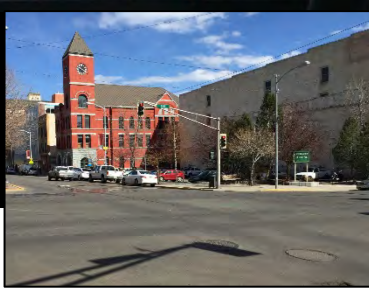
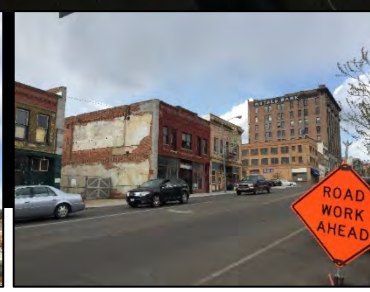
BUTTE-SILVER BOW
TRANSPORTATION PLAN – 2016 UPDATE





City and County of Butte-Silver ♦ Bow Montana Department of Transportation

FINAL

June 2017

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Butte-Silver Bow Transportation Plan – 2016 Update

Prepared for:

City and County of Butte-Silver Bow

Montana Department of Transportation

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Janet Lindh, Chairman, BSB Planning Board
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Butte-Silver Bow Citizen Groups and Organizations

The authors would like to extend a special thank you to Cassie Weightman of the Montana Independent Living Project and to all the citizens who shared their opinions and concerns with the planning team in an effort to produce the best transportation plan possible for their community.

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Acronyms

Acronym	Definition
AADT	Annual Average Daily Traffic
ADA	Americans with Disabilities Act
ADT	Average Daily Traffic
ATS	Abelin Traffic Services
BNSF	Burlington Northern Santa Fe
BSB	Butte-Silver Bow
BSW	Butte Sheltered Workshop
BTCC	Butte Transportation Coordinating Committee
CCCS	Community, Counseling and Correctional Services, Inc.
CEIC	Census and Economic Information Center
CMAQ	Congestion Mitigation and Air Quality Improvement Program
DLJ	DLJ Consulting, LLC
DOT	Department of Transportation
EMS	Emergency Medical Services
eREMI	Regional Economic Models, Inc.
FAST	Fixing America's Surface Transportation Act
FHWA	Federal Highway Administration
FLAP	Federal Lands Access Program
FTA	Federal Transit Administration
G.O.	general obligation (bond)
GIS	Geographic Information System
HCM	Highway Capital Manual
HCS	Highway Capacity Software
HPMS	Highway Performance Monitoring System
HSIP	Highway Safety Improvement Program
HSSRA	Highway State Special Revenue Account
IM	Interstate Maintenance
JARC	Job Access and Reverse Commute
LID	local improvement district
LOS	Level of Service
LRTP	Long-Range Transportation Plan
MACI	Montana Air and Congestion Initiative
MAP-21	Moving Ahead for Progress in the 21st Century Act
MCA	Montana Code Annotated
MDT	Montana Department of Transportation
MILP	Montana Independent Living Project
MPH	Miles per hour
MRFL	Montana Rail Freight Loan Program
MUTCD	Manual on Uniform Traffic Control Devices
MVE	Million Vehicles Entering intersection
NACTO	National Association of City Transportation Officials
NHFP	National Highway Freight Program
NHPB	National Highway System Bridge Program
NHPP	National Highway Performance Program
NHS	National Highway System
PILT	Payments in Lieu of Taxes
PM	particulate matter

Acronym	Definition
RID	Rural Improvement District
RMOE	Relative Margins of Error
RSID	Rural Special Improvement District
SID	Special Improvement District
SMS	Safety Management System
STBG	Surface Transportation Block Grant Program
STIP	State Transportation Improvement Program
STPE	State Transportation Program Enhancements
STP	Surface Transportation Program
STPB	STP Bridge Program
STPP	STP Primary Highway System
STPS	STP Secondary Highway System
STPU	STP Urban Highway System
STPX	STP Surface Transportation Program for Other Routes (Off-system)
TA	Transportation Alternatives Program
TAZ	Traffic Analysis Zone
TDM	Transportation Demand Model
TIF	Tax increment financing
TIFA	Transportation Infrastructure Finance and Innovation Act
TRB	Transportation Research Board
TSA	Transportation Security Administration
UPP	Urban Pavement Preservation Program
URA	Urban Revitalization Agency
USBC	Upper Silver Bow Creek
V/C	Volume-to-Capacity Ratio
VMT	Vehicle Miles Traveled
VPD	Vehicles per Day
VPH	Vehicles per hour
WET	Water & Environmental Technologies

1 INTRODUCTION

To provide a unified transportation vision that supports future growth in the Butte and Silver Bow County area, the City-County of Butte-Silver Bow (BSB) and the Montana Department of Transportation (MDT) partnered to update the existing Transportation Plan. Communities typically update their transportation plans when conditions in the planning area have significantly changed (following rapid growth for example) or a large portion of previously recommended projects have been completed. Historically, BSB Transportation Plans have been compiled and updated every 10 years; the last BSB Transportation Plan was completed in 2005 (*2005 Plan Update*). These plans help identify funding priorities for near and long-term transportation infrastructure investments in the community based on current and projected needs.

This 2016 update to the Transportation Plan (*2016 Plan Update*) is intended to offer guidance to support future growth in the BSB area. Long-range transportation planning in an urban area typically involves the following elements:

- Interpretation of current development trends in the surrounding area.
- Prediction of future trends to identify projected transportation needs.
- Assessment of the existing transportation network and services available to satisfy those identified transportation needs.
- Meaningful input from the public—the transportation system user.
- Identification and prioritization of the most reasonable solutions to address current and future transportation needs.

This 2016 Plan Update includes an analysis of the existing traffic operations, road networks, transit services, non-motorized transportation systems, and other transportation systems within the BSB area. It also examines current socioeconomic conditions and projected trends, identifies needed improvements to the transportation system, provides an alternatives analysis, and offers recommendations in the form of improvement projects geared to address the communities' evolving transportation needs. Implementing elements of this 2016 Plan Update will help relieve existing problems, meet future needs, and sustain an integrated and efficient transportation system for the area.

1.1 Project Background

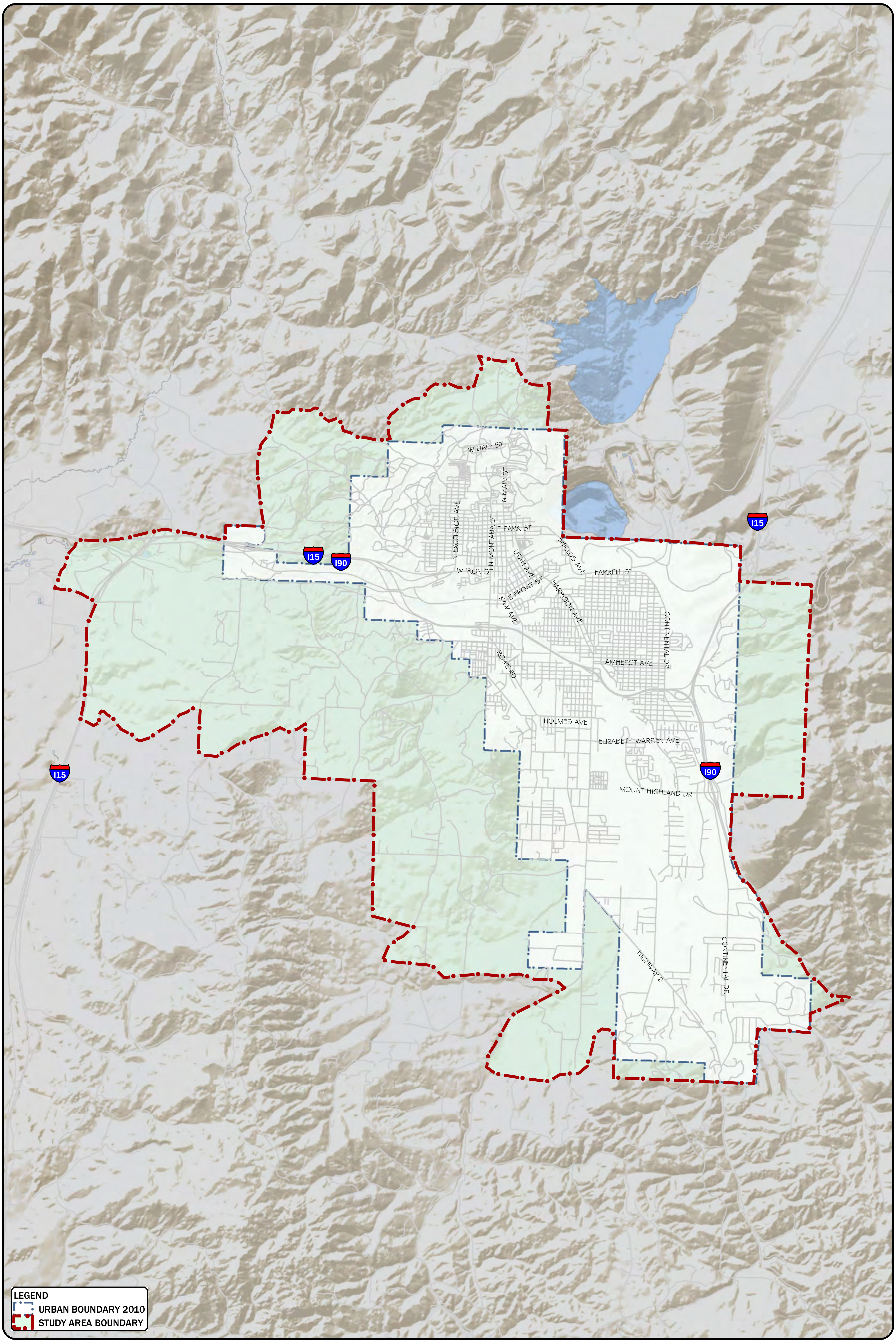
The first long-range transportation planning document developed for the Butte area was compiled in 1970. It was subsequently updated in 1986, 1996, and 2005. Many short- and long-term traffic improvements recommended in these earlier documents were implemented. This 2016 Plan Update continues the process of addressing the changing transportation needs of the BSB area.

In 2015 and 2016, Pioneer Technical Services, Inc. (Pioneer) teamed with Abelin Traffic Services, Inc. (ATS) and DLJ Consulting, LLC (DLJ) to develop this 2016 Plan Update for the BSB Planning Department, in cooperation with the MDT (collectively referred to as the Team).

1.2 Study Area

As part of the update process, the Team evaluated the 2005 Plan Update's study area boundary. The evaluation took into consideration any anticipated land changes (for the 20-year planning period), jurisdiction areas of local government agencies, areas referenced in recent studies prepared for BSB, and other factors anticipated to have an effect on the transportation study. The evaluation results necessitated minor changes to expand the study area boundary to include the most recent Butte Urban Boundary. Changes to the Butte Urban Boundary were adopted in 2013 because of the 2010 Census information and the associated review and recommended adjustments provided by the BSB Planning and Public Works Departments.

The new study area extended from west of the Rocker interchange to east of the I-15 and I-90 interchanges east of Butte. The north boundary is north of Walkerville and the south boundary is south of the Butte Bert Mooney Airport. The 2016 study area encompassed the entire 2005 Plan Update area (which was enlarged to include sections along Little Basin Creek Road, Beef Trail Road, Moulton Road, and Bull Run Road). Figure 1-1 shows information on the 2005 and modified 2016 study area boundary.



2016 TRANSPORTATION PLAN UPDATE

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DISPLAYED AS:
PROJECTION/ZONE: MSP
DATUM: NAD 83
UNITS: INTN'L FEET
SOURCE: PIONEER/MDT/BSB

0 0.625 1.25 2.5
Miles

FIGURE 1-1

STUDY AREA BOUNDARY

PIONEER TECHNICAL SERVICES, INC.

DATE: 1/18/2017

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1.3 Status of Prior Report Recommendations

The 2005 Plan Update recommended improvements to the transportation system and included projects categorized as follows:

- Committed Projects: Projects identified as those that were receiving or had allocated funding.
- Recommendations to Committed Projects: Recommendations pertaining to the Roadway Network.
- Proposed Corridor Projects: Projects that either created a new or improved an existing corridor. Projects were prioritized based on meeting future growth demands, public comments, and emergency service needs.
- Proposed Site Projects: Projects that focused on level of service deficiencies, capacity issues, and/or safety concerns.
- Signals – Warrant Studies
- Speed Studies
- Transit System Improvements
- Non-Motorized System Improvements
- Other Transportation Systems

Table 1-1 lists the projects recommended in the 2005 Plan Update, by category, and their status.

Table 1-1
2005 Plan Update
Project Status

Project Number	Description	Status
	Committed Projects	
CM1	Dewey Blvd. Extension	**Not Completed** - not included herein for further consideration
CM2	Realignment of Grand Ave. at Harrison Ave.	**Completed or Initiated**
CM3	Harrison Ave. Reconstruction - Amherst Ave. to Front St.	**Completed or Initiated**
CM4	Butte Interstate Traffic Study	**Completed or Initiated**
CM5	Daly St. Engineering Study - UPP 1801(10)	**Completed or Initiated**
CM6	2003 - Variable Message Signs - Butte East	**Completed or Initiated**
CM7	Upgrade Sprinkler Sys. at Harrison Ave. at I-90/I-15 Interchange - IM 15-2 (86) 128	**Completed or Initiated**
CM8	Holmes-Harrison to Rowe (mill & overlay) - SFCU 1820 (1)	**Completed or Initiated**
CM9	1999 Signal Upgrade - CM 1899 (13)	**Completed or Initiated**
CM10	2002 Turn Bays - STPHS 1805 (15)	**Completed or Initiated**
CM11	Junction MT Highway 2 - SW (mill and Overlay) - STPS 393-1 (6) 0	**Completed or Initiated**
CM12	Realignment of Elizabeth Warren at Harrison Ave. - STPP 29-4 (27) 85	**Completed or Initiated**
CM13	2002 - Kaw Ave. Signal (at Dewey Blvd.) - HSIP 1821 (3)	**Completed or Initiated**
CM14	Bridge Skid Treatment - STPHS 15-2 (89) 124	**Completed or Initiated**
CM15	2001 - Signal at Front St. and Main St. - HSIP 1806 (4)	**Completed or Initiated**
CM16	Butte Area Structures - ARRA 15-2 (81) 125	**Completed or Initiated**
CM17	2002 - Sign/Guardrail - HSIP 29-3 (3) 72	**Completed or Initiated**
CM18	Butte High School Parking Improvements	**Completed or Initiated**
CM19	Hillcrest Elementary Parking and Drop Off Improvements	**Completed or Initiated**
	Recommendations to Committed Projects	
RCM1	Harrison Ave./ Amherst Ave. Intersection Imp. w/ Accident Study (Recommendation for Harrison-Amherst/ Front)	**Completed or Initiated**
RCM2	Recommendations for Harrison Ave. (Recommendation for Harrison-Amherst/ Front)	**Completed or Initiated**
RCM3	Warrant Study - Add Signal Harrison Ave. & Ottawa St./C St. (Recommendation for Harrison-Amherst/ Front)	**Completed or Initiated**
RCM4	Railroad Crossing Improvements - Dewey Blvd. (Recommendation for the Dewey Blvd. Extension Project)	**Not Completed** - not included herein for further consideration
RCM5	Intersection Improvements - Front St. & Main St./ Kaw Ave. w/ Accident Study (Recommendation for the 2001-Signal-Front/Main)	**Completed or Initiated**
RCM6	Interstate Collaboration	**Completed or Initiated**
	Proposed Corridor Projects	
COR1	Hansen Loop Rd. Construction/ Hansen Rd. Widening	**Not Completed** - modified and included herein as **F-2**
COR2	Mercury St. Heritage Loop	**Partially Completed** - included herein as **B-8**
COR3	Iron St. Access to Montana Tech	**Not Completed** - See **Sections 5.8.5** and **6.2.6** herein
COR4	Saddle Rock Road Connector	**Not Completed** - not modified herein
COR5	Connector from Harrison Ave. to Continental Dr. North of Highway 2	**Not Completed** - not modified herein
COR6	Bluebird Trail Improvements	**Not Completed** - not modified herein
COR7	Our Lady of the Rockies - Tram Rd. w/ interstate Access	**Not Completed** - not modified herein
COR8	Improvements to Beef Trail Rd., Little Basin Creek Rd., and Oro Fino Gulch Rd.	**Completed or Initiated**
	Proposed Site Improvement Projects	
S1	Intersection Improvements - Beef Trail & Little Basin Creek	**Completed or Initiated**
S2	Improvements to Harrison Ave. at I-90/ 15 Eastbound Off-Ramp w/ Accident Study	**Not Completed** - not included herein for further consideration
S3	Texas Ave. Realignment w/ Accident Study, w/ Signal Warrant review	**Not Completed** - included herein as **B-2**
S4	Busch Ave. Improvements w/ Accident Study	**Not Completed** - not included herein for further consideration
S5	Arizona St. Improvements at Curtis St. w/ Accident Study	**Completed or Initiated**
S6	Intersection Improvements - South Butte	**Partially Completed**
S7	Intersection Improvements - Massachusetts, Florence, Ottawa	**Completed or Initiated**
S8	Walkerville Dr. & 16th Ave. - East Side Guardrail Construction	**Not Completed** - not modified herein
S9	Montana St. & Idaho St. - Guardrail Construction	**Not Completed** - not modified herein
S10	Main and Buffalo Intersection Improvements Runaway Vehicle Ramp Option	**Completed or Initiated**
S11	Upgrade Truck Route Corner Radii Study	**Not Completed** - not modified herein
S12	Reduction of Site Distance Problems due to obstacles	**Completed or Initiated**
S13	Wyoming Ave./ Arizona St. Connector	**Not Completed** - not included herein for further consideration
S14	Center Turn Lane on Montana St. from Front to Second St.	**Not Completed** - included herein as **C-4**
S15	Slope Improvement on Sunset Rd. over Sand Creek by the Montessori School	**Not Completed** - not modified herein
S16	Shoe String Annie - Sight Distance	**Not Completed** - not included herein for further consideration
S17	Rocker East Bound Weigh Station	**Completed or Initiated**

1.4 Prior Planning Studies

While compiling this 2016 Plan Update, the authors reviewed and incorporated relevant information from the following past plans and related studies:

- BSB Growth Policy – 2008 Update.
- BSB Community Transportation Safety Plan.
- BSB Road Master Plan.
- Butte Five-Year Transit Development Plan Update.
- Butte Uptown Urban Renewal Plan.
- Central Butte Area Plan.
- Greeley Area Plan.
- BSB County Comprehensive Historic Preservation Plan.
- West Park Street Corridor Plan.
- Montana Tech Master Plan 2010.
- Bert Mooney Airport Sustainability Plan.
- School Bus Routes.
- Postal Routes.
- Fire District Maps.
- MDT Statewide Transportation Improvement Program Documents.
- Local Planning Documents.
- U.S. Census Bureau data.
- City building permits, county location and conformance permits, and utility records.
- Socioeconomic data and projections complied by the Planning Board, Montana Department of Commerce, and/or University of Montana.

2 Outreach and Public Involvement

2.1 Public Involvement Overview

To compile the 2016 Plan Update, the Team gathered and analyzed information from existing reports and solicited public input. Public interaction and participation occurred through various media:

- Public meetings/workshops.
- Presentations to civic organizations.
- Meetings with local government boards and committees.
- Media outreach.
- Transportation plan web page and fully interactive issue-reporting map.

2.1.1 Presentations/Open House/Public Hearings

The Team worked together to bring the planning process to the public and interested groups. The following is a chronological list of the presentations, open houses, and public hearings that were held during the process:

- October 30, 2015: Planning Board Briefing and Discussion.
- February 19, 2016: Stakeholder Meeting at the Butte Archives.
- March 1, 2016: Planning Department Growth Discussion.
- April 18, 2016: Scoping/Issues Identification Public Workshop at the Butte Archives.
- June 8, 2016: Planning Department Projected Growth Areas Discussion.
- June 23, 2016: Launch of Fully Interactive Issue-Reporting Map.
- September 28, 2016: Update for BSB Department Heads.
- October 20, 2016: Presentation to the Butte Rotary Club.
- December 15, 2016: Presentation to BSB and MDT.
- March 22, 2017: Public Release of Draft Report.
- April-May 2017: Public Display of Major Projects at the Courthouse.
- April 27, 2017: Stakeholder/Focus Group at the Butte Brewing Company.
- May 4, 2017: Public Hearing, Planning Board, Courthouse.
- May 11, 2017: Presentation to Butte Transportation Coordinating Committee (BTCC).
- May 17, 2017: Public Hearing, Council of Commissioners.

2.1.2 Public Meetings/Workshops

The Team conducted three meetings/workshops during the course of the planning process:

(1) First Stakeholder Meeting

The Team facilitated a stakeholder meeting at the Butte Archives in Uptown Butte on February 19, 2016. The meeting was to engage community leaders and develop the scope of the analysis and framework for the remaining public engagement efforts. Of the approximately 35 individuals invited to attend this initial meeting, 8 participated in the discussion. These individuals represented city, county, transit, and local business interests. Participants noted the following:

Recent and Planned Improvements:

- Pleased with how Harrison Avenue has turned out. Would like to see something done about people using parking sections of the street for turn lanes. Education is a way to get people using the road correctly.
- Agree with the angle parking uptown but believe that reverse angle parking is the best alternative for the angle parking when dealing with the bike lanes and traffic on the street. Some of the money of these projects was supposed to be used for education of the public. Also need to focus on near misses when producing the traffic study.
- Hanson Road Truck Route is still a priority to BSB and should be analyzed as part of this update.
- For the Rocker interchange, BSB had stated that it is set to be bid in 2017 (as of now). They were planning on placing two roundabouts: one on the north section and one on the south section. The plan now is to remove the scale on the east-bound exit and put one roundabout on the south section. Also, portable scales will have to be installed on I-15 and I-90.

Transit:

- Although the traffic on Harrison Avenue has become better, it is still difficult for the transit to get around their routes in 30 minutes on Fridays.
- The BSB transit uses Granite Street to get into Montana Tech instead of Park Street.

Bike and Pedestrian:

- The public does not feel safe on the trail that parallels Continental Drive. There are no barriers between Continental Drive and the trail. The Saddle Rock trail has never been updated. MDT does have a grant for a trail up higher on the East Ridge.
- Is there a large group that wanted the bike lanes or was it a vocal minority? There is quite a large group for the bike lanes but he did not have an exact number.
- Bike routes should be looked at for use but if a new bike route has been constructed, people must be given time to use the route before the study is conducted.

Safety and Roadway Geometry:

- Concern with the narrow right turn lane onto Amherst Avenue from Harrison Avenue.
- Concern about near misses with traffic reversing out of angle parking on Granite St.

Growth and Congestion Areas:

- Texas Avenue can be congested and could be looked into. Incidentally, a number of deer frequent this area.
- Meadowlark and Harrison should be analyzed with the newer commercial activity.
- Grand and Continental should be analyzed with the new and projected residential developments in the area. Utilities have already been extended.
- Elizabeth Warren and Continental need to be analyzed with new and proposed residential developments.
- Area around the Original Mine Yard should be analyzed based on current and projected use as a venue for major events.
- Need to talk with distributers about existing truck routes, especially the ones located in or delivering to Uptown Butte.
- Montana Tech access should be analyzed.

(2) Scoping/Issues Identification Workshop

The second meeting/workshop was held at the Butte Archives in Uptown Butte on April 18, 2016. This public meeting explained to participants the purpose of the 2016 Plan Update, and how their input–in conjunction with current and projected needs–would help identify funding priorities for near- and long-term transportation infrastructure investments in the community.

The Team explained that hearing first-hand accounts of safety and operational concerns was important to the ongoing data collection efforts; equally as important as gathering existing roadway and intersection geometrics, pavement conditions, traffic and accident data, congestion and travel time analyses, planned and previously-approved projects, and socioeconomic data and trends.

The meeting started with a formal presentation and explanation of the overall transportation planning process and then transitioned into a workshop phase where participants were asked to identify transportation issues throughout the community on a series of large-scale maps. This interactive workshop allowed participants to provide detailed input directly to Team members as they marked the comments directly on the maps.

(3) Second Stakeholder Meeting

To verify that the Team had captured the full range of transportation goals and project priorities, a second stakeholder meeting was held at the Butte Brewing Company on April 27, 2017. Over 50 individuals received personal invitations to the meeting.

The meeting consisted of a presentation that summarized the information received and projects identified in response to issues, concerns, and priorities generated through analysis and public input.

2.1.3 Civic Organization Meeting

In addition to the public meetings/workshops, the Team offered to attend regular civic group meetings to provide updates on the 2016 Plan Update. Of 6 invitations extended, only the Butte Rotary Club accepted the offer. On October 20, 2016, the Team presented information to approximately 12 Rotarians who echoed much of the previous input.

2.1.4 Presentations to Planning Department and Transportation Committee

The Team presented information to the BSB Planning Department at critical points in the planning process. On October 30, 2015, the Team discussed the transportation planning process and solicited comments and suggestions from department staff.

On March 1 and June 8, 2016, the Team discussed future growth projections with Planning and County officials. These discussions centered on the estimated long-term potential growth for the community and the anticipated distribution of that growth within the study area. This information was used to support a more accurate model of BSB's future traffic operations.

On September 28, 2016, the Team met with then Chief Executive Matt Vincent, MDT, Planning, and interested BSB department heads to update those in attendance on information to date regarding socio economic data, traffic counts and accident data, and public input received.

On December 15, 2016, the Team made a presentation to BSB department heads and MDT, highlighting the recommendations of the draft report. A request for comments was made at this time.

On May 11, 2017, the Team presented the report to the BTCC.

2.1.5 Transportation Plan Web Page and Issue-Reporting Map

Working with BSB, the Team coordinated a web page on the official BSB website dedicated to the 2016 Plan Update and process (Figure 2-1). Individuals interested in learning about the update were able to submit a public comment form, access an interactive map to leave detailed comments, and obtain up-to-date information on issues identified by others. The interactive map allowed the public to leave location-specific comments, review the map, and view prior comments/feedback by clicking select icons. The web page encouraged users to provide feedback through easy-to-recognize icons, such as automobile, pedestrian, etc., and areas where they could enter location-specific comments on the map regarding such things as specific intersection operation issues or speed issues on particular routes. Participants could also enter their name, phone number, and email address if they wished to receive follow-up questions.

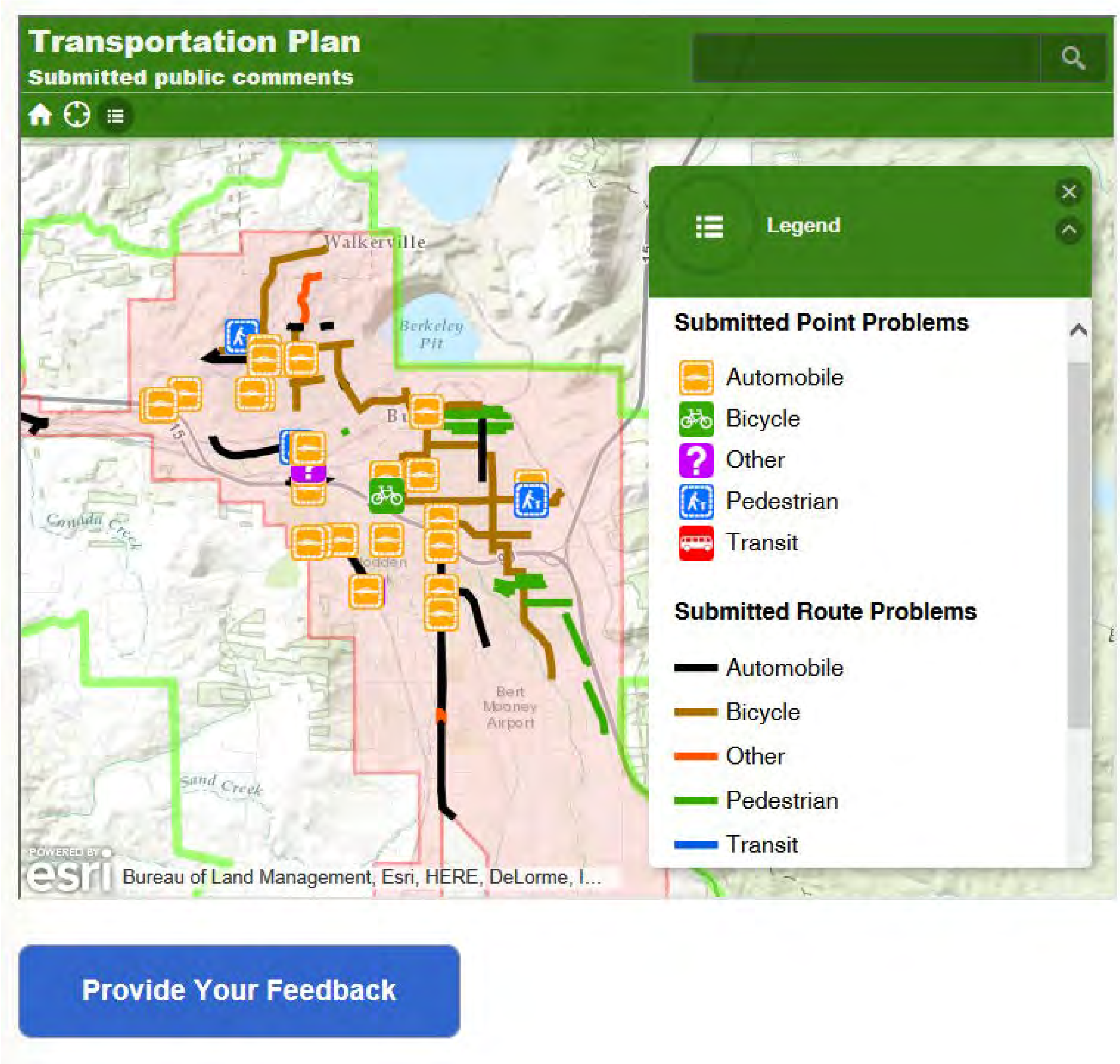


Figure 2-1. Interactive Web Page

The website received nearly 600 visits between May and September, and visitors posted over 100 individual comments on the interactive map. The online comments, along with those received during public workshops, are summarized in the next section. Appendix A contains the web page feedback.

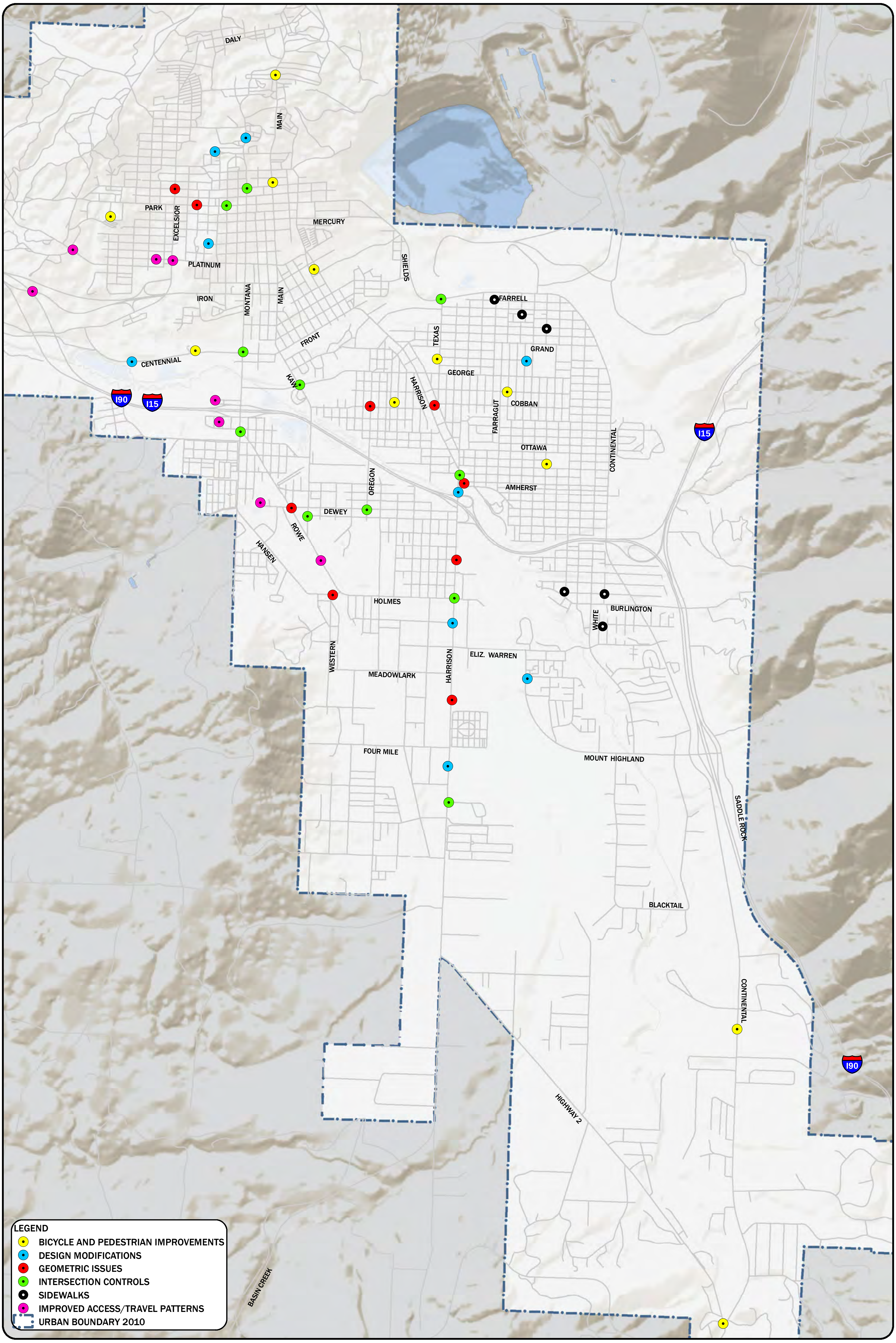
2.2 Public Comment Summary

2.2.1 Prior to Draft Release

Public comments ranged from specific design modifications to improve safety and traffic flows, to a desire for bicycle and pedestrian facility improvements (see Figure 2-2). Primary comments included the following:

Bicycle and Pedestrian Improvements

- Create a protected bike lane with improved curbs, gutters, sidewalks, and pavement markings to improve neighborhood transportation options.
- Create a protected bike lane along Arizona to connect uptown to the residential area servicing both Butte High School and the Park.
- Create a protected bike lane with improved curbs, gutters, sidewalks, and pavement markings to connect Clark Park and East Middle School neighborhoods.
- Create a protected bike lane with improved curbs, gutters, sidewalks, and pavement markings to connect C Street Park to Harrison Avenue Commercial, Whittier Elementary, and Continental.
- Create a protected bike lane with improved curbs, gutters, sidewalks, and pavement markings to connect Whittier Elementary to East Middle and improve neighborhood transportation options.
- Create a protected bike lane with improved curbs, gutters, sidewalks, and pavement markings to connect Continental Drive with Clark Park, Harrison Avenue Commercial, and C Street Park.
- Create a protected bike lane along Washington to service neighborhoods, Montana Tech, and St. James Hospital area.
- Create a protected bike lane along Granite to serve as an alternative transportation option connecting Montana Tech and uptown.
- Create a protected bike lane to connect Walkerville to Montana Tech.
- Create a protected bike lane with improved curbs, gutters, sidewalks, and pavement markings to connect Harrison Elementary (Emerson Elementary) to Harrison Avenue Commercial and improve neighborhood transportation options.
- Create a protected bike lane with improved curbs, gutters, sidewalks, and pavement markings to connect Silver Bow Park Neighborhood with a proposed 2nd Street protected bike lane to provide access for residents to uptown and Butte High School.
- Better/safer pedestrian access along Front to Community Health is needed.



2016 TRANSPORTATION PLAN UPDATE

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DISPLAYED AS:
PROJECTION/ZONE: MSP
DATUM: NAD 83
UNITS: INTN'L FEET
SOURCE: PIONEER/MDT/BSB

0 0.3 0.6 1.2
Miles

FIGURE 2-2

PUBLIC COMMENT OVERVIEW

PIONEER TECHNICAL SERVICES, INC.
DATE: 1/18/2017

Path: P:\Butte-Silver Bow\2015\BSB 2015 Transportation Plan Update\GIS\Project\TransPlan2016\BSB_Trans2016_PublicComm_16.mxd

- High traffic and pedestrian density at the intersection of Ottawa and Continental seems to warrant a lighted intersection.
- The bike symbols look terrible. Get rid of them or make them at least align with each other.
- Need trail connectivity to Thompson Park.

Design Modifications

- Remove the concrete medians from Amherst to Highway 2 on Harrison Avenue and install a center turning lane.
- Get rid of concrete center in Harrison and make it a turning lane like the upper part of Harrison. It is a pain to turn into businesses.
- Remove concrete medians to provide better access to businesses.
- Rebuild Centennial Avenue to spur economic development opportunities and promote infill. Create three-lane road (one each direction and one turn lane) to match work completed on West Front Street.
- Rebuild Montana Street with pedestrian friendly sidewalks, bike lanes and curbs to match Main Street to improve connectivity and safety.
- Rebuild Woolman from Montana to Jackson to create better traffic pattern, with sidewalks and bike lanes for connectivity.
- Improve Woolman Street with sidewalks, curbs, gutters and new pavement markings.
- Re-align Mt. Highland Drive and connect to Holmes Avenue to create a better flow for traffic and access for neighborhoods and businesses.
- Reconstruct Porphyry Street to meet the same design at the St. James Health campus with a boulevard in the middle, wide sidewalks and protected bike lane. This will connect two anchor institutions.
- Reconstruct Stuart Avenue with new curbs, sidewalks, gutters and pavement markings.
- Reconstruct Grizzly Trail with new curbs, gutters, sidewalks and pavement markings to help increase economic development in Rocker.

Geometric Issues

- It is difficult to see cross traffic on Excel.
- Tight curb radius and vehicles trying to turn left across traffic into gas station, Papa Murphy's, and Quiznos.
- Dewey Blvd and Rowe.
- Tight radius on Oregon and Cobban. Sewer manholes are deeper than road leaving large "holes" on Oregon Street.
- Improve intersection at Western and Holmes. Intersection is very wide and confusing and has bad field of view looking west from Western.
- Add left turn signal for southbound traffic on Harrison to turn left on Cobban for Taco Johns.

- Lane widths are a problem.
- Many intersections are blind pulling onto Park Street and Harrison Avenue. Maybe some mirrors to see oncoming traffic would help people pull out safely when parked cars are blocking their view. Angled mirrors seem to do the trick in Boise ID.

Intersection Controls

- Please get rid of the stop light at the intersection of West Park Street and S. Washington Street.
- Signal on South Montana south of the interstate creates odd and undesirable traffic maneuvers.
- Visitor traffic existing KOA campground and heading south on Montana has difficult traffic movement (westbound to southbound).
- Traffic signals poorly timed.
- 4-way stop is a problem at West Platinum Street and South Excelsior Avenue.
- Need a light signal to turn left to Centennial (from south Montana Street).
- Poor traffic flow through Amherst intersection. Traffic gets backed up in all directions, especially the northbound. Light takes forever to move traffic. Should have dedicated turn lanes with arrows to speed up traffic flow.
- Difficult to cross Rowe Rd on Dewey during certain times of the day. Should have a light to allow traffic to flow east/west on Dewey across Rowe Rd.
- Install traffic light at Texas and Continental (Shields Avenue/Farrell Street) to allow better traffic flow.
- Install a left turn signal for northbound traffic turning west on Cobban.
- Install left turn arrow for southbound traffic turning east on to White Blvd.
- Need Roundabouts at Holmes/Harrison/White, Josette/Rowe/Montana, Dewey/Rowe, and Harrison/Airport.
- The area between Hill Avenue and Oregon on Dewey is cumbersome. It is difficult to get onto Dewey from Oregon but it does not seem like there is as much traffic at the 4-way at Hill. Would it be possible to see if the 4-way at hill could be moved to Oregon?
- Stop light at Granite and Montana Street should be flashing yellow after 6 PM when heading north or south on Montana Street.

