table 7-5
2002 LOS- Stop-Controlled Intersections

INTERSECTION	AM	PM
2nd St & 3rd Ave S	B	C
3rd St NW & Division Rd (16th Ave NW)	B	C
4th Ave SW & 6th St SW	B	E
10th Ave S & 29th St	C	F
13th Ave S & 9th St	B	C
15th St NE & Wire Mill Rd	C	E
38th St & Central Ave	A	B
Division Rd & Smelter Ave	D	E
Fox Farm Rd & 18th Ave SW	F	F
Fox Farm Rd & Park Garden Rd	C	C
River Dr N & 25th St N	F	F
River Dr S & 3rd Ave S	B	B

The LOS analyses of the existing conditions in Great Falls reveals that several signalized and unsignalized intersections are currently functioning at LOS D or lower. These intersections are shown in **Table 7-6**.

Table 7-6
Existing Intersections Functioning at LOS D or Lower

Intersection		AM Peak Hour LOS	PM Peak Hour LOS
10th Avenue S & 32nd Street S	S	C	D
Central Ave W & 3rd St NW	S	D	D
River Dr & 15th Street N	S	D	D
River Dr & 1st Avenue N	S	D	D
Smelter Ave & 10th Street NE	S	C	F
4th Ave SW & 6th St SW	U	B	E
10th Avenue S & 29th St S	U	C	F
15th St NE & Wire Mill Rd	U	C	E
Division Rd & Smelter Avenue	U	D	E
Fox Farm Rd & 18th Ave SW	U	F	F
River Dr & 25th Street N	U	F	F

(S)ignalized
(U)nsignalized

7.2 Signal Warrant Analysis

A signal warrant analysis was conducted to determine if any of the existing unsignalized intersections with poor LOS meet signal warrants. The ***Manual on Uniform Traffic Control Devices, Millennium Edition*** was used to conduct the warrant analyses. The signal warrants are nationally accepted minimum standards that must be met in order for a traffic signal to be considered at an intersection. An intersection must meet at least one warrant to be eligible for signalization. The warrant descriptions from the ***Manual on Uniform Traffic Control Devices*** are as follows:

1. Eight-Hour Vehicular Volume

a. The Minimum Vehicular Volume is intended for application where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

b. The Interruption of Continuous Traffic is intended for application where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.

c. If 80% of the Minimum Vehicular Volume and 80% of the Interruption of Continuous Traffic criteria are met, this warrant is considered to be met.

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
The School Crossing signal warrant is intended for application where the fact that school children cross the major street is the principal reason to consider installing a traffic control signal.

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**
Installing a traffic control signal at some intersections might be justified to encourage concentration and organization of traffic flow on a roadway network.

This warrant analysis was conducted using a combination of the turning movement counts, the ADT counts as collected by the City of Great Falls, and other factors. The peak hour warrant was conducted assuming that this peak hour would fall within the peak periods. As applicable, the signal warrant determinations were performed using Table 4C-1, Figure 4C-1, and Figure 4C-3 from the ***Manual on Uniform Traffic Control Devices***. The four- and eight-hour warrants were based upon a combination of peak hour volumes and ADT volumes.

Three warrants were not met for any of the intersections under consideration, the Pedestrian Warrant (Warrant 4), the School Crossing Warrant (Warrant 5) and the Crash Warrant (Warrant 7). Peak hour turning movement counts at these locations had very low pedestrian volumes, so the Pedestrian Warrant (Warrant 4) was not included in this analysis. None of these locations are close to a school, and therefore, the pedestrian volume is not expected to be noticeably higher at the times of day when school children are present. Therefore, the School Crossing Warrant (Warrant 5) was not included in this analysis. The crash experience was also evaluated, and none of the intersections met the Crash Warrant (Warrant 7).

A summary of the signal warrant results is shown in **Table 7-7** below.

Table 7-7
Signal Warrant Summary of Existing Conditions*

Intersection	#1a	#1b	#1c	#2	#3	#6†	#8
6th St SW & 4th Ave SW		X		X		N/A	X
10th Ave S & 29th St S		X			X	X	
15th St NE & Wire Mill Rd						N/A	
Division Rd & Smelter Ave						N/A	
Fox Farm Rd & 18th Ave SW				X		N/A	
River Dr & 25th Street N	X	X	X	X	X	X	X

* None of the intersections met Warrants 4, 5 or 7, so they are not shown in this summary.
† Intersections listed as N/A do not have signals on the main street on both sides.

The table shows which warrants are currently met for each intersection. The data indicates that the intersections of 10th Avenue South/29th Street South and River Drive/25th Street North currently meet the peak-hour signal warrant. Three of the intersections meet the four-hour warrants: 6th Street Southwest/4th Avenue Southwest; Fox Farm Road/18th Avenue Southwest; and, River Drive/25th Street North. Three intersections also meet Warrant 1b, Interruption Of Continuous Traffic: 6th Street Southwest/4th Avenue Southwest; 10th Avenue South/29th Street South; and, River Drive / 25th Street North. The intersections that meet the Four-Hour Warrant or meet the Interruption of Continuous Traffic Warrant should be considered good candidates for a signal.

At the time of the signal warrant study (2002), the intersection of River Drive and 25th Street North met all warrants included in the study. However, since that time, a signal has been installed at River Drive and 38th Street North that has likely changed the characteristics of the traffic on River Drive. The signal was expected to have improved conditions at 25th Street North and River Drive by creating more “gaps” in the flow of traffic, allowing for safer turning movements and less delay. In addition, the Montana Department of Transportation is concerned about the mobility of truck traffic on the west approach during icy or snowy conditions, and is not supportive of a traffic signal at this time. If significant delays are observed in the future, a long-term solution for this intersection should be investigated.

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. Listed below is a description of these advantages and disadvantages, as well as a discussion of potential alternatives to traffic control signals. This information was obtained from the *Manual on Uniform Traffic Control Devices (MUTCD) Millennium Edition*.

Advantages of Traffic Control Signals

When properly used, traffic control 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.

Disadvantages of Traffic Control Signals

Traffic control signals are often considered a panacea for all traffic problems at intersections. This belief has led to traffic control 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 control 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.

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.

7.3 Corridor Volumes, Capacity, and Levels of Service

The corridors shown on **Figure 2-1** were evaluated for volume to capacity (v/c) ratios and levels of service. The number of lanes on each segment of road is shown on **Figure 2-4**. The volumes are shown on **Figure 2-3**. The resultant existing v/c ratios are shown on **Figure 7-1** for existing 2002 conditions. The preparation and analysis of these figures assisted in determining potential capacity deficiencies under the existing traffic conditions. 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 in **Section 7.1**, 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 dependant upon the presence of parking, number of driveways and intersections, intersection traffic control, and roadway alignment. The data presented in **Tables 2-1** and **7-8** 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.

Roadway capacities can be increased under "ideal management conditions" (**Column 2** in **Table 7-8**) 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 7-8 shows a range of volumes for roadways developed in the future.

Table 7-8. 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*

[1] Historical management conditions
[2] Ideal management conditions
* Additional volumes may be obtained in some locations with adequate road design, access control, and other capacity enhancing methods.

View Figure 7-1

Table 7-8 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 7-8** 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 programs as discussed in **Chapter 5** and TDM measures discussed in **Chapter 8** 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 7-8**, 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 Great Falls and Cascade County. Follow up monitoring of the effects of access control will aid in future transportation planning efforts.

Using the traffic 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), Year 2005, Year 2015 and Year 2025 conditions to determine if the roads have an adequate number of lanes for the traffic volume. **Figures 3-3, 3-4 and 3-6** presented in **Chapter 3** show the projected traffic volumes for the various years within the study area. 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 volume to capacity ratio (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 7-9** shows "v/c ratios" and their corresponding roadway corridor "Level of Service" designations.

Table 7-9
V/C Ratios & LOS Designations

V/C Ratio	Description	Corridor LOS
< 0.59	Well Under Capacity	LOS A and B
> 0.60 – 0.79	Under Capacity	LOS C
> 0.80 – 0.99	At or Nearing Capacity	LOS D and E
> 1.00	Over Capacity	LOS F

An examination of the "v/c ratios" computed by the traffic model, and as shown graphically on **Figure 7-1**, shows that the following facilities are either over capacity or are at or nearing capacity, and consequently are roadways that may be currently undersized:

- 10th Avenue South, between 20th Street South and 26th Street South (Over Capacity).
- 10th Avenue South, between 6th Street Southwest and 5th Street South (At or Near Capacity).
- 10th Avenue South, between 26th Street South and 33rd Street South (At or Near Capacity).

7.4 Crash Analysis

The MDT Traffic and Safety Bureau provided crash information and data for use in this Great Falls Area Transportation Plan. The crash information was analyzed to find 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 January 1, 1999 to December 31, 2001.

Three analyses were performed to rank the intersections based on different crash characteristics. First, the intersections were ranked by number of crashes. Intersections with an average of 4 crashes per year or higher were included in the analysis. If an intersection did not have 12 accidents in the 1999 – 2001 period, 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 7-10**.

Table 7-10
Intersections with 12 or More Crashes in the Three-Year Period (1999-2001)

Intersection	# Crashes	Intersection	# Crashes
10th Ave S & 13th St*	78	14th St & 2nd Ave N	19
10th Ave S & Fox Farm Rd	78	15th St & River Dr	19
10th Ave S & 14th St*	75	15th St & Central	18
10th Ave S & 9th St*	72	Central Ave W & Old Vaughn Rd	18
10th Ave S & 26th St	62	2nd Ave N & 6th St	17
10th Ave S & 32nd St	57	6th St NW & Central Ave W	16
3rd St NW & Central Ave W	54	57th St & 2nd Ave N	16
10th Ave S & 25th St	53	1st Ave N & Park Dr	16
2nd Ave N & 9th St	53	10th Ave S & 27th St	16
10th Ave S & 20th St*	51	1st Ave S & 9th St	15
10th Ave S & 15th St*	48	15th St NE & N River Rd	15
10th Ave S & 23rd St	44	10th Ave S & 7th St*	15
Smelter Ave & 10th St NE	44	2nd Ave N & 38th St	15
1st Ave N & 9th St	41	14th St & 8th Ave N	15
6th St NW & NW Bypass	41	10th Ave S & 4th St*	15
10th Ave S & 38th St	37	10th Ave S & 11th St*	15
10th Ave S & River Dr / 2nd St*	36	15th St & 9th Ave S*	15
10th St NE & N River Rd	28	10th Ave S & 29th St	14
10th Ave S & 12th St*	27	1st Ave N & 2nd St	14
1st Ave N & River Dr	26	2nd Ave S & 9th St	14
Smelter Ave & 8th St NE	25	Central Ave & 26th St	14
10th Ave S & 16th St*	24	14th St & 2nd Ave S	13
10th Ave S & 17th St*	24	15th St & 2nd Ave N	13
Central Ave & 9th St	23	8th Ave S & 9th St	13
Central Ave & 2nd St	23	Central Ave & 5th St	13
3rd St NW & NW Bypass	22	1st Ave S & 7th St	12
14th St & Central Ave	21	10th Ave S & 5th St*	12
1st Ave N & 6th St	19		

* Intersection was affected by 10th Ave S project. Number of crashes shown is the number of crashes which occurred in 2001, expanded to a three-year time frame.

The second analysis involved a more detailed look at the crashes to determine crash severity. Crashes were broken into three categories of severity: property damage only (PDO), injury crash, and fatality. Each of these three types is given a different rating: one (1) for a property damage only crash; two (2) for an injury crash; and five (5) for a crash that resulted in a fatality. The severity rating for the intersections in the analysis is shown in **Table 7-11**.

Table 7-11
Intersection Crash Analysis – Severity Rating

Intersection	PDO	Injury	Severity	Intersection	PDO	Injury	Severity
10th Ave S & 13th St	54	24	102	Central Ave W & Old Vaughn Rd	13	5	23
10th Ave S & Fox Farm Rd / 6th St SW	57	21	99	1st Ave N & 6th St	15	4	23
10th Ave S & 14th St	54	21	96	15th St & River Dr	12	7	26
10th Ave S & 26th St	42	20	82	2nd Ave N & 6th St	12	5	22
10th Ave S & 9th St	63	9	81	1st Ave S & 9th St	8	7	22
10th Ave S & 32nd St	37	20	77	15th St & Central	14	4	22
10th Ave S & 25th St	29	24	77	14th St & 8th Ave N	9	6	21
2nd Ave N & 9th St	32	21	74	15th St NE & N River Rd	9	6	21
3rd St NW & Central Ave W	40	14	68	2nd Ave N & 38th St	10	5	20
10th Ave S & 20th St	30	21	72	57th St & 2nd Ave N	12	4	20
10th Ave S & 23rd St	29	15	59	10th Ave S & 27th St	13	3	19
10th Ave S & 15th St	39	9	57	2nd Ave S & 9th St	9	5	19
1st Ave N & 9th Street	29	12	53	6th St NW & Central Ave W	10	4	18
Smelter Ave & 10th St NE	36	8	52	1st Ave N & 2nd St	10	4	18
10th Ave S & 38th St	25	12	49	10th Ave S & River Dr / 2nd St	33	3	39
6th St NW & NW Bypass	33	8	49	15th St & 9th Ave S	12	3	18
10th Ave S & 7th St	12	3	18	Central Ave & 26th St	14	2	18
10th Ave S & 12th St	18	9	36	10th Ave S & 29th St	10	4	18
1st Ave N & River Dr	16	10	36	3rd St NW & NW Bypass	16	6	28
10th St NE & N River Road	21	7	35	10th Ave S & 4th St	12	3	18
14th St & Central*	10	10	35	10th Ave S & 11th St	12	3	18
Smelter Ave & 8th St NE	16	9	34	8th Ave S & 9th St	9	4	17
10th Ave S & 16th St	15	9	33	1st Ave S & 7th St	7	5	17
10th Ave S & 17th St	15	9	33	1st Ave N & Park Dr	16	0	16
Central Ave & 2nd St	13	10	33	10th Ave S & 5th St	9	3	15
14th St & 2nd Ave N	9	10	29	15th St & 2nd Ave N	12	1	14
Central Ave & 5th St	8	5	18	14th St & 2nd Ave S	13	0	13
Central Ave. & 9th St	20	3	26				

* This intersection had one fatal crash during the 1999 – 2001 time period

The third analysis ranked the number of crashes against the traffic volume at each intersection, expressed in crashes per million entering vehicles (MEV). A safety problem is generally considered to exist if this rate is greater than 1.0 crashes per MEV. A summary of the intersections in the analysis is shown in **Table 7-12**.

Table 7-12: Intersection Crash Analysis Crash Rate

Intersection	Number of Crashes	Volume	Rate	Intersection	Number of Crashes	Volume	Rate
2nd Ave N & 9th St	53	14,770	3.28	Central Ave & 2nd St	23	18,230	1.15
1st Ave S & 7th St	12	5,220	2.10	10th Ave S & 25th St	53	42,450	1.14
2nd Ave N & 6th St	17	7,610	2.04	15th St NE & N River Rd	15	12,200	1.12
15th St & 9th Ave S	15	7,030	1.95	1st Ave S & 9th St	15	12,970	1.06
6th St NW & NW Bypass	41	19,810	1.89	8th Ave S & 9th St	13	11,600	1.02
1st Ave N & 9th St	41	19,930	1.88	Smelter Ave & 8th St NE	25	22,870	1.00
14th St & 2nd Ave N	19	9,440	1.84	2nd Ave N & 38th St	15	13,760	1.00
10th Ave S & Fox Farm Rd / 6th St SW	78	41,720	1.71	57th St & 2nd Ave N	16	14,770	0.99
Central Ave & 5th St	13	7,270	1.63	15th St & Central	18	16,630	0.99
3rd St NW & Central Ave W	54	30,370	1.62	10th Ave S & 23rd St	44	41,640	0.97
10th Ave S & 13th St	78	44,660	1.60	15th St & 2nd Ave N	13	12,450	0.95
14th St & Central	21	12,090	1.59	10th Ave S & 15th St	48	46,900	0.93
10th Ave S & 14th St	75	44,430	1.54	2nd Ave S & 9th St	14	14,500	0.88
10th Ave S & 32nd St	57	35,010	1.49	10th Ave S & River Dr / 2nd St	36	39,660	0.83
Smelter Ave & 10th St NE	44	27,590	1.46	1st Ave N & River Dr	26	30,330	0.78
Central Ave W & Old Vaughn Rd	18	11,300	1.45	6th St NW & Central Ave W	16	19,110	0.76
14th St & 8th Ave N	15	9,710	1.41	1st Ave N & Park Dr	16	20,550	0.71
10th Ave S & 9th St	72	48,370	1.36	10th Ave S & 12th St	27	42,000	0.59
10th Ave S & 20th St	51	35,950	1.30	10th Ave S & 17th St	24	47,000	0.47
Central Ave & 9th St	23	16,420	1.28	10th Ave S & 16th St	24	47,000	0.47
1st Ave N & 6th St	19	13,690	1.27	3rd St NW & NW Bypass	22	50,010	0.40
Central Ave & 26th St	14	10,120	1.26	10th Ave S & 27th St	16	36,500	0.40
14th St & 2nd Ave S	13	9,590	1.24	10th Ave S & 4th St	15	37,000	0.37
10th St NE & N River Rd	28	20,900	1.22	10th Ave S & 29th St	14	35,010	0.37
1st Ave N & 2nd St	14	10,600	1.21	10th Ave S & 11th St	15	40,820	0.34
10th Ave S & 38th St	37	28,890	1.17	10th Ave S & 7th St	15	44,880	0.31
15th St & River Dr	19	14,850	1.17	10th Ave S & 5th St	12	41,970	0.26
10th Ave S & 26th St	62	48,910	1.16				

The calculation used to arrive at the crash rates, expressed in crashes per million entering vehicles (MEV) is shown in **Table 7-12**:

(ADT for Intersection) x (3 years) x (365 days/year) / (1,000,000 vehicles) = (Crash Rate)

In order to give the intersections included in the crash analysis an even rating, a composite rating score was developed. This score has the following criteria: First, the intersection had to have a minimum crash rate of 1.0 crashes per MEV. Second it had to have 12 or more crashes in the years 1999, 2000, and 2001 combined. Third, it had to 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. For example, the intersection of 10th Avenue South and Fox Farm Road / 6th Street Southwest was given a ranking of 2 for its position in **Table 7-10**, another ranking of 2 for its position in **Table 7-11**, and a ranking of 8 for its location in **Table 7-12**. Thus its composite rating is 12. **Table 7-13** summarizes this ranking procedure and shows overall the intersections that have a crash history that potentially should be addressed.

Table 7-13: Intersection Crash Analysis - Composite Rating

Intersection	Number	Severity	Rate	Composite
10th Ave S & Fox Farm Rd / 6th St SW	2	2	8	12
10th Ave S & 13th St	1	1	11	13
2nd Ave N & 9th St	9	9	1	19
10th Ave S & 14th St	3	3	13	19
3rd St NW & Central Ave W	7	7	10	24
10th Ave S & 32nd St	6	6	14	26
10th Ave S & 9th St	4	4	18	26
1st Ave N & 9th St	14	14	6	34
6th St NW & NW Bypass	15	15	5	35
10th Ave S & 26th St	5	5	28	38
10th Ave S & 20th St	10	10	19	39
Smelter Ave & 10th St NE	13	13	15	41
10th Ave S & 25th St	8	8	30	46
10th Ave S & 38th St	16	16	26	58
10th St NE & N River Rd	18	18	24	60
14th Street & 2nd Ave N	29	29	7	65
14th Street & Central Ave	27	27	12	66
Central Ave & 9th St	24	24	20	68
2nd Ave N & 6th St	33	33	3	69
Smelter Ave & 8th St NE	21	21	34	76
1st Ave N & 6th St	28	28	21	77
Central Ave & 2nd St	25	25	29	79
Central Ave W & Vaughn Rd	32	32	16	80

The top 23 intersections have a score of 80 or less. The locations of these intersections are shown on **Figure 7-2**. In addition to the top 23 intersections, three additional intersections are noted as significant and are also shown on **Figure 7-2** and **Table 7-14** below. The three are significant due to their placement within the top ten intersections as shown in **Table 7-12** for crash rate, coupled with the fact that they did not show up in the "composite rating" analysis (see **Table 7-13**). The significance of these three intersections does not imply that "crash rate" is more important than the "severity rating" or "# of crashes".

Table 7-14: Additional Intersection Crash Analysis - Composite Rating

Intersection	Number	Severity	Rate	Composite
15th Street & 9th Ave S	45	45	4	94
1st Ave S & 7th St	54	54	2	110
Central Ave & 5th St	53	53	9	115

View Figure 7-2

.6 Truck Traffic

A short description of the existing truck routes through the community was described in **Section 2.8** of **Chapter 2** and graphically on **Figure 2-15**. Perceived problems associated with the current truck routes became evident during the course of this planning effort from members of the public at the various public meetings. Common themes that were recognized from the public centered on trucks traveling through residential neighborhoods, excessive noise and braking, concern for pedestrian and school children safety, and potential negative impacts along the Missouri River corridor. Other comments made referred to inadequate signing and whether drivers of trucks through the community actually know that preferred truck routes exist and where they are.

The current City Code (10.57.020 – 0.40) related to truck routes makes a clear distinction between "Local Service Trucks" and "Through Truck Traffic". "Local Service Truck" traffic is authorized to use all City streets if they have a point of origin and point of destination for immediate purposes within the corporate limits of the City. "Through Truck Traffic", however, is generally restricted to use of only City roadways as designated on the current truck route system. Because of this, "Through Truck Traffic" can be restricted and enforced to use the designated truck routes.

Another issue that complicates matters somewhat is the present designated truck route which only encompasses facilities within the City limits. For an urban truck route system to be viable, jurisdictional boundaries should be ignored.

A proposed truck route system is shown on **Figure 7-3**. The major revision to this system, besides incorporating routes that fall within Cascade County and outside the jurisdiction of the City, is the removal of a segment of River Drive (west of 9th Street North) from the existing system, as well as River Drive South (south of 1st Avenue South) and 2nd Street South (south of 1st Avenue South). This was an area that was identified through the public meeting process as having a high aesthetic and recreational value, and complaints regarding truck traffic were noted. The absence of "Through Truck Traffic" along these routes would greatly improve noise impacts, traffic circulation, pedestrian/bicycle safety, and generally improve the "park like" setting of this area along the Missouri River.

It is recommended that a revision to the current City Code be explored and made to recognize a new truck route as depicted on **Figure 7-3**. Along with this, a joint resolution should be considered between the Great Falls City Commission and the Great Falls County Commission to formally adopt the urban truck route system being proposed on **Figure 7-3**. This system would only pertain to "Through Truck Traffic;" however, it could serve as a template for all truck users within the area. Of course, along with the modification to the urban truck route system, public education measures should also be devised to ensure that users of the system know of the applicable laws, regulations and locations pertinent to the truck route system. This could be accomplished through simple brochures, maps, radio and news announcements, etc describing the system and its intent.

View Figure 7-3

7.3 Safety Programs

Along with physical improvements, educational and outreach programs for the transportation user and the general public have been shown to have a real impact on improving safety. Some, but by no means all, local groups involved in safety include the following:

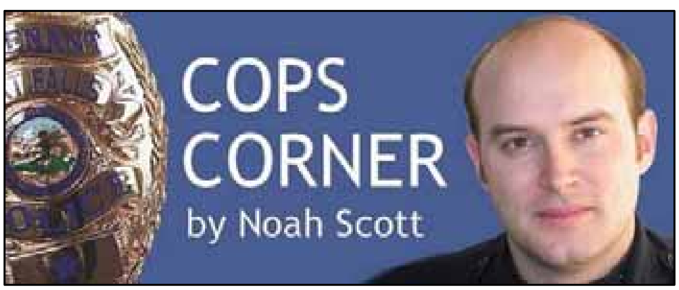
- Montana Department of Transportation
- Montana Highway Patrol
- Great Falls Police Department
- Cascade County Sheriff's Office
- Great Falls Public Works Department
- Cascade County Road Department
- Great Falls Public Schools
- Cascade County DUI Taskforce
- Malmstrom Air Force Base
- Cascade County Safe Kids/Safe Communities
- Airmen Against Drunk Driving (788-HOME)

GREAT FALLS POLICE DEPARTMENT PROGRAMS

The City of Great Falls has been and continues to be proactively promoting transportation safety. A summary of some of the Great Falls Police Department's efforts follows:

Local Newspaper Column

A local police officer, Noah Scott, writes a weekly newspaper column titled "Cop's Corner". The column addresses common issues related to driving safety, including interpretation of traffic laws. Some topics addressed in late 2008 include: "Segway" usage, drunk driving, safety reminders during Halloween, outreach for changes to the operation of a traffic signal at 9th Street and 10th Avenue South, legality of "fog" lights on vehicles, etc. It is often a "question-and-answer" format, where readers submit questions for his response.



Cop in the Box

A portable radar speed monitoring trailer is available for the City's "Cop in the Box" program, which allows the police department to use a trailer with a digital read-out of passing traffic speeds to help reduce speeding through direct user awareness. The police department responds to requests by neighbors or Neighborhood Councils in areas where vehicle travel speed is perceived to be a problem. This traffic calming measure is usually effective, but often temporary. It could be used in conjunction with permanent, physical traffic control measures to have a longer lasting effect.

0013 Program

In 2006, the Great Falls Police Department was awarded a $300,000 grant through the Office of Juvenile Justice Delinquency Program for Enforcing Underage Drinking Laws (EUDL). The grant required that the applicant agency partner with an Air Force facility (Malmstrom Air Force Base) in order to target underage alcohol consumption and develop a common sense approach to those who legally consume alcohol. One of the requirements of the grant included using a concept that included using the numbers 0-0-1-3 as a guide to responsible alcohol consumption. Translated, the numbers mean "Zero drinks if you're under 21, zero DUI's, 1 drink per hour, 3 drinks max." In simplified terms, if you're underage, don't drink; and, if you are 21 or older, then modify your consumption.

The grant has an open-ended approach, leaving it up to each award recipient in how to creatively address the alcohol related problems in their community. At the end of the three year grant period, the recipients would be evaluated and their results measured to see which approach seemed to have the best impact.

On the local level, a number of groups were already in existence and working closely together, so it didn't take much to formalize a community coalition of over 15 organizations, including law enforcement, health care, military, and businesses. Serving as oversight to the grant, the coalition discussed their priorities and brought each of their resources and skills forward. The challenge was not in recognizing there was a problem, but in how the grant would be creatively applied. What had not been tried before?

A subtle approach was decided upon for the marketing plan. By imbedding the number 0013 in a variety of messages and a twist of humor, a natural curiosity would build within the community. Although ten years ago most people obtained their information from books and libraries, many now rely on Internet search engines for split-second answers to facts they were trying to gather. If the marketing plan could drive people to the Internet to find out what the message was, a website would serve as the educational source for responsible drinking. The website www.usa0013.com served as the common link for the military and the community.

The grant also funded companion commercial messages for television, as well as billboard promotion for the campaign.

The marketing program appears to be helping. 2007 year-end statistics have shown a reduction in DUIs and MIPs on the local level at over 30% each. Military statistics for their personnel dropped even lower and non judicial punishment at the facility reportedly dropped 80%.

Although the problem will never be completely solved, providing alternatives and creativity in educating the young will hopefully reduce the numbers of alcohol related incidents that affect so many families. The program is continuing, and further year-end results will be measured in 2008 and 2009.

Past Programs

A number of programs depend upon funding, staffing availability and the fact that programs tend to lose effectiveness after a certain period of exposure. Some programs that have been used in recent years but that are not currently active are listed below.

In 2005, the City of Great Falls received a STEP (Selective Traffic Enforcement Program) for traffic enforcement from the Montana Department of Transportation, using the grant for overtime to enforce traffic laws in certain high risk traffic areas. The City is again applying for funds during the 2009 granting cycle.

The Department has also prepared periodic video public service messages on traffic safety that were televised on the local news channels to promote various issues. Traffic safety has been an issue addressed in past recorded messages.

School outreach and other public outreach programs to teach safety, including the dangers of drinking-and-driving, occur on an occasional basis, depending upon staffing availability and community need. Staff attendance at Neighborhood Council meetings (by staff from the Great Falls Police, Public Works and Planning Departments) is also a method used for outreach and public education.

BICYCLE, CAR SEAT AND SEATBELT SAFETY

Local non-profit organizations and public agencies sponsor, at various intervals, both bicycle and car seat safety fairs.

- Benefis hospitals holds a yearly safety fair in the spring, promoting bicycle safety and handing out free bicycle helmets to school-age children.
- In past years, the Great Falls Police Department has held bicycle rodeos and performed school outreach programs to educate children on the safe use of bicycles. However, recent budget constraints have suspended such events.
- The Montana Highway Patrol, Bennett Motors and the SAFE KIDS/Safe Communities coalition sponsors a program for the safe installation of children’s car seats.

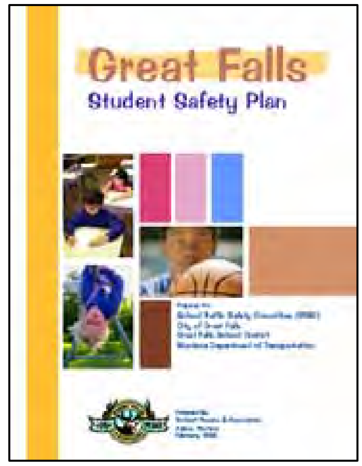
In addition, the Montana Department of Transportation and Montana Highway Patrol have seatbelt safety PSA’s (public service announcements) heard on the radio and seen on television, as well as anti-drunk driving messages. These same messages are sometimes also seen on billboards around Great Falls.

The Montana non-profit organization, Montana Seatbelt Coalition, promotes seat belt usage statewide. Their website, www.SeatBeltMontana.com provides information on their programs, and acts as both an information center and outreach device for the use of seatbelts. It also advocates passage of a primary seat belt law in Montana.

Montana State Fair Outreach

Each year, the Montana Department of Transportation-Great Falls District staffs an informational booth at the Montana State Fair at the Montana ExpoPark in Great Falls. In 2008, the booth included project information, the new "Room to Live" video (emphasizing the importance of wearing seatbelts). Also, the Montana Highway Patrol installed its seatbelt simulator at the booth throughout the fair, with over 1,000 people trying out the simulated car crash at 5 mph and the importance of wearing a seatbelt in even a low-speed incident. The simulator educated visitors on seatbelt safety and drew people to the booth, providing the opportunity for more viewings of the safety video, as well.

The State Fair drew an attendance of 146,897 in 2008, making it one of the largest public venues in Montana. The Montana Department of Transportation intends to continue this successful public outreach and education effort at future State Fairs.



SCHOOL ZONE SAFETY

Safety around school zones has been improved and is continually being reviewed. A study was prepared in 2005 titled, "Great Falls School Safety Plan", which analyzed traffic characteristics and roadway and pedestrian facility configurations near schools. The Plan recommends numerous improvements, and the City and School District have been working on implementing many of the recommendations. Two federal-aid sidewalk projects have filled in numerous gaps in the sidewalk system over the last few years, with a priority focus on areas around schools. Similarly, the City and MDT have been proactive in upgrading school crossing signage, and keeping crossing-striping fresh. The School District provides volunteer crossing guards during mornings and afternoons when school children are present, and the PTA's have purchased warning pylons to be placed in the street at school crossings on busy roadways.

Chapter 3 of the Student Safety Plan outlines suggestions for safety Education Programs, including "Treasure Hunt", "Safety Quiz Show" and other programs that can help educate the young regarding bicycle and pedestrian safety.

To repeat the research, analysis, conclusions and recommendations from the Great Falls School Safety Plan here would be unnecessarily duplicative. Therefore, the Great Falls School Safety Plan is incorporated by reference into this document, and recommended projects included in the Plan should be considered for funding and implementation whenever possible, especially if there is opportunity for inclusion in a nearby or related project. The Student Safety Plan may be obtained from the Great Falls Planning office or found online at http://www.greatfallsmt.net/people_offices/planning/safetyplan/index.htm.

Law enforcement agencies and other organizations interested in transportation safety should monitor the availability of and apply for any grants that may be available for the promotion of safety in the Great Falls area. With an increased national emphasis on safety, there are more funding opportunities than have been available in past years.

TRAFFIC CALMING

The term, "traffic calming" refers to a number of methods used to reduce vehicle speeds, improve safety, and enhance the quality of life along roadways. In the simplest definition, it is changing the physical environment along a roadway to reduce the negative effects of motor vehicle use, alter driver behavior and improve conditions for neighboring uses, pedestrians and other non-motorized street users. **Chapter 9** provides a framework for the local traffic calming program, and **Table 9.1** provides specific examples of traffic calming devices and strategies. The City of Great Falls has implemented this program, and has used it to study traffic calming requests and, in some cases, install both temporary and permanent traffic calming devices.

OTHER SAFETY RESOURCES

A number of local, state and national websites, sponsored by governmental, commercial and non-profit entities, have very good information relating to roadway safety. These and similar sites should be monitored for ideas on state-of-the-art programs that may be applicable to Great Falls. A few of them are shown below:

- Montana Highway Patrol
  http://www.doj.mt.gov/driving/drivingsafety.asp
- Montana Seatbelt Coalition
  http://www.seatbeltmontana.com/index.php
- Montana Safe Routes to School Program
  http://www.mdt.mt.gov/pubinvolve/saferoutes/
- Bicycle Safety in Montana (with links)
  http://www.mdt.mt.gov/travinfo/bikeped/bikesafety.shtml
- Montana Comprehensive Highway Safety Plan
  http://www.mdt.mt.gov/publications/docs/brochures/safety/current_chsp.pdf
- Great Falls Student Safety Plan
  http://www.greatfallsmt.net/people_offices/planning/safetyplan/index.htm
- National Highway Traffic Safety Administration
  http://www.nhtsa.dot.gov/
- Motorcycle Safety Awareness Planner
  http://www.nhtsa.gov/planners/ShareTheRoad2008/index.cfm
- Federal Motor Carrier Safety Administration
  http://www.fmcsa.dot.gov/
- Share the Road Safely

http://www.sharetheroadsafely.org/
(includes a comprehensive "links" page, organized by type of transportation user and topic, including: Bicycle Safety; Motorcycle Safety; Pedestrian Safety; Work Zone Safety; RV Driver Safety; Truck and Bus Driver Safety; Mature Drivers; Air Bag & Restraint Systems) http://www.sharetheroadsafely.org/relatedLinks.asp

- SeniorDrivers.org
  http://www.seniordrivers.org/home/

- Montana Comprehensive Highway Safety Plan
  http://www.mdt.mt.gov/publications/docs/brochures/safety/current_chsp.pdf

CONCLUSIONS

The local law enforcement community is actively promoting traffic safety and will continue to do so by continuing to pursue grants and other funding to allow safety programs to continue and expand. As staffing time and funding allows, further public outreach and education programs could be considered.

Physical improvements to benefit safety will continue to be an important part of the local transportation planning program's consideration for new projects. Intersections with low LOS and high-accident intersections and corridors should continue to be monitored for improvements, and continued enhancements for bicycle and pedestrian safety should continue to be considered as stand-alone projects or for incorporation into larger roadway projects.

As appropriate, Urban Area provisions and other relevant provisions outlined in the Montana Comprehensive Highway Safety Plan should be considered and incorporated into local safety improvement efforts.

Chapter 8: Transportation Demand Management

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 the fireworks display on the 4th of July, Great Falls White Sox baseball games, and other large cultural or sporting 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 Great Falls 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.

8.1 Role of Transportation Demand Management (TDM)

TDM strategies are an important part of the Great Falls Area Transportation Plan due to their inherent ability to provide the following benefits to the commuting public:

- Better transportation accessibility;
- Better transportation predictability;
- More, and timelier, information;
- A range of commute choices; and
- Enhanced transportation system performance.

TDM measures can also be applied to non-commuter traffic and are especially easy to adapt to tourism, special events, emergencies and construction. The benefits to these traffic users are similar to those for commuters, and are listed as follows:

- Better transportation accessibility;
- More transportation reliability;
- More, and timelier, information;
- A range of route choices; and
- Enhanced transportation system performance.

These changes allow the same amount of transportation infrastructure to effectively serve more people. They acknowledge and work within the mode and route choices which motorists are willing to make, and can encourage a sense of community. Certain measures can also increase the physical activity of people getting from one place to another.

Such things as alerting the traveling public to disruptions in the transportation system caused by construction or vehicle crashes can manage demand and provide a valuable service to the traveling public.

Overall, congestion can be avoided or managed on a long-term basis through the use of an integrated system of TDM strategies.

8.2 TDM Strategies and Their Effectiveness

TDM strategies, which are or have been used by other communities in the United States, include:

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. Flextime is a TDM strategy that has a high probability of being used successfully within Great Falls.

<u>Alternate work schedule</u>

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. An alternate work schedule is a TDM strategy that has a high probability of being used successfully within Great Falls.

<u>Compressed work week</u>

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). <u>Costs</u> 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). A compressed work week is a TDM strategy that has a high probability of being used successfully within Great Falls.

<u>Telecommuting</u>

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. <u>Costs</u> 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. This strategy has a high probability of being used successfully within Great Falls.

Ride sharing (carpooling)

Carpooling is traditionally one of the most widely considered TDM strategies. The idea is to consolidate drivers of single occupancy vehicles (SOV's) 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 rideshare as competition that reduces transit ridership. Ridesharing is a strategy that would work within Great Falls, 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.

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. Bicycling characteristics within Great Falls is primarily recreational in nature, and by implementing the bikeway network improvements as described in **Chapter 5**, a gradual shift to bicycling as a commuter mode of travel should be realized. 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 (further defined in **Chapter 5**), potential liability and accident risks (in some cases), and increased stress to drivers. Bicycling is an excellent, effective TDM strategy that has a great chance for success in Great Falls.

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. As with bicycling, walking is an excellent TDM strategy that has a great chance for success in Great Falls.

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. This TDM strategy is not likely to benefit the transportation system within Great Falls.

Car sharing

Car sharing is a demand reducing technique that allows families within a neighborhood to reduce the number of cars they own and share a vehicle for the limited times when an additional vehicle is absolutely essential. Costs are primarily related to creation, startup and administrative costs of a car sharing organization. This TDM strategy is not likely to benefit the transportation system within Great Falls.

Traditional transit

Traditional transit service is an effective TDM strategy, especially in a highly urban environment. The transit system in Great Falls is described in greater detail in **Chapter 5**. 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. Transit as a TDM strategy in Great Falls has a high likelihood of being successful, however funding constraints are the current limiting factor (discusses in more detail in **Chapter 5**).

Express bus service

Express bus service as a TDM strategy has been used by larger cities in the nation as a means to change driver vehicle characteristics. The use of an express bus service is founded on the idea that service between two points of travel can either be done faster or equal to the private automobile (or a conventional bus service that is not "express"). An express bus service TDM strategy would not be applicable to Great Falls.

Installing / increasing Intelligent Transportation Systems (ITS)
The use of ITS (Intelligent Transportation System) methods to alert motorists of disruptions to the transportation system will be well received by the transportation users, and are highly effective tools for managing transportation demands.

Installing High Occupancy Vehicle (HOV) lanes
High occupancy vehicle lanes would probably have a low cost / benefit ratio and possibly would be ignored in Great Falls. HOV lanes are generally used on very congested roadways where intersections and access control is somewhat limited. They also can be utilized on urban arterials. A HOV is typically described as having two or more persons in the vehicle during the time of travel. The benefits of a HOV lane in a congested corridor is that increased travel speeds and reliability for HOV passengers is realized. The costs include project construction, management and enforcement. Some critics also argue that HOV lanes encourage urban sprawl, contribute to poor air quality, and increase crash rates due to conflicts between vehicles in higher-speed HOV lanes and vehicles in lower speed general use lanes.

Ramp metering
Ramp metering has been used by some communities and consists of providing a modified traffic signal at on ramps to interstate highway facilities. The use of this TDM strategy would not be applicable to the Great Falls area.

Traffic Calming
Traffic Calming (also called Traffic Management) 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. **Chapter 9** discusses Traffic Calming in greater detail. 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.

Identifying and using special routes and detours for emergencies or special events
This type of TDM strategy centers on modifications to driver patterns during special events or emergencies. They can typically be completed with intensive temporary signing or traffic control personnel. A prime example would be modifying travel patterns after a White Sox game in Great Falls. Temporary traffic control via signs and flaggers could be implemented to provide a swift and safe exit out of the parking lot after a game. This is discussed in more detail later in this chapter.

Linked trips
This strategy entails combining trips into a logical sequence that reduces the total miles driven on the surrounding transportation system. These trips are generated by associated facilities within a mixed-use development or within an area of the community where

adjacent land uses are varied and offer services that would limit the need to travel large distances on the transportation system. This TDM strategy could be successful in Great Falls, particularly as new developments occur in the future that incorporate mixed uses.

Pay for parking at work sites (outside the downtown area)
TDM measures involving "paying for parking" outside the downtown area or at employers or paying more for single occupant vehicles can be regarded by those impacted as Draconian and may be poorly received in Great Falls.

Higher parking costs for single occupant vehicles (SOV)
Intuitively, free parking provided by employers is a tremendous incentive for driving alone. If the driver of a SOV is not penalized in some form, there is no perceived reason not to drive to the workplace. One way to counter this reality is to charge a higher price for parking for the SOV user. In Great Falls, this could possibly be implemented within the downtown area, where parking fees are charged for the eight city-owned parking lots. This implementation is not likely to have much of an impact to the frequency of SOV users on the transportation system.

Preferential parking for rideshare/carpool/vanpools
This concept ties into the discussion above regarding parking of the SOV user. Preferential parking (such as delineating spaces closer to an office for riders sharing their commute) or reduced/free parking can be an effective TDM strategy.

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.

Guaranteed ride home (GRH) programs for transit riders
The guaranteeing of a ride home for transit users is a wise choice for all transit systems, since it gives the users a measure of calm knowing that they will be able to get home. A GRH program provides an occasional subsidized ride to commuters who use alternative modes, for example, if a bus rider must return home in an emergency, or a car pooler must stay at work later than expected. This addresses a common objection to the use of alternative modes. GRH programs may use taxies, company vehicles or rental cars. GRH trips may be free or they may require a modest co-payment. The cost of offering this service tends to be low because it is seldom actually used.

Mandatory TDM measures for large employers
Some communities encourage large employers (typically with at least 50 to 100 employees) to mandate TDM strategies for their employees. This is a control that can be required by local governments on developers, employers, or building managers. The regulatory agencies often times provide incentives for large employers to make TDM strategies more appealing, such as reduced transit fares, preferred parking, etc.

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 Great Falls and its outlying areas as development occurs. Features could be built into a given development to encourage transit use from the start, and at the same time could be incorporated into the funding source available to the Great Falls Transit District to help offset costs associated with new service.

Alternating directions of travel lanes

This method of TDM is similar to that of Traffic Calming in that it strives to change driver characteristics and possibly enable users of the system to try different modes of travel. It also can serve to relieve a corridor during particularly heavy times of the day.

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.

While some of these options may work well in Great Falls, it is clear that some may be inappropriate for the Great Falls area. Additionally, some of these options are more effective than others. To provide a TDM system that is effective in managing demand, a combination of these methods will be necessary. These listed strategies were discussed during the Transportation Plan public meetings and hearing.

The measure of effectiveness of TDM strategies can be done using several different methods such as cost, usage, or those listed below:

- Reduced traffic during commute times;
- Reduced or stable peak hour traffic volumes;
- Increased commuter traffic at off peak times;
- Increased use of modes other than single occupant vehicles;
- Increased use of designated routes during emergencies or special events;
- Eased use of the transportation system by tourists or others unfamiliar with the system;
- Reduced travel time during peak hours; and/or
- Fewer crashes during peak hours.

In order to provide a TDM system that will address the needs of the Great Falls area, the elements of the system must be acceptable to the general population. If elements are proposed which are not acceptable, the TDM system goals will not be reached. However, it is also important to keep in mind the cost of implementing TDM measures. **Table 8-1** presents available TDM measures and ranks them by the likeliness of being accepted and implemented within Great Falls. A rank of "3" indicates that the measure has a high likelihood of being successfully implemented, a rank of "2" indicates that the measure would have more difficulty being accepted or implemented and a rank of "1" indicates that this measure would either be difficult to implement, or is inappropriate for Great Falls at this time. This ranking system is based on input from public meetings, as well as consultant knowledge and experience. It is not survey based.

The measures which could best be adopted and accepted by Great Falls residents are those which allow greater flexibility in work hours, changing modes of transportation, or address specific, time-limited situations.

Table 8-1 – TDM Measures Ranked by Anticipated Usability

Strategy	Rank
Alternating directions of travel lanes	1
Alternate work schedule	3
Bicycling	2
Car sharing	1
Compressed work week	3
Express bus service	1
Flextime	3
Guaranteed ride home program	2
Higher parking costs for single occupant vehicles	1
Identifying routes for emergencies or special events	3
Installing / increasing Intelligent Transportation Systems (ITS)	2
Installing High Occupancy Vehicle (HOV) lanes	1
Linked trips	3
Mandatory TDM measures for large employers	1
Park & Ride Lots	1
Pay for parking at work sites (outside the downtown area)	1
Preferential parking for rideshare/carpool/vanpools	1
Ramp metering	1
Required densification / mixed use elements for new developments	2
Ride sharing (carpooling)	2
Subsidized transit by employers	2
Telecommuting	2
Traffic Calming	3
Transit Oriented Development	2
Use of Great Falls Transit	2
Vanpooling	1
Walking	2

Those measures that would not be used in Great Falls generally address issues not present in Great Falls, such as significant commuting from a suburb. If such a problem existed, park and ride lots could be installed to address it. However, I-15 presently has less than one-third of the traffic that 10th Avenue South has and operates under free flow conditions at all times of the day. Other measures that would not be implemented in Great Falls in the foreseeable future involve “pay for parking” outside the downtown area. Travel characteristics in Montana are heavily dependent on population densities, distances to services (retail, medical, etc.), and locations of major employment centers. Often times travel distances are longer than what would be encountered in a larger urban area. Due to this nature of travel in Montana, private automobiles are unlikely to be replaced by other modes of travel until a change in technology occurs which allows travel by a mode that has the same flexibility of the automobile.

Another way to rank TDM measures is by the long-term cost effectiveness of the measure. The following **Table 8-2** ranks the potential TDM strategies by cost effectiveness. Cost effectiveness is defined as the greatest impact on managing traffic demand at the lowest cost to maintain / extend the transportation system. A rank of "3" indicates a measure which is the most cost effective, a rank of "2" indicates a measure which is moderately cost effective, a rank "1" measure is not cost effective, and the cost effectiveness of a rank "0" is unknown. This ranking system is based on input from public meetings, as well as consultant knowledge and experience. It is not survey based.

Table 8-2 – TDM Strategies and Their Cost Effectiveness

Strategy	Rank
Alternating directions of travel	0
Alternate work schedule	2
Bicycling	3
Car Sharing	2
Compressed work week	2
Express bus service	3
Flextime	2
Guaranteed ride home program	2
Higher parking costs for single occupant vehicles	3
Identifying routes for emergencies or special events	0
Installing / increasing Intelligent Transportation System (ITS)	3
Installing High Occupancy Vehicle (HOV) lanes	2
Linked trips	2
Mandatory TDM measures for large employers	3
Park & Ride Lots	2
Pay for parking (outside the downtown area)	3
Preferential parking for rideshare/carpool/vanpools	3
Ramp metering	2
Required densification / mixed use elements for new developments	0
Ride sharing (carpooling)	2
Subsidized transit by employers	2
Telecommuting	2
Traffic Calming	2
Transit Oriented Development	2
Use of Great Falls Transit	3
Vanpooling	2
Walking	3

Efforts merely to make the general public aware of the TDM programs are ineffective. TDM strategies only succeed when people actually change their trip-making behavior. Trip-making behaviors could be changed with incentives. Marketing programs with incentives can successfully introduce people to new ways of making trips, but keeping these same patrons in the new system then depends on additional measures or a change in mindset.

Pricing parking is among the most cost-effective alternatives. Taxes and/or charges for parking, however, are extremely unpopular with day-to-day users of the system, and are not recommended for Great Falls. However, these strategies are cost-effective since they can immediately change travel behavior and can be revenue neutral or generate revenue. In a highly congested, highly urbanized environment, this is a good option.

Another cost effective TDM alternative is using alternate modes of transportation such as transit, carpools, bicycling and walking. Many residential areas in Great Falls are within easy biking / walking distance of employment sites and shopping opportunities. Bus service is also readily available for most of Great Falls. The infrastructure for these alternatives is already in place and ready for use at any time.

Work week changes such as a compressed work week, alternate starting times, and telecommuting are among the most popular strategies with commuters, since they offer employees more time at home. They are less popular with employers since they may involve a change in the basic operating policies of the work site. Carpool and vanpool programs are less effective than changes to the work week unless there are parking incentives and they are used consistently by employees. Additionally, managing these programs can be expensive and produce limited impact without supporting incentives and disincentives.

Improvements from transit service changes cannot be quickly realized. Transit users must adjust to the changes, and the true impacts of any changes to the transit system will not be realized for approximately one year. Therefore, these changes must be weighed carefully. They are disruptive to the users of the system, and even attempts to reinstate previous routes are disruptive from a user's standpoint.

While some early evidence suggests that transit, bicycle, or pedestrian related developments are effective in increasing the use of these modes at new residential, commercial, and office sites, the cost effectiveness of these strategies is still unknown. Providing these amenities with the installation of the original infrastructure can provide an aesthetically pleasing, highly desirable development to live and work in. One study in southern California showed that employers who combined financial incentives with an "aesthetically pleasing" site, exhibited trip reduction results that were ten percent higher than those without these two critical strategies.

Applying TDM strategies to non-commute trips can be problematic. In Great Falls, as elsewhere, commute trips (home-based work trips) account for fewer than 20 percent of all travel. Trips for shopping, school, recreational, or other purposes generally have higher auto occupancy rates than home-based work trips. Using nationwide averages, home-based work trips have an average occupancy of about 1.1 people per vehicle, whereas other trip types have an average occupancy of 1.4 to 1.5 people per vehicle. Note that in Great Falls there is a high proportion of school related trips that use transit. Over 40 percent of transit users are associated with the schools. Not all TDM measures will work for non-commute trips. An example of this is bicycling to the home improvement store. Items bought at a home improvement store are usually bulky and/or heavy. This makes it difficult to get them home.

Finally, the concept of “linked trips” within an area can be an effective means of limiting traffic on the transportation system. These trips are sometimes referred to as “shared” or “internal” trips. These trips are generated by associated facilities within a mixed-use development or within an area of the community where adjacent land uses are varied and offer services that would limit the need to travel large distances on the transportation system. An example would be a development that incorporates residences, office space, industrial space, retail space, a health club, etc. The vehicle operator in this case may live and work in the same development, therefore reducing the need to access the transportation system outside of the immediate area. Linked trips do not represent additional trips on the surrounding transportation system. Future developments that incorporate mixed uses and travel sharing within its limits should be encouraged through the planning function. This is especially desirable given the noted change in demographics (see **Chapter 3**) expected to occur over the next twenty years.

8.3 Event Specific TDM Strategies

TDM strategies can be applied to specific events. If an event occurs on a regular basis which can be planned for, steps can be taken to manage the demands made on the transportation system. In Great Falls there are three events which would benefit from different types of management techniques.

The first is the 4th of July fireworks display. This event draws significant numbers of people in vehicles into the transportation corridors along the Missouri River, near the fireworks display. When the fireworks display ends, all of the vehicles attempt to leave the area at the same time. This causes significant congestion until the vehicles have cleared the area. The City of Great Falls has already adopted one TDM measure to address this situation, namely, providing specialized signal timing which allows the greatest opportunity for this traffic to disperse to their destinations. A second TDM measure which could be considered would be temporarily modifying the traffic control at certain key locations. This would involve using flaggers to direct traffic and allow vehicles to proceed through intersections at the flaggers’ direction rather than using traffic control normally in place. This would allow vehicles to get through these intersections in less time than would be possible without the flaggers’ help.

The second event, which has been brought forward by members of the public during the public meetings, deals with exiting the Great Falls Voyagers parking lot after a game is over. Long time residents of Great Falls remember when this lot had a second exit point which took traffic to the east along River Drive North. This exiting option is no longer available, and these people are frustrated by having to wait at the main entrance. The primary reason for closure of this exit was due to safety related concerns over left turning traffic out of the parking lot and potential crashes with the traffic stream on River Drive North. TDM measures can be put in place to facilitate vehicles exiting this parking lot. The simplest one is again using flaggers to temporarily modify the traffic control at the exit point. This would allow left and right turning traffic to exit the parking lot in less time than it would otherwise take. Depending upon how the exiting traffic proceeds, a flagger may also be appropriate at the intersection of 25th Street North and River Drive North. Other modifications to the transportation system may also be appropriate depending upon where the traffic actually goes.

The third item which could be addressed using TDM measures is developing detour routes for accidents or other road blockages along the 10th Avenue South corridor (which includes Country Club Boulevard and I-315). Due to the amount of traffic on 10th Avenue South, developing plans ahead of time to plan detours would help manage the demands of the transportation system. Of particular concern is the I-315/Country Club Boulevard segment which has very few route alternatives. Additionally, 10th Avenue South from 2nd Street South to 32nd Street South would also benefit by having detour plans in place.

8.4 Conclusions

Many TDM options are available for use in Great Falls. Existing infrastructure is in place to use alternative modes of transportation including transit, walking and bicycling. There are several major employers in Great Falls including the medical providers, refinery, City government, County government, Montana Air National Guard and Malmstrom Air Force Base who could be approached to implement work week adjustments (flex time, alternate work hours, compressed work week) that could make a noticeable difference to congestion. Designating a couple of prime parking spots for carpooling could increase its use among employees and provide positive recognition for those who carpool.

Developing strategies to manage the demand on the system generated by specific repeatable events such as baseball games or the 4th of July fireworks display would involve a one-time use of Great Falls staff time. Adjustments to these strategies could be made after seeing how they work. Coordination with the Police Department or other departments that would help implement these plans would then be needed on an intermittent basis.

Implementing these strategies in Great Falls could be done quickly and would be obvious to the traveling public. As such, it would be easy to demonstrate a successful TDM program and build approval for implementing additional TDM strategies.

8.5 Recommended TDM Strategies

Based upon this general TDM evaluation, Great Falls is poised to implement a successful TDM program. The recommended strategies are listed below. These could be implemented in any order. Since the 2003 Transportation Plan, efforts have been made to expand and improve bicyclist access to River's Edge Trail.

- Encourage employers to provide alternate work schedules to their employees.

- Implement a guaranteed ride home program for transit users.
- Provide bike racks in the downtown area for bicycling commuters.
- Increase bicyclist access to River's Edge Trail for commuting purposes.
- Encourage walking as a commute choice.
- Encourage biking as a commute choice.
- Look at ways to increase transit ridership.
- Review access to the Great Falls Voyagers ballpark and develop a plan to manage traffic into and out of the ballpark.
- Consider factors such as land use/zoning issues when approving non-rural projects in the outlying areas.

Chapter 9: 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. The 2003 Great Falls Growth Policy recognizes the role that traffic calming may be able to play in addressing neighborhood and regional traffic concerns. One of the strategies and actions identified in the Growth Policy was to "initiate a pilot traffic calming project in selected areas". This chapter serves to delineate a process by which a traffic calming program can be carried out, as well as going further to discuss different traffic calming measures and their applicability to different transportation systems.

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 sprawl; and
- Promote pedestrian, cycle 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.

9.1 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 Great Falls has many streets which already contain Traffic calming measures. These include street trees, 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. In Great Falls, 9th Avenue South appears to experience this phenomenon due to its proximity to 10th Avenue South. To address this situation, stop signs have been installed at some locations. Installation of stop signs is one of a number of traffic calming measures, and has been used extensively by the City. Stop and yield signs are prevalent on the east/west legs of the intersections of 9th Avenue South with the various north/south streets. These serve to discourage through traffic, while still allowing local traffic and necessary circulation back to 10th Avenue South.

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:

- 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 the Chapter. Regarding providing traffic calming measures on local access streets, an arterial system which functions well is the best way to limit the need to provide local access streets with retrofitted traffic calming measures.

9.2 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, Washington, and Portland and Eugene, Oregon.

In Missoula, and most of these Northwest 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.

9.3 Types of Traffic Calming Measures

Traffic calming measures generally fit into one of the following six categories.

1. Passive measures
2. Education and enforcement
3. Signing and pavement marking
4. Vertical deflection
5. Horizontal deflection
6. Obstruction

<u>Passive Measures</u>

Passive measures are described as measures which are built into the street environment. They are not immediately obvious to the traveling public, but nevertheless produce a calming effect on traffic. Some of these measures are listed below.

- Tree-lined streets;
- Streets with boulevards separating the sidewalks;
- Streets with raised center medians (usually landscaped);
- On-street parking (including angled parking);
- Highly visible pedestrian crossings; and
- Short building set-back distances.

These elements tend to slow traffic by giving motorists the impression that the street is narrow and that extra care is required, but these elements do not restrict or interfere with traffic flow. A combination of more than one of these techniques, or these techniques combined with measures from the other categories, will produce better results.

Education and Enforcement

Several techniques are available to raise public awareness of traffic problems and change the behaviors contributing to problems. Some of these techniques are listed below.

- Neighborhood Speed Watch Program - A speed monitoring program where residents themselves measure vehicle speeds with a radar unit and record license plate numbers of speeding vehicles. Follow-up action of the data can include sending letters to the registered owners of the vehicles explaining the safety concerns within the neighborhood and requesting better observance of the speed limits.

- Radar Speed Monitoring Trailer - A pull-behind trailer equipped with speed detection equipment, a readout of vehicle speeds, and a sign with the posted speed limit is brought to an area with speeding problems. The Great Falls Police Department currently has one of these trailers and this service can be requested by contacting the Great Falls Police Department. These trailers are usually unmanned; however better results are obtained if someone is present. Additionally, the trailer can be equipped with a camera that would record license plate information for possible follow-up.

- Neighborhood Traffic Safety Campaign – As a part of the normal neighborhood group activities, newsletters or other materials can be produced containing educational information regarding traffic issues. These materials can be tailored to issues of specific concern to different neighborhoods. These issues can then be addressed at regularly scheduled meetings or at special meetings and recommendations can be put forward to increase neighborhood traffic safety.

- Target Enforcement – This is a requested, time-limited addition of police enforcement within a neighborhood.

- Public Service Announcements (PSA's) – The Great Falls Police Department regularly produces video public service announcements on traffic issues, mainly related to safety. These occasionally include traffic calming information, and are televised during local news programs. PSA's could be used more regularly to inform the public on traffic issues and calming techniques identified in this Chapter.

Signage and Pavement Marking

Traffic control signs and pavement markings can be installed as non-intrusive traffic calming measures. These techniques are already in use in the Great Falls area. The signs can include speed limit signs, dead-end street signs, and signs indicating school crossings or general pedestrian crossing. Pavement markings can include marked crosswalks, delineation of (narrow) lanes, and speed limit markings. Traffic calming techniques which specifically fall in this category include:

- Truck Route Signing – Signs placed on routes where trucks are allowed, plus signs placed on routes where trucks are not allowed.
- Basket Weave Stop Sign Pattern – Stop signs placed at every intersection in a residential neighborhood with stops alternating between east west and north south. Note: this is appropriate for local access streets only, and it disregards MUTCD warrants.
- Additional speed limit signs.
- Edge Lines – Painted lines on the pavement which narrow traffic lanes and/or provide for bicycle lanes or on-street parking.
- Stop Bars – painted lines on the pavement that show motorists where to stop for stop signs.

Vertical Deflection, Horizontal Deflection, and Obstruction

There is a wide variety of physical traffic calming measures which fall under the categories of vertical deflection, horizontal deflection and installation of obstructions. Each measure has both advantages and disadvantages. A comprehensive description of a wide variety of these measures is presented on the tables at the end of this Chapter. These tables include a general cost for basic installation of each measure. Actual costs may increase, depending upon such additions as irrigation systems, street lighting, landscaping, installation of decorative brick pavers, etc. Acquisition of additional right-of-way can also raise the cost, sometimes dramatically so.

Several guidelines should be considered when deciding to implement these types of deflection and obstruction measures. These include:

- Attempt less restrictive measures before considering more restrictive measures such as road closures or other route modifications.
- Space devices 300-to-500 feet apart in order to contain speeds to a 20-to-25 mile-per-hour speed range.
- Make accommodations for drainage and snow removal.
- Make accommodations for emergency vehicles.
- Consider pedestrian and bicyclist needs.
- Address landscaping or other maintenance issues.

9.4 Traffic Calming Program Summary

Many traffic calming programs are in place in the United States. The best programs provide a balance of citizen input and economic realities, and are standardized for fair treatment of all residents. These programs ensure that the traffic calming techniques proposed are necessary, attractive, effective, and safe, and are implemented at a minimal cost to the general public. The programs also provide citizens a regular and on-going opportunity to nominate, test, and implement improvements to address problems with the local street network in a timely, orderly, and efficient manner.

Such a program is proposed for the greater Great Falls area. This proposed traffic calming program is broken down into three phases, each with multiple steps. Together they are designed to ensure that the physical construction is done only when truly necessary, and only when lesser measures have been tried first. Each phase would require the participation of neighborhood residents, the neighborhood councils, and the Public Works Department. The program's priority is the safe use of the streets for all users, be they vehicular, cyclist, or pedestrian.

For purposes of this discussion, the agency with jurisdiction will be the City of Great Falls. However, this does not preclude a similar program being implemented by Cascade County. Therefore, during the following discussion, the use of the term "the City" refers to whatever jurisdiction ultimately implements this procedure.

9.5 Traffic Calming Program for Existing Streets

The method to implement a traffic calming program for existing streets is recommended in this section of the Chapter. It is important to note when examining this recommended program and its procedures that the process may be modified depending upon various factors. Some of these factors would include the severity of the problem, location of the problem (one intersection or area-wide), cause of the problem (such as a special seasonal event like the State Fair), or other circumstances which affect the situation under consideration. Under any of these circumstances, the process may be altered at the discretion of the Public Works Department. This can include accelerating, slowing down, or terminating the process. Although some traffic calming measures are applicable to higher volume roads like collectors or in some commercial areas, the process outlined here is for local residential streets only.

To facilitate this process, the City will work closely with the Neighborhood Councils. This process would start early with the City supplying all the Neighborhood Councils with information about the traffic calming program and a number of Investigation Request Forms. With this preliminary coordination in place, the process can proceed smoothly.

Phase I – Problem Identification and Investigation

Step 1: Step one can begin in two ways. First, a citizen contacts the Neighborhood Council where the traffic problem is. The Neighborhood Council listens to the circumstances, agrees there is a problem, and then completes an Investigation Request form and sends it to the Public Works Department. The responsibility to fill out the form can be delegated to the resident bringing forward the concern, or remain with the Council; or Second, the Neighborhood Council sees a need for traffic calming within their neighborhood on an area-wide basis and then completes and forwards an Investigation Request form to the Public Works Department.

The form is key to this process, because it has the information about the nature of the problem, its location, and the signatures of at least ten other neighborhood residents who agree the problem exists. Furthermore, it identifies the Neighborhood Council and interested local residents. Note the Investigation Request form requires signatures from ten residents agreeing that the situation observed exists, and this portion must be completed in order to move this process forward.

Step 2: After receiving the form, the Public Works Department would contact the neighborhood to discuss the nature of the perceived problem. This contact would include the Neighborhood Council and, if appropriate, local residents. This is an important step, since this discussion helps determine the types of studies which need to be conducted, and would help focus on potential solutions.

Step 3: The Public Works Department conducts a field review of the location, and collects the appropriate data in order to determine whether or not the perceived problem actually exists. For most requests, the accident records would be reviewed, and traffic volumes collected. Other studies that may be appropriate include a speed study, truck count, or determining the percentage of cut-through traffic.

Once this data is collected, it is reviewed in the office against baseline traffic calming criteria. These should include at least one of the following:

- Traffic volumes higher than 1,000 vehicles per day or 100 vehicles in one hour.
- Three or more accidents in a 12-month period, occurring within the last three years.
- An 85^{th} percentile speed at least 5 mph over the speed limit.
- Truck traffic volumes exceeding five percent of the total traffic volumes.
- More than 25% cut-through traffic during any single hour of an average day.
- Pedestrian crossing volume of 25 people per hour for any single hour of an average day.
- Chronic failure of drivers to yield to pedestrian traffic at an intersection.
- Other criteria as agreed upon by the neighborhood and the Public Works Department.

After the data is collected and reviewed against the baseline criteria, the Public Works Department shares the results of the review with the Neighborhood Council and any interested local residents. If the subject location meets the required criteria, the Public Works Department would review the Phase II process with the Neighborhood Council and interested local residents. If the location does not meet the above criteria, the Public Works Department would discuss options with the neighborhood to address the situation outside of the traffic calming program.

Phase II – Implementation of Passive Traffic Calming Strategies

Step 4: The Public Works Department determines the boundaries of the affected neighborhood. Neighborhood boundaries will generally follow arterial streets or other natural physical boundaries such as rivers, abrupt changes in elevation, etc. A neighborhood meeting would then be scheduled by the Public Works Department to discuss possible educational / enforcement solutions to the problem. The map prepared by the Public Works Department delineating the boundary of the affected neighborhood is given to the Neighborhood Council who is then responsible for contacting the area residents about the meeting. At the meeting, the Public Works Department would present a range of educational / enforcement or low level engineering options. These measures would emphasize the least intrusive measures which may expand beyond educational / enforcement options to only minor physical changes, such as increased signing, installing pavement marking or trimming vegetation. The purpose of this meeting is to agree on a course of action to address the situation. This step may require more than one meeting and should not be considered complete until a course of action is agreed upon.

Step 5: A member of the Neighborhood Council or interested local resident circulates a Phase II petition within the boundary of the affected neighborhood. This petition identifies the proposed education / enforcement / engineering techniques, and asks residents to indicate their approval. The petition must be signed by more than forty percent of the property owners within the boundary of the affected neighborhood for the process to proceed. If a large number of residences are not owner occupied, then neighborhood residents may sign the petition, but the required amount is raised to fifty percent. Because these measures affect residents at their homes and in their neighborhoods, substantial neighborhood support is mandatory. If the required amount of signatures are obtained, the identified measures can then be implemented. If neighborhood approval cannot be secured, no further action would be taken.

Step 6: Approximately 90 days after implementing the measures, the City would repeat the data collection process it performed in Phase I. Please note that the 90-day time frame is generally enough time for shifts in the traffic patterns to have occurred. However, this may need to be modified depending on seasonal conditions or other factors. If the data collected indicates that the problem has been alleviated, the educational and/or enforcement activities can be considered as adequate and the process a success.

Phase III – Implementation of Active Traffic Calming Strategies

Step 7: If the traffic problem has not been resolved by the measures implemented during Phase II, the Public Works Department then conducts a more intensive engineering study to determine a range of appropriate physical improvements to the location. The study should consider installation of either vertical or horizontal deflection techniques before considering roadway obstruction techniques.

Step 8: The Public Works Departments schedules a neighborhood meeting to review the improvement options. Once again, the Neighborhood Council is responsible for notifying area residents about the meeting. The Public Works Department facilitates this 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 version of the device is feasible, the Neighborhood Council or a designated representative circulates a Phase III Petition for Temporary Measures throughout the affected neighborhood. At least fifty percent of the property owners within the affected neighborhood must sign the petition for the temporary version of the preferred traffic calming device to be installed. Once again, if the neighborhood is predominantly not owner occupied, the residents can sign the petition, but at least sixty percent of the residents must sign the petition. If less than fifty percent of the property owners or sixty percent of the residents sign the petition, the elements from Phase II may remain in place, but no additional elements would be installed.

Step 10: After one year, the City would repeat the same data collection process as completed during Phase I to determine whether or not the temporary device is effective. If it is found not to be effective, the City would notify the Neighborhood Council and remove the device. The process then can begin again at Step 7.

Step 11: If the temporary device is effective, the Public Works Department then develops a preliminary design and cost estimate for installing a permanent traffic calming device. The Public Works Department also determines the funding mechanism to finance the permanent solution. The Public Works Department would look at all possible funding sources including federal or state grants, pilot project funding, etc to lower the costs to local residents. The City would provide the Neighborhood Council with this information, and the “Petition for Installation of Permanent Measures” can be initiated.

Step 12: The Neighborhood Contact circulates the petition for Installation of Permanent Measures, which includes a copy of the preliminary design, the cost estimate and an explanation of financial responsibility to the property owners in the affected neighborhood. The petition must be signed by seventy percent of the property owners in the affected neighborhood to allow the process to move forward. If less than seventy percent of the property owner sign the petition, the process cannot continue, and the temporary measures would be removed. However, if more than seventy percent of the property owners sign the petition, the Public Works Department would bring this measure before the City Commission for their approval, complete a final design and arrange for construction of the permanent traffic calming device. Note that financial obligations by the residents would be required at this point and must be in place before construction would begin.

Note: there are numerous points during this process at which the traffic calming process can be ended due to completion of the process or lack of adequate neighborhood support. Since neighborhood sentiment can change at a later date, the process can be resumed a year later at the same step where it left off.

Project Costs

The cost sharing related to installing traffic calming measures should be based on the initial need for the measure. The need for the measures can arise from one of the following situations.

- Poor initial street design
- Inadequacies of the major street network
- Commercial and/or residential development adjacent to the neighborhood

During Phase I of the process, the nature and cause of the traffic problem would be identified. From this information, the City would proportion the project costs. It is possible that such entities as the City, the neighborhood residents, developers, or other parties would be involved in paying for the traffic calming measures.

The costs of Steps 1 through 11 would be mostly borne by the City, other than the volunteer hours worked to complete paperwork, gather petition signatures, and notify residents of traffic meetings. Permanent traffic calming measures, as proposed in Phase 12 would likely be financed by neighborhood contributions, development fees, City funds and funds from other sources. The proportion of funding from various sources will vary on a case-by-case basis.

Removal of Permanent Traffic Calming Devices

To remove a permanent traffic calming device, the Neighborhood Contact must submit a "Petition for Removal of Traffic Calming Measure". This petition must be signed by ninety percent of the property owners within the affected neighborhood. The property owners within the affected neighborhood will be fully responsible for paying the cost of removing the traffic calming devices.

9.6 Incorporating Traffic Calming Measures in New Street Designs

Much more is known about street function and design now than was known when Great Falls was originally laid out. As such, street function should be identified at the beginning of the project approval process, and the streets designed to accomplish the functions appropriate for them. Those designed as arterials (part of the major street network) should be designed to efficiently move traffic in a convenient and safe manner. Conversely, streets that are intended to be local access streets or collector streets should be laid out and designed to primarily provide access to adjacent land, while discouraging through traffic and the higher travel speeds that accompany it. New developments, therefore, should include inherent traffic calming features which are an integral part of their design. If designed properly, the appropriate functions of the different categories of street would be intuitively obvious to the traveling public.

Some of the techniques that could be adopted for local access streets include:

- Street layout;
- Design standards including lane width, curve tightness, on-street parking and landscaping;
- Street connectivity;
- Pedestrian / bicycle facilities;
- Intersection treatments such as small corner radii, pedestrian bulb-outs, etc.;
- Judicious use of "T" intersections;
- Entrance treatment; and
- Traffic circles.

To achieve these goals, the City could incorporate traffic calming improvements into the adopted standard street designs. These designs could include recommendations where various treatments are appropriate as well as when they could be used. Design details could also be included to provide a guideline of what would be acceptable to the City.

Traffic calming design characteristics should also be incorporated into the City's development review and annexation review processes. Proposed developments or requests to annex would be reviewed by staff to determine whether or not traffic calming elements incorporated into the development's layout are appropriate for the given location, or alternatively, what strategies are best suited, and what design details could be considered. The process should be designed to pro-actively assist developers in utilizing traffic calming strategies to improve the quality of life in their developments, while minimizing or eliminating the costs for retrofit efforts. Due to the long term effects of original roadway layout and construction, the traffic calming program should apply to all development in the transportation study area.

The designing of new subdivisions with inherent traffic calming procedures in place will ultimately result in better neighborhoods for new residents, and better use of arterials by the traveling public.

9.7 Traffic Calming Techniques Applicable to Collectors and Minor Arterials

A few of the measures depicted on the tables on the following pages are applicable to non-local street conditions. Installation of any of these measures will be done at the discretion of City staff. These measures do not fall under the process outlined in Section 9.5. 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 sectors. 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.

Chapter 10: Recommended Short Range (SR) Improvements

10.1 Status and Applicability of Previously Identified SR Projects

Short Range (SR) projects are relatively low cost, "tune-up" type improvements. For the purposes of this Plan an improvement project was classified as a SR project if the cost of the project was estimated to be less than $500,000 and/or there was a reasonable chance that the project could be implemented within a five to ten year timeframe. Problem areas which can usually be addressed in the short range, given the dollar threshold listed above, are as follows: intersection capacity problems (both signalized and unsignalized), pavement condition problems (i.e. overlays, chip seals, etc.), crash problems (i.e. sight distance improvements, better signing and/or pavement markings), and roadway/lane width and capacity concerns.

The status of projects recommended in the 2003 Transportation Plan were reviewed to determine which have been completed, which are no longer valid, and which projects should be included as part of this planning document. Of the projects, 4 were completed, one was partially completed, and two were combined with committed Major Street Network improvements (see **Chapter 11**). The remaining committed projects are still valid, though some have had slight modifications to them.

Note on project estimates: The most accurate and recent cost estimates known for each project have been used. Although most of the project cost estimates are planning-level estimates, they are in year-of-expenditure dollars (using a yearly inflation factor of 3%) and include all project phases.

10.2 Committed SR Improvements

The definition of a committed project is one that has been approved by the PCC. It also has committed funding available (funding program shown in parenthesis after estimated cost). The funding programs are defined in detail in **Chapter 13** of this Transportation Plan. Note that known pavement preservation activities are included in this list, even though they are typically addressed through a general "Pavement Preservation" category in the Transportation Improvement Program, and area typically not described as specific projects. Future projects will likely be included similarly – either as specific projects or as part of the overall "Pavement Preservation Category", as well as covered under "Operation and Maintenance" categories and funding types.

- CSR-1. Add side-street turn lanes to reduce delay at the intersections of 10th Avenue South and 38th Street South and 23rd Street South.
  Estimated Cost: $340,000 (MACI)

- CSR-2. 26th Street South (20th Avenue South to 33rd Avenue South): Overlay poor sections on this piece of roadway with new asphalt.
  Estimated Cost: $1,900,000 (STPU)

- CSR-3. 33rd Avenue South and 13th Street South: This intersection exhibits poor sight distance and modifications to the intersection legs should be made. Specifically, intersection should be reconfigured to a conventional "T" intersection with stop control on the east leg (33rd Avenue South. In addition, a detailed sight distance study should be completed to examine improvements to the north leg of 13th Street South.

  Estimated Cost: $145,000 (STPU)

- CSR-4. Wilson Butte Road/55th Avenue South/Eden Road/Lower River Road: It is recommended that this intersection be reconfigured into a more conventional four-legged intersection with appropriate stop control as necessary. This modification can be accomplished by relocating Wilson Butte Road as it enters the intersection to line up directly opposite 55th Avenue South. It is recommended that these two legs be stop controlled.

  Estimated Cost: $330,000 (STPU)

- CSR-5. Construct miscellaneous sidewalk at various locations.

  Estimated Cost: $2,200,000 (MACI) Note: a portion has been constructed – remaining portion estimated at $1,500,000.

- CSR-6. 1st Avenue North overlay (Park Street to 9th Street).

  Estimated Cost: $550,000 (Urban Pavement Preservation, Economic Stimulus)

- CSR-7. 1st Avenue North/River Drive overlay, pavement preservation.

  Estimated Cost: $550,000 (Urban Pavement Preservation, Economic Stimulus)

- CSR-8. 6th Street North overlay (Central Avenue to 8th Street North).

  Estimated Cost: $400,000 (Urban Pavement Preservation, Economic Stimulus)

- CSR-9. 10th Avenue South overlay (38th Street to 57th Street).

  Estimated Cost: $2,000,000 (NHS)

- CSR-10. Great Falls SE (concrete dowel bar retrofit, surface maintenance) US Highway 87/89, past urban limits.

  Estimated Cost: $3,900,000 (NHS)

- CSR-11. Junction Bootlegger Trail NE (turn lane/widening, US Hwy 87 north).

  Estimated Cost: $1,800,000 (Special Appropriation)

- CSR-12. River Drive overlay (1st Avenue North to 9th Street North).

  Estimated $700,000 (Pavement Preservation, Economic Stimulus)

- CSR-13. Park Drive overlay (6th Street North to 1st Avenue North).
  Estimated $480,000 (Pavement Preservation, Economic Stimulus)

- CSR-14. Fox Farm Road/6th Street Southwest/I-315 intersection improvement.
  Estimated $200,000 (SAFETY)

TOTAL COMMITTED SR PROJECTS = $19,095,000

10.3 Recommended SR Improvements

During the preparation of this Plan, a number of additional Short Range (or at least lesser cost) projects were identified. The following list of SR projects is not in any particular order of priority:

- SR-1. Signal Warrant Analysis: A number of intersections should be periodically checked for signal warrants as development and projects occur around the community. These intersections include: the north and west sides of the airport interchange (realizing a large amount of growth is predicted to occur there); the intersection of Central Avenue West and Vaughn Road; 25th Avenue NE and 10th Street NE; 25th Avenue NE and 15th Street NE; Smelter Avenue and Wire Mill Road; Fox Farm Road and Park Garden Road; and 3rd Avenue South and River Drive; and other locations as the need may arise.
  Estimated Cost: $190,000
  Possible Funding Source: MACI

- SR-2. Signal Modifications/Upgrades: It is recommended that the community work towards upgrading all traffic signals in the City as appropriate. Upgrades would include but not be limited to signal heads, pedestrian push buttons, pedestrian heads, LED upgrades, battery backup systems, etc. The size and location of the various components to be upgraded will vary and not necessarily be of a consistent type, but rather should consider the surrounding area and be sensitive to the context for which it will be used. In primarily industrial and/or commercial areas, a standard signal head, consistent with MDT standards, are appropriate. Areas within the Central Business District (CBD) or in primarily residential neighborhoods should be evaluated for a less intrusive type of signal head (brightness), signal pole, and signal mast arm.
  Estimated Cost: $ 240,000
  Possible Funding Source: NHS, STATE MAINT., URBAN, MACI, ECONOMIC STIMULUS

- SR-3. 6th Street North (from River Drive to 8th Avenue North): It is recommended that this piece of roadway be overlaid with new asphalt. This project was contained in prior Great Falls transportation plans. In addition to the asphalt work, it is also recommended that new curb and gutter and storm drainage updates be included as part of the project.

Estimated Cost: $620,000
Possible Funding Source: STPU

- SR-4. 3rd Street NW and Northwest Bypass signal replacement: Install signal arms and new signals and related equipment.
  Estimated Cost: $400,000
  Possible Funding Source: NHS

- SR-5. 6th Street Southwest and 4th Avenue Southwest: It is recommended that this intersection be signalized to better accommodate minor approach traffic (i.e. the 4th Avenue Southwest legs). This new traffic signal can be a semi-actuated signal, with no geometric improvements to the intersection being required. A study of existing conditions shows this intersection meeting the following signal warrants: Warrant 1b (Eight-Hour Vehicular Volume - Interruption of Continuous Traffic), Warrant 2 (Four-Hour Vehicular Volume), and Warrant 8 (Roadway Network). Along with the recommended signalization, it is recommended to provide appropriate intersection lighting and pedestrian crossing facilities.
  Estimated Cost: $420,000
  Possible Funding Source: MACI

- SR-6. River Drive North and 25th Street North: It is recommended that this intersection be signalized and reconfigured to improve the level of service and better accommodate traffic. This intersection meets Signal Warrants 1(a), 1(b), 1(c), 2, 3, 6 and 8. It is desirable to reconfigure the east leg by providing an extension to the left turn bay. Along with the recommended signalization and approach reconfiguration, it is recommended to provide appropriate intersection lighting and pedestrian crossing facilities. The warrant analysis should be repeated at this intersection after the signal is installed at 38th Avenue North and River Drive North as planned in project C-1 (see **Chapter 11**).
  Estimated Cost: $670,000
  Possible Funding Source: STPU, MACI, CITY

- SR-7. 10th Avenue South and 32nd Street South: It is recommended that the 32nd Street South legs of this intersection be reconfigured to align better along a slight skew. Presently, the PM Peak hour at this intersection experiences a LOS of D due to excessive delay experienced for the minor approaches (32nd Street South). These legs are split phased, and, by aligning the two legs (i.e. north and south leg), the phasing of the signal can be put on the same phase. This would in effect provide more time for vehicles to get through this intersection and improve the level of service. The pavement on the south leg should be examined for replacement also as it affects the speed of traffic exiting this leg.
  Estimated Cost: $170,000
  Possible Funding Source: MACI

- SR-8. Central Avenue West (from 3rd Street Northwest) to 1st Avenue North (at River Drive), including the 1st Avenue North bridge and approaches: It is recommended that this corridor and corresponding intersections undergo re-striping and intersection modifications. It is recommended to make the following adjustments, to improve traffic flow and operations in the area:

Bridge Structure: the existing bridge is currently striped as a four-lane facility with very wide travel lanes. The bridge is sufficient in width to re-stripe to add two more lanes – making the facility a six-lane roadway. It is recommended that this be completed to accommodate the recommendations below at the adjoining intersections.

Central Avenue West / 3rd Street Northwest: this intersection will require some re-configuration on the south leg to improve level of service and operations. It is recommended that the south leg be re-striped to allow for a left turn lane, a combination through and right turn lane, and an exclusive right turn lane (AM Peak volumes show a through volume of 103 vehicles and a right turn volume of 281 vehicles).

1st Avenue North / River Drive: this intersection will require modification on the north leg (i.e. River Drive). On the southbound leg, it is desirable to widen to the west slightly and provide for an exclusive right turn lane, a shared right turn/through lane, and an exclusive left turn lane.

1st Avenue North (between River Drive and Park Drive): re-stripe this segment of roadway to a six-lane principal arterial standard. The available width on the north side of the median is 35 feet. On the south side of the median, there is 33 feet (which is striped as 3 lanes at 11 feet each). The north side of the median should be re-striped at 12 feet, 11 feet, and 12 feet. This measure would improve traffic flow characteristics during the PM peak for vehicles using the intersection of 1st Avenue North / Park Drive.

Park Drive (between 2nd Avenue North and 1st Avenue North): re-stripe this segment of roadway to provide for a two lane roadway on Park Drive, south of 2nd Avenue North. Also provide a right turn only lane and a combined thru lane / right turn lane on the north leg of the intersection of 1st Avenue North and Park Drive. A designated left turn lane will also be required on the north leg, with applicable geometric modifications to the south leg to line up the respective turning movements.

Estimated Cost: $770,000
Possible Funding Source: STPU

- SR-9: This short-range (SR) project includes several projects within the County that have been lumped together. Funding for completion of all these projects should be solely through County financial mechanisms. These projects are as follows:

  26th Street South (between 24th Avenue South and 33rd Avenue South): This roadway exhibits rural roadway characteristics and has an extremely abrupt shoulder edge in many spots along this corridor. At a minimum, it is recommended to rebuild the shoulders in spot areas to flatten the fill slopes to benefit roadway safety and potential "run-off-the-road" vehicles. This short range project primarily relates to the east side of the roadway.

Estimated Cost: $275,000

26th Street South and 33rd Avenue South: This intersection exhibits poor sight distance and modifications to all four legs should be made. Stop control of this intersection should be installed on the north and south leg (i.e. 26th Street South). The four legs should be modified to gain a suitable approach grade to the intersection.

Estimated Cost: $150,000

Flood Road and 45th Avenue South: It is recommended that this intersection be changed to stop controlled on the 45th Avenue South leg of the intersection. It is currently yield controlled, and some minor driver hesitancy was observed during field reviews of this area.

Estimated Cost: $10,000

Flood Road (south of Dick Road): It is recommended that a speed study be completed and appropriate speed control signs be installed. Given the future development potential of this area and the increase in traffic expected, a study would be prudent to ensure appropriate speeds are regulated and signed properly.

Estimated Cost: $5,000

- SR-10: 10th Avenue South and 2nd Street South: make geometric improvements to this intersection on the northeast corner of the intersection by improving the signage, pavement markings and traffic flow to encourage proper traffic flows. The stop light and stop bar are ineffective at controlling the westbound to northbound traffic movement around the corner. Also, the eastbound to northbound left turning traffic on 10th Avenue South should have a protected / permissive left turning phase. Currently, it is only a protected phase, and the turning traffic has to wait through several available gaps in the opposing traffic stream.

  Estimated Cost: $100,000

  Possible Funding Source: STPU, NHS

SR-11: Make geometric improvements to the intersection of 10th Avenue South and 29th Street South by widening the south approach to provide a separate right turn lane and a shared left turn/through lane. Incorporate signalized intersection. Although previously a committed project, this project will be delayed and re-considered after completion of the Major Street Network project titled, 10th Ave S (26th-20th) project (identified as project C-2 in **Chapter 11**) is complete, estimated to be in 2011.

Estimated Cost: $300,000

Possible Funding Source: MACI

- SR-12: Pavement preservation activities (overlay/chipseal or partially reconstruct, and including ADA ramps/sidewalk in some locations) on various

Urban roadways, including: 1st Avenue South from 12th to 13th Street and 14th to 15th Street; 2nd Street South from 1st to 10th Avenue South; 6th Street South from 1st to 2nd Avenue South, 3rd to 4th Avenue South, and 8th to 10th Avenue South; 8th Avenue North from 6th Street to 38th Street; 9th Street North from 2nd to 8th Avenue North; 9th Street South from 10th to 13th Avenue South; 25th Street North from Central Avenue to River Drive; 26th Street North from Central Avenue to 8th Avenue North; Smelter Avenue from Division to 6th Street NW; Watson Coulee from 5th Avenue NW to NW Bypass; other, as needed.*

Estimated Cost: $6,500,000

Possible Funding Source: STPU, CITY, Pavement Preservation

*Note: Portions of this project may be buildable in shorter timeframes. Pavement Preservation actions would not be necessary if subject roadways were part of a reconstruction project identified as MSN Projects. Also, most pavement preservation and minor improvement projects are not typically included in Transportation Plans, and are covered through general "Maintenance and Operations" and "Pavement Preservation" categories in the TIP and other project planning and scheduling documents.

TOTAL RECOMMENDED SHORT RANGE PROJECTS = $10,820,000

10.4 Short Range Improvement Projects with No Identified Funding

Even short range projects are often not fundable due to budget limitations. The following list of projects are relatively simple in development and execution, but of high enough cost that existing funding mechanisms are likely not capable of funding the improvement. Local transportation agencies and governments should seriously consider special funding such as local option taxes, bonding and rural or special improvement districts to fund improvements. However, because there is not a history of such funding options being used locally, this Plan cannot count on the use of such mechanisms. Therefore, higher-dollar "short range" projects are included here as necessary, but beyond the fiscal feasibility of the plan due to lack of likely funding sources. The projects listed below should be considered "illustrative projects" for the purposes of fiscal constraint of this Plan, and will be moved to development only when adequate funding sources are identified.

- 24th Avenue South (from 13th Street to 26th Street): It is recommended that this piece of roadway be overlaid with new asphalt. This project was contained prior Great Falls transportation plans.

  Estimated Cost: $2,800,000

  Possible Funding Source: COUNTY, CITY

- 33rd Avenue South (from 13th Street to 26th Street) : It is recommended that this piece of roadway be overlaid with new asphalt. This project was contained in prior Great Falls transportation plans. There are several narrow sections along this corridor that should be widened, both for safety considerations and to accommodate bicycle lanes in the future.

  Estimated Cost: $2,800,000

Possible Funding Source: COUNTY

- 40th Avenue South (from Upper River Road to 13th Street): It is recommended that this piece of roadway be overlaid with new asphalt. This project was contained in prior Great Falls transportation plans.
  Estimated Cost: $2,600,000
  Possible Funding Source: COUNTY

- Franklin Avenue (from Lower River Road to 13th Street): It is recommended that this piece of roadway be overlaid with new asphalt. This project was contained in prior Great Falls transportation plans.
  Estimated Cost: $1,500,000
  Possible Funding Source: COUNTY

- 55th Avenue South (from Lower River Road to 13th Street): It is recommended that this piece of roadway be overlaid with new asphalt. This project was contained in prior Great Falls transportation plans.
  Estimated Cost: $1,100,000
  Possible Funding Source: COUNTY

- Fox Farm Road and Park Garden Road: It is recommended that a signal at this intersection, along with geometric modifications, be constructed when signal warrants are met. Presently, no signal warrants are met at this intersection. However, given the projected residential growth south of this intersection and the calculate LOS for the year 2025, LOS of F will be evident given future traffic volumes. This intersection should be monitored and warrants calculated as needed to evaluate the need for a traffic signal.
  Estimated Cost: $460,000
  Possible Funding Source: MACI, CITY

- Fox Farm Road – Alder Drive to Park Garden Road: It is recommended to re-stripe this roadway to a four-lane facility to accommodate existing traffic volumes, as well as projected future traffic volumes. It is recommended to remove on-street parking within this stretch of roadway. A parking lot to serve the adjacent Meadowlark Elementary School and Montana Park should be built west of the road to mitigate loss of on-street parking.
  Estimated Cost: $720,000
  Possible Funding Source: STPU, CITY, MACI

- Wilson Butte Road (from Eden Road to transportation plan study area boundary): It is recommended that poor sections on this piece of roadway be overlaid with new asphalt. This project was contained in prior Great Falls transportation plans.
  Estimated Cost: $2,000,000
  Possible Funding Source: COUNTY, RID

- Upper River Road (from 19th Avenue South to 40th Avenue South): It is recommended that poor sections on this piece of roadway be overlaid with new asphalt. This project was contained in prior Great Falls transportation plans.

  Estimated Cost: $4,000,000
  Possible Funding Source: CITY, SID

- North Airport Access Road Feasibility Study: It is recommended that an in-depth feasibility study be completed to analyze the constraints and benefits of a new northerly airport access road, in conjunction with a new interchange to I-15 near 13th Avenue Southwest. The value of such a connection to the CANAMEX trade corridor and the economic health of the community in general is the driving factor behind this high interest project. If a feasibility study shows the project to be sustainable, a roadway and interchange may be warranted.

  Estimated Cost: $70,000
  Possible Funding Source: SPECIAL APPROPRIATIONS

TOTAL ILLUSTRATIVE SHORT RANGE PROJECTS = $18,050,000

View Figure 10-1

View Figure 10-2

Chapter 11: Recommended Major Street Network (MSN) Improvement Projects

This chapter of the Transportation Plan includes a variety of recommended major street network (MSN) improvement projects. These projects are needed to meet the anticipated traffic demands of the year 2030. This chapter summarizes the recommended projects.

The cost estimates shown were prepared in 2008 by MDT or in early 2009 by Camp, Dresser and McKee, engineering consultant. Recommended funding programs are shown in parenthesis after the estimated project cost. The funding programs are defined in detail in **Chapter 13** of this Transportation Plan.

Note on project estimates: *The most accurate and recent cost estimates known for each project have been used. Although most of the project cost estimates are planning-level estimates, they are in anticipated year-of-expenditure dollars (using a yearly inflation factor of 3%) and include all project phases. Due to the uncertainty of construction prices in recent years, the estimates are conservative estimates; that is, they are considered to be high and to include the most complete facility desired. Any project considered for advancement should undergo a current cost estimate, which would include an examination of site conditions and subsequent development of more detailed project scope.*

11.1 Status and Applicability of Previously Identified Major Street Network (MSN) Improvement Projects

Six of the committed major street network projects included in the 2003 Transportation Plan have either been completed or are currently under construction. The remaining projects from the 2003 Transportation Plan are included in this update, with a number of the recommended projects moving to the committed projects section.

11.2 Committed MSN Improvement Projects

A committed major street network (MSN) improvement project is defined as any transportation project that has an identified funding source, and has been approved and committed to by the Great Falls Policy Coordinating Committee (PCC). A brief description of each of these committed projects is presented below. The committed projects are not listed in any particular order. These committed projects will be implemented as soon as practical.

Projects listed below that are currently included in the five-year capital improvement program (CIP) and Transportation Improvement Program (TIP).

- C-1: Reconstruct Smelter Avenue (10th Street Northeast to Golf Course Entrance) to an urban collector street standard, including sidewalks and a re-alignment of the intersection with Wire Mill Road. Bridge work over 15th St NE may be necessary.
  Estimated Cost: $6,200,000 (STPU; Bridge Program)

- C-2: Widen 10th Avenue South (20th Street South to 26th Street South) to a six-lane principal arterial standard, including sidewalks.

  Estimated Cost: $10,260,000 (NHS)

- C-3: Install raised medians on Fox Farm Road (south of intersection with I-315/Country Club Boulevard).

  Estimated Cost: $75,000 (CITY)

- C-4: Reconstruct Smelter Avenue (Division Road to 3rd Street Northeast) to a collector street standard. Include bicycle/pedestrian facilities and an intersection improvement treatment at Division Road and Smelter Avenue (roundabout or signal).