Sidewalks

- Build new sidewalks with Americans with Disabilities Act (ADA) ramps along Elm Street to promote walkability.
- Build new sidewalks with ADA ramps along Locust Street to promote walkability.
- Build new sidewalks with ADA ramps along Walnut Street to promote walkability.
- Build new sidewalks with ADA ramps along Pine Street to promote walkability.

- Build new sidewalks with ADA ramps along Lake Street (N. Lake Drive) to promote walkability.
- Build new sidewalks with ADA ramps along White Blvd. to promote walkability.
- Build new sidewalks with ADA ramps along Quincy Street to promote walkability.
- Build new sidewalks with ADA ramps along Keokuk Street to promote walkability.

Improved Access/Travel Patterns

- Need better access to Montana Tech from the interstate.
- Make better access to Montana Tech.
- Traffic is a nightmare with the construction work. In the future, the campus needs to improve access to the student parking.
- Make the 1000 Block of West Platinum Street a school zone because the 1000 block of West Steel Street is a one-way school drop off zone and many of the students and most of the busses have no other option for dropping students off.
- Designate 1000 block of West Platinum as school zone because Steele Street by West Elementary is a one way.
- Traffic calming measures needed. It experiences heavy traffic and excessive speeding. The location is unique compared to other residential areas on the West side - it is a back door into MT Tech and a collector street for the neighborhood (West Platinum).
- A radar speed sign to reduce speeding due to traffic during the school year (West Platinum).
- Continue Dewey to South Montana Street to allow better traffic flow.
- Make Dewey a thru street to Montana. This would help with traffic congestion on Rowe Rd.
- Extend the Dewey Avenue to Montana Street to allow better flow from Beef Trail and South Montana to downtown Butte.
- Make a complete exit at the city center exit. Allow traffic to enter the interstate and go east and allow westbound interstate traffic to exit onto city center.
- Close access to Desmet Street making road for on-ramp only.
- Close access to La Salle Street to protect I-90 on ramp.
- Cul-de-sac La Salle Street to make off-ramp only from I-90.
- Cul-de-sac Idaho Street to protect off-ramp traffic from I-90.
- Cul-de-sac Placer Street to protect on-ramp traffic from I-90.
- Need to review unrestricted flow pattern from highway.
- Rowe Rd to Holmes Avenue should be 35 miles per hour (MPH) the whole distance. Slowing to 25 MPH hour on Rowe Rd is not necessary.

2.2.2 Comments on the Draft Release

Significant discussions at the second stakeholder meeting and subsequent public hearings centered on road modifications proposed within the 2010 Montana Tech Master Plan (Montana Tech, 2010), recent Draft Facilities Master Plan (Paulien & Associates, 2017), and the potential impacts to the related sections of Platinum Street and Steel Street (see Section 6.2.6). Several residents voiced concern regarding existing traffic volumes and excessive vehicular speed particularly around West Elementary School. Based on public comments, additional language was added to this 2016 Plan Update to further illustrate that traffic volumes and patterns along West Platinum should be addressed with any proposed road network modifications and appropriate traffic calming measures should be considered to address any existing or project traffic concerns. Additionally, the BSB Planning Board stated that using Steel Street to create an alternative access to the southern part of the campus was not desirable and should be excluded from any road modifications.

3 SOCIOECONOMIC CONDITIONS

3.1 Introduction

Population forecasting is an important element of transportation planning. The population and socioeconomic trends within a community directly relate to current and future transportation demands. This chapter contains information about historic, current, and future demographic trends that are used to develop long-range travel forecasts for a community. Ultimately, these forecasts are used to determine where road networks need to be improved or expanded to service local travel needs. The process for relating population changes to future travel demand is discussed in Section 5.

In the late 1800s as the Butte and Silver Bow area fed the nation's growing appetite for copper and the country became electrified, the local population in Butte grew from around 24,000 in 1890 to a high of over 60,000 in the early 1920s. Mining operations tapered off over the next 70 years, as did the population of Silver Bow County. By 1990, the population had dropped to just under 34,000 residents.

From 1990 to 2015, the area experienced moderate population shifts between 34,400 and 35,500 residents. This 25-year period of stability marked the end of 7 decades of continuous population decline and the beginning of new and more stable trends.

The 1990s also signaled the beginning of a new trend for employment within Silver Bow County and the beginning of 25 years of growth in the number of jobs held within the County. Even as some industries continued to see declines, overall employment levels rose due to steadier growth in base industries.

Overall, the population within the Butte urban area is physically relocating and employment is being redistributed to new industries, and Silver Bow County is expected to see continued growth. Forecasts within the population section of this 2016 Plan Update point to an average annual growth of 0.3% annually, but this is a modest expectation. Silver Bow County should expect modest annual growth in the next 10-20 years.

3.2 Population

3.2.1 General Trends

In 1890, before the beginning of the dramatic population growth within Silver Bow County at the beginning of the twentieth century, the population was a modest 23,744. Over the course of the next 3 decades, the population of the County would more than double, bringing the population to 60,313. This dramatic growth was due almost exclusively to the successful mining operations in the area. As mining operations plateaued and began to decline, so too did the population. The County's population began a continuous fall in the 1920s that would last the next 7 decades. During this period, 5 decades saw a population reduction of 3,750 individuals or more. The result was a decrease of the population to 33,941 individuals by 1990, representing a near halving of the population. However, growth began in 1990 signaling an end to this long-term trend (Figure 3-1).

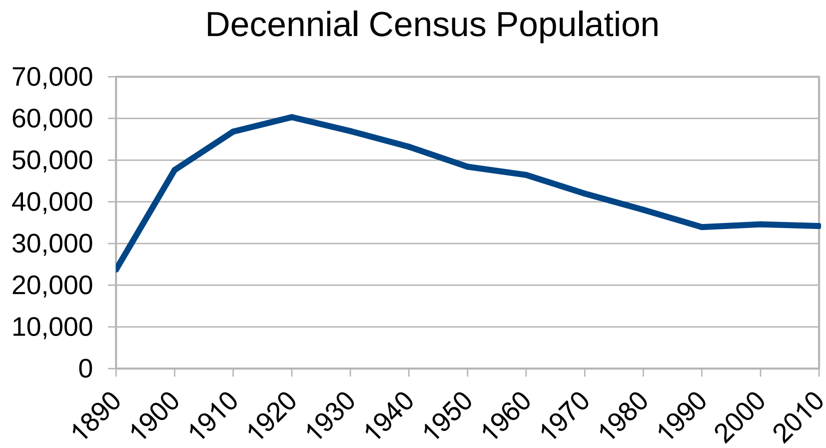


Figure 3-1. Census Population Chart Showing Population over the Decades

The 1991 population estimate of 34,140 represented a modest growth of 0.6% from 1990. Similar annual growth rates were estimated through 1998, resulting in an estimated growth of 1,277 individuals from 1990 to 1998, bringing the population estimate to 35,218 for Silver Bow County. This growth period was partially nullified by population reductions from 1999 to 2001, with modest annual decreases into 2005.

Again, this short period of decline reversed in the mid-2000s. From 2005 until 2014, the County experienced continuous growth. This trend is the opposite of what was suggested by the Census results for 2000 and 2010. In the 2000 Census the population was 34,606 and in 2010 it was 34,200, representing a modest population loss of 1.2%. However, the annual population trends from 2005 to 2014 show an estimated growth of 3.6% over this 10-year period from 33,414 to 34,730. This most-recent growth illustrates the accuracy of the previous 2005 Plan Update’s expectations of growth from 2004 forward. However, from 2014 to 2015, estimates indicate a slight decline of 0.3%, suggesting that the rate of growth from 2005 to 2014 may be slowing (Figure 3-2).

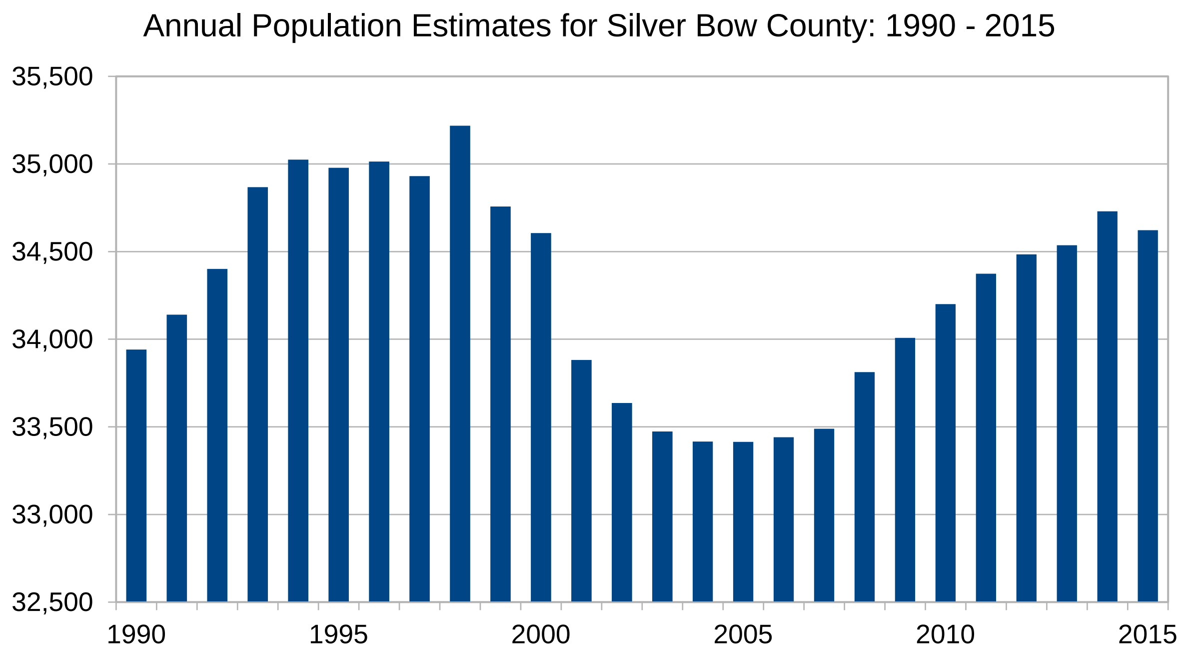


Figure 3-2. Population Estimates for Silver Bow County through Current Decades

As illustrated in Figure 3-2, the overall population of Silver Bow County has been highly variable over the last two decades or more. Given the change from the long-term trends of decline before 1990, there is reason to expect that the population of Silver Bow County will continue to experience variable growth into the future with an overall trend of modest growth.

3.2.2 Population Redistribution

Silver Bow County covers an area of 718 square miles and includes 47.6 people per square mile as of the 2010 Census. Roughly 89% of the County's population (30,287) live within urban areas in the County. This distribution is roughly equivalent to the distribution of the population in 2000 when 88% (30,615) of the population lived in urban areas and 12% (3,991) lived within rural areas (Figure 3-3).

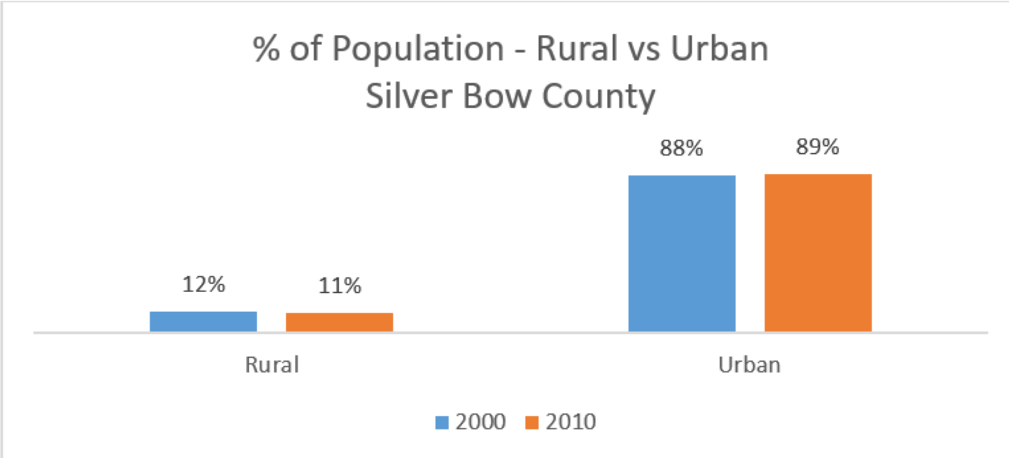


Figure 3-3. Rural vs. Urban Population Growth

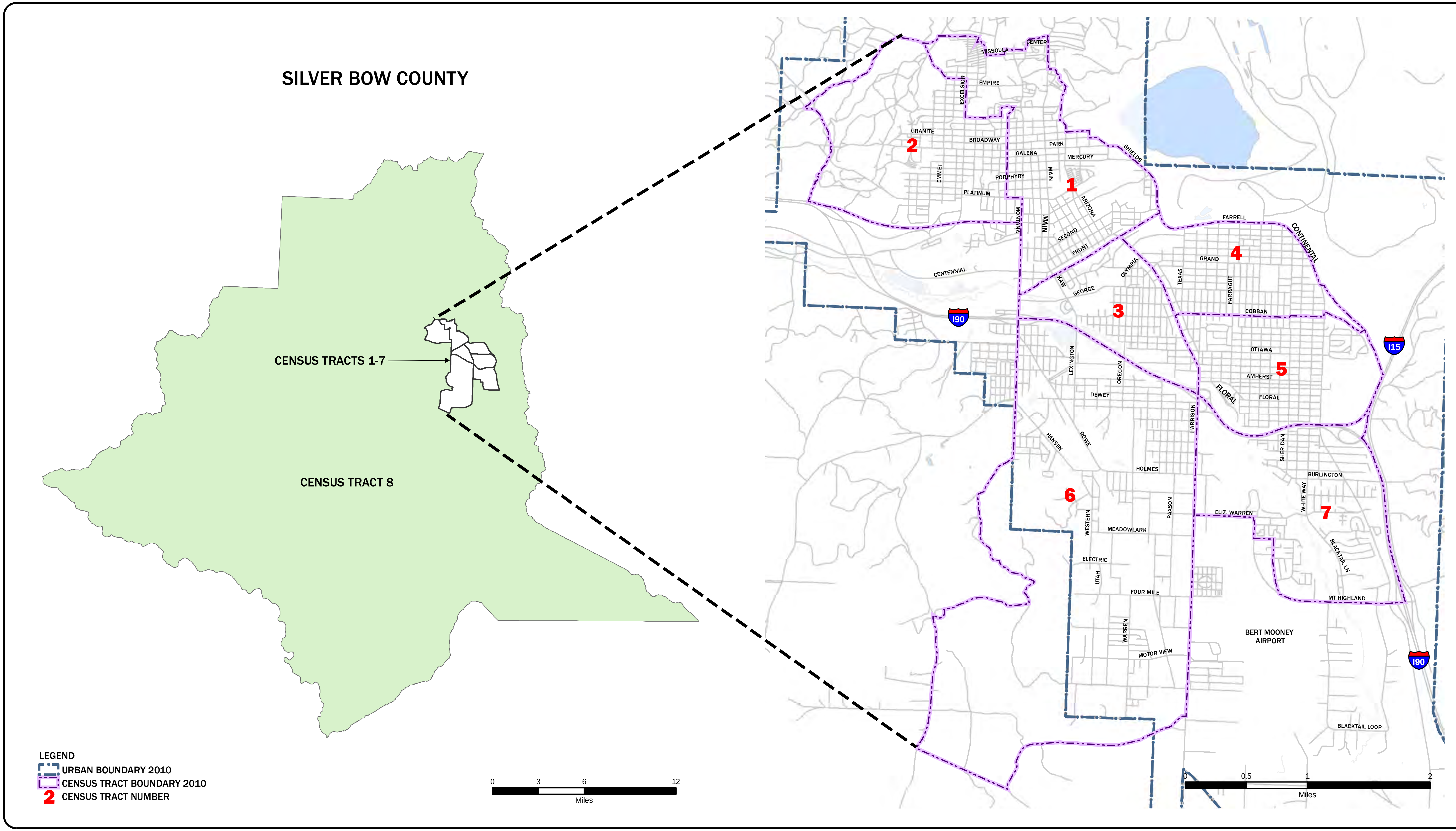
Along with the modest population growth trend over the last decade, the Butte urban area has experienced a redistribution of the area's population. The US Census Bureau uses tracts to divide counties into meaningful subdivisions. For Silver Bow County, there are 8 Census tracts. Tracts 1-7 are within the Butte urban area while tract 8 is the balance of Silver Bow County (Figure 3-4). As was noted in the previous 2005 Plan Update, Tracts 1-5 represent the majority of the Butte urban area north of the interstate 15 and 90 corridor, and this area saw a significant decline in population from 1990 to 2000. This decline continued into 2010.

Tracts 1-5 saw a 4.2% decline in population, representing a loss of 891 individuals from 2000 to 2010. This drop was most pronounced in Tracts 1 and 5 (-6.0% and -5.0%, respectively). Tract 1 is the City Center neighborhood and Tract 5 is the Floral Park neighborhood (Figure 3-4).

In contrast to the dramatic decline in population in Tracts 1-5, the Tract 7 and 8 areas showed an increase:

- Tract 7 (the southeast portion of the urban area bounded to the north and east by interstate 90, to the south by the airport, and to the west by Harrison Avenue) experienced a growth rate of about 5.5%.
- Tract 8 (the balance of Silver Bow County not in tracts 1-7) saw growth of around 7% from 2000 to 2010.

For both tracts (7 and 8), this trend continues what was observed from 1990 to 2000, during which Tracts 7 and 8 saw an even more dramatic growth of 9.4% and 29.2% respectively. While Tract 6 experienced growth of 1.4% from 1990 to 2000 (from 4,764 to 4,833), its population declined by 1.2% from 2000 to 2010 (down to 4,775), which is still growth, albeit modest (Table 3-1).



2016 TRANSPORTATION
PLAN UPDATE

N

DISPLAYED AS:
PROJECTION/ZONE: MSP
DATUM: NAD 83
UNITS: INT'L FEET
SOURCE: PIONEER/MDT/BSB

FIGURE 3-4

URBAN LIMITS
AND CENSUS TRACTS

PIONEER TECHNICAL SERVICES, INC.

DATE: 1/18/2017

Path: P:\Butte-Silver Bow\2015\BSB 2015 Transportation Plan Update\GIS\Project\TransPlan2016\BSB_Trans2016_CensTrac_16.mxd

Table 3-1. Population Changes across Silver Bow County through the Years

Population by Census Tract							
Area	1990 Census		2000 Census		2010 Census		1990 – 2010
	Count	% Change	Count	% Change	Count	% Change	% Change
Census Tract 1	5,356	–	5,234	-2.3%	4,919	-6.0%	-8.2%
Census Tract 2	4,873	–	4,756	-2.4%	4,644	-2.4%	-4.7%
Census Tract 3	2,696	–	2,471	-8.3%	2,380	-3.7%	-11.7%
Census Tract 4	4,141	–	4,100	-1.0%	3,968	-3.2%	-4.2%
Census Tract 5	5,131	–	4,779	-6.9%	4,538	-5.0%	-11.6%
Census Tract 6	4,764	–	4,833	1.4%	4,775	-1.2%	0.2%
Census Tract 7	2,964	–	3,244	9.4%	3,422	5.5%	15.5%
Census Tract 8	4,016	–	5,189	29.2%	5,554	7.0%	38.3%
Silver Bow County	33,941	–	34,606	2.0%	34,200	-1.2%	0.8%

A redistribution of the Silver Bow County urban population is taking place. It is likely that this favors the more outlying portions of the Butte urban area, especially those to the south and east of the main urban area. This is reaffirmed by the fact that while tracts 1, 5, 7, and 8 all saw shifts in population by 5.0% or more, the net population change for Silver Bow County was a loss of only 1.2%.

3.2.3 Population Characteristics

Along with the shifts in size and distribution of the population in Silver Bow County, there have also been shifts in the age and other socioeconomic factors. Racial and ethnic characteristics of the County's population appear relatively constant.

3.2.3.1 Population Age Characteristics

The population of Silver Bow County as a whole is aging. As illustrated in Table 3-2, the median age of the population of has gone from 35.9 in 1990 to 41.3 in 2010. This trend has also been observed nationally at nearly every scale due to the size of the aging Baby Boomer generation. In the State of Montana, the median age rose from 33.8 to 39.8 and in the U.S. it went from 32.9 to 37.2. Silver Bow County is aging slower than the State of Montana, and faster than the U.S. as a whole.

Table 3-2. Age Distribution of Silver Bow County vs. Montana and the U.S.

Age Distribution (1970 to 2010)				
Area	1990	2000	2010	Net Change
Silver Bow County	35.9	38.9	41.3	5.4
State of Montana	33.8	37.5	39.8	6.0
United States	32.9	35.3	37.2	4.3

As depicted in Table 3-3, the following age groups saw significant declines in population between 1990 and 2010:

- Under 18 years of age, fell by 14.9%.
- Between 25 and 44 years age, fell by 21.5%.
- Between 65 and 84 years of age, fell by 10.2%.

These dramatic decreases occurred during a period of relative stability in the County's population as compared to the previous 7 decades. Conversely, the following age groups saw significant increases in population over the same time:

- Between 18 and 24 years of age, grew by 19.2%.
- Between 45 and 64 years of age, grew by 47.2%.
- Over 84 years of age, grew by 69.5%.

As recorded in the previous 2005 Plan Update, a substantial population of elderly individuals has a tendency to create an incremental need within the health care and social services industries. The number of individuals over 84 years of age nearly doubled from 482 in 1980 to 885 in 2010 (a growth of 69.5%). This growth loosely correlates with a dramatic increase in the health care and social services industries in Silver Bow County. The dramatic growth of this age group is likely to continue to create job opportunities within Silver Bow County in those industries.

It is also worth noting the decrease in the number of minors in Silver Bow County since 1990, even though these decreases are becoming less substantial over time. Conversely, the birth rates within Silver Bow County have been increasing since 2000. This trend has led to a slower rate of decrease in the number of minors. Given these two trends, it is likely that the rate of decrease in the number of minors within the County will continue to slow over time.

Table 3-3. Population Distribution across Silver Bow County

Silver Bow County Population Distributions

Age Category	1990		2000			2010			1990 – 2010
	Count	% of Pop	Count	% of Pop	Growth	Count	% of Pop	Growth	Growth
< 18 years old	8,438	24.9%	8,199	23.7%	-2.8%	7,184	21.0%	-12.4%	-14.9%
18 – 24 years old	3,098	9.1%	3,331	9.6%	7.5%	3,693	10.8%	10.9%	19.2%
25 – 44 years old	9,827	29.0%	9,237	26.7%	-6.0%	7,714	22.6%	-16.5%	-21.5%
45 – 64 years old	6,788	20.0%	8,294	24.0%	22.2%	9,995	29.2%	20.5%	47.2%
65 – 84 years old	5,268	15.5%	4,772	13.8%	-9.4%	4,729	13.8%	-0.9%	-10.2%
> 84 years old	522	1.5%	773	2.2%	48.1%	885	2.6%	14.5%	69.5%
Total	**33,941**		**34,606**			**34,200**			

Source: US Census Bureau, Decennial Census Results

3.2.3.2 Population Race and Ethnicity

The distribution of races and ethnicities in Silver Bow County is stable. Table 3-4 illustrates the distributions.

Table 3-4. Race and Ethnicity Trends

Population Race and Ethnicity Date (2000 2010 Censuses and 2015 Estimates)

Race/Ethnicity	2000		2010		2015 Estimates	
	Count	%	Count	%	Count	%
White	32,998	95.4%	32,285	94.4%	32,683	94.40%
Black or African American	54	0.2%	103	0.3%	104	0.30%
American Indian and Alaska Native	704	2.0%	650	1.9%	658	1.90%
Asian	149	0.4%	171	0.5%	173	0.50%
Native Hawaiian and Other Pacific Islander	21	0.1%	34	0.1%	35	0.10%
Some Other Race	205	0.6%	239	0.7%	242	0.70%
Two or More Races	475	1.4%	718	2.1%	727	2.10%
Hispanic or Latino (of any race)	950	2.7%	1,265	3.7%	1,281	3.70%
White (Not Hispanic or Latino)	32,410	93.7%	31,498	92.1%	31,887	92.10%
Total	34,606		34,200		34,622	

Source: US Census Bureau, QuickFacts Utility available at https://www.census.gov/quickfacts/table/PST045215/00

3.2.4 Population Forecasts

A forecast of Silver Bow County populations was provided by the Census & Economic Information Center (CEIC). The forecast is a product of Regional Economic Models, Inc. (REMI) known as eREMI.[1] This particular product was released in 2013.[2] The eREMI used provides forecasts through 2060 for the population of Silver Bow County.

The data used within this product can be broken into two sections: for the years 1990 to 2010, the population numbers used are the annual population estimates provided by the US Census Bureau for those years. It should be noted that annual estimates are also used for 1990, 2000, and 2010 as opposed to decennial census results. The second section of data is for the years from 2011 forward. For these years, the population numbers are forecasts provided by REMI as based on their methodology for this eREMI. For 2011 through 2015, this method did create some discrepancies from the US Census Bureau's population estimates provided for those years. These discrepancies are shown in Table 3-5 but do not impact the overall trends presented in the data.

1 http://ceic.mt.gov/Population/PopProjectionsTitlePage.aspx
2 http://ceic.mt.gov/Population/PopProjections_AllCountiesPage.aspx

Table 3-5. Different Data Sets Forecast Various Population Estimates

eREMI Forecast and US Census Estimates 2010 to 2015						
	2010	2011	2012	2013	2014	2015
eREMI Forecasts	34,233	34,229	34,245	34,282	34,336	34,406
US Census Bureau Estimates	34,200	34,374	34,484	34,536	34,730	34,622
eREMI as % of US Census Bureau	0.1%	-0.4%	-0.7%	-0.7%	-1.1%	-0.6%

3.2.4.1 Forecasted Trends

As discussed previously, the decline in the population of Silver Bow County that occurred from 1920 to 1990 has ended. Current trends suggest continued growth within the County. The population of the County also appears to be more dynamic than previously observed, suggesting that a confluence of factors is driving the current population change as opposed to the constant decline experienced prior to 1990. The eREMI reaffirms both of these conclusions, providing relatively tangible expectations for population dynamics within Silver Bow County through 2060.

Previous portions of this section discussed reasons to believe that Silver Bow County will continue to grow. This was primarily based on the fact that from 2005 to 2015, the county experienced a period of growth (an average annual increase of 0.4%) (Figure 3-5).

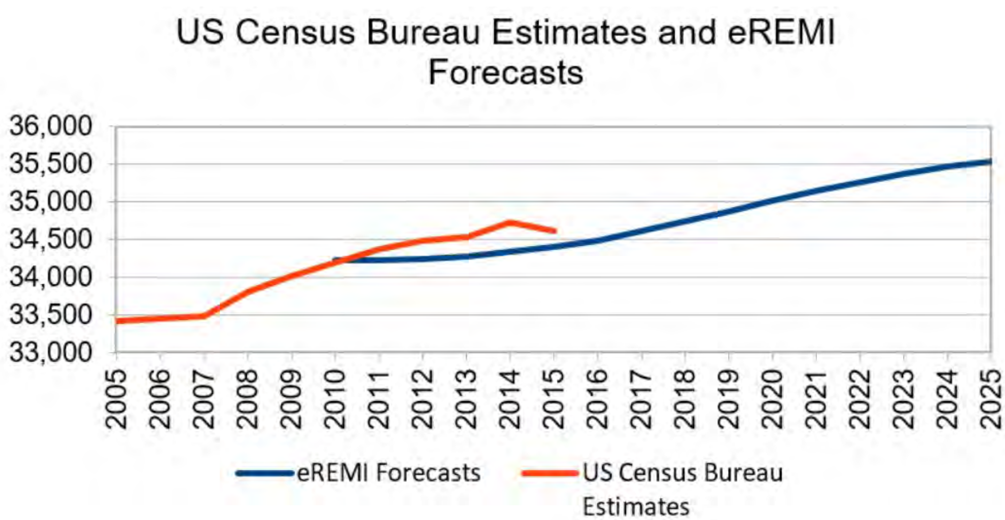


Figure 3-5. Census Bureau and eREMI Forecasts through 2025

The eREMI forecasts predict that this trend will continue through 2025. Based on the forecasted populations for 2016 through 2025, the eREMI forecasts suggest a period of continuous growth of 0.3% annually. This is on par with the annual average growth of 0.4% mentioned earlier. Based on an average annual growth of 0.3% and the US Census Bureau's population estimate for 2015, Silver Bow County's expected population for 2025 is approximately 35,560 individuals, which is only 18 more individuals than is predicted by the eREMI forecast (35,542). Therefore, as it pertains to this particular Transportation Plan, an expectation of continuous growth for the next 10 years is appropriate and is illustrated in Figure 3-6.

While population trends are expected to remain variable over time, as forecasted by the eREMI model, the population of Silver Bow County should peak around 2027, then decline until 2047, and then grow again from 2047 until 2060. This cyclical pattern, while taking place on a larger time scale than historical trends, is similar to what was experienced between 1990 and 2015. Therefore, while growth is expected through 2025, it should be considered in the context of a generally more variable population trend exhibiting moderate alternating periods of growth and decline (Figure 3-6).

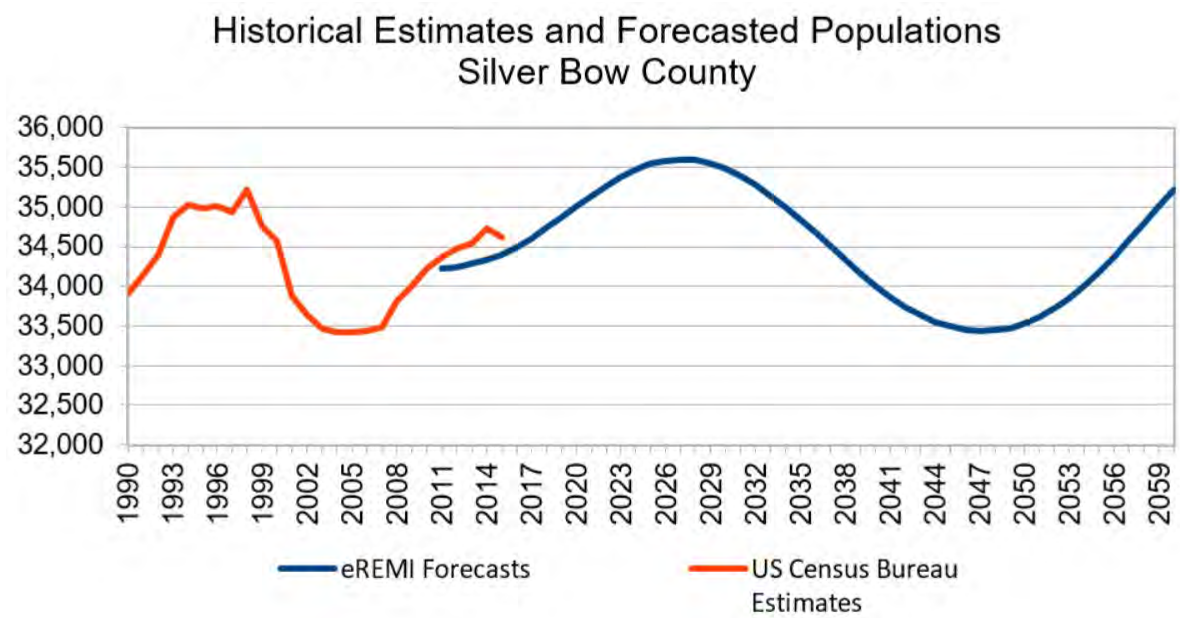


Figure 3-6. Population Estimates and Forecasts for Silver Bow County

3.3 Economic Factors

3.3.1 Introduction

When looking at the economic factors at play in Silver Bow County, a variable trend similar to that of the population trend appears (Figure 3-7). During the 1990s, there was economic growth that accompanied the consistent population growth. The population declines that occurred from 1998 to 2005 preceded a slowdown in job growth during the 2000s. However, the County continued to post increases in job numbers through 2014. This growth in job numbers is in large part due the significant potential that specific industries show for the continued addition of new jobs.

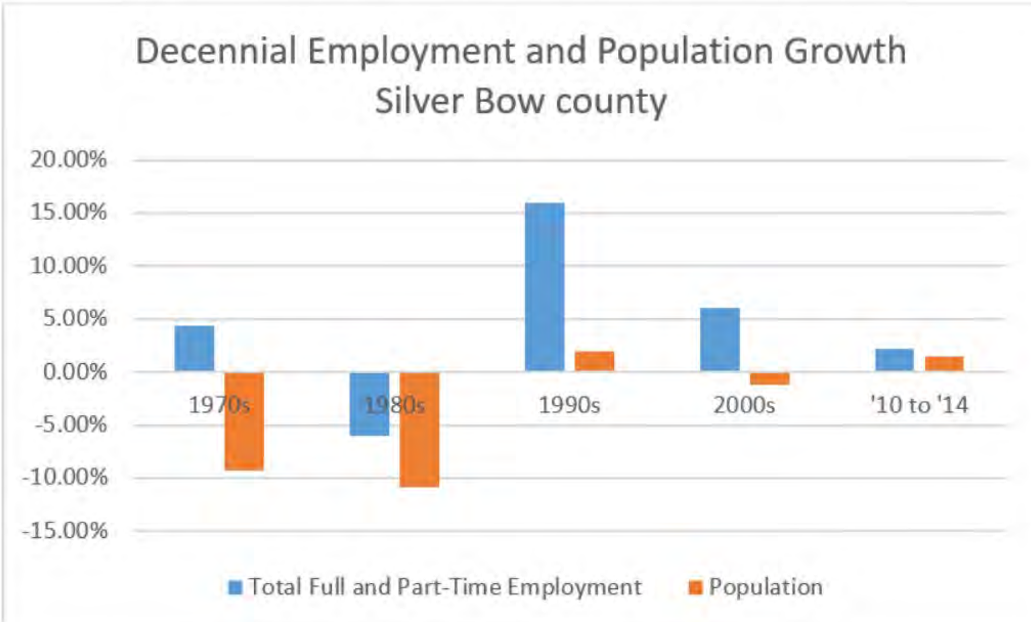


Figure 3-7. Employment and Population Growth over the Decades

3.3.2 Employment Trends

From 2000 to 2010, the growth in full and part-time jobs was approximately 6.1% (Figure 3-7). This trend slowed to 2.2% from 2010 to 2014. This general trend masks the dynamics of an evolving economy within the community. Certain industries declined while others have grown dramatically, suggesting economic redistribution that is coincident with the changing nature and redistribution of the Butte urban area population.

The industries showing the most dramatic declines in recent years are the information industry, federal civilian employment, construction, and specific service industries including arts, entertainment, recreation, and professional, scientific, and technical services. These declines represent a loss of 425 jobs from 2010 to 2014 (US Department of Commerce Bureau of Economic Analysis – Table CA25 and Table CA25N).

The decline in the information industry is a natural continuation of trends observed in the previous transportation plan. Similarly, the loss of federal civilian jobs is a continuation of a reduction of jobs that has been consistent since the 1970s. These industries posted job reductions of 42.1% (147 jobs) and 20.9% (62 jobs), respectively, from 2010 to 2014.

From 2010 to 2014, the construction industry saw a loss of 91 jobs (a decrease of 9.8%), which occurred primarily from 2010 to 2011. The period from 2012 to 2014 was stable for the industry, maintaining an average of 845 jobs each year. This comes on the end of a period from 1970 to 2010 in which the industry grew by 69.9%, representing the addition of 383 jobs to the County. Therefore, while the growth has slowed, it is likely that the trends seen from 2010 to 2014 are indicative of continued growth in this industry.

The areas of arts, entertainment, recreation, and professional, scientific, and technical services saw a combined loss of 125 jobs from 2010 to 2014. However, this is relatively insignificant compared to the long-term gains observed within the broader services industry. Since 1970, the services industry has grown by over 130% (as of 2014), representing a gain of 5,008 jobs. This trend has been continuous from 1970 to 2010, with the most dramatic growth occurring during the 2000s. Data from 2014 suggest a slowing of this trend during 2010 with the exception of the health care and social assistance industry, which maintains a modest upward trend.

As noted in the previous transportation plan, health care and social assistance areas within services industry have seen dramatic recent growth. In the four years from 2010 to 2014, this area alone saw a growth of 399 jobs, representing a 12.1% growth. Given that there have been no annual losses from 2010 to 2014, it is expected that this industry will continue to grow at a modest rate.

Other industries that have experienced recent and continued growth are wholesale trade, manufacturing, and mining industries. Wholesale trade grew 15.2% from 2010 to 2014, accounting for a net growth of 68 jobs. Manufacturing grew 7.9% during the same period; however, this net growth is not representative of the cyclical nature of employment in this industry. Alternate years of growth and decline occurred from 2010 to 2014 such that years of annual growth rates have more than doubled the rate of decline the following year, thus yielding the net growth since 2010. While there is an overall trend of growth, it is modest and variable.

The mining industries experienced growth from 2010 to 2013. Due to data restrictions for 2014, evaluating the full period was not possible. However, the growth from 2010 to 2013 was strong—positive annual growth each of the three years and a net growth of 20.7% for a gain of 91 jobs from 2010 to 2013. It is appropriate to expect growth to continue in the short-term. It is likely that long-term job growth in mining industries will be largely tied to commodity prices, which are difficult to predict.

Table 3-6 lists the employment trends from 1970 through 2014.

Table 3-6. Silver Bow County Employment Trends from 1970 to 2014

Silver Bow County Employment Trends												
Employment	1970		1980		1990		2000		2010		2014	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Total Full and Part-time Employment	16,442		17,170		16,143		18,728		19,863		20,295	
Employment by Type												
Wage & Salary Employment	14,410	87.6%	14,837	86.4%	13,415	83.1%	15,272	81.5%	16,166	81.4%	16,473	1.9%
Proprietors Employment	2,032	12.4%	2,333	13.6%	2,728	16.9%	3,456	18.5%	3,697	18.6%	3,822	3.4%
Farm Proprietors Employment	74	0.5%	99	0.6%	117	0.7%	149	0.8%	140	0.7%	127	-9.3%
Non-Farm Proprietors Employment	1,958	11.9%	2,234	13.0%	2,611	16.2%	3,307	17.7%	3,557	17.9%	3,695	3.9%
Employment by Industry												
Farm Employment	112	0.7%	132	0.8%	137	0.8%	163	0.9%	147	0.7%	137	-6.8%
Non-Farm Employment	16,330	99.3%	17,038	99.2%	16,006	99.2%	18,565	99.1%	19,716	99.3%	20,158	2.2%
Private Non-Farm Employment	13,980	85.0%	13,578	79.1%	13,369	82.8%	15,980	85.3%	16,935	85.3%	17,345	2.4%
Agricultural Services, Forestry, and Fishing	75	0.5%	37	0.2%	65	0.4%	143	0.8%	(D)	(D)	(D)	(D)
Mining	3,371	20.5%	1,314	7.7%	(D)	–	375	2.0%	439	2.2%	(D)	(D)
Construction	548	3.3%	763	4.4%	(D)	–	797	4.3%	931	4.7%	840	-9.8%
Manufacturing	707	4.3%	647	3.8%	587	3.6%	733	3.9%	671	3.4%	724	7.9%
Transportation and Public Utilities	759	4.6%	719	4.2%	1,421	8.8%	1,373	7.3%	(D)	(D)	(D)	(D)
Wholesale Trade	1,012	6.2%	848	4.9%	591	3.7%	630	3.4%	448	2.3%	516	15.2%
Retail Trade	2,837	17.3%	3,525	20.5%	3,423	21.2%	4,336	23.2%	2,587	13.0%	2,628	1.6%
Finance, Insurance, and Real Estate	894	5.4%	846	4.9%	937	5.8%	947	5.1%	1,326*	6.7%	1,311*	-1.1%
Services	3,777	23.0%	4,879	28.4%	5,106	31.6%	6,646	35.5%	8,639*	43.5%	8,785*	1.7%
Government and Government Enterprises	2,350	14.3%	3,460	20.2%	2,637	16.3%	2,585	13.8%	2,781	14.0%	2,813	1.2%
Federal, Civilian	314	1.9%	467	2.7%	339	2.1%	329	1.8%	297	1.5%	235	-20.9%
Military	330	2.0%	246	1.4%	282	1.7%	197	1.1%	177	0.9%	200	13.0%
State & Local Government	1,706	10.4%	2,747	16.0%	2,016	12.5%	2,059	11.0%	2,307	11.6%	2,378	3.1%
State Government	(NA)	(NA)	900	5.2%	824	5.1%	844	4.5%	1,140	5.7%	1,248	9.5%
Local Government	(NA)	(NA)	1,847	10.8%	1,192	7.4%	1,215	6.5%	1,167	5.9%	1,130	-3.2%

Source: US Department of Commerce Bureau of Economic Analysis – Table CA25 and Table CA25N

(NA): Data not available for this year.

(D): Not shown to avoid disclosure of confidential information, but the estimates for this item are included in the totals.

* The sum displayed is only a partial sum due to sub-industries of the industry are not available to avoid disclosure of confidential information, but the estimates for the sub-industries are included in the employment totals. Thus, these entries are understating the actual totals.

3.3.3 Transportation to Work

Within Silver Bow County, slightly more of the population is commuting to work than state and national averages (Table 3-7). In addition, a higher percentage of those commuting to work also drive single occupancy vehicles. This, combined with the redistribution of the population within the Butte urban areas, suggests that outlying neighborhood roads can expect to continue to receive increasing volumes. It is also indicative of an existing, efficient transportation and road network that encourages driving.

Table 3-7. Statistics of the Number of Workers Who Commute to Work

Mode of Transportation to Work (2010 to 2014 Survey)

Subject	Silver Bow County		State of Montana		United States	
	Count	*%*	*Count*	*%*	*Count*	*%*
Number of Workers 16 Years and Older	**15,893**	--	**473,349**	--	**141,337,152**	--
% Who Commuted to Work	***15,391***	***96.8%***	**443,123**	***93.6%***	**135,165,560**	***95.6%***
% Who Worked at Home	502	*3.2%*	**30,226**	***6.4%***	**6,171,592**	***4.4%***
Transportation Mode						
Number of Workers that Commute to Work	**15,391**	--	**443,123**	--	**135,165,560**	--
Single Occupancy Vehicle (Car, Truck, or Van)	***12,867***	***83.6%***	**356,557**	***80.5%***	**107,990,696**	***79.9%***
Multiple Occupancy Vehicle (Car, Truck, or Van)	*1,515*	*9.8%*	**48,837**	***11.0%***	**13,554,363**	***10.0%***
Public Transportation (Excluding Taxicabs)	*30*	*0.2%*	**4,004**	***0.9%***	**7,157,671**	***5.3%***
Walked to Work	*533*	*3.5%*	**22,657**	***5.1%***	**3,932,118**	***2.9%***
Other Means of Commuting	*446*	*2.9%*	**11,068**	***2.5%***	**2,530,707**	***1.9%***
Mean Travel Time to Work *(minutes)*	**15.3**		**18.3**		**25.7**	

Source: US Bureau of the Census, American Community Survey (ACS) Profile Report: 2010 – 2014 (5-year Estimates), available at http://census.missouri.edu/acs/profiles/

Relative Margins of error are indicated by number font:

BOLD values: RMOE < 15%
NORMAL values: 15% < RMOE < 35%
LIGHT values: 35% < RMOE

3.3.4 Median Incomes and Poverty Rates[3]

Employment and median family income levels have been steadily rising since 1990; however, it appears that this trend has plateaued (Figure 3-8). From 2012 to 2014, dramatic increases in the poverty rate have occurred pushing the poverty rate up to 20.8% in 2014, as estimated by the American Community Survey (https://www.census.gov/programs-surveys/acs/). This is most likely due to the decrease in median incomes that occurred from 2012 to 2013 and into 2014.

[3] http://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t

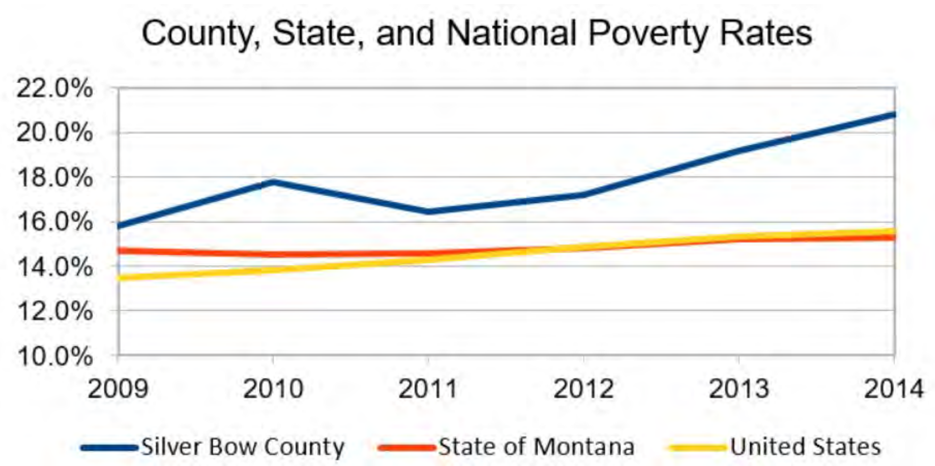


Figure 3-8. Poverty Rates for Silver Bow County, Montana, and the U.S.

As of 1999, Silver Bow County and the State of Montana poverty rates were similar at 14.9% and 14.6%, respectively. From 1999 to 2009, there was a slight increase in the poverty rate in Silver Bow County to 15.8% while state levels remained relatively constant at 14.7%. From 2009 forward, there has been a relatively consistent upward trend in the poverty rates of the County. This is most dramatic from 2011 forward where poverty rates went from 16.4% in 2011 to 20.8% in 2014. This increase in the poverty rates in Silver Bow County was made more dramatic by the stagnation and ultimate decrease in median family income (Figure 3-9).

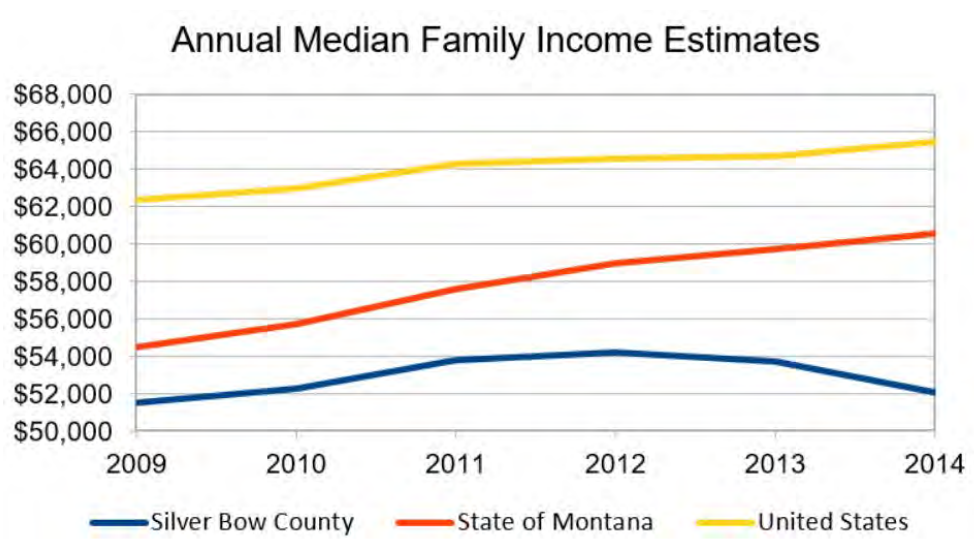


Figure 3-9. Median Family Income for Silver Bow County, Montana, and the U.S.

From 1959 to 2009, there was relatively consistent growth in the median family income in the County, which approximately matched the state levels. However, during 2011, the trend slowed slightly in the County relative to the state statistics. Where the state median family income grew by 2.3% from 2011 to 2012, the median family income in Silver Bow County grew by only 0.7%. This gap widened over the next few years so that from 2013 to 2014, the County median family income fell by 3.1% while the state median family income grew by 1.4%. Consequently, by 2014 the median family income for Silver Bow County was $52,045, which was between the median family income for 2009 and 2010 and represented a plateau for this economic measurement. At the same time, inflation factors and the poverty line grew by around 10% during this time.

3.4 Household Trends

Similar to other economic areas, growth in the number of housing units in Silver Bow County occurred most dramatically during the 1990s with more modest growth during the 2000s and flat numbers from 2009 to 2014, based on American Community Survey numbers (https://www.census.gov/programs-surveys/acs/). The long-term trend shows continuous growth in the raw number of housing units in Silver Bow County since 2009 (Figure 3-10). This trend, while positive, is less dramatic than trends observed at the state and national levels. Recent trends show that the number of housing units in Silver Bow County plateaued from 2009 to 2014, with the estimated number of housing units ranging between 16,300 and 16,800. While the number of housing units remains flat, the percentage of those units left vacant is on the decline.

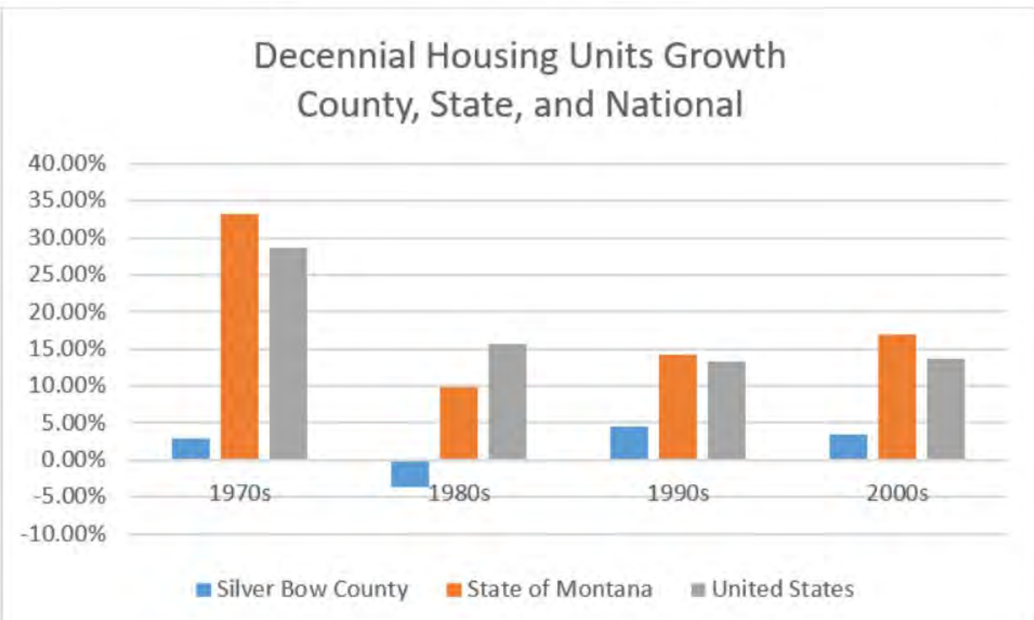


Figure 3-10. Growth of Housing Units for Silver Bow County, Montana, and the U.S.

The number of vacant housing units in Silver Bow County has been declining since 2009. In 2009 the number of vacant units was 12.0% of all housing units, and in 2014 it had decreased to only 8.9%. It is also worth noting that while state and national vacancy rates are also relatively flat, national rates are approximately 12% from 2009 to 2014 while state vacancy rates are approximately 15% to 16%. Therefore, the vacancy rate in Silver Bow County is lower and suggests housing demand in the area. From 2009 to 2014, the number of vacant rental housing units decreased by over 50%. Similarly, the number of vacant housing units classified as seasonal, recreational, or occasional use decreased by over 40% (Figure 3-11).

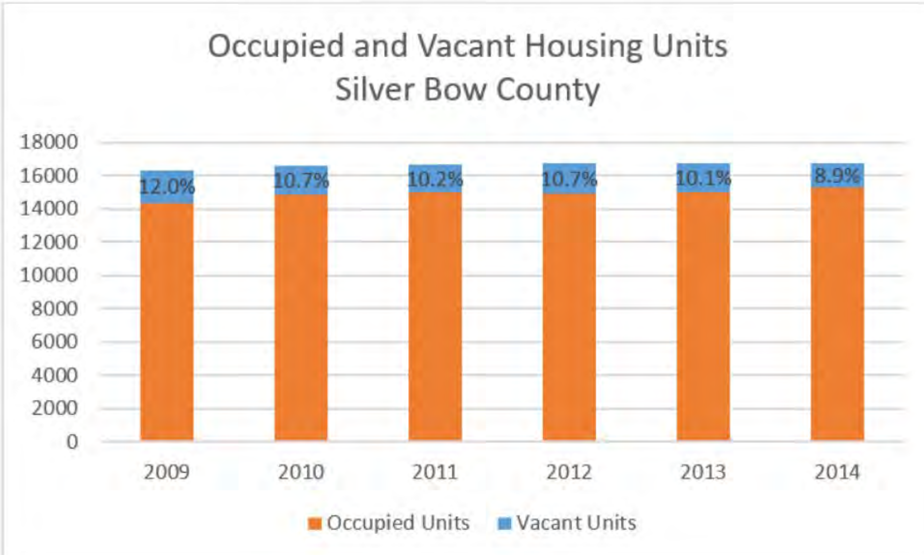


Figure 3-11. Occupied and Vacant Housing Statistics for Butte-Silver Bow

3.5 Conclusions

Future population trends will be characterized by cyclic growth and continued shifts of employment from certain industries to other industries that will continue to result in overall growth within the community. Based on the available information, the expectation is that Silver Bow County will grow by the conservative estimate of roughly 0.3% to 0.4% annually, which is supported by a variety of factors ranging from population trends and age characteristics to the growth and redistribution of employment. This increase in population will directly impact the future travel demand within the community.

In preparing this 2016 Plan Update, the Team used a 0.5% annual growth rate to estimate growth trends over the next 20 years. This rate equates to a total population growth of 3,423 persons over the next 20 years. This rate is slightly higher than the historic or predicted growth rate for the planning area, but it is reasonable as it accounts for possible increases in the variable growth trends observed over the past 15 years. The slightly higher estimated growth rate also helps identify more areas of possible growth within the community for use within the transportation model (refer to modeling information in Section 5). It is known that a certain level of growth will occur within the community over the next 20 years, but the specific location of growth may be more difficult to predict. By selecting a higher growth rate and distributing that possible growth around different areas of the community, future transportation network deficiencies will be easier to identify throughout the community. Even if growth does not occur in all areas predicted within this 2016 Plan Update, it is likely that most or all possible growth areas will be accounted for at sufficient rates to identify future transportation needs.

4 EXISTING CONDITIONS

4.1 Data Analysis

To understand all aspects of the BSB transportation system and determine how it will best serve future needs, the Team analyzed information about the current system to establish existing traffic conditions and current operational characteristics. In October 2015, the Team began collecting transportation information on area roadways and intersections. This included peak-hour intersection counts and road segment Annual Average Daily Traffic (AADT) volume data. Additional information obtained for the project included historic AADT data from the MDT, vehicle crash data, and traffic signal timing data. The raw data collected were adjusted for seasonal variation according to the information collected from MDT's annual count station located near the Rocker Interchange (Station A-129).

The Team collected intersection counts at 28 locations around the Butte during the morning and evening peak hours. The intersection counts included heavy truck traffic, pedestrians, and bicycle data. The Team used the intersection counts to update base traffic-volume data for Butte, evaluate intersection capacity and operations (see Section 4.5), evaluate traffic conditions at high-crash locations (see Section 4.6), and evaluate traffic signal needs (see Section 4.7 Table 4-1 lists the specific intersections counted and the purpose of the count. Appendix B contains the raw data.

Table 4-1. Counted Intersections

#	Intersection	Study Type
1	Front Street & Main Street/Kaw Avenue	Level of Service and Operations
2	Front Street & Utah Street	Level of Service and Operations
3	Harrison Avenue & Amherst Avenue	Level of Service and Operations
4	Harrison Avenue & Dewey Blvd.	Level of Service and Operations
5	Harrison Avenue & Gr& Avenue	Level of Service and Operations
6	Montana Street & Front Street/Centennial Avenue	Level of Service and Operations
7	Montana Street & Rowe Rd.	Level of Service and Operations
8	Shields Avenue/Farrell Street & Texas Avenue	Level of Service and Operations
9	Elizabeth Warren & Mt. Highland Dr.	Level of Service and Operations
10	Montana Street & George Street	Level of Service and Operations
11	Rowe Rd. & Dewey Blvd.	Level of Service and Operations
12	Montana Street & Second Street	Level of Service and Operations
13	Harrison Avenue & Holmes	Level of Service and Operations
14	Montana Street & Platinum Street	Level of Service and Operations
15	Montana Street & Mercury Street	Signal Warrant Evaluation
16	Montana Street & Broadway Street	Signal Warrant Evaluation
17	Montana Street & Granite Street	Signal Warrant Evaluation

#	Intersection	Study Type
18	Broadway Street & Arizona Avenue	Signal Warrant Evaluation
19	Park Street & Main Street	Signal Warrant Evaluation
20	Park Street & Washington Street	Signal Warrant Evaluation
21	Park Street & Idaho Street	Signal Warrant Evaluation
22	Mercury Street & Arizona Street	Signal Warrant Evaluation
23	Harrison Avenue & Roosevelt Avenue	Crash Investigation
24	Kaw Avenue & George Street	Crash Investigation
25	Montana Street & Porphyry Street	Crash Investigation
26	Harrison Avenue & Cobban Street	Crash Investigation
27	Harrison Avenue & 4 Mile Rd.	Crash Investigation
28	Harrison Avenue & Elizabeth Warren	Level of Service and Operations

Directional road segment information was also collected at selected intersections to support traffic signal warrant evaluations. The directional traffic count information was collected on the approach lanes to the intersections listed below (where possible). Appendix B contains the raw data.

- Montana Street and Mercury Street
- Montana Street and Broadway Street
- Montana Street and Granite Street
- Broadway Street and Arizona Avenue
- Park Street and Main Street
- Park Street and Washington Street
- Park Street and Idaho Street
- Mercury Street and Arizona Street.

Additional traffic came from the MDT including historic traffic count data at 126 locations within the study area. The MDT traffic data for these sites can be viewed on the MDT website at: http://www.mdt.mt.gov/publications/datastats/traffic_maps.shtml.

The Team also obtained vehicle crash data for 2010 through 2014 for the study area. The MDT data identified 3,960 crashes that occurred on the road system during the study period. This information will be used to evaluate general crash trends within the community and specific trends at high crash intersections and road segments. Information collected in the spring of 2016 included pedestrian and bicycle trail counts and additional traffic data collected at sites identified for further study during discussions with the public and City of Butte officials. Using a combination of the supplied and collected data, the Team determined the existing traffic conditions and current operational characteristics.

4.2 Roadway Network

This section presents information specific to the roadway network, including classification, corridor, and intersection studies. In October 2015, the Team began collecting information on area roadways and intersections. This included peak-hour intersection counts and road segment AADT volume data. Additional information obtained included historic AADT data from the MDT, vehicle crash data, and traffic signal timing data. The raw data collected were adjusted for seasonal variations according to the information collected from MDT’s annual count station located near the Rocker interchange (Station A-129). Refer to Appendix B for additional information.

4.2.1 Major Street Network – Functional Classification

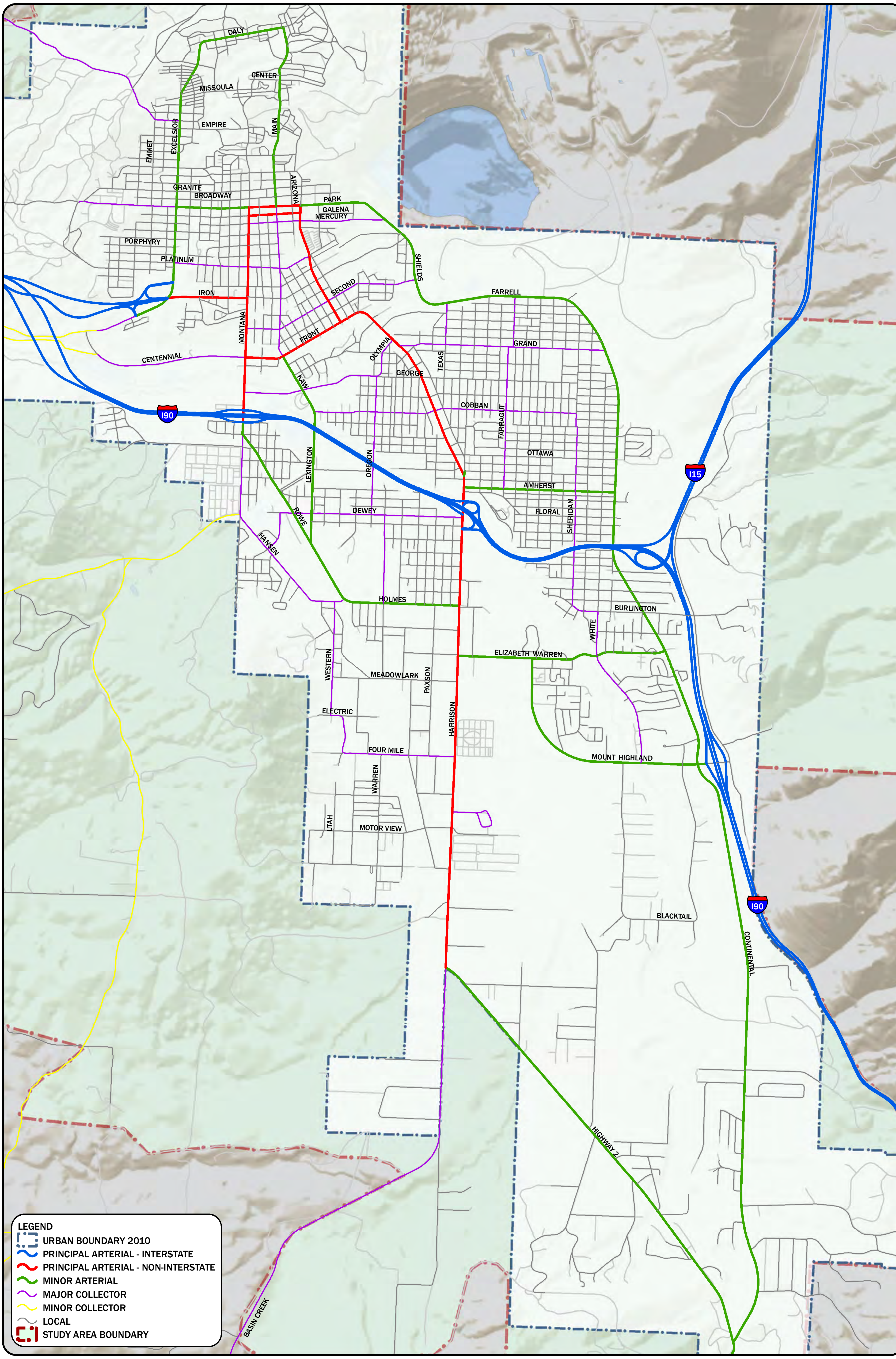
The overall operation of a community’s road network is dominated by the functional classification of the roadway system. Each road within the network is classified into a hierarchy or type that controls how each road is expected to function. The majority of travel within the community occurs through the network of interdependent roadways, with each roadway segment moving traffic through the system toward a destination. Functional classification defines the role a particular roadway segment plays in serving the flow of traffic through the street network. Roadways are grouped into a hierarchy of six general functional classifications within the BSB study area according to the character of travel service provided. This hierarchy is used by planners and engineers to channel transportation movements efficiently through the major street network.

Roadways serve two primary travel needs: access to/egress from specific locations and travel mobility. While these two functions lie at opposite ends of the continuum of roadway function, most roads provide some combination of each. Roads intended for higher mobility provide few opportunities for entry and exit and therefore low travel friction from vehicle access/egress. Roads intended for higher accessibility provide many opportunities for entry and exit, which creates potentially higher friction from vehicle access/egress.

The health of a community’s road system is directly related to the health of the major street network. If the higher-level roadway is functioning as intended, lower level local roads will not be burdened with inappropriate traffic flows. If problems occur on the major street network, the resulting traffic congestion can infiltrate into neighborhood local routes.

It is also important to consider future roadway network planning needs when classifying existing and future road systems. It is critical to maintain consistent right-of-way standards to allow for efficient operation and urban development. Retroactively reclassifying and redesigning existing roadways can add significant expense and access challenges for future roadway projects.

Figure 4-1 shows the current functional classification of the BSB area roadways



2016 TRANSPORTATION PLAN UPDATE

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FIGURE 4-1

PIONEER TECHNICAL SERVICES, INC.

DATE: 1/24/2017

FUNCTIONAL CLASSIFICATION OF ROADWAYS

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Roadways in the BSB study area are classified as follows:

1. **Principal Arterial - Interstate**
   Interstate Highways are the highest functional classification and are designed and built with mobility and long-distance travel in mind. These roadways are access-controlled facilities with access provided only at a limited number of interchanges.

   - I-90/ I-15

2. **Principal Arterial - Non-Interstate**
   Principal Arterials serve major centers of activity, provide a high degree of mobility within and between adjacent subareas, and carry a high proportion of the total traffic. The intent of these roadways is to provide the expedient movement of traffic, not access to abutting lands.

   - Harrison Avenue
   - Front Street
   - Montana Street, between La Salle Street and Park Street
   - Iron Street, between Montana Street and Excelsior Avenue
   - Park Street, between Montana Street and Arizona Avenue
   - Arizona Avenue between Park Street and Utah Avenue
   - Utah Avenue, between Front Street and Arizona Avenue

3. **Minor Arterial**
   Minor Arterials provide service for trips of moderate length, serve smaller geographic areas than Principal Arterials, and offer connectivity to the Principal Arterials.

   - Daly Street
   - Walkerville Drive
   - Main Street, above Park Street
   - Park Street, between Excelsior Avenue and Montana Street
   - Excelsior Avenue, above of I-90/I-15 interchange
   - Park Street, east of Arizona Avenue
   - Shields Avenue
   - Farrell Street, east of Texas Avenue
   - Continental Drive
   - Kaw Avenue
   - Lexington Avenue
   - Montana Street, between La Salle Street and Josette Avenue
   - Rowe Road

- Holmes Avenue
- Amherst Avenue
- Elizabeth Warren Avenue
- Mount Highland Drive
- Highway 2, north of the intersection with Continental Drive

4. Major Collector

Major Collectors form an integral part of the roadway network by gathering traffic from Local Roads and funneling flow to the arterial network. These roadways not only provide for the movement of traffic but also deliver access to residential, business, and industrial areas.

- Oro Fino Gulch Road
- Browns Gulch Road
- Hornet Street, west of Excelsior Avenue
- Park Street, west of Excelsior Avenue
- Mercury Street, east of Montana Street
- Platinum Street, between Excelsior Avenue and Utah Avenue
- Main Street, between Front Street and Park Street
- Second Street, east of Montana Street
- Excelsior Avenue, west of I-90/I-15 interchange to east of Centennial Avenue
- Centennial Avenue, east of Santa Claus Road
- George Street
- Grand Avenue
- Texas Avenue, north of Grand Avenue
- Adams Avenue, north of Grand Avenue
- Oregon Avenue, north of Dewey Blvd.
- Cobban Street, west of Sheridan Avenue
- Farragut Avenue, between Amherst Avenue and Grand Avenue
- Dewey Blvd.
- Sheridan Avenue, south of Cobban Street
- Hill Avenue, south of Dewey
- Montana Street, between Josette Avenue and Beef Trail Road
- Hanson Road
- Burlington Street, between Sheridan Avenue and White Way Blvd.
- White Way Blvd., between Elizabeth Avenue and Burlington Street
- Blacktail Lane
- Western Blvd.

- Electric Street, between Western Blvd. and Utah Avenue
- Utah Avenue, between Electric Street and Four Mile Road
- Four Mile Road, east of Utah Avenue
- Airport Road
- Basin Creek Road

5. **Minor Collector**

   In general, Minor Collectors connect rural areas to the urban system by providing a link between the arterial system and local access roads.

- Little Basin Creek Road
- Beef Trail Road
- Santa Claus Road
- Grizzly Trail
- Nissler Road

6. **Local Roads**

   Local Roads account for the largest percentage of all roadways in terms of mileage. They are not intended for use in long-distance travel, except at the origin or destination end of the trip. They also provide mobility within neighborhoods and developments.

4.2.2 On System Roadway Network

The On System roadway network denotes routes that fall under the jurisdiction of the MDT and/or the Federal Highway Administration (FHWA). These roadways are eligible for funding assistance through programs administered by MDT.

The On System Roadway Network in the BSB study area includes the following classifications:

National Highway System (NHS) – Interstate

- I-90/I-15
- I-115 (City Center on/off-ramps carry this designation up to the intersection with Excelsior Avenue)

National Highway System – Non-Interstate

- N-29 (In general: Harrison Avenue from Janney Road and Basin Creek Road on the south end of town to Front Street, Front Street to Utah Avenue, Utah Avenue, Arizona Avenue from Utah Avenue to Park Street, Park Street to Montana Street, Montana Street to Iron Street, and Iron Street to Excelsior Avenue)
- N-120 (Montana Street from the intersection with Iron Street to the Interstate bridge)
- N-121 (Front Street from Montana Street to Utah Avenue)

Primary Routes

- P-29 also known as Montana Highway 2 (Montana Route 2, Janney Road from Harrison Avenue)

Secondary Routes

- S-276 (Brown's Gulch Road)
- S-393 (Basin Creek Road)

Urban Routes

- U-1801 (In general: Excelsior Avenue, Daly Street, Main Street south to the intersection with Park Street)
- U-1804 (Park Street from Montana Street to the intersection with Mining Museum Road)
- U-1805 (Montana Street from the Interstate bridge to the intersection with Hanson Road)
- U-1807 (Park Street east from the intersection with Arizona Avenue then on Shields Avenue, then on Farrell Street, then on Continental Drive to Montana Route 2)
- U-1809 (Mount Highland Drive)
- U-1810 (Grand Avenue)
- U-1812 (Amherst Avenue)
- U-1816 (Elizabeth Warren Drive from Continental Drive to Harrison Avenue)
- U-1818 (Western Blvd. south from its intersection with Holmes Avenue, Electric Street between Western Blvd. and Utah Avenue, Utah Avenue between Electric Street and 4-Mile Vue Road, 4-Mile Vue Road to its intersection with Harrison Avenue)
- U-1820 (Holmes Avenue and Hanson Road)
- U-1821 (Dewey Blvd. Including the connector to Montana St.)
- U-1822 (Washoe Street from Dewey Blvd. to Hanson Road)
- U-1823 (Mercury Street from Shields Avenue to Montana Street)

4.3 Corridor Capacity/Volumes

Using the model data for existing and project traffic conditions, a check was performed on the road network to determine the current and future volume to capacity (v/c) ratio for all road segments. The v/c ratio is defined as the existing or projected traffic volumes for a road segment divided by the recommend road capacity defined by the number of traffic lanes available. Figure 4-2 through Figure 4-5 show the results of this analysis. These figures suggest that most roads are currently operating at a good v/c ratio (less than 0.7) and that no corridors are over capacity. The 2035 projections show little change in these values and suggest that only the west ends of Amherst Avenue and Elizabeth Warren Avenue may be nearing capacity by 2035.

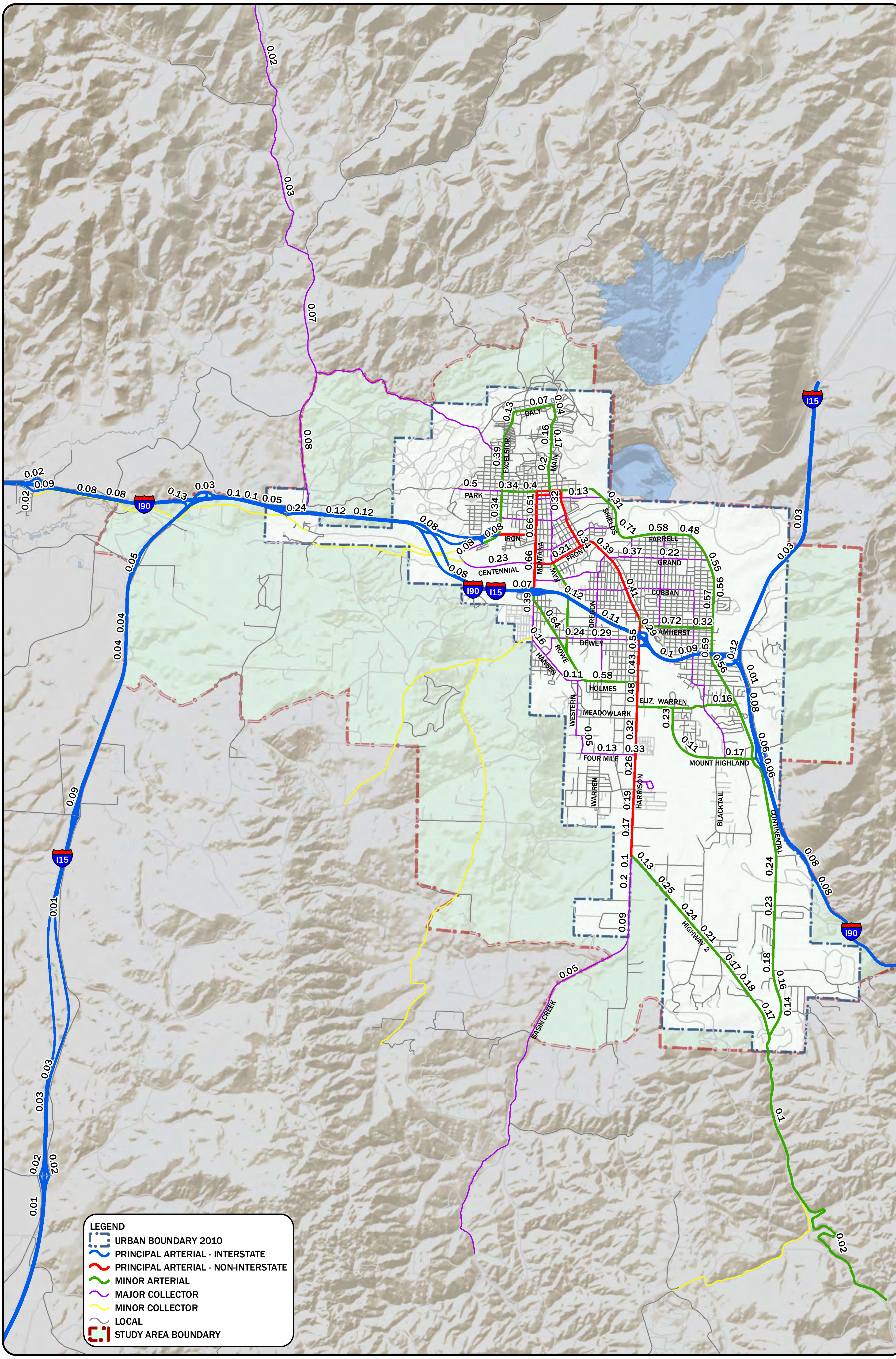

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FIGURE 4-2

VOLUME TO CAPACITY RATIO (2010)

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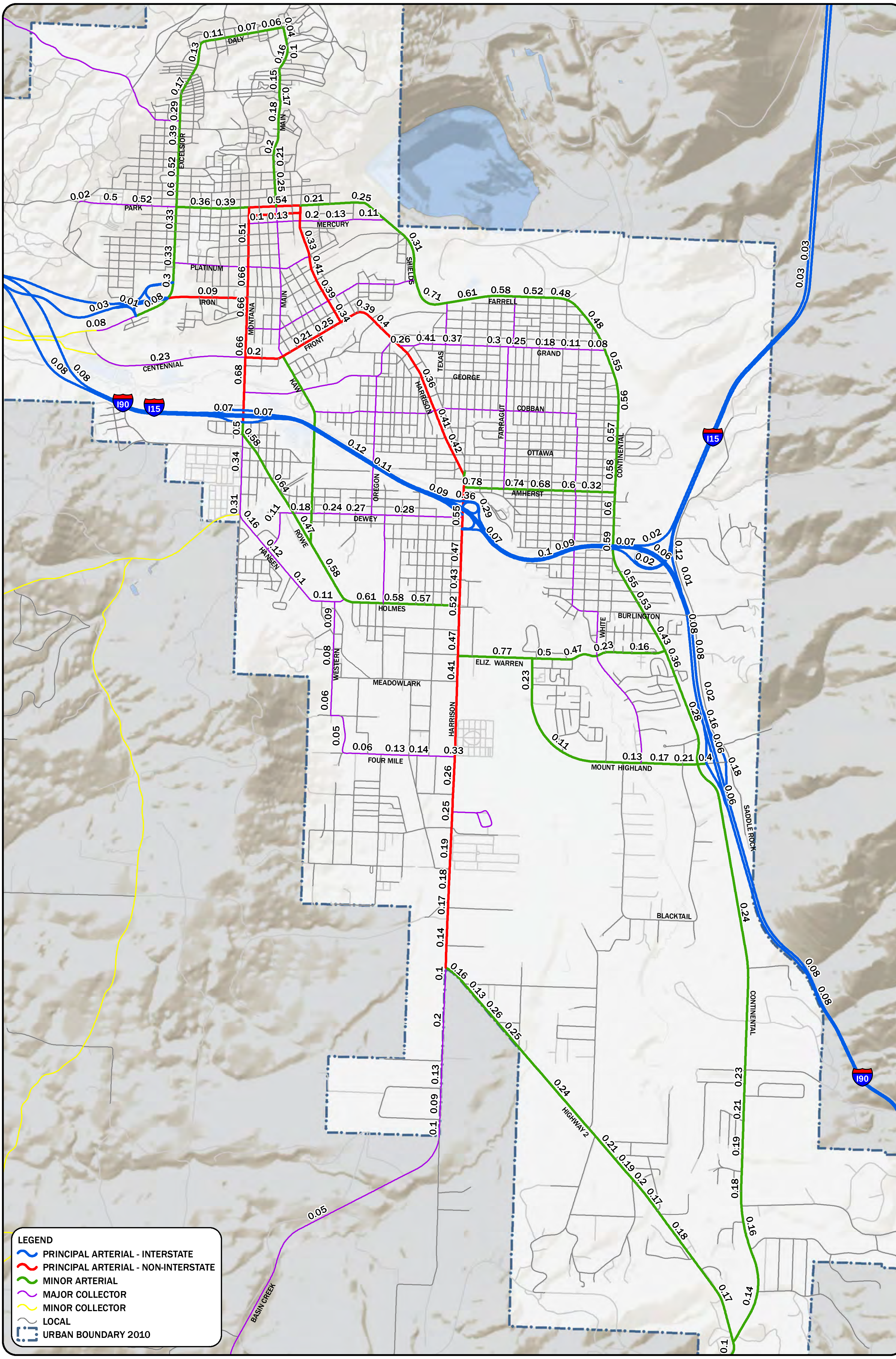

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FIGURE 4-3

VOLUME TO CAPACITY RATIO (2010) (DETAIL AREA)

PIONEER TECHNICAL SERVICES, INC.