  Estimated Cost: $3,500,000 (STPU/MACI)

- C-5. Perform a Feasibility Study to investigate alternative routes and/or improvement solutions for River Drive North (15th Street North to 38th Street North) for added capacity.
  Problem: Limited capacity (both currently and in future years); poor condition.
  Recommendation: The existing two-lane facility will be inadequate to handle future traffic volumes. An expansion of the existing facility will be needed by the year 2015, and probably sooner given current travel characteristics exhibited during peak travel hours. Due to a high level of public interest in this corridor and its close proximity to the Missouri River and River's Edge Trail, it is recommended that a detailed corridor study and environmental assessment be undertaken prior to any design or construction which would consider reconstruction scenarios and investigate potential alternate routes for River Drive North (15th Street North to 38th Street North). Some members of the public have suggested that the old railroad right-of-way, partially owned by the city, be explored as an alternate route. As part of the evaluation of this alternative, it would be desirable to evaluate options for access to the ballpark.

  If alternate routes for River Drive North are not feasible, the reconstruction of the facility along its existing alignment should be to a minimum three-lane principal arterial standard. In concert with recommendations from the *Missouri River Urban Corridor Plan*, it is recommended that any roadway widening be to the south and away from the River. In association with this project, a traffic signal is warranted and recommended at the intersection of River Drive North and 25th Street North, although operational difficulties relating to the grade on River Drive are suggested to be difficult to overcome. Additionally, if sight distance issues can be resolved with a new roadway, the previously closed access to the municipal golf course onto River Drive North should be considered for reinstatement as a right-turn-in, right-turn-out approach.

  Estimated Cost: $0 (STUDENT PROJECT)

- C-6: Reconfigure Smelter Avenue & 10th Street Northeast intersection.

  Estimated Cost: $3,000,000 (NHS)

- C-7. South Arterial Route Location Study/Environmental Impact Statement (EIS) / Design:

  Estimated Cost: $4,750,000* (SPECIAL APPROPRIATION)

* (note: approximate funds left in appropriation after alignment study)

TOTAL COMMITTED MAJOR STREET NETWORK PROJECTS = $27,785,000

11.3 Recommended MSN Improvement Projects

1. 38th Street North - 10th Avenue North to River Drive North:
   Problem: Narrow width and increased traffic, as well as truck traffic, suggests this segment would function better as an urban collector. It is the only segment on the 38th Street North collector corridor that is not an urban standard.
   Solution: Reconstruct to collector street standard.
   Estimated Cost: $3,400,000
   Possible Funding Source: STPU

2. Reconstruct 9th Street Northwest (from the Northwest Bypass to Central Avenue West) to a collector street standard. This project was previously committed, but was moved to recommended due to project estimate increases of other committed projects, as well as this project.
   Estimated Cost: $4,600,000 (STPU)
   Possible Funding Source: STPU

3. Reconstruct Watson Coulee Road (between the Northwest Bypass and Vaughn Road) to a collector street standard. This project was previously committed, but was moved to recommended due to project estimate increases of other committed projects, as well as this project.
   Estimated Cost: $2,700,000 (STPU)
   Possible Funding Source: STPU

4. Park Drive – 8th Avenue North to 2nd Avenue North:
   Problem: Narrow roadway with several curves.
   Recommendation: Reconstruct to collector street standards. This project was recommended in prior Great Falls transportation plans. Particular focus should be given to the intersection of Park Drive/6th Street North/8th Avenue North for a more standard intersection design. In addition to the standard treatments, a modern "roundabout" should be evaluated at this location. Ample right-of-way appears to be available to accommodate a roundabout configuration.
   Estimated Cost: $6,000,000
   Possible Funding Source: STPU, CITY, MACI

5. 25th Street North – River Drive to 8th Avenue North:
   Problem: Limited capacity; narrow roadway facility.
   Recommendation: Reconstruct to a minor arterial street standard. This project was recommended in prior Great Falls transportation plans.
   Estimated Cost: $3,200,000
   Possible Funding Source: STPU

6. Fox Farm Road - East Fiesta to Urban Boundary:
   Problem: Narrow roadway, increasing traffic.

Recommendation: Reconstruct to minor arterial standard. This project was previously committed, but was moved to recommended due to project estimate increases of other committed projects, as well as this project.
Estimated Cost: $19,000,000
Possible Funding Source: STPU, COUNTY, CITY

TOTAL MAJOR STREET NETWORK RECOMMENDED PROJECTS = $38,900,000

11.4 Long Range MSN Improvement Projects

System deficiencies and needs are often not fundable in the foreseeable future. However, funding opportunities often arise during the course of time, often from unexpected sources. To be prepared to take advantage of such opportunities, the following list of projects is provided, with no identified funding source or schedule for construction/implementation. While the project costs have been estimated, most are presented in a 2030 year-of-expenditure, using a 3% yearly inflation rate to reach year-of-expenditure. Such projects are included in the Plan for illustration only, and are not considered to be applicable components of the fiscal constraint requirements of this Plan. However, it is likely that some of them will become funded at some point during the twenty year planning horizon even though no current source is known.

1. <u>River Drive North – 15th Street North to 38th Street North</u>:
Problem: Limited capacity (both currently and in future years); poor condition.
Recommendation: The existing two-lane facility will be inadequate to handle future traffic volumes. An expansion of the existing facility will be needed by the year 2015, and probably sooner given current travel characteristics exhibited during peak travel hours. Due to a high level of public interest in this corridor and its close proximity to the Missouri River and River's Edge Trail, it is recommended that a detailed corridor study and environmental assessment be undertaken prior to any design or construction which would consider reconstruction scenarios and investigate potential alternate routes for River Drive North (15th Street North to 38th Street North). Some members of the public have suggested that the old railroad right-of-way, partially owned by the city, be explored as an alternate route. As part of the evaluation of this alternative, it would be desirable to evaluate options for access to the ballpark.

If alternate routes for River Drive North are not feasible, the reconstruction of the facility along its existing alignment should be to a minimum three-lane principal arterial standard. In concert with the draft *Missouri River Corridor Master Plan*, it is recommended that any roadway widening be to the south and away from the River. In association with this project, a traffic signal is warranted and recommended at the intersection of River Drive North and 25th Street North. Additionally, if sight distance issues can be resolved with a new roadway, the previously closed access to the municipal golf course onto River Drive North should be considered for reinstatement as a right-turn-in, right-turn-out approach.
Estimated Cost: (full cost unknown, dependent upon design solution)
Possible Funding Source: NHS

2. Reconstruct Central Avenue West - 9th Street Northwest to Vaughn Road:
Problem: Roadway not constructed to standard.
Recommendation: Reconstruct to a principal arterial street standard. This project was included in previous plans.
Estimated Cost: $8,400,000
Possible Funding Source: NHS

3. Flood Road – Park Garden Road to Urban Boundary:
Problem: Limited capacity; narrow roadway facility; expected traffic increases.
Recommendation: Reconstruct to a collector street standard. This project was recommended in prior Great Falls transportation plans.
Estimated Cost: $20,000,000
Possible Funding Source: COUNTY, CITY, STPU

4. 6th Street Northwest – Smelter Avenue to 36th Avenue Northeast:
Problem: Narrow roadway; poor sight distance; no shoulder.
Recommendation: Reconstruct to a collector street standard with urban roadway features (such as curb & gutter, lighting, sidewalks, etc.). Consider extension north of Skyline Drive to 36th Avenue Northeast to accommodate development in this area of the City.
Estimated Cost: $8,600,000
Possible Funding Source: CITY, COUNTY, PRIVATE

5. Gore Hill Interchange – Interstate 15:
Problem: Limited capacity in future years, given projected employment and population growth in the area surrounding the airport.
Recommendation: Reconstruct the interchange to accommodate future increases in traffic resulting from airport expansions. Without any improvements, the actual interchange overpass will operate at a "v/c ratio" greater than 1, indicating a future capacity problem. The bridge overpass is not wide enough to re-stripe, thus requiring a widening of the substructure and superstructure. This is a long-range need and is dependent on actual economic development at the airport. If economic development is realized as projected, this improvement will be necessary by the year 2015. Additionally, the frontage road on the airport side of the intersection is too close to the interchange and should be realigned in the future to create more separation between the off ramp and the intersection of the Frontage Road. Again, this is dependent on fully realizing the projected growth in this area.
Estimated Cost: $12,000,000
Possible Funding Source: NHS

6. River Drive – 3rd Avenue South to 1st Avenue North:
Problem: Narrow roadway with several curves; approaching capacity under existing conditions.
Recommendation: Reconstruct to minor arterial standards, along with a railroad underpass, in conjunction with intersection improvements recommended in **Chapter 10** for the intersection of 1st Avenue North and River Drive. This project was recommended in prior Great Falls Transportation Plans. Perform signal warrant analysis at the intersection of River Drive and 3rd Avenue South periodically as development infill occurs. This corridor is extremely important to the users of the River's Edge Trail and to connecting downtown with the riverfront and hotels on

the riverfront with downtown. It is suggested that the access to the Broadwater Bay Park, across from the Applebee's Restaurant, be closed to improve traffic flow in the area. Also, access control along the corridor should be reviewed periodically, as more development occurs to the south of 3rd Avenue South.
Estimated Cost: $11,400,000
Possible Funding Source: STPU, CITY

7. Emerson Junction (i.e. interchange at I-15 and Vaughn Road):
Problem: Interchange is not full access.
Recommendation: Construct a full access interchange. This project was recommended in prior Great Falls transportation plans. The presence of a full movement interchange will assist in getting vehicles from northwest and northeast Great Falls onto I-15.
Estimated Cost: $16,600,000
Possible Funding Source: NHS, SPECIAL APPROPRIATIONS

8. 10th Street Bridge Rehabilitation
Problem: Structural Deterioration
Recommendation: Rehabilitate historic 10th Street Bridge as a transportation enhancement, and as a future functional component of the area trail system.
Estimated Cost: $3,000,000
Possible Funding Source: CTEP, SPECIAL APPROPRIATIONS, ECONOMIC STIMULUS, PRIVATE

9. Central Avenue West – 20th Street Northwest to 29th Street Northwest:
Problem: Facility and community continuity.
Recommendation: Reconstruct to collector street standards. This project was recommended in prior Great Falls transportation plans.
Estimated Cost: $7,000,000
Possible Funding Source: STPU, COUNTY, CITY

10. Vaughn Road – I-15 to Central Avenue West:
Problem: Limited capacity; narrow roadway facility; presence of heavy truck traffic.
Recommendation: Reconstruct to a minor arterial standard. This project was recommended in prior Great Falls transportation plans.
Estimated Cost: $36,700,000
Possible Funding Source: STPU; NHS

11. North Airport Access Road:
Problem: A second, more direct access to the airport from I-15 to better accommodate freight traffic is desirable for the economic vitality of the airport and community.
Recommendation: It is recommended that a new access road, connecting the northerly boundary of the Great Falls International Airport to I-15, in the vicinity of 13th Avenue Southwest (Sun River Road), be constructed to provide an additional link to the airport. This project should only be implemented after the results of a feasibility study, as recommended under project SR-27 in **Chapter 10**, are known. The anticipated benefits of such a connection to the CANAMEX trade

corridor (I-15) and the economic health of the community are the reasons for consideration of this particular recommendation.
Estimated Cost: (full cost unknown, dependent upon design solution)
Possible Funding Source: SPECIAL APPROPRIATION

12. South Arterial Facility:
Problem: Current and future congestion along 10th Avenue South, Fox Farm Road and adjacent roadways. Lack of a direct link between two highways of national significance (Interstate 15 and US Highway 87/89).
Recommendation: It is recommended that a minimum two-lane roadway facility (ultimately a four-lane facility) be constructed between I-15 and 57th Street South. While an alignment study is underway, a committed alignment can only be identified through a full environmental process. It is expected the facility will help to not only better serve, promote, and accommodate regional and international trade through the community, but will also benefit the Great Falls area transportation system by providing an additional east-west route suitable for economic development. Additional community benefits are expected to include improved local access / circulation, promotion of economic development, and the development of an additional Missouri River crossing for emergency services.
Estimated Cost: $285,000,000 (Four lane arterial)
Estimated Cost: $93,000,000 (partial segment with independent utility: Fox Farm Road to 13th Street South)
Possible Funding Source: SPECIAL APPROPRIATION

13. 67th Street North - end of pavement on east end of Giant Springs Road to intersection of 18th Avenue North:
Problem: Poor condition, narrow roadway.
Recommendation: Reconstruct portion of 67th Street North to paved roadway to match Giant Springs Road to the west. Rural, local roadway section is applicable for this roadway.
Estimated Cost: $7,900,000
Possible Funding Source: COUNTY, SPECIAL APPROPRIATION

14. Sun River Road - urban boundary to 14th Street Southwest:
Problem: Poor condition, narrow roadway.
Recommendation: Overlay with new asphalt, and also reconstruct as needed in poor sections. This project was contained in prior Great Falls transportation plans. There are also several narrow sections along this corridor that should be widened.
Estimated Cost: $5,100,000
Possible Funding Source: STPU, CITY, COUNTY

15. Upper River Road – Overlook Drive to 19th Avenue South:
Problem: Facility and community continuity.
Recommendation: Reconstruct to a collector street standard. This project was recommended in prior Great Falls transportation plans.
Estimated Cost: $6,000,000
Possible Funding Source: STPU, CITY

7. 17th Avenue South – 7th Street to 13th Street:
Problem: Limited capacity; facility and community continuity.
Recommendation: Reconstruct to collector street standards. This project was recommended in prior Great Falls transportation plans.
Estimated Cost: $4,300,000
Possible Funding Source: CITY

8. Giant Springs Road - Hatchery to Rainbow Dam:
Problem: Poor condition, narrow roadway
Recommendation: Overlay with new asphalt and widen as needed in existing narrow sections. This project was contained in prior Great Falls transportation plans.
Estimated Cost: $3,000,000
Possible Funding Source: COUNTY, SPECIAL APPROP., GRANTS

View Figure 11-1

View Figure 11-2

Chapter 12: Recommended Street Standards and Right-of-Way Needs

This chapter of the Plan evaluates roadway standards, corridor preservation techniques, access control measures, and the concepts of context sensitive design. All of these items are a derivative of the policies, strategies and actions developed through the Growth Policy discussed in **Chapter 1**. Specifically, this chapter addresses the concepts set forth under the Growth Policy by:

- Providing roadway standards that encourage pedestrian and bicycle friendly development;
- Presenting new and industry current design standards for roadway facilities for consideration in future developments, as well as existing roadway reconstruction and/or rehabilitation;
- Seeking to maintain the highest possible safety standards in a street system and to minimize any negative impacts on adjacent residents and neighborhoods; and
- Reviewing appropriate traffic volume ranges as they relate to performance standards on different roadway functional classifications.

12.1 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.

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:

- <u>Reducing transportation costs by preservation of future corridors in an undeveloped state.</u> 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**).

Access Management

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 Montana Department of Transportation (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 treatment that can assist in access control techniques are:

- 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.

Corridor Preservation Measures

Another tool used to fulfill the policies and goals listed earlier in this chapter is that of specific corridor preservation measures. As was stated above regarding developing a local Access Management Ordinance, it is desirable to develop a Corridor Preservation Ordinance as well. Such an ordinance would serve to 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.

12.2 Context Sensitive Design

A relatively new concept in transportation planning and highway design, which goes hand-in-hand with the principles of access management and corridor preservation, is that of context sensitive design. During the 1990's highway design changed rapidly throughout the United States. Highway designers and builders learned that they must be more sensitive to the impact of highways on the environment and communities, with an overriding goal of fitting roadways in to the context of the adjacent land uses and functions. New and better ways of designing highways evolved following the completion of the Interstate system, based on growing interest in the improvement of highways and their integration into the communities they serve.

Following the substantial completion of the U.S. Interstate system, the transportation focus for many States has shifted to congestion management and system preservation projects that involve existing facilities. Most of these existing facilities are substantially developed, and transportation improvement projects will affect this development. Working with community stakeholders to preserve and enhance the human and natural environment thus becomes a significant component of these projects. To best address the challenges of these projects, many State transportation agencies, local transportation professionals, and professional organizations are interested in implementing a context sensitive design approach for project development.

As citizens' expectations for better and safer roads have increased, a growing awareness of communities' needs has also emerged among designers. These two key factors contributed to bringing about this transformation in highway design and construction. Congress, the Federal Highway Administration, governors, State legislatures, local governments, and State transportation agencies have all played an integral part in this important evolution of highways. Meanwhile, public interest groups, as well as the planning profession, have worked to make developing better methods of highway design a major part of their agendas. The widely recognized basic principles of Context Sensitive Design are as follows:

Qualities of Excellence in Transportation Design

- The project satisfies the purpose and needs as agreed to by a full range of stakeholders. This agreement is forged in the earliest phase of the project and amended as warranted as the project develops.

- The project is a safe facility for both the user and the community.

- The project is in harmony with the community, and it preserves and may even enhance environmental, scenic, aesthetic, historic, and natural resource values of the area; i.e., exhibits context sensitive design.
- The project exceeds the expectations of both designers and stakeholders and achieves a level of excellence in people's minds.
- The project involves efficient and effective use of the resources (time, budget, community) of all involved parties.
- The project is designed and built with minimal disruption to the community.
- The project is seen as having added lasting value to the community.

<u>Characteristics of the Process Contributing to Excellence</u>

- Communication with all stakeholders is open, honest, early, and continuous.
- A multidisciplinary team is established early, with disciplines based on the needs of the specific project, and with the inclusion of the public.
- A full range of stakeholders is involved with transportation officials in the scoping phase. The purposes of the project are clearly defined, and consensus on the scope is forged before proceeding.
- The highway development process is tailored to meet the circumstances. This process should examine multiple alternatives that will result in a consensus of approach methods.
- A commitment to the process from top agency officials and local leaders is secured.
- The public involvement process, which includes informal meetings, is tailored to the project.
- The landscape, the community, and valued resources are understood before engineering design is started.
- A full range of tools for communication about project alternatives is used (e.g., visualization).

At the present time, there are two publications that are used to provide guidance and direct stakeholder participation for the incorporation of Context Sensitive Design principles into a transportation project. The most current and perhaps most widely used document is the National Cooperative Highway Research Program's (NCHRP) report titled *A Guide to Best Practices for Achieving Context Sensitive Solutions* (NCHRP Report 480). The document is currently the most definitive and comprehensive guide on Context Sensitive Design / Context Sensitive Solutions (CSD/CSS). The second publication widely regarded as offering the most guidance to stakeholders and transportation officials is the Federal Highway Administration's Flexibility in Highway Design (Publication Number FHWA-PD-97-062).

It is recommended that context sensitive design principles / context sensitive solutions be incorporated into the Great Falls' various transportation projects, as applicable, to fit in with the surrounding land uses and characteristics of the project area.

12.3 Street Classifications & Definitions

12.3.1 Functional Highway Systems in Urbanized Areas

The roadways that make up the street network within a community can be subdivided into categories based upon the function of the road. Roadway functional classifications include interstate highways; principal arterials; minor arterials; collector routes; and local streets. The rural areas of Cascade 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. **Figure 12-5** shows rural standards. 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.

12.3.2 Interstate Highways

The sole purpose of an interstate highway is to provide for regional and interstate travel. Interstate highways are access-controlled facilities with access provided only at a limited number of interchanges. The interstate system has been designed as a high-speed facility with all road intersections being grade separated. Interstate 15, which traverses the study area, is a four-lane divided highway with a posted speed limit of 75 miles per hour (mph) for automobiles, and 70 mph for trucks.

12.3.3 Principal Arterial System

The purpose of the principal arterial 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 a central business district 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 area setting. Principal arterials typically carry between 10,000 and 35,000 vehicles per day (vpd) in urban areas. For more information on factors influencing road capacity, please see **Section 7.3**.

12.3.4 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. Minor arterials typically carry between 5,000 and 15,000 vpd in urban areas. Please see **Section 7.3** for discussion of factors influencing road capacity.

12.3.5 Collector Street System

The urban collector street network 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. Collector streets typically carry between 2,000 and 10,000 vpd in urban areas. Please see **Section 7.3** for discussion of factors influencing road capacity.

The rural collector street network serves the same access and movement functions as the urban collector street network – a link between 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.

12.3.6 Local Street System

The local street network comprises all facilities not included in the higher systems. Its primary purpose is to permit direct access to abutting lands and connections to higher systems. Usually, use by through-traffic movements is intentionally discouraged. On-street parking is usually allowed on the local street system. The speed limit on local streets is usually 25 mph. Local streets typically carry between 1,000 and 3,000 vpd in urban areas. Please see **Section 7.3** for discussion of factors influencing road capacity.

12.4 Recommended Street Standards

It is important to have established standards that identify the overall character of various roads within a community. These standards should identify the anticipated amount of right-of-way necessary at full build-out. They should also include all of the design elements necessary such as sidewalks, bicycle facilities, landscaping, and space for utilities and snow storage.

The standards should reflect the uses for each type of road, and the applicable traffic volumes anticipated. There should be standards for both urban and rural street designs. Standards have been developed for all of the categories of roads that are found within the Great Falls area including local and collector roads, as well as minor and principal arterials. A variety of lane widths have been included in the suggested road standards. Lane widths vary based on the scale and expected type of traffic on each street. Generally, streets which will carry larger numbers of vehicles and vehicles of larger sizes have been given wider travel lanes. Please see **Figures 12-1** through **12-5**

Note that landscaped boulevards and sidewalks are shown on both sides of all roads, except for rural roadway sections. Boulevards are necessary throughout the community to provide space for snow storage and separation of pedestrians and vehicles. The boulevards also provide space for trees and other forms of corridor landscaping, which are considered an essential ingredient to producing a livable community. Bicycle facilities are shown in all but the local road standards and the minimum rural roadway standards. It was asserted that bicycle facilities are not necessary on local streets due to the relatively low traffic volumes and low vehicle speeds. In all other cases, five-foot-wide bicycle lanes are shown on both sides of the street. A ten-foot-wide combined ped/bike trail option is allowed if the necessary right-of-way is available or provided. The use of bicycle facilities that are not in the roadway is a safety concern at cross-street intersections. Therefore, this option may be proposed only in cases where there are few minor intersections along the corridor. This plan has taken a multi-modal approach to the provision of transportation services. Therefore, it is important that the pedestrian and bicycle facilities depicted on the street standards illustrated in this chapter be constructed as a basic component of the initial facility rather than being considered an optional add-on.

Both flush and raised center medians are included in various road standards. The use of raised versus flush medians will be determined on a case by case basis and depend on the number of driveways. The recommended road standards are presented graphically in **Figures 12-1 through 12-5**.

View Figure 12-1

View Figure 12-2

View Figure 12-3

View Figure 12-4

View Figure 12-5

The principal focus of this plan is the arterial and collector street network. A wide variety of acceptable local street alternatives exist and may integrate well with the larger scale street depicted in this Plan. For full information on local streets, interested parties are referred to the City of Great Falls and Cascade County subdivision regulations.

12.5 Right-of-Way Requirements

The recommended road standards identify the amount of right-of-way that is necessary to accommodate the full build-out of each type of facility. The desired right-of-way for principal arterials is 110 feet, 100 feet for minor arterials, 80 feet for collectors, and 60 feet for local roads.

Many existing roads within the community do not have the necessary right-of-way based on these standards. Apparently there are also public roads within the study area that traverse parcels of private property without any right-of-way easements.

It is recommended that both the City and County establish a policy to review all existing roadways and identify roads that are located within right-of-way corridors that are less than the desirable width. Additional right-of-way should be acquired in these areas where possible. The city and county should attempt to acquire the right-of-way for both existing and future roads where the opportunity exists. It is recommended that the right-of-way necessary for all future road segments be acquired through the development process as undeveloped areas develop. Even though the initial road will only be a two-lane or three-lane facility, providing the full amount of right-of-way will enable the corridor to be expanded at a later date while avoiding an expensive and disruptive land acquisition process at some time in the future.

12.6 Roadway Design Standards

A final component to the development of street standards is the creation and adoption of design requirements for the facilities themselves. **Section 12.4** and the corresponding graphics depict the desirable cross section from a planning perspective. They do not, however, relate actual engineering requirements that should be evaluated before roadways can be constructed. These requirements can include the thickness of asphalt, base course gravels, cut and fill slopes, etc. It is highly recommended that the City of Great Falls and Cascade County review their current practices and literature directing submittal requirements for private development and City / County directed projects. All roadway projects should have a complete pavement design and geotechnical report performed prior to approval of the roadway typical section. At a minimum, the information to be collected, analyzed and submitted should include the following:

12.6.1 Pavement Design

A pavement thickness design should be completed for all new or reconstructed roadways, based on the current AASHTO Guide for Design of Pavement Structures, or the current Asphalt Institute Manual Series No. 1 (MS-1) for thickness design. The Pavement Design Report, based upon specific site soil data and design year traffic loading conditions, must be prepared by a Professional Engineer, or other qualified professional approved by the City Engineer, and submitted to the City Engineer along with the plans and specifications for the project. The design should be based on at least a 20 year performance period traffic volume; however, the minimum design lane Equivalent 18,000 lb Single Axle Load (ESAL) used in the pavement design must not be less than 50,000 ESAL. The minimum asphalt pavement thickness for any new roadway should be three (3) inches. A minimum of six (6) inches of high quality untreated aggregate base should be provided for designs utilizing asphalt pavement over untreated aggregate base. Where full depth asphalt is designed, an adequate stabilizer lift should be included, consistent with unpaved roadway design practices, to provide a suitable sub-base capable of withstanding the traffic required for the initial construction of the roadway.

12.6.2 Geotechnical Considerations

Special geotechnical considerations are often needed in the design of a roadway project. **Table 12-1** shows the requirements for Earth Cut slopes and Earth Fill slopes under normal design conditions.

Table 12-1
Earth Cut / Fill Slopes Under Normal Conditions

Cut Depth	Allowable Back Slope	Fill Height	Allowable Fill Slope
0 – 5’	5:1	0 – 10’	6:1
5’ – 10’	4:1	10’ – 20’	4:1
10’ – 15’	3:1	20’ – 30’	3:1
15’ – 20’	2:1	> 30’	2:1
> 20’	1.5:1		

There may be special circumstances where the above allowable slopes may not be feasible, such as in areas of limited right-of-way or where extremely mountainous terrain is present. In those cases, alternate means of slope retention may be warranted. In cases where the above referenced standard slopes cannot be met, a geotechnical report should be required if different slopes are being proposed, or conversely if the use of retaining walls are being considered. A geotechnical report should contain the basic information as listed below:

- A description of the soil types encountered at the site in question and their properties.
- An assessment of soil slope stability.

- Recommendations for non-standard slopes, based on properties and information collected during field data collection and subsequent analysis.
- A copy of any boring logs made during the field exploration process, and
- Copies of all design calculations, exhibits, and a description of the design methodology used to arrive at the recommended design.

If the geotechnical report proves that other slope stabilization measures are necessary, such as soil pinning or retaining wall structures, a more detailed analysis shall be offered for review to the City Engineer's office. Possible retaining wall types that can be utilized in the City of Great Falls are reinforced concrete wall, mechanically stabilized earth (MSE) walls, and timber structure walls. The following must be included in the geotechnical report:

- Information on settlement characteristics of the soil (i.e. amount of settlement expected, time rate of settlement, surcharge or camber if required).
- Information on bearing capacity of the soil.
- Information on expected skin friction of the soil (if piles or drilled shafts will be utilized), and
- Information on soil pressure, stability, and alternates (if a soil retaining wall is being considered).

In areas of excessive fill or steep back slopes, roadside guardrail may be needed. Guardrail needs would be as determined in the *Roadside Design Guide* (January 1996) published by the American Association of State Highway and Transportation Officials (AASHTO).

Chapter 13: Environmental Mitigation

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) of 2005 required that Metropolitan Transportation Plans consider environmental mitigation as a specific element.

13.1 Definition

"Environmental Mitigation" is defined in Federal transportation planning regulations as follows:

"Environmental mitigation activities means strategies, policies, programs, actions, and activities that, over time, will serve to avoid, minimize, or compensate for (by replacing or providing substitute resources) the impacts to or disruption of elements of the human and natural environment associated with the implementation of a long-range statewide transportation plan or metropolitan transportation plan. The human and natural environment includes, for example, neighborhoods and communities, homes and businesses, cultural resources, parks and recreation areas, wetlands and water sources, forested and other natural areas, agricultural areas, endangered and threatened species, and the ambient air. The environmental mitigation strategies and activities are intended to be regional in scope, and may not necessarily address potential project-level impacts."

For the purposes of this Chapter, an **environmental impact** can be generally considered to be defined as, "the direct and/or indirect physical environmental changes that are caused or influenced by a proposed transportation project or program recommended in this Plan."

An ordered approach to mitigation, known as "sequencing", involves understanding the affected environment and assessing transportation effects throughout project development. Effective mitigation starts at the beginning of the NEPA process, not at the end. Mitigation must be included as an integral part of the alternatives development and analysis process.

SEQUENCING

AVOID ► MINIMIZE ► REPAIR/RESTORE ► REDUCE OVER TIME ► COMPENSATE

13.2 Coordination and Consultation

Federal, State, and Tribal land management, wildlife, and regulatory agencies were contacted for recommendations on appropriate mitigation measures for the Great Falls area, or at least for input into general measures that might be applicable to mitigating the impact of transportation project on environmental topics.

The agencies contacted included the following:

- Bureau of Land Management - Undaunted Stewardship Program

- Great Falls/Cascade County Historic Preservation Office
- Cascade County Conservation District
- Cascade County Planning Department
- Cascade County Floodplain Administrator
- Cascade County Road Department
- Federal Highway Administration
- MT Dept. of Environmental Quality - Water Quality Discharge Permits
- MT Dept. of Environmental Quality - Air Monitoring, Analysis & Planning Program
- MT Dept. of Environmental Quality – Wetlands Protection Program
- MT Dept of Natural Resource & Conservation – Trust Lands
- MT Dept. of Fish Wildlife & Parks (regional fisheries, wildlife and parks managers)
- MT Historical Society - State Historic Preservation Office
- US Army Corps of Engineers
- US Fish & Wildlife Service
- US Environmental Protection Agency - Montana Office
- MDT Planning
- MDT Environmental
- City of Great Falls – Public Works/Engineering Department
- City of Great Falls – Floodplain Administrator
- City of Great Falls – Park & Recreation Department
- City of Great Falls – Great Falls Planning Department
- National Park Service
- Malmstrom Air Force Base
- Little Shell Tribe
- Blackfeet Nation

13.3 Types of Environmental Impacts

Although a transportation project may have both positive and negative environmental impacts, this Chapter only considers potentially negative impacts. The following list provides examples of the most common, though not only, types of environmental impacts that may result from development of a transportation project in the Great Falls area. It also provides a list of a few of the possible mitigation measures. It should be noted that the environmental topics and the mitigation measures suggested are not all-inclusive; each transportation project should and does go through an environmental review which closely looks at project-specific impacts and potential mitigation measures.

13.3.1 Air Quality

Increasing vehicle emissions is a potential outcome of projects that encourage additional miles-travelled. Projects that are designed to reduce congestion and increase traffic flow can also encourage drivers to use such roadways more often and therefore increasing CO (carbon monoxide) emissions. However, such projects also reduce congestion and idling times, which results in reduced emissions. Often, the net result is seen to be an improvement in air quality.

Possible mitigation measures:

- TDM (Transportation Demand Management) measures such as telecommuting, car pooling and flexible work hours to promote off-peak commuting, or other methods outlined in **Chapter 8**.
- Promotion of alternate modes of transportation such as transit, bicycling and walking.
- Additional bike lanes and improved pedestrian facilities.

13.3.2 Historic/Cultural Resources

Historic properties or important cultural resources and sites can be impacted by a project. Roadway widening can eliminate historic trees and other roadside features, and new roadways or trails can impact archaeological sites, historic sites or historic structures in the proximity of the project.

Possible mitigation measures:

- Restoration. Historic structure can be restored; minor historic features in a larger historic context can be relocated, reconstructed or re-created, or design features of the transportation project can incorporate historic features or themes.
- Interpretation. Historic sites can be interpreted through signs, tour brochures, guidebooks, or other similar measures.
- Recording/Documentation. Reports and surveys can be performed, including photographic or other visual recording measures.
- Excavation. In cases where direct impact is unavoidable, excavation and documentation remain the "last resort" mitigation measures for sub-surface archaeological resources.
- Buffering. Especially in instances where the impact is due to proximity, landscaping or other appropriate buffering may be an appropriate mitigation technique.
- Easements. Historic or conservation easements may help to mitigate impacts by preserving portions of the impacted resource.
- Preservation. Some features, such as historic walls, can sometimes be incorporated into a project design. Others, such as below-ground sites, can be located and covered to be preserved if not directly disturbed or destroyed by the project.

13.3.3 Noise

The noise generated from a new or expanded transportation facility may have a negative impact upon adjoining uses.

Possible mitigation measures:

- Sound-dampening walls, earthen berms and/or buffering landscaping
- Relocation of impacted uses
- Low-noise pavement
- Soundproofing of impacted structures
- Other innovative design features (such as depressed roads) to reduce noise impacts

13.3.4 Community Impact

Topics that may fall under the Community Impact heading include: access, viewshed, mobility, social isolation/splitting of neighborhoods, history of the community, changes in the quality of life, changes in neighborhood identification, changes in property values, separation of the neighborhood from community facilities, displacements, impacts on community centers of activity (whether formal or informal), noise, urban renewal, removal of urban blight, and disruption of the natural and human environment. This is a broad category that can best be analyzed through public involvement and review of land use plans, urban renewal plans and other community-based plans.

Possible mitigation measures:

- Streetscape enhancements (decorative lighting and pavements, pedestrian amenities, decorative wayfinding signs, etc.)
- Low-impact lighting for more appropriate integration into neighborhood (less glare, more “neighborhood” feel)
- Median landscaping
- Bike lanes, sidewalks paths or other facilities for better linkage
- Traffic calming measures
- Pedestrian areas, such as squares or plazas
- Community impact planning studies
- Community visioning
- Many mitigation measures from other sections in the Chapter (for example, **13.3.3 Noise**) are also applicable to this section

13.3.5 Environmental Justice Impacts

The population affected by a proposed project could include low-income households, persons/households without automobiles, minorities, elderly, young, and mobility-impaired individuals.

Possible mitigation measures:

- Residential and commercial relocation
- Efforts during project development to identify and engage Environmental Justice populations to effectively understand their needs and potential project impacts
- The suggested mitigation strategies listed in **13.3.4** are applicable to this category

13.3.6 Prime Farmland

Preservation of prime agricultural land is an important state, federal and local goal. Projects that disturb or impact farmland are rare in the Great Falls urban area.

Possible mitigation measures:

- Purchase of protective agricultural easement on farmland of similar quality in proximity to affected area to preserve farmland.

- Rehabilitation of marginal farmland in the area to more productive lands.
- Consideration of farmland preservation provisions in local land use plans and other land use documents.

13.3.7 Fish and Wildlife (including Threatened or Endangered Species)

As urban areas expand and rural development becomes more concentrated, more interaction is seen between wildlife and humans. Many species can co-exist with humans, but conflicts become inevitable. Transportation projects can impact wildlife corridors or habitats.

Possible mitigation measures:

- Wildlife crossings of transportation corridors, including overpass and underpass options.
- Creation of new or enhanced habitat in key areas
- Seeding with natural grasses and other natural plantings in disturbed areas
- Restoration of streambanks to pre-existing or better conditions

13.3.8 Parklands

Transportation projects typically impact parklands either through acquisition of a portion of the lands, or through an indirect impact such as noise, diminished access or visual impact.

Possible mitigation measures:

- Purchase of additional parklands, as appropriate depending upon severity of impact and characteristics of impacted parklands (i.e., recreational, natural open space, highly landscaped, historic, regional or neighborhood park, etc.)
- Appropriate mitigation measures suggested in other sections of this Chapter should be considered, depending upon the impact (i.e., noise, access, etc.)

13.3.9 Wetlands, Streams and Floodplains (including Water Quality)

The U.S. Army Corps of Engineers defines wetlands as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Transportation projects may unavoidably impact wetlands and other water resources, which are often inextricably intertwined and must be considered together. Such areas may also contain wildlife habitat, act as natural filters, perform stormwater storage, and include floodplains. Appropriate mitigation measures vary depending upon characteristics of the area.

Possible mitigation measures:

- Creation of new wetlands in area
- Creation of new stormwater detention or retention areas

- Restoration of wetlands or streambanks after construction to pre-existing or better condition
- Riparian or wetlands-appropriate vegetation plantings, or other such restoration or construction techniques to restore or improve habitat
- Special design considerations to eliminate or mitigate project's potential flood impact on surrounding area
- Other appropriate measures, as directed by responsible agencies, such as the U. S. Corps of Engineers, Montana Department of Environmental Quality or the Environmental Protection Agency (EPA)
- Further information on wetlands and water quality mitigation can be found on EPA's Compensatory Mitigation website: http://www.epa.gov/wetlandsmitigation/

13.3.10 Hazardous Waste

Hazardous waste encountered during a project should be removed, treated or otherwise addressed after consultation with appropriate regulatory agencies. Treatments will vary depending upon type, extent, location and characteristics of the material, as well as its proximity to other physical elements such as residences, underground water, etc.

13.3.11 General

When considering environmental impact and mitigation, the following generally applicable items are worth noting:

- It should be self-evident that any mitigation measure should be carefully considered in the context of the proposed improvement.
- All environmental impacts and any associated mitigation measures should be considered holistically. For example, selecting a sound-proofing wall for noise mitigation may have negative visual impacts on neighboring properties or act as a barrier to crossing the transportation facility.
- Appropriate mitigation may include a combination of different measures.
- Appropriate mitigation measures must be prepared in cooperation with appropriate regulatory agencies as well as an appropriate level of public participation.
- Most mitigation measures should have provisions for long-term maintenance or have an appropriate lifespan, developed in agreement with the public, impacted landowners and appropriate regulatory agencies.

13.4 Potential Areas for Mitigation

The list of potential negative environmental impacts listed in section **13.3** above can usually be effectively mitigated. What follows below is a list of some, but by no means all, potential areas for mitigation measures to be implemented in the Great Falls area.

1. **Riverfront lands**. Transportation projects along and across the Missouri and Sun Rivers could potentially impact water quality, riparian areas, fish habitat, wildlife habitat, wetlands and other environmentally sensitive areas, as well as restricting neighborhood access to the waterfront. Therefore, lands adjoining the River would

be likely candidates for mitigating such impacts. New wetlands and riparian areas and improved access points could be created Such creation could help to filter runoff, improve fishery and wildlife habitats, protect riverbanks from erosion, protect development from potential flooding and enhance human riverfront experience by improving access and the quality of riverfront lands.

2. **Lowlands**. A number of areas in the Great Falls urban fringe are historical runoff areas. Sand Coulee Creek, Watson Coulee, Gibson Flats serve large drainages and either store or channel water. Enhancement of wetlands and natural vegetation in the area could mitigate the identified loss of the same due to a transportation project.

3. **Neighborhood Arterials**. Transportation improvement projects, especially capacity expansion projects, can separate neighborhoods and serve as physical barriers to pedestrian and bicycle travel, and can also have a negative physical impact on adjoining properties, with the greatest impact often seen to commercial or residential uses. Considerations for bicyclist and pedestrian safety at intersections, as well as effective arterial crossings at other key locations, can often mitigate such impacts. In addition, roadside features such as landscaping, streetscape amenities and physical traffic calming measures can soften the impact of a project on a neighborhood, while improving the driving experience at the same time.

4. **Area Museums**. Area museums such as The History Museum, the Lewis & Clark National Historic Trail Interpretive Center; the Charles M. Russell Museum or the First Peoples Buffalo Jump Interpretive Center are all potential repositories for excavated artifacts.

5. **Parklands**. If new lands are purchased, they should be in proximity to the affected parklands and/or serve a similar function as the lost parkland. Any other mitigation measure should be in the immediate proximity of the affected parkland and transportation project.

6. **Within Right-of-Way.** With many mitigation measures, the appropriate location is often within existing (or expanded) right-of-way, and usually within the limits of the proposed transportation project. Landscaping, streetscapes, noise or visual buffers, sidewalks, bike lanes and paths, transit stops and even wetlands and natural plantings can and often should occur in the right-of-way. Mitigation measures are usually most effective in close proximity to the area of impact.

7. **Public Spaces**. Historic interpretation, landscaping, trails, wetlands, and other physical mitigation measures can occur in public spaces in close proximity to the impacted environmental feature.

8. **Nearby privately owned parcels**. Mitigation measures such as easement purchases (both conservation and trail easements), relocation of historic structures, etc. are often most appropriate on lands very near to original, impacted locations.

9. **Programs**. Transportation project impacts can sometimes be mitigated through the introduction of non-physical mitigation measures. Examples include wildlife awareness programs, expanded transit services, historic walking tours

13.5 Conclusion

This Chapter is meant to be a beginning point for consideration of transportation project environmental impacts and mitigation. Project-specific environmental impacts and appropriate mitigation measures should be carefully considered on an individual basis through established environmental review processes.

Chapter 14: Financial Analysis

14.1 Background

This chapter of the Transportation Plan describes and evaluates 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 Great Falls area. Considering the current funding limits of these traditional programs, and the extensive list of recommended road projects, it is apparent that more funding will be required from local and private sources if all of the transportation network needs are to be met.

Much of the following information concerning the Federal and State funding programs was assembled with the assistance of the Urban Planning Section of the Montana Department of Transportation (MDT). The intent was to identify traditional Federal, State and local sources of funds for transportation related projects and programs in the Great Falls 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 use of the funds.

14.2 Overview of Traditional 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 Transportation Equity Act for the 21st Century (TEA-21). 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.

14.2.1 Federal Funding Sources

IM - Interstate Maintenance
NHS - National Highway System
STPP - Surface Transportation Program -Primary
STPS – Surface Transportation Program -Secondary
STPU - Surface Transportation Program -Urban
STPHS - Surface Transportation Program -Hazard Elimination
STPRP – Rail/Highway Crossing Protective Devices Program
STPRR – Rail/Highway Crossing Elimination of Hazard Program
HBRRP – Highway Bridge Replacement and Rehabilitation Program

- A) On-System Bridge Replacement and Rehabilitation Program
- B) Off-System Bridge Replacement and Rehabilitation Program

CTEP – Community Transportation Enhancement Program
CMAQ – Congestion Mitigation & Air Quality Improvement Program
A) Montana Air & Congestion Initiative (MACI) - Discretionary Program
B) Montana Air & Congestion Initiative (MACI) – Guaranteed Program
FTA Section 5307
FTA Section 5309
FTA Section 5310
ICAP – Indirect Cost Allocation Plan – Impact upon available resources

14.2.2 State Funding Sources

SFC – State Funded Construction Funds
State Fuel Tax Funds - City and County
State Funds for Transit Subsidies

14.2.3 Local Funding Sources

City Funds
County Funds
Private Funding Sources
Future Potential Funding Sources

14.3 Federal Funding Sources

The Federal-Aid System identifies which routes are eligible for the various Federal highway funding assistance programs. The following federally funded transportation programs are available for possible use in financing the recommended improvements included in this Plan.

IM - Interstate Maintenance
The Interstate Maintenance (IM) program is designed for projects on the Interstate System involving resurfacing, restoring, and rehabilitating existing roadways. The Federal share for any eligible IM project is 91.24 percent; the State's responsibility is for the remaining 8.76 percent. The State's percentage is funded through the State Special Revenue Account.

In addition to resurfacing, restoring, and rehabilitating existing roads, projects that involve reconstruction or rehabilitation of bridges, existing interchanges, and over-crossings also qualify as eligible activities. Construction of new travel lanes other than high occupancy vehicle (HOV) lanes or new interchanges are not eligible for funding under the IM program. Preventive maintenance activities are eligible when a state can demonstrate, through its pavement management system, that such activities are a cost-effective means of extending interstate pavement life.

The Montana Transportation Commission approves the fund apportionment to the statewide Interstate Maintenance program. The IM funds are distributed throughout the

Montana Department of Transportation's (MDT) financial districts based solely on need. However, consideration is given to balancing needs against existing and future construction manpower when distributing the funds.

NHS - National Highway System

The purpose of the National Highway System (NHS) is to provide an interconnected system of principal arterial routes that 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 is composed of all interstate routes, a large percentage of urban and rural principal arterials, the defense strategic highway network, and strategic highway connectors. The Federal share for any eligible NHS project is 86.58 percent; the State is responsible for the remaining share of 13.42 percent. The State share is funded through the State Special Revenue account.

Activities eligible for NHS funding include construction, reconstruction, resurfacing, restoration, and rehabilitation of segments of the National Highway System. 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 Montana Transportation Commission approves the fund apportionment to the National Highway System projects. The NHS funds are distributed throughout the MDT's financial districts based solely on need. However, consideration is given to balancing needs against existing and future construction manpower when distributing the funds.

STPP - Surface Transportation Program - Primary

The Federal and State funds available under this program are used to finance specific transportation projects on the State designated Primary Highway System. Of the total funds received, 86.58 percent is Federal. The balance, 13.42 percent, is State funds disbursed from the State's Special Revenue account.

Primary funds are distributed statewide to each of MDT's five financial districts. Prior to the beginning of each biennium, the Montana Transportation Commission designates levels of sufficiency; one of which it considers adequate, and another it considers critical. The MDT then computes the ratio between the Primary System mileage rated below adequate sufficiency within each financial district, and the total Primary System mileage rated below the adequate level statewide. Another ratio is computed of the Primary System mileage rated at-or-below critical in each district to total Primary System mileage rated at-or-below critical statewide. The MDT distributes three-fourths of the total Primary System funds among the five financial districts based on the adequate sufficiency ratio, and one-fourth based on the "at or below" critical sufficiency ratio. No financial district can receive more than one-third of the total Primary System funds. In the event that a district would receive more than one-third of the available primary system funds based on the adequate and critical ratios, the funds in excess of one-third are redistributed among the remaining districts. The Transportation Commission establishes priorities for the use of Primary funds.

Eligible activities include but are not limited to construction, reconstruction, rehabilitation, resurfacing, restoration and operational improvements on the state's designated Primary Highway System.

STPS - Surface Transportation Program - Secondary

The Federal and State funds available under this program are used to finance specific transportation projects on the state-designated Secondary Highway System. Of the total received, 86.58 percent is Federal, and 13.42 percent is State funds that come from the State Special Revenue account.

The Transportation Commission distributes Secondary funds each fiscal year to the five financial districts. Distribution is based on the following:

1) 30 percent in the ratio of land area in each district to the total land area in the state.
2) 35 percent in the ratio of the rural population in each district to the total rural population in the state.
3) 30 percent in the ratio of rural road mileage in each district to the total rural road mileage in the state.
4) 5 percent in the ratio of the rural bridge square footage in each district to the total rural bridge square footage in the state.

The Montana Department of Transportation, in cooperation with county commissioners within the affected district, will determine priorities within each district.

Eligible activities for the use of secondary funds will fall under three major types of improvements: reconstruction, rehabilitation, and pavement preservation. The reconstruction and rehabilitation categories will be allocated at least 65 percent of the program funds, with the remaining 35 percent dedicated to pavement preservation.