DATE: 1/19/2017

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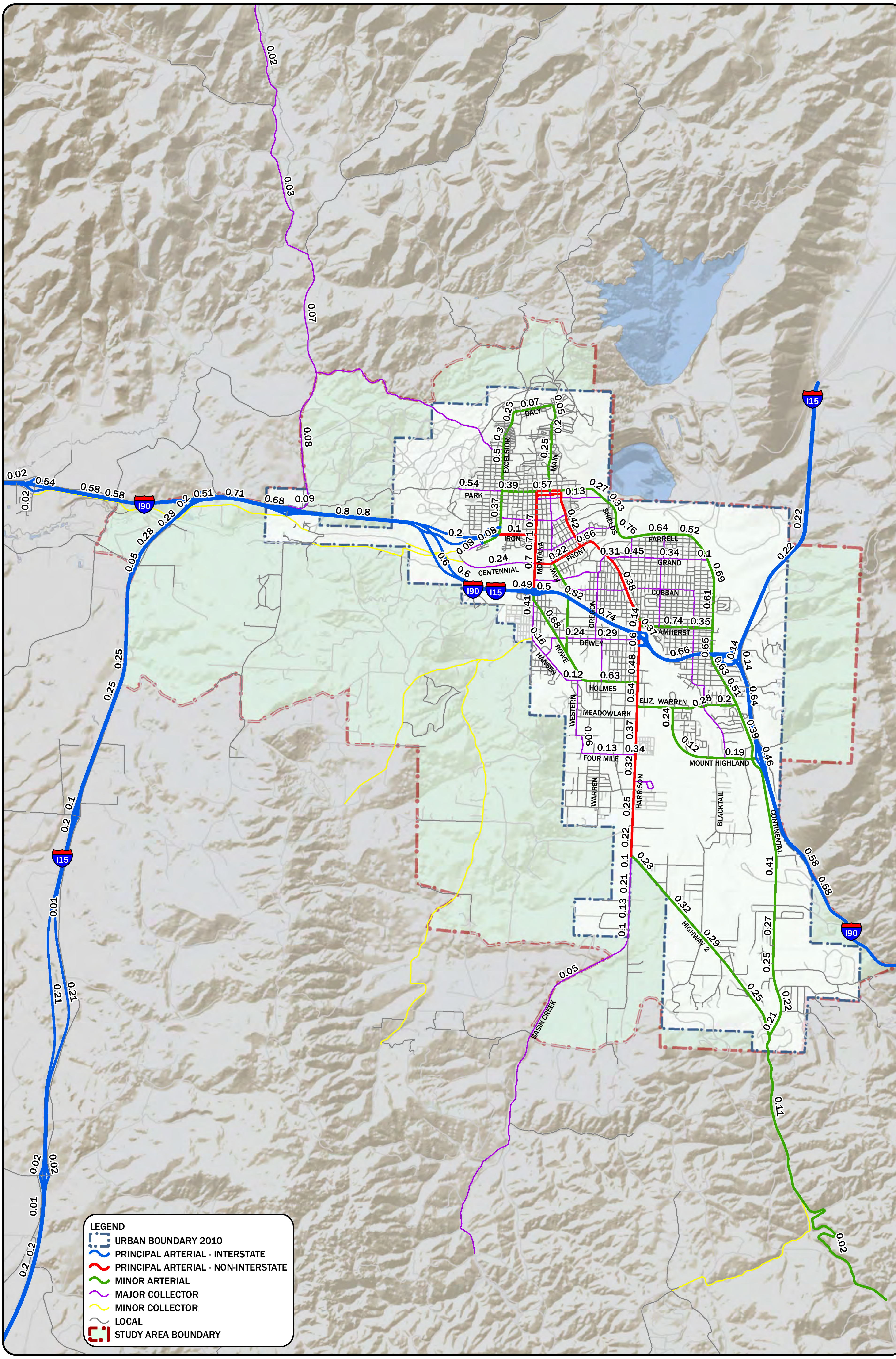

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0 0.625 1.25 2.5
Miles

FIGURE 4-4

PROJECTED VOLUME TO CAPACITY RATIO (2035)

PIONEER TECHNICAL SERVICES, INC.

DATE: 1/24/2017

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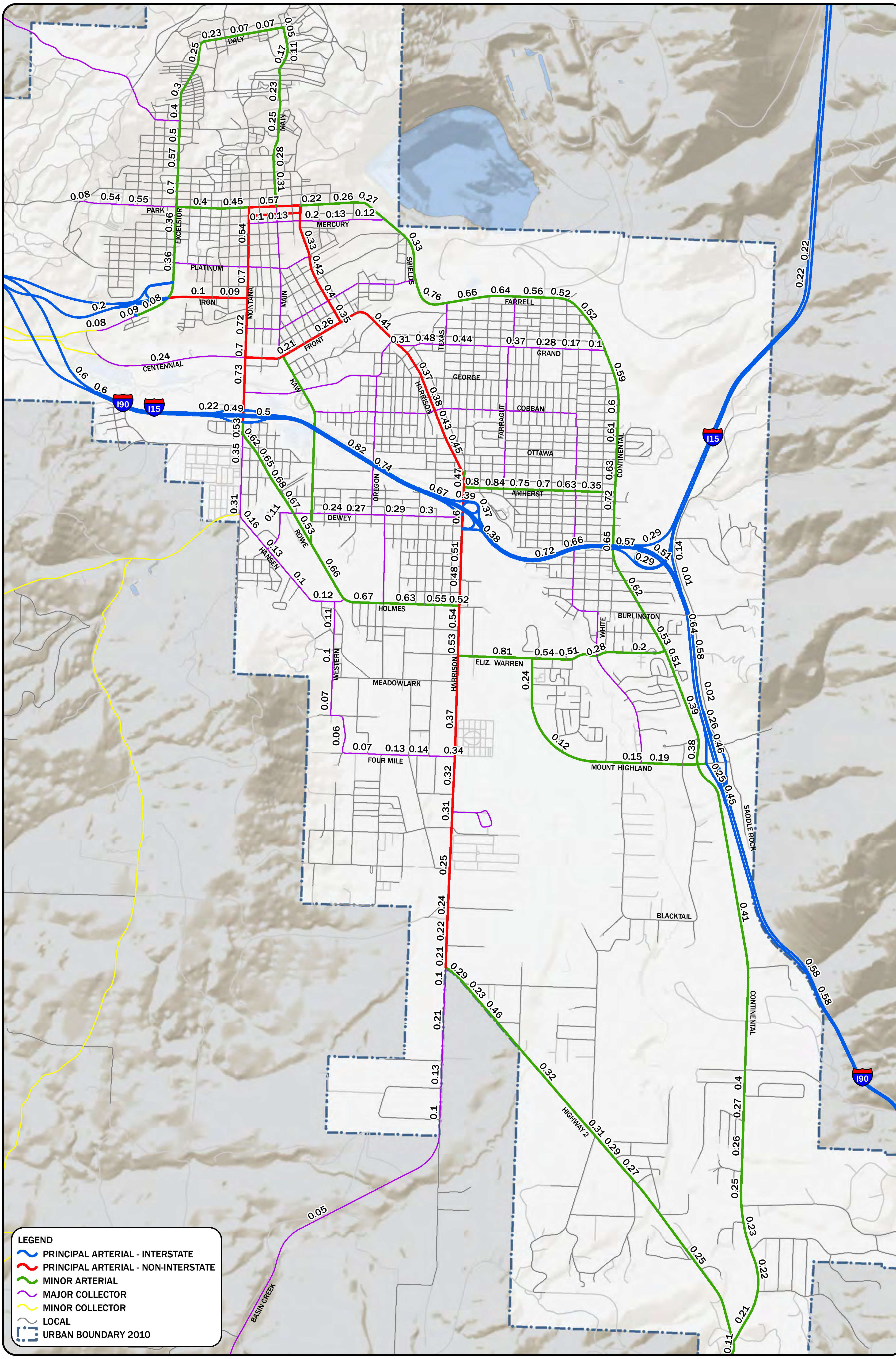

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UNITS: INT'L FEET
SOURCE: PIONEER/MDT/BSB

0 0.3 0.6 1.2 Miles

FIGURE 4-5

PIONEER TECHNICAL SERVICES, INC.

DATE: 1/19/2017

PROJECTED VOLUME TO CAPACITY RATIO (2035) (DETAIL AREA)

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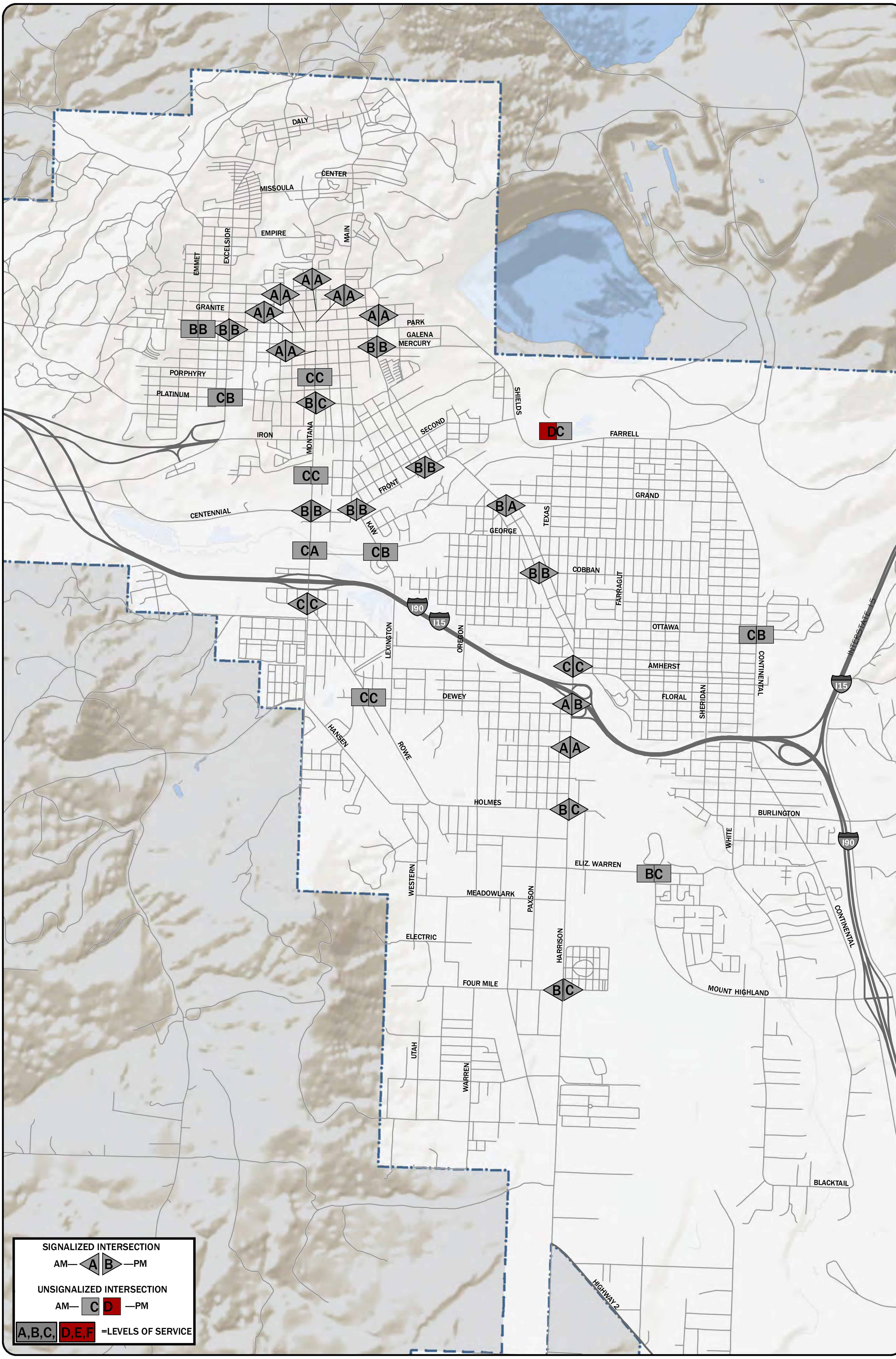
4.4 Intersection Level of Service

The Team collected traffic data at major intersections within the Butte study area in September and October 2015 to use in a Level of Service (LOS) analysis. The data collected included AM and PM peak-hour intersection turning movement data. The Team also obtained traffic data from the MDT for area intersections to use in the capacity and operations analysis. Geometric intersection information and traffic signal timing information (if applicable) was also collected for all study intersections.

Using the information collected for these intersections, the Team conducted a LOS analysis at the study intersections. This evaluation followed the procedures outlined in the Transportation Research Board's (TRB) *Highway Capacity Manual* (HCM) - Special Report 209 (TRB, 2000) and the *Highway Capacity Software* (HCS) version 6.7. Intersections were graded from A to F representing the average delay that a vehicle entering an intersection can expect. Typically, a LOS of C or better is considered acceptable for peak-hour conditions. See Figure 4-6.

Signalized and unsignalized intersections were analyzed separately. Along with the obvious operational differences between signalized and unsignalized intersections, drivers will accept higher levels of total delay at signalized intersections due to the eventual guarantee of protected service at a signalized intersection. Table 4-2 shows the LOS criteria and Control Delay for unsignalized intersections. Control Delay includes all the delay components including control delay, geometric delay, volume delay, and incident delay.



2016 TRANSORTATION PLAN UPDATE

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DATUM: NAD 83
UNITS: INTN'L FEET
SOURCE: PIONEER/MDT/BSB

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Miles

FIGURE 4-6

LEVEL OF SERVICE (2010)

PIONEER TECHNICAL SERVICES, INC.

DATE: 1/18/2017

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Table 4-2. Level of Service Criteria

Level of Service Criteria for Stop Controlled Intersections	
Level of Service	**Control Delay (Per Vehicle)**
A	≤ 10 Seconds
B	10 - 15 Seconds
C	15 - 25 Seconds
D	25 - 35 Seconds
E	35 - 50 Seconds
F	> 50 Seconds

Source TRB, 2000

Table 4-2 indicates that the majority of the unsignalized study intersections are operating at an acceptable LOS. The only study intersection that is experiencing higher than acceptable delay is the intersection of Shields Avenue/Farrell Street and Texas Avenue, which is currently functioning at LOS D in the AM peak hour due to the high level of northbound, left-turning traffic and the high levels of traffic on Shields Avenue/Farrell Street. This issue was identified in the 2005 Plan Update and a lane was added for northbound traffic to improve intersection capacity. A traffic signal warrant study was also recommended for this intersection in 2005. Table 4-3 shows the unsignalized intersection data.

Table 4-3. Unsignalized Intersection LOS Summary

	AM Peak Hour				Overall LOS	Control Delay (Sec.)	PM Peak Hour				Overall LOS	Control Delay (Sec.)
	EB	WB	NB	SB			EB	WB	NB	SB		
Platinum Street & Excelsior Avenue	B	B	B	B	**B**	**13.2**	A	B	A	B	**B**	**11.1**
Park Street & Emmett Avenue		A	B	B	**B**	**14.0**	A	A	B	B	**B**	**12.1**
Montana Street & Porphyry Street	C	C	A	A	**C**	**19.2**	C	C	A	A	**C**	**16.7**
Montana Street & Second Street	C	C	A	A	**C**	**21.0**	C	C	A	A	**C**	**18.5**
Montana Street & George Street		C		A	**C**	**19.5**		C		A	**C**	**21.1**
Kaw Avenue & George Street	C	C	A	A	**C**	**15.5**	B	B	A	A	**B**	**12.9**
Rowe Rd. & Dewey Blvd.	B	B	A	A	**C**	**13.8**	C	C	A	A	**C**	**20.5**
Harrison Avenue & 4 Mile Rd.	B		A		**B**	**13.0**	C		A		**C**	**15.3**
Shields/Farrell & Texas Avenue		A	D		**D**	**30.8**		A	C		**C**	**19.5**
Elizabeth Warren & Mt. Highland Dr.		A	B		**B**	**14.1**		A	C		**C**	**15.0**
Continental Dr. & Ottawa Street	C	C	A	A	**C**	**17.3**	B	C	A	A	**B**	**14.2**

EB: eastbound. WB: westbound. NB: northbound. SB: southbound.

Table 4-4 shows the LOS criteria as described in the HCM (TRB, 2000) for signalized intersections. Note that the seconds of control delay related to LOS for signalized intersections is higher than the criteria for unsignalized intersections.

Table 4-4. Level of Service Criteria Per the HCM

Level of Service Criteria for Signalized Intersections	
Level of Service	**Control Delay (Per Vehicle)**
A	≤ 10 Seconds
B	10 - 20 Seconds
C	20 - 35 Seconds
D	35 - 55 Seconds
E	55 - 80 Seconds
F	> 80 Seconds

Source TRB, 2000

A review of the LOS for the signalized intersections studied for this project indicates that all the intersections studied were functioning at an acceptable LOS (as shown in Table 4-5). It should be noted that the LOS analysis makes some assumptions about intersection and lane geometry. Specific features such as lane lengths, turning radius, and nearby intersections can influence the LOS in the field and are not easily identified by a standard LOS analysis.

Table 4-5. Signalized Intersection LOS Summary

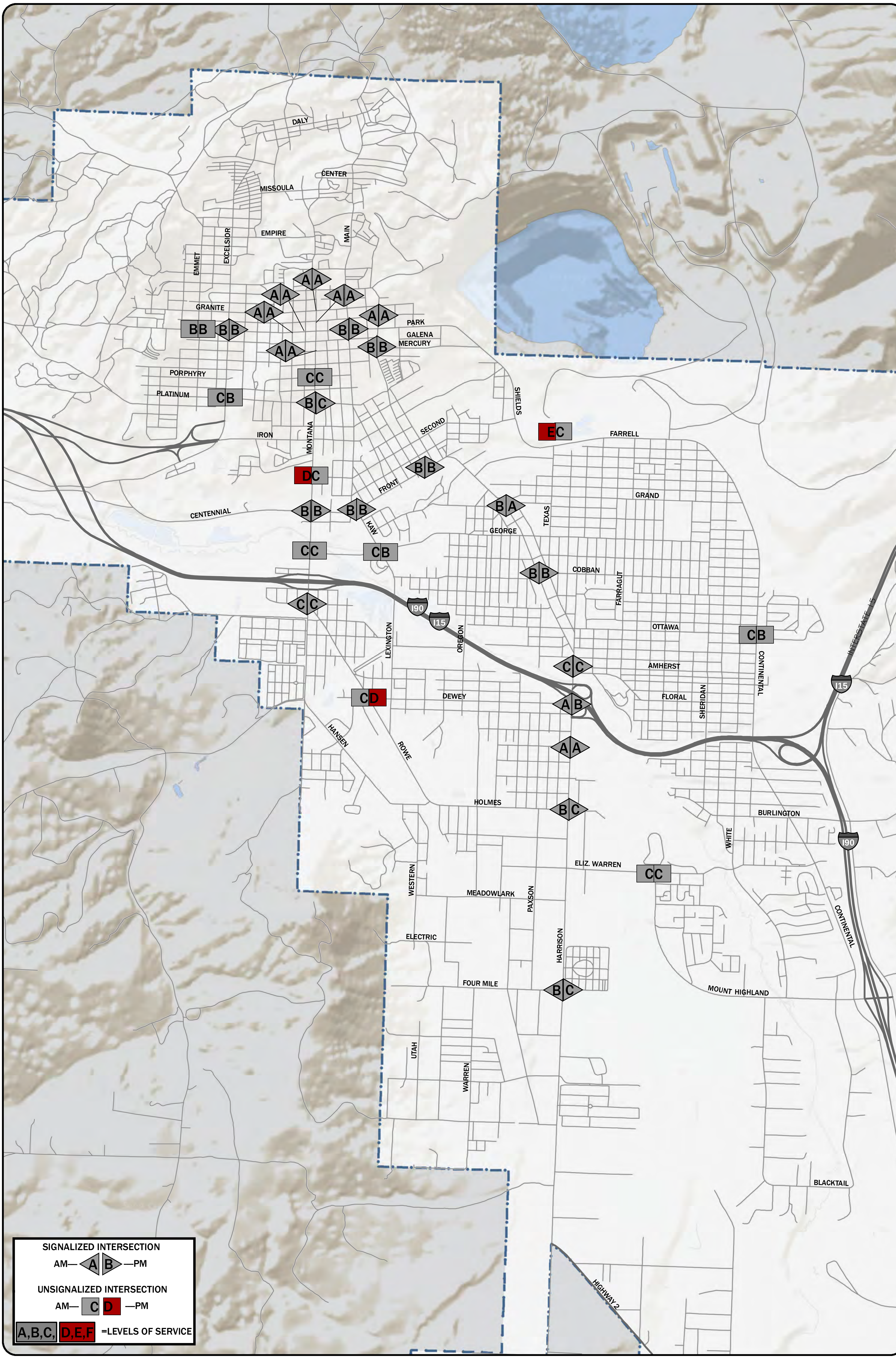
	AM Peak Hour				Overall	Control Delay	PM Peak Hour				Overall	Control Delay
	EB	**WB**	**NB**	**SB**	**LOS**	**(Sec.)**	**EB**	**WB**	**NB**	**SB**	**LOS**	**(Sec.)**
Park Street & Excelsior Avenue	A	A	B	B	**B**	**13.2**	A	A	B	B	**B**	**10.1**
Montana Street & Granite Street	B	B	A	A	**A**	**8.8**	B	B	A	A	**A**	**8.7**
Montana Street & Broadway Street	B	B	A	A	**A**	**7.1**	B	B	A	A	**A**	**8.1**
Montana Street & Mercury Street	C	C	A	A	**A**	**8.0**	C	C	A	A	**A**	**9.6**
Montana Street & Platinum Street	C	C	A	A	**B**	**12.1**	C	C	A	B	**B**	**14.8**
Montana Street & Front Street	C	D	B	A	**B**	**15.3**	C	C	B	A	**B**	**16.8**
Montana Street & Rowe Rd.	D	D	C	B	**C**	**23.6**	D	D	C	B	**C**	**20.3**
Broadway Street & Arizona Avenue	B	B	A	A	**A**	**8.3**	B	B	A	A	**A**	**8.5**
Mercury Street & Arizona Avenue	C	C	A	A	**B**	**11.5**	C	C	A	A	**B**	**12.7**
Park Street & Washington Street	A	A	B	B	**A**	**7.1**	A	A	B	B	**A**	**7.2**
Park Street & Idaho Street	A	A	B	B	**A**	**7.1**	A	A	B	B	**A**	**7.4**
Park Street & Main Street	C	C	B	B	**B**	**19.2**	C	C	B	B	**B**	**18.8**
Front Street & Main Street/Kaw Avenue	B	B	B	B	**B**	**14.8**	A	A	C	C	**B**	**13.8**
Front Street & Utah Street	A	A	C	C	**B**	**10.3**	A	A	C	C	**B**	**15.2**
Harrison Avenue & Grand Avenue		C	B	A	**B**	**14.3**		C	A	A	**A**	**8.5**
Harrison Avenue & Cobban Street	D	D	A	A	**B**	**12.7**	C	D	A	A	**B**	**11.7**
Harrison Avenue & Amherst Avenue	D	D	B	B	**C**	**24.2**	D	D	B	B	**C**	**22.5**
Harrison Avenue & Dewey Blvd.	C		A	A	**A**	**8.2**	C		A	A	**B**	**11.1**

	AM Peak Hour				Overall LOS	Control Delay (Sec.)	PM Peak Hour				Overall LOS	Control Delay (Sec.)
	EB	WB	NB	SB			EB	WB	NB	SB		
Harrison Avenue & Roosevelt Avenue	B	A	A	A	**A**	**4.1**	D	D	A	A	**A**	**8.7**
Harrison Avenue & Holmes Avenue	C	C	A	A	**B**	**11.1**	C	C	A	B	**B**	**13.4**
Harrison Avenue & Elizabeth Warren	C	C	B	A	**C**	**16.1**	C	C	B	A	**B**	**15.6**

EB: eastbound. WB: westbound. NB: northbound. SB: southbound.

4.5 Future Intersection Level of Service

Using the projected 2035 traffic volumes created from the travel demand model, future LOS projections were developed for the study intersections. See Figure 4-7. The travel demand model suggested that traffic volumes on most of the roadways within Butte would increase 2%-10% through 2035. This level of change will have minimal impacts on the LOS at most intersections. The projected 2035 LOS values for signalized and unsignalized intersections are shown in Table 4-6 and Table 4-7. The tables indicate that LOS at the intersections of Park Street and Emmett Avenue (B-C), Shields Avenue/Farrell Street and Texas Avenue (D-E), and Elizabeth Warren and Mt. Highland Drive (B-C) will show a degradation of LOS through 2035.



2016 TRANSORTATION PLAN UPDATE

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DATUM: NAD 83
UNITS: INT'N'L FEET
SOURCE: PIONEER/MDT/BSB

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Miles

FIGURE 4-7

PIONEER TECHNICAL SERVICES, INC.

DATE: 1/18/2017

PROJECTED LEVEL OF SERVICE (2035)

Path: P:\Butte-Silver Bow\2015\BSB 2015 Transportation Plan Update\GIS\Project\TransPlan2016\BSB_Trans2016_LOS2035_16.mxd

Table 4-6. Future 2035 Unsignalized Intersection LOS Summary

	AM Peak Hour		PM Peak Hour	
	Overall LOS	Control Delay (Sec.)	Overall LOS	Control Delay (Sec.)
Platinum Street & Excelsior Avenue	B	13.8	B	11.7
Park Street & Emmett Avenue	C	15.0	B	12.5
Montana Street & Porphyry Street	C	21.6	C	18.1
Montana Street & Second Street	C	23.9	C	20.2
Montana Street & George Street	C	22.1	C	22.8
Kaw Avenue & George Street	C	16.1	B	13.2
Rowe Rd. & Dewey Blvd.	C	16.8	C	22.8
Harrison Avenue & 4 Mile Rd.	B	14.1	C	17.6
Shields Avenue/Farrell Street & Texas Avenue	E	39.1	C	21.6
Elizabeth Warren & Mt. Highland Dr.	C	19.4	C	20.7
Continental Dr. & Ottawa Street	C	19.1	B	14.2

Table 4-7. Future 2035 Signalized Intersection LOS Summary

	AM Peak Hour		PM Peak Hour	
	Overall LOS	Control Delay (Sec.)	Overall LOS	Control Delay (Sec.)
Park Street & Excelsior Avenue	B	14.4	B	10.4
Montana Street & Granite Street	A	8.8	A	8.7
Montana Street & Broadway Street	A	7.1	A	8.2
Montana Street & Mercury Street	A	8.1	A	9.8
Montana Street & Platinum Street	B	12.4	B	15.6
Montana Street & Front Street	B	16.0	B	17.8
Montana Street & Rowe Rd.	C	28.1	C	20.9
Broadway Street & Arizona Avenue	A	8.4	A	8.5
Mercury Street & Arizona Avenue	B	11.5	B	12.7
Park Street & Washington Street	A	7.2	A	7.2
Park Street & Idaho Street	A	7.2	A	7.5
Park Street & Main Street	B	19.8	B	19.5
Front Street & Main Street/Kaw Avenue	B	15.1	B	14.0
Front Street & Utah Street	B	10.6	B	15.7
Harrison Avenue & Grand Avenue	B	14.7	A	9.0
Harrison Avenue& Cobban Street	B	12.7	B	11.9
Harrison Avenue & Amherst Avenue	C	25.4	C	24.1
Harrison Avenue & Dewey Blvd.	A	8.4	B	12.5
Harrison Avenue & Roosevelt Avenue	A	4.1	A	9.1
Harrison Avenue & Holmes Avenue	B	11.8	B	14.3
Harrison Avenue & Elizabeth Warren	C	16.8	B	19.6

4.6 Signal Warrant Analysis

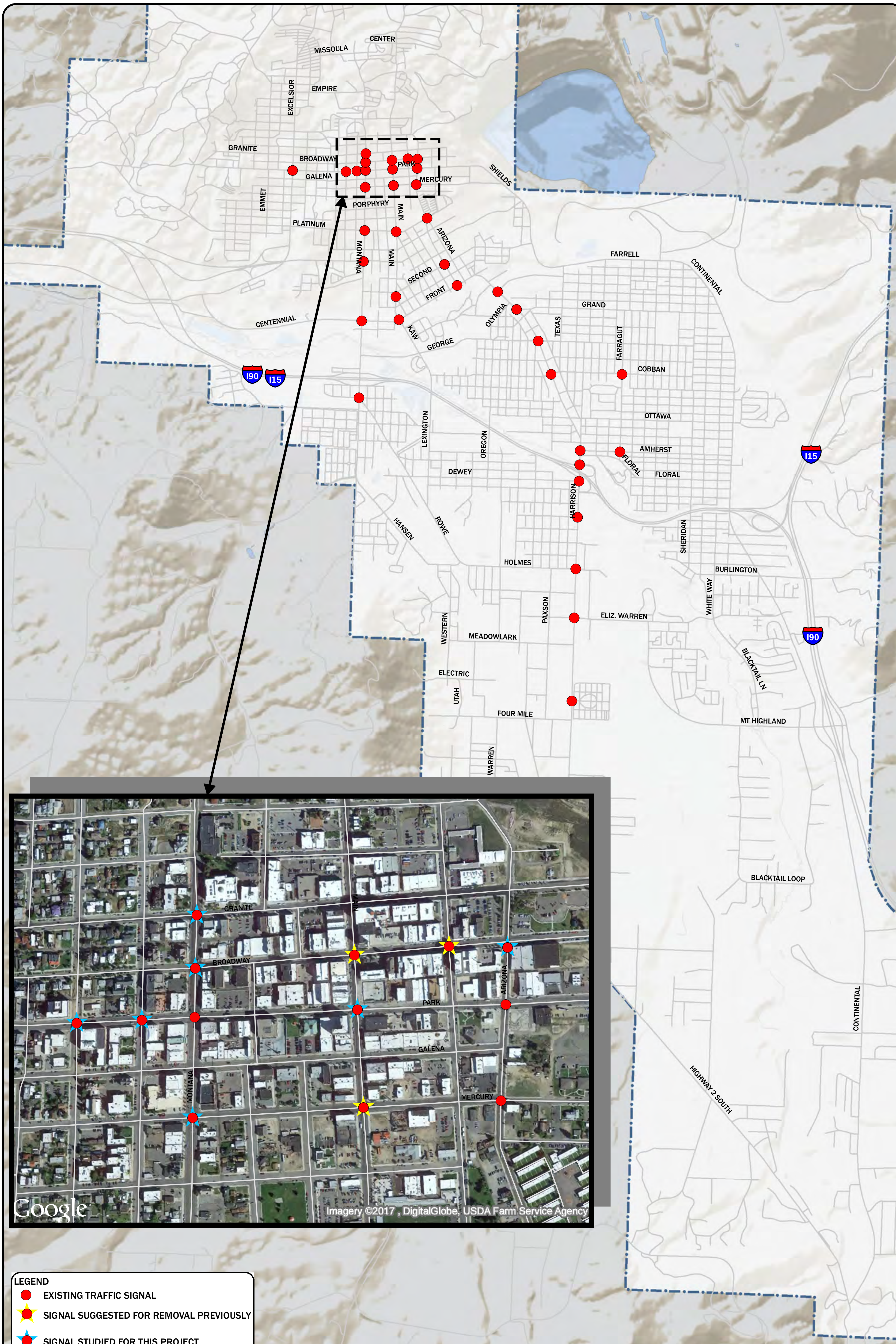
As part of the 2016 Plan Update, BSB requested an evaluation of the traffic conditions at selected intersections in Butte to determine if eight existing traffic signals are currently warranted and if any could be eliminated or replaced with STOP controls. The specific intersections reviewed for traffic signal removal were Montana Street and Granite Street, Montana Street and Broadway Street, Montana Street and Mercury Street, Park Street and Washington Street, Park Street and Idaho Street, Park Street and Main Street, Broadway Street and Arizona Avenue, and Mercury Street and Arizona Avenue. See Figure 4-8 for a signalized intersection map.

In 2015, a signal warrant study was performed at three intersections along Main Street. The analysis suggested that the intersections of Main Street and 2nd Street, Main Street and Mercury Street, and Main Street and Broadway Street do not currently meet signal warrants. The traffic data used for this May 2016 analysis was collected in October of 2015 and April 2016. The collected data included morning and evening traffic counts and 24-hour directional traffic counts at all approaches to the study intersections (where possible). This data was collected on 15-minute intervals. Heavy vehicles, pedestrians, and bicycles were also recorded during the peak-hour traffic counts. Crash data statistics for the study intersections were obtained from the MDT.

The study was performed in accordance with the procedures outlined in the 2009 Edition of the *Manual on Uniform Traffic Control Devices* (MUTCD) (US DOT, 2012). The MUTCD contains nine separate traffic signal warrants. One or more of these warrants should be met before a traffic signal is installed at an intersection. To evaluate these signal warrants it is necessary to assemble 24-hour traffic volume data, pedestrian volumes, and historic crash trends for an intersection. The individual traffic signal warrants include the following:

- Warrant 1 – Eight-Hour Vehicular Volume
- Warrant 2 – Four-Hour Vehicular Volume
- Warrant 3 – Peak Hour Vehicular Volume
- Warrant 4 – Pedestrian Volume
- Warrant 5 – School Crossing
- Warrant 6 – Coordinated Signal System
- Warrant 7 – Crash Experience
- Warrant 8 – Roadway Network
- Warrant 9 – Intersection Near a Grade Crossing.

The MUTCD (U.S. DOT, 2012) allows lower minimum threshold volumes for signalization at locations where the speed limit is greater than 40 MPH or the community has a population of less than 10,000. These conditions do not apply for the study intersections. The MUTCD also allows the elimination of some of the right-turn traffic on the minor approach if the approach has a separated right-turn lane and the lane is operating at LOS C or better. For this study, no right-turns were eliminated for the analysis. Where an existing traffic signal is reviewed for potential removal, it was valuable to account for as much traffic as possible. Leaving the right-turning vehicles in the analysis provided a more conservative assessment of the intersection operations.



2016 TRANSPORTATION PLAN UPDATE

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DATUM: NAD 83
UNITS: INTN'L FEET
SOURCE: PIONEER/MDT/BSB

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Miles

FIGURE 4-8

SIGNALIZED INTERSECTIONS

PIONEER TECHNICAL SERVICES, INC.

DATE: 1/19/2017

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4.6.1 Signalization Warrants

4.6.1.1 Warrant 1 – Eight-Hour Vehicular Volume

MUTCD Section 4C.02 (U.S. DOT, 2012)
"The Minimum Vehicular Volume, Condition A, is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

The Interruption of Continuous Traffic, Condition B, is intended for application at locations where Condition A is not satisfied and 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.

It is intended that Warrant 1 be treated as a single warrant. If Condition A is satisfied, then the criteria for Warrant 1 is satisfied and Condition B and the combination of Conditions A and B are not needed. Similarly, if Condition B is satisfied, then the criteria for Warrant 1 is satisfied and the combination of Conditions A and B is not needed.

> *Standard: The need for a traffic control signal shall be considered if an engineering study finds that one of the following conditions exist for each of any 8 hours of an average day:*
> *A. The vehicles per hour given in both of the 100 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; or*
> *B. The vehicles per hour given in both of the 100 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.*
> *In applying each condition the major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of these 8 hours."*

For a roadway with two lanes on the minor street and two lanes on the major approach, *MUTCD Table 4C-1* (U.S. DOT, 2012) gives the minimum vehicular volumes as 500 vehicles per hour (VPH) on the major street and 150 VPH on the minor approach for Condition A. For Condition B, the minimum vehicular volume is 900 VPH on the major street and 75 VPH on the minor approach.

The analysis of the hourly data for the study intersections indicates that the highest hourly volume during the 8-hour study at these intersections is 260-710 VPH. The only intersection that met the 8-hour highest volume on the major street was Montana and Mercury; however, this street did not have sufficient minor street volume to meet the full warrant. The intersection of Main Street and Park Street has sufficient minor street traffic volume but insufficient major street volume to meet this warrant. Therefore, this warrant was not met at any of the study intersections. Table 4-8 shows the 8-hour volumes and Figure 4-9 duplicates the MUTCD Table 4C-1.

Warrant not met at any study location.

Table 4-8. Eight-Hour Highest Hour Volumes

	Major Street Volume	Minor Street Volume	Percent of Warrant Volume
1. Montana & Mercury	710	79	50%
2. Montana & Broadway	395	91	60%
3. Montana & Granite	261	128	40%
4. Park & Main	259	172	60%
5. Park & Washington	395	18	10%
6. Park & Idaho	463	46	30%
7. Broadway & Arizona	260	40	30%
8. Mercury & Arizona	356	58	40%

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A—Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B—Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures
[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000
[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Sect. 4C.02 December 2009

Source: *2009 Manual on Uniform Traffic Control Devices*

Figure 4-9. Eight-Hour Warrant Table

4.6.1.2 Warrant 2 – Four-Hour Vehicular Volume

MUTCD Section 4C.03 (U.S. DOT, 2012)
"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.

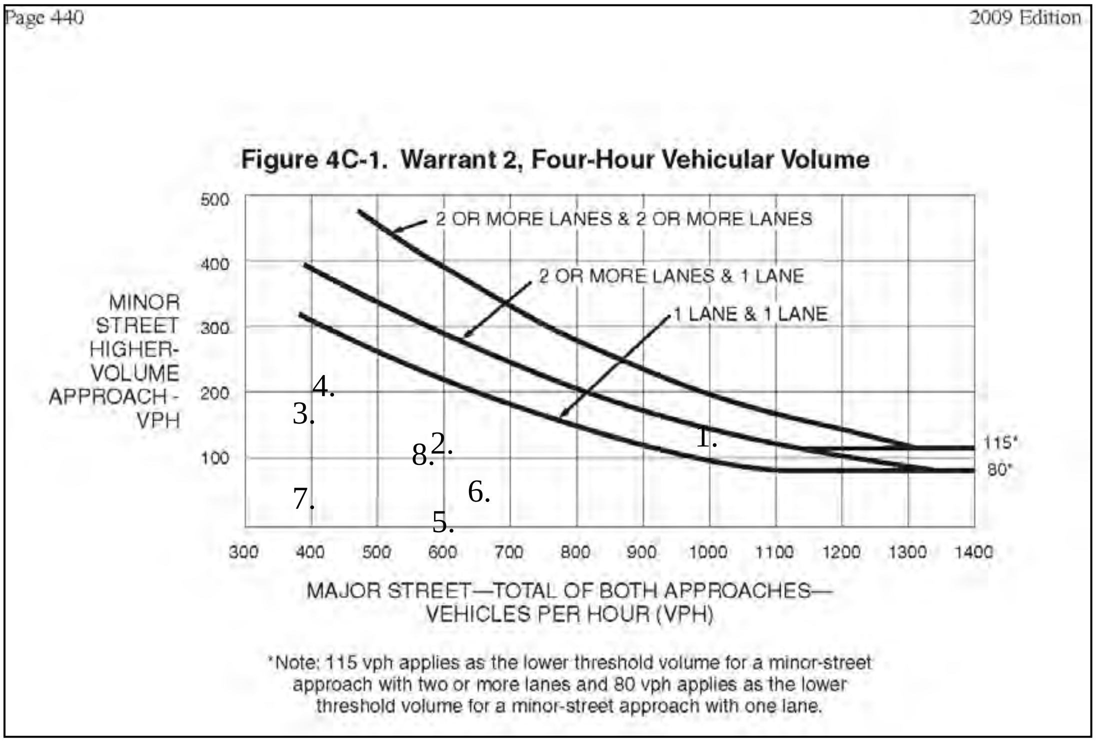
> *Standard: The need for a traffic control signal shall be considered if an engineering study finds that, for each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) all fall above the applicable curve in Figure 4C-1 for the existing combination of approach lanes. On the minor street, the higher volume shall not be required to be on the same approach during each of these 4 hours."*

The data collected by ATS indicate that the 4-hour highest hour at the study intersections varied from 300 VPH to 900 VPH with minor approach volumes varying from 30 to 200 VPH (see Table 4-9). A plot of these volumes on *MUTCD Figure 4C-1* (Figure 4-10) indicates that only the intersection of Montana and Mercury has sufficient volume to meet this warrant.

Warrant met at Montana & Mercury Intersection.

Table 4-9. Four-Hour Highest Hour Volumes

	Major Street Volume	Minor Street Volume	Percent of Warrant Volume
1. Montana & Mercury	921	111	110%
2. Montana & Broadway	515	129	50%
3. Montana & Granite	327	171	50%
4. Park & Main	335	220	70%
5. Park & Washington	521	30	10%
6. Park & Idaho	585	61	30%
7. Broadway & Arizona	315	57	20%
8. Mercury & Arizona	495	110	40%



Source: *2009 Manual on Uniform Traffic Control Devices*

Figure 4-10. Four-Hour Warrant Graph

4.6.1.3 Warrant 3 – Peak Hour Vehicular Volume

MUTCD Section 4C.04 (U.S. DOT, 2012)
"The Peak Hour signal warrant is intended for use at a location where traffic conditions are such that for a minimum of 1 hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street.