STPU - Surface Transportation Program - Urban

The Montana Department of Transportation distributes STPU funds to 15 urban areas; the amount each area receives is determined on a per capita basis. Of the total received, 86.58 percent is Federal, and 13.42 percent is a State match. The State match portion comes from the Special Revenue Account that is funded principally by fuel taxes and GVW fees. The STPU funds are used primarily for major street construction, reconstruction and traffic operation projects on the State-designated Urban Highway System. Priorities for the use of STPU funds are established at the local level through established planning processes. In Great Falls, the Transportation Policy Coordinating Committee (PCC) provides final approval of the priorities. The balance of the Great Falls STPU program at the end of FFY 2008 was $2,379,785. The current (FFY 2009) annual urban allocation is $1,693,631 (total dollars). It is assumed this allocation will remain constant through the life of this plan.

STPHS - Surface Transportation Program - Hazard Elimination

The purpose of the Federal Hazard Elimination Program is to identify hazardous locations throughout the states' highway system, assign benefit-to-cost ratio priorities for the correction of these hazards, and implement a schedule of projects for their improvements. Hazard elimination projects are funded with 90 percent Federal funds, and 10 percent State funds.

Projects eligible for funding under the hazard elimination program include any safety improvement project on any public road; any public surface transportation facility or any publicly owned bicycle or pedestrian pathway or trail; or any traffic calming measure. The MDT Safety Bureau selects the projects by identifying high hazard sites through the analysis of law enforcement accident reports. Sites with a cluster of accidents over time are field reviewed, with an ensuing determination of an appropriate type of corrective action. The cost of the proposed hazard elimination project is compared with the potential benefit of the action. Once the benefit-to-cost ratio is calculated for all high hazard sites statewide, the projects are prioritized from highest to lowest need. The projects are then funded in order of priority until the yearly funds are exhausted.

STPRP - Rail/Highway Crossing Protective Devices Program

The purpose of the Federal Rail/Highway Crossing – Protective Devices Program is to identify high hazard rail crossing sites and install new rail crossing signals.

The MDT's Rail/Highway Safety Manager is responsible for surveying, identifying and prioritizing those railroad crossings that require new protective devices, or upgrading of existing devices. The funds are distributed on a statewide basis determined by a priority list ranked by a hazard index. The Federal/State ratio is 90 percent Federal and 10 percent State.

STPRR - Rail/Highway Crossing-Elimination of Hazard Program

The purpose of the Federal Rail/Highway Crossing–Elimination of Hazard Program is to identify high hazard rail crossing sites, and to construct new rail/highway grade crossings. The Program also utilizes funds to rehabilitate existing grade separations.

Possible expenditures include the separation or protection of at-grade crossings, reconstruction of existing crossings, and relocation of highways to eliminate crossings. Projects for this program are selected by identifying those sites where only a grade separation will eliminate an identified hazard, or where a grade separation exists but needs rehabilitation or replacement. Since funding for this program is limited, STPRR funds are often used in combination with other Federal funding sources (i.e., NHS, STPP, etc.), in order to accomplish costly grade separation projects.

Grade separation projects are funded with 90 percent Federal funds and 10 percent State funds.

HBRRP - Highway Bridge Replacement and Rehabilitation Program

This program provides funding for the rehabilitation and replacement of deficient bridges. The funding, eligibility requirements, and project selection for this program are divided into two categories, depending upon whether the bridge is located "on-system" or "off-system".

The On-System Bridge program receives funding through the Federal Highway Bridge Replacement and Rehabilitation Program. The On-System Bridge program receives 65 percent of the HBRRP funds. The remaining 35 percent is allocated to the Off-System Bridge program. In general, On-System Bridge projects are funded with 80 percent Federal funds and 20 percent State 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.

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. The 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. The Off-System Bridge program receives funding through the federal Highway Bridge Replacement and Rehabilitation Program. As stated above, the On-System Bridge program receives 65 percent of the HBRRP funds. The remaining 35 percent is allocated to the Off-System Bridge program. Off-System Bridge projects are funded with 80 percent Federal funds and 20 percent State funds.

Projects eligible for funding under the Off-System Bridge program include all bridges not "on-system," at least 20 feet in length, and have a sufficiency rating of less than 80. The procedures for selecting bridges for inclusion in this program are based upon a ranking system that weighs various elements of a structure's condition. County priorities are also considered. The 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.

CTEP - Community Transportation Enhancement Program

The Federal funds available under this Montana program are used to finance transportation projects that enhance the present surface transportation system. These funds come from a ten percent (10%) set aside of the STPU program described earlier in this section. Projects must be located on public property or on property to be procured for public use. Eligible activities, or categories, are:

- Pedestrian and bicycle facilities;
- Acquisition of scenic easements and historic or scenic sites;
- Scenic or historic highway programs;
- Landscaping and other scenic beautification;

- Rehabilitation and operation of historic transportation buildings, structures or facilities (including railroads);
- Historic preservation;
- Archaeological planning and research;
- Mitigation of water pollution due to highway runoff;
- Preservation of abandoned railway corridors (including the conversion and use for pedestrian or bicycle trails); and
- Control and removal of outdoor advertising.
- Safety education activities for pedestrians and bicyclists;
- Establishment of transportation museums; and
- Projects that reduce vehicle-caused wildlife mortality.

The Federal share for CTEP projects and activities is 86.58 percent, with a required local match of 13.42 percent. Under CTEP, Cascade County is allocated approximately $135,000 annually (total dollars, Federal plus Local match). The City of Great Falls is allocated approximately $330,000 annually (total dollars, Federal plus Local match). The Great Falls Area currently has a balance of $64,912 (City of Great Falls), and $259,028 (Cascade County) for this program. The balances represent funds not obligated towards a selected project.

CMAQ – Congestion Mitigation & Air Quality Improvement Program

Federal funds available under this program are used to finance transportation projects and programs to help meet the requirements of the Clean Air Act. Eligible activities include transit improvements; traffic signal synchronization; bike/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). Of the total received, 86.58 percent is federal and 13.42 percent is non-Federal match. A requirement for the use of these funds is the estimation of the reduction in pollutants resulting from implementing the program or project. These estimates are reported yearly to the FHWA.

The Transportation Equity Act for the 21st Century (TEA-21) provided for significantly more flexibility in the use of CMAQ funds. Prior to TEA-21, almost all CMAQ funds had to be used in Missoula – Montana's only moderate carbon monoxide (CO) non-attainment area. Although Missoula continues to receive the CMAQ funds that come to Montana by virtue of the Federal formula, MDT has directed approximately 90 percent of CMAQ apportionment to several new State programs.

A) Montana Air & Congestion Initiative (MACI) – Discretionary Program

The MACI – Discretionary Program provides funding for projects in areas of the state that are designated non-attainment or recognized as being "high-risk" for becoming non-attainment. District Administrators and local governments nominate projects cooperatively. Projects are prioritized and selected based on air quality benefits and other factors.

B) Montana Air & Congestion Initiative (MACI) – Guaranteed Program

MACI – Guaranteed funds are distributed to Billings and Great Falls at a level equivalent to what Missoula receives each year in CMAQ funds. Projects are prioritized through the MPO planning process.

FTA Section 5307

These funds are provided under the Federal Transit Act Amendments of 1991, as amended with the passage of the Transportation Equity Act for the 21st Century (TEA-21). The Section 5307 program is a general fund appropriation distributed to all urbanized areas based on one of several formulas. The apportionment to all urbanized areas under 200,000 population is made on the basis of population and population density. Section 5307 funds provide financial assistance to urban areas for transit capital and operating expenses, as well as for transit planning. The Federal share is a maximum of 80 percent for capital and planning, and a maximum of 50 percent for operating expenses. The local match of 20 percent for capital and planning and 50 percent for operating must be in cash from non-Federal and non-fare box revenue. The local match in Great Falls is provided through the Great Falls District Mill Levy. The intent of the Section 5307 program is to simplify the grant application and review process by reducing the role of the Federal government while enhancing State and local government responsibilities.

FTA Section 5309

The Federal Transit Administration Section 5309 program is a discretionary program with funds allotted each year for capital expenses only. Section 5309 is targeted for major transit projects that require additional Federal funding beyond that available through the Section 5307 program. The maximum Federal share on any project is 80 percent, with the remaining 20 percent met through local funds. Great Falls meets the local match requirement through the local Transit District mill levy.

FTA Section 5310

The Section 5310 program funds are distributed by FTA to states, who in turn distribute the funds to local public/private non-profit organizations for purposes of providing transportation services to the elderly and/or disabled. Distribution of the funds by the State is discretionary, determined by need and available local match. Section 5310 is for assistance in meeting capital expenses only with the maximum Federal participation being 80 percent. The remaining 20 percent is through local public or private funds.

TransADE

The TransADE grant program offers operating assistance to eligible organizations providing transportation to the elderly and persons with disabilities. State funds pay 50 percent of the operating costs and the remaining 50 percent must come from the local recipient. Applications are due to the MDT Transit Section by the first working day of February each year. Eligible recipients of this funding are counties, incorporated cities and towns, transportation districts, or non-profit organizations. 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.

ICAP – Indirect Cost Allocation Plan – Impact Upon Available Resources

The Montana Department of Transportation has instituted a program to apply an overhead charge to all non-state funds that it receives, and has applied it at the project level since FY 2007. For State Fiscal Year 2008-09, all non-state funds that are received by the state must be accompanied by cash in the amount of 14.06% of the amount. This applies to all segments of a project, and also includes locally owned and funded improvements that are constructed as part of a State-managed project. For example, underground utility replacements, as well as local funds provided to match federal funds, all must provide an additional 14.06% of the expense amount (FY 09 rate).

The ICAP rate is applied at the rate that is current at the time a project phase is programmed. Because transportation projects managed by the Montana Department of Transportation can take up to ten years to develop, a project may have multiple overhead rates applied to its various phases. This rate has increased since its establishment in 2007. In FY07 the rate was 10.91%; in FY08 it was 12.25%; and, in FY09 it is 14.06%. While overhead rates have been increasing, and Federal program allocations available to local governments (STPU, MACI and CTEP, for example) have not been increased commensurately. Other funds received locally from the state have also decreased, such as state gas tax funds, while project costs and overhead increases. A discussion of State funding sources follows in the next section.

14.4 State Funding Sources

There are two principal State funding programs available to potentially finance some of the improvements recommended in this Plan. These programs are described below.

SFC – State Funded Construction Funds

The Pavement Preservation Program, funded totally with State fuel tax dollars, provides funding for State construction projects. Projects that are typically ineligible for Federal funding participation are funded with these dollars. The program funds projects on the Primary and Secondary highway systems to preserve the condition, and to extend the service life of the pavement. The type of work consists entirely of overlays and/or seal and covers. Eligibility requirements specify that the highway be maintained by the State. The Transportation Commission establishes the priorities for the program. This State-funded program requires no match. The MDT staff selects the projects based on pavement preservation needs.

State Fuel Tax

The State of Montana assesses a tax of $0.2775 per gallon on gasoline and diesel fuel used for transportation purposes. According to State law, each incorporated city and town within the State receives an allocation of the total tax funds based upon:

1) the ratio of the population within each city and town to the total population in all cities and towns in the State, and
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 Systems.)

State law also establishes that each county be allocated a percentage of the total tax funds based upon:

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.

For State Fiscal Year 2008, the City of Great Falls was allocated $$1,004,077 and Cascade County was allocated $214,259 in State fuel tax funds. The amount varies annually, but the current level provides a reasonable base for projection throughout the planning period.

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 that are part of the primary, secondary or urban system.

Priorities for the use of these funds are established by each recipient jurisdiction.

State Funds for Transit Subsidies

The 46th Montana Legislature amended Section 7-14-102 MCA providing funds to offset up to 50 percent of the expenditures of a municipality or urban transportation district for public transportation. The allocation to operators of transit systems is based on the ratio of its local support for public transportation to the total financial support for all general purpose transportation systems in the State. Local support is defined as:

$$\text{Local Support} = \frac{\text{Expenditure for public transportation operations}}{\text{Mill value of City or urban transportation district}}$$

14.5 Local Funding Sources

Local governments generate revenue through a variety of 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 are or could be used to finance transportation improvements by the city and county.

14.5.1 City of Great Falls

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.

Several transportation-related services are supported by this fund including public services (engineering and streets) and the City of Great Falls Police Department. The street department is responsible for maintaining the city streets and alleys including: pavement repair, street cleaning, striping and signing, lighting and traffic signal maintenance, and plowing and sanding during the winter. In addition to revenue from the General Fund, some revenue used to operate the street department is generated from gas tax funds and street maintenance district funds. The police department is obviously responsible for enforcing traffic laws on the street system.

Although most of the highway-designated monies are oriented toward maintenance activities, some new construction and street-widening projects may be financed through the General Fund. This revenue source has been used in conjunction with other resources to finance local street and highway projects.

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.

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 Street District Fund received a Gas Tax allocation of $1,012,152 for FY 2009. Also, $385,969 was received from the State Entitlement HB 124 for FY 2009.

<u>Great Falls Parking Commission</u>
Monthly lease rental payments and meter collections fund this program. Revenues are used to fund parking improvements in the downtown area.

<u>Tax Increment Financing (TIF)</u>
Downtown Great Falls is a current TIF-funded improvement district. The funds generated from the TIF 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.

<u>Community Development Block Grant Program (CDBG)</u>
Authorized in 1974, the CDBG program replaced a number of individual or categorical Federal assistance programs to cities, the Model Cities Program and Urban Renewal among the major ones. The funds are provided to metropolitan areas and urban counties with populations of 50,000 and above on an entitlement basis, with individual allocations determined by a formula of poverty, population, overcrowded housing, growth lag, and age of housing stock factors.

In Great Falls and Cascade County, the city is a direct recipient of the funds from the U.S. Department of Housing and Urban Development, whereas the County receives funds through the Montana Department of Commerce on a competitive basis. The State administers the block grant program and allocates funds to projects in small urban areas and counties based on a state adopted selection and priority program.

In planning for and using CDBG funds, recipients must ensure that no less than 51 percent of the funds must be used for activities that benefit low- and moderate-income persons, over a period specified by the grantee, but not to exceed three years.

There are numerous eligible activities for use of the funds, including construction of public facilities, which would include transportation improvements.

14.5.2 Cascade County

<u>Road Fund</u>
The County Road Fund provides for the construction, maintenance, and repair of all county roads outside the corporate limits of cities and towns in Cascade 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. The county mill levy has a ceiling limit of 15 mills. Cascade County's FY 2008 state gas tax apportionment added approximately $213,000 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.

Motor Vehicle License Fee

The fees collected by counties from the licensing of motor vehicles are available for construction, maintenance, and repair of highways and streets within the transportation study area. The revenue collected is distributed among the jurisdictional areas of the county based on vehicle registration. In 1987, the State of Montana changes its method of licensing motor vehicles of ¾ ton or less. The flat fee tax on light vehicles was replaced by a 2 percent tax on the assessed value of the vehicle, using average trade-in or wholesale value. An ad valerom tax is still issued for all vehicles in excess of ¾ ton. A use tax of 1.5% is imposed on the list price of all newly licensed vehicles. The proceeds of this tax are credited to the State highway account of the State Special Revenue Fund. The funds from the 2 percent tax are distributed in the relative proportions required by the levies for State, County, School District and municipal purposes in the same manner personal property taxes are distributed. Additionally, counties have the option of imposing a 0.5 percent local vehicle tax that is distributed, with some restrictions, in the same manner as the base vehicle tax.

Urban Transportation Districts

Urban Transportation Districts are another method of providing local funds for transportation improvements. The creation of an urban transportation district is initiated by a petition of at least 20 percent of the registered voters within the proposed district. A formal public hearing must be held after which the creation of the district is put to a vote. The county commissioners determine whether a special election is necessary, or if a vote can take place at the next general election. Urban Transportation Districts are governed by an elected board, which is responsible for all operations of the district. The Great Falls Transit District was created under and operates under the guidelines for Urban Transportation Districts.

County Elderly Activities Tax

Counties are allowed to levy up to one mill to promote, establish, and maintain recreational, educational, and other activities of the elderly. Funds from this source could be used to match the FTA Section 5310 funds for providing transportation services to the elderly and disabled.

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 Special Improvement District (RSID) Revolving Fund
This fund is used to administer and distribute monies for specified RSID 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.

Specialized Transportation Fund
This type of fund may be established to supplement the cost of transit service to disabled or low-income county residents. The county is not currently using this mechanism.

14.5.3 Private Funding Sources

Private financing of roadway 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.

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. A TIF is currently being utilized in downtown Bozeman. Additional TIF districts could be established in other areas of the city and county to accomplish a variety of transportation-related improvements.

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.

14.5.4 Future Potential Funding Sources

Local Sales Tax

If authorizing legislation were to be approved, local governments would be able to initiate local option taxes as a potential funding source for transportation improvements. One local option tax would be a local sales tax.

Wheel Tax

If initiated, a tax per wheel on vehicles licensed in counties could generate substantial revenue. The cost to each user of the transportation network would be proportional to the number and type of vehicles owned.

Local Option Motor Fuel Tax

A local option fuel tax is another means of raising revenue for the construction, reconstruction, maintenance, and repair of public streets and roads. This local tax may be imposed by the people of the county or by the adoption of a resolution by the county commissioners and referred to the people. An advantage to a local motor fuel tax, as with a wheel tax, is that it taxes only the users of the transportation system and the tax paid by each individual is directly proportional to their use of the facilities. The revenue from a motor fuel tax must be distributed proportionately among the county and its member municipalities based on vehicle registration.

Excise Taxes

Excise taxes are similar to sales taxes with the exception that items taxed are those considered to be indulgent. The demand for items on which there is an excise tax is generally large, therefore, there is potential to raise a substantial amount of local revenue. Products on which an excise tax could be imposed for additional local revenue include such items as tobacco, alcohol, and various forms of entertainment. A potential problem with excise taxes arises when the tax causes inter-area competition.

Development Impact Fees

Another method funds can be generated for transportation improvements is by assessing a fee to the developers of property based upon the impact the development is likely to have on the transportation network.

Value Capture Taxes

Value capture taxes are a means of raising revenue following the development of transportation improvements. Whereas development fees are assessed to make necessary transportation improvements, value capture taxes impose a fee to businesses which benefit due to their location along improved, highly traveled routes, which assumes improvements have been made. Value capture taxes may be a means to enter into other forms of funding future improvements. One method to consider would be cash flow management that makes wise use of existing revenue rather than continuing to introduce new sources.

14.6 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 Great Falls area over the next 20 years. This information is summarized in **Table 14-1.**

A comparison of the projected available revenue shown in **Table 14-1** with information presented in **Chapter 15** identifies that some funding shortfalls will exist for different categories of projects. For example, several projects have been identified that fall under the jurisdiction of Cascade County and are not within the funding limits of any traditional funding program. Alternative and creative funding mechanisms will be needed to implement these recommended projects. Funding mechanisms that are currently not being used in Great Falls could be transportation bond issues and more extensive use of the RID/SID funding process. These "non-traditional" funding sources can help to bridge the gap of the noted funding shortfalls shown in **Chapter 15**. It is difficult to identify funding shortfalls within the more traditional programs (MACI, STPU, NHS, etc.), as the available revenue changes with the passage of each new transportation funding bill. **Chapter 15** depicts those programs where funding shortfalls do exist, as well as the programs where a funding surplus appears to be evident.

Table 14-1
Projected Funding Available for Transportation Projects

Funding Source	Current Account Balance	Current Annual Allocation	Projected Annual Allocation	Revenue Projection 2020	Revenue Projection 2030
NHS/IM/Safety/Bridge		VARIES	VARIES	$ 13.5 M***	$ 22.4 M***
STP- Urban	$ 2,379,785 *	$ 1,693,631	$ 1,700,000**	$ 21.1 M***	$ 38.1 M***
STP- Primary		VARIES	VARIES	$ 6.3 M****	$ 11.5 M****
STP- Secondary		$ 350,000	$ 350,000**	$ 3.8 M****	$ 7.3 M****
CTEP - City CTEP - County	$ 71,255 * $ 215,172 *	$ 324,100 $ 135,000	$ 324,000** $ 135,000**	$ 3.6 M*** $ 1.7 M***	$ 6.8 M*** $ 3.0 M***
MACI	$ 4,423,852*	$ 1,145,166	$ 1,145,000**	$ 17.0 M****	$ 28.4 M****
Urban Pavement Pres		VARIES	VARIES	$ 5 M****	$ 10 M****
City Street Fund *****		$ 80,000	$ 80,000	$ 0.88 M****	$ 1.7 M****
County Gas Tax		$ 22,250	$ 22,250	$ 0.24 M****	$ 0.47 M****
County Road Tax		$ 440,000	$ 440,000	N/A	N/A
County Bridge Tax		$ 345,000	$ 345,000	N/A	N/A
Motor Vehicle Fee (City)		$ 225,000	$ 225,000	N/A	N/A
Motor Vehicle Fee (Cnty)		$ 419,000	$ 419,000	N/A	N/A
SID's / RID's		VARIES	VARIES	VARIES	VARIES
Urban Transportation Districts	0	$ 867,805	$ 860,000	$ 9.5 M****	$ 18.1 M****
FTA Sec. 5307		" "	" "	" "	" "
FTA Sec. 5309		VARIES	VARIES	VARIES	VARIES
FTA Sec. 5310		VARIES	VARIES	VARIES	VARIES
County Elderly Activities Tax		$25,000	$25,000	$ 0.28 M****	$ 0.53 M****
State Funds for Transit Subsidies		$25,000	$25,000	$ 0.28 M****	$ 0.53 M****
Other (Private, Bonds, TIF, CBDG, etc.)		VARIES	VARIES	VARIES	VARIES
TOTAL				**$ 83.18 M**	**$ 148.83M**

Notes: Although SAFETEA-LU only provides for Federal funding through FFY2009, 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.

* Unobligated Carryover Balance (9/2008). Source: MDT Urban Planning

** Allocations beyond SAFETEA-LU (9/30/2008) 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 this time and that there is no guarantee that these funding sources will be available beyond SAFETEA-LU.

**** Revenues projections are based on estimates provided by MDT, City, and County staff. It is understood that these estimated funds may not be available for the transportation improvements included in this plan.

***** City Street Fund is approximately $800,000 per year, of which the gas tax apportionments and motor vehicle fees contribute. It is estimated only 10% of this amount will be available for new transportation projects.

" " Funds under the FTA Sec. 5307 program are included under the "Urban Transportation Districts" projected allocations.

Chapter 15: Implementation Strategy

15.1 Initial Considerations

The most important first step in planning new or expanded transportation improvement projects involves acquiring the necessary rights-of-ways. This effort must have the highest priority. Acquiring the correct amount of right-of-way initially can be less expensive in the long run. As a result, it is essential that future transportation corridors be acquired as land develops. It is desirable to gain the rights to these corridors, whenever the opportunity arises.

It is recognized that financing transportation improvement projects and programs is a very large problem for communities, especially for rural roadway improvements. In order to address as many recommendations as possible during the planning period, alternative and creative financing will be required for many projects. Traditional sources of funding are inadequate to meet the needs of the community. The identification of alternative sources of financing that are acceptable to the community at-large, along with creative methods of utilizing traditional funds, should be a high priority.

Several alternative financing methods should be seriously considered for generating additional funds. One such method is the General Obligation (G.O.) Bond. A G.O. Bond should be considered for financing special improvements that have not only community-wide support, but that also benefit the majority of the community. Rural Improvement Districts (RID's) and Special Improvement Districts (SID's) are also an alternative financing mechanism that could be used with great success for funding various transportation projects.

Flexibility will also be necessary to implement these recommendations. The project priorities should be subject to periodic reviews and modification based upon existing financial resources; the availability of supplemental funds; changes in community needs; or other considerations for each improvement. Therefore, an ongoing review of the recommended transportation improvements is essential.

15.2 Evaluation of Projects and Programs

The committed and recommended improvements to the major street network in the Great Falls area are outlined in **Chapter 10** and **Chapter 11**, and Bike and Transit projects are addressed in **Chapter 5**. Actively pursuing the advance acquisition of rights-of-ways needed for future extensions of already existing roadways is essential to the community as development occurs to the outlying areas. The majority of the recommended improvements developed through this Transportation Plan will be able to work within the already established right-of-way corridors. If the property necessary for a low priority improvement, however, does become available prior to the time local government has scheduled the improvement, consideration should be given to changing the project's priority and acquiring the right-of-way at today's lower costs.

The following are additional considerations relating to right-of-way acquisitions:

- Focus on key landowners and work to maintain favorable relations with them. In some instances, particularly in situations in which there is a perception that property will be difficult to obtain, local government should attempt to initiate a negotiation process with the landowner as soon as possible.

- Do not rule out entering into agreements with landowners that may produce a benefit in the long-term. For instance, the local government may be aware of property it will require for future improvement. At present, local government may not have funds available for acquisition, and the landowner may not wish to sell. Nonetheless, by entering into an agreement for first right of refusal, local government can be in a better position to acquire the property in the future, when it may be in a more favorable financial situation.

- Local government can exert considerable influence on the development (or lack thereof), of property which may potentially be required by the community for transportation improvement purposes. Zoning, subdivision, and condemnation powers should not be overlooked particularly in right-of-way matters.

Obviously, another major difficulty in completing most of the major improvement projects will be that of securing financing. Project funding from the traditional public sources will likely be unavailable for many recommended improvements. However, in analyzing each improvement, it may be determined that a private party would benefit significantly from the project. In such a case, private dollars should be used as a match to secure public funds, or to fund the entire project. Therefore, in considering the prioritization of improvements, it is essential for local government to remain flexible and take advantage of financing opportunities as they arise.

The following recommendations present general guidelines for performing financial planning and increasing funding availability for project development and implementation.

- A coherent financial plan is necessary. Both the City and the County should continue to develop five-year Capital Improvement Programs (CIP's) and the Transportation Improvement Program (TIP). The CIP's and the TIP are the principal documents that outline the projects to be completed in the immediate future. These plans must include an analysis of all available sources of financing and link major network improvements to identified sources of financing.

- Matching funds can be a tremendous benefit to the local government. A consideration of matching funds should play a significant role in financial planning. Projects that have matching dollars available should be given a high priority. The City, County and State governments should work to develop new sources of matching funds.

- Financial planning should emphasize that in special cases, private dollars might be available to undertake a project. In such a case, the source of funding must be identified as a direct beneficiary of the project. The local government should bear in mind that such funding could provide the match necessary to receive State or Federal funds.

- Projects should be managed for efficiency and reductions in design and other pre-construction costs should be actively pursued. Incidental project costs such as the State's ICAP (Indirect Cost Allocation Plan) takes needed federal funds away from construction and drains scarce local funds. Local governments should look for ways to eliminate this burden, and the State should actively pursue other, more appropriate methods for funding its operating costs that do not take from funding categories needed for local projects.

Finally, in undertaking major network improvements, the local government should be aware of opportunities for constructing projects in separate phases. Often, funding is simply not available to address an improvement in its entirety. In such cases, a great deal can be accomplished by tackling separate components of individual improvements over the long term, such division of effort should not include separating bicycle and pedestrian facilities from initial street construction.

15.3 Financial Planning Summary

Due to funding requirements and jurisdictional boundaries, transportation financing is somewhat compartmentalized. Because of this, it is necessary to evaluate each project, and identify the most likely funding programs to finance each project. Therefore, all of the recommended improvement projects have been subdivided according to funding source and presented in **Tables 15-1** and **15-2**.

For a "planning level" document such as this Transportation Plan, it is not reasonable to assign priorities to the actual projects being recommended in the Plan. Project prioritization is a function of the transportation planning process, however, and the Transportation Advisory Committee acts in that capacity through advancing projects forward into the Transportation Improvement Program (TIP).

Funding of Major Street Network (MSN) Projects

The major street network (MSN) improvement projects recommended though this Transportation Plan have been subdivided according to a likely funding source and are presented in **Table 15-1**. It is noted in the table when the actual project will likely be needed (if that information was available through the analyses of the traffic data or other indicator such as pavement condition). A letter system was created to correspond to the "Year Projected" column in the table and is as follows:

A: The project is needed under current traffic conditions and may correct capacity deficiencies, safety concerns and/or poor Levels of Service.

B: The project is needed under year 2015 projected traffic conditions and may correct capacity deficiencies, safety concerns and/or poor Levels of Service.

C: The project is needed under year 2020 projected traffic conditions and may correct capacity deficiencies, safety concerns and/or poor Levels of Service.

D: The project is needed under year 2030 projected traffic conditions and may correct capacity deficiencies, safety concerns and/or poor Levels of Service.

E: The project addresses pavement preservation/replacement or normal upgrading of a roadway facility and doesn't serve to improve a known capacity and/or safety concern (although they may be an indirect benefit of the project).

F: It is not known when this project may be needed.

TABLE 15-1
Recommended Major Street Network (MSN) Projects

Year Projected		**Recommended Major Street Network (MSN) Projects *** (Grouped by most probable funding source)	**Cost**
NHS/IM/OTHER State Controlled Funds			
E		10th Avenue South – 38th Street to 57th Street - overlay	$2,000,000
A		10th Avenue South – 20th Street South to 26th Street South, reconstruct to a six-lane principal arterial standard. **NHS Funded**	$10,260,000
B		River Drive North – 15th Street North to 38th Street North 10th, widen to a minimum three-lane principal arterial standard feasibility study. **Student Project**	$0
B		US 87/89 – concrete dowel bar retrofit **NHS funded**	$3,900,000
E		3rd Street Northwest and Northwest Bypass signal replacement/upgrade **NHS funded**	$400,000
A		10th Avenue South and 2nd Street – reconfigure intersection **NHS funded**	$100,000
E		Smelter Avenue – 10th Street Northeast – Golf Course Entrance, repair bridge over 15th Street NE **BRIDGE program funded**	$1,000,000
A		Smelter Avenue & 10th Street Northeast, reconfigure intersection approaches, better channelization, signal improvements. **NHS Funded**	$3,000,000
			$23,000,000
Urban Funds			
A		Smelter Avenue – Division Road to 3rd Street Northwest – reconstruct to urban standards	$3,500,000
E		Smelter Avenue - 10th Street Northeast Golf Course Entrance, reconstruct to a collector street standard.	$5,200,000
B		38th Street North – 10th Avenue North to River Drive North -	$3,400,000

		reconstruct to an urban collector standard.	
B		9th Street Northwest – Northwest Bypass to Central Avenue West – reconstruct to an urban collector street standard.	$4,600,000
C		Watson Coulee Road – Northwest Bypass to Vaughn Road – reconstruct to an urban collector street standard.	$2,700,000
B		25th Street North – River Drive to 8th Avenue North, reconstruct to a minor arterial standard.	$3,200,000
A		Fox Farm Road – City Limits to Urban Limits, reconstruct to collector standard (would also likely include other funding sources)	$19,000,000
C		Park Drive – 8th Avenue North to 2nd Avenue North – reconstruct to an urban collector standard, reconfigure 8th/Park Dr intersection	$6,000,000
			$47,600,000

City Funds

A		Fox Farm Road – install center medians.	$75,000
			$75,000

Special Appropriation Funds

F		South Arterial Environmental Impact Statement (EIS), design	$4,750,000
A		Junction Bootlegger Trail NE (US 87 turn lanes	$1,800,000
F		Economic Stimulus Projects (as they become identified)	(unknown)
			$6,550,000

TOTAL MAJOR STREET NETWORK PROJECTS = $87,460,000

Funding of Short Range (SR) Projects

The recommended SR improvements are listed in **Chapter 10** of this plan. The SR projects typically allow maximum flexibility by the local government in implementing the various improvements. Assigning priority for the recommended SR projects is complicated by the fact that the State, city, and county all maintain jurisdiction over various portions of the street network where projects are proposed. Therefore, each of these entities may have separate priorities for implementing SR projects under their respective jurisdictions. Short Range (SR) improvement projects are summarized and shown in **Table 14-2**. Again, the rating system developed and defined in the previous section (letter designation A thru F) applies for the SR projects.

TABLE 15-2
Recommended Short Range (SR) Projects

Year Projected		Recommended Short Range (SR) Projects * (Grouped by most probable funding source)	Cost

MACI Funds

A-C		Complete a signal warrant analysis on a number of designated intersections (see **Figure 10-2**).	$190,000
C		6th Street Southwest/4th Avenue Southwest – install signal	$420,000
A		River Drive North and 25th Street North, signalize this intersection and reconfigure to improve the level of service and better accommodate traffic.	$670,000
A		10th Avenue South turn lanes – 38th Street and 23rd Street	$340,000
A		10th Avenue South and 32nd Street South, reconfigure the 32nd Street South legs of this intersection to align better along a slight skew and re-phase the signal.	$170,000
F		Citywide sidewalk project	$1,500,000
B		10th Avenue South and 29th Street South – install signal, add turn lanes	$300,000
			$3,590,000

Urban Funds

E		26th Street South – 17th Avenue South to 33rd Avenue South - overlay with new asphalt	$1,900,000
E		6th Street North (from River Drive to 8th Avenue North), overlay roadway with new asphalt.	$620,000
B		33rd Avenue South and 13th Street South – reconfigure intersection	$145,000
A		Wilson Butte Road and Lower River Road – reconfigure intersection	$330,000
B		10th Avenue South and 2nd Street South, make geometric improvements to reduce delay (a likely funding source is also NHS)	$100,000
			$3,095,000

County Funds

E		26th Street South – 24th Avenue South to 33rd Avenue South – widen, reconstruct where necessary	$275,000
E		26th Street South and 33rd Avenue South –intersection improvements	$150,000
E		Flood Road and 45 the Avenue South – intersection improvements	$10,000
E		Flood Road – south of Dick Road – speed study.	$5,000
			$440,000

City Funds

E	Various Overlay Projects*	$6,500,000
		$6,500,000

** If Economic Stimulus funding is expanded, these projects should be considered.*

Economic Stimulus

E		Complete signal head modifications, as appropriate to the context of the surrounding area.	$240,000
E		Various overlay projects	$2,920,000
E		10th Street Bridge restoration*	$3,000,000
			$6,160,000

** Included if funding becomes available.*

TOTAL SHORT RANGE PROJECTS = $19,785,000

Considerations for setting priorities for the SR projects would include safety, cost of the project, availability of alternate funding, availability of right-of-way, ease of implementation, and community interest. Implementation of the projects, beginning with the projects that have the greatest need and available financing, will continue until all projects are completed.

No aspect of addressing SR improvements will demand more creativity and flexibility than that of project financing. Local governments will be required to be aware of changes in funding sources and of new sources. Local governments should, at all times, be mindful of the following considerations regarding the financing:

- Numerous conventional methods of financing improvements are available to local government (bonds and Special Improvement Districts, for example). Such obvious methods should not be overlooked.
- Financing for special types of projects sometimes are available. Currently, funding is available for certain kinds of safety projects, and projects for bicycle facilities and walking trails.
- Local government should attempt to link private beneficiaries of SR improvements with private sources of financing. Further, in the event that private individuals come forward with funding, local government should be prepared to accept it.

Funding Summary

Following is a summary of the potential amount of available funding compared to the projects being recommended in the Transportation Plan. It is evident that the biggest fiscal constraint relates to the projects located within the Cascade County jurisdiction. Due to the low potential income for these facilities, alternative and creative types of funding will be needed to implement the County designated projects.

NHS/IM/Bridge Funds (Potential Amt. = $22,400,000)

10th Avenue South – 20th Street South to 26th Street South	$10,260,000
3rd Street NW/Northwest Bypass Intersection	$400,000
US 89/87 – dowel bar retrofit	$3,900,000
Smelter Avenue & 10th Street Northeast	$3,000,000
10th Avenue South - 38th to 57th Street	$2,000,000
10th Avenue South & 2nd Street Intersection	$100,000
Smelter Avenue – 10th St NE to Golf Course (bridge)	$1,000,000
	$20,660,000

DIFFERENCE = ($648,000)

STPU Funds (Potential Amt. = $38,100,000)

Smelter Avenue – Division Road to 3rd Street Northwest	$2,750,000
Smelter Avenue - 10th Street to Golf Course Entrance	$5,200,000
Central Avenue West/1st Avenue North Bridge	$770,000
Park Drive – 8th Avenue North to 2nd Avenue	$6,000,000
25th Street North – River Drive to 8th Avenue North	$3,200,000
26th Street South – 17th Avenue South to 33rd Avenue South	$1,900,000
Wilson Butte Road/Lower River Road intersection	$330,000
6th Street North - River Drive to 8th Avenue North	$620,000
Watson Coulee Road – Vaughn Road to Northwest Bypass	$2,700,000
9th Street Northwest – Central Avenue West to Northwest Bypass	$4,600,000
33rd Avenue South and 13th Street South intersection	$145,000
Fox Farm Road – East Fiesta to Urban Limits	$19,000,000
38th Street North – 10th Avenue North to River Drive North	$3,400,000
	$50,615,000

DIFFERENCE = ($12,515,000)

MACI Funds (Potential Amt. = $28,400,000)

Complete signal warrant analyses	$190,000
6th Street Southwest/4th Avenue Southwest signal	$420,000
River Drive North and 25th Street North	$420,000
10th Avenue South and 32nd Street South	$170,000
10th Avenue South and 38th Street South and 23rd Street South	$340,000
10th Avenue South and 29th Street South	$300,000
Division Road and Smelter Avenue	$750,000
ADA ramp project	$1,133,000
Transit Operating Assistance ($513,270/year for 21 years)	$10,778,670
Bicycle facility set-aside ($114,060/year for 21 years)	$2,395,260
Citywide sidewalks	$1,500,000
	$18,646,930

DIFFERENCE = $10,003,070

County Funds (Potential Amt. = $470,000)

26th Street South - from 24th Avenue South to 33rd Avenue South	$275,000
26th Street South and 33rd Avenue South	$150,000
Flood Road and 45th Avenue South	$10,000
Flood Road - south of Dick Road	$5,000
	$440,000

DIFFERENCE = $30,000

City Funds (Potential Amt. = $1,800,000)

Various Overlays on Urban Routes*	$6,500,000

**Note: This project may be funded through other sources as well – Pavement Preservation, Economic Stimulus, Urban, State Maintenance, etc.*

DIFFERENCE = ($4,700,000)

Special Appropriation Funds (Amount = $6,550,000)*

South Arterial Environmental Impact Statement (EIS) /Design	$4,750,000
Junction Bootlegger Trail NE (turn lanes, US Highway 87)	$1,800,000
	$6,550,000

**Note: These funds are only those that have been secured to-date. Although Great Falls has a history of successfully securing special appropriations, such funding cannot be responsibly relied upon for project development, and therefore future projects based upon special appropriations are not shown in this funding category.*

DIFFERENCE = $0

Economic Stimulus (Estimated Amount = $5,920,000)*

1st Avenue North (Park Drive to 9th Street) Overlay	$550,000
1st Avenue North (River Drive) Overlay	$550,000
6th Street North (Central Avenue to 8th Street North) Overlay	$400,000
Upgrade Traffic Signals	$240,000
River Drive (1st Avenue North to 9th Street) Overlay	$700,000
10th Street Bridge restoration	$3,000,000
Park Drive Overlay (6th Street North to 1st Avenue North) Overlay	$480,000
	$5,920,000

**Note: Projects under this category are expected to be fundable through the federal economic stimulus plan, passed by Congress and signed in to law on 2/17/2009. If possible, other projects should be considered for funding through this funding mechanism.*

County/City/State Operations and Maintenance*

Cascade County ($50,000/year, 21 years)	$1,050,000
City of Great Falls ($477,000/year, 21 years)	$10,017,000
State of Montana ($973,000/year, 21 years)	$20,433,000
	$31,500,000

**Note: These are projected estimates. While operations and maintenance needs and costs are expected to rise, there is no reliable method for projecting needs. It is expected that operations and maintenance needs will be met by the responsible entities, and will likely involve increases in funding, as well as optimization of services.*

Recommended projects shown in **Chapter 10** and **Chapter 11** as illustrative or long-range projects do not have definite funding sources within the timeframe of the Plan. Therefore, these projects are not included in the above summary for the purposes of fiscal constraint. As agencies review needs, identify new funding sources and plan projects, the long-range project list should be used as a guide for new projects.

By viewing the above shown financial summary and the projects show in **Chapter 10** and **Chapter 11**, it is clear that alternative and creative financing measures and innovative solutions to completing the transportation projects in the future will be needed. It will be important to clearly identify the projects that are considered to have the highest priority, regardless of funding, through the already established Transportation Improvement Program (TIP) and Capital Improvement Program (CIP) processes. The mechanism for doing this is already in place through the Technical Advisory Committee (TAC) and the Policy Coordinating Committee (PCC) activities described in **Chapter 1**.

As was identified in **Chapter 14** and reiterated at the beginning of this Chapter, alternative and creative funding mechanisms will be needed to implement a variety of the recommended projects. Funding mechanisms that are currently not being used could be transportation bond issues, and more extensive use of the RID/SID funding process. These “non-traditional” funding sources can help to bridge the gap of the noted funding shortfalls shown in this Chapter.

This Transportation Plan is fiscally responsible in that traditional funding programs, targeted to be utilized for the majority of the projects within the Great Falls area, are identified, available and likely to be funded at current or larger levels than in past years. Funding shortfalls have been identified through this plan, and because of this, it is recommended that alternative and creative funding mechanisms be explored.

Chapter 16: Conformity Determination

16.1 Introduction

On November 15, 1990, the Clean Air Act Amendments (CAAA) of 1990 were signed into law. The CAAA is an extremely detailed and complex law that has had a major impact on the programs of the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA). The Act requires substantial emissions reductions from the transportation sector.

The purpose of the conformity provision of the CAAA is to ensure consistency between the Federal transportation planning process and Federal air quality planning process. The regulations require that for an urban area not in attainment of National Ambient Air Quality Standards for common criteria pollutants (ozone, carbon monoxide, nitrogen dioxide and particles with an aerodynamic diameter less than or equal to a nominal 10 micrometers), it must conduct a conformity determination to demonstrate that its transportation plan or any revisions to its plan will not adversely affect air quality.

16.2 Background

On September 9, 1980, the Environmental Protection Agency (EPA) designated Great Falls as non-attainment for carbon monoxide (CO). The designation followed sixteen violations of the National Ambient Air Quality Standard (NAAQS) 8-hour CO standard at an air quality monitor on 10th Avenue South. The NAAQS for CO is 9.0 parts per million (ppm) for an 8-hour average concentration, not to be exceeded more than once per calendar year. Consensus between EPA and local officials established the 10th Avenue South corridor as the non-attainment boundary in lieu of the city limits.

Following the non-attainment designation, control plans were developed, but none were approved by EPA. The primary contributors to the CO problem, as listed in the 1977 emissions inventory, were motor vehicle emissions, wood smoke and industrial processes. The March 9, 1984 control plan demonstrated attainment based on projected automobile emissions reductions and a significant reduction in CO from the former Phillips Refinery, now Montana Refining Company. That control plan was withdrawn due to the failure of the refining company to modify its catalytic cracking unit. A second control plan was submitted to EPA on March 28, 1986. On January 26, 1987, EPA proposed to approve the Great Falls CO control plan. However, Great missed the December 31, 1987 attainment deadline, (meaning Great Falls had a violation of the standard in 1987), and the Montana CO State Implementation Plan (SIP) was ruled inadequate, resulting in a "SIP call" for the Great Falls CO non-attainment area on May 26, 1988. On September 7, 1999, EPA published two actions regarding the Great Falls element of the SIP. EPA published a proposed rule that would disapprove the attainment demonstration contained in the March 28, 1986 SIP revision. However, EPA never took final action on that proposed rule. EPA also published a final rule on September 7, 1990 that approved the CO control measures from the March 28, 1986 SIP revision for their strengthening effect on the SIP. Great Falls was reevaluated in September 1990, based on the 1990 CAAA and the lack of exceedances in the CO monitoring data for 1988 and 1989. On November 6, 1991, Great Falls was listed as a "not classified" non-attainment area for CO. However, redesignation required a new emission inventory and the development of a maintenance plan, which was subsequently developed by the Montana Department of Environmental Quality (DEQ).

In 1998, DEQ submitted a 1996 Inventory Preparation Plan to Federal, State and local agencies for review and comment. Subsequently, DEQ submitted the 1996 base year emission inventory to EPA in February 2000, along with a ten year maintenance plan and a request to redesignate Great Falls as an attainment area. On July 8, 2002, EPA redesignated Great Falls as a "limited maintenance plan" attainment area.

With the redesignation, Great Falls must comply with the ten year plan and must submit in 2010 a revised maintenance plan that provides for maintenance of the CO standards for an additional ten years. Provided Great Falls does not exceed the 8-hour standard of 9.0 ppm, more than once per calendar year during the next 20 years, it can then request full attainment status. DEQ and the local City-County Health Department continue to monitor and analyze CO levels in Great Falls to help demonstrate ongoing compliance with the CO standards.

The following conformity determination was made in accordance with the above referenced Federal regulations. The determination applies to the updated Transportation Plan, documented as the "Great Falls Area Transportation Plan - 2009" (TP) and the Carbon Monoxide State Implementation Plan (SIP) for the State of Montana.

16.3 Conformity Determination

1) Determination that the TP is consistent with the SIP.

Air quality planning has been an integral part of the Great Falls Urban Area transportation planning process for a number of years. As such, air quality has received specific attention during development of the numerous plans, programs and projects of the process. Unified planning work programs have included specific annual work activities dealing with addressing the initial carbon monoxide problem on 10th Avenue South and the preparation of revisions to the SIP. A work element titled, "Annual Reviews, Analysis, Inventories and Consistency Determinations" has dealt with procedures to assure consistency/conformity between air quality and transportation planning plans and programs, as well as other environmental issues such as noise, water quality, air, aesthetics, etc. Additionally, a number of years ago, a cooperative agreement was entered into between the Great Falls City-County Planning Board (MPO) and State Air Quality Bureau which formalized the procedures for integrating and coordinating air quality and transportation plans and programs. The MPO had also prepared "Procedures for Determining Consistency between the State Implementation Plan and Transportation Plans and Programs." Within the adopted transportation planning goals and objectives for the Great Falls Urban

Area, a specific transportation "vision" states that "Our community should continually seek to protect and improve air quality as the area grows, through the creation and implementation of comprehensive programs and policies".

The general consultation guidance contained in the State of Montana Air Quality Rules on Conformity (ARM Chapter 17.8 Subchapter 13) was used in the preparation of this conformity determination and emissions analysis. These rules incorporate by reference Federal regulations contained in 40 CFR Part 93, Subpart A. This generally involved a cooperative and coordinated process including the Montana Department of Transportation, the Montana Department of Environmental Quality and the Great Falls City-County Planning Board (MPO).

2) <u>Determination that the TP does not contradict the SIP</u>

With the past designation of the 10th Avenue South corridor as being in violation of carbon monoxide standards, a revision to the SIP was conducted. However, because of the nature of the strategy proposed in the SIP to address the Great Falls air quality problem, it was not included in the TP or the Transportation Improvement Program (TIP). The strategy was to rely on the newer model of automobiles to provide a reduction in CO emissions and thus reduce CO levels in Great Falls. If specific transportation control measures had been proposed, the measures would have been included in the TP and TIP under a time frame which corresponded with that of the SIP. This would assure the plans and programs were consistent and standards would be attained in accordance with an established time frame.

As such, the SIP doesn't contain any transportation control measures with which the TP can contradict.

Additionally, the TP doesn't contain any goals, directives, recommendations, or projects that contradict in a negative manner any specific requirements or commitments in the SIP.

3) <u>Assurance that the TP provides for transportation control measures in the SIP.</u>

As stated in the previous section, the SIP does not contain any transportation control measures for the Great Falls non-attainment area that are of the nature for inclusion in the TP or TIP. Therefore, an assurance that the TP provides for the timely implementation of transportation control measures in the SIP is not applicable.

4) <u>Determination that the TP contributes to CO emissions reductions.</u>

An October 1995 EPA policy for limited maintenance plans in non-classifiable CO non-attainment areas included a discussion of the applicability of the conformity rule requirements in these areas. The following is in response to the applicable requirements.

A "limited maintenance plan" attainment area is not required to project emissions over the maintenance period, because the air quality design value for the area is low enough that the stationary source permitting program, existing SIP controls and Federal control measures provide adequate assurance of maintenance of the CO standard over the initial 10-year maintenance period. The design value must continue to be at or below 7.65 ppm. The CO design value for the Great Falls area is 4.5 ppm, which is well below the requirement. Therefore, the Great Falls area adequately demonstrates maintenance.

Emissions budgets in limited maintenance plan areas may be treated as essentially not constraining for the length of the initial maintenance period because it is unreasonable to expect that such an area will experience so much growth in that period that a violation of the CO NAAQS would result. In Great Falls, Federal actions are considered to satisfy the transportation conformity rule's requirements for expeditious implementation of transportation control measure because there are no control measures in the Great Falls CO SIP element.

For general conformity in limited maintenance plan areas, all projects are considered to satisfy the "budget test" specified in 40 CFR 93.158(a)(5)(i)(A) once the redesignation request has been approved by EPA. For transportation conformity, federal actions requiring conformity determinations are considered to satisfy the budget test once the limited maintenance plan for the area has been found adequate by EPA. The limited maintenance plan and redesignation request for Great Falls have been approved by EPA.

Tracking CO for the Great Falls area consists of monitoring and analyzing CO concentrations by the Montana Department of Environmental Quality to demonstrate ongoing compliance with the CO NAAQS.

Based on the satisfaction of these requirements, as noted, no regional emissions analysis under Sections 93.118 or 93.119 of the conformity rule is required for plan conformity.

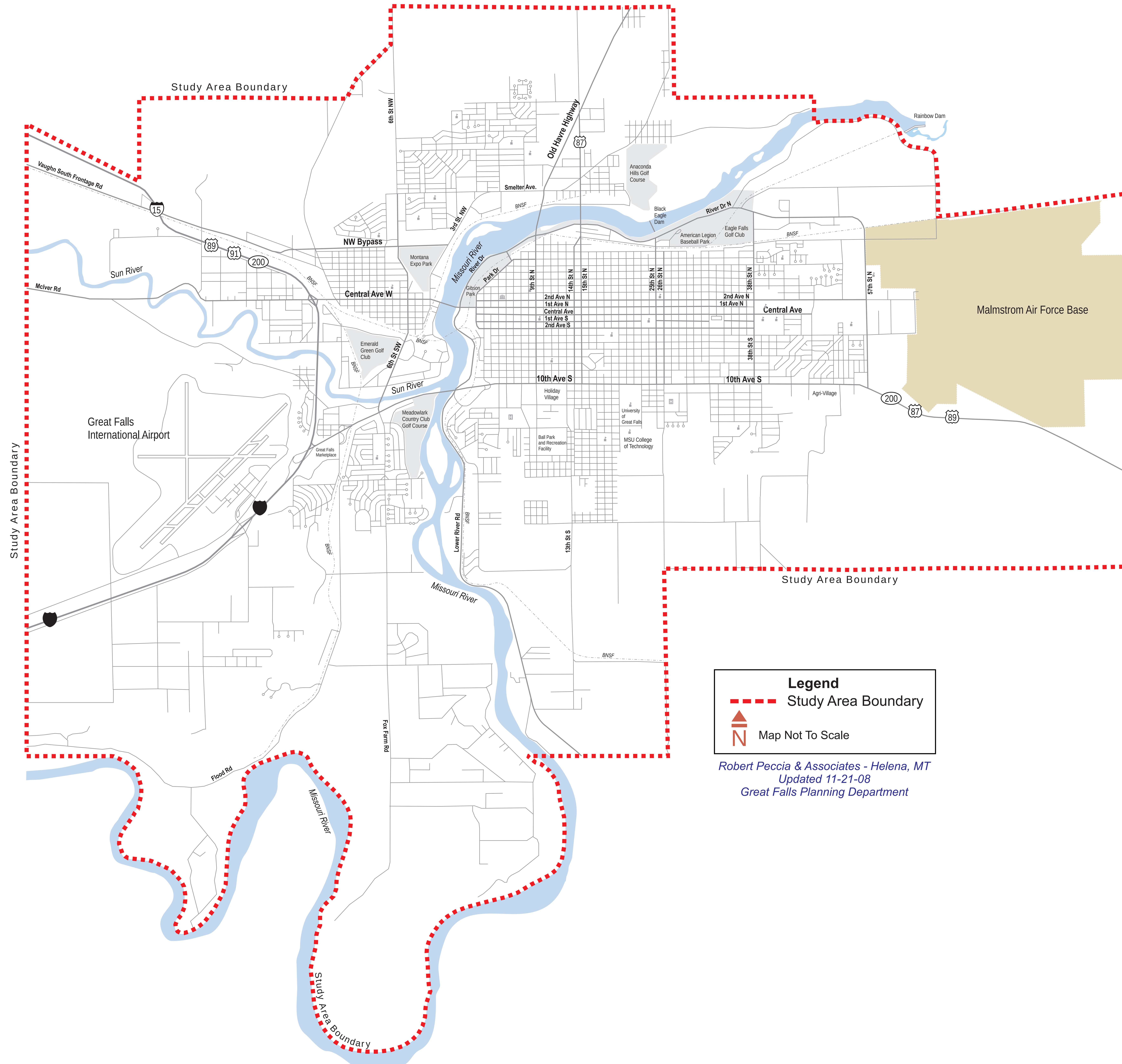
5) Note on Particulate Matter - PM 2.5 and PM10

A recent draft report released by the Montana Department of Environmental Quality, titled, *Potential Montana PM2.5 Non-Attainment PM2.5 Non-Attainment Areas – March 2008 Draft*. According to the report, Great Falls' PM2.5 Daily Data (3-yr average) indicates it is not currently demonstrating noncompliance with the 24-hour standard of 35 micrograms per cubic meter, nor is it a potential for noncompliance (criteria is within 15% of the NAAQS (National Ambient Air Quality Standard). The report also does not list Great Falls as a PM10 Non-

Attainment area. Therefore, Great Falls is in compliance for particulate matter air quality requirements.

16.4 Conclusion

It is the conclusion of this determination that because of the satisfaction of the aforementioned conditions and requirements, the "Great Falls Area Transportation Plan - 2009" for the Great Falls Urban Area is found to be in conformance with the Clean Air Act Amendments of 1990 and the Carbon Monoxide State Implementation Plan for the State of Montana.



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Great Falls Planning Department

GREAT FALLS AREA

Figure 1-1: Study Area Boundary

TRANSPORTATION PLAN - 2009

GREAT FALLS AREA

Figure 2-1
Major Street Network
Entire Study Area

TRANSPORTATION PLAN - 2009

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Study Area Boundary
NOTE: Functional Classifications shown on this figure are not the "Federally Approved" Functional Classification System for Great Falls. A map of the "Federally Approved" system can be accessed through the MDT website.
NOTE: Please see accompanying Figure 2-1 for Major Street Network coverage of entire study area.
Missouri River
Sun River
Anaconda Hills Golf Course
Montana Expo Park
Emerald Green Golf Club
Meadowlark Country Club Golf Course
Eagle Falls Golf Club
American Legion Baseball Park
Gibson Park
Holiday Village
University of Great Falls
MSU College of Technology
Ball Park and Recreation Facility
Agri-Village
NW Bypass
Central Ave W
Central Ave
River Dr N
10th Ave S
Smelter Ave
GREAT FALLS AREA
Figure 2-2
Major Street Network
City Area Enlargement
TRANSPORTATION PLAN - 2009

GREAT FALLS AREA

Figure 2-3 Estimated Existing (2007) Traffic Volumes

TRANSPORTATION PLAN - 2009

GREAT FALLS AREA

Figure 2-4
Corridor Size

TRANSPORTATION PLAN - 2009


GREAT FALLS AREA
Figure 2-5
Traffic Signal System
TRANSPORTATION PLAN - 2009
N
Traffic Signals per system
Jurisdiction
MDT
City of GF
System # 1 8 8 0
System # 2 9 9 0
System # 3 19 18 1
System # 4 31 13 18
System # 5 22 18 4
Total 89 66 23
Study Area Boundary
Map Not To Scale
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Study Area Boundary
Great Falls International Airport
Montana Expo Park
Emerald Green Golf Club
Meadowlark Country Club Golf Course
Anaconda Hills Golf Course
American Legion Baseball Park
Eagle Falls Golf Club
Gibson Park
Holiday Village
University of Great Falls
MSU College of Technology
Ball Park and Recreation Facility
Agri-Village
Central Ave
Central Ave W
10th Ave S
NW Bypass
River Dr N
Smelter Ave
2nd Ave N
1st Ave N
Sun River
Missouri River


Legend
Signalized Intersection
A.M. → B C ← P.M.
Unsignalized Intersection
A.M. → C C ← P.M.
A, B, C, D, E, F = Level of Service
Committed Future Signalized Intersection
Study Area Boundary
Map Not To Scale
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Study Area Boundary
SEE ENLARGEMENT
Downtown Business District Enlargement
Great Falls International Airport
Montana Expo Park
Emerald Green Golf Club
Meadowlark Country Club Golf Course
Anaconda Hills Golf Course
Eagle Falls Golf Club
American Legion Baseball Park
Ball Park and Recreation Facility
University of Great Falls
Great Falls Marketplace
Sun River
Smelter Ave
Central Ave
Central Ave W
10th Ave S
10th Ave SW
NW Bypass
River Dr N
Rainbow Dam Rd
Giant Springs Rd
Old Havre Highway
Bootlegger Trail
Division Rd
Vaughn Rd
Sun River Rd
Park Garden Rd
Fox Farm Rd
Flood Rd
Lower River Rd
Upper River Road
Airport Dr
Wire Mill Rd
North River Rd
36th Ave NE
25th Ave NE
18th Ave N
2nd Ave N
1st Ave N
1st Ave S
2nd Ave S
3rd Ave S
13th Ave S
17th Ave S
24th Ave S
13th Ave SW
5th Ave SW
14th St SW
6th St SW
3rd St NW
9th St NW
15th St NE
38th St N
57th St N
57th St S
26th St S
25th St S
9th St S
4th St S
2nd St S
Wilkinson Ln
Sun View Ln
Crescent Dr
Riverview Dr

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Study Area Boundary
Great Falls International Airport
Sun River
Montana Expo Park
Emerald Green Golf Club
Meadowlark Country Club Golf Course
Anaconda Hills Golf Course
American Legion Baseball Park
Eagle Falls Golf Club
Gibson Park
Holiday Village
University of Great Falls
MSU College of Technology
Ball Park and Recreation Facility
Great Falls Marketplace
Agri-Village
North Park Trail
Central Ave W
Central Ave
1st Ave N
2nd Ave N
1st Ave S
2nd Ave S
10th Ave S
10th Ave SW
NW Bypass
Smelter Ave
River Dr N
River Dr S
Park Dr
Vaughn Rd
Sun River Rd
Giant Springs Rd
Old Havre Highway
Bootlegger Trail
Rainbow Dam Rd
Division Rd
Riverview Dr
North River Rd
Upper River Road
Lower River Rd
Fox Farm Rd
Flood Rd
Park Garden Rd
Airport Dr
Gibson Flats Rd
36th Ave NE
25th Ave NE
18th Ave N
24th Ave S
33rd Ave S
6th St SW
9th St NW
15th St NE
26th St S
38th St N
57th St S


GREAT FALLS AREA
Figure 2-8
A.M. Peak Hour
Running Speed & Delay
TRANSPORTATION PLAN - 2009
NOTE: Please see page 2-14 for a definition of "Running Speed" and "Delay".
Legend
Running Speed
Less Than 15 mph
15-25 mph
25-35 mph
35-45 mph
Greater Than 45 mph
Delay
Locations Where Average Delay Exceeded 25 Seconds
Length of Average Delay and Direction of Travel
N
Map Not To Scale
Robert Peccia & Associates - Helena, MT
Updated 11-21-08
Great Falls Planning Department
Study Area Boundary
See Downtown Business District Enlargement
Downtown Business District Enlargement
Missouri River
Sun River
Great Falls International Airport
Central Ave W
Central Ave
10th Ave S
NW Bypass
Smelter Ave
River Dr N
2nd Ave N
1st Ave N
2nd Ave S
1st Ave S
Anaconda Hills Golf Course
Eagle Falls Golf Club
Emerald Green Golf Club
Meadowlark Country Club Golf Course
American Legion Baseball Park
Holiday Village
Ball Park and Recreation Facility
University of Great Falls
MSU College of Technology


GREAT FALLS AREA
Figure 2-9
Mid - Day
Running Speed & Delay
TRANSPORTATION PLAN - 2009
NOTE: Please see page 2-14 for a definition of "Running Speed" and "Delay".
Legend
Running Speed
Less Than 15 mph
15-25 mph
25-35 mph
35-45 mph
Greater Than 45 mph
Delay
Locations Where Average Delay Exceeded 25 Seconds
61
Length of Average Delay and Direction of Travel
N
Map Not To Scale
Robert Peccia & Associates - Helena, MT
Updated 11-21-08
Great Falls Planning Department
Study Area Boundary
See Downtown Business District Enlargement
Downtown Business District Enlargement
Missouri River
Sun River
Great Falls International Airport
Anaconda Hills Golf Course
Eagle Falls Golf Club
American Legion Baseball Park
Montana Expo Park
Emerald Green Golf Club
Meadowlark Country Club Golf Course
Gibson Park
Holiday Village
University of Great Falls
Ball Park and Recreation Facility
Great Falls Marketplace
MSU College of Technology
Agri-Village
NW Bypass
Central Ave W
Central Ave
2nd Ave N
1st Ave N
10th Ave S
10th Ave SW
Smelter Ave
River Dr N
Vaughn Rd
Sun River Rd
Park Garden Rd
Upper River Road
Lower River Rd
Giant Springs Rd
Rainbow Dam Rd
Old Havre Highway
Bootlegger Trail
Wire Mill Rd
Riverview Dr
Division Rd
Fox Farm Rd
Flood Rd
Airport Dr
North River Rd


Legend
Running Speed
Less Than 15 mph
15-25 mph
25-35 mph
35-45 mph
Greater Than 45 mph
Delay
Locations Where Average Delay Exceeded 25 Seconds
Length of Average Delay and Direction of Travel
Map Not To Scale
Robert Peccia & Associates - Helena, MT
Updated 11-21-08
Great Falls Planning Department
Study Area Boundary
NOTE: Please see page 2-14 for a definition of "Running Speed" and "Delay".
See Downtown Business District Enlargement
Downtown Business District Enlargement
Great Falls International Airport
Sun River
NW Bypass
Central Ave W
10th Ave S
Smelter Ave
River Dr N
2nd Ave N
Central Ave
1st Ave S
Rainbow Dam Rd
Giant Springs Rd
Fox Farm Rd
Upper River Road
Lower River Rd
Park Garden Rd
Vaughn Rd
Sun River Rd
Anaconda Hills Golf Course
Eagle Falls Golf Club
American Legion Baseball Park
Emerald Green Golf Club
Meadowlark Country Club Golf Course
Montana Expo Park
Gibson Park
Agri-Village


GREAT FALLS AREA
Figure 2-11
A.M. Peak Travel Speed
TRANSPORTATION PLAN - 2009
NOTE: Please see page 2-14 for a definition of "Travel Speed".
Legend
Less Than 15 mph
15-25 mph
25-35 mph
35-45 mph
Greater Than 45 mph
N
Map Not To Scale
Robert Peccia & Associates - Helena, MT
Updated 11-21-08
Great Falls Planning Department
Study Area Boundary
See Downtown Business District Enlargement
Downtown Business District Enlargement
Missouri River
Sun River
Great Falls International Airport
Montana Expo Park
Emerald Green Golf Club
Meadowlark Country Club Golf Course
Anaconda Hills Golf Course
Eagle Falls Golf Club
American Legion Baseball Park
Gibson Park
Holiday Village
Ball Park and Recreation Facility
MSU College of Technology
University of Great Falls
Great Falls Marketplace
Agri-Village
Central Ave W
Central Ave
NW Bypass
Smelter Ave
River Dr N
10th Ave S
10th Ave SW
Vaughn Rd
Sun River Rd
Rainbow Dam Rd
Giant Springs Rd
Old Havre Highway
Bootlegger Trail
Park Garden Rd
Upper River Road
Lower River Rd
Fox Farm Rd
Flood Rd
Airport Dr
Division Rd
Riverview Dr
North River Rd
Wire Mill Rd


GREAT FALLS AREA
Figure 2-12
Mid - Day Travel Speed
TRANSPORTATION PLAN - 2009
NOTE: Please see page 2-14 for a definition of "Travel Speed".
Legend
Less Than 15 mph
15-25 mph
25-35 mph
35-45 mph
Greater Than 45 mph
N
Map Not To Scale
Robert Peccia & Associates - Helena, MT
Updated 11-21-08
Great Falls Planning Department
Study Area Boundary
See Downtown Business District Enlargement
Downtown Business District Enlargement
Missouri River
Sun River
Great Falls International Airport
Montana Expo Park
Anaconda Hills Golf Course
Eagle Falls Golf Club
American Legion Baseball Park
Emerald Green Golf Club
Meadowlark Country Club Golf Course
Ball Park and Recreation Facility
Holiday Village
University of Great Falls
MSU College of Technology
Agri-Village
North Park Trail
Great Falls Marketplace
NW Bypass
Central Ave W
Central Ave
10th Ave S
River Dr N
Smelter Ave
Vaughn Rd
Sun River Rd
Giant Springs Rd
Rainbow Dam Rd
Old Havre Highway
Bootlegger Trail
Park Garden Rd
Upper River Road
Lower River Rd
Fox Farm Rd
Flood Rd
BNSF

GREAT FALLS AREA
Figure 2-13
P.M. Peak Travel Speed
TRANSPORTATION PLAN - 2009
NOTE: Please see page 2-14 for a definition of "Travel Speed".
Legend
Less Than 15 mph
15-25 mph
25-35 mph
35-45 mph
Greater Than 45 mph
Map Not To Scale
Robert Peccia & Associates - Helena, MT
Updated 11-21-08
Great Falls Planning Department
Study Area Boundary
See Downtown Business District Enlargement
Downtown Business District Enlargement
Missouri River
Sun River
Great Falls International Airport
Montana Expo Park
Eagle Falls Golf Club
Anaconda Hills Golf Course
Emerald Green Golf Club
Meadowlark Country Club Golf Course
American Legion Baseball Park
Central Ave W
NW Bypass
10th Ave S
2nd Ave N
Central Ave
River Dr N
Smelter Ave


Legend
Existing Truck Routes
Per City Code 10.57.020
Study Area Boundary
Map Not To Scale
N
Robert Peccia & Associates - Helena, MT
Updated 11-21-08
Great Falls Planning Department
Study Area Boundary
Missouri River
Sun River
Great Falls International Airport
Montana Expo Park
Emerald Green Golf Club
Meadowlark Country Club Golf Course
Anaconda Hills Golf Course
Eagle Falls Golf Club
American Legion Baseball Park
Gibson Park
Ball Park and Recreation Facility
University of Great Falls
MSU College of Technology
Holiday Village
Great Falls Marketplace
Agri-Village
Central Ave W
Central Ave
10th Ave S
10th Ave SW
NW Bypass
Vaughn Rd
Smelter Ave
River Dr N
River Dr S
Sun River Rd
Old Havre Highway
Rainbow Dam Rd
Giant Springs Rd
57th St S
GREAT FALLS AREA
Figure 2-14
Truck Routes
TRANSPORTATION PLAN - 2009


Legend
Sidewalks On BOTH Sides of Street
Sidewalks On ONLY ONE Side of Street
No Sidewalk
Study Area Boundary
N
Map Not To Scale
Robert Peccia & Associates - Helena, MT
Updated 10-10-08
Great Falls Planning Department
Study Area Boundary
NOTE: All portions of the Major Street Network not shown on this figure DO NOT have any sidewalks on either side of the street.
Missouri River
Sun River
Great Falls International Airport
Montana Expo Park
Emerald Green Golf Club
Meadowlark Country Club Golf Course
Anaconda Hills Golf Course
Eagle Falls Golf Club
American Legion Baseball Park
Gibson Park
Holiday Village
University of Great Falls
MSU College of Technology
Ball Park and Recreation Facility
Agri-Village
Central Ave W
Central Ave
10th Ave S
10th Ave SW
Smelter Ave
NW Bypass
River Dr N
Sun River Rd
Vaughn Rd
Watson Coulee Rd
Old Havre Highway
Giant Springs Rd
Rainbow Dam Rd
Upper River Road
Lower River Rd
Fox Farm Rd
Flood Rd
Park Garden Rd
Airport Dr
GREAT FALLS AREA
Figure 2-15
Sidewalk Inventory
TRANSPORTATION PLAN - 2009

GREAT FALLS AREA

Figure 2-16
Wheelchair Access Ramp Inventory

TRANSPORTATION PLAN - 2009


Robert Peccia & Associates - Helena, MT
Updated 11-3-08
Great Falls Planning Department
Study Area Boundary
GREAT FALLS AREA
Figure 2-17
Lighted Corridors
TRANSPORTATION PLAN - 2009
36th Ave NE
Bootlegger Trail
Old Havre Highway
Rainbow Dam Rd
32nd Ave NE
Riverview Dr
Division Rd
Skyline Dr NW
Skyline Dr NE
Smelter Ave
North River Rd
25th Ave NE
Wire Mill Rd
Anaconda Hills Golf Course
Giant Springs Rd
18th Ave N
River Dr N
North Star Blvd
North Park Trail
Eagle Falls Golf Club
American Legion Baseball Park
NW Bypass
Vaughn Rd
Montana Expo Park
River Dr
Park Dr
Gibson Park
8th Ave N
7th Ave N
2nd Ave N
1st Ave N
Central Ave
Central Ave W
1st Ave S
2nd Ave S
3rd Ave S
10th Ave S
Wilkinson Ln
34th St NW
9th St NW
6th St NW
3rd St NW
3rd St SW
6th St SW
14th St SW
5th Ave SW
10th Ave SW
13th Ave SW
Sun River Rd
Sun View Ln
Sun River
Emerald Green Golf Club
Crescent Dr
American Ave
Meadowlark Country Club Golf Course
Great Falls International Airport
Airport Dr
Great Falls Marketplace
Marketplace Dr
Treasure State Dr
Park Garden Rd
Fox Farm Rd
Flood Rd
Lower River Rd
Upper River Road
River Dr S
Holiday Village
13th Ave S
University of Great Falls
MSU College of Technology
Ball Park and Recreation Facility
24th Ave S
33rd Ave S
Gibson Flats Rd
Mountain View Dr
Agri-Village
57th St N
57th St S
9th St N
15th St N
25th St N
26th St N
38th St N
9th St S
13th St S
20th St S
26th St S
32nd St S
38th St S
BNSF


Legend
Existing Trails
Proposed Trails
Proposed Trailhead
Study Area Boundary
Map Not To Scale
N
Robert Peccia & Associates - Helena, MT
Updated 11-21-08
Great Falls Planning Department
Study Area Boundary
North Shore Trail
(11.5 miles)
Equestrian Loop
(3.0 miles) Trail T-6
West Bank Trail
(4.7 miles) Trail T-4
Northeast Loop
(6.5 miles) Trail T-3
Existing River's Edge Trail
(5.5 miles) Trail T-1
Existing East City Loop
Trail T-2
Sun River Trail
(5.4 miles) Trail T-5
East City Loop
(8.6 miles) Trail T-2
Missouri River
Sun River
Great Falls
International Airport
Anaconda
Hills Golf
Course
Montana
Expo Park
Emerald
Green Golf
Club
Meadowlark
Country Club
Golf Course
American Legion
Baseball Park
Eagle Falls
Golf Club
Gibson
Park
Holiday
Village
Ball Park
and Recreation
Facility
University
of Great Falls
MSU College
of Technology
Agri-Village
Existing and proposed trail facilities
shown are as delineated in the
Comprehensive Park and Recreation
Master Plan, (December, 1995).
GREAT FALLS AREA
Figure 2-18
Existing/Proposed
Trails Network
TRANSPORTATION PLAN - 2009

Legend
0 - 12,000 (consistent with a two-lane road)
12,000 - 18,000 (consistent with a three-lane road)
18,000 - 24,000 (consistent with a four-lane road)
24,000 - 36,000 (consistent with a five-lane road)
> 36,000 (consistent with a six-lane road)
10,200 = Estimated 2005 Traffic Volume (Annual Average Daily Traffic - AADT)
Study Area Boundary
N Map Not To Scale
Robert Peccia & Associates - Helena, MT
Updated 2-20-09
Great Falls Planning Department
Study Area Boundary
Malmstrom Air Force Base
Great Falls International Airport
Rainbow Dam
Missouri River
Sun River
Downtown Business District Enlargement
GREAT FALLS AREA
Figure 3-3
2005 Annual Average Daily Traffic (ADT) - Baseline
TRANSPORTATION PLAN - 2009

Figure 3-4
2015 Annual Average Daily Traffic (ADT)

GREAT FALLS AREA

Figure 3-5
2025 Annual Average Daily Traffic (ADT)

TRANSPORTATION PLAN - 2009

GREAT FALLS AREA
Figure 3-6
Traffic Model
Alternative Test Runs
TRANSPORTATION PLAN - 2009
Legend
Test Run No. 1 & No. 2
Test Run No. 5
N
Map Not To Scale
Robert Peccia & Associates - Helena, MT
Updated 2-20-09
Great Falls Planning Department
NOTE: Southern portion of Study Area not shown contains no information pertinent to this graphic.
Study Area Boundary
Study Area Boundary
Study Area Boundary
Rainbow Dam
Rainbow Dam Rd
Giant Springs Rd
Malmstrom Air Force Base
Great Falls International Airport
Missouri River
Sun River
Vaughn South Frontage Rd
Vaughn Rd
NW Bypass
Central Ave W
McIver Rd
Sun River Rd
10th Ave SW
5th Ave SW
Park Garden Rd
Tri-Hill Frontage Road
Airport Dr
Flood Rd
Fox Farm Rd
Dick Rd
Sunflower Ln
Lower River Rd
Upper River Road
40th Ave S
55th Ave S
Wilson Butte Rd
Eden Rd
10th Ave S
13th Ave S
17th Ave S
24th Ave S
33rd Ave S
2nd Ave N
1st Ave N
Central Ave
1st Ave S
2nd Ave S
3rd Ave S
7th Ave N
8th Ave N
18th Ave N
River Dr N
North River Rd
Smelter Ave
25th Ave NE
36th Ave NE
Riverview Dr
Old Havre Highway
Wire Mill Rd
Bootlegger Tr
Park Dr
River Dr
Crescent Dr
6th St NW
9th St NE
3rd St NW
14th St SW
20th St SW
34th St NW
40th St SW
31st St SW
57th St N
67th St N
46th St S
38th St N
26th St S
13th St S


Study Area Boundary
Study Area Boundary
Study Area Boundary
Legend
Test Run No. 3 & No. 4
Test Run No. 10 & No. 11
Test Run No. 12
N
Map Not To Scale
Robert Peccia & Associates - Helena, MT
Updated 2-20-09
Great Falls Planning Department
NOTE: Southern portion of Study Area not shown contains no information pertinent to this graphic.
GREAT FALLS AREA
Figure 3-7
Traffic Model
Alternative Test Runs
TRANSPORTATION PLAN - 2009
Malmstrom Air Force Base
Great Falls International Airport
Missouri River
Sun River
Rainbow Dam
Vaughn South Frontage Rd
Tri-Hill Frontage Road
Airport Dr
NW Bypass
Central Ave W
10th Ave S
40th Ave S
Fox Farm Rd
Flood Rd
Dick Rd
Sunflower Ln
Lower River Rd
Upper River Road
River Dr N
Giant Springs Rd
18th Ave N
Rainbow Dam Rd
Smelter Ave
North River Rd
36th Ave NE
25th Ave NE
Bootlegger Tr
Old Havre Highway
Park Garden Rd
Sun River Rd
Wilson Butte Rd
Eden Rd
55th Ave S

GREAT FALLS AREA

Figure 3-8 Traffic Model Alternative Test Runs

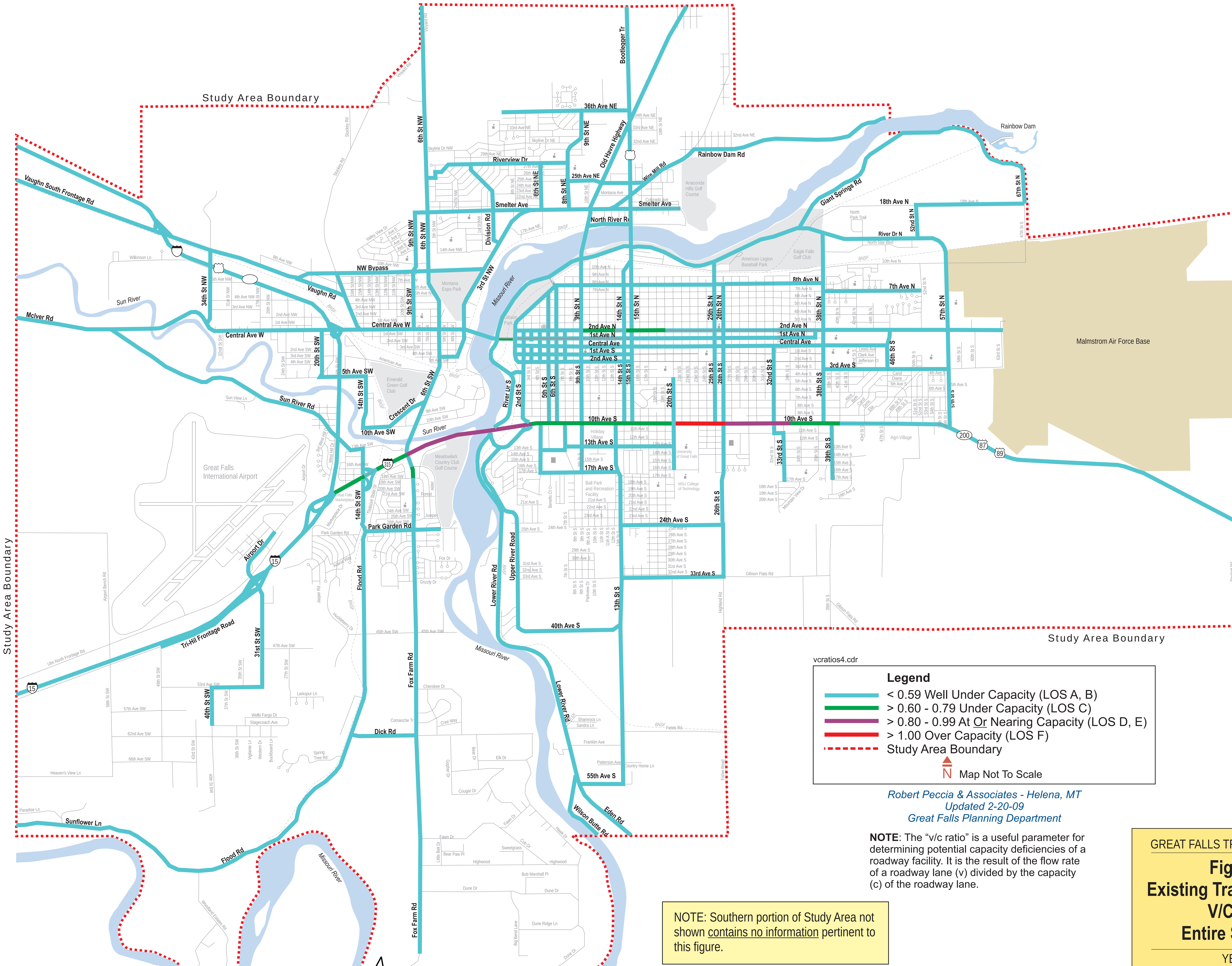
TRANSPORTATION PLAN - 2009

GREAT FALLS AREA

Figure 3-9 Transportation Analysis Zones

TRANSPORTATION PLAN - 2009

Legend
Signalized Intersection
A.M. → B C ← P.M.
Unsignalized Intersection
A.M. → C C ← P.M.
A, B, C, D, E, F = Level of Service
Committed Future Signalized Intersection
Study Area Boundary
Map Not To Scale
N
Robert Peccia & Associates - Helena, MT
Updated 2-20-09
Great Falls Planning Department
SEE ENLARGEMENT
Downtown Business District Enlargement
Study Area Bounda
Great Falls International Airport
Montana Expo Park
Emerald Green Golf Club
Meadowlark Country Club Golf Course
Anaconda Hills Golf Course
American Legion Baseball Park
Eagle Falls Golf Club
Sun River
Central Ave W
Central Ave
River Dr N
NW Bypass
10th Ave S
10th Ave SW
Smelter Ave
Division Rd
Old Havre Highway
Giant Springs Rd
Rainbow Dam Rd
Park Garden Rd
Upper River Road
Lower River Rd
Fox Farm Rd
Flood Rd
University of Great Falls
Ball Park and Recreation Facility



vcratios4.cdr

Legend

- < 0.59 Well Under Capacity (LOS A, B)
- > 0.60 - 0.79 Under Capacity (LOS C)
- > 0.80 - 0.99 At Or Nearing Capacity (LOS D, E)
- > 1.00 Over Capacity (LOS F)
- Study Area Boundary

N Map Not To Scale

Robert Peccia & Associates - Helena, MT
Updated 2-20-09
Great Falls Planning Department

NOTE: The "v/c ratio" is a useful parameter for determining potential capacity deficiencies of a roadway facility. It is the result of the flow rate of a roadway lane (v) divided by the capacity (c) of the roadway lane.

NOTE: Southern portion of Study Area not shown contains no information pertinent to this figure.

GREAT FALLS TRANSPORTATION PLAN

Figure 4-2
Existing Traffic (Year 2005) V/C Ratios Entire Study Area

YEAR 2009

Legend

- < 0.59 = Well Under Capacity (LOS A, B)
- 0.60 - 0.79 = Under Capacity (LOS C)
- 0.80 - 0.99 = At Or Nearing Capacity (LOS D, E)
- > 1.00 = Over Capacity (LOS F)
- Study Area Boundary

N Map Not To Scale

Robert Peccia & Associates - Helena, MT
Updated 2-20-09
Great Falls Planning Department

NOTE: The “v/c ratio” is a useful parameter for determining potential capacity deficiencies of a roadway facility. It is the result of the flow rate of a roadway lane (v) divided by the capacity (c) of the roadway lane.

NOTE: Southern portion of Study Area not shown contains no information pertinent to this figure.

GREAT FALLS AREA

Figure 4-3
Projected Traffic (Year 2020) V/C Ratios
Entire Study Area

TRANSPORTATION PLAN - 2009

Study Area Boundary
Legend
< 0.59 = Well Under Capacity (LOS A, B)
0.60 - 0.79 = Under Capacity (LOS C)
0.80 - 0.99 = At Or Nearing Capacity (LOS D, E)
> 1.00 = Over Capacity (LOS F)
Study Area Boundary
N Map Not To Scale
Robert Peccia & Associates - Helena, MT
Updated 2-20-09
Great Falls Planning Department
NOTE: The "v/c ratio" is a useful parameter for determining potential capacity deficiencies of a roadway facility. It is the result of the flow rate of a roadway lane (v) divided by the capacity (c) of the roadway lane.
NOTE: Southern portion of Study Area not shown contains no information pertinent to this figure.
Malmstrom Air Force Base
Great Falls International Airport
Missouri River
Rainbow Dam
GREAT FALLS AREA
Figure 4-4
Projected Traffic (Year 2030)
V/C Ratios
Entire Study Area
TRANSPORTATION PLAN - 2009

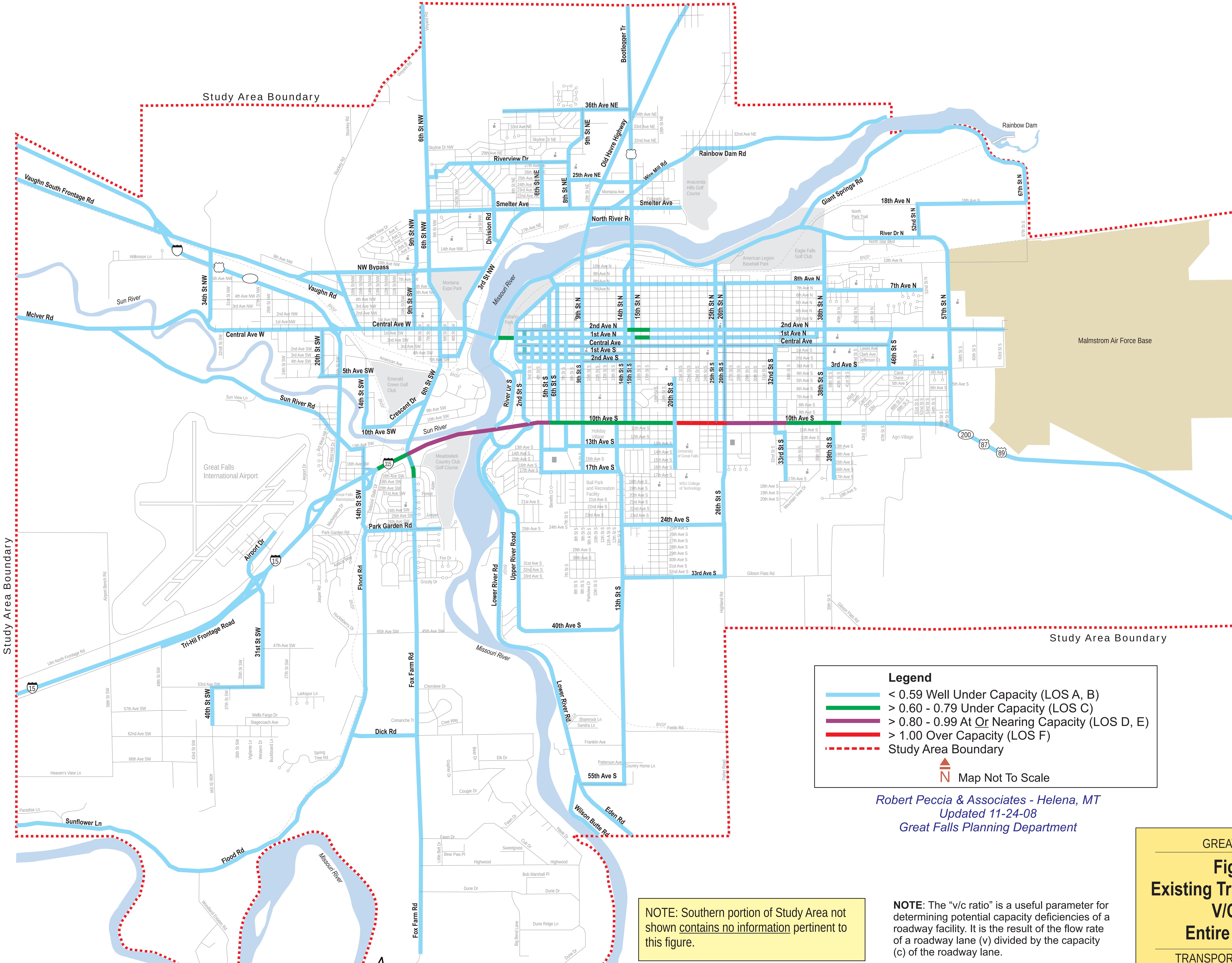

Legend
Recommended Improvements
Bike Path
Bike Lane
Bike Route
Bikeway Facilities Which Have Been Completed or are under construction (Currently in Place - 2009)
N
Map Not To Scale
Robert Peccia & Associates - Helena, MT
Updated 3-2-09
Great Falls Planning Department
Study Area Boundary
(Located off Sheet)
GREAT FALLS AREA
Figure 5-2
Proposed Bikeway Network & System Improvements
TRANSPORTATION PLAN - 2009
Great Falls International Airport
Sun River
Anaconda Hills Golf Course
American Legion Baseball Park
Eagle Falls Golf Club
Montana Expo Park
Emerald Green Golf Club
Meadowlark Country Club Golf Course
Holiday Village
Ball Park and Recreation Facility
University of Great Falls
MSU College of Technology
Agri-Village
Great Falls Marketplace
Central Ave W
Central Ave
NW Bypass
River Dr N
Giant Springs Rd
10th Ave S
13th Ave S
24th Ave S
36th Ave NE
Smelter Ave
Riverview Dr
Division Rd
Old Havre Highway
Sun River Rd
Fox Farm Rd
Upper River Road
Lower River Rd
Gibson Flats Rd
Rainbow Dam Rd
Vaughn Rd
Watson Coulee Rd
Park Garden Rd
Airport Dr
Flood Rd
57th St S
38th St N
26th St S
15th St N
9th St N
6th St NW
1
2
3
5
6
8
9
10
11
12
13
14
15
16
17
18
19
20

GREAT FALLS AREA

Figure 5-3
Existing Bus Routes

TRANSPORTATION PLAN - 2009


Legend
Change to Bus Route
Southeast
Central
Northcentral
Southcentral
Northwest
Northeast
Southwest
Study Area Boundary
N
Map Not To Scale
Busroots2.cdr
Robert Peccia & Associates - Helena, MT
Updated 11-21-08
Great Falls Planning Department
Study Area Boundary
Note:
Line 7 serves the same Marketplace stop both when going to the airport and when going to downtown
Great Falls International Airport
Missouri River
Sun River
Montana Expo Park
Gibson Park
Emerald Green Golf Club
Meadowlark Country Club Golf Course
Anaconda Hills Golf Course
American Legion Baseball Park
Eagle Falls Golf Club
Holiday Village
University of Great Falls
MSU College of Technology
Ball Park and Recreation Facility
Agri-Village
Central Ave
Central Ave W
10th Ave S
NW Bypass
River Dr N
Smelter Ave
North River Rd
Rainbow Dam Rd
Giant Springs Rd
Old Havre Highway
Bootlegger Trail
Division Rd
Riverview Dr
Sun River Rd
Vaughn Rd
Airport Dr
Fox Farm Rd
Upper River Road
Lower River Rd
Gibson Flats Rd
GREAT FALLS AREA
Figure 5-4
Modified Bus Routes
TRANSPORTATION PLAN - 2009



Legend

- < 0.59 Well Under Capacity (LOS A, B)
- > 0.60 - 0.79 Under Capacity (LOS C)
- > 0.80 - 0.99 At Or Nearing Capacity (LOS D, E)
- > 1.00 Over Capacity (LOS F)
- Study Area Boundary

N Map Not To Scale

Robert Peccia & Associates - Helena, MT
Updated 11-24-08
Great Falls Planning Department

NOTE: Southern portion of Study Area not shown contains no information pertinent to this figure.

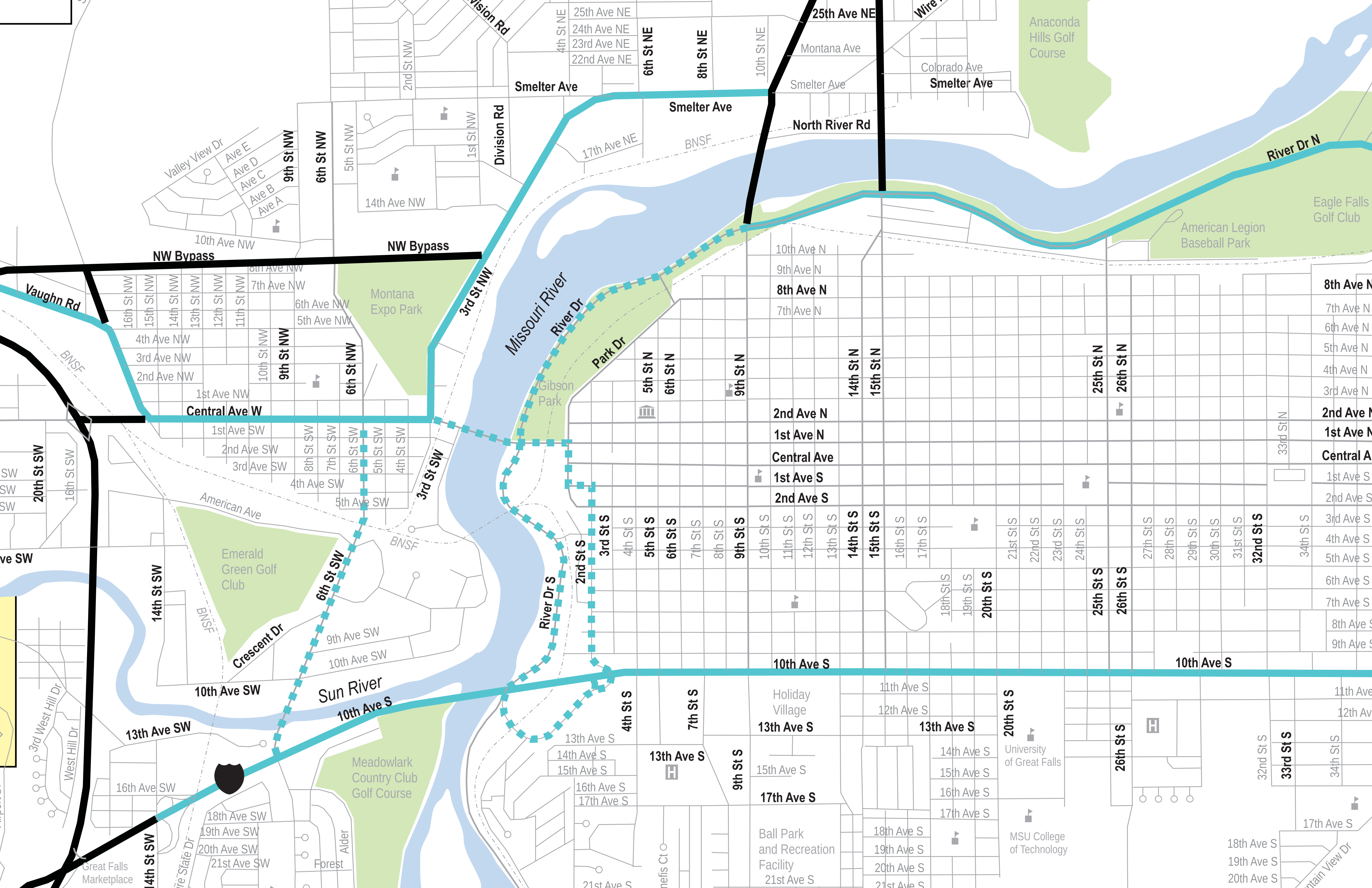
NOTE: The "v/c ratio" is a useful parameter for determining potential capacity deficiencies of a roadway facility. It is the result of the flow rate of a roadway lane (v) divided by the capacity (c) of the roadway lane.