> *This signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time. The need for a traffic control signal shall be considered if an engineering study finds that the criteria in either of the following two categories are met:*

A. *If all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:*
   1. *The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach, and*
   2. *The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes, and*

3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.

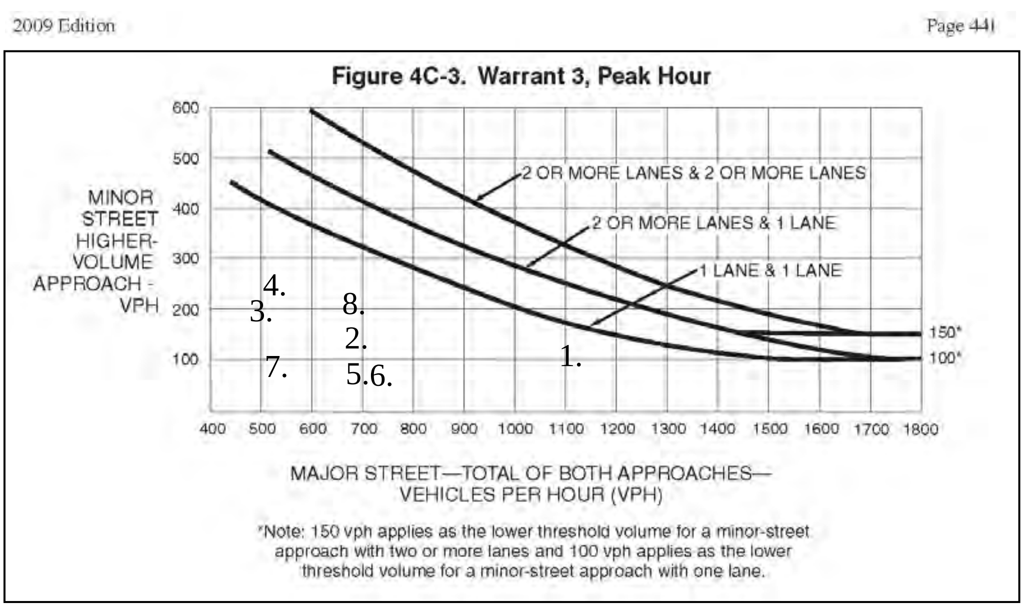
B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes."

Table 4-10 shows the peak-hour volumes for the study intersections. The table indicates that peak-hour traffic volumes are 20%-60% of the minimum to satisfy this warrant at all study locations. Figure 4-11 shows the peak-hour warrant graph.

Warrant not met at any study location.

Table 4-10. Peak-Hour Volumes

	Major Street Volume	Minor Street Volume	Percent of Warrant Volume
1. Montana & Mercury	1,028	135	60%
2. Montana & Broadway	584	149	50%
3. Montana & Granite	386	200	50%
4. Park & Main	412	254	60%
5. Park & Washington	587	75	20%
6. Park & Idaho	629	72	20%
7. Broadway & Arizona	425	92	20%
8. Mercury & Arizona	572	213	60%



Source: *2009 Manual on Uniform Traffic Control Devices*

Figure 4-11. Peak-Hour Warrant Graph

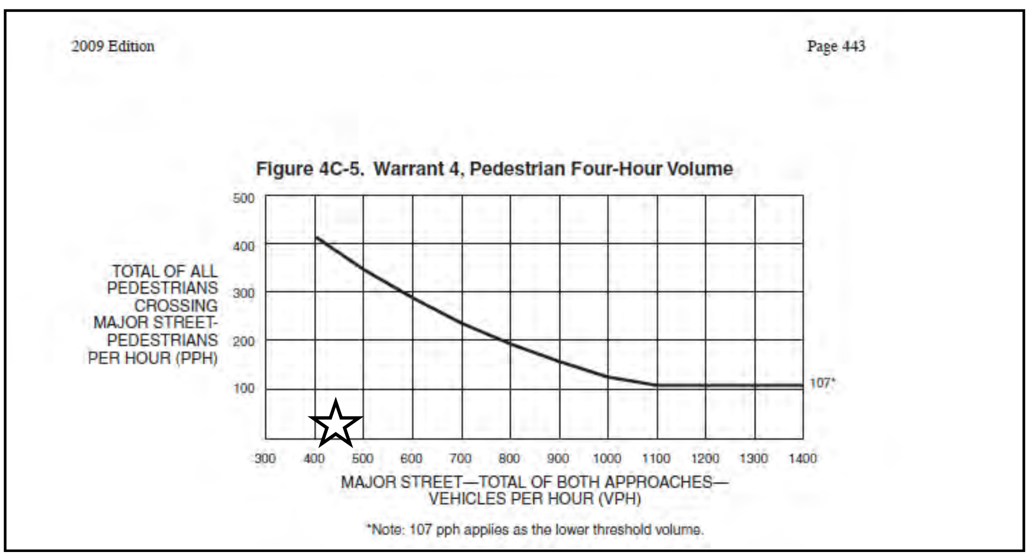
4.6.1.4 Warrant 4 – Pedestrian Volume

MUTCD Section 4C.05 (U.S. DOT, 2012)
"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.

> *Standard: The need for a traffic control signal at an intersection or midblock crossing shall be considered if an engineering study finds that both of the following criteria are met:*
>
> *A. For each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) all fall above the curve in Figure 4C-5; or*
>
> *B. For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) falls above the curve in Figure 4C-7."*

Pedestrians and bicycles were counted at all intersections during the study. The counts indicated that pedestrian use at the study intersections is relatively low (Figure 4-12 shows the MUTCD 4C-5 chart). Pedestrian use at the intersections ranged from 10 to 40 per hour, which is well below the 100 pedestrian minimum to meet this warrant. Therefore, the study intersections do not meet this warrant.

Warrant not met at any study location.



Source: *2009 Manual on Uniform Traffic Control Devices*

Figure 4-12. Pedestrian Warrant Graph

4.6.1.5 Warrant 5 – School Crossing

MUTCD Section 4C.06 (U.S. DOT, 2012)
"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. For the purposes of this warrant, the word "schoolchildren" includes elementary through high school students.

> *Standard: The need for a traffic control signal shall be considered when an engineering study of the frequency and adequacy of gaps in the vehicular traffic stream as related to the number and size of groups of school children at an established school crossing across the major street shows that the number of adequate gaps in the traffic stream during the period when the children are using the crossing is less than the number of minutes in the same period (see Section 7A.03) and there are a minimum of 20 students during the highest crossing hour.*
>
> *Before a decision is made to install a traffic control signal, consideration shall be given to the implementation of other remedial measures, such as warning signs and flashers, school speed zones, school crossing guards, or a grade-separated crossing.*
>
> *The School Crossing signal warrant shall not be applied at locations where the distance to the nearest traffic control signal along the major street is less than 90 m (300 ft), unless the proposed traffic control signal will not restrict the progressive movement of traffic."*

Not one of the intersections studied for traffic signal removal is close to schools. Therefore, the study intersections do not meet this warrant.

<u>**Warrant not met at any study location.**</u>

4.6.1.6 Warrant 6 – Coordinated Signal System

MUTCD Section 4C.07 (U.S. DOT, 2012)
"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.

> *Standard: The need for a traffic control signal shall be considered if an engineering study finds that one of the following criteria is met:*
>
> *A. On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.*

B. On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation."

The existing traffic signal coordination at the study intersections does not provide a significant benefit for the overall corridor operations, nor is signal coordination necessary to improve intersection operations. Therefore, the study intersections do not meet this warrant.

Warrant not met at any study location.

4.6.1.7 Warrant 7 – Crash Experience

MUTCD Section 4C.08 (U.S. DOT, 2012)
"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.

Standard: The need for a traffic control signal shall be considered if an engineering study finds that all of the following criteria are met:

A. Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency; and

B. Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash; and

C. For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80 percent columns of Condition A in Table 4C-1 (see Section 4C.02), or the vph in both of the 80 percent columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80 percent of the requirements specified in the Pedestrian Volume warrant. These major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours."

Crash data for the study intersection was obtained from the MDT for 2010 through 2014. This information was plotted on a Geographic Information System (GIS) map of Butte to identify the locations of each accident. The data were then sorted and reviewed to develop an accurate crash history for each study location. The analysis indicates that 1-12 crashes occurred at these intersections over the last 5 years. Five crashes were recorded in a 12-month period at the intersection of Park and Main, which meets the minimum threshold for a traffic signal (Table 4-11).

All the recorded crashes at Park and Main were multi-vehicle collisions during the 12-month period and most were right-angle collisions. The Team obtained additional crash data for this intersection for 2015 to determine if vehicle crash patterns changed at the Park and Main intersection during the most recent year. This intersection was under construction for a large portion of 2015 and the traffic signal was not in operation for most of the year. The crash data from 2015 indicated 6 crashes occurred in 2015, and they were similar to the crash patterns from previous years indicating that the traffic signal is not causing the crash trends at this intersection. A review of the traffic volumes at the intersection indicated that the intersection currently operates at 60% to 70% of the volumes recommended for signalization. The intersection may not meet warrants for the installation of a new traffic signal, but there is sufficient traffic volume and crash history at Park and Main to maintain the existing traffic signal at this location.

Table 4-11. Intersection Crash Summary

	Total Crashes 2010 Thru 2014	Max 12-Month Crashes
1. Montana & Mercury	4	2
2. Montana & Broadway	2	1
3. Montana & Granite	3	1
4. Park & Main*	12	5
5. Park & Washington	2	1
6. Park & Idaho	5	2
7. Broadway & Arizona	1	1
8. Mercury & Arizona	2	1

*Includes 2015 Data

The installation of traffic signals does not necessarily improve crash statistics at intersections without existing crash histories. If signals are removed from these locations, the crash rate may go up or down slightly. If a different type of traffic control is selected for these locations (four-way or two-way STOP), different types of crashes may be expected (fewer rear-end crashes or more right-angle crashes), but a significant change in the crash rate is not expected.

Warrant met at Park and Main.

4.6.1.8 Warrant 8 – Roadway Network

MUTCD Section 4C.09 (U.S. DOT, 2012)
"Installing a traffic control signal at some intersections might be justified to encourage concentration and organization of traffic flow on a roadway network."

> *Standard: The need for a traffic control signal shall be considered if an engineering study finds that the common intersection of two or more major routes meets one or both of the following criteria:*
>
> A. *The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical*

weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of Warrants 1, 2, and 3 during an average weekday; or

B. *The intersection has a total existing or immediately projected entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a non-normal business day (Saturday or Sunday). A major route as used in this signal warrant shall have one or more of the following characteristics:*
   A. *It is part of the street or highway system that serves as the principal roadway network for through traffic flow; or*
   B. *It includes rural or suburban highways outside, entering, or traversing a City; or*
   C. *It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study."*

The intersection of Montana and Mercury has more than 1,000 VPH entering during the peak hour, therefore, this study area meets this warrant.

Warrant met at Montana and Mercury.

4.6.1.9 Warrant 9 – Intersection Near a Grade Crossing

MUTCD Section 4C.10 (U.S. DOT, 2012)

"The Intersection Near a Grade Crossing signal warrant is intended for use at a location where none of the conditions described in the other eight traffic signal warrants are met, but the proximity to the intersection of a grade crossing on an intersection approach controlled by a STOP or YIELD sign is the principal reason to consider installing a traffic control signal."

There are no railroad crossings within 1,000 feet of any study intersections; therefore, the study intersections do not meet this warrant.

Warrant not met at any study location.

4.6.2 Level of Service

Using the data collected for this project, the Team conducted a LOS analysis at the study intersections according to the procedures outlined in the HCM (TRB, 2000) and the HCS version 6.7. Intersections are graded from A to F representing the average delay that a vehicle entering an intersection can expect. Typically, a LOS of C or better is considered acceptable for peak-hour conditions.

Table 4-12 shows the existing 2015 LOS for the AM and PM peak period for the study intersections. The table shows that all these intersections are currently operating with minimal delay with the existing traffic signals.

Table 4-12. Existing Signalized LOS

	Overall LOS	Control Delay (Sec.)	Overall LOS	Control Delay (Sec.)
Montana Street & Granite Street	A	8.8	A	8.7
Montana Street & Broadway Street	A	7.1	A	8.1
Montana Street & Mercury Street	A	8.0	A	9.6
Broadway Street & Arizona Avenue	A	8.3	A	8.5
Mercury Street & Arizona Avenue	B	18.3	B	19.8
Park Street & Washington Street	A	7.1	A	7.2
Park Street & Idaho Street	A	7.1	A	7.4
Park Street & Main Street	B	19.2	B	18.8

If the traffic signals at these intersections were removed, the intersections would need to be changed to two-way or four-way STOP controls. All these intersections have relatively high total entering volumes, but four-way STOP controls are generally only recommended at intersections with approximately equal approach volumes on all approaches. Four-way STOP controls can also provide better service to pedestrians and provide some traffic calming in urban areas more so than a two-way STOP intersection. The intersections of Main and Granite, Mercury and Arizona, and Park and Main have similar approach volumes on each leg, while the other studied intersections have much lower volumes on the side streets compared to the more heavily traveled route. The recommend STOP control configuration and potential LOS with the recommend STOP control is shown in Table 4-13. It should be noted that the two-way STOP control LOS only refers to the side street LOS and delay. The delay on the major street will be near zero with a two-way STOP.

Table 4-13. STOP Controlled LOS

	Recommend STOP Control	Overall LOS	Control Delay (Sec.)	Overall LOS	Control Delay (Sec.)
Montana St. & Granite Street	Four-Way STOP	A	8.1	A	8.6
Montana St. & Broadway Street*	Two-Way STOP (E/W)	B	12.7	B	12.9
Montana St. & Mercury Street*	Two-Way STOP (E/W)	C	20.7	D	32.1
Broadway St. & Arizona Avenue*	Two-Way STOP (E/W)	B	8.3	B	10.7
Mercury St. & Arizona Avenue	Four-Way STOP	A	9.1	B	11.3
Park St. & Washington Street*	Two-Way STOP (N/S)	B	7.1	B	11.8
Park St. & Idaho Street*	Two-Way STOP (N/S)	B	7.1	B	12.5
Park St. & Main Street	Four-Way STOP	B	10.4	B	10.9

*Average Minor Street LOS and Delay

Table 4-13 shows that most of these intersections function with minimal delay with the recommended STOP control configuration, except for the intersection of Montana and Mercury, which would function at LOS D with STOP controls. It should be noted that the intersection of Montana and Mercury does currently meet two signalization warrants.

4.6.3 Conclusions and Recommendations

Currently six of the eight intersections studied do not meet any traffic signal warrants, as shown in Table 4-14. This does not necessarily mean that any of these traffic signals must be removed, but it indicates that these traffic signals could be removed without significantly impacting the intersection traffic operations, safety, or capacity. Most of these intersections have low traffic volumes, light pedestrian use, no significant crash histories, and no special cases that would warrant leaving the existing traffic signals in place. Unwarranted and unneeded traffic signals generally do not provide any safety or operational benefits at intersections and create significant operations and maintenance costs.

Removing traffic signals can change traffic patterns by encouraging drivers to use other streets. If a traffic signal is removed at any location, it is likely that the traffic volumes on the minor street approaches will fall and that some traffic will migrate to nearby streets.

For locations selected for permanent four-way STOP controls, the interactions would benefit from adding curb bulbs to improve STOP sign visibility and reduce the crossing distance for pedestrians. Overhead signal flashers to give drivers warning of the four-way STOP control configuration would also be desirable within the downtown areas.

Table 4-14. Warrant Table

	Warrant 1 8- Hour	Warrant 2 4-Hour	Warrant 3 Peak Hour	Warrant 4 Pedestrian	Warrant 5 School X-ing	Warrant 6 Coord. Signal	Warrant 7 Crash Exp.	Warrant 8 Network	Warrant 9 Grade X-ing
1. Montana & Mercury	No	YES	No	No	No	No	No	YES	No
2. Montana & Broadway	No	No	No	No	No	No	No	No	No
3. Montana & Granite	No	No	No	No	No	No	No	No	No
4. Park & Main	No	No	No	No	No	No	YES	No	No
5. Park & Washington	No	No	No	No	No	No	No	No	No
6. Park & Idaho	No	No	No	No	No	No	No	No	No
7. Broadway & Arizona	No	No	No	No	No	No	No	No	No
8. Mercury & Arizona	No	No	No	No	No	No	No	No	No

The intersection of Montana and Mercury meets the four-hour warrant (Warrant 2) and road network warrant (Warrant 8), and would not function at an acceptable LOS with STOP controls. The intersection of Park and Main meets the crash experience warrant (Warrant 7) and should remain in operation. It is recommended the City of Butte consider signal removal at the intersections of Montana Street and Granite Street, Montana Street and Broadway Street, Park Street and Washington Street, Park Street and Idaho Street, and Broadway Street and Arizona Avenue. Recommended design modifications to the intersection of Mercury Street and Arizona Avenue are discussed in Section 7.2.

4.7 Accident Assessment

4.7.1 Crash Data

Crash data for Silver Bow County, obtained from the MDT Safety Management System (SMS), were plotted into a GIS map to evaluate crash locations throughout the community. The data analysis identified high-crash locations as well as overall crash trends for the community. This section provides information about those overall crash trends and detailed analyses of selected locations. To remain consistent with the various data sources used for this report, the study area in the analysis was all of Silver Bow County. Some data sets refer to the City limits of Butte only, and these are noted appropriately.

The SMS data included information on 2,534 crashes that occurred within Silver Bow County from January 1, 2010, to December 31, 2014. This included summary fields indicating location of crash, date, time, road and weather conditions, type of crash, driver details, and other information describing specific circumstances related to each crash. It should be noted that the SMS crash data included some subjective information and did not contain complete details for all crashes.

Within the study area, the data included 8 fatal crashes and 64 incapacitating injury crashes. Figure 4-13 shows the annual crash volumes for the study area. The figure also shows that the total number of crashes has remained relatively consistent, although it was slightly elevated in 2014. Compared to the results of the 2005 Plan Update, the annual crash rate is unchanged (average 569 crashes from 2000 thru 2004). A vehicle crash distribution map (Figure 4-14) and detail map (Figure 4-15) show the general location and distribution of crashes within the community. Generally, the distributions flow along the major road network and correlate with total traffic volumes.

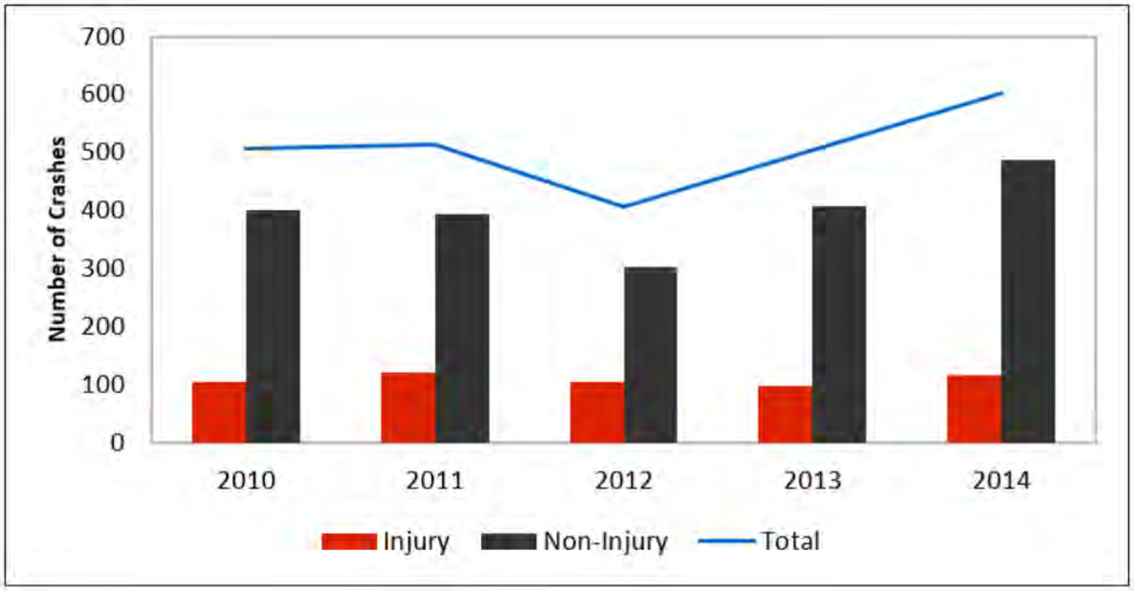
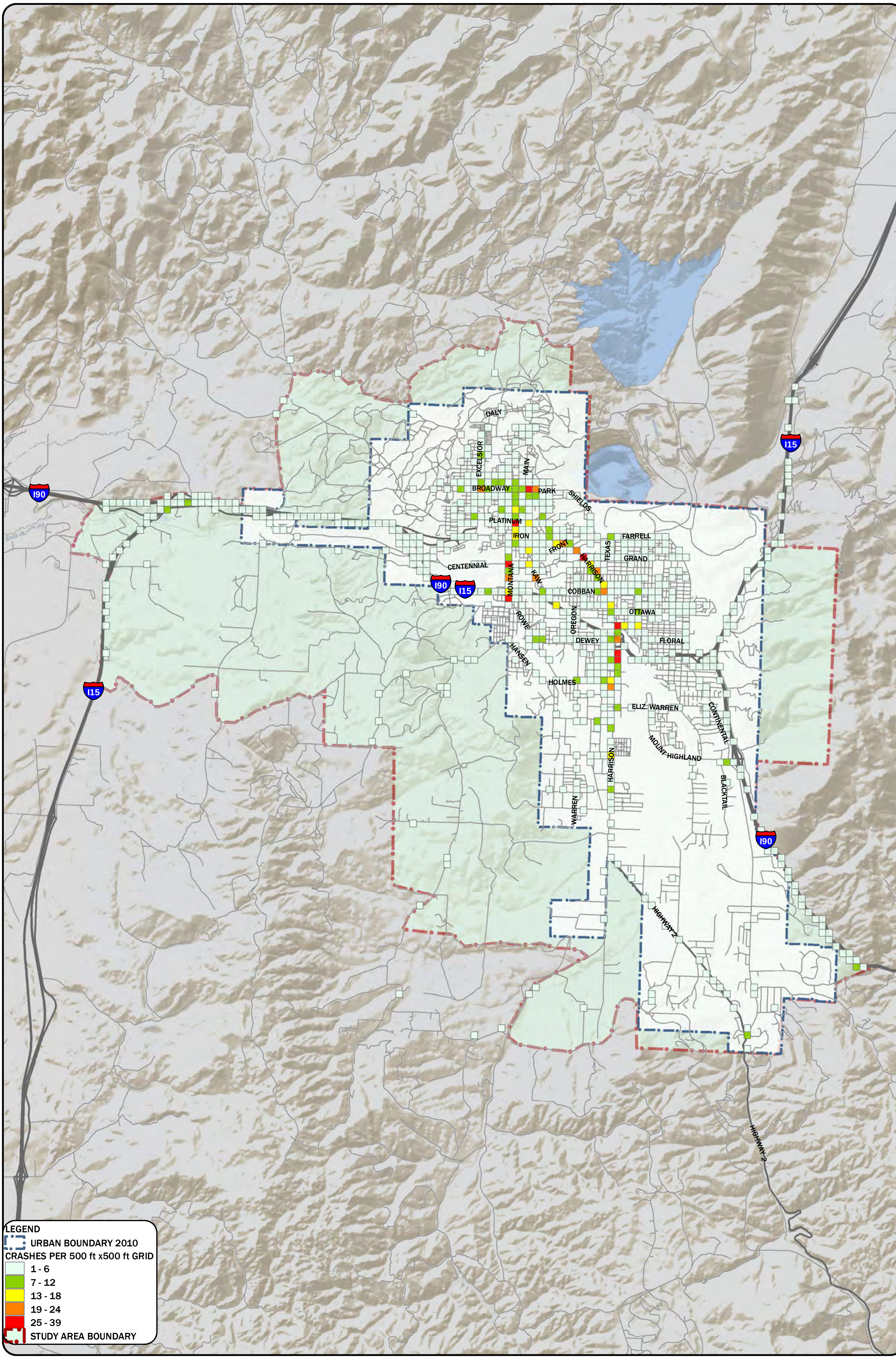


Figure 4-13. Annual Crash Volumes 2010-2014.[4]

[4] Injury crashes include the following categories: non-incapacitating evident injury accident, possible injury accident, incapacitating injury accident, and fatal accident. Due to the low volume of fatal and incapacitating injury crashes relative to the scale of this graphic, this detail is not provided here. This is also consistent with previous reports.



2016 TRANSPORTATION PLAN UPDATE

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DATUM: NAD 83
UNITS: INTN'L FEET
SOURCE: PIONEER/MDT/BSB

0 0.625 1.25 2.5
Miles

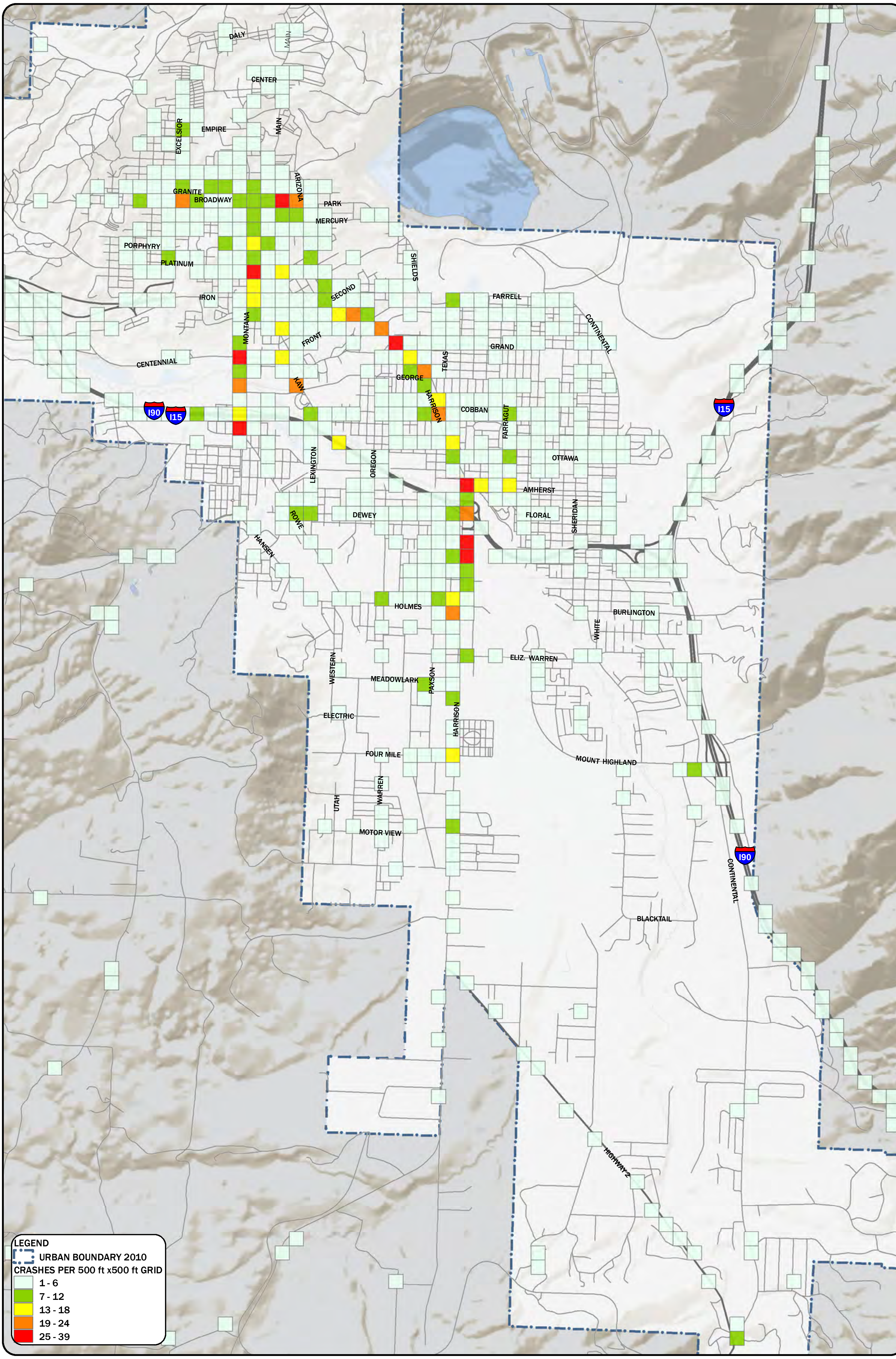
FIGURE 4-14

CRASH DISTRIBUTION MAP

PIONEER TECHNICAL SERVICES, INC.

DATE: 1/24/2017

Path: P:\Butte-Silver Bow\2015\BSB 2015 Transportation Plan Update\GIS\Project\TransPlan2016\BSB_Trans2016_Crash2_16.mxd



2016 TRANSPORTATION PLAN UPDATE

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PROJECTION/ZONE: MSP
DATUM: NAD 83
UNITS: INTN'L FEET
SOURCE: PIONEER/MDT/BSB

0 0.3 0.6 1.2
Miles

FIGURE 4-15

PIONEER TECHNICAL SERVICES, INC.

DATE: 1/19/2017

CRASH DISTRIBUTION MAP (DETAIL AREA)

Path: P:\Butte-Silver Bow\2015\BSB 2015 Transportation Plan Update\GIS\Project\TransPlan2016\BSB_Trans2016_Crash_16.mxd

The crash information was plotted by time of day, day of week, and month of year over the study period. The data follow the normal trend of crash statistics with a peak in crashes during the morning commute period, the lunch hour, and into the late afternoon and evening hours. More vehicle crashes occur on Fridays than other days of the week and more crashes occur during winter months. Figure 4-16 through Figure 4-18 show this data graphically.

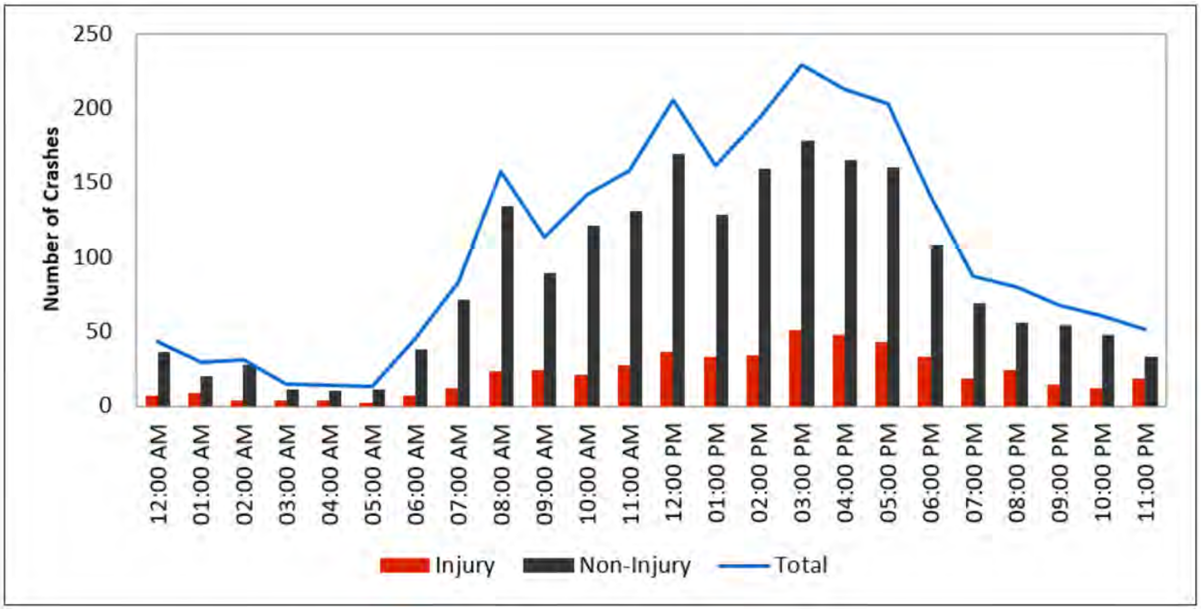


Figure 4-16. Crashes by Time of Day

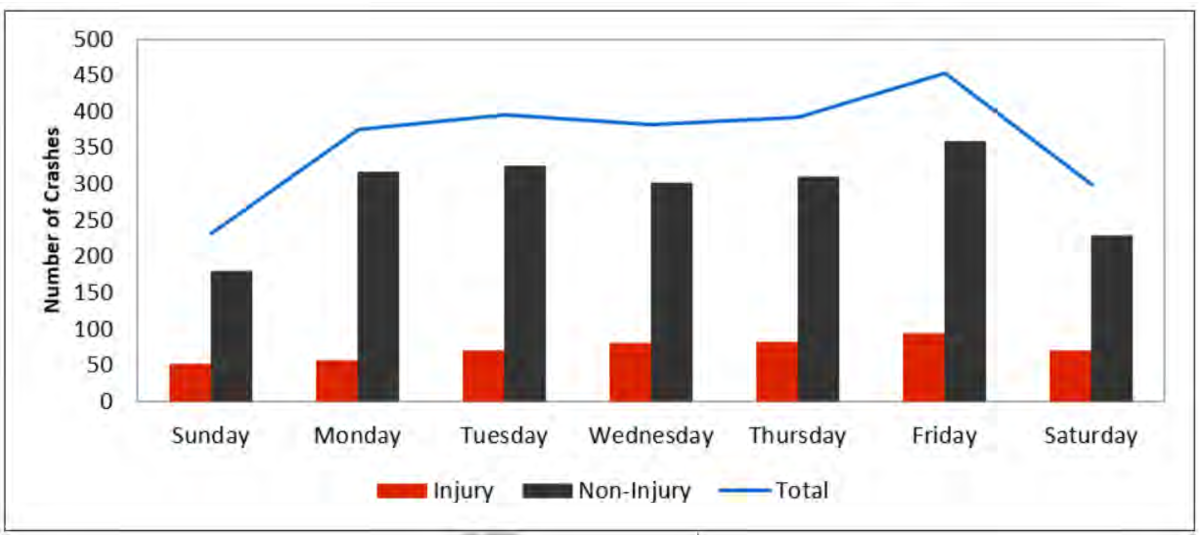


Figure 4-17. Crashes by Day of Week

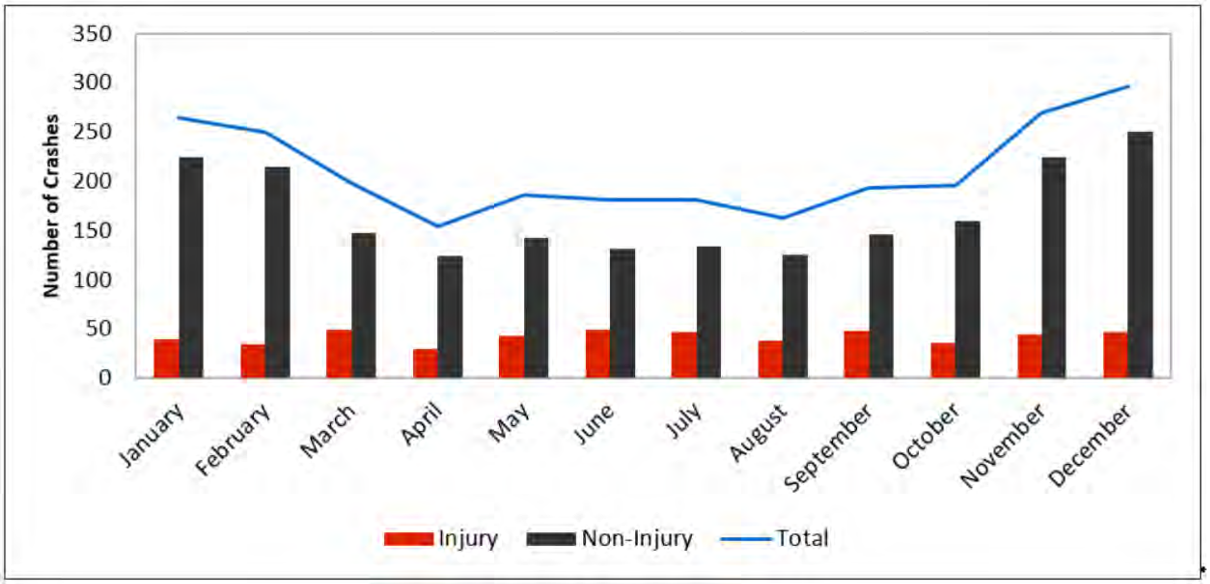


Figure 4-18. Crashes by Month of Year

A review of the data also identified the environmental conditions associated with the crash trends. In general, 58% of all crashes occurred on dry roads, 87% occurred under clear or cloudy skies, and 75% occurred in daylight hours. Figure 4-19 shows the environmental condition factors (road, weather, and light conditions) and Figure 4-20 shows the physical factors (junction, roadway, and vehicle).

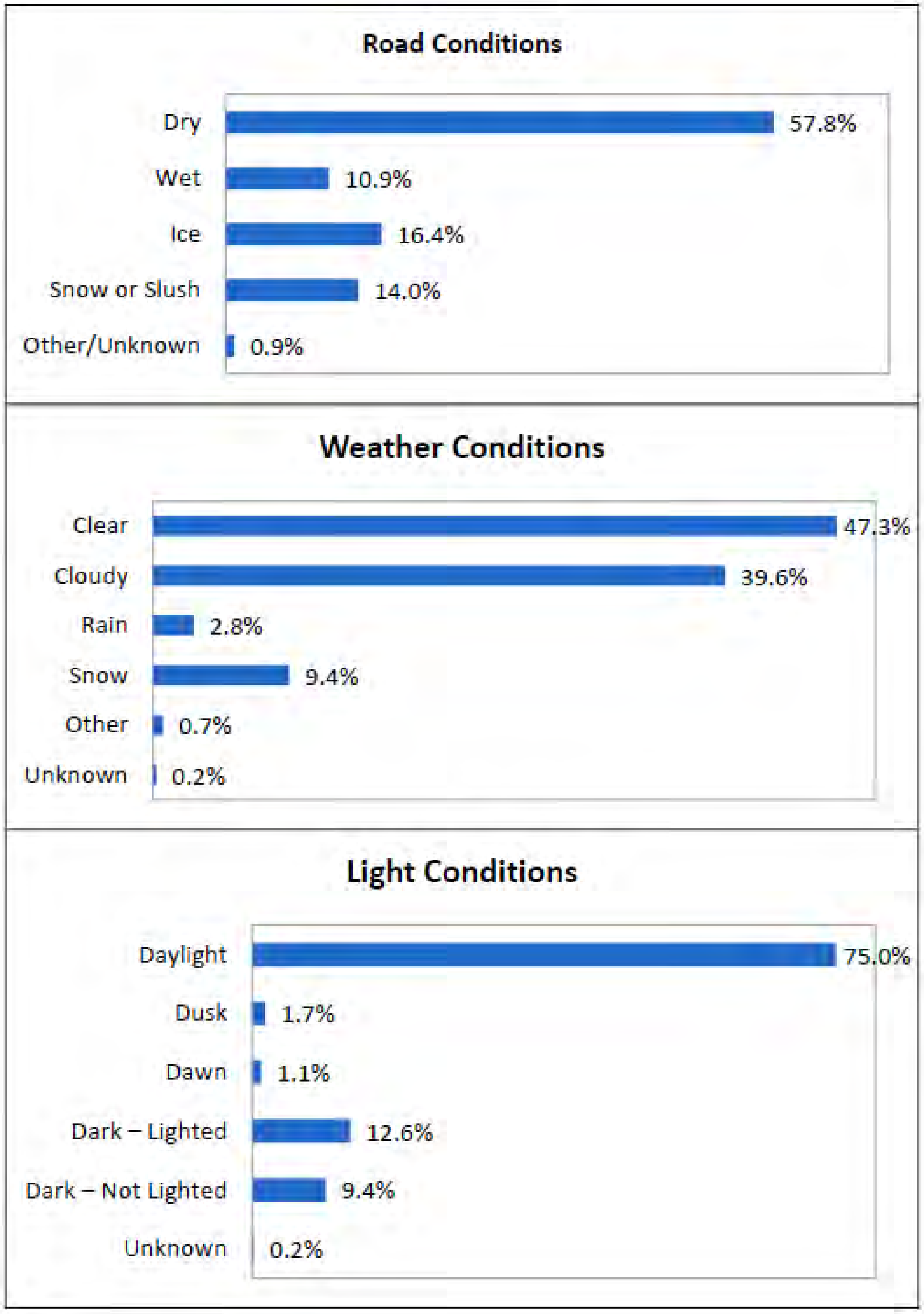


Figure 4-19. Environmental Conditions Factors

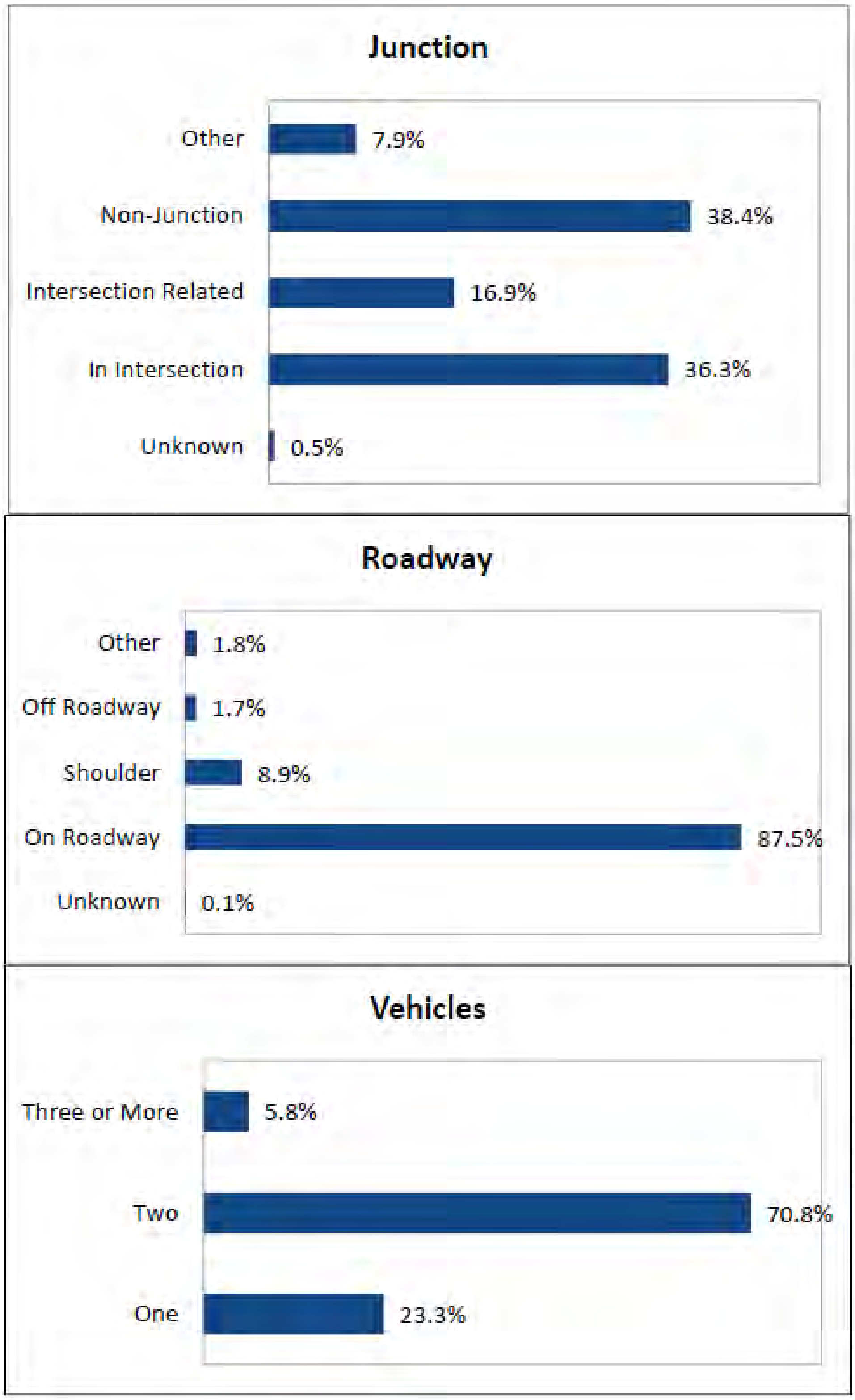


Figure 4-20. Physical Factors

The highest proportion of crashes that occurred within the study area were right-angle collisions (29%) followed closely by rear-end collisions (26%). The crash types are shown in Figure 4-21.

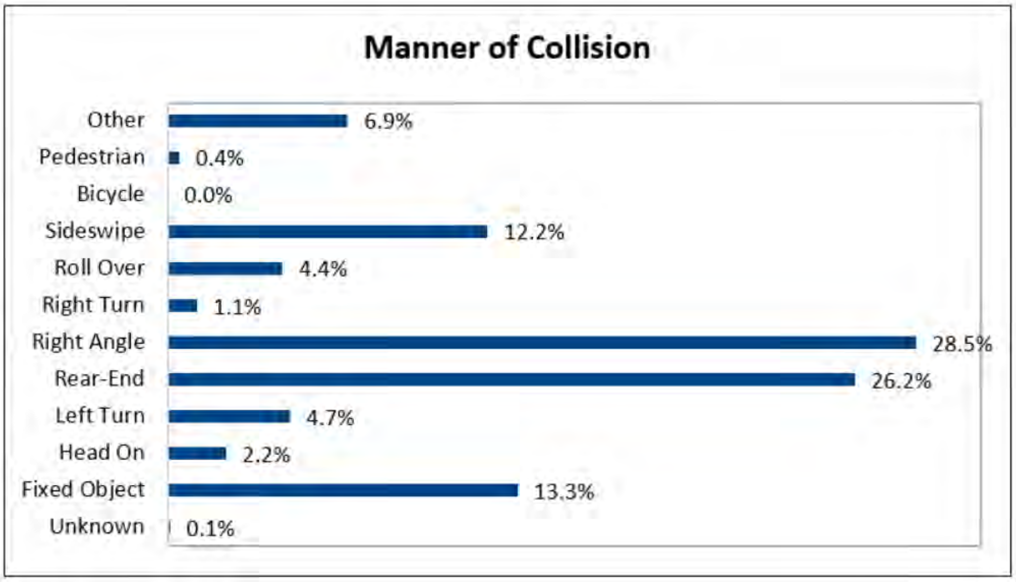


Figure 4-21. Crash Types[5]

The majority of crashes resulted in property damage only. Injury crashes accounted for 20% of crashes, and 8 fatalities occurred within the study area during the study period (0.3%). The crash severity details are shown in Figure 4-22.

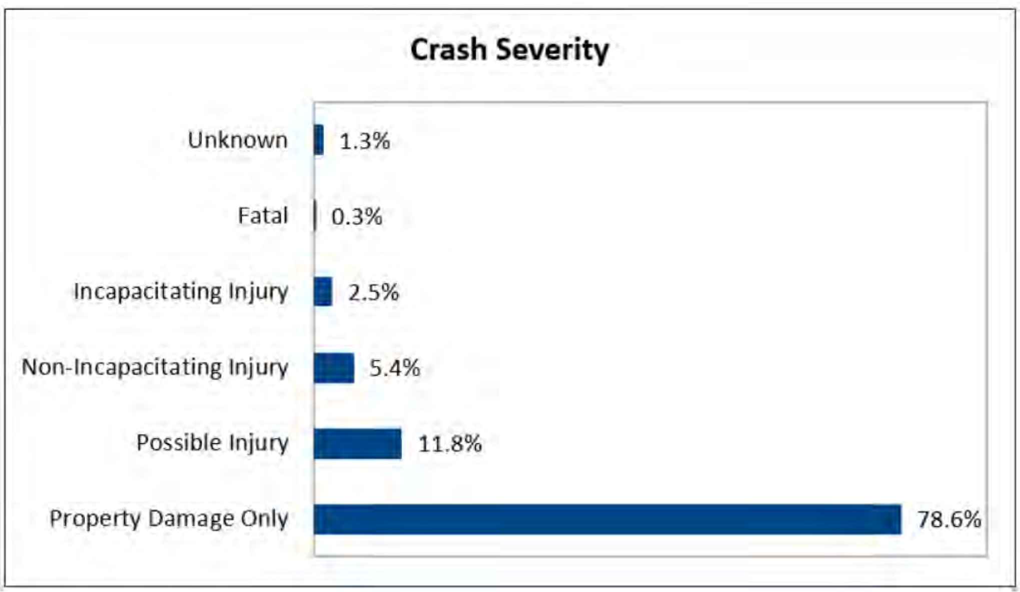


Figure 4-22. Crash Severity

[5] For consistency with previous reports, categories that have been grouped as "other" are all those not listed in the graphic and include other, backing vehicle, domestic animal, fire/explosion, jackknife, lost control, not fixed object or debris, parked vehicle, rear to rear, U turn, wild animal, and work zone.

Additional data were compiled comparing driver demographics in the Butte area to statewide averages. These included impaired driver crashes, seatbelt use, and driver age. The comparison shows that Butte has fewer impaired driver crashes and better seatbelt use than the state average and the age of drivers involved in crashes is slightly lower than the state average. The statistics are in Figure 4-23, Table 4-15, and Table 4-16.

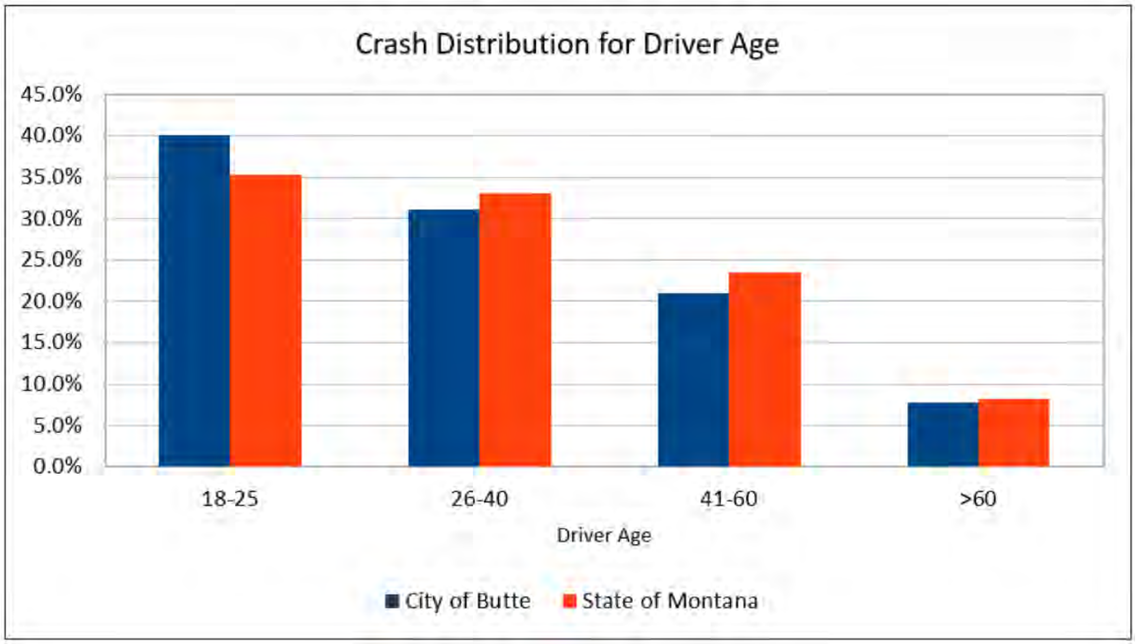


Figure 4-23. Driver Age Demographics

Table 4-15. Impaired Driver Crashes

	Total Crashes 2010-2014	Impaired Driver	Percentage
City of Butte	5,124	216	4%
Statewide	219,667	18,869	9%

Table 4-16. Unrestrained Occupant Crashes

	Total Crashes 2010-2014*	Unrestrained Occupants	Percentage
City of Butte	5,093	129	3%
Statewide	210,458	11,414	5%

*Vehicles with driver restraints.

Additional specific crash details and comparisons to other Montana communities can be found at the following link - http://www.mdt.mt.gov/publications/datastats/crashdata.shtml.

4.7.2 Detailed Intersection Crash Review

Detailed crash investigations were performed and the crash records analyzed for 16 intersections within the city to determine if geometric factors were contributing to crash trends at any particular location. This information was combined with vehicle crash rate, severity, and road conditions information to determine if specific crash trends exist at any intersection that could be corrected through geometric revisions. The intersections selected for review are shown in Table 4-17.

Table 4-17. Intersection Crash Summary 2010 - 2014

Location	Total Crashes	Injury Crashes	Peak Hour Traffic	Crash Rate*	Severity Rate**
Harrison Avenue & Gilman Avenue	40	11	2,400	1.01	1.36
Harrison Avenue & Samson Street	31	14	2,400	0.79	1.40
Harrison Avenue & Roosevelt Avenue	28	7	2,056	0.83	1.19
Montana Street & Front Street	28	15	2,421	0.70	1.10
Harrison Avenue & George Street	24	5	1,700	0.86	1.08
Montana Street & La Salle Street	22	4	1,800	0.74	1.01
Main Street & Park Street	20	0	857	1.42	1.42
Excelsior Avenue & Park Street	19	4	1,079	1.07	1.52
Kaw Avenue & George Street	19	12	840	1.38	2.83
Harrison Avenue & Amherst Avenue	17	0	2,618	0.40	0.40
Harrison Avenue & Cobban Street	17	10	1,851	0.56	0.89
Harrison Avenue & Elizabeth Warren Avenue	17	4	2,528	0.41	0.55
Montana Street & George Street	16	5	1,706	0.57	0.86
Montana Street & Porphyry Street	16	6	1,357	0.72	1.08
Wyoming Street & Park Street	14	1	800	1.07	1.22
Main Street & Platinum Street	14	1	1,968	0.43	0.49
Harrison Avenue & Holmes Avenue	13	3	2,204	0.36	0.47
Harrison Avenue & McKinley Avenue	13	3	2,400	0.33	0.43
Harrison Avenue & Garland Avenue	12	6	1,600	0.46	0.84

*Total number of vehicle crashes/Million Vehicles Entering intersection (MVE).

**(1 x total non-injury crashes + 3 x injury crashes/total crashes) x Crash Rate.

Specifically, the review included analyzing the detailed crash data for each intersection with 10 or more accidents during the study period to determine if any crash trends existed at the subject intersection that could be attributed to roadway geometric or operational characteristics. The analysis also included creating crash diagrams that detailed the directions vehicles were heading and their intended travel path when the crash occurred. If the crash data analysis revealed a specific crash trend at an intersection, another field review was performed to identify intersection features that may have been contributing to a crash trend. It should be noted that most intersections reviewed for this study did not show any specific correctable crash trends or contributing factors. The results of this analysis are detailed in the sections below.

For the purposes of this report, crash rates and crash severity rates are classified in the table below. Note that these limits are defined by the relative observed crash rates and crash types within a specific community and can vary between communities based on observed crash patterns.

Table 4-18. Crash Rates and Severity Rates

	Low	Medium	High
Crash Rate	<0.7	0.7-1.2	>1.2
Crash Severity Rate	<0.8	0.8-1.3	>1.3

4.7.2.1 General Road Maintenance Issues

Excelsior Avenue and Park Street: High crash severity rate and medium crash rate. The intersection has a predominant southbound, downhill, rear-end crash trend likely attributed to road slopes combined with wet/icy conditions. This intersection would benefit from increased winter maintenance practices.

Main Street and Park Street and Wyoming Street and Park Street: Medium to high crash severity rate and medium to high crash rate. These intersections have high cross slopes and have a prevalence of low-speed crashes in icy conditions. These roads could benefit from increased winter maintenance practices.

4.7.2.2 Geometric Intersection Improvements

Kaw Avenue and George Street: High crash rate and very high crash severity rate. This intersection has a high prevalence of eastbound vs. southbound right-angle collisions. The trend suggests possible visibility issues at the intersection, which may be worsened by the intersection’s slight skew. The intersection would benefit from enhanced geometrics to improve visibility. The barricades on the northwest corner and the skewed approach angles of the Kaw/George intersection may be contributing to a meaningful crash trend at this intersection (Photograph 1).

Photograph 1. Barricades on the northwest corner and the skewed approach angles of the Kaw and George intersection may be contributing to a crash trend.

Montana Street and La Salle Street: Medium crash severity rate. The intersection of the eastbound off-ramp from I-90 and Montana Street has a high number of eastbound vs. northbound collisions (8 of 22). While there is no obvious cause for this crash trend, it could be due to general weaving behavior and vehicle speeds of traffic on Montana Street. It is suggested that a signal warrant study be performed to determine if a signal could correct the existing crash trend. It may also be of value to decrease the number of lanes on Montana to decrease crossing widths (Photograph 2).

Photograph 2. The intersection of Montana and La Salle should be reviewed for traffic signal warrants.

Montana Street and George Street: Medium crash severity rate. This intersection has a high number of southbound rear-end collisions on Montana Street (7 of 16) plus a high number of westbound left-turn vs. northbound traffic collisions. The intersection would benefit from a designated left-turn lane for southbound traffic on Montana Street, but the proximity to a train bridge to the north limits the available street width. The left-turn cue creates a backup of traffic on Montana Street, which takes time to clear and makes the westbound left-turn from George more difficult. It is suggested that the City explore eliminating one northbound or one southbound lane to create a southbound left-turn lane without affecting the bridge structure (restriping only) (Photograph 3).

Photograph 3. The intersection of Montana and George would benefit from a southbound left-turn lane, but the road width is restricted by the nearby railroad structure.

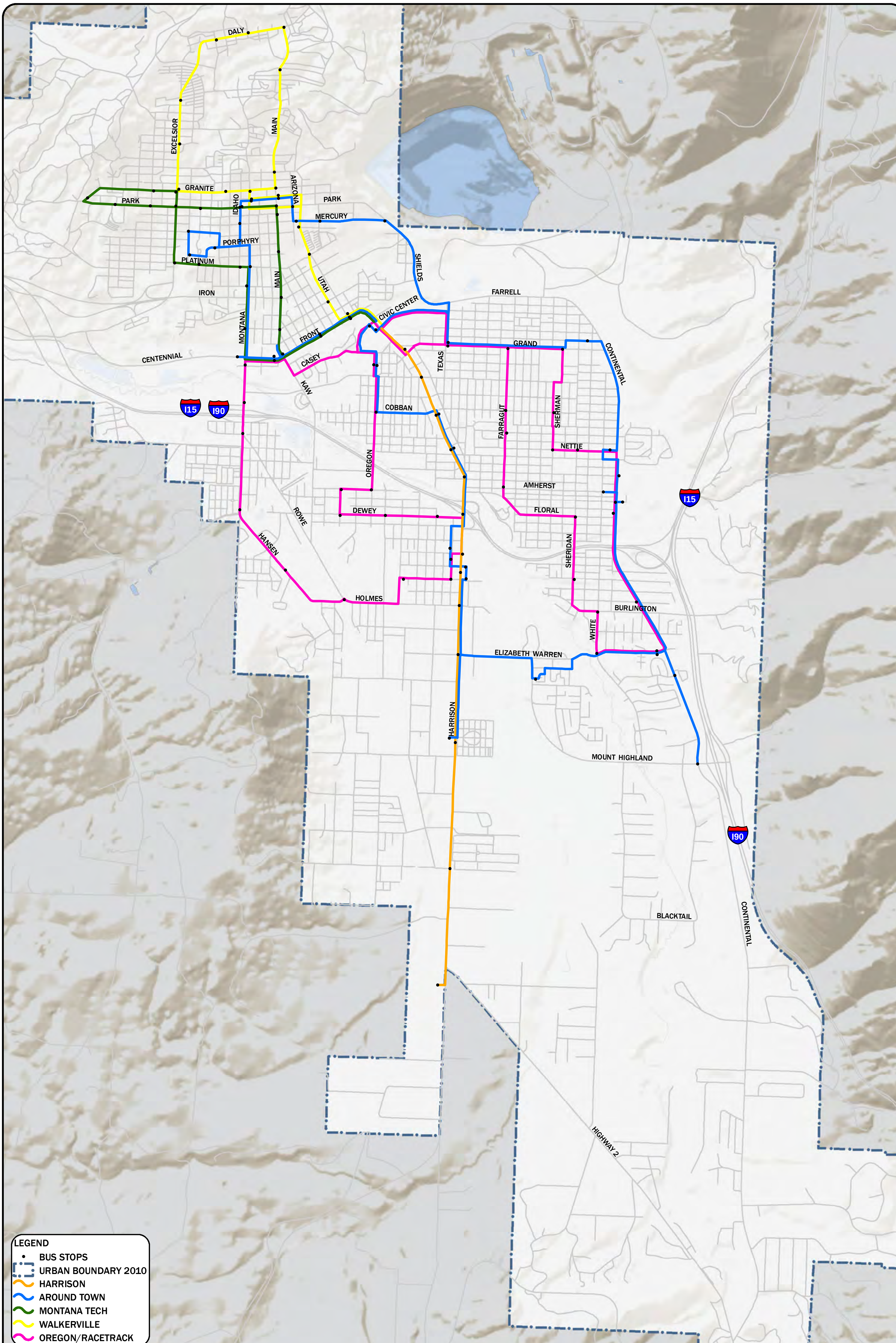
Montana Street and Porphyry Street: Medium crash rate and crash severity. At this intersection, 10 of 16 crashes involved a southbound vehicle and 6 of 16 were southbound vs. eastbound collisions. Montana Street slopes upwards to the north at a rate of 9% at this location and has a significant change of road grade 400 feet to the north. The grade change combined with on-street parking may be causing sight distance restrictions for vehicles entering Montana Street from the west. Porphyry Street is an emergency access for the hospital and provides critical access to the site, but it may be possible to consider altering the approach to a one-way entrance to the hospital to eliminate the ability for drivers to approach Montana Street at this location (Photograph 4).

Photograph 4. Grade changes on Montana Street may be contributing to a crash trend at the intersection of Montana Street and Porphyry Street.

4.8 Transit Services

4.8.1 "The Bus"

Transit with BSB provides general bus services throughout the Butte urban area including Walkerville and both Montana Tech campuses through the system known as "The Bus." These services operate Monday through Friday from 6:45 AM to 6:15 PM and between 8:45 AM and 4:45 PM on Saturdays. The system is comprised of five routes Monday through Friday and a single route on Saturdays. See Figure 4-24 for current route information.



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UNITS: INTN'L FEET
SOURCE: PIONEER/MDT/BSB

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Miles

FIGURE 4-24 EXISTING TRANSIT ROUTES "THE BUS"

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4.8.2 Paratransit Services

The BSB Transit also provides curb-to-curb paratransit services. These services are available to passengers who meet the legal and medical requirements of the ADA. Passengers are generally eligible if:

- "*They are physically unable to get to the regular fixed-route bus.*
- *They are unable to navigate regular fixed-route bus systems once on board.*
- *They are unable to board and exit the bus at some locations.*
- *They live within and/or up to ¾ of a mile from the (link to) BSB Transit fixed-route systems.*"[6]

4.8.3 BSW, Inc.

Butte Sheltered Workshop Incorporated (BSW, Inc.) provides curb-to-curb transportation services run through and funded by the Montana Department of Public Health and Human Services, Developmental Disabilities Program and for some, through Vocational Rehabilitation. These services are provided between the 8:00 AM and 4:00 PM, Monday through Friday. In addition to these regularly scheduled services, BSW, Inc. also provides transportation to and from recreational activities as well as 24-hour transportation for Community Living Services consumers. At the time of this report, BSW, Inc. provided an average of 41 rides per day via their fleet of 16 vehicles in the BSB area.

4.8.4 Butte Head Start

The Butte Head Start program offers school-related transportation for its students through the Human Resources Council, District XII. The offerings include transportation to and from school and for field trips during the school year.

4.8.5 Belmont Senior Center

The Belmont Senior Center provides transportation services for senior citizens within the BSB area. Their primary service is free transportation from the homes of area senior citizens to and from the Belmont Senior Center for lunch. This service is offered from Monday through Friday. The other service offered is transportation for doctor's appointments and light shopping or errands. This is a paid, home-to-destination service offered in the mornings Monday through Friday. Pick-ups are between 9:00 and 11:00 AM but residents must return home before 11:30.

4.8.6 A-1 Ambulance Service

The A-1 Ambulance Service provides 24-hour emergency transportation services in the BSB area.

[6] http://buttebus.org/ada-dial-a-ride/

4.8.7 A-1 Wheelchair Transport

The A-1 Wheelchair Transport offers van services for clients that use a wheelchair. The service is provided as needed and destinations are primarily those within the BSB area. Out of area services are provided only to clients staying at a hospital.

4.8.8 A and B Taxi Services

The A and B Taxi is a taxi company in the BSB area offering on-demand transportation services 24 hours a day, 7 days per week.

4.8.9 Butte Cab Company

The Butte Cab Company provides on-demand transportation services 24 hours per day, 7 days per week.

4.8.10 Mining City Taxi

The Mining City Taxi is a taxi company with a presence in much of southwest Montana and offers on-demand transportation services 24 hours a day within the BSB area.

4.8.11 Home Safe Program

The Home Safe Program in the BSB area offers a free ride home for area Tavern Association member bar customers if they have had too much to drink to drive themselves. This program's services are provided by the Butte Cab Company and Mining City Taxi. The Party Palace also offers a limo rider service for its patrons.

4.8.12 UBER

Uber is a phone-based application that helps connect passengers with drivers who work as independent contractors using their personal vehicles. The ride-sharing service launched in Montana in August of 2016 and provides transportation services 24 hours per day, 7 days per week.

4.8.13 Inter-City Transport Services

There are three inter-city transportation services in the BSB area:

- Greyhound offers daily trips to and from the BSB area. The service can transport travelers to any state in the continental U.S. as well as Canada and Mexico. All services are based out of the Butte Bus Station at 1324 Harrison Avenue.
- Jefferson Lines offers daily trips to and from the BSB area. The service stops in 13 states in the central U.S. and offers connections to other destinations across the U.S., Canada, and Mexico through connection services. All services are based out of the Butte Bus Station at 1324 Harrison Avenue.

- Salt Lake Express offers bus service (via I-15) between BSB and Salt Lake City. All services are based out of the Butte Bus Station at 1324 Harrison Avenue.

4.8.14 School District Number One

School District Number One provides bus services to transport students to and from school. The district currently has a fleet of 30 buses, 3 of which are wheelchair equipped. As of this report, 24 buses are used for the various routes. The service transports high school and middle school students if they live more than 3 and 2 miles from their school, respectively. For elementary school students, the services vary based on geographic boundaries (such as limited access highways) and the agreements in place with individual schools. At the time of this report, there are currently 2,383 students bused to school using these services and there are 4,203 students in the district. In addition to the 24 buses used for transportation to and from school, there are 3 charter buses, 1 motor coach, and 2 spare buses.

4.9 Transportation Demand Management

Transportation Demand Management (TDM) is the utilization of various methods to minimize negative impacts of roadway use on traffic flow. The primary negative impact for consideration is over-capacity usage of roadways. This leads to delays for a variety of reasons including, but not limited to, congestion and accidents. Applying TDM principles can create less demand for specific roadways through various methods such as roadway modifications (e.g., carpool lanes, rideshare lots, express lanes for buses, etc.), workplace policies (e.g., flex time to allow workers to avoid rush hour commutes), and incentives for using transportation other than single occupancy vehicles (e.g., subsidized traditional transit, reduced parking rates for multiple-occupancy vehicles, insurance savings for those biking/walking to work).

Table 4-19 breaks out the methods by which the residents of Silver Bow County commute to work. This table illustrates that the vast majority of drivers in the area travel via single-occupancy vehicles (83.6%), leaving very few to use other TDM transportation methods. This rate is higher than the state and national averages, but given current traffic volumes in the BSB area, this is not necessarily indicative of a need for change. This pattern is indicative of an existing efficient transportation and road network that encourages driving.

Because roadways in the area do not exceed capacity, BSB is not currently implementing TDM methods in the area.

Table 4-19. Modes of Transportation for Commuters in Silver Bow County

	Silver Bow County		State of Montana		United States	
Mode of Transportation to Work						
	Count	*%*	*Count*	*%*	*Count*	*%*
Total Number of Workers 16 Years and Older	**15,893**	**--**	**473,349**	**--**	**141,337,152**	**--**
% Who Commuted to Work	***15,391***	***96.8%***	**443,123**	***93.6%***	**135,165,560**	***95.6%***
% Who Worked at Home	502	*3.2%*	**30,226**	***6.4%***	**6,171,592**	***4.4%***
Commuter Transportation Mode						
Total Number of Workers that Commute to Work	**15,391**	**--**	**443,123**	**--**	**135,165,560**	**--**
Single Occupancy Vehicle (Car, Truck, or Van)	***12,867***	***83.6%***	**356,557**	***80.5%***	**107,990,696**	***79.9%***
Multiple Occupancy Vehicle (Car, Truck, or Van)	*1,515*	*9.8%*	**48,837**	***11.0%***	**13,554,363**	***10.0%***
Public Transportation (Excluding Taxicabs)	*30*	*0.2%*	**4,004**	***0.9%***	**7,157,671**	***5.3%***
Walked to Work	*533*	*3.5%*	**22,657**	***5.1%***	**3,932,118**	***2.9%***
Other Means of Commuting	*446*	*2.9%*	**11,068**	***2.5%***	**2,530,707**	***1.9%***
Mean Travel Time to Work *(minutes)*	**15.3**		**18.3**		**25.7**	

Source: US Bureau of the Census, American Community Survey (ACS) Profile Report: 2010 – 2014 (5 - year Estimates), available at http://census.missouri.edu/acs/profiles/
Relative Margins of Error (RMOE) are indicated by number font:
BOLD values: RMOE < 15%
NORMAL values: 15% < RMOE < 35%
LIGHT values: 35% < RMOE

4.10 Other Transportation

4.10.1 Butte Trolley

The Butte Chamber of Commerce operates the Butte Trolley for tours of the historic areas around the BSB area. The tours are approximately two hours long and are led by local experts. Tours begin at 10:00 AM, 12:30 PM, and 3:00 PM Monday through Saturday and at 10:00 AM and 12:30 PM on Sundays from Memorial Day through September. During September, the schedule is reduced to a single daily tour at 12:30 pm. Private tours are also available such as Christmas light tours.

4.10.2 Rails Lines

A number of railroad lines operate in the BSB area. Burlington Northern Santa Fe (BNSF) operates a connector from Butte to the Port of Montana, which then continues north to Garrison, MT. Butte, Anaconda and Pacific Railway offers freight services from Butte to Anaconda and connects with BNSF. Union Pacific operates railroad lines that connect the Port of Montana to Pocatello, ID via Dillon and Monida, MT.

4.10.3 Air Transportation

The Bert Mooney Airport is located on Airport Road off Harrison Avenue. The airport consists of 2 runways, employs over 100 people, and currently provides service to over 30,000 passengers. The primary runway is 9,000 feet long by 150 feet wide; the secondary runway is 5,000 feet long by 75 feet wide. The runways are capable of handling small and large passenger aircraft and Boeing 757 planes on a regular frequency. Skywest Airlines, the Delta Connection, serves Butte with 50-passenger Canadian Regional Jets for two, non-stop flights to Salt Lake City, UT each day.

Originally built in 1961, the terminal underwent an approximately $1.8 million remodel in 1991. The construction of a new $13 million terminal is currently underway. The new 39,000 square feet terminal will include a lobby, ticketing area, conference space, Transportation Security Administration (TSA) screening areas, food, retail, and a new baggage claim carousel.

4.11 Non-Motorized Transportation

4.11.1 Pedestrian and Bike Use

In addition to passenger cars, trucks, and transit vehicles, multi-modal transportation facilities aim to accommodate different types of users or vehicles such as bicycles and pedestrians. The City of Butte has an extensive bicycle and pedestrian trail network and bike route system. In addition to pedestrian sidewalks adjacent to most major roadways, BSB has developed an urban trail system within its parks and trails connecting open spaces by using many of Butte's railroad and stream corridors such as the Butte, Anaconda and Pacific Railroad (BA&P) corridor, Blacktail Creek, and Silver Bow Creek Greenway Trails. This non-motorized transportation infrastructure is an important segment of the multi-modal transportation network. Recently BSB added a bike route system comprised of shared use routes and dedicated bike lanes in an effort to promote interconnectivity. The Butte area has approximately 56 miles of existing trails and bike routes. Figure 4-25 shows the existing network of trails and bike routes within the study area and future routes for enhanced interconnectivity. It is noted that the designated future routes are part of the On System roadway network that falls under the jurisdiction of the MDT; therefore, MDT approval will be required for any proposed modifications such as striping changes, etc.

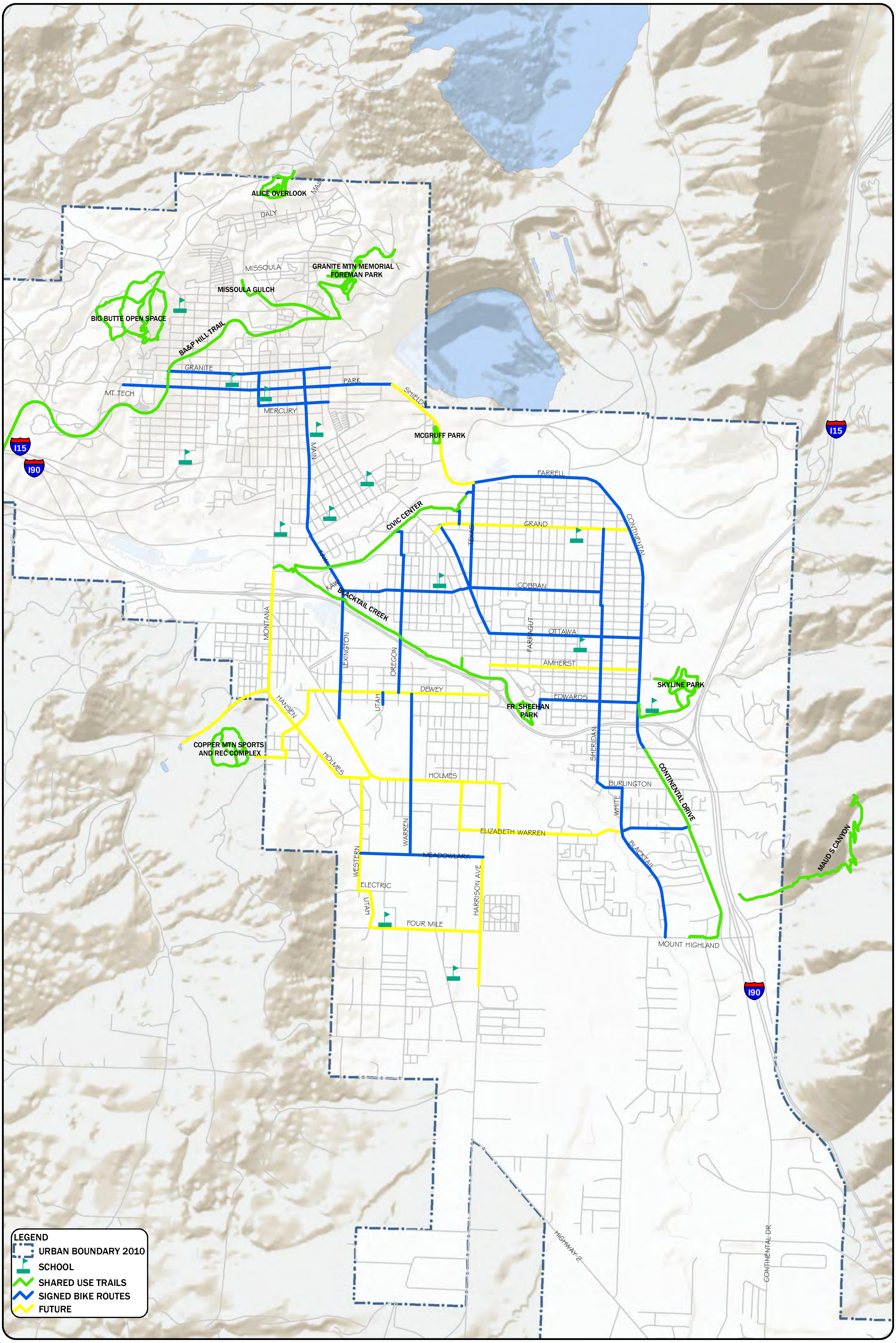

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FIGURE 4-25

BIKEABLE BUTTE

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Data from the American Community Survey suggests that residents of the BSB area walk to work at a similar rate compared to other Montana communities, but the rates of bicycle commuting is lower (Table 4-20).

Table 4-20. Non-Motorized Commuting Survey

	Walking	Biking
Bozeman	10.1%	5.8%
Helena	7.5%	3.3%
Missoula	6.3%	6.2%
Butte-Silver Bow	4.2%	0.3%
Kalispell	2.7%	2.1%
Great Falls	2.5%	1.0%

*American Community Survey Five-Year Estimates, 2008-2012

Pedestrian and bicycle data was collected during the peak-hour intersection traffic counts within Butte. These counts reveal a snapshot of pedestrian and bicycle use at the intersections during the morning and evening peak traffic periods (3 hours total). The data represents relative pedestrian and bicycle use patterns at major intersections within the study area. This information is consistent with the results of the American Community Survey, which suggest lower levels of bicycle use within the community. The data related to intersection use indicate that uptown Butte has the highest level of intersection pedestrian use. Bicycle use was relative low throughout the study area (Table 4-21).

Table 4-21. Peak-Hour Pedestrian and Bicycle Counts

Intersection	Pedestrians	Bicycles
Park & Idaho	89	6
Park & Main	86	1
Park & Washington	77	6
Broadway & Arizona	65	1
Park & Emmett	64	3
Montana & Broadway	62	4
Montana & Platinum	54	5
Park & Excelsior	50	3
Harrison Avenue & Grand Avenue	38	9
Montana & Mercury	33	9
Montana & Granite	26	0
Montana & Porphyry	24	2
Mercury & Arizona	24	2
Harrison Avenue & Amherst Avenue	23	1
Front Street & Utah Street	21	1
Front & Main Street/Kaw Avenue	18	1
Harrison Avenue & Dewey Blvd.	17	6
Harrison & Holmes	17	3
Harrison & Roosevelt	16	3
Harrison & Elizabeth Warren	15	1
Harrison & Cobban	13	12
Platinum & Excelsior	10	3
Montana Street & Front Street/Centennial Avenue	9	6
Montana & Second	8	2
Montana Street & Rowe Rd.	4	2
Rowe Rd. & Dewey Blvd.	4	1
Montana Street & George Street	2	3
Shields Avenue/Farrell Street & Texas Avenue	2	4
Elizabeth Warren & Mt. Highland Drive	1	4
Kaw & George	0	12
Harrison & 4 Mile	0	3

*Traffic data collected 7:15 to 8:45 AM and 4:15 to 4:45 PM.

Multi-day trail information was also collected on major pedestrian/bike paths at 6 locations. This data was collected from 6:00 AM to 9:00 PM for consecutive days using trail monitoring cameras. The data was collected for 3-5 days at each location including at least 1 weekend day.

The information was evaluated to determine the mix of trail use (pedestrian vs. bike) and the hour of day and day of week (Table 4-22).