GREAT FALLS AREA

Figure 7-1
Existing Traffic (Year 2002)
V/C Ratios
Entire Study Area

TRANSPORTATION PLAN - 2009


Legend
Crash Locations on Major Street Network Deserving Additional Study
Study Area Boundary
Map Not To Scale
N
Robert Peccia & Associates - Helena, MT
Updated 11-24-08
Great Falls Planning Department
GREAT FALLS AREA
Figure 7-2
Crash Locations Deserving Additional Study
TRANSPORTATION PLAN - 2009
Study Area Boundary
Missouri River
Sun River
Great Falls International Airport
Montana Expo Park
Emerald Green Golf Club
Meadowlark Country Club Golf Course
Anaconda Hills Golf Course
American Legion Baseball Park
Eagle Falls Golf Club
Gibson Park
Holiday Village
University of Great Falls
MSU College of Technology
Ball Park and Recreation Facility
Great Falls Marketplace
Agri-Village
North Park Trail
Central Ave
Central Ave W
10th Ave S
10th Ave SW
NW Bypass
River Dr N
River Dr S
Smelter Ave
North River Rd
Giant Springs Rd
Rainbow Dam Rd
Old Havre Highway
Riverview Dr
Division Rd
Vaughn Rd
Watson Coulee Rd
Sun River Rd
Park Garden Rd
Fox Farm Rd
Flood Rd
Lower River Rd
Upper River Road
Gibson Flats Rd
Airport Dr
Stuckey Rd
Bootlegger Trail
Wire Mill Rd
15
315
87
89
200



Missouri River
Sun River
Anaconda Hills Golf Course
Montana Expo Park
Emerald Green Golf Club
Gibson Park
American Legion Baseball Park
Eagle Falls Golf Club
Meadowlark Country Club Golf Course
Holiday Village
Ball Park and Recreation Facility
University of Great Falls
MSU College of Technology
Great Falls Marketplace
Smelter Ave
North River Rd
NW Bypass
Vaughn Rd
Central Ave W
Central Ave
River Dr
River Dr N
River Dr S
Park Dr
American Ave
Crescent Dr
Division Rd
10th Ave S
10th Ave SW
13th Ave SW
16th Ave SW
Valley View Dr
3rd West Hill Dr
West Hill Dr
BNSF
25th Ave NE
24th Ave NE
23rd Ave NE
22nd Ave NE
17th Ave NE
Montana Ave
Colorado Ave
14th Ave NW
10th Ave NW
8th Ave NW
7th Ave NW
6th Ave NW
5th Ave NW
4th Ave NW
3rd Ave NW
2nd Ave NW
1st Ave NW
1st Ave SW
2nd Ave SW
3rd Ave SW
4th Ave SW
5th Ave SW
9th Ave SW
10th Ave SW
18th Ave SW
19th Ave SW
20th Ave SW
21st Ave SW
10th Ave N
9th Ave N
8th Ave N
7th Ave N
6th Ave N
5th Ave N
4th Ave N
3rd Ave N
2nd Ave N
1st Ave N
1st Ave S
2nd Ave S
3rd Ave S
4th Ave S
5th Ave S
6th Ave S
7th Ave S
8th Ave S
9th Ave S
11th Ave S
12th Ave S
13th Ave S
14th Ave S
15th Ave S
16th Ave S
17th Ave S
18th Ave S
19th Ave S
20th Ave S
21st Ave S
3rd St NW
6th St NW
9th St NW
10th St NW
11th St NW
12th St NW
13th St NW
14th St NW
15th St NW
16th St NW
2nd St NW
1st St NW
5th St NW
4th St NE
6th St NE
8th St NE
10th St NE
3rd St SW
4th St SW
5th St SW
6th St SW
7th St SW
8th St SW
14th St SW
16th St SW
20th St SW
5th St N
6th St N
9th St N
14th St N
15th St N
25th St N
26th St N
33rd St N
2nd St S
3rd St S
4th St S
5th St S
6th St S
7th St S
8th St S
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25th St S
26th St S
27th St S
28th St S
29th St S
30th St S
31st St S
32nd St S
33rd St S
34th St S
Alder
Forest


See Figure 10-2
For Enlargement of City Area.
Study Area Boundary
Study Area Boundary
Study Area Boundary
CSR-11
CSR-10
CSR-4
SR-9
SR-9
Rainbow Dam
Malmstrom Air Force Base
Great Falls International Airport
Missouri River
Sun River
Vaughn South Frontage Rd
Vaughn Rd
NW Bypass
Central Ave W
Sun River Rd
Rainbow Dam Rd
Old Havre Highway
Bootlegger Tr
North River Rd
River Dr N
Giant Springs Rd
Smelter Ave
10th Ave S
10th Ave SW
13th Ave S
17th Ave S
24th Ave S
33rd Ave S
40th Ave S
Park Garden Rd
Tri-Hill Frontage Road
Fox Farm Rd
Flood Rd
Dick Rd
Lower River Rd
Upper River Road
Sunflower Ln
55th Ave S
Wilson Butte Rd
Eden Rd
Legend
Recommended SR Improvement Location
SR-2 Recommended SR Improvement Reference Number
SR-7 Committed SR Improvement Reference Number
Committed SR Improvement Location
N Map Not To Scale
Robert Peccia & Associates - Helena, MT
Updated 2-27-09
Great Falls Planning Department
NOTE: Southern portion of Study Area not shown contains no information pertinent to the Major Street Network.
GREAT FALLS AREA
Figure 10-1
Recommended Short Range Improvements
Entire Study Area
TRANSPORTATION PLAN - 2009

GREAT FALLS AREA

Figure 10-2 Recommended Short Range Improvements City Area Enlargement

TRANSPORTATION PLAN - 2009

GREAT FALLS AREA

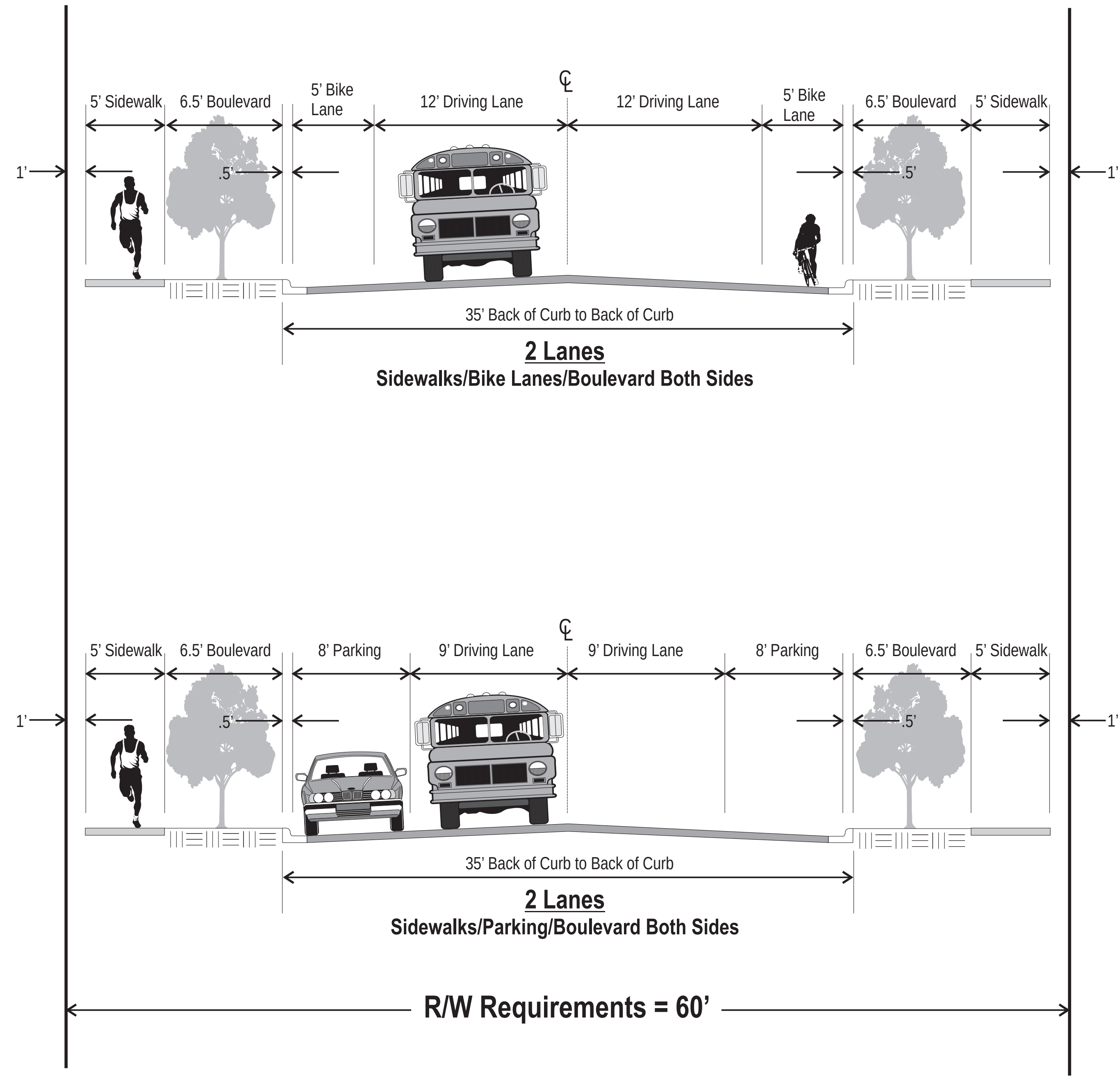
Figure 11-1
Recommended Major Street Network Improvements Entire Study Area

TRANSPORTATION PLAN - 2009


Legend
Recommended Major Street Network Improvement Location
5 Recommended Major Street Network Improvement Reference Number
Committed Major Street Network Improvement Number
Committed Major Street Network Improvement Location
N Map Not To Scale
Robert Peccia & Associates - Helena, MT
Updated 2-27-09
Great Falls Planning Department
Study Area Boundary
C-4
C-5
C-6
2
Great Falls International Airport
Montana Expo Park
Gibson Park
Anaconda Hills Golf Course
Eagle Falls Golf Club
American Legion Baseball Park
Emerald Green Golf Club
Meadowlark Country Club Golf Course
Sun River
Central Ave W
Central Ave
10th Ave S
NW Bypass
River Dr N
Smelter Ave
GREAT FALLS AREA
Figure 11-2
Recommended Major Street Network Improvements
City Area Enlargement
TRANSPORTATION PLAN - 2009

Minimum Features:
- Two Driving Lanes
- Sidewalks - Both Sides
- Bike Lanes - Not Required
- Boulevards - Both Sides
- Parking - Both Sides (Where Parking is Provided)

Robert Peccia & Associates - Helena, MT
Updated 11-25-08
Great Falls Planning Department



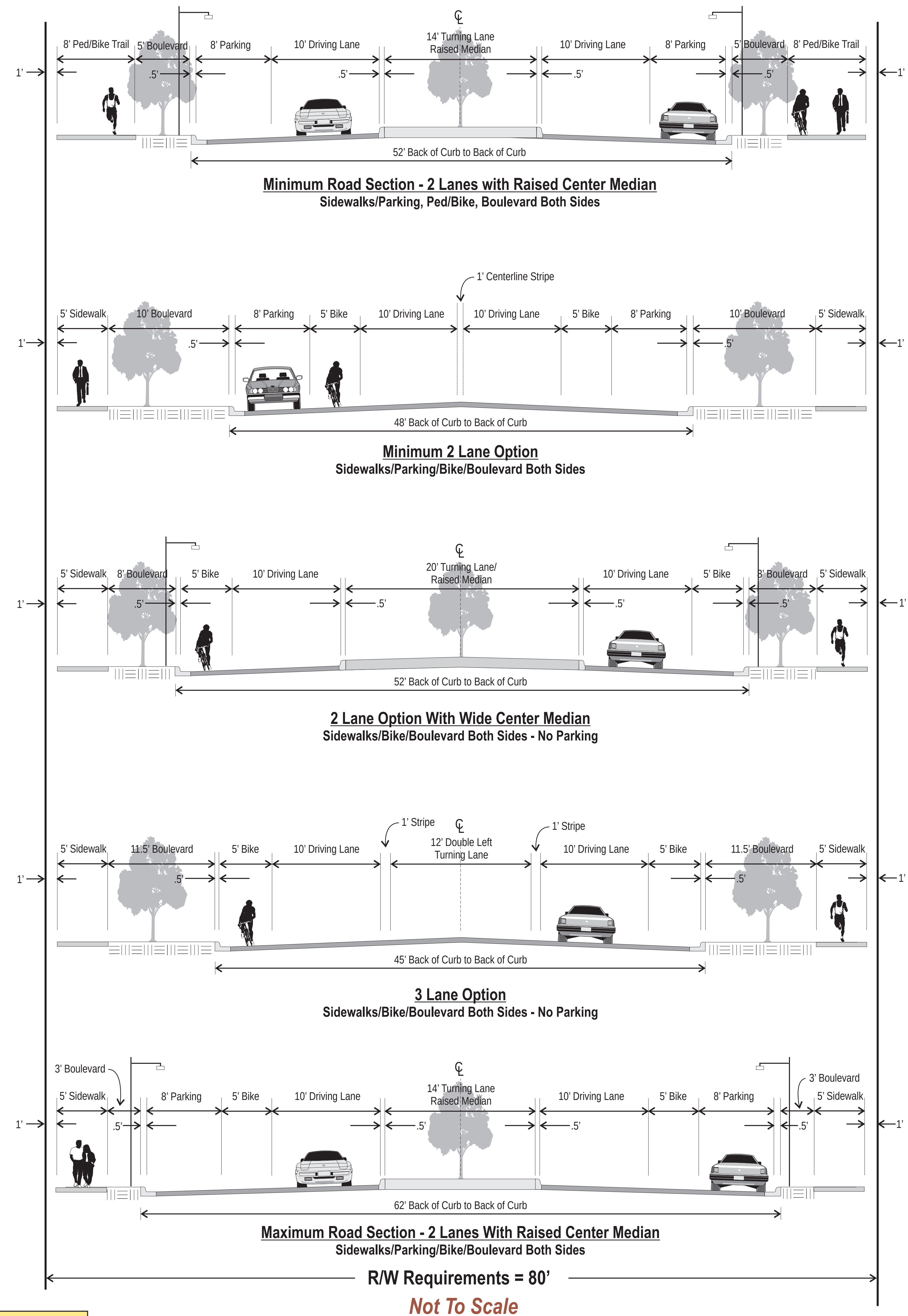
Not To Scale

NOTES:
- Narrower or wider local street configurations may be acceptable depending on the character of the neighborhood. Please examine the City of Great Falls Subdivision and Zoning Regulations for details.
- Local street standards shown here are for situations in which context sensitive design principles or traffic calming measures are not pertinent.
- Local street standards shown are for new developments and do not apply to existing roadway reconstruction.
- Boulevard areas may serve as utility placement corridors as applicable for power, gas, telephone and/or cable facilities.

GREAT FALLS AREA

Figure 12-1
Suggested Local Street Standards

TRANSPORTATION PLAN - 2009



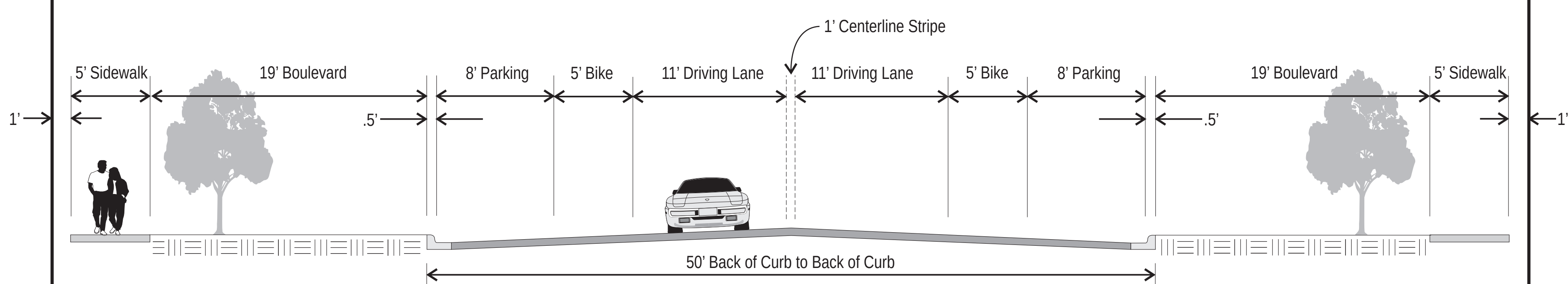
GREAT FALLS AREA
Figure 12-2
Suggested Collector Street Standards
TRANSPORTATION PLAN - 2009

NOTES:

- Collector street standards shown here are for situations in which context sensitive design principles or traffic calming measures are not pertinent.
- Boulevard areas may serve as utility placement corridors as applicable for power, gas, telephone and/or cable facilities.
- For collector streets that will primarily serve commercial and/or industrial areas, 11-foot driving lanes are recommended. In those cases, on- street bike lanes can be reduced to 4-feet in width.
- Pedestrian crossing safety enhancement is required for roads wider than 2-lanes.
- Corridor lighting is required wherever raised medians are used.
- Grade separated ped/bike facilities should be considered at major ped/bike crossings.
- Collector street standards shown are for new developments and do not apply to existing roadway reconstruction.

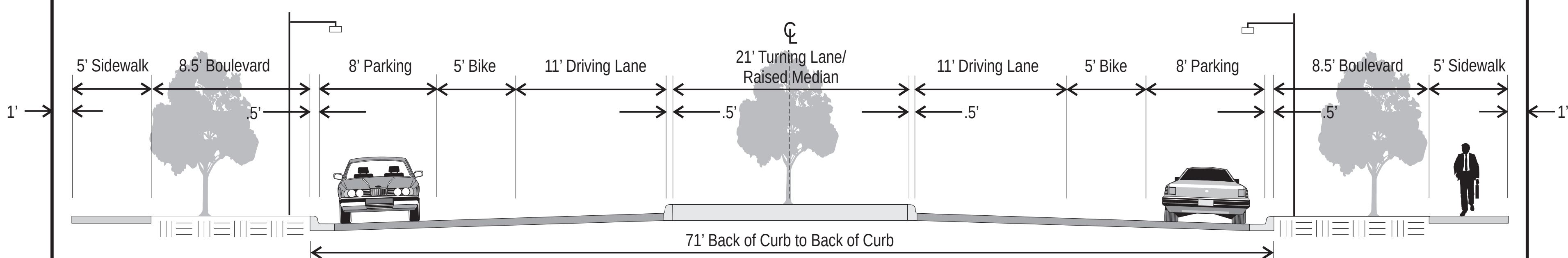
Minimum Features:
- Two Driving Lanes
- Sidewalks - Both Sides
- Bike Lanes - Both Sides
- Boulevards - Both Sides
- Parking - Both Sides
(Where Parking is Provided)

Robert Peccia & Associates - Helena, MT
Updated 11-25-08
Great Falls Planning Department



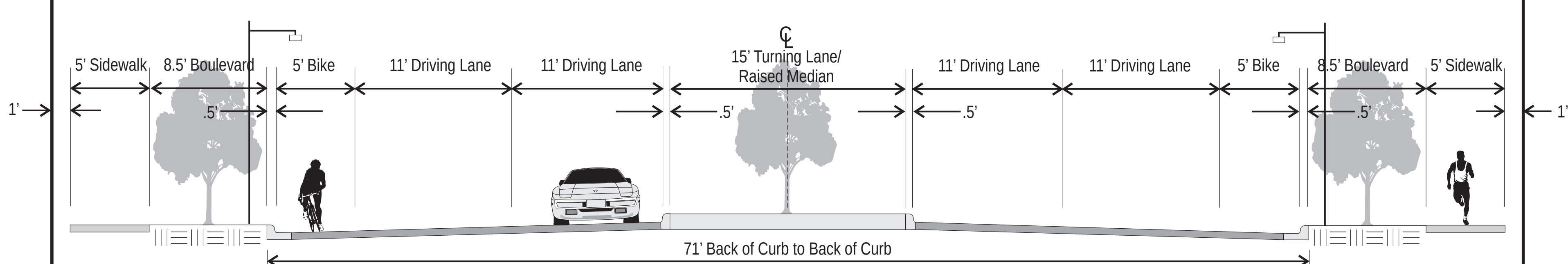
2 Lane Option

Sidewalks/Parking/Bike/Boulevard Both Sides



2 Lane Option With Raised Center Median

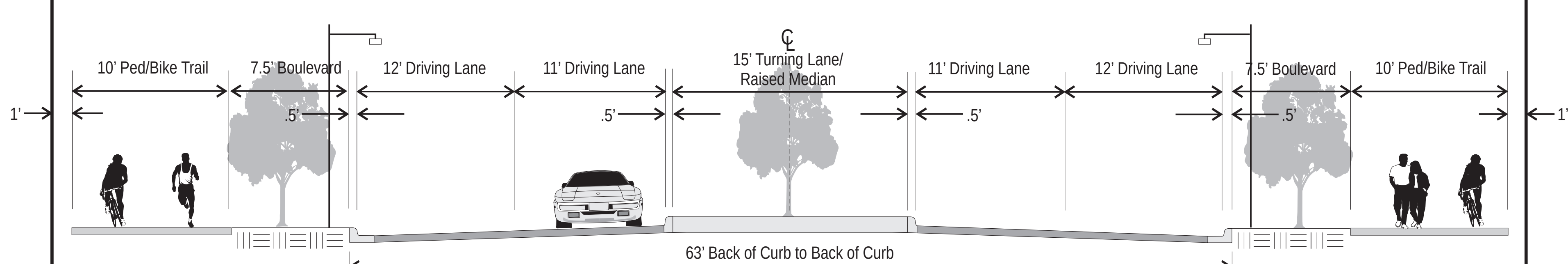
Sidewalks/Parking/Bike/Boulevard Both Sides



Roadway Section - 4 Lanes With Raised Center Median*

Sidewalks/Bike/Boulevard Both Sides - No Parking

* Can be converted to a 5-lane facility by using
a flush center median.



Roadway Section - 4 Lanes with Raised Center Median*

Sidewalks/Ped/Bike, Boulevard Both Sides - No Parking

* Can be converted to a 5-lane facility by using
a flush center median.

R/W Requirements = 100'

Not To Scale

GREAT FALLS AREA

Figure 12-3
Suggested Minor Arterial Street Standards

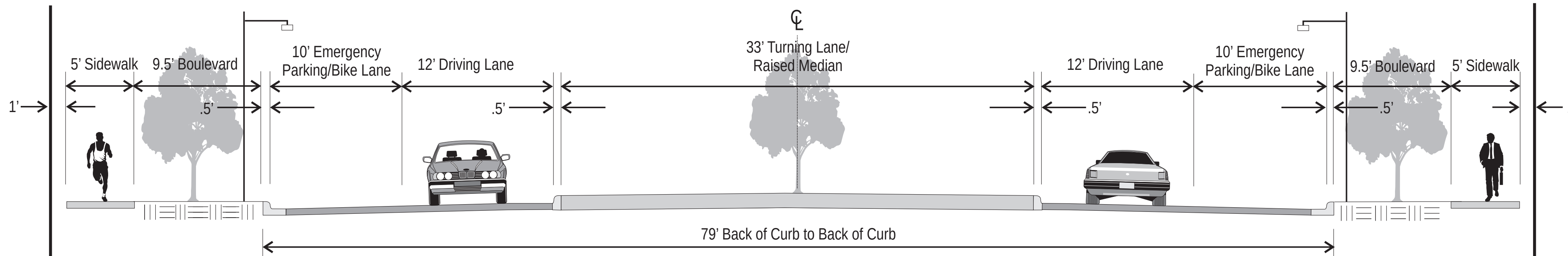
TRANSPORTATION PLAN - 2009

NOTES:

- Minor Arterial street standards shown here are for situations in which context sensitive design principles or traffic calming measures are not pertinent.
- Boulevard areas may serve as utility placement corridors as applicable for power, gas, telephone and/or cable facilities.
- Minor Arterial street standards shown are for new developments and do not apply to existing roadway reconstruction.
- Pedestrian crossing safety enhancement is required for roads wider than 2-lanes.
- Corridor lighting is required wherever raised medians are used.
- Grade separated ped/bike facilities should be considered at major ped/bike crossings.

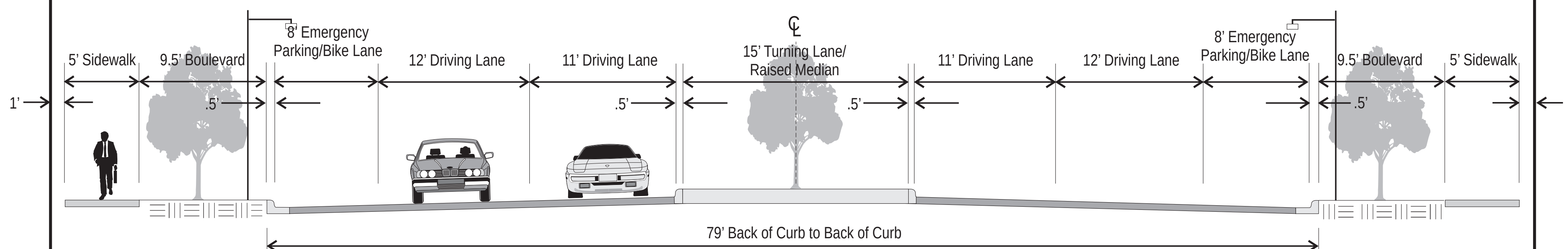
Minimum Features:
- Two Driving Lanes
- Sidewalks - Both Sides
- Bike Lanes - Both Sides
- Boulevards - Both Sides
- Parking - Both Sides
  (Where Parking is Provided)

Robert Peccia & Associates - Helena, MT
Updated 11-25-08
Great Falls Planning Department



2 Lane Option

Sidewalks/Bike/Boulevard Both Sides - No Parking

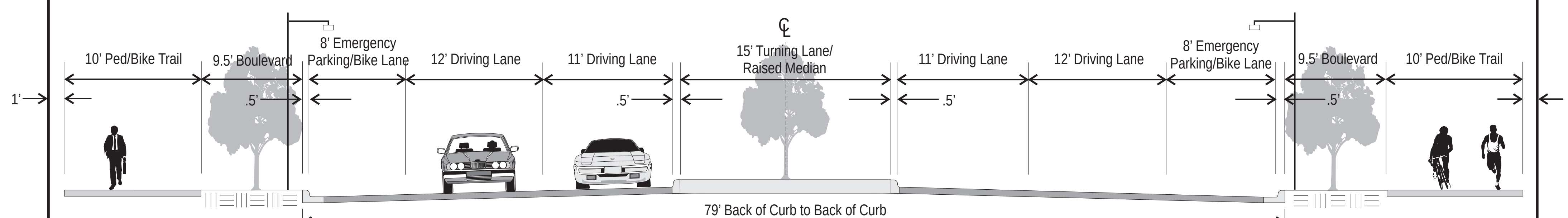


Maximum Roadway Section - 4 Lanes With Raised Center Median*

Sidewalks/Bike/Boulevard Both Sides - No Parking

* Can be converted to 5-lane by using a flush median.

R/W Requirements = 110'



Maximum Roadway Section - 4 Lanes With Raised Center Median*

Sidewalks/Bike/Boulevard Both Sides - No Parking

* Can be converted to 5-lane by using a flush median.

R/W Requirements = 120'

Not To Scale

Minimum Features:
- Two Driving Lanes
- Sidewalks - Both Sides
- Bike Lanes - Both Sides
- Boulevards - Both Sides
- Parking - Emergency Parking Only Both Sides

Robert Peccia & Associates - Helena, MT
Updated 11-25-08
Great Falls Planning Department

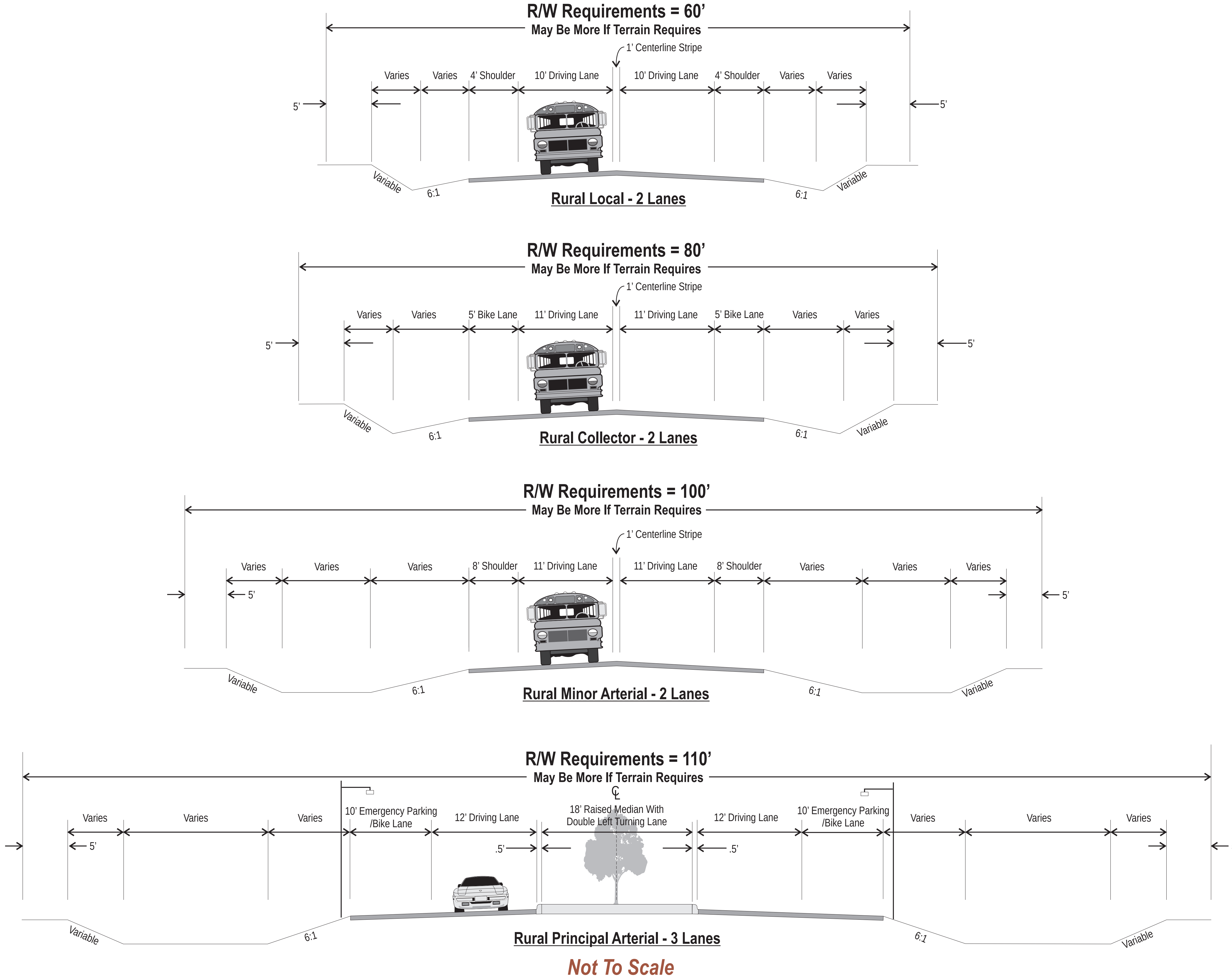
NOTES:
- Pedestrian crossing safety enhancement is required for roads wider than 2-lanes.
- Corridor lighting is required wherever raised medians are used.
- Grade separated ped/bike facilities should be considered at major ped/bike crossings.
- Principal Arterial street standards shown here are for situations in which context sensitive design principles or traffic calming measures are not pertinent.
- Boulevard areas may serve as utility placement corridors as applicable for power, gas, telephone and/or cable facilities.
- Principal Arterial street standards shown are for new developments and do not apply to existing roadway reconstruction.

GREAT FALLS AREA

Figure 12-4
Suggested Principal Arterial Street Standards

TRANSPORTATION PLAN - 2009

Robert Peccia & Associates - Helena, MT
Updated 11-25-08
Great Falls Planning Department



NOTES:

- Pedestrian crossing safety enhancement is required for roads wider than 2-lanes.
- Corridor lighting is required wherever raised medians are used.
- Grade separated ped/bike facilities should be considered at major ped/bike crossings.
- Rural street standards shown here are for situations in which context sensitive design principles or traffic calming measures are not pertinent.
- Rural street standards shown are for new developments and do not apply to existing roadway reconstruction.

GREAT FALLS AREA

Figure 12-5
Suggested Rural Street Standards

TRANSPORTATION PLAN - 2009

SOURCE	PUBLIC COMMENT	CONSULTANT/STAFF RESPONSE	CONSULTANT/STAFF RECOMMENDATION
RTI	Add a trail connection on 18th Ave. SW across BNSF right-of-way to 14th St. SW and Marketplace Dr.	New crossings of BNSF (vehicular or pedestrian) are very difficult to negotiate.	Add project to Plan as a long range project, no funding estimate identified.
EPA	Minor language changes to air quality statements and descriptions.	Recommended changes are minor language corrections.	Incorporate recommended language changes.
MDT	Split projects into "under $10 mill" projects.	This can be done when projects are moved out of the plan for implementation.	No recommended change to Plan document.
MDT	Design standards can be reduced in project cost estimates to reduce cost.	This can be done when projects are moved out of the plan for implementation.	No recommended change to Plan document.
MDT	Historic 10th Street Bridge currently not eligible for Title 23 funding.	The project can be in Plan, even if not currently eligible for a specific funding source.	Move project to Bike/Ped project list in Chapter 5, list as Long Range illustrative project, remove Title 23 funding sources.
Flood Control District	Trail cannot be allowed on dike system.	Although the trail is shown on the dike for long-range planning purposes, it should be removed if opposed by flood district board.	Remove trail along Sun River dike.

Item: Ordinance 3032 to Assign City Zoning to East Ridge Addition, Phase 5

From: Charles Sheets, Planner 1

Initiated By: C & W Development, Inc., Property Owner and Developer

Presented By: Bill Walters, Interim Planning Director

Action Requested: City Commission accept Ordinance 3032 on first reading and set a public hearing for April 7, 2009, to consider adoption of Ordinance 3032.

Suggested Motion:

1. Commissioner moves:

   "I move that the City Commission (accept/deny) Ordinance 3032 on first reading and set a public hearing for April 7, 2009."

2. Mayor calls for a second, discussion, inquiries from the public, and calls the vote.

Zoning Commission Recommendation: At the conclusion of a public hearing held February 10, 2009, the Zoning Commission passed a motion recommending the City Commission assign a City zoning classification of PUD Planned unit development district to Lot 1, Block 1, and Lot 1, Block 2, East Ridge Addition Phase 5, and R-2 Single-family medium density district to Lot 2, Block 2, East Ridge Addition Phase 5, upon annexation to the City.

Background: The Planning Office is in receipt of applications from C & W Development Inc., regarding the following:

1) Annexation of the area contained within Certificate of Survey 4534, also known as Mark 1K, in N½ Section 16, Township 20 North, Range 4 East, P.M.M., Cascade County, Montana.
2) Establishing City zoning of PUD Planned unit development district and R-2 Single-family medium density district, upon annexation of said tract.
3) Minor Plat of East Ridge Addition, Phase 5, in N½ Sec. 16, T20N, R4E, P.M.M., Cascade County, Montana.

Certificate of Survey 4534 consists of 2.4 acres in the vicinity of 12th Avenue South and 47th Street South. The applicant is subdividing subject property as East Ridge Addition, Phase 5, to create 3 lots. Two of the lots located on either side of 12th Avenue South will be zoned PUD

Plan unit development district and accommodate four residential condominiums units each. Plans for potential development of the southern lot created by the minor subdivision plat are presently unknown. The applicant intends to sell said southern lot to an adjoining property owner.

The Minor Plat dedicates right-of-way for 12th Avenue South and the west half of the southerly extension of 47th Street South. The area needed for the east half of the involved portion of 47th Street South is owned by another party. It is anticipated the east half of the involved portion of 47th Street South will be dedicated at the time the presently unincorporated property east of Phase 5 is annexed and/or subdivided.

For additional information, please refer to the attached Vicinity/Zoning Map and preliminary Minor Subdivision Plat.

The portion of 12th Avenue South within Phase 5 is improved to City standards. The applicant and the City Public Works Department have agreed that the portion of 47th Street South abutting Block 1will be paved with curb and gutter. A water main and storm sewer main will be installed prior to construction. The westerly portion of 47th Street South abutting Block 2 will be dedicated by the minor plat and will remain unimproved with the applicant escrowing their proportionate share of the estimated cost of standard City water main, storm sewer, curb, gutter and paving for the future improvements. As the area develops, the escrowed funds will be combined with the abutting owners' proportionate share of the cost to complete the improvements. The Annexation Agreement commits the owner of Lot 2, Block 2 to pay the proportionate share of improvements of 13th Avenue South when extended easterly along the south boundary of Block 2. The applicant is requesting an access easement to serve Lot 2, Block 2 across the City owned tract of land bordering the south boundary of the Subdivision.

It is proposed that Lot 1, Block 1 and Lot 1, Block 2, be zoned PUD Planned unit development district and that Lot 2, Block 2 be zoned R-2 Single-family medium density district, upon annexation to the City. Subject property is located on the fringe of the City, which has been attracting high quality condominium units and single-family dwellings.

Section 76-2-304 Montana Code Annotated lists criteria and guidelines, which must be considered in conjunction with establishing municipal zoning on land:

a) is designed in accordance with the growth policy (comprehensive plan);
b) is designed to lessen congestion in the streets;
c) will secure safety from fire, panic or other dangers;
d) will promote health and the general welfare;
e) will provide adequate light and air;
f) will prevent overcrowding of land;
g) will avoid undue concentration of population;
h) will facilitate the adequate provision of transportation, water, sewerage, schools, parks and other public requirements;
i) gives reasonable consideration to the character of the district;
j) gives reasonable consideration to the peculiar suitability of the property for particular uses;
k) will conserve the value of buildings; and
l) will encourage the most appropriate use of land throughout the municipality.

Goals of the land use element of the Great Falls Growth Policy include:

- To support and encourage efficient, sustainable development and redevelopment throughout the community.
- To support and encourage a compatible mix of land uses in newly developing areas.

Applicable policy statements include "residential land uses should be planned and located so that they do not result in adverse impacts upon one another" and "Annexations should be logical and efficient extensions of the City's boundaries and service areas".

Annexation of subject property will enhance health, safety and welfare through application of City Codes and provision of municipal services. Therefore, staff concludes the above-cited criteria are substantially met.

At the conclusion of a public hearing held February 10, 2009, the Zoning Commission passed a motion recommending the City Commission assign a zoning classification of PUD Planned unit development district to Lot 1, Block 1, and Lot 1, Block 2, and R-2 Single-family medium density district to Lot 2, Block 2, East Ridge Addition Phase 5, upon annexation to the City. No citizens spoke as proponents or opponents during the hearing.

It is anticipated the City Commission, following the public hearing on April 7, 2009, will consider the annexation resolution, an annexation agreement and final plat for East Ridge Addition, Phase 5, simultaneously with Ordinance 3032.

Concurrences: Representatives from the City's Public Works, Community Development, and Fire Departments have been involved throughout the review and approval process for this project.

Fiscal Impact: Providing services is expected to be a negligible cost to the City. Any increased costs likely will be covered by increased tax revenues from improved properties.

Alternatives: The City Commission could deny acceptance of Ordinance 3032 on first reading and not set the public hearing. However, such action would deny the applicant due process and consideration of a public hearing, as provided for in City Code and State Statute.

Attachments/Exhibits:

1. Vicinity/Zoning Map
2. Ordinance 3032

Cc: Jim Rearden, Public Works Director,
Dave Dobbs, City Engineer
C & W Development, Inc., 1725 41st St S, Great Falls, MT 59405

ORDINANCE 3032

AN ORDINANCE ASSIGNING A ZONING CLASSIFICATION OF PUD PLANNED UNIT DEVELOPMENT DISTRICT TO LOT 1, BLOCK 1, AND LOT 1, BLOCK 2, AND R-2 SINGLE-FAMILY MEDIUM DENSITY DISTRICT TO LOT 2, BLOCK 2, EAST RIDGE ADDITION, PHASE 5, IN THE N½ OF SECTION 16, TOWNSHIP 20 NORTH, RANGE 4 EAST, P.M.M., CASCADE COUNTY, MONTANA

* * * * * * * * * * * *

WHEREAS, C & W Development, Inc., has petitioned the City of Great Falls to annex East Ridge Addition, Phase 5, located in the N½ of Section 16, Township 20 North, Range 4 East, P.M.M., Cascade County, Montana; and,

WHEREAS, C & W Development, Inc., has petitioned Lot 1, Block 1, and Lot 1, Block 2, East Ridge Addition, Phase 5, be assigned a zoning classification of PUD Planned unit development district and Lot 2, Block 2, East Ridge Addition, Phase 5, be assigned a zoning classification of R-2 Single-family medium density district upon annexation to the City; and,

WHEREAS, notice of assigning said zoning classifications to East Ridge Addition, Phase 5, was published in the Great Falls Tribune advising that a public hearing on this zoning designation would be held on the 7th day of April, 2009, before final passage of said Ordinance herein; and,

WHEREAS, following said public hearing, it was found and decided that the said zoning designation be made,

NOW THEREFORE, BE IT ORDAINED BY THE COMMISSION OF THE CITY OF GREAT FALLS, STATE OF MONTANA:

Section 1. It is determined that the herein requested zoning designation will meet the criteria and guidelines cited in Section 76-2-304 Montana Code Annotated, and Section 17.16.40.030 of the Unified Land Development Code of the City of Great Falls.

Section 2. That the zoning classification of Lot 1, Block 1, and Lot 1, Block 2, East Ridge Addition, Phase 5, be designated as PUD Planned unit development district, subject to the building envelopes and setbacks attached hereto as Exhibit "A" and by this reference made a part hereof, and Lot 2, Block 2, be designated as R-2 Single-family medium density district.

Section 3. This ordinance shall be in full force and effect thirty (30) days after its passage and adoption by the City Commission or upon filing in the office of the Cascade County Clerk and Recorder the resolution annexing East Ridge Addition, Phase 5, into the corporate limits of the City of Great Falls, Montana, whichever event shall occur later.

APPROVED by the City Commission on first reading March 17, 2009.

PASSED, APPROVED AND ADOPTED by the City Commission of the City of Great Falls, Montana, on second reading April 7, 2009.