Table 4-22. Pedestrian/Bike Use Summary Table

Location	Daily Count*	Percent Bikes	Peak Hour Use
Crosswalk at George & Kaw 6/8-6/11 2016	76	48%	10 6:00-7:00 PM
BA & P Hill Trail East of Tech 6/14-6/18 2016	141	24%	17 8:00-9:00 AM
Continental Trail South of Elizabeth Warren 6/17-6/20 2016	75	39%	11 10:00-11:00 AM
BA & P Hill Trail West of Montana Tech 6/14-6/18 2016	69	12%	7 7:00-8:00 AM
BA & P Hill Trail West of Montana Street 6/17-6/20 2016	146	21%	14 12:00-1:00 PM
Blacktail Creek Trail at Pine Ave 6/8-6/11 2016	256	25%	26 8:00-9:00 AM

*Data Collected 6:00 AM to 9:00 PM

The daily trail count shows that most of the trail network in the Butte area is used for recreational traffic rather than commuter pedestrian traffic, with peak periods in the early morning, noon hour, and late evening.

Previous transportation planning efforts in Butte documented the condition of the sidewalks within the BSB area. These facilities vary widely in condition and coverage areas. Sidewalks in the *Flat* area of Butte and the commercial areas are generally in good condition and have good coverage. Residential areas have wide coverage of sidewalks but their conditions vary greatly and many are in need of repair. Some recently constructed residential and industrial areas do not have sidewalk coverage (various new development areas west of Hansen Road and south of Elizabeth Warren). Sidewalk maintenance is generally the duty of the property owner. Section 12.12 of the BSB Municipal Code (https://www.municode.com/library/mt/butte-silver_bow_county/codes/code_of_ordinances) requires all property owners to keep adjacent sidewalks maintained. Unsafe or defective sidewalks can be reported to the Department of Public Works, and that department can issue a notice of required repairs.

The MDT recently completed the 2016 ADA Transition Plan, which inventoried all intersection ramps on MDT routes in Montana. The purpose of the plan is to improve the accessibility of the transportation system within the state by providing guidance for removal of accessibility barriers. The plan provides an overview of MDT's external ADA program, outlines MDT's mission and ADA policy, and identifies methods to comply with ADA regulations. The document suggests that there are currently 647 intersections ramp locations on 17 MDT routes within Butte. These ramps have varying levels of ADA compliance, but generally have similar composite scores to other major urban roads in Montana. For more information on the ADA plan, please refer to the website:
https://www.mdt.mt.gov/other/webdata/external/civilrights/ADA-TRANSITION-PLAN.pdf

The recently added BIKEBUTTE bike route system is a comprehensive network of shared use routes and dedicated bike lanes that connect Butte's *Uptown* and *Flat* areas to the trail system. This improvement to the multi-modal roadway network included new striping, signage, and new bike racks. The BIKEBUTTE system also identified future routes along the MDT On System roadway network. MDT approval will be required for the inclusion of these additional routes.

Shared Use Routes

A shared use route, or bike route, is a roadway that allows bikes and cars to operate within the same travel lane. Montana law states that bikers must always ride as near to the right side of the roadway as practicable and safe. Bike routes are typically used to connect other bikeways (trails, or bike lanes), or designate preferred routes through high-demand corridors. To indicate the bike route is a shared lane environment for bikes and cars, shared lane road markings or *Sharrows* are painted in the traffic lane (often in the middle to increase paint longevity).

Bike Route Sign

Shared Lane Marking or Sharrow

According to the MUTCD, Shared Lane Markings or Sharrows:

- Assist bicyclists with lateral positioning in a shared lane with on-street parallel parking to reduce the chance of a bicyclist impacting the open door of a parked vehicle.
- Assist bicyclists with lateral positioning in lanes that are too narrow for a motor vehicle and a bicycle to travel side by side within the same traffic lane.
- Alert road users of the lateral location bicyclists are likely to occupy within the traveled way.
- Encourage safe passing of bicyclists by motorists.
- Reduce the incidence of wrong-way bicycling.

Bike Lanes

Bike lanes clearly delineate the right-of-way assigned to bikes and cars. In addition to signage, this separated type of roadway includes a white stripe and bicycle symbol marking to alert all road users that a portion of the road is designated for bike use only.

Bike Lane Sign

4.12 Supplementary Information

4.12.1 Snow Routes

Winter maintenance for all City and County-maintained roads is the shared responsibility of the BSB Public Works Roads and Bridges Division and the MDT. Various preventive measures and post-storm techniques including sanding, plowing, and snow removal are used as necessary to provide a safe winter driving environment. Table 4-23 shows the BSB winter road maintenance schedule and shared responsibility information.

Table 4-23. Winter Road Maintenance Schedule and Responsibility

Winter Road Maintenance

STREET	RESPONSIBLE ENTITY
Harrison Avenue - South of Amherst Avenue to the MT 2 Interchange	Montana Department of Transportation (MDOT)
Harrison Avenue - North of Amherst Avenue	Butte-Silver Bow Road Department
Montana Street - South of Front Street along Rowe Road, East on Holmes to Harrison Avenue	Montana Department of Transportation (MDOT)
Montana Street - North of Front Street	Butte-Silver Bow Road Department
Excelsior Street – South of Platinum Street down Centennial Avenue to Montana Street	Montana Department of Transportation (MDOT)
Excelsior Street North of Platinum Street	Butte-Silver Bow Road Department
Iron Street – Interstate to Montana Street	Montana Department of Transportation (MDOT)
Elizabeth Warren - from Montana Department of Transportation Complex to Harrison to Mount Highland Drive around the loop on Four Mile Road and continue to Continental Drive	Montana Department of Transportation (MDOT)
Continental Drive – High Altitude Rink to "S" curve past the interchange	Montana Department of Transportation (MDOT)
East Ridge Road	Montana Department of Transportation (MDOT)
Hemons - from Wynne to Harrison Avenue	Montana Department of Transportation (MDOT)
Dump road - from Rocker to the Dump - for snow removal and only maintain to the end of the payment	Montana Department of Transportation (MDOT)
Overpasses over the Interstate	Montana Department of Transportation (MDOT)

Butte-Silver Bow - Winter Road Maintenance Schedule

Morning Shift

	Monday through Friday	-	**4:00 a.m. to 12:00 p.m.**

Day Shift

	Monday through Friday	-	**8:00 a.m. to 3:30 p.m.**
	Saturday	-	**8:00 a.m. to 4:00 p.m.**

Afternoon Shift

Tuesday through Friday	-	**4:00 p.m. to Midnight**

Winter road maintenance prioritizes the arterial and collector roadways with snow routes designated as primary and secondary. Priority is given to the arterial primary routes, then the secondary collector routes, then the residential areas. Sanding material is applied mainly to intersections and hills. Walking trails, sidewalks, and city parking lots are also included in the BSB snow maintenance activity. Snow routes are detailed in Figure 4-26.

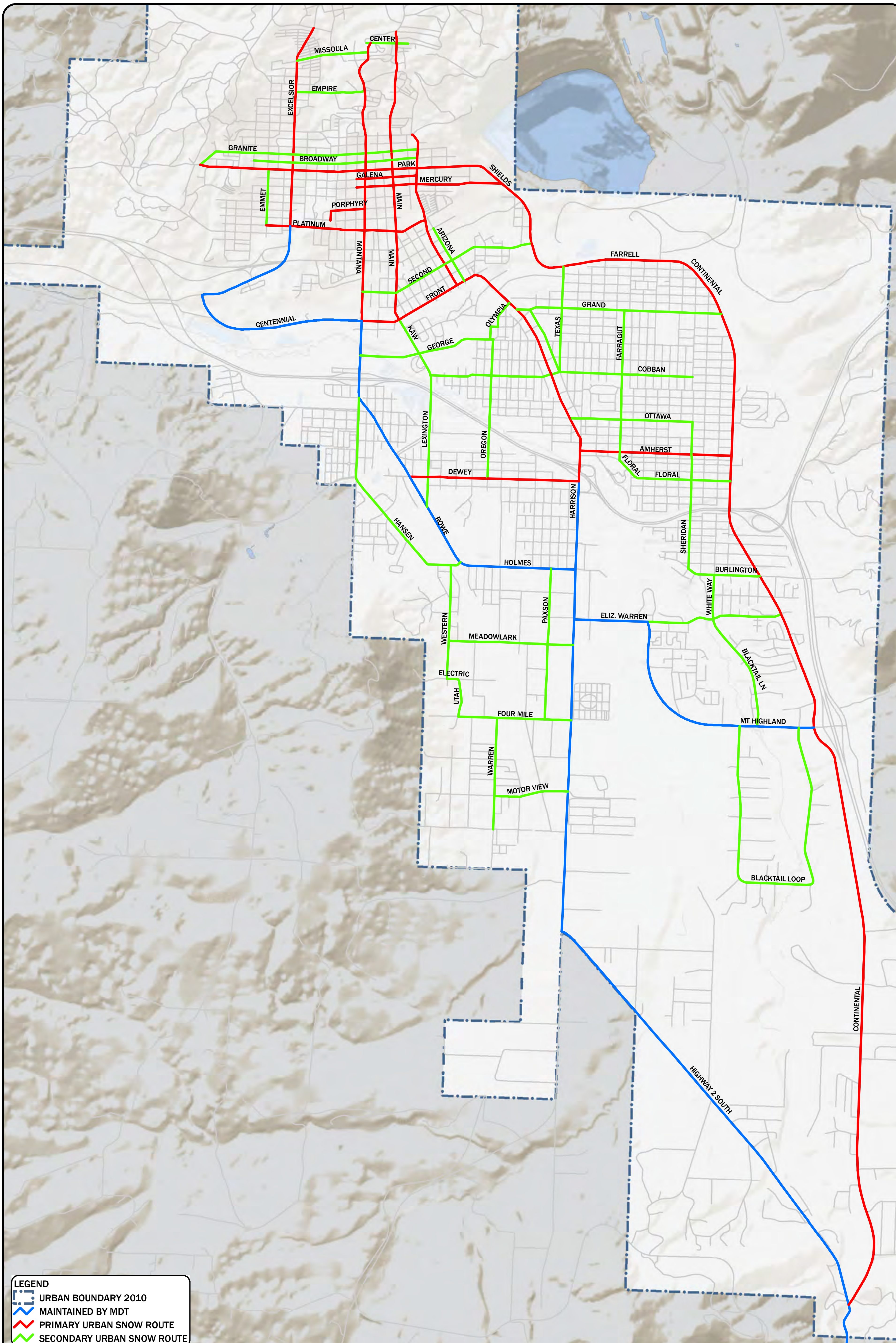

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FIGURE 4-26 PRIMARY AND SECONDARY SNOW ROUTES

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4.13 Committed Projects

Presented below is a list of committed projects for the study area. The list includes a snapshot of the current MDT projects for this area, however, work on the planned MDT projects depends on completion of design, acquisition of right-of-way, and availability of funding.

CM1: UPN 7290 Rocker Interchange Improvements – estimated 2018. Reconstruction of the Rocker Interchange and frontage roads. Estimated cost of plus or minus $4 Million.

CM2: UPN 7659 RARUS/Silver Bow Creek Structures – estimated 2018. Proposed bridge replacements over RARUS Railway and Silver Bow Creek west of Butte. Estimated cost of greater than $25 Million.

CM3: UPN 8797 I-90 East Bound Scale Site Study, Ramsay – estimated 2020+. Study to determine the location for an I-90 eastbound Motor Carrier Services (MCS) scale site west of the Ramsay Interchange. The scale site is the relocation of the existing eastbound scale site located on the Rocker Interchange ramp.

CM4: UPN 7970 Holmes and Hill/Warren Ave, Butte – estimated 2017. Proposed construction consists of new traffic signal installation and intersection re-alignment, grading, gravel, seal and cover, and ADA upgrades. Additionally, some curb, gutter and sidewalk replacement may be required. Estimated cost of less than $1 Million.

CM5: UPN 7896 North of Rocker Interchange, North – estimated 2018+. Proposed construction consists of reconstruction of Browns Gulch Road from RP 3.5 to RP 4.38. Work will include grading, gravel, structure replacement, plant mix surfacing, seal, and cover. Estimated cost of less than $5 Million.

CM6: UPN 8678 Excelsior Ave Park Street, Butte – estimated 2019. This project includes Park Street from Montana Street to Excelsior Western and on Excelsior Avenue from Gold Street to Ryan Road. Estimated cost of plus or minus $6 Million.

CM7: UPN 8693 Uptown ADA Ramps, Butte – estimated 2019. This Transportation Alternatives (TA) project includes sidewalk upgrades on Park Street (Montana Street to Excelsior Avenue) and Excelsior Avenue (Park Street to Caledonia Street). Work is to be performed in conjunction with UPN 8678 Excelsior Ave Park Street. Estimated cost of $548,000.

CM8: UPN 9157 Sidewalk Connections, Butte – estimated 2017+. A portion of this TA project was completed in 2016 (Clarks Park and Continental Drive). The remainder involves ADA-compliant sidewalk and curb and gutter installation along the east side of Stuart Avenue from George Street northward to the approach of East Middle School. Estimated cost of $336,000.

The following is a combined BSB and US Forrest Service project funded through a Federal Lands Access Program (FLAP) Grant.

CM9: Moulton Road Safety and Realignment Project Corridor Study – estimated 2017. This project is a study only (for possible widening and paving of the existing roadway) that considers using the existing right-of-way efficiently, evaluates mitigation options to protect riparian and stream resources, and evaluates design alternatives involving an engineered pavement section. Estimated cost of $200,000.

5 MODELING

5.1 Model Alternatives Discussion

Traffic modeling is critical to implement any long-range transportation planning effort. Accurate traffic modeling provides realistic projections of future roadway volumes and identifies potential impacts from alterations to the road network. The traffic model is a simulation of traffic patterns on the road network based on the locations of housing, employment, and service centers within the community. Once an accurate representation of the existing road conditions is created, modifications can be made to the roadway network within the model to analyze the effects of any proposed changes. This section describes the process of implementing a traffic model, which includes a travel demand model.

The purpose of a travel demand model is to create a regional overview of a transportation network and illustrate system-wide impacts of network or land-use changes. The traffic model for the Butte Long-Range Transportation Plan (LRTP) was developed by the MDT Rail, Transit, and Planning Section. The model uses the TransCAD modeling software (Version 7.0). To develop the model, the process used the standard trip generation, trip distribution, and traffic assignment. For this study, all of Silver Bow County was included within the model. This boundary exceeded the project boundary for the LRTP, but the process allowed the inclusion of adjacent areas to enhance the accuracy of the model. The base model was produced to reflect 2010 traffic conditions within the study area (Figure 5-1).

5.2 Modeling Overview

The initial step in the traffic modeling process is to develop appropriate trip generation rates for the Traffic Analysis Zones (TAZ) within the model area. The TAZs are geographic units used to represent demographic characteristics. For the BSB model, the TAZs were based on individual census blocks from the 2010 Decennial Census. Silver Bow County has 3,148 census blocks. Socioeconomic data represented in each TAZ includes population, number of households, persons per household, retail employment, and non-retail employment. The traffic demand model determines the number of trips based on demographic data for the study area, and is based on trip generations and trip attractors including both work and other trip purposes. Trip producers are established for each TAZ based on housing characteristics and attractors are based on employment characteristics.

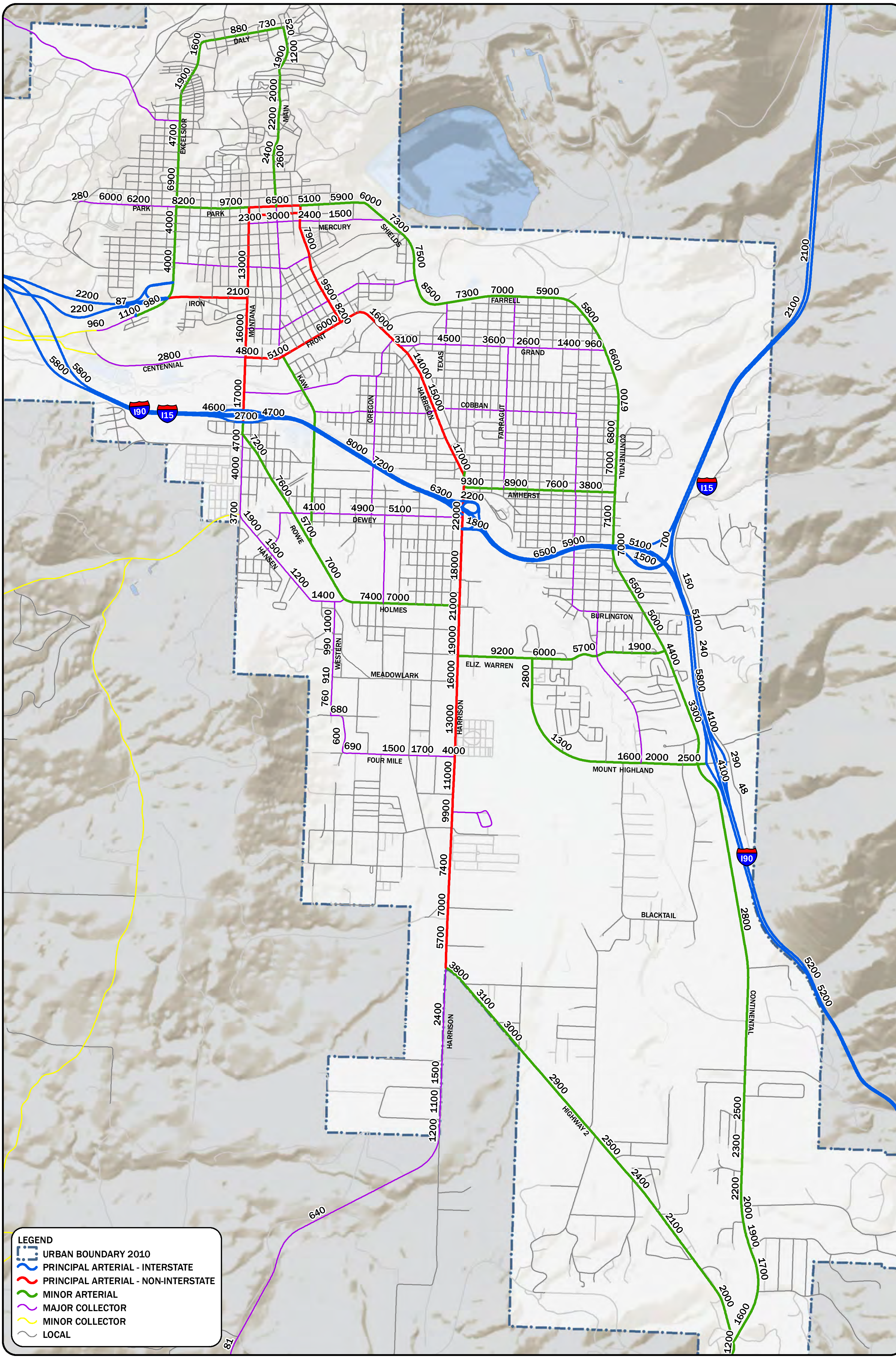

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FIGURE 5-1

AVERAGE ANNUAL DAILY TRAFFIC (2010)

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5.3 Employment Data

The traffic model generates trips per employment by broad categories of employment. The MDT used third quarter 2010 statewide employment data representing all employers in the state. The second step in the process is to develop trip distributions that link the trip production and attraction zones by determining where each trip produced in the zones will go and how they will be distributed among all other zones within the study area. The process uses the gravity model, which measures the impedance between zones used for trip distribution and minimizes travel distance and travel times for each trip. This data are developed into a matrix that assigns traffic volumes to all road segments within the model area.

5.4 Model Inputs

The inputs for the travel demand model include the transportation network and the socioeconomic data. The transportation network was generated by the MDT Road Inventory and Mapping Division. The socioeconomic data used in the model contains population, housing, persons per household, employment, and land used characteristics for each TAZ. The road network attributes include facility type, speed, capacity, traffic counts, travel time, directional characteristics, number of lanes, and other characteristics that may affect travel along a link. The free flow speed and Highway Performance Monitoring System (HPMS) attributed with each facility type is shown in Table 5-1.

Table 5-1. Travel Demand Model - Free Flow Speed and Facility Type

Facility Type	HPMS Functional Classification	Free-flow Speeds
Interstate	Principal Arterial – Interstate	65-75
Principal Arterial	Principal Arterial – Non Interstate	25-70
Minor Arterial	Minor Arterial	25-70
Collector	Major Collector	25-70
Minor Collector	Minor Collector	35-55
Local Road	Local Road/Street	15-25

HPMS: Highway Performance Monitoring System

Capacity for each link was assigned according to the facility type, functional classification, congestions factor, and number of lanes. The “Congestion Factor” varies depending on the urban/rural nature of the roadway link. Road capacities in TransCAD are unidirectional and are based on Vehicles per hour per lane by functional classification (Table 5-2).

Table 5-2. Travel Demand Model - Link Capacity

HPMS Function Classification	Vehicles Per Hour Per Lane
Principal Arterial – Interstate	2000
Principal Arterial – Non Interstate	900
Minor Arterial	800
Major Collector	600
Minor Collector	400
Local Road/Street	250

HPMS: Highway Performance Monitoring System

5.5 Model Validation

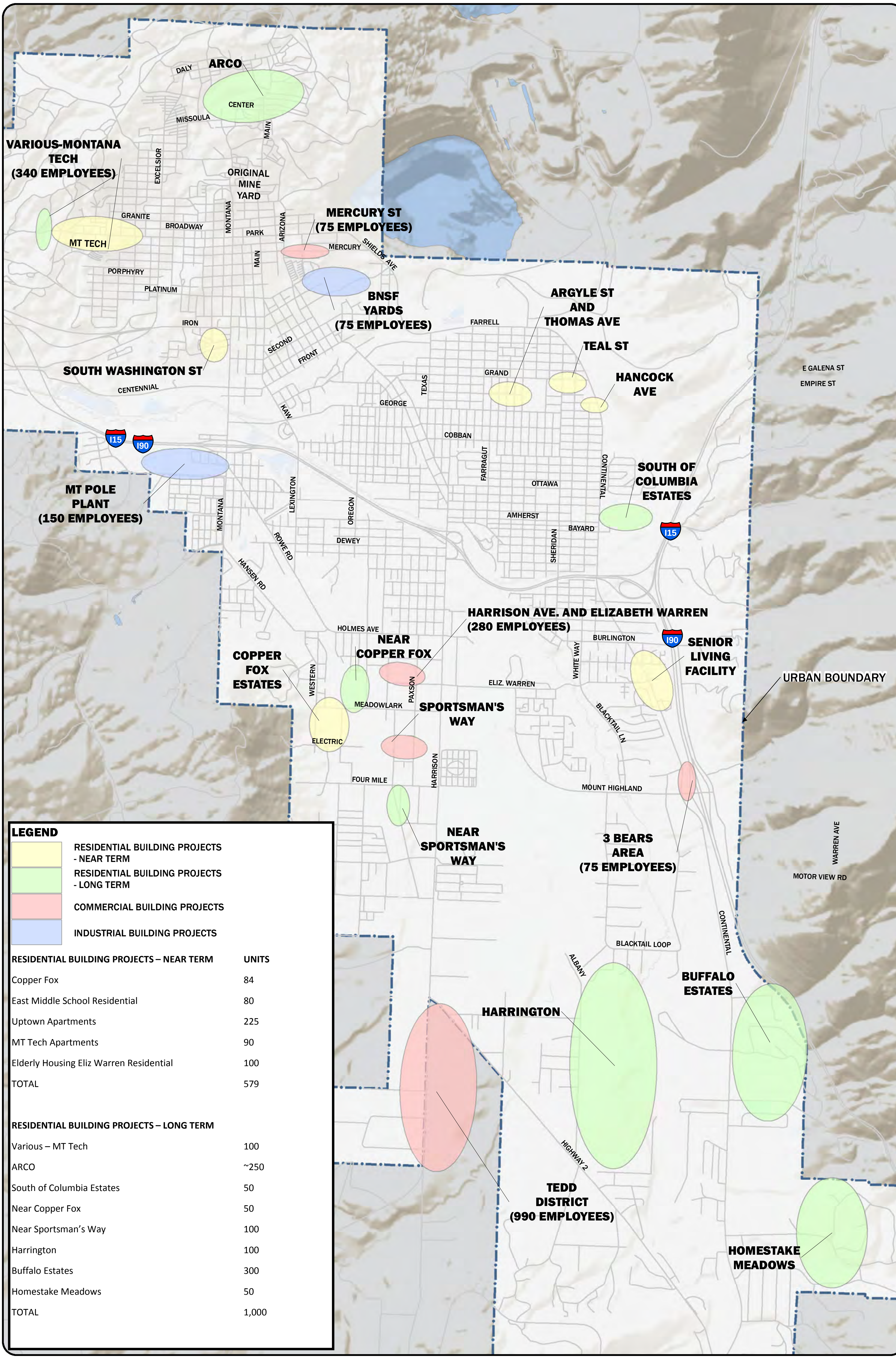
The MDT currently collects traffic count data at 128 sites within the BSB modeling area. The 2010 Average Annual Daily Traffic (AADT) information from these sites was compared to the outputs from the model to identify where adjustment were needed to help the model reflect actual road conditions. The model was validated to ensure the production of reasonable results reflecting the existing travel patterns. These checks included the following:

- Comparison of average trips lengths.
- Percentage Root Mean Square Error between known AADT and modeled volumes.
- Correlation (R squared) of AADT and model volumes.
- Comparison to observed vehicle miles traveled (VMT) by facility type.
- Percent difference between model and observed VMT.
- Percent difference between AADT and modeled volumes for key cut lines.
- Sensitivity of model to changing in key input variables.

The traffic model was then supplied to the consultant team for review and comment before the final version of the traffic model was created.

5.6 Future Conditions Modeling

Using the socioeconomic data and the projected growth rates for the study area, a projected growth analysis was created to evaluate the future traffic patterns. This process was performed by allocating new housing units to selected areas based on the future growth projections (3,423 additional persons, see Section 3.5) and 1,579 housing units (3,423 persons/2.19 persons per home). The corresponding level of employment was calculated based on the existing employment rates for the community of 58% (see Figure 3-6). These employment projections were broken down into retail and non-retail for inclusion within the model projections. The Team met with the Butte planning staff on June 8, 2016, to review the growth projections and evaluate where to apply the projected housing and employment growth within the community. The allocation was based on the continuation of current growth trends and known possible development projects within the community. The growth projections spread the possible growth areas around the community and largely included infill projects and re-development of land that is currently out of service. This review resulted in the future housing and employment projects shown in Figure 5-2. The figure shows the allocation of 1,579 housing units and 1,985 employment positions (496 retail/1,489 non-retail). This information was supplied to MDT for inclusion in the travel demand model for the year 2035.



RESIDENTIAL BUILDING PROJECTS – NEAR TERM	UNITS
Copper Fox	84
East Middle School Residential	80
Uptown Apartments	225
MT Tech Apartments	90
Elderly Housing Eliz Warren Residential	100
TOTAL	579

RESIDENTIAL BUILDING PROJECTS – LONG TERM	
Various – MT Tech	100
ARCO	~250
South of Columbia Estates	50
Near Copper Fox	50
Near Sportsman's Way	100
Harrington	100
Buffalo Estates	300
Homestake Meadows	50
TOTAL	1,000

2016 TRANSORTATION PLAN UPDATE

N

DISPLAYED AS:
PROJECTION/ZONE: MSP
DATUM: NAD 83
UNITS: INT'L FEET
SOURCE: PIONEER/MDT/BSB

0 0.3 0.6 1.2
Miles

FIGURE 5-2

GROWTH PROJECTION

PIONEER TECHNICAL SERVICES, INC.

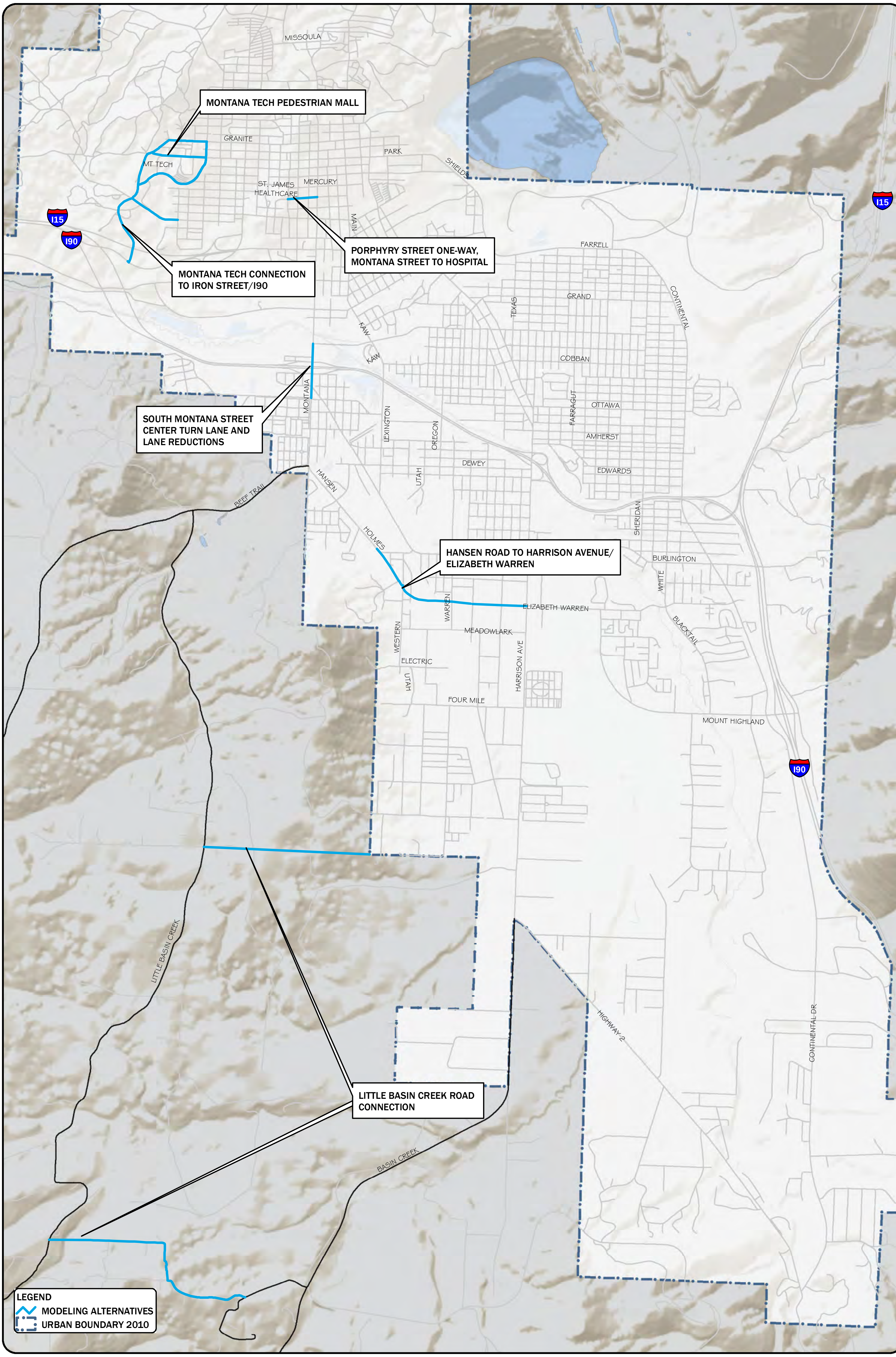
DATE: 3/22/2017

Path: P:\Butte-Silver Bow\2015\BSB 2015 Transportation Plan Update\GIS\Project\TransPlan2016\BSB_Trans2016_GrthProj_16.mxd

5.7 Alternatives Modeling

The Team used the traffic model supplied by MDT to analyze a variety of potential network improvements and evaluate the impacts of creating new road links and modifying existing routes. Potential modeling scenarios were developed to address roadway capacity deficiencies, improve traffic flow between areas, or address specific corridor operations issues. Figure 5-3 shows the alternatives selected for analysis. These modeling alternatives are for informational purposes only and do not necessarily represent recommended road improvements. See Section 6 for recommended road improvements. The modeling for each alternative was completed independently and compared to the base 2035 E+C conditions to determine the specific impacts of each alternative on the future road network independent of other possible alternatives. The Team reviewed the analysis of each alternative to determine both the total traffic volume change and percentage change on the road network compared to baseline conditions.

The traffic model can show the effects of new road link, changes in land use, and changes to road and intersection configurations on a large scale. The Team used the model to evaluate future road conditions under a variety of use and road configuration scenarios. General road maintenance impacts and minor intersection control changes (such as signing) do not show significant impacts within a travel demand model and generally are not reviewed using this method.



2016 TRANSPORTATION PLAN UPDATE

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PROJECTION/ZONE: MSP
DATUM: NAD 83
UNITS: INTN'L FEET
SOURCE: PIONEER/MDT/BSB

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Miles

FIGURE 5-3

MODELING ALTERNATIVES

PIONEER TECHNICAL SERVICES, INC.

DATE: 6/15/2017

Path: P:\Butte-Silver Bow\2015\BSB 2015 Transportation Plan Update\GIS\Project\TransPlan2016\BSB_Trans2016_ModelingAlt_16.mxd

5.8 Model Runs

The model runs prepared include a variety of alternatives to address general road network configuration modifications. For some proposed changes, the Team ran several alternative-modeling scenarios to address different solutions. The Team used the MDT TransCAD model to analyze the following scenarios:

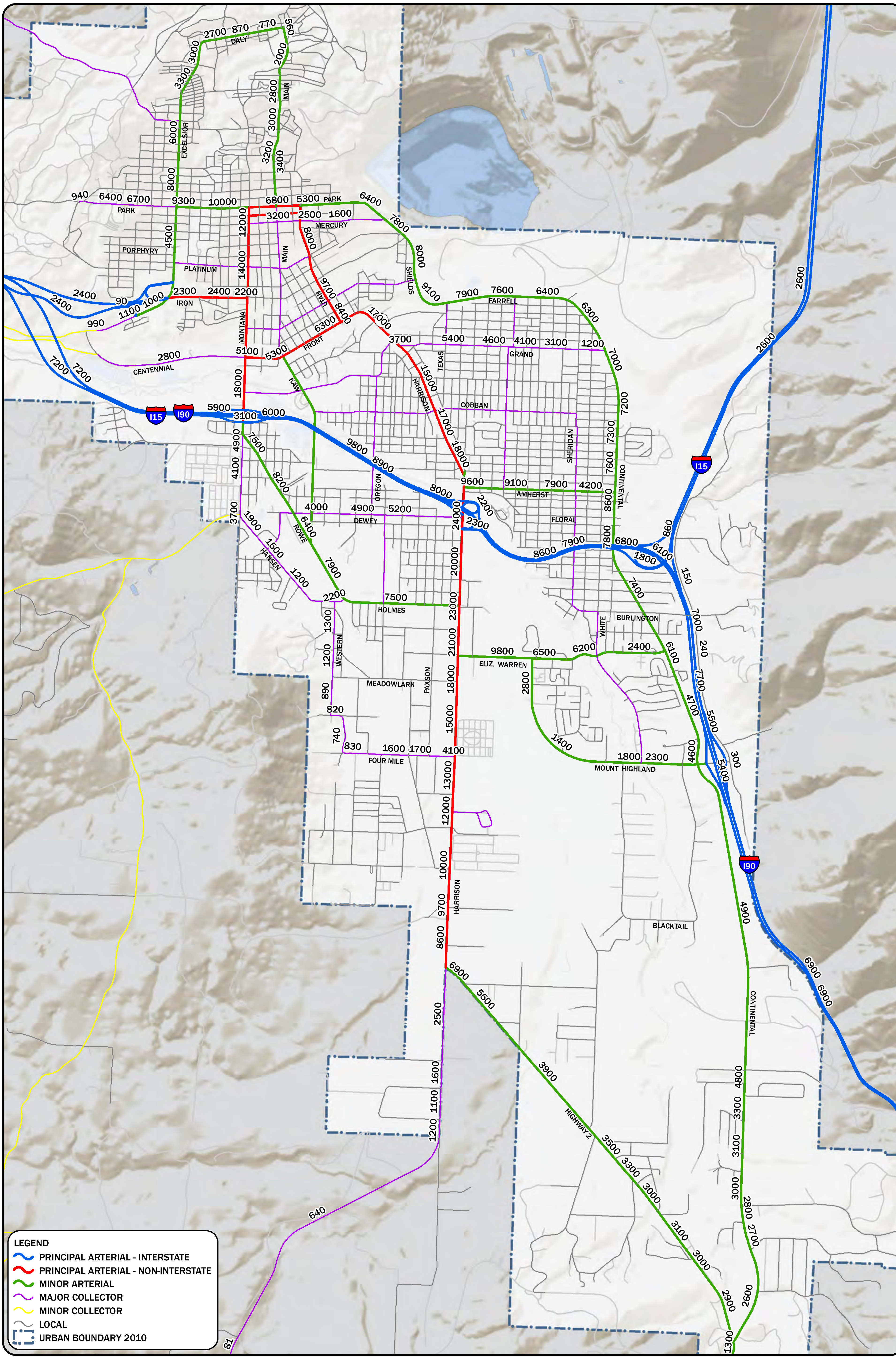
- Existing Road Network 2010.
- Existing + Committed Road Network 2015.
- Existing + Committed Road Network 2035.
- Basin Creek Road connection to south Harrison Avenue.
- Montana Tech Pedestrian Mall.
- Montana Tech Connections to Iron Street/I-90.
- Hansen Road to Harrison Avenue/Elizabeth Warren Avenue.
- South Montana Street Center Turn Lane and Lane Reductions.
- Porphyry Street One-Way, Montana Street to Hospital.

5.8.1 Existing Road Network 2010

The first traffic model prepared was based on 2010 socioeconomic and traffic conditions and was created for model calibrations purposes.

5.8.2 Existing + Committed Network 2035

The projected 2035 base traffic model reflected future road conditions without any additional road improvements within the community. These projections were based on the methodologies described in Section 5.6. Figure 5-4 shows the projected 2035 ADT volumes. Note that all traffic volume projections contained in this section are approximations.



2016 TRANSPORTATION PLAN UPDATE

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DISPLAYED AS:
PROJECTION/ZONE: MSP
DATUM: NAD 83
UNITS: INT'L FEET
SOURCE: PIONEER/MDT/BSB

0 0.3 0.6 1.2
Miles

FIGURE 5-4

PROJECTED AVERAGE ANNUAL DAILY TRAFFIC (2035)

PIONEER TECHNICAL SERVICES, INC.

DATE: 1/19/2017

Path: P:\Butte-Silver Bow\2015\BSB 2015 Transportation Plan Update\GIS\Project\TransPlan2016\BSB_Trans2016_DayTraf2035_16.mxd

5.8.3 ALT 1 and 2 – Little Basin Creek Road to Foothill Road connection to Coyote Lane and Cottontail Lane

Issue Identification: Lack of a connection from south Little Basin Creek Road to South Harrison Avenue in Butte.

Alternatives Description: Little Basin Creek Road is 1.5 miles from south Harrison Avenue but can only be reached using Beef Trail road, which is 3 miles to the north. The City requested an analysis to determine if a connection between Little Basin Creek Road and south Harrison Avenue could be accomplished using extensions from existing routes. Model ALT 1 includes a connection between Little Basin Creek Road and Foothills Road to the east. This extension would require a 1-mile extension beginning at Coyote Lane to Foothill Road and would then connect to South Warren Avenue and into the City of Butte. The second alternative connection would be accomplished by connecting Little Basin Creek Road and Basin Creek Road to the east by extending Cottontail Lane approximately 350 feet and improving Cottontail Lane and Hummingbird Lane to the east (ALT 2).

Modeling Results: The Team ran modeling alternatives for these two scenarios to determine how much traffic each network alternative would carry. The modeling analysis indicated that ALT 1 (Coyote Lane) would carry 703 vehicles per day (VPD). The analysis for ALT 2 suggested that traffic volumes on the new extension of Cottontail Road would carry 1,100 VPD. See Project F-3 in Section 7.6 for recommendations.

5.8.4 ALT 3 – Montana Tech Pedestrian Mall

Issue Identification: August 2, 2016, presentation of the Montana Tech Master Plan by Paulien & Associates, Inc. suggests closing the west end of Park Street at Western Avenue to create a pedestrian walking mall and constructing a loop road around the camps.