____
Dona R. Stebbins, Mayor

ATTEST:

____
Lisa Kunz, City Clerk

(CITY SEAL)

APPROVED FOR LEGAL CONTENT:

____
David V. Gliko, City Attorney

State of Montana)
County of Cascade : ss
City of Great Falls)

I, Lisa Kunz, City Clerk of the City of Great Falls, Montana, do certify that I did post as required by law and as prescribed and directed by the Commission, Ordinance 3032 in three conspicuous places within the limits of said City to-wit:

On the Bulletin Board, first floor, Civic Center Building;
On the Bulletin Board, first floor, Cascade County Court House;
On the Bulletin Board, Great Falls Public Library

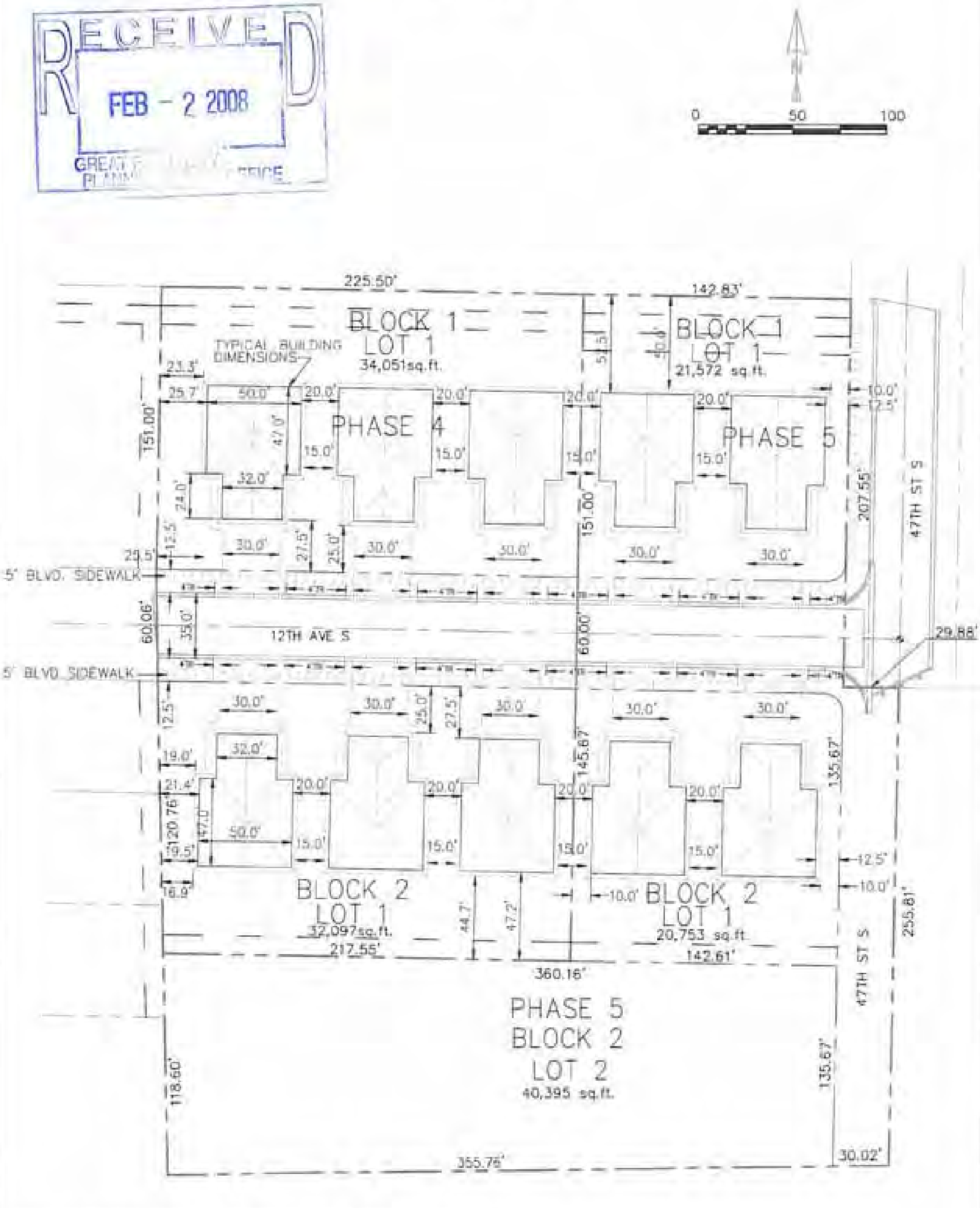
____
Lisa Kunz, City Clerk

(CITY SEAL)

P.U.D. SITE PLAN
EAST RIDGE 4&5

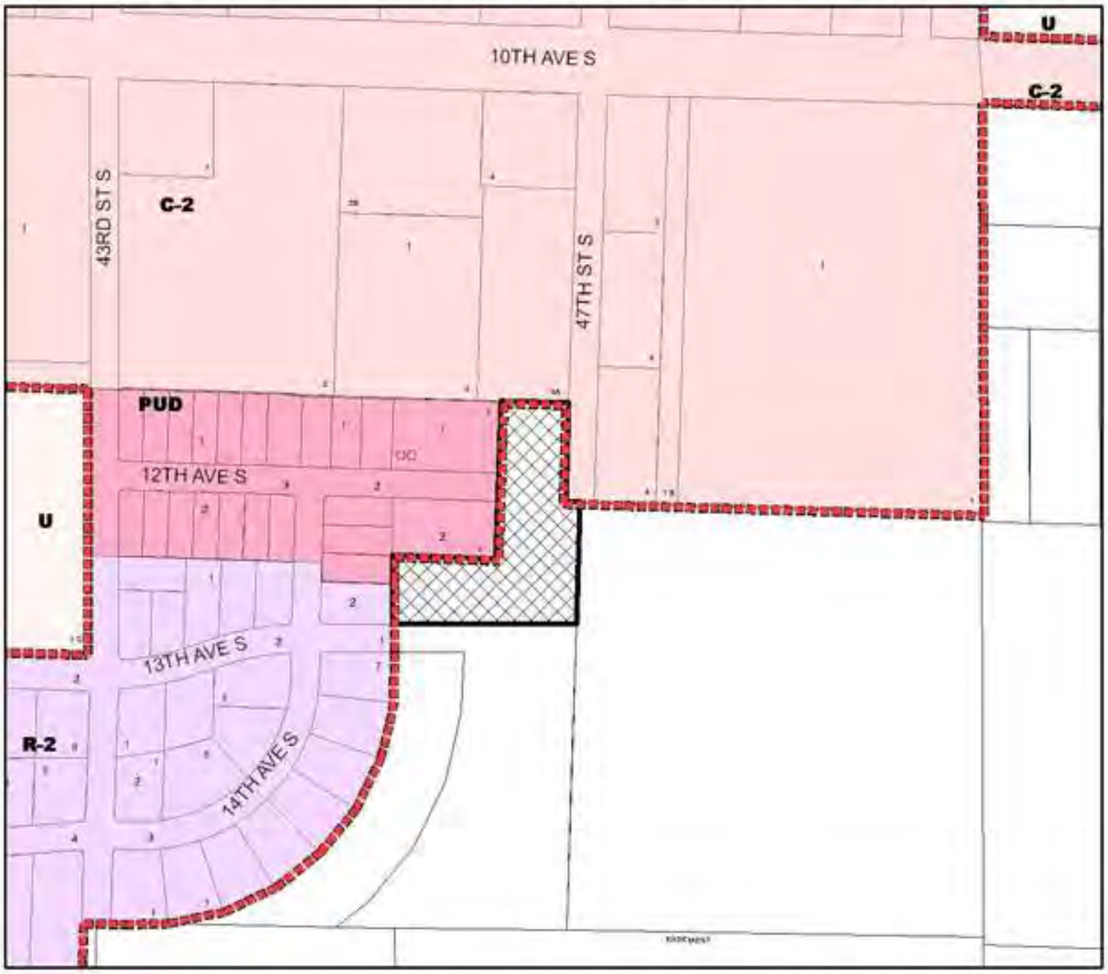
EXHIBIT "A"

RECEIVED
FEB - 2 2008
GREAT F... PLANN... ...FFICE



BUILDING HEIGHTS SHALL BE RESTRICTED TO A MAXIMUM OF 35'.
MAXIMUM LOT COVERAGE WILL BE 70%

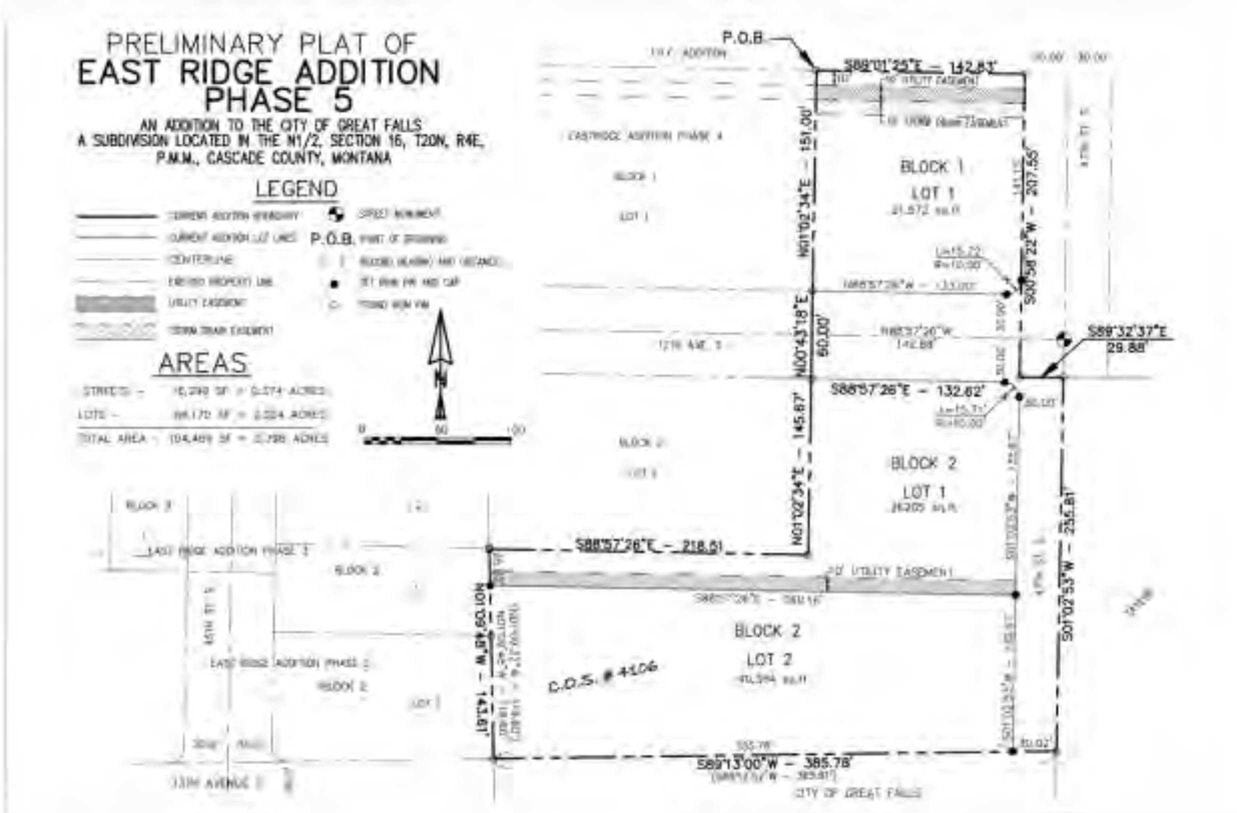
VICINITY/ZONING MAP



AREA BEING PLATTED AS EAST RIDGE ADDITION, PHASE 5 TO BE ANNEXED TO THE CITY AND ASSIGNED A CITY ZONING CLASSIFICATION OF "PUD" PLANNED UNIT DEVELOPMENT DISTRICT AND "R-2" SINGLE-FAMILY MEDIUM DENSITY DISTRICT

City Limits
R-2 Single-family medium density
C-2 General commercial
PUD Planned unit development
U Unincorporated enclave
Tracts of land outside City

390 195 0 390 Feet


PRELIMINARY PLAT OF
EAST RIDGE ADDITION
PHASE 5
AN ADDITION TO THE CITY OF GREAT FALLS
A SUBDIVISION LOCATED IN THE N1/2, SECTION 16, T20N, R4E,
P.M.M., CASCADE COUNTY, MONTANA
LEGEND
AREAS
P.O.B.
S88°01'25"E – 142.83'
N01°02'34"E – 151.00'
S00°58'22"W – 207.55'
BLOCK 1
LOT 1
N00°43'18"E
60.00'
S89°32'37"E
29.88'
S88°57'26"E – 132.62'
N01°02'34"E – 145.87'
BLOCK 2
LOT 1
S01°02'53"W – 235.81'
S88°57'26"E – 218.51
20' UTILITY EASEMENT
BLOCK 2
LOT 2
C.O.S. # 4106
N01°09'48"W – 143.61'
S89°13'00"W – 385.78'
CITY OF GREAT FALLS

FINDINGS OF FACT
FOR MINOR PLAT OF EAST RIDGE ADDITION, PHASE 5, IN THE N½, SECTION 16, TOWNSHIP 20, NORTH, RANGE 4 EAST TO GREAT FALLS, CASCADE COUNTY, MONTANA
(PREPARED IN RESPONSE TO 76-3-608(3)MCA)

I. PRIMARY REVIEW CRITERIA

Effect on Agricultural
The subdivision site is bordered on two sides by urban development and has not been used for agricultural purposes for many years. The subdivision will not interfere with any irrigation system or present any interference with agricultural operations in the vicinity.

Effect on Local Services
Lot 1, Block 1 and Lot 1, Block 2 of the subdivision will connect to City water and sewer systems. The subdivider will pay the cost of extending the utility system. The City should not experience an appreciable increase in maintenance and operating costs. The occupants of eventual condominium homes within said two lots will pay regular water and sewer charges.

The subdivision will receive law enforcement and fire protection service from the City of Great Falls. The nearest fire station is two miles from the subdivision site. Providing these services to the condominiums in the subdivision is expected to be a negligible cost to the City. Increased tax revenues from improved properties will likely cover any increase costs.

Public streets abutting Block 1 of the subdivision will be improved to City standards by the subdivider.

Development of Lot 2, Block 2 of the subdivision would necessitate the easterly extension of 13th Avenue South involving cost participation by the City as an abutting property owner.

Effect on the Natural Environment
The subdivision is not expected to adversely affect soils or the water quality or quantity of surface or ground waters. Any excess surface runoff will flow southeasterly to a City owned parcel at the east terminus of 13th Avenue South where a storm water detention facility is planned to be constructed.

Effect on Wildlife and Wildlife Habitat
The subdivision is in close proximity to urban development. The subdivision is not in an area of significant wildlife habitat and will not result in closure of public access to hunting or fishing areas, nor to public lands.

Effect on Public Health and Safety
Based on available information, the subdivision is not subject to abnormal potential natural hazards such as flooding, wildfire, snow or rockslides, nor potential man-made hazards such as high voltage power lines, high-pressure gas lines, high traffic volumes, or mining activity.

II. REQUIREMENTS OF MONTANA SUBDIVISION AND PLATTING ACT, UNIFORM STANDARDS FOR MONUMENTATION, AND LOCAL SUBDIVISION REGULATIONS

The subdivision meets the requirements of the Montana Subdivision and Platting Act and the surveying requirements specified in the Uniform Standards for Monumentation, and conforms to the design standards specified in the local subdivision regulations. The subdivider and the local government have complied with the subdivision review and approval procedures set forth in the local subdivision regulations.

III. EASEMENT FOR UTILITIES

Within the subdivision, the subdivider will provide the necessary utility easements as a part of the subdivision plat. The subdivider grants those duly licensed persons providing or offering to provide telephone, electric power, natural gas, cable television, water and sewer service, or other similar service, the right to the joint use of the utility easements shown on said plat for the construction, maintenance, repair, or removal of their lines and other facilities upon advance notice to the affected landowners and consistent with requirements as may be imposed by the City of Great Falls now or in the future.

IV. LEGAL AND PHYSICAL ACCESS

Legal and physical access to the subdivision is provided by the easterly extension of 12th Avenue South and the southerly extension of the west half of 47th Street South. The segments of 12th Avenue South and 47th Street South abutting Block 1 of the subdivision will be improved to City standards and maintained by the City. The portion of 47th Street South abutting Block 2 of the subdivision will for the interim remain unimproved.

Agenda # 5
Commission Meeting Date: March 17, 2009
CITY OF GREAT FALLS
COMMISSION AGENDA REPORT

Item: Resolution 9819, authorizing the loan agreement with the Montana Board of Investments for $36,346 to fund the installation cost of eight (8) City owned street lights in Bootlegger Addition –Phase 1.

From: Martha Cappis, Operations Supervisor

Initiated By: Developer and Fiscal Services Department

Presented By: Coleen Balzarini, Fiscal Services Director

Action Requested: Adopt Resolution 9819

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1. Commissioner moves:

"I move that the City Commission (adopt/deny) Resolution 9819"

2. Mayor calls for a second, discussion, inquiries from the public, and calls the vote.

Staff Recommendation: Staff recommends the City Commission adopt Resolution 9819

Background:
On November 18, 2008, Resolution 9787 Created Special Improvement Lighting District- City Owned Residential Lighting District No. 1303, Bootlegger Addition Phase 1, for the installation of eight (8) 100 watt street light units on 20 foot steel poles with underground wiring.

City Staff received quotes from all interested contractors and vendors willing to submit a quote on the street lighting project in Bootlegger Addition Phase 1 on January 21, 2009. City Commissioners awarded the contract to A.T. Klemens & Son, Inc on February 3, 2009.

On July 19, 2005 the City Commissioners adopted Resolution No. 9506 creating the City's Street Light Policy, which establishes a policy that the City own and operate any new street lighting districts that would be requested by property owners or developers as allowed by state statutes, Title 7, Chapter 12, Part 43 M.C.A.

Concurrences: The City Engineering and Fiscal Services Departments have worked together on this project.

Fiscal Impact: The Montana Board of Investments has agreed to loan the City of Great Falls, $36,346 for the installation costs of eight (8) city-owned residential street lights in Bootlegger Addition Phase 1. The loan amount consists of $34,346 for construction and $2,000 for contracted engineering services on the design and installation. The loan has a variable interest rate that changes annually in February and the current interest rate is 3.25%. The term of the loan will be 15 years and is repayable from assessments levied against the 25 individual properties within the lighting district.

Alternatives: The Commission may choose not to enter into the loan agreement, in which case alternative financing options for the construction and engineering costs would have to be determined.

Attachments/Exhibits: Resolution 9819

(GENERAL FUND LOAN)

RESOLUTION AUTHORIZING PARTICIPATION IN THE INTERCAP PROGRAM

CERTIFICATE OF MINUTES RELATING TO
RESOLUTION NO.9819

Issuer: City of Great Falls

Kind, date, time and place of meeting: A City Commission meeting held on March 17, 2009 at 7 o'clock p.m. in Great Falls, Montana.

Members present: ____

Members absent: ____

RESOLUTION NO. 9819

RESOLUTION AUTHORIZING PARTICIPATION IN THE BOARD OF INVESTMENTS OF THE STATE OF MONTANA ANNUAL ADJUSTABLE RATE TENDER OPTION MUNICIPAL FINANCE CONSOLIDATION ACT BONDS (INTERCAP REVOLVING PROGRAM), APPROVING THE FORM AND TERMS OF THE LOAN AGREEMENT AND AUTHORIZING THE EXECUTION AND DELIVERY OF DOCUMENTS RELATED THERETO

I, the undersigned, being the fully qualified and acting recording officer of the public body issuing the obligations referred to in the title of this certificate, certify that the documents attached hereto, as described above, have been carefully compared with the original records of the public body in my legal custody, from which they have been transcribed; that the documents are a correct and complete transcript of the minutes of a meeting of the governing body at the meeting, insofar as they relate to the obligations; and that the meeting was duly held by the governing body at the time and place and was attended throughout by the members indicated above, pursuant to call and notice of such meeting given as required by law.

WITNESS my hand officially as such recording officer this 17th day of March, 2009.

____
Lisa Kunz, City Clerk

RESOLUTION NO. 9819

RESOLUTION AUTHORIZING PARTICIPATION IN THE BOARD OF INVESTMENTS OF THE STATE OF MONTANA ANNUAL ADJUSTABLE RATE TENDER OPTION MUNICIPAL FINANCE CONSOLIDATION ACT BONDS (INTERCAP REVOLVING PROGRAM), APPROVING THE FORM AND TERMS OF THE LOAN AGREEMENT AND AUTHORIZING THE EXECUTION AND DELIVERY OF DOCUMENTS RELATED THERETO

BE IT RESOLVED BY THE CITY COMMISSION (the Governing Body) OF THE CITY OF GREAT FALLS (the Borrower) AS FOLLOWS:

ARTICLE I

DETERMINATIONS AND DEFINITIONS

Section 1.01. Definitions. The following terms will have the meanings indicated below for all purposes of this Resolution unless the context clearly requires otherwise. Capitalized terms used in this Resolution and not defined herein shall have the meanings set forth in the Loan Agreement.

Adjusted Interest Rate means the rate of interest on the Bonds determined in accordance with the provisions of Section 3.03 of the Indenture.

Authorized Representative shall mean the officers of the Borrower designated and duly empowered by the Governing Body and set forth in the application.

Board shall mean the Board of Investments of the State of Montana, a public body corporate organized and existing under the laws of the State and its successors and assigns.

Board Act shall mean Section 2-15-1808, Title 17, Chapter 5, Part 16, MCA, as amended.

Bonds shall mean the Bonds issued by the Board pursuant to the Indenture to finance the Program.

Borrower shall mean the Borrower above named.

Indenture shall mean that certain Indenture of Trust dated March 1, 1991 by and between the Board and the Trustee pursuant to which the Bonds are to be issued and all supplemental indentures thereto.

Loan means the loan of money by the Board to the Borrower under the terms of the Loan Agreement pursuant to the Act and the Borrower Act and evidenced by the Note.

Loan Agreement means the Loan Agreement between the Borrower and the Board, including any amendment thereof or supplement thereto entered into in accordance with the provisions thereof and hereof.

Loan Agreement Resolution means this Resolution or such other form of resolution that the Board may approve and all amendments and supplements thereto.

Loan Date means the date of closing a Loan.

Loan Rate means the rate of interest on the Loan which is initially 3.25% per annum through February 15, 2010 and thereafter a rate equal to the Adjusted Interest Rate on the Bonds and up to 1.5% per annum as necessary to pay Program Expenses.

Note means the promissory note to be executed by the Borrower pursuant to the Loan Agreement, in accordance with the provisions hereof and thereof, in substantially the form set forth in the Promissory Note, or in such form that may be approved by the Board.

Program shall mean the INTERCAP Program of the Board pursuant to which the Board will issue and sell Bonds and use the proceeds to make loans to participating Eligible Government Units.

Project shall mean those items of equipment, personal or real property improvements to be acquired, installed, financed or refinanced under the Program as set forth in the Description of the Project/Summary of Draws.

Trustee shall mean U.S. Bank Trust National Association MT (formerly known as First Trust Company of Montana National Association) and its successors.

Section 1.02. Authority. The Borrower is authorized to undertake the Project and is further authorized by the Borrower Act to enter into the Loan Agreement for the purpose of obtaining a loan to finance or refinance the acquisition and installation costs of the Project.

Section 1.03. Execution of Agreement and Delivery of Note. Pursuant to the Indenture and the Board Act, the Board has issued and sold the Bonds and deposited a part of proceeds thereof in the Loan Fund held by the Trustee. The Board has, pursuant to the Term Sheet, agreed to make a Loan to the Borrower in the principal amount of $36,346.00 and upon the further terms and conditions set forth herein, and as set forth in the Term Sheet and the Loan Agreement.

ARTICLE II

THE LOAN AGREEMENT

Section 2.01. Terms. (a) The Loan Agreement shall be dated as of the Loan Date, in the principal amount of $36,346.00 and shall constitute a valid and legally binding obligation of the Borrower. The obligation to repay the Loan shall be evidenced by a Promissory Note. The Loan shall bear interest at the initial rate of 3.25% per annum through February 15, 2010 and thereafter at the Adjusted Interest Rate, plus up to 1.5% per annum as necessary to pay the cost of administering the Program (the Program Expenses). All payments may be made by check or wire transfer to the Trustee at its principal corporate trust office.

(b) The Loan Repayment Dates shall be February 15 and August 15 of each year.

(c) The principal amount of the Loan may be prepaid in whole or in part provided that the Borrower has given written notice of its intention to prepay the Loan in whole or in part to the Board no later than 30 days prior to the designated prepayment date.

(d) The Prepayment Amount shall be equal to the principal amount of the Loan outstanding, plus accrued interest thereon to the date of prepayment.

(e) Within fifteen days following an Adjustment Date, the Trustee shall calculate the respective amounts of principal and interest payable by each Borrower on and with respect to its Loan Agreement and Note for the subsequent August 15 and February 15 payments, and prepare and mail by first class mail a statement therefor to the Borrower.

Section 2.02. Use and Disbursement of the Proceeds. The proceeds of the Loan will be expended solely for the purposes set forth in the Description of the Project/Summary of Draws. The proceeds from the sale of the Note to the Board shall remain in the Borrower's Account pending disbursement at the request of the Borrower to pay the budgeted expenditures in anticipation of which the Note was issued. Requests for disbursement of the Loan shall be made to the Board. Prior to the closing of the Loan and the first disbursement, the Borrower shall have delivered to the Trustee a certified copy of this Resolution, the executed Loan Agreement and Note in a form satisfactory to the Borrower's Counsel and the Board's Bond Counsel and such other certificates, documents and opinions as set forth in the Loan Agreement or as the Board or Trustee may require. The Borrower will pay the loan proceeds to a third party within five business days after the date they are advanced (except for proceeds to reimburse the Borrower for previously paid expenditures, which are deemed allocated on the date advanced).

Section 2.03. Payment and Security for the Note. In consideration of the making of the Loan to the Borrower by the Board, the provisions of this Resolution shall be a part of the Agreement of the Borrower with the Board. The provisions, covenants and Agreements herein set forth to be performed by or on behalf of the Borrower shall be for the benefit of the Board. The Loan Agreement and Note shall constitute a valid and legally binding obligation of the Borrower and the principal of and interest on the Loan shall be payable from the general fund of the Borrower, and any other money and funds of the Borrower otherwise legally available therefor. The Borrower shall enforce its rights to receive and collect all such taxes and revenues to insure the prompt payment of the Borrower obligations hereunder.

Section 2.04. Representation Regarding the Property Tax Limitation Act. The Borrower recognizes and acknowledges that the amount of taxes it may levy is limited by the state pursuant to Section 15-10-402, et. seq. (the Property Tax Limitation Act). The Borrower is familiar with the Property Tax Limitation Act and acknowledges that the obligation to repay the Loan under the Agreement and Note are not exceptions to the provisions of the Property Tax Limitation Act. The Borrower represents and covenants that the payment of principal of and interest on the Loan can and will be made from revenues available to the Borrower in the years as they become due, notwithstanding the provisions of the Property Tax Limitation Act.

Section 2.05. Levy and Appropriate Funds to Repay Loan. The Borrower agrees that in order to meet its obligation to repay the Loan and all other payments hereunder that it will budget, levy taxes for and appropriate in each fiscal year during the term of the Loan an amount sufficient to pay the principal of and interest hereon within the limitations of the Property Tax Limitation Act, as may be amended, and will reduce other expenditures if necessary to make the payments hereunder when due.

ARTICLE III

CERTIFICATIONS, EXECUTION AND DELIVERY

Section 3.01. Authentication of Transcript. The Authorized Representatives are authorized and directed to prepare and furnish to the Board and to attorneys approving the validity of the Bonds, certified copies of this Resolution and all other resolutions and actions of the Borrower and of said officers relating to the Loan Agreement, the Note, and certificates as to all other proceedings and records of the Borrower which are reasonably required to evidence the validity and marketability of the Note. All such certified copies and certificates shall be deemed the representations and recitals of the Borrower as to the correctness of the statements contained therein.

Section 3.02. Legal Opinion. The attorney to the Borrower is hereby authorized and directed to deliver to the Board at the time of Closing of the Loan his or her opinion regarding the Loan, the Loan Agreement, the Note and this Resolution in substantially the form of the opinion set forth in the Attorney's Opinion.

Section 3.03. Execution. The Loan Agreement, Note, and any other document required to close the Loan shall be executed in the name of the Borrower and shall be executed on behalf of the Borrower by the signatures of the Authorized Representatives of the Borrower.

PASSED AND ADOPTED by the City Commission of the City of Great Falls, Montana, March 17, 2009.

____
Dona R. Stebbins, Mayor

ATTEST:

____
Lisa Kunz, City Clerk

(Seal of the City)

APPROVED FOR LEGAL CONTENT:

____
David V. Gliko, City Attorney

Regular City Commission Meeting Mayor Stebbins presiding

CALL TO ORDER: 7:00 PM

PLEDGE OF ALLEGIANCE

ROLL CALL: City Commissioners present: Dona R. Stebbins, Bill Bronson, John Rosenbaum and Mary Jolley. Commissioner Beecher was excused. Also present were the City Manager, Assistant City Manager, City Attorney, Directors of Community Development, Fiscal Services, Library, Park and Recreation, Planning, Public Works, the Assistant Fire Chief, Police Chief, and the City Clerk.

PROCLAMATIONS: Commendation for 50th Anniversary of the Great Falls Symphony and Charles M. Russell Month

NEIGHBORHOOD COUNCILS

NC 4 – Tax Help Montana Staff and Volunteers awarded Good Neighbor Award.

1. Sandra Guynn, Chair of NC 4, presented Tax Help Montana staff and volunteers with Neighborhood Council 4's Good Neighbor Award.

PUBLIC HEARINGS

Res. 9811 and 9812, and Ord. 3030. Adopted.

2A. RESOLUTIONS 9811 AND 9812, ANNEXES CASTLE PINES ADDITION, PHASE VII.

2B. ORDINANCE 3030, ASSIGNS ZONING CLASSIFICATION OF R-3 SINGLE-FAMILY HIGH-DENSITY DISRICT.

Interim Planning Director Bill Walters reported the City Commission conditionally approved the Preliminary Plat of Castle Pines Addition, Phases VI – VIII last March. The developer of Castle Pines Addition, Harold Poulsen, has requested approval of the final plat and annexation of the final phase of the Preliminary Plat. The subdivision consists of 13 single-family residential lots along 28th Avenue South and 16th Street South. Three of the lots in the subdivision will be annexed immediately through Resolution 9811. The annexation of the remaining 10 lots, described in Resolution 9812 and being acquired by NeighborWorks as sites for self-help program homes, will become effective upon completion of construction of those 10 homes. Ordinance 3030 assigns a City zoning classification of R-3 Single-Family District to Castle Pines Addition, Phase VII.

Mr. Walters requested that the City approve the final plat and annexation agreement for the subdivision.

Mayor Stebbins declared the public hearing open.

No one spoke in favor of or opposition to Resolutions 9811 and 9812 and Ordinance 3030.

Mayor Stebbins declared the public hearing closed and asked for the direction of the City Commission.

Commissioner Rosenbaum moved, seconded by Commissioner Bronson, that the City Commission adopt Resolutions 9811 and 9812, and approve the final subdivision plat of Castle Pines Addition, Phase VII and the accompanying Annexation Agreement.

Mayor Stebbins asked if there was any discussion amongst the Commissioners.

Commissioner Jolley asked if the staff report wording regarding the homes being constructed "outside" the City limits was a typo. Mr. Walters answered the report was correct. The particular program involved is related to a rural-type building program. The homes have to be constructed before being annexed into the City. Resolution 9812 will not become effective until after the 10 homes are constructed and the document is recorded at the Clerk and Recorder's Office.

Motion carried 4-0.

Commissioner Bronson moved, seconded by Commissioner Rosenbaum, that the City Commission adopt Ordinance 3030.

Motion carried 4-0.

Res. 9813. Adopted.

3. RESOLUTION 9813, FOR CONDITIONAL USE PERMIT TO ALLOW WIND TURBINE ON LOT 2A, BLOCK 1, VO-TECH ADDITION.

Interim Planning Director Bill Walters reported that the Montana State University – College of Technology has applied for a conditional use permit to allow erection of a 120 foot tall wind turbine on the southern part of the school's campus. The involved property is presently zoned PLI Public Lands and Institutional District wherein a wind turbine is permitted upon processing and approval of a conditional use permit. Based upon input from City staff, citizens in the neighborhood and consultants working for MSU COT, the location of the proposed turbine has vacillated. At the public hearing held January 13, 2009, the Zoning Commission passed a motion recommending the City Commission grant a conditional use permit to allow a 120 foot wind turbine to be erected on Lot 2A, Block 1, Vo-Tech Addition, at least 500 feet from the west right-of-way of 20th Street South and at least 200 feet from the south boundary of said Lot 2A.

Mayor Stebbins declared the public hearing open.

Speaking in opposition to Resolution 9813 were:

Fred Burow, 1926 21st Avenue South, and **Terry Poupa**, 1920 20th Avenue South, expressed concerns about the location of the wind turbine. They both suggested that it be moved further east closer to the Social Security building.

Speaking in favor of Resolution 9813 were:

Joe Schaffer, 105 35th Avenue N.E., Acting Dean of MSU-Great Falls College of Technology, stated that the aspirations for the project are to accomplish three main goals. First, the turbine will serve as a demonstration project in green energy production for public facilities and institutions in semi-urban settings. Second, the college received a $2 million U.S. Department of Labor grant for the development of wind and industrial energy technology programs. Thirdly, with the recent expansion, the utility costs have also expanded. The Governor charged state agencies with reducing its consumption of energy by 20% by the year 2010. This turbine will help offset the energy costs associated with the newly constructed trades building. Mr. Schaffer clarified that the college's current plans are to install a 120 foot wind turbine tower. When the blade is at its upmost position, the turbine will extend over 140 feet. He encouraged the Commission to provide some leeway in the conditional use permit to allow the specific location to be determined as part of the geotechnical analysis that will be done with the installation process. The intent is to keep it as close to that original site and the Zoning Commission's recommendation as possible. Regarding the noise concerns, Mr. Schaffer explained that a 50 kilowatt turbine emits about 64 decibels at 100 feet. At 200 feet it drops significantly below the ambient noise in many rooms.

Mark Mathison, 1006 8th Avenue North, Student President at MSU-Great Falls, commented that, on behalf of all the students, they would like to see this project go forward for the green benefits, economic benefits and for the future of the educational opportunities it will provide.

Joann Heninger, 1917 20th Avenue South, stated that she wasn't in support or against the project. She encouraged the Commission to look at all sides of the project, not just the good and the bad. Ms. Heninger doesn't like the noise and suggested the turbine be as far east as possible.

Richard Liebert, 289 Boston Coulee Road, stated that this is a great opportunity for the College of Technology. Mr. Liebert mentioned that there is stimulus money for fire and police departments to become energy independent.

Brett Doney, Great Falls Development Authority, congratulated Joe Schaffer and the team at the College of Technology for being awarded the Department of Labor grant. The wind turbine is the beginning of an industrial technology program.

Mayor Stebbins declared the public hearing closed and asked for the direction of the City Commission.

Commissioner Bronson moved, seconded by Commissioner Rosenbaum, that the City Commission adopt Resolution 9813.

Mayor Stebbins asked if there was any discussion amongst the Commissioners.

Commissioner Bronson commented that the geotechnical study to determine the exact, appropriate location was yet to be done. This resolution is setting limits of at least 500 feet from the west right-of-way of 20th Street and at least 200 feet from the south boundary. If the study indicates that a location further to the east was more appropriate, he assumes the resolution, as it is drafted now, is sufficient to allow that without having to consider a revision to the permit or resolution. Mr. Walters responded that was correct, and that was the Zoning Commission's intent also.

Commissioner Jolley inquired if the resolution should be amended to reflect the correct height of the tower. Commissioner Bronson responded that it was his understanding in this industry that when talking about a 120 turbine, the extended height of the blade can be higher. Commissioner Rosenbaum clarified that the turbine will be at 120 feet. Mr. Schaffer agreed with Commissioner Bronson.

Regarding the language at least 500 feet from 20th Street, Commissioner Jolley asked whether this was the original location. Mr. Schaffer responded this was the original location as identified by the consultants.

Commissioner Rosenbaum asked when the geotechnical study is done, will it also determine the decibel pattern at that distance. His understanding is the wind will carry the sound away from the residential area. Mr. Schaffer responded that he has been going off of the specifications of the manufacturer. He will consider a noise study in the request for proposals.

Commissioner Bronson noted that the Planning Department is considering an Ordinance regarding locations of wind turbines within the City to address concerns.

Motion carried 4-0.

OLD BUSINESS

NEW BUSINESS

ORDINANCES/RESOLUTIONS

Res. 9814. Adopted.

4. **RESOLUTION 9814, ESTABLISHING THE TERMS AND CONFIRMING THE NEGOTIATED SALE OF $2,000,000 IN TAX INCREMENT REVENUE BONDS FOR PUBLIC IMPROVEMENTS WITHIN WEST BANK URBAN RENEWAL DISTRICT, AND DELEGATING CERTAIN AUTHORITY TO THE CITY MANAGER AND FISCAL SERVICES DIRECTOR.**

Fiscal Services Director Coleen Balzarini reported this resolution, if approved, will allow the City to issue up to $2 million in debt to provide public improvements that will support the federal building in the West Bank Urban Renewal District. It does authorize a negotiated sale rather than a competitive bid. There are conditions in the resolution that must be met before completing the negotiated sale. Assuming the taxes come in at the level of the Department of Revenue's valuation, the $2 million is supportable from the anticipated revenues generated from the property taxes of the federal building. This will allow the City to complete the projects the Commission authorized, with the exception of all of the park improvements. Ms. Balzarini requested authorization of this resolution and noted that a final resolution will be forthcoming after the negotiation is complete.

Commissioner Rosenbaum moved, seconded by Commissioner Bronson, that the City Commission adopt Resolution 9814.

Mayor Stebbins asked if there was any discussion amongst the Commissioners. No one responded.

Mayor Stebbins asked if there were any inquiries from the public.

Ron Gessaman, 1006 36th Avenue NE, commented that one of the conditions in the agenda report does not correspond with the resolution. He requested clarification on what the maximum interest rate will be. Ms. Balzarini responded that the average interest rate will not exceed 6.25%.

Brett Doney, Great Falls Development Authority, complimented Coleen Balzarini and City staff, as well as D.A. Davidson, for stepping up and making this happen in very difficult credit markets.

Ms. Balzarini told the Commission that the final resolution will state the interest rate to be 6.25%.

Motion carried 4-0.

Consent Agenda. Approved.

CONSENT AGENDA

5. Minutes, February 17, 2009, Commission meeting.
6. Total expenditures of $1,776,764 for the period of February 12-25, 2009, to include claims over $5,000, in the amount of $1,590,784.
7. Contracts list.
8. Award bid for three new 2009 extended cab ¼ ton pickup trucks to Bison Motors in the amount of $51,334.62.
9. Approve final payment for Phase I – 7th and 8th Avenues South Water Main Replacement, in the amount of $30,625.92, to United Materials, and $309.35 to the State Miscellaneous Tax Fund. **OF 1515**.
10. Approve professional services agreement in the amount of $83,932 with CTA Architects Engineers for Engineering and Operations Office modifications. **OF 1455.3.**

Commissioner Jolley moved, seconded by Commissioner Bronson, that the City Commission approve the Consent Agenda as presented.

Mayor Stebbins asked if there was any discussion amongst the Commissioners or any inquiries from the public. No one responded.

Motion carried 4-0.

BOARDS & COMMISSIONS

11. MISCELLANEOUS REPORTS AND ANNOUNCEMENTS.

CITY MANAGER

12. MISCELLANEOUS REPORTS AND ANNOUNCEMENTS.

City Manager Gregory T. Doyon reported that the pilot program was discussed at the ECP Board meeting last evening. It was his understanding that the Board members participating in the program have agreed to donate the difference of that rate as compared to what the rate would have been through NorthWestern Energy. He stated he also understood the City staff that participated in the pilot program also agreed to donate their savings. Assistant City Manager Cheryl Patton reported that the difference in her rates totaled $6.77 for 14 months of participation.

Mr. Doyon commented on his recent trip to Washington, D.C. A trip report on how that went is forthcoming. One thing to watch long term is what happens with MAFB and its primary mission with ICBM’s. Mr. Doyon stated that there will probably be a change in our nuclear posture. He reported that some of the preliminary numbers with regard to the deactivation of one squadron that was here will have a severe impact on our local economy.

Mr. Doyon further commented that there is a lot of confusion about the stimulus monies. He stated Great Falls is slated to receive about $248,000 in additional CDBG monies, and the Great Falls Housing Authority was awarded $1.2 million for a HUD allocation. He was shown a candidate list of potential road projects within urban areas from the Department of Transportation. Also, the City may be receiving up to $500,000 for a water/sewer project on Upper/Lower River Road through TSEP. There are other opportunities that the City could look at, and he will keep the Commission informed.

PETITIONS AND COMMUNICATIONS

13. MISCELLANEOUS REPORTS AND ANNOUNCEMENTS.

Mayor Stebbins opened the meeting to Petitions and Communications.

ECP Pilot Program.

13A. Kathy Gessaman, 1006 36th Avenue NE, commented that the public concern is not how much the ECP pilot program customers saved compared to NorthWestern Energy, but how much less did they pay than what it cost the City for that electricity taking into account all of the costs. The pilot program customers' savings are small compared to the amount of debt accumulated.

Open Government.

13B. Richard Liebert, 289 Boston Coulee Road, thanked the City Commission for appointing a uniformed officer at the meetings. He also thanked Greg Doyon for calling for greater public participation at the Chamber of Commerce luncheon held last week. Mr. Liebert inquired why an open meeting was not convened regarding the City's suit against the Public Service Commission. Mayor Stebbins asked if he knew the concept of representative government. Mr. Liebert responded that he understands the concept of open meetings, government and records. Commissioner Jolley commented that she shares Mr. Liebert's feelings regarding open government, especially decisions having to do with spending money. Commissioner Rosenbaum commented that this was part of an ongoing process and did not see this as new business.

Stimulus Funds.

13C. Brett Doney, Great Falls Development Authority, commented that, despite the recession, there has been good prospect activity in the community. He was also pleased to report that the Small Business Administration approved the SBA 504 loan to StayBridge Suites. If the omnibus spending bill passes, there will be $950,000 for infrastructure improvements on Black Eagle Road. He was thankful to our congressional delegation for their work on that. Mr. Doney also reported that his executive committee submitted three appropriation requests to the congressional delegation for an additional $1.5 million to complete the rebuilding of Black Eagle Road to support all of the industrial development in that area, another $1.5 million for infrastructure for a new heavy industrial park, and $1 million for equity for a loan fund. The Board will also be considering supporting an earmark submitted by the Cascade County Conservation District for $6.8 million to resolve the Whitmore ravine issue by MAFB. Mr. Doney requested that the Commission take into account the GFDA's need for loan funds when putting to work the extra CDBG money.

Agenda Item 10, City funds, rights.

13D. Ron Gessaman, 1006 36th Avenue NE, commented that it wasn't identified in agenda report Item 10 where the money would come from to put the architectural study to work. Mr. Gessaman quoted the City Manager at the previous work session and asked for an itemized identification of which City funds were bleeding. Mr. Gessaman commented about the recent coverage of Susan Overfield's appeal, and noted he was happy the public still has First Amendment rights. He was also happy to see a uniformed officer in the chambers.

Taxes.

13E. John Hubbard, 615 7th Avenue South, stated his opposition to any new taxes. Mr. Hubbard commented that he thinks the Federal Building should be a museum. He also noted that not one politician has attacked deregulation.

<u>CITY COMMISSION</u>

14. <u>MISCELLANEOUS REPORTS AND ANNOUNCEMENTS</u>.

Commissioner Bronson corrected a misconception mentioned by Mr. Liebert and others that this body does not set the dress code for police officers.

Commissioner Jolley requested an update from Ms. Balzarini of the PSC work session that she attended today. Ms. Balzarini answered that the PSC staff recommended that the PSC respond to the District Court filing by the City.

Mayor Stebbins congratulated Yetta Niss on her 100th birthday March 11th. She also congratulated the Great Falls Symphony on its 50th anniversary and encouraged all to attend the concert on March 7th. Mayor Stebbins invited the public to attend the 41st Russell Auction in Great Falls.

ADJOURNMENT

Adjourn.

There being no further business to come before the Commission, **Commissioner Jolley moved, seconded by Commissioner Bronson, that the regular meeting of March 3, 2009, be adjourned at 8:13 p.m.**

Motion carried 4-0.

____
Mayor Stebbins

____
City Clerk

Minutes Approved: March 17, 2009

Agenda # 7
Commission Meeting Date: March 17, 2009

CITY OF GREAT FALLS
COMMISSION AGENDA REPORT

Corrected

ITEM: $5,000 Report
Invoices and Claims in Excess of $5,000

PRESENTED BY: Fiscal Services Director

ACTION REQUESTED: Approval with Consent Agenda

ITEMIZED LISTING OF ALL TRANSACTIONS GREATER THAN $5000:

MASTER ACCOUNT CHECK RUN FOR FEBRUARY 26 - MARCH 4, 2009	306,806.43
MASTER ACCOUNT CHECK RUN FOR MARCH 5 - MARCH 11, 2009	347,728.54
MUNICIPAL COURT ACCOUNT CHECK RUN FOR FEBRUARY 27, 2009	83,233.00
MUNICIPAL COURT ACCOUNT CHECK RUN FOR FEBRUARY 28 - MARCH 6, 2009	4,505.00
WIRE TRANSFERS FROM FEBRUARY 26 - MARCH 4, 2009	199,807.92
WIRE TRANSFERS FROM MARCH 5 - MARCH 11, 2009	134,278.71
TOTAL: $	1,076,359.60

GENERAL FUND

SAMS CLUB	UNDERAGE DRINKING GRANT SEVEN TVS FOR BASE	5,184.53

SPECIAL REVENUE FUND

FEDERAL BLOCK GRANTS

A. T. KLEMENS & SONS	EQUIPMENT & LABOR TO UPGRADE HEATING & COOLING SYSTEM COMMUNITY REC CENTER	116,024.04
DIMAURO MICHAEL & SANDRA	REIMBURSE MATERIALS 4215 7TH AVE N	12,154.67

CAPITAL PROJECTS

GENERAL CAPITAL

DICK ANDERSON CONSTRUCTION	CITY ATTORNEY OFFICE AREA REMODEL	9,086.00

ENTERPRISE FUNDS

WATER			
	DICK ANDERSON CONSTRUCTION	PMT #2 WTP HEADHOUSE FLOOR REPLACEMENT	157,217.09
	UNITED MATERIALS	FINAL PMT 7TH & 8TH AVE S WATER MAIN REPLACEMENT	30,625.92
ELECTRIC			
	SME	PMT OF ENERGY SUPPLY EXPENSE DEC 08	66,405.37
GOLF COURSES			
	US BANK NA	MUNICIPAL GOLF COURSE BOND SERIES 1998	26,612.50
	US BANK NA	MUNICIPAL GOLF COURSE BOND SERIES 1999	9,318.75

INTERNAL SERVICES FUND

HEALTH & BENEFITS			
	BLUE CROSS/BLUE SHIELD	HEALTH INS CLAIMS FEB 24 - MAR 2, 2009	163,876.67
	BLUE CROSS/BLUE SHIELD	HEALTH INS CLAIMS MAR 3 - MAR 9, 2009	68,305.34
CENTRAL GARAGE			
	MOUNTAIN VIEW CO-OP	FUEL CHARGES	11,377.80
	MOUNTAIN VIEW CO-OP	FUEL CHARGES	9,332.33

TRUST AND AGENCY

COURT TRUST MUNICIPAL COURT			
	CITY OF GREAT FALLS	FINES & FORFEITURES COLLECTIONS	63,096.00
	CASCADE COUNTY TREASURER	FINES & FORFEITURES COLLECTIONS	11,499.00
	VICTIM WITNESS ASSISTANCE SERV	FINES & FORFEITURES SURCHARGES	5,870.00

UTILITY BILLS

	NORTHWESTERN ENERGY	JAN - FEB 2009 CHARGES	73,102.36
	NORTHWESTERN ENERGY	JANUARY 2009 CHARGES	12,767.54
	MONTANA WASTE SYSTEMS	FEBRUARY 2009 CHARGES	49,029.62

CLAIMS OVER $5000 TOTAL: $ 900,885.53

~~895,701.00~~

CITY OF GREAT FALLS, MONTANA **AGENDA: 8**

COMMUNICATION TO THE CITY COMMISSION **DATE: March 17, 2009**

ITEM: CONTRACT LIST
Itemizing contracts not otherwise approved or ratified by City Commission Action
(Listed contracts are available for inspection in the City Clerk's Office.)

PRESENTED BY: Lisa Kunz, City Clerk

ACTION REQUESTED: Ratification of Contracts through the Consent Agenda

MAYOR'S SIGNATURE: ______________________________

CONTRACT LIST

	DEPARTMENT	OTHER PARTY (PERSON OR ENTITY)	PERIOD	FUND	AMOUNT	PURPOSE
A	Park and Recreation	Payne Financial	2009	564-0000-346-3045	$5,000	Ice Breaker Sponsor
B	Public Works	Montana Department of Transportation	3/2009 thru 10/2009	None	None	MACI Sidewalks, Phase 2 Utilities Agreement. Adjustment of water valves located in new sidewalks. **OF 1254.1**
C	Public Works	Big Sky Civil & Environmental	Spring 2009	Sewer Fund	$8,650	Lift Station #30 Repair **OF 1348.8**

Item: Resolution 9818 for Conditional Use Permit to allow a Animal Shelter on Lot 4AA, Block 1, North Riverview Terrace 7th Supplement (826 25th Avenue NE)

From: Charles Sheets, Planner 1

Initiated By: Animal Foundation of Great Falls

Presented By: Bill Walters, Interim Planning Director

Action Requested: City Commission set public hearing for Resolution 9818.

Suggested Motion:

1. Commissioner moves:

   "I move that the City Commission set a public hearing for April 7, 2009, to consider adoption of Resolution 9818."

2. Mayor calls for a second, discussion, inquiries from the public, and calls the vote.

Zoning Commission Recommendation: At the conclusion of a public hearing held February 24, 2009, the Zoning Commission passed a motion recommending the City Commission grant a conditional use permit to allow placement of an animal shelter on Lot 4AA, Block 1, North Riverview Terrace 7th Supplement, addressed as 826 25th Avenue Northeast.

Background: Animal Foundation of Great Falls intends to build and operate an animal shelter upon subject lot.

For additional information, please refer to the attached Vicinity/Zoning Map and conceptual site plan provided by the applicant.

Subject property comprises a portion of a large vacant land area located across 25th Avenue Northeast from North Middle School. The property's east boundary abuts a warehouse/contractor yard. Subject property is zoned C-2 General Commercial district wherein an animal shelter is permitted upon processing and approval of a conditional use permit. The definition in the Unified Land Development Code for animal shelter is "a place and/or building, or portion thereof that is used or is intended to temporarily house stray pets."

The attached conceptual site plan shows the primary building, parking, memorial garden, and exercise yard. The exercise yard will be full dog runs. The visiting and play yard is a long range feature. Access to the proposed facility is provided by 25th Avenue NE, a fully improved road maintained by the City. The abutting portion of 25th Avenue NE also contains City water, sanitary sewer and storm sewer mains.

Development upon Lot 4AA will be subject to the review and approval of the City's Design Review Board, which considers such features as building architecture, exterior materials, colors, facade design, outdoor lighting and landscaping. Building plans will be subject to the review and approval of the City's Community Development Department, which consider development in compliance with City codes.

Neighborhood Council 3 discussed the proposed new animal shelter during its meeting on January 8, 2009. The Council minutes are attached.

The procedure for processing a conditional use is identical to that for a City zone change. Following a public hearing and recommendation by the Zoning Commission, the City Commission shall conduct a public hearing and arrive at a final decision regarding the conditional use application. The City Commission may, through a written agreement with the applicant, establish such conditions and restrictions upon the construction, maintenance and operation of the conditional use as is deemed necessary for the protection of the public interest and to secure compliance with standards and requirements.

The City Zoning Code lists the seven following criteria to be applied to a request for a conditional use for evaluation purposes.

1. The conditional use is consistent with City's growth policy and applicable

2. That the establishment, maintenance or operation of the conditional use will not be detrimental to, or endanger the health, safety, morals, comfort or general welfare.

3. The conditional use will not be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially diminishes and impairs property values within the neighborhood.

4. The conditional use will not impede the normal and orderly development and improvement of the surrounding property for uses permitted in the district.

5. Adequate utilities, access roads, drainage and/or necessary facilities have been or are being provided.

6. Adequate measures have been or will be taken to provide ingress and egress so designed as to minimize traffic congestion in the public streets.

7. The conditional use shall, in all other respects, conform to the applicable regulations of the district in which it is located, except as such regulations may, in each instance, be modified by the City Commission.

A goal in the land use element of the Growth Policy is "to preserve and enhance the character, quality, and livability of existing neighborhoods". The Growth Policy states proposed land use changes should be evaluated according to the type of neighborhood affected, which in this case, is vacant commercially zoned land that abuts an industrial district and is 300 feet from the nearest residence. Land use changes should be compatible with the type, scale, and physical character of the neighborhood.

Staff concludes no significant negative aspects, associated with the seven above mentioned criteria, should result from the approval of the conditional use permit, provided the property is developed in compliance with City codes. Establishing an animal shelter at this location would not be intrusive to the neighborhood and with the new building and facilities will provide a needed service to the community.

During the public hearing before the Zoning Commission, Ron Gessmen, 1006 36th Avenue Northeast, asked about the surface drainage pond that is located along 25th Avenue Northeast and within Lot 4AA. City Engineer Dave Dobbs explained the pond was only constructed as a temporary collection pond and the installation of a storm sewer piping and inlets within 25th Avenue Northeast eliminates the need for the temporary pond.

Concurrences: The Community Development Department and Public Works Department have been involved throughout the review and approval process for this project.

Fiscal Impact: Granting the conditional use permit will not result in any changes to providing City services to the area.

Alternatives: The City Commission could decide not to set the public hearing on Resolution 9818. However, such action would deny the applicant due process and consideration of a public hearing, as provided for in City Code and State Statute.

Attachments/Exhibits:
1. Resolution 9818
2. Vicinity/Zoning Map
3. Development Review Application for Conditional Use Permit
4. Conceptual Site Plan provided by applicant
5. Copy of Minutes from Neighborhood Council #3, dated January 8, 2009

Cc: Mike Rattray, Community Development Director
Kim McCleary, City Parking Supervisor
Animal Foundation of Great Falls, P.O. Box 3426, Great Falls, Montana 59403

RESOLUTION 9818

A RESOLUTION APPROVING A CONDITIONAL USE PERMIT TO ALLOW PLACEMENT OF AN ANIMAL SHELTER ON LOT 4AA, BLOCK 1, NORTH RIVERVIEW TERRACE, 7TH SUPPLEMENT TO GREAT FALLS, ADDRESSED AS 826 25TH AVENUE NORTHEAST.

* * * * * * * * * *

WHEREAS, the Animal Foundation of Great Falls owns Lot 4AA, Block 1, North Riverview Terrace, 7th Supplement to Great Falls, addressed as 826 25th Avenue Northeast; and

WHEREAS, said Owner intends to construct and operate an animal shelter on said Lot 4AA; and

WHEREAS, subject property is zoned C-2 General Commercial district wherein an animal shelter is permitted upon processing and approval of a conditional use permit; and

WHEREAS, Owner has applied for a conditional use permit to construct and operate an animal shelter on Lot 4AA, Block 1, North Riverview Terrace, 7th Supplement to Great Falls, addressed as 826 25th Avenue Northeast; and

WHEREAS, the Great Falls Zoning Commission conducted a public hearing on February 24, 2009, to consider said conditional use permit application and at the conclusion of said hearing, passed a motion recommending a conditional use permit be granted to allow placement of an animal shelter on Lot 4AA, Block 1, North Riverview Terrace, 7th Supplement to Great Falls, addressed as 826 25th Avenue Northeast.

NOW, THEREFORE, BE IT RESOLVED BY THE COMMISSION OF THE CITY OF GREAT FALLS, MONTANA:

Section 1. It is determined that the herein requested conditional use permit will meet the criteria cited in Section 17.16.36.040 of the Unified Land Development Code of the City of Great Falls.

Section 2. That a conditional use permit to allow placement of an animal shelter on Lot 4AA, Block 1, North Riverview Terrace, 7th Supplement to Great Falls, addressed as 826 25th Avenue Northeast, is hereby approved.

Section 3. That this Resolution shall become effective immediately upon its passage and approval.

PASSED, APPROVED AND ADOPTED by the City Commission of the City of Great Falls, Montana, on April 7, 2009.

Dona R. Stebbins, Mayor

ATTEST:

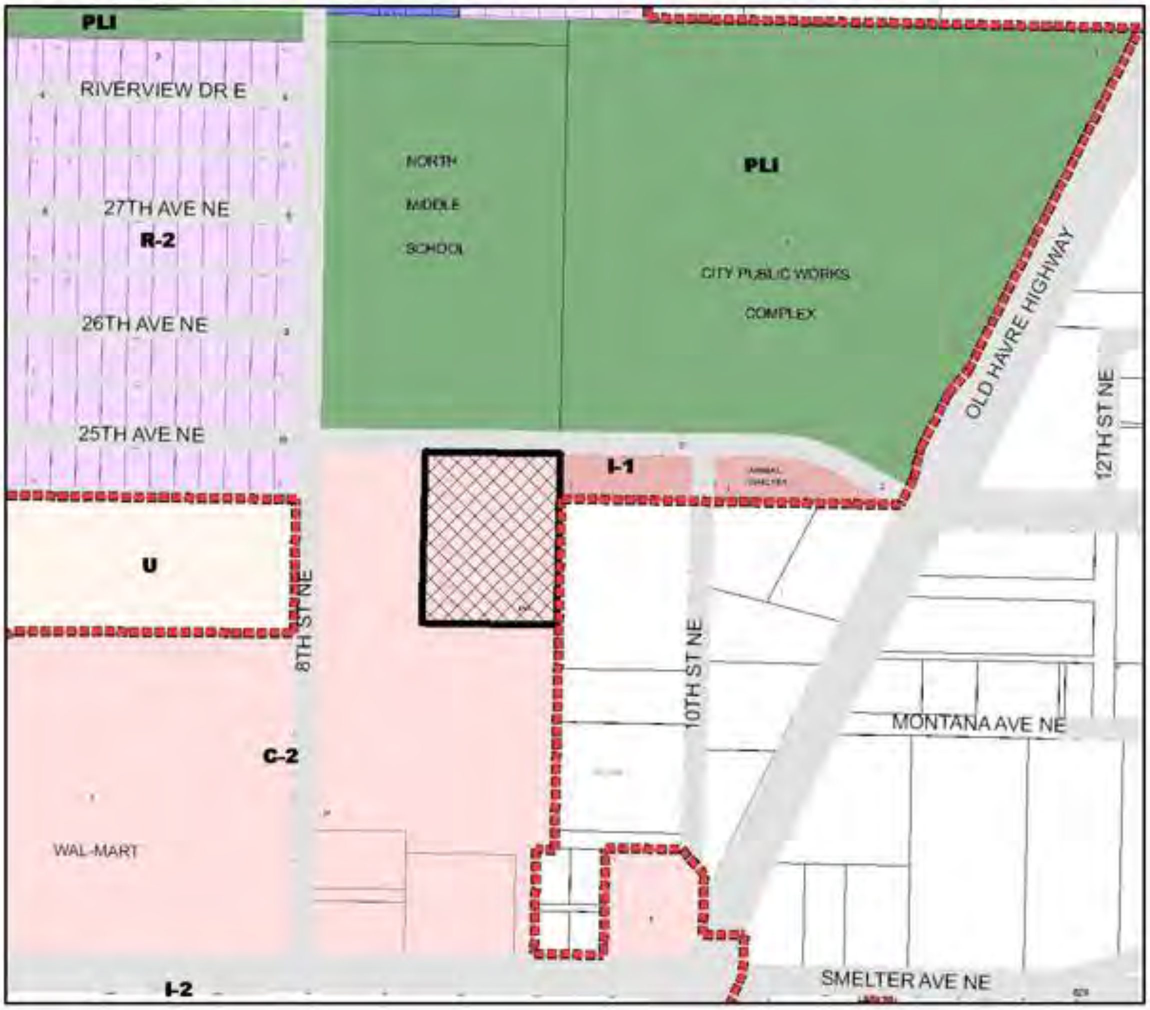
Lisa Kunz, City Clerk

(CITY SEAL)

APPROVED FOR LEGAL CONTENT:

David V. Gliko, City Attorney

VICINITY/ZONING MAP



LOT 4AA, BLOCK 1, NORTH RIVERVIEW TERRACE 7 SUPPLEMENT - PROPOSED SITE FOR ANIMAL SHELTER

City Limits	C-2 General commercial	I-1 Light industrial
R-2 Single-family medium density	PLI Public Lands and Institutional	U Unincorporated enclave
R-5 Multi-family medium density	POS Parks and Open Space	Tracts of land outside City

525 262.5 0 525 Feet

N

P. O. Box 5021, 59403-5021

CITY OF GREAT FALLS MONTANA

Planning Department

DEVELOPMENT REVIEW APPLICATION

Name of Project/Development: Margaret J. McLean Animal Shelter of Great Falls

Owner(s): Animal Foundation

Mailing Address: P.O. Box 3426, Great Falls, MT 59403

Phone: 406-771-0007 E-mail: websiteinquiry@theanimalfoundation.com FAX:

Agent(s): Bob Jones & John Huber

Mailing Address: P.O. Box 3126, Great Falls, MT 59403

Phone: 791-7255 E-mail: Jhuber@ FAX: 791-7258

Legal Description: Lot 4AA Block 1 North Riverview Terrace

Section: 36 Township: 21 N Range: 3 East

Street Address:

Zoning: Current: Commercial Proposed: Commercial w/ Conditional Use

Land Use: Current: Vacant Proposed:

Covenants or Deed Restriction on Property: Yes_____ No_____
If yes, please attach to application

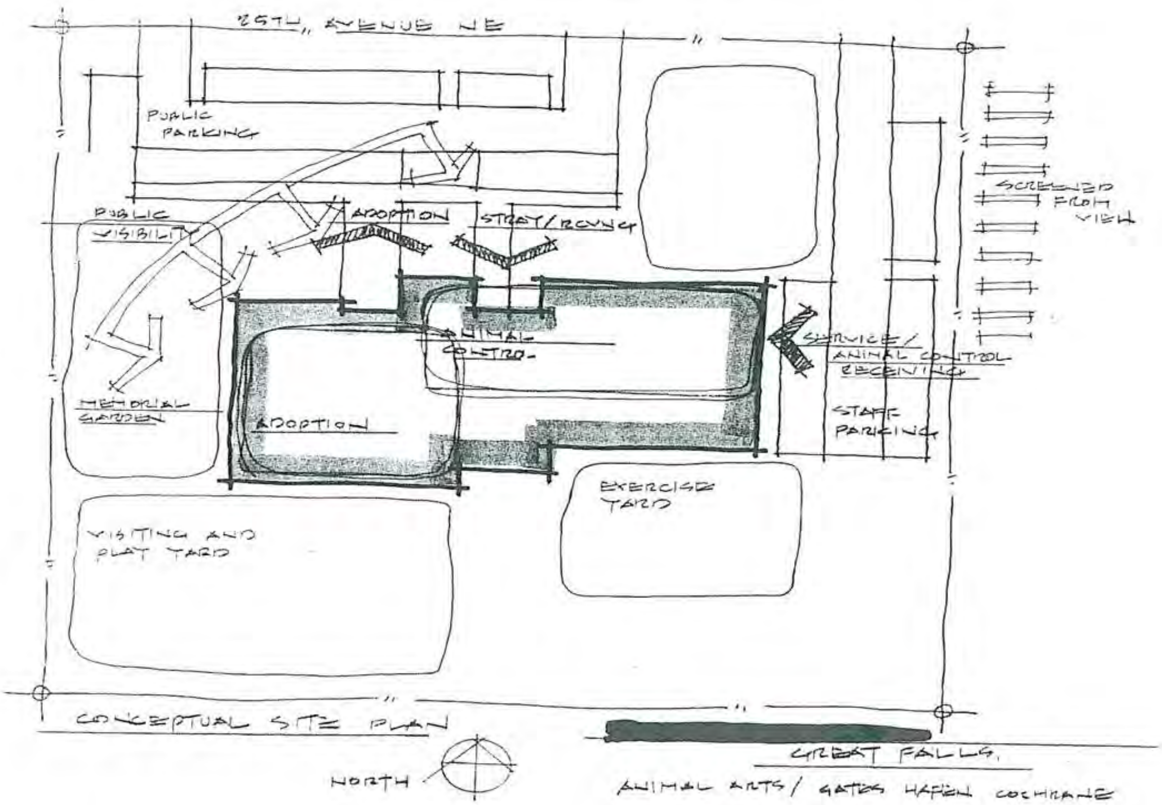
Application Type (please check all that apply):

- ☐ Subdivision Preliminary Plat ($ 500.00)
- ☐ Subdivision Minor Plat ($ 300.00)
- ☐ Subdivision Mobile Home Park ($ 500.00)
- ☐ Subdivision Final Plat ($ 200.00)
- ☐ Right-of-way vacation ($ 200.00)
- ☐ Annexation ($ 100 APP, $ 200 AGR, $100 RES)
- ☐ Zoning Map Amendment ($ 400.00)
- ☑ Conditional Use Permit ($ 400.00)
- ☐ Establishment of Zoning with Annexation ($ 400.00)
- ☐ Agreement and Resolution filings ($ 11 per page)

I (We) the undersigned understand that the filing fee accompanying this application is not refundable. I (We) further understand that the fee pays for the cost of processing, and the fee does not constitute a payment for approval of the application.
I (We) also attest that the above information is true and correct to the best of my (our) knowledge.

Property Owner's Signature: [signature] **Date:** 12/31/08

Property Owner's Signature: _____ **Date:** _____


25TH AVENUE NE
PUBLIC PARKING
PUBLIC VISIBILITY
ADOPTION
STRAY/RCVNG
SCREENED FROM VIEW
ANIMAL CONTROL
SERVICE/ ANIMAL CONTROL RECEIVING
MEMORIAL GARDEN
ADOPTION
STAFF PARKING
EXERCISE YARD
VISITING AND PLAY YARD
CONCEPTUAL SITE PLAN
NORTH
GREAT FALLS
ANIMAL ARTS / GATES HAFEN COCHRANE

Neighborhood Council District #3
Minutes
January 8, 2009
Westgate Mall @ 7:00 p.m.

The meeting was called to order by Chairman Tim Austin.

Members present were: Tim Austin, Debbie Clark, Al Smith, Gary Ferree, Bob Haensel. Others present were Kathy & Ron Gessman, John Huber, Melanie Lattin, Jan Cahill.

M/S/C (Smith Ferree) to approved the minutes of the December 4, 2008 as printed.

There were no committee reports.

Election of Officers: The following members were elected as follows:
Tim Austin, Chairman
Bob Haensel, Secretary
Debbie Clark, Action Committee
Al Smith, Police Advisory Board

Presentation given by John Huber and Melanie Lattin, Animal Shelter Foundation. Discussion centered around of being a good neighbor to the District and the City of Great Falls. HE stated that they were in in discussion with the City of Great Falls to obtain a Memo of Understanding with regard to the management and construction of a new Animal Shelter on land adjacent to the current shelter. It was stated that a summer/fall projection for the start of construction.
Jan Chill, Humane Society stated that discussions were in progress regarding the current shelter, ownership of property, finances, management by the city, payment for equipment by the city utilized by the shelter and other issues.
Mr. Cahill asked that the Humane Socirty be kept abreast on the progress of the Animal Shelter Foundation discussions with the city regarding management and construction. Melanie Lattin distributed an architects drawing of the proposed shelter, fundraising activities and a newsletter. Mrs. Lattin also stated that the Foundation was attempting to obtain a Memo of Understanding with the city of Great Falls.

Issues of Neighborhood Concern:

Street Lighting: A proposal may be coming to establish a lighting district for the new planned development in the Water Tower Addition. Concerns centered around that if a lighting district was approved, would the residents of other areas that do not have street lights be forced into the cost of street lighting.

Lighting in Gibson Park area was discussed and having police patrols neighborhoods on a recurring basis.

Other items: Cascade County has been awarded Federal Funds under the Emergency Food and Shelter National Board Program and been chosen to receive $35,859.00 to supplement food and shelter programs within the county. Organizations that provide these services are encouraged to apply for funding.
Park Special Revenue - Park Trust Fund policy was distributed.
Jan Cahill stated that the Great Falls School Board would again ask for School District levy, however it would be less than the 2.8 million previously requested. He also stated that the legislature was in the process of "defining a school zone" where it begins and ends.

M/S/C (Smith/Ferree) for adjournment. The meeting was adjourned at 8:20 p.m. The next meeting will be February 5, 2009 @ Westgate Mall.

Respectfully submitted

Robert Haensel, Secretary

These minutes will be approved at the next regular Neighborhood Council #3 meeting.

Agenda # 10
Commission Meeting Date:
CITY OF GREAT FALLS
COMMISSION AGENDA REPORT

Item: Professional Services Contract Award: Digital Imagery and Topographic Mapping of the City of Great Falls and Surrounding Area, O.F. 1572

From: Engineering Division

Initiated By: Public Works Department

Presented By: Jim Rearden, Public Works Director

Action Requested: Consider and Approve Contract

Suggested Motion:

1. Commissioner moves:

   "I move that the City Commission award a professional services contract in the amount of $122,580 to Merrick & Company for the Digital Imagery and Topographic Mapping of the City of Great Falls and Surrounding Area, O.F. 1572, and authorize the City Manager to execute the professional services contract."

2. Mayor calls for a second, discussion, inquiries from the public, and calls the vote.

Staff Recommendation: Award professional services contract.

Background:

Significant Impacts
This project will provide digital aerial photographs with contours of the City and surrounding unincorporated areas.

Citizen Participation
Not applicable

Workload Impacts
Merrick & Company will provide the plane and equipment to fly the project area, collecting data to produce the maps. Big Sky Civil and Environmental will provide ground control points as a subconsultant. City engineering staff will administer the contract.

Purpose

City wide aerial photographs and contour mapping was last done in 1990. In the nineteen years since, Great Falls has expanded into adjacent areas that were not mapped in the 1990 project. Also, numerous changes within the City over the years have resulted in the maps gradually becoming outdated. This project will provide new maps for the area within the City limits as well as adjacent areas where the City may expand or has other interests, such as storm drainage basins, planning for development, and transportation improvements. In addition to the Public Works Department, the information contained on these types of maps are used by consultants, the public, and other government agencies, as well as other City departments.

Project Work Scope

Merrick will provide the plane, personnel, and equipment to generate maps for 83 square miles within and adjacent to the City of Great Falls. Maps will be prepared in digital, color orthophotographic format with 0.5 foot pixel resolution. The scale will be 1 inch equals 100 feet. Contour intervals will be 2 foot. The flying is scheduled to be done in April or early May.

Evaluation and Selection Process

The flying will be done at the same time as the mapping of Malmstrom AFB, which will eliminate mobilization costs for the plane and personnel. This is a savings to the City of $20,000. The project price is very favorable compared with the 1990 mapping project, which cost $144,000 and delivered 36 square miles of maps at 1 inch equals 200 feet scale and 4 foot contours (2 foot contours for the original townsite area).

Conclusion

City staff recommends the award of the professional services contract to Merrick & Company in the amount of $122,580.

Concurrences:

Not Applicable

Fiscal Impact:

This project will be funded by the Storm Drain Fund.

Alternatives:

The City Commission could vote to deny award of the contract.

Attachments/Exhibits:

Professional Services Contract

Merrick & Company
2450 S. Peoria Street / Aurora, CO 80014-5472
303-751-0741 / Fax: 303-751-2581
www.merrick.com

City of Great Falls
City Engineer
ATTN: David Dobbs
1025 25th Ave NE
Great Falls, MT 59403

RE: Proposal for the Collection and Processing of Digital Imagery and Topo Mapping for the City of Great Falls, Montana (Project # O.F. 1572)

Merrick & Company is pleased to provide the City of Great Falls with this proposal for the collection and processing of Digital Imagery and topographic mapping for the city area. Merrick is providing a proposal describing a summary of our technical approach and lump sum fees for the development of the deliverables.

Scope of Services

We have flight planned the collection of the city area as defined in your letter and marked up (approximately 83 SqMi), using two options:
0.5foot pixel orthophotography with a 1meter GSD LiDAR collection and 2 foot contours
1 foot pixel orthophotography with a 2 meter GSD LiDAR collection and 4 foot contours.

We will fly the project simultaneously with the Malmstrom AFB collection to eliminate your cost for mobilization of the plane and personnel to and from the collection and it will be controlled utilizing the same base station control again eliminating some costs. We will be flying it to achieve 100 or 200 scale mapping accuracy (depending on the option selected). We will establish survey ground control using 12 photo ID points and will establish 64 LiDAR check points to validate the surface model.

Deliverables:
Merrick will deliver color orthophotography at a 0.5 or 1 foot pixel, to meet 100 or 200 scale mapping accuracies (depending on the option selected). We will also deliver mass points and breaklines (DTM) derived from the LiDAR data and 2 or 4 foot contours (depending on option selected) to meet accuracy specifications.

Task Cost:
The estimated cost for this task is based on a lump sum basis, and include all labor and ODC's.

.5 foot pixel color ortho and 2 foot contour	$122,580
1 foot pixel color ortho and 4 foot contour	$ 68,263

If you have any questions on any items identified in this proposal, or need more detail; please give the proposed project manager; Gerald Boyd, GISP a call at (303) 353-3931.

Sincerely:
MERRICK & COMPANY

Brian Raber, CMS, GISP, GSP
Vice President
GeoSpatial Solutions

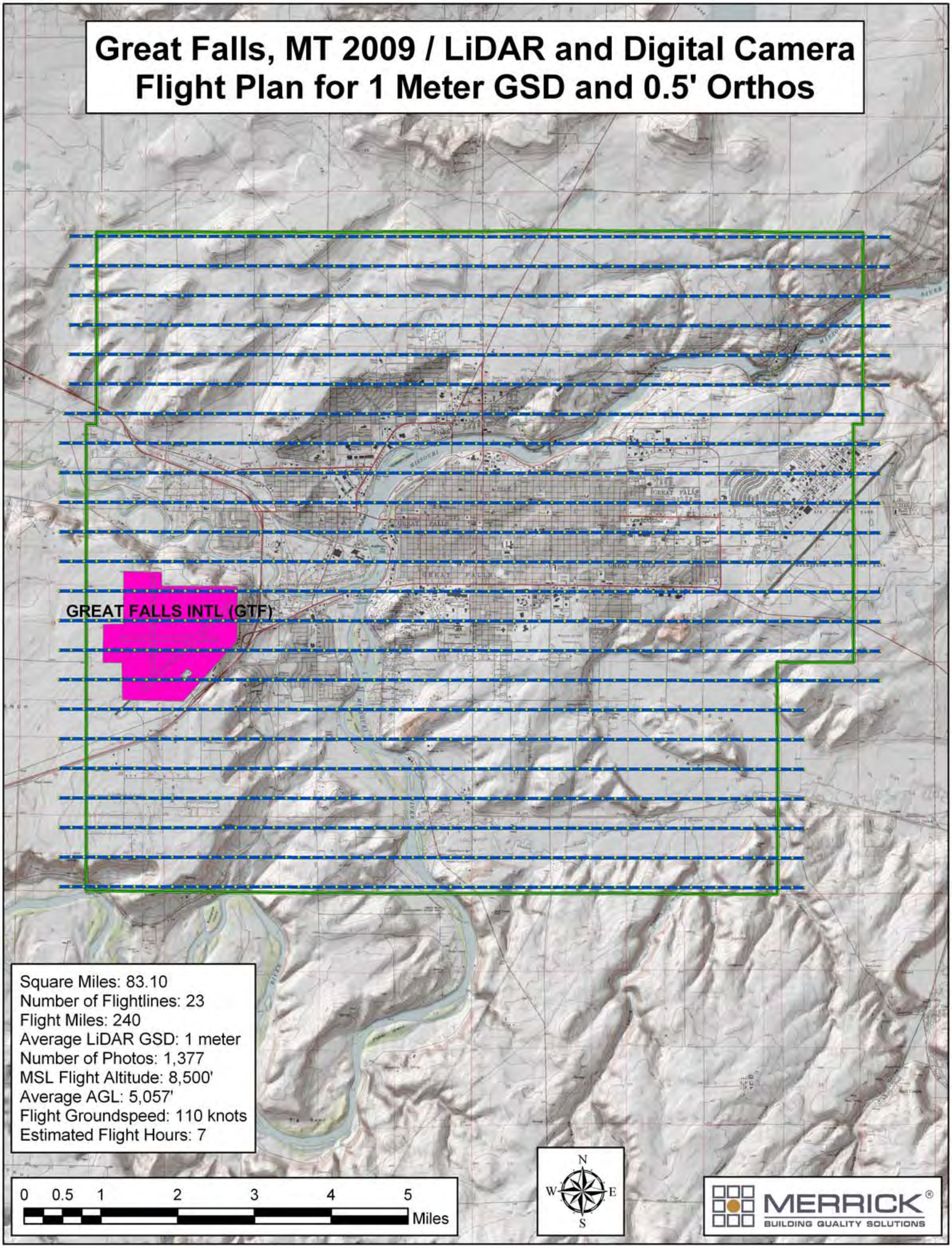
City of Great Falls
(Owner)

By_________________________________
Gregory T. Doyon, City Manager

By _________________________________ (SEAL & ATTEST)
Lisa Kunz, City Clerk

APPROVED FOR LEGAL CONTENT:

By _________________________________
David V. Gliko, City Attorney


Great Falls, MT 2009 / LiDAR and Digital Camera
Flight Plan for 1 Meter GSD and 0.5' Orthos
GREAT FALLS INTL (GTF)
Square Miles: 83.10
Number of Flightlines: 23
Flight Miles: 240
Average LiDAR GSD: 1 meter
Number of Photos: 1,377
MSL Flight Altitude: 8,500'
Average AGL: 5,057'
Flight Groundspeed: 110 knots
Estimated Flight Hours: 7
0 0.5 1 2 3 4 5
Miles
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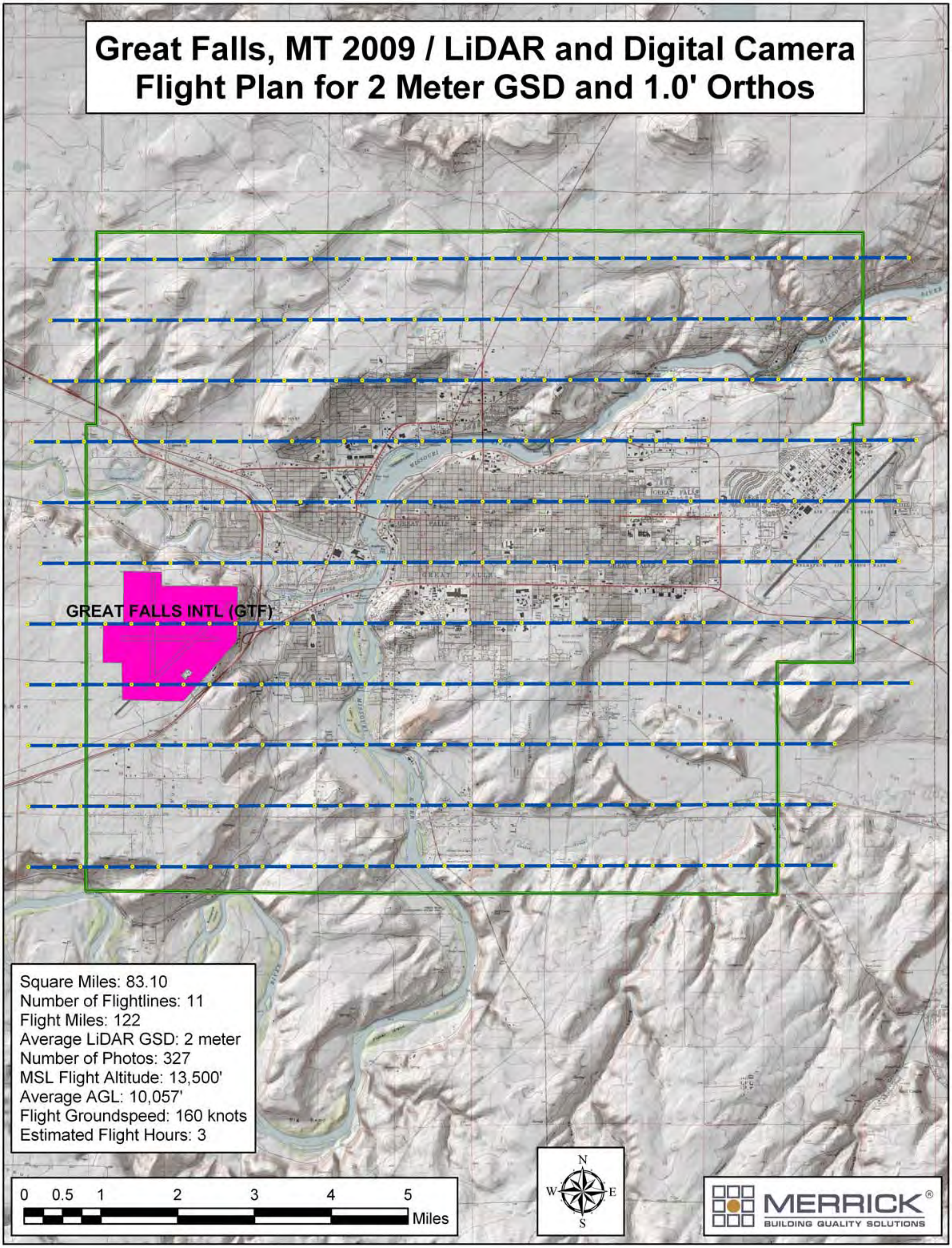
MERRICK®
BUILDING QUALITY SOLUTIONS



Great Falls, MT 2009 / LiDAR and Digital Camera
Flight Plan for 2 Meter GSD and 1.0' Orthos
GREAT FALLS INTL (GTF)
Square Miles: 83.10
Number of Flightlines: 11
Flight Miles: 122
Average LiDAR GSD: 2 meter
Number of Photos: 327
MSL Flight Altitude: 13,500'
Average AGL: 10,057'
Flight Groundspeed: 160 knots
Estimated Flight Hours: 3
0 0.5 1 2 3 4 5
Miles
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MERRICK®
BUILDING QUALITY SOLUTIONS

Agenda # 11
Commission Meeting Date: March 17, 2009
CITY OF GREAT FALLS
COMMISSION AGENDA REPORT

Item: 3rd Avenue Northwest Memorandum of Understanding, O.F. 1488

From: Engineering Division

Initiated By: Public Works Department

Presented By: Jim Rearden, Public Works Director

Action Requested: Approve the 3rd Avenue Northwest Memorandum of Understanding

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Suggested Motion:

1. Commissioner moves:

   "I move the City Commission approve the 3rd Avenue Northwest Memorandum of Understanding and authorize the City Manager to execute the agreement."

2. Mayor calls for a second, discussion, inquiries from the public, and calls for the vote.

Staff Recommendation: Staff recommends the City Commission approve the memorandum of understanding.

Background:

Significant Impacts
This memorandum of understanding (mou) allows the construction of the 3rd Avenue Northwest roadway to begin while property transactions are being completed.

Purpose
This memorandum describes the land transfers that are required between the City, Cascade County and the Montana Cowboy's Association in order for the City to construct the 3rd Avenue NW access to the new Federal Courthouse and West Bank Park. The certificates of survey and deeds are being prepared. However, due to the short time period, the land transfers might not be completed prior to the time construction needs to begin.

Project Work Scope
The design of the roadway improvements is complete. The first phase of the construction was bid on February 4, 2009. The final phase of the construction will bid on March 25, 2009. The roadway is targeted for completion by May 15, 2009 to accommodate the opening of the Federal Courthouse.

Evaluation and Selection Process

The properties were appraised by McKay Rowan Associates. The City needs to acquire approximately ¼ acre of land from Montana Cowboys Association for the new roadway. The City also needs to acquire approximately ½ acre from the County of which 1/10 acre will be utilized for roadway. The remaining 4/10 acre will be transferred to the Cowboys in exchange for the parcel acquired for the roadway. The land exchange with the County, which might include a monetary payment, will be conducted in accordance with Montana Codes Annotated.

Conclusion

This memorandum provides a method for the City to construct the improvements while the official paperwork for the land transfers is completed.

Concurrences:

This memorandum was reviewed by Legal Council.

Fiscal Impact:

The difference in land values will be funded through Tax Increment Funds.

Alternatives:

The City Commission could vote not to approve the memorandum.

Attachments/Exhibits:

1. Memorandum of Understanding

3RD AVENUE NORTHWEST IMPROVEMENTS

MEMORANDUM OF UNDERSTANDING

THIS AGREEMENT, made this _____ day of March, 2009, between the **CITY OF GREAT FALLS**, hereinafter called "CITY", **CASCADE COUNTY**, hereinafter called "COUNTY", and the **MONTANA COWBOYS ASSOCIATION**, hereinafter called "COWBOYS";

WITNESSETH:

WHEREAS, in the interest of aiding vehicular traffic and public safety, the CITY is undertaking a project, 3RD AVENUE NORTHWEST IMPROVEMENTS, to construct a roadway from West Bank Park to 3rd Street Northwest as shown on Exhibit "A" attached hereto and by this reference made a part hereof;

WHEREAS, the parties agree that all parties will receive ascertainable benefit from the installation of the roadway; and

WHEREAS, the CITY will pay for the construction of the improvements and acquisition of the right of way with CITY funds, and the COUNTY and COWBOYS will provide the right of way as shown on Exhibit A, and upon the terms and conditions herein stated;

NOW, THEREFORE, in consideration of the premises herein contained, the parties agree as follows:

I

COWBOYS will transfer to the CITY by separate instrument 10,978.84 square feet of land on the southern end of their property (Parcel 1, Exhibit A) for the 3rd Avenue Northwest right of way. This tract of land is appraised at $13 per square foot for a total value of $142,750. As compensation for this tract, CITY will transfer to COWBOYS by separate instrument 19,551.88 square feet of land (Parcel 2A) on the southern end of the COUNTY property that CITY will obtain from COUNTY. This tract of land is appraised at $3.35 per square foot for a total value of $65,500. CITY shall pay COWBOYS the difference in land values, a total of sum of $77,250.

COWBOYS understands that the land to be deeded has existing water main, storm drain pipes, and gas piping for which COWBOYS will grant easements. Construction over the top of these utilities will be limited to parking areas, curb & gutter, pavement and landscaping.

COUNTY will retain the responsibility for any remediation and/or mitigation of existing contamination on the lands transferred to COWBOYS.

COWBOYS hereby grants the CITY the right to enter and construct said roadway within the proposed right of way, as shown on Exhibit "A," prior to the issuance of the above stated separate instruments.

II

COUNTY will transfer to CITY by separate instrument 24,217.82 square feet of land on the southern end of their property (Parcels 2 and 2A). Parcel 2 is for the 3rd Avenue Northwest right of way. CITY will transfer Parcel 2A to COWBOYS

CITY will transfer to COUNTY by separate instrument 68,964.33 square feet of land adjacent to the fairgrounds (Assessor's Parcel No. 1878500).

COUNTY hereby grants the CITY the right to enter and construct said roadway within the proposed right of way, as shown on Exhibit "A," prior to the issuance of the above stated separate instrument.

III

CITY anticipates acquiring the final parcel of land needed for the 3rd Avenue Northwest right of way from James Talcott Construction in the near future (Parcel 3 and Parcel 3A). CITY will transfer Parcels 3 and 3A to COUNTY. Parcel 3 will be COUNTY right of way, with easements for CITY's roadway and utilities. CITY will construct and maintain said roadway and utilities. Parcel 3A will become part of the County Shop property. Parcel 3A contains 2391.44 square feet of land.

The CITY proposes the land exchange with the COUNTY, which may include a monetary payment, in accordance with Montana Codes Annotated. The COUNTY would obtain 71,356 square feet of land for the 24,218 square feet of land transferred to CITY.

In addition to the terms herein set forth, the CITY agrees to provide the certificates of survey and property deeds, pay the recording fees, and administer the construction project with respect to the inspection and acceptance.

This agreement will inure to the benefit of and be binding on the parties hereto, their successors, and assigns.

By______________________________ (SEAL &) (ATTEST)

Gregory T. Doyon, City Manager

By____________________________________

Lisa Kunz, City Clerk

Approved for Legal Content

By____________________________________

David V. Gliko, City Attorney

(SEAL &)

By____________________________________ (ATTEST)

Joe Briggs, Chairman, Cascade County Commission

By ____________________________________

Montana Cowboys Association

Agenda # 12
Commission Meeting Date: March 17, 2009
CITY OF GREAT FALLS
COMMISSION AGENDA REPORT

Item: Two New 2009 ¾ Ton Extended Cabs with Utility Bodies

From: Tom Hugg, Vehicle Maintenance Supervisor

Initiated By: Public Works Department

Presented By: Jim Rearden, Public Works Director

Action Requested: Award Bid

Suggested Motion:

1. Commissioner moves:

   "I move that the City Commission award the bid for two new 2009 ¾ ton extended cabs with utility bodies to Bison Ford of Great Falls for $53,759.62.

2. Mayor calls for a second, discussion, inquiries from the public, and calls for the vote.

Staff Recommendation: Staff recommends that the City Commission award the bid for two new 2009 ¾ ton extended cabs with utility bodies to Bison Ford of Great Falls for $53,759.62.

Background:

Purpose
These units will be used by the Park & Recreation Parks Division.

Evaluation and Selection Process
The specifications were advertised two times in the Great Falls Tribune, placed on the City of Great Falls website, and mailed to six prospective bidders. The bids were opened on March 4, 2009 with three bidders responding.

Staff recommends rejecting the trade-in offer of $600 each for the City's 1994 Chevy ½ ton pick ups. #320, 1994 Chevrolet, ½ ton – 90,000 miles, #322, 1994 Chevrolet, ½ ton – 91,000 miles. This trade-in offer is substantially less than what has been obtained at public auction. In order to obtain maximum value for the trade-ins the two Chevy ½ ton pick ups being replaced will be sold at a later date.

Conclusion

The bid by Bison Ford meets specifications for the two new 2009 ¾ ton extended cabs with utility bodies.

Fiscal Impact: Funds for their purchase were provided in the FY 2009 Central Garage Budget.

Alternatives: Reject the bids for the purchase of two new 2009 ¾ ton extended cabs with utility bodies.

Attachments/Exhibits: Bid List, Bid Tab

Cab & Chassis with utility box Bid List

City Motor Company
PO Box 6727
Great Falls, MT 59406

Bison Motors
500 10th Ave. South
Great Falls, MT 59405

Bennett Pontiac GMC Subaru
#26 9th Street South
Great Falls, MT 59405

Lithia Dodge
4025 10th Ave. South
Great Falls, MT 59406

Kois Brother Equipment
PO Box 1728
Great Falls, MT 59403

HCL Equipment
2417 Old Havre Hwy
Black Eagle, MT 59414

CITY OF GREAT FALLS
PO BOX 5021
GREAT FALLS MT 59403

TWO NEW 2009 ¾ TON EXTENDED CABS WITH UTILITY BODIES

Project Number
Bids Taken at Civic Center
Date: March 4, 2009
Tabulated By: Kelly Audet

NAME & ADDRESS OF BIDDER	Bid Security / Affidavit of Non-Collusion	Initial Bid Price for two units	Trade-In 1994 Chevy ½ Ton - #320	Trade-In 1994 Chevy ½ Ton - #322	Net Bid price with any Trade-Ins.	Make	Model
CITY MOTOR	CC $5,683.20 / √	$56,832.00	No Trade	No Trade	$56,832.00	2009 Chevy	¾ Ton 2 Wheel Drive Extended Cab
BENNETT MOTOR	CC $5,337.00 / √	$56,368.00	$1,500	$1,500	$53,368.00	2009 GMC	Sahara 2500
BISON FORD	CC $5,375.96 / √	$53,759.62	$600	$600	$52,559.62	2009 Ford	F250 Super Duty

Agenda #____13____
Commission Meeting Date: March 17, 2009
CITY OF GREAT FALLS
COMMISSION AGENDA REPORT

Item: Appointments to the Advisory Commission on International Relationships

From: City Manager's Office

Initiated By: City Commission

Presented By: City Commission

Action Requested: Reappoint one member and appoint one new member to the Advisory Commission on International Relationships.

Suggested Motion:

1. Commissioner moves:

 "I move that the City Commission reappoint Robin Baker for a three-year term through March 31, 2012, and appoint __________ to a three-year term beginning April 1, 2009, and ending on March 31, 2012, to the Advisory Commission on International Relationships."

2. Mayor calls for a second, discussion, inquiries from the public, and calls the vote.

Staff Recommendation: It is recommended that the City Commission reappoint Robin Baker for a three-year term through March 31, 2012, and appoint one new member to the Advisory Commission on International Relationships (ACIR) for a three-year term beginning April 1, 2009, and ending on March 31, 2012.

Background: Robin Baker was appointed to the ACIR in March of 2006. Ms. Baker is eligible for and interested in reappointment. The ACIR also has three vacancies from members Vandana Damany, Aart Dolman and Laura McGee. As of this date, one application has been received. The City will continue to seek additional applications to fill the remaining vacancies.

<u>Purpose</u>
International programs are growing for many reasons. Rapid changes in communications technology, globalization of the marketplace, and political changes in the last decade have all contributed to an increasing awareness these trends will accelerate in the future. Communities, as well as individuals, businesses, and institutions will need to learn to participate in the "global village," or be left behind economically or in other ways. In order for the City to take a leadership role in nurturing and coordinating some of the international efforts, the Advisory

Commission on International Relationships was created by Ordinance 2788 on November 8, 2000, and amended by Ordinance 2863 on October 21, 2003. The Commission provides support, coordination, and exchange of information for international programs in the community. The Commission consists of nine to eleven members.

Evaluation and Selection Process

Announcements regarding the openings were placed in the *Great Falls Tribune* and on the City's Website. One application was received. This application is being submitted to the City Commission for their consideration in making an appointment.

Continuing members of this board are:

Christina Barksy
Jay Buckley
Carol Lindseth
Matthew Murray
Heather Palermo
Sandra Erickson

Citizens interested in serving on this Board:

Shannon Newth

Concurrences: Not applicable.

Fiscal Impact: Not applicable.

Alternatives: Continue advertising to seek further citizen interest.

Attachments/Exhibits:

Board Application

Agenda #____14____
Commission Meeting Date: March 17, 2009
CITY OF GREAT FALLS
COMMISSION AGENDA REPORT

Item: Appointment to the Native American Local Government Commission

From: City Manager's Office

Initiated By: City Commission

Presented By: City Commission

Action Requested: Appoint one member to the Native American Local Government Commission for a four-year term through August 1, 2013.

Suggested Motion:

1. Commissioner moves:

   "I move that the City Commission appoint ___________ to the Native American Local Government Commission to a four-year term through August 1, 2013."

2. Mayor calls for a second, discussion, inquiries from the public, and calls the vote.

Staff Recommendation: It is recommended that the City Commission appoint one member to the Native American Local Government Commission for a four-year term through August 1, 2013.

Background: Lawrence LaFountain was appointed to the Native American Local Government Commission in August of 2004. Mr. LaFountain's term expired in 2008; therefore, it is necessary to appoint one member to fill the vacancy.

Purpose
The Native American Local Government Commission was created by City Resolution 9220 and Cascade County Resolution 02-29 on March 19, 2002. The Commission was created to serve as a local "point-of-contact" for all local City and County government departments; to represent the Native American community at the City and County government meetings, functions and events; to advise City and County governments on Native American needs, issues, forums and planning; to assist and advise in the coordinated review of the status of the local Native American community; and to serve as a clearinghouse of information on grants, employment opportunities and economic development activities for dissemination to Native American communities.

The Commission is composed of the highest ranking Native American officer in the Great Falls Public Education system, Indian Heritage Association Director, and the Indian Family Clinic

Director) and four rotating members with staggered terms (1-4 years, 2 each appointed by the City and County commissions.)

Evaluation and Selection Process

Advertising was done in the *Great Falls Tribune* and on the City of Great Falls Website.

Continuing City-appointed members of this board are:

Henry Devereaux

Citizens interested in serving on this board:

Joella Bloomgren

Tonya Jorgensen

Concurrences: The Native American Local Government Commission recommends the appointment of Joella Bloomgren.

Fiscal Impact: Not applicable.

Alternatives: Advertise to seek other citizen interest.

Attachments/Exhibits: Applications
Letter of Recommendation