Alternatives Description: Create a new pedestrian spine along Park Street west of Western Avenue and a loop road around the campus using Granite Street, Western Avenue, and Mining Museum Road.

Modeling Results: Analysis of the modeling alternative prepared for this configuration suggested that constructing a loop road around Montana Tech and creating a pedestrian walking mall would decrease traffic volumes on Park Street by 700 VPD (12%). Traffic volumes on Granite Street could increase, but this increase would be highly dependent on the exact intersection, parking, and facility access configurations included with the loop road. Traffic volumes on Museum Way would increase to 1,500 VPD. See Section 6.2.6 for further analysis.

5.8.5 ALT 4 and 5 – Montana Tech Connections to Iron Street/I-90

Issue Identification: Create a more direct access to the Montana Tech campus to the south from Iron Street or I-90.

Alternatives Description: Develop a perimeter road around the Montana Tech Campus using Granite Street, Western Avenue, and Mining Museum Road; connect the perimeter road with the Iron Street ramps to the south via a surface street (ALT 4) or with an interchange with I-90 (ALT 5).

Modeling Results: The model runs prepared for ALT 4 and ALT 5 suggested that a surface street connection with Iron Street (ALT 4) would decrease traffic volume on Park Street to 3,711 VPD (a decrease of 41%), and the new connection with Iron Street would carry 2,700 VPD and traffic volumes on Museum Road would increase to 600 VPD. The full interchange connection with I-15 (ALT 5) would carry 5,000 VPD. This alternative would decrease traffic on Park Street by 60% (2,600 VPD) and would increase traffic volumes on Museum Way to 1,000 VPD. See Section 6.2.6 for further analysis.

5.8.6 ALT 6 and 7 – Hansen Road to Harrison Avenue/Elizabeth Warren Avenue

Issue Identification: Improve east/west connections between South Hansen Road to Harrison Avenue and Elizabeth Warren Avenue.

Alternatives Description: Widen Hansen Road/Holmes Avenue and change the intersection configuration at Rowe Road to make Hansen Road the primary route to Harrison Avenue (ALT 6). A secondary alternative for this route includes an extension of Hansen Road to the south to connect with California Avenue, Western Blvd, and Elizabeth Warren to the east (ALT 7).

Modeling Results: Analysis of the model runs for these alternatives suggested that making Hansen Road the primary route to Montana Street would increase traffic volumes on Hansen Road from 1,200 VPD to 5,300 VPD (+430%). Similar traffic volume decreases would be seen on Rowe Road. The alternative road connection to Elizabeth Warren Avenue would increase traffic volumes on Hansen Road to 4,500 VPD (+370%) and decrease traffic volumes on Rowe Road by 28%. The new section of Elizabeth Warren west of Harrison would carry 4,600 VPD. See Project F-2 in Section 7.6 for recommendations.

5.8.7 ALT 8 – South Montana Street Center Turn Lane and Lane Reductions

Issue Identification: South Montana Street has deficiencies relating to the existing number of lanes and the existing lane configuration resulting in congestion and crash trends at George Street and La Salle Street. South Montana currently has four driving lanes from Front Street to Desmet Street and five lanes from Desmet Street to Rowe Road. The road passes under a train bridge north of George Street, which precludes widening Montana and accommodating a center left-turn lane at George Street.

Alternatives Description: To develop room for a left-turn lane, the Team modeled this section of road as a three-lane cross-section from George Street to Rowe Road with a center left-turn lane to determine if this narrowing would affect traffic volumes in this area.

Modeling Results: Analysis of the model run indicated that narrowing South Montana Street could decrease traffic volumes to 12,000 VPD through this section (-33%) and decrease traffic volumes along Rowe Road by 2,500 VPD (-32%). Additionally, traffic volumes would increase on Kaw Street (+38%), Harrison Avenue (+16%), and Front Street (+4%). See Project B-1 in Section 7.2 for recommendations.

5.8.8 ALT 9 – Porphyry Street One-Way, Montana Street to Hospital

Issue Identification: The intersection of Porphyry Street with Montana Street has an existing crash trend relating to road-grade related sight distance restrictions at the intersections.

Alternatives Description: The visibility restrictions at this intersection cannot be reasonably corrected. To improve traffic safety at the intersection while maintaining efficient access to the Hospital, this alternative requires that Porphyry Street be converted to a one-way street west of Montana Street and that traffic be redirected out of the hospital to alternative routes.

Modeling Results: Analysis of the modeling run for this alterative suggested that traffic volumes along Porphyry Street would decrease by 200 VPD (32%), traffic volumes on Gold Street would increase by 100 VPD 23%, and traffic volumes on Platinum Street would increase by 100 VPD (2%). See Project B-4 in Section 7.2 for recommendations.

6 PLAN GOALS AND PUBLIC INPUT ANALYSIS

6.1 Goals and Objectives

The 2005 Plan Update developed goals and objectives through collection and analysis of data, public input, and the revision of goals set during previous planning efforts including those established in the 1996 Plan Update. Modified and updated according to public and local government input, the 2005 Plan Update goals and objectives listed below remain relevant for this 2016 Plan Update:

1. Assist Economic and Community Development.
2. Employ Good Design in Planning Transportation Infrastructure.
3. Promote Transportation Safety.
4. Address Non-Motorized Transportation Concerns.
5. Maintain the Transportation System over Time.
6. Support the Efforts of the BSB Transit Authority to provide Public Transportation.

Based on early input on the 2016 Plan Update from stakeholders and general public participants, most transportation system users in the BSB area believe the system operates well, thus their system improvement goals and objectives were highly localized. The formal goal (and objectives within that goal) for this 2016 Plan Update is best summarized as follows:

> *Develop a sound strategy for allocating scarce resources to produce a transportation system that addresses:*
>
> - *Essential safety and operational needs.*
> - *Community cohesion, access, mobility, and aesthetic appeal.*

This 2016 Plan Update is intended to facilitate community goals and improve the transportation infrastructure and services within the study area. It addresses the overall functionality of the transportation system, travel convenience, traffic safety, connectivity, and other issues including multi-modal use.

To achieve these objectives, it is recommended that BSB plan for, design, construct, operate, and maintain appropriate facilities for pedestrians, bicyclists, transit vehicles and riders, children, the elderly, and people with disabilities in all new construction activities, maintenance activities, and retrofit or reconstruction projects modelled after the *Complete Streets* principles where feasible. A Complete Street is one that is designed to accommodate and coordinate all modes of transportation, both motorized and non-motorized, with a focus on optimizing safety, connectivity, compatibility, and convenience for people of all ages and abilities. Although the elements of Complete Streets can vary from project to project, they typically include, but are not limited to, sidewalks, bike lanes, crosswalks, curb-cuts, wide shoulders, medians, bus pullouts, audible pedestrian signals, sidewalk bulb-outs, and more. Early coordination between MDT and other Agencies during the project design phase is highly recommended to incorporate many of these features. More information on Complete Streets policies can be found in the Montana Building Active Communities Resource Guide (ALTA, 2014).

With Complete Streets design as an ultimate goal, all roadway improvement projects within BSB should be evaluated to determine whether these design principles can be reasonably incorporated into the project.

All sources of transportation funding, public and private, should be drawn upon to implement the Complete Streets principles within BSB. As BSB also understands that maximum financial flexibility is important to implement these principles, the incorporation of Complete Streets principles will be evaluated in street construction, retrofit, and reconstruction and maintenance projects except in unusual or extraordinary circumstances as listed below:

1. Bicyclists and pedestrians are prohibited by law from using the facility. In this case, alternative facilities and accommodations will be evaluated within the same transportation corridor.
2. Where the existing right-of-way does not allow for the accommodation of all users. In this case, alternatives will be explored such as using revised travel lane configurations, paved shoulders, signage, traffic calming, education or enforcement elements to accommodate pedestrians, cyclists, transit, and persons with disabilities.
3. The cost of establishing bikeways or walkways or other accommodations would be disproportionate to the need, particularly if alternative facilities are available within a reasonable walking and/or bicycling distance.
4. Where there is no need, including future need.
5. Where application of Complete Streets principles is unnecessary or inappropriate because it would be contrary to public safety.
6. When routine maintenance is being performed. Any project that does not include Complete Streets principles based on the above exceptions should have said determination confirmed. (Process to be determined.)

Next Steps: After adoption of the 2016 Plan Update, effective implementation of the Complete Streets guidelines requires BSB to take the following additional steps to ensure success:

- Update the Butte-Silver Bow Growth Policy to include Complete Streets design principles.
- Review policies, procedures, and ordinances and, if necessary, restructure them to stress the importance of improved mobility for all users throughout the community.
- Make an applicable changes to design manuals or public works standards to fully encompass the safety and needs of all users by employing the latest in design standards and innovation.

Periodic education and training of planners and engineers is also recommended to ensure they apply the latest techniques to balance the needs of roadway users. Finally, existing data sources and projects can be tapped to track how well the streets are serving all users.

6.2 Screening Analysis

This section provides a high-level assessment of the public comments received during development of the 2016 Plan Update.

6.2.1 Bicycle and Pedestrian Improvements

The majority of comments pertaining to bicycle and pedestrian facility improvement made specific requests to provide protected bike lanes along existing travel corridors. Incidentally, most of the corridors identified in the comments were previously identified bike routes, but that did not currently have marked or separated bike lanes, largely due to a lack of space to include such dedicated facilities.

Significant investment in separate bicycle and pedestrian facilities identified in the comments was consistent with the objectives to improve community cohesion, access, and mobility, but may not address essential safety and operational needs at this time.

Additional bicycle and pedestrian improvements recommended by the public included the following:

- A request was made for improved pedestrian access to Southwest Montana Community Health Center located on Centennial Avenue. Improvements were recently made along the south side of Centennial Avenue, west of Montana Street, that consisted of sidewalks and walkway paving. Approximately 4,500 square feet of asphaltic walkway paving and 1,300 square feet of sidewalk were constructed under the Community State Transportation Program Enhancements (STPE) 1899(15) UPN-4759. Discussions between local businesses (initiated by Community Health) are currently underway to install sidewalk improvements on the north side of Centennial Avenue, west of Montana Street to Community Health. No further actions are recommended under this 2016 Plan Update for specific pedestrian access improvements; however, overall design modifications to Centennial Avenue are recommended in Section 7.2.
- A request was made for trail connectivity to the Thompson Park municipal recreation area located 9 miles south of Butte on Highway 2. The Thompson Park area consists of 25 miles of non-motorized trails for hiking, horseback riding, and mountain biking. Although consistent with the objectives to improve community cohesion, access, and mobility, this request has not been included as a viable option in this 2016 Plan Update based on the distance and safety concerns due to limited right-of-way and road curve line-of-sight issues.

Public input on bicycle and pedestrian facility improvements that warrant further analysis or implementation are discussed in Section 7. The Montana Independent Living Project (MILP) conducted a survey that provided valuable input on community experience with the existing bicycle and pedestrian system. The MILP Butte Active Transportation Survey is included as Appendix C.

6.2.2 Design Modifications

Community participants made several requests for roadway design modifications to improve safety and mobility. These included the following:

- Participants consistently raised concerns about the concrete medians installed on Harrison Avenue between Amherst and Highway 2. Motorists complain that they make business access difficult and induce undesirable traffic maneuvers. The MDT installed the medians to promote thru-traffic along the corridor and limit direct access to adjacent properties to major intersections only. This is standard practice for Principal Arterial roadways though urban areas. For these reasons, MDT left the medians in place during the recent roadway rehabilitation work; however, they have extended the cue space in turn lanes located south of Elizabeth Warren to address access needs. Further modifications are not recommended under this 2016 Plan Update.
- Suggestions were made to install roundabouts in Walkerville at the following intersections: Ryan Road/Bull Run Road/Williams Street intersection, and North Main Street/Ryan Road/Alice Street/Moulton Reservoir Road intersection. Neither the current nor projected traffic volumes warrant reconstruction of these intersections as roundabouts. This suggestion is not recommended in this 2016 Plan Update.
- Additional suggestions were made to install roundabouts at Harrison Avenue/Airport Road, Montana Street/Rowe Road, and Holmes Avenue/ Rowe Road. There is no specific capacity or operational issue to be addressed by a roundabout design at these locations. Therefore, this suggestion is not recommended under this 2016 Plan Update.
- Various public comments were received concerning the existing access restrictions on South Harrison Avenue associated with the raised medians throughout the corridor. Generally, raised medians are used along major road corridors to limit access to adjacent properties in between major intersections. These access restrictions can improve traffic flow on the major route by reducing vehicle turning and weaving conflicts. Several complaints were received indicating that the newly installed medians have restricted access to existing businesses without coordinating an alternative access plan for property owners.
- Public comment was received concerning visibility at the intersection of Granite Street and Excelsior Avenue. Already aware of this issue, BSB recently increased the designated no parking areas on Excelsior Avenue to provide better visibility at the intersection. Further modification of the intersection is not recommended under this 2016 Plan Update.

Public input on general roadway design modifications that warrant further analysis or implementation are discussed in Section 7.

6.2.3 Geometric Issues

The project team analyzed several public comments regarding existing geometric issues. The following comments have maintenance recommendations:

- The intersection of West Platinum Street with Excelsior Street was identified as having a confusing lane configuration. This four-way, STOP-controlled intersection was recently converted from a traffic signal. The road has a separated right-turn lane for westbound traffic but the intersection has no signs or lane markings designating the lane configuration. *Recommendation*: the westbound lanes should be restriped showing a left-turn/through lane and the separated right-turn lane using an on-street directional arrow. Additional lane configuration signage could be included if needed. With a planning level cost of $24,000, funding strategies for BSB/MDT could include Surface Transportation Program Urban Highway System (STPU)/Local Financing Tools (see Section 8).
- The four-way, STOP-controlled intersection of Oregon Avenue and Cobban Street has tight turn radii with a storm sewer inlet at each corner. The inlets covers are set below the asphalt grade. *Recommendation*: complete an analysis of the storm sewer inlets and adjust to match existing design standards as necessary.

Public input on specific roadway geometry issues that warrant further analysis or implementation are discussed in Section 7.

6.2.4 Intersection Controls

The operational analysis conducted for this 2016 Plan Update did not identify any capacity-related functional operation deficiencies at intersections identified in the public comments. The BSB officials now have current and projected traffic data for key intersections and will conduct additional analyses and address intersection operational issues on a case-by-case basis moving ahead. Future intersection treatments may include additional turn lanes, dedicated turn lane signals, or roundabouts where appropriate.

Public input on intersection control improvements that warrant further analysis or implementation are discussed in Section 7.

6.2.5 Sidewalks

Photograph 5. Image showing a street lacking sidewalk.

There were several requests for new sidewalks with ADA ramps to promote walkability in the community. Improving sidewalk networks allows for more predictable trips for pedestrians and improves the overall connectivity of the community (Photograph 5). BSB has been the recipient of various grants and Urban Revitalization Agency (URA) money to install sidewalks and associated improvements. Public input on sidewalk facility improvements that warrant further analysis or implementation are discussed in Section 7. Additional ADA information is below.

ADA Ramp Development

Title II of the ADA requires that state and local governments ensure that persons with disabilities have access to the pedestrian routes in the public right of way. In general, ADA curb ramps are needed wherever a sidewalk or other pedestrian walkway crosses a curb. These ramps are located to ensure anyone with a mobility disability can travel across a street from one sidewalk to the sidewalk on the other side of the street, over or through any curbs or traffic islands (Photograph 6). As noted in Section 4.11, the MDT recently completed the 2016 ADA Transition Plan, which inventoried all intersection ramps on MDT routes in Montana. The purpose of the plan is to improve the accessibility of the transportation system within the state by providing guidance for removal of accessibility barriers. To ensure the accessibility and usability of the pedestrian walkway for persons with disabilities, the provision of curb ramps whenever streets, roadways, or highways are reconstructed is considered.

Public comments on sidewalk improvements that warrant further analysis or implementation are discussed in Section 7.

Photograph 6. Street corner showing an updated ADA-compliant sidewalk.

6.2.6 Improved Access/Travel Patterns

Comments within the Butte area have raised a few access concerns consistently over the past two decades:

- The need for better access to/from Montana Tech.
- The cut-through traffic in neighborhoods bordering Tech.

More recently, public participants have noted concern with traffic operations around existing and future I-90 access.

Montana Tech Master Plan

Montana Tech proposed a variety of road modifications within their 2010 Master Plan (Montana Tech, 2010) and the North Campus Development Pattern section of the recent Draft Facilities Master Plan (Paulien & Associates, 2017). These include modifying the west end of Park Street from N. Western Avenue west to create a *pedestrian zone* and building a new perimeter road that would circle the campus. Additionally, the university would like to explore creating a new approach into the campus from Platinum Street and Steel Street to the east and creating new connections with Interstate 90 to the south. All these proposed road configuration changes would impact the campus. These conceptual road networks would need major planning to lay out specific road and parking designs. The designs would have to address efficient and safe traffic flow around the campus and contain provisions to replace the parking spaces eliminated from Park Street and improve parking availability in general. Collectively, there are four concepts that could be implemented individually or in any combination.

Concept 1 - Pedestrian zone west of N. Western Avenue to improve pedestrian circulation through campus by discouraging vehicular traffic through the middle of the campus. Section 5.8.5 (ALT 3) detailed the modeling for this concept. The results of the modeling analysis suggested that this road modification would function, but would require significant modification to parking areas and reconstruction of adjacent streets such as Granite Street to accommodate the altered traffic flow.

- Benefits: Create better traffic flow around campus, improved pedestrian mobility.
- Challenges: Replacing lost parking, developing new road alignments and intersection configurations, and rebuilding adjacent streets.

Concept 2 - Connect Steel Street/Platinum Street with the campus loop road to create an alternative access to the southern part of the campus.

- Benefits: This formalized approach could reduce traffic from Park Street and provide better connectivity to parking areas.
- Challenges: The related sections of Steel Street and Platinum Street run through residential areas and the streets are not designed for heavy traffic loads. Traffic on these roads would increase significantly. This new approach route may require major road and intersection modifications, and it is in direct conflict with public input received from numerous area residents and the BSB Planning Board, as mentioned throughout in this 2016 Plan Update.

Concept 3 - Create a connection to the campus via the I-90 from Iron Street. Previously identified in the 2005 Plan Update (*COR3 – Iron St. Access to Montana Tech*), this connection would help create a new approach to the campus from I-90 along Iron Street. The road would allow traffic to access camps from the west on I-90 and from the east on Iron Street. Section 5.8.5 details the modeling for this option (ALT 4), which states the new road would carry 3,711 VPD. Iron Street is a principal arterial route west of Montana Street and becomes part of the National Highway System west of Travonia Street.

- Benefits: Improved access to campus and decreased traffic on Excelsior Avenue and Park Street.
- Challenges: This option would require MDT and FHWA approval and would also have geometric/grade challenges.

Concept 4 - Create a full interchange connection to the campus from I-90 (south). This configuration would create a new full movement interchange with I-90 that could connect to the Montana Tech campus. See Figure 6-1 on page 6-11. Section 5.8.5 details the modeling for this option (ALT 5). The new interchange would allow full access to I-90 from the campus. Modeling suggests it would load at 4,987 VPD.

- Benefits: Better regional access to Montana Tech and a decrease in traffic on Excelsior Avenue and Park Street.
- Challenges: Significant cost, MDT and FHWA approval, and geometric/grade challenges.

Concepts 3 and 4 include connections to sections of I-90 and West Iron Street that are in the jurisdiction of MDT and FHWA. To implement either of these concepts requires approval from these agencies. While these concepts have some benefits for access to the campus, MDT and the FHWA require any projects that will affect their higher order road systems to have a regional need. To meet this regional-need criteria, Montana Tech would have to show why these connections to the interstate system are necessary and demonstrate that the existing road network in Butte cannot effectively serve the campus. Although Montana Tech is a regional draw, the existing road network serves the campus effectively and the network is not over capacity or creating local traffic problems. Adding additional road network connections are not required for safe and effective access to the campus.

According to MDT, for a new interchange connection to be considered by MDT and the FHWA a project must:

- Be physically feasible. It must meet applicable engineering and traffic standards and not be unreasonably expensive.
- Be compatible with local planning. It must be compatible with the local transportation improvement program and long-range transportation and land use plans as applicable.
- Have a sponsor willing to carry the financial and administrative burden. That sponsor must be a city or county government who would have to carry the ball as far as preparing feasibility and environmental studies, arranging the financing package, preparing the design, securing the right-of-way, and securing the access through the MDT and FHWA reviews and approvals. The sponsor would also have a funding plan compatible with the interchange's intended use.

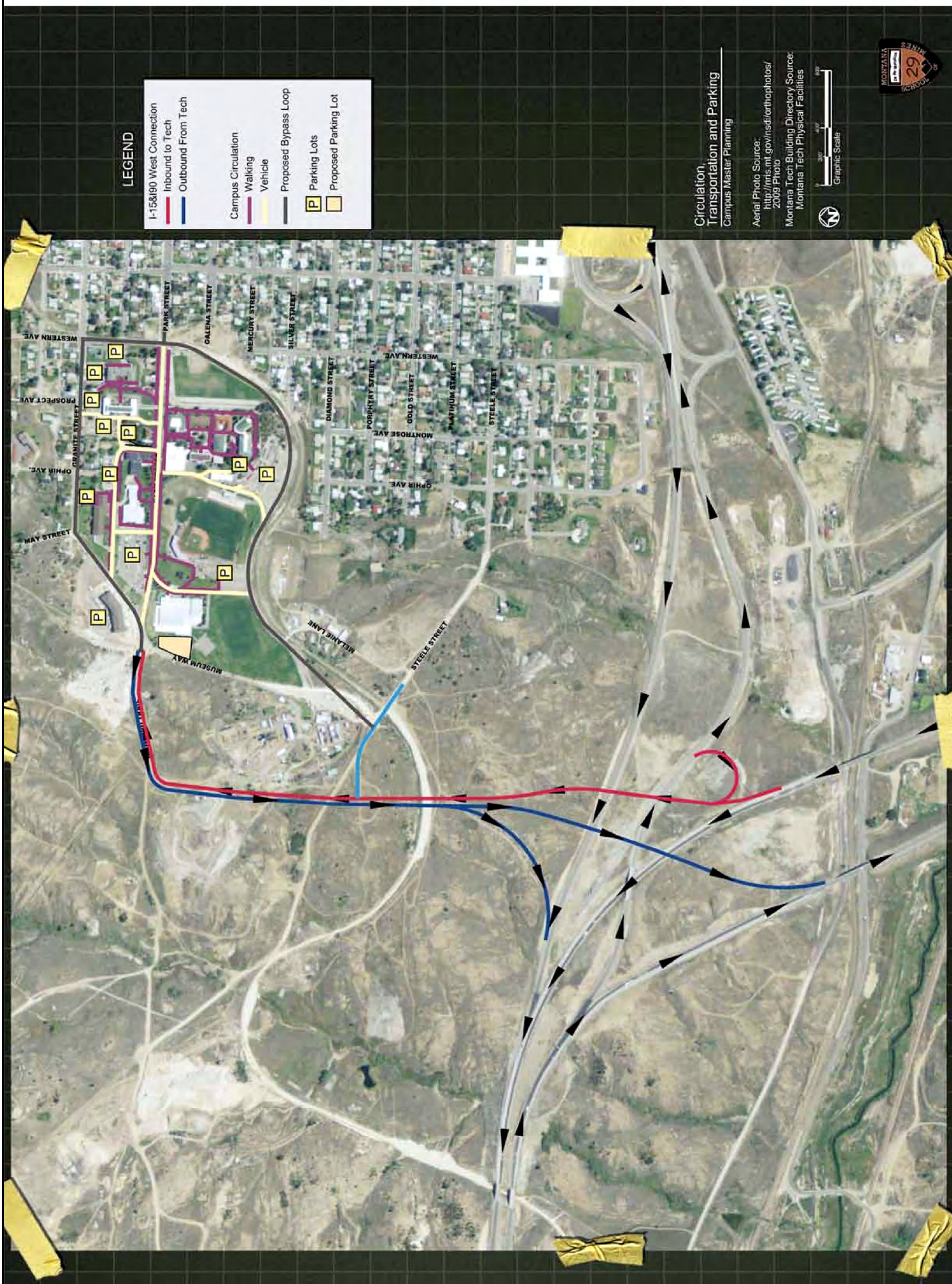
The MDT and the Montana Transportation Commission will consider the following factors in their further analysis of the proposals:

1. Traffic use (both present and future).
2. Cost (preliminary engineering, right-of-way, construction, and maintenance).
3. Local and/or private funding support.
4. Problems solved for the DOT (operational, capacity, etc.).
5. Problems created for the DOT (operational, capacity, etc.).
6. Problems solved for local governments (operational, capacity, etc.).
7. Problems created for local governments (land use, zoning, maintenance, etc.).
8. Social, economic, and environmental impacts.
9. Benefits – cost analysis.
10. Economic development.

Additional interchanges must stand on their own merits and compete with other types of projects for inclusion in the program.

Various public comments were received expressing a concern about cut-through traffic using West Platinum Street to access the Montana Tech campus. Additionally, numerous area residents attended the public hearings to voice opposition to using West Platinum Street and Steel Street as an access to the campus. West Platinum Street runs through a residential neighborhood and is not designed to carry large traffic volumes. Any proposed modifications to the roadway network to Montana Tech will impact local traffic volumes along West Platinum Street. The BSB Planning Board stated that using Steel Street to create an alternative access to the southern part of the campus was not desirable and should be excluded from any road modifications. Traffic volumes and patterns along West Platinum should be addressed with any proposed road network modifications and appropriate traffic calming measures should be considered to address any existing or project traffic concerns.

The construction of the perimeter road around the Montana Tech campus will likely require, at a minimum, a new connection with Iron Street. The construction of the perimeter road alone would put an undue burden on the adjacent neighborhoods by increasing traffic volumes on West Platinum Street and Steel Street. For any one of these conceptual projects to be successful, the project must address the vehicle circulation needs around the Montana Tech campus, provide improved access to the larger street network, and directly address the concerns of the local neighborhoods in regards to potential increased traffic volumes on neighborhood streets. Public input on access, mobility, and travel pattern improvements that warrant further analysis or implementation are discussed in Section 7.



2016 TRANSPORTATION
PLAN UPDATE

DISPLAYED AS:
PROJECTION/ZONE:
DATUM:
UNITS:
SOURCE:

NOT TO SCALE

FIGURE 6-1

MONTANA TECH
MASTER PLAN 2010

PIONEER TECHNICAL SERVICES, INC.

DATE: 6/8/2017

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7 RECOMMENDATIONS

Recommendations for improvements to the BSB existing transportation infrastructure are detailed in Table 7-1. The table summarizes the improvement projects in a tabular format and includes planning level costs and funding strategies. The projects are categorized into the following sections:

- Committed Projects - projects identified in Section 4.13 that are currently receiving or have allocated funding
- Bicycle and Pedestrian Improvements
- Design Modifications
- Geometric Issues
- Intersection Controls
- Sidewalks
- Improved Access/Travel Patterns

7.1 Bicycle and Pedestrian Improvements

The following bicycle and pedestrian improvements are recommended for implementation under this 2016 Plan Update:

A-1 Ottawa/Continental Drive Overhead Lighting

This project consists of completing an analysis of illumination options at this intersection. Public comments noting the high traffic and pedestrian density at the intersection of Ottawa Street and Continental Drive asked if this potential conflict might warrant a lighted intersection. The Team reviewed this area for pedestrian activity, and field investigations found that only 8 pedestrians were observed crossing the intersection in the peak hours. However, the intersection could benefit from additional overhead lighting to assist pedestrians crossing in this area. It is noted that solar-powered pedestrian *crosswalk ahead* warning beacons and signs were recently installed on Continental Drive approximately 300 feet each side of the crosswalk.

A-2 Stodden Park Access at Utah Avenue

This project consists of multi-modal access improvements to the main Stodden Park entrance at Utah Avenue including the installation of standard ADA-compliant sidewalks from Dewey Boulevard to the park entrance. Currently home to the municipal golf course and regional ball fields, significant investment will be made in this regional park over the coming years to include a new pool, carousel, and $2.5 million park infrastructure improvements. At present, this entrance has no sidewalk infrastructure; therefore park access is a challenge for individuals with disabilities and those pushing strollers. As an activity destination, investment in multi-model access (biking, walking, and accessibility) will ensure the park is completely usable by all people.

Table 7-1
Butte-Silver Bow Transportation Plan Update
Recommended Projects

Project Number	Description	Section References	Project Cost	Primary Responsible Party	Funding Sources and Strategies
	Committed Projects				
CM-1	**Rocker Interchange Improvements** Reconstruction of the Rocker Interchange and frontage roads.	4.13	± $4,000,000	MDT	IM
CM-2	**RARUS/Silver Bow Creek Structures** Proposed bridge replacements over RARUS Railway and Silver Bow Creek west of Butte.	4.13	> $25,000,000	MDT	IM-NHPB
CM-3	**I-90 East Bound Scale Site Study, Ramsay** Study to determine the location for an I-90 eastbound Motor Carrier Services (MCS) scale site west of the Ramsay Interchange. The scale site is the relocation of the existing eastbound scale site located on the Rocker Interchange ramp.	4.13	N/A	MDT	STPX
CM-4	**Holmes and Hill/Warren Ave** Proposed construction consists of new traffic signal installation and intersection re-alignment, grading, gravel, seal and cover, and ADA upgrades. Additionally, some curb, gutter and sidewalk replacement may be required.	4.13	< $1,000,000	BSB/MDT	STPU
CM-5	**North of Rocker Interchange** Proposed construction consists of reconstruction of Browns Gulch Road from RP 3.5 to RP 4.38. Work will include grading, gravel, structure replacement, plant mix surfacing, seal, and cover.	4.13	< $5,000,000	MDT	STPS
CM-6	**Excelsior Ave/Park Street** This project includes Park Street from Montana Street to Excelsior Western and on Excelsior Avenue from Gold Street to Ryan Road.	4.13	± $6,000,000	BSB/MDT	STPU
CM-7	**Uptown ADA Ramps** This project includes sidewalk upgrades on Park Street (Montana Street to Excelsior Avenue) and Excelsior Avenue (Park Street to Caledonia Street). Work is to be performed in conjunction with CM-6.	4.13	< $550,000	MDT	TA
CM-8	**Sidewalk Connections** A portion of this project was completed in 2016 (Clarks Park, Continental Drive). The remainder involves ADA-compliant sidewalk and curb and gutter installation along the east side of Stuart Avenue from George Street northward to the approach of East Middle School.	4.13	< $350,000	MDT	TA
CM-9	**Moulton Road Safety and Realignment Project Corridor Study** This project is a study only (for possible widening and paving of the existing roadway) that considers using the existing right-of-way efficiently, evaluates mitigation options to protect riparian and stream resources, and evaluates design alternatives involving an engineered pavement section.	4.13	± $200,000	BSB/USFS	FLAP
	Bicycle and Pedestrian Improvements				
A-1	**Ottawa/Continental Drive - Overhead Lighting** This project consists of completing an analysis of illumination options at this intersection.	7.1	TBD	BSB/MDT	STPU
A-2	**Stodden Park Access - Utah Avenue Improvements** Improve multi-modal access to the Utah Avenue Stodden Park entrance from Dewey Boulevard.	7.1	TBD	BSB/MDT	TA/ Local Financing Tools*
	Design Modifications				
B-1	**South Montana Street Lane Reductions** This project consists of modifications to the existing South Montana Street lane layout. The geometry along this road corridor creates a variety of safety and operational issues and the road might actually function better as a consistent three-lane roadway with additional turning lanes at intersections.	5.8.7, 7.2, Figure 7-1	$28,000	BSB/MDT	STPU/NHS
B-2	**Texas at Shields Avenue/Farrell Street - Realignment** This project consists of the realignment of the intersection of Texas Avenue with Shields Avenue/Farrell Street to correct sight-distance issues to the west. The realignment would include shifting Texas Avenue approximately 15 feet to the east for improved visibility of on-coming traffic on Shields Avenue and Farrell Street.	7.2, Figure 7-2	$42,000	BSB/MDT	STPU/ Local Financing Tools*
B-3	**Kaw Avenue and George Street - Intersection Improvements** Reconstruct the intersection of Kaw Avenue and George Street. This intersection was identified as having a high crash rate and high crash severity rate. The intersection suffers from a variety of geometric challenges including poor sight distance, skewed approaches, adjacent business access (KOA), Upper Silver Bow Creek to the north, low nighttime lighting, and a nearby pedestrian trail crossing.	7.2, Figure 7-3	TBD	BSB	Local Financing Tools*
B-4	**Porphyry Street One-Way Montana Street to Hospital** This project consists of converting Porphyry Street to one-way travel in the westbound direction between Montana Street and Idaho Street (one block). The intersection of Porphyry Street was identified for its high crash rates associated with eastbound traffic on Porphyry Street trying to enter/cross Montana Street.	5.8.8, 7.2, Figure 7-4	$8,000	BSB	Local Financing Tools*
B-5	**Centennial Avenue - Widening** This project consists of creating a three-lane road (one travel lane in each direction and one center turn lane) at Centennial Avenue from Montana Street to Santa Claus Road to match the work completed on West Front Street and to accommodate anticipated future use. Currently designated as a Major Collector, the design modification would improve both traffic movement and business and industrial area access.	7.2	$3,770,000	BSB	Rural and Fire Related Funding Sources, and other Local Financing Tools*
B-6	**Elizabeth Warren and Howard Avenue - Traffic Control Study** Study this area to develop a traffic control plan to address current and future access needs. Improvements could include lane modifications, road expansions, access restrictions, additional median openings, and intersection signal timing and phasing modifications.	7.2	$9,000	BSB/MDT	STPU/ Local Financing Tools*
B-7	**Stuart Avenue - Reconstruction** This project consists of analyzing Stuart Avenue relative to BSB's existing road construction standards. Requests were received to reconstruct Stuart Avenue with new curbs, sidewalks, gutters, and pavement markings consistent with BSB's current road construction standards for this type of facility.	7.2	$360,000	BSB/MDT	TA/ Local Financing Tools*
B-8	**Mercury Street Improvements** This project consists of the creation of an aesthetically pleasing entryway and corridor into the Uptown area, beginning at Mercury Street and Continental Drive (Shields Avenue).	7.2, Figure 7-5	TBD	BSB/MDT	STPU/TA/ Local Financing Tools*
B-9	**Grizzly Trail - Reconstruction** Reconstruct Grizzly Trail in Rocker (to include new curbs, gutters, sidewalks, and pavement markings) to help increase economic development in Rocker.	7.2	$543,000	BSB	Local Financing Tools*
B-10	**Woolman Street - Reconstruction** Reconstruct Woolman Street to include sidewalks, curbs, gutters, and new pavement markings.	7.2	$162,000	BSB	Local Financing Tools*
B-11	**North Montana Street - Reconstruction** This project consists of analyzing N. Montana Street relative to safety and connectivity benefits and relevant design standards.	7.2	$550,000	BSB	Local Financing Tools*

Table 7-1 (cont.)
Butte-Silver Bow Transportation Plan Update
Recommended Projects

Project Number	Description	Section References	Project Cost	Primary Responsible Party	Funding Sources and Strategies
	Geometric Issues				
C-1	**Dewey and Rowe - Design Review** Conduct a design review of the intersection of Dewey Blvd and Rowe Road for realignment should right-of-way be available. The intersection has skewed approaches that can create visibility issues.	7.3	TBD	BSB/MDT	STPU/ Local Financing Tools*
C-2	**Harrison Avenue - Intersection Studies** Public comments suggested that some intersections with south Harrison Avenue have limited visibility of oncoming traffic. However, no specific locations were identified. More public input may be necessary identify specific areas that would benefit from visibility enhancements.	7.3	N/A	BSB/MDT	STPU/HSIP Local Financing Tools*
C-3	**Park Street - Intersection Studies** Public comments suggested that some intersections with Park Street have limited visibility of oncoming traffic. However, no specific locations were identified. More public input may be necessary to identify specific areas that would benefit from visibility enhancements.	7.3	N/A	BSB/MDT	STPU/HSIP Local Financing Tools*
C-4	**Montana Street Front Street to 2nd Street - Lane Configuration** Convert Montana Street between Front Street and Second Street to a five-lane section consistent with the rest of the road to reduce lane shifts and improve safety. Montana Street between Front Street and Second Street narrows from five lanes to four lanes and then expands back to five lanes again.	7.3	$95,000	MDT	NHS
	Intersection Controls				
D-1	**Montana Street and Broadway Street - Signal Warrant Remove** Reviews to consider removing signal controls and replacing them with STOP controls on the minor approach at the intersection.	4.6, 7.4	$18,000	BSB/MDT	MACI/ Local Financing Tools*
D-2	**Park Street and Washington Street - Signal Warrant Remove** Reviews to consider removing signal controls and replacing them with STOP controls on the minor approach at the intersection.	4.6, 7.4	$18,000	BSB/MDT	STPU/MACI Local Financing Tools*
D-3	**Park Street and Idaho Street - Signal Warrant Remove** Reviews to consider removing signal controls and replacing them with STOP controls on the minor approach at the intersection.	4.6, 7.4	$18,000	BSB/MDT	STPU/MACI Local Financing Tools*
D-4	**Broadway Street and Arizona Avenue - Signal Warrant Remove** Reviews to consider removing signal controls and replacing them with STOP controls on the minor approach at the intersection.	4.6, 7.4	$18,000	BSB/MDT	MACI/ Local Financing Tools*
D-5	**Amherst and Harrison Intersection - Signal Timing Analysis** Review the signal timing at the intersection of Amherst and Harrison Avenue. Public comments suggested that traffic gets backed up in all directions at this intersection, especially the north bound traffic movement, and that the signalized intersection takes too long to move traffic.	7.4	N/A	MDT	STPU/MACI/NHS
D-6	**Dewey and Hill - 4-Way Stop Analysis** Analyze the four-way, STOP-controlled intersection at Dewey and Hill in detail. Comments suggest that both Oregon Street and Utah Avenue have more cross-traffic and may benefit from moving the four-way STOP control to either of these locations.	7.4	$22,000	BSB/MDT	STPU/ Local Financing Tools*
D-7	**Harrison and Cobban - Signal Analysis** Provision of additional left turn signal for both north and southbound traffic on Harrison to turn left on Cobban Street should be analyzed in detail.	7.4	N/A	BSB/MDT	NHS/ Local Financing Tools*
D-8	**George and Montana - Signal Warrant Add** Perform traffic signal warrant study at the intersection of George Street and Montana Street to determine if a traffic signal would be beneficial. The intersection has a crash history that may be corrected by installing a traffic signal. (Note: B-1 lane reductions along Montana Street would likely eliminate the need for a traffic signal at this location.)	7.4	$210,000	BSB/MDT	NHS/ Local Financing Tools*
	Sidewalks				
E-1	**Sidewalk Study** Institute programmatic approach to replace sub-standard sidewalks or install standard ADA-compliant sidewalks. Improving sidewalk networks allows for predictable trips for pedestrians and improves the overall connectivity of the community.	7.5	$100,000	BSB	Local Financing Tools*
	Improved Access/Travel Patterns				
F-1	**Montana Street I-90 Interchange Access** This project consists of analyzing the Montana Street I-90/I-15 interchange area to review the approaches to the on/off ramps along La Salle at Idaho Street, Placer Street to the south, and Desmet Street to the north. Residents and local businesses are concerned that drivers are cutting through local roads to avoid the Montana Street intersections.	7.6, Figure 7-6	N/A	BSB	Local Financing Tools*
F-2	**Hansen/Holmes/Rowe Connection** This project consists of creating an alternate southwestern loop around the community. The route would create an efficient truck route through Butte by creating a direct connection between the I-90/I-15 interchanges at Montana Street and Continental Drive and create an effective connection to Uptown Butte from the south end of the valley along commercial corridors.	5.8.6, 7.6, Figure 7-7	$6,000,000	BSB/MDT	STPU
F-3	**Little Basin Creek Road Connection - Option 1** This project consists of providing a connection from Little Basin Creek to south Harrison Avenue/Highway 393.	5.8.3, 7.6, Figure 7-8	$4,150,000	BSB	Rural and Fire Related Funding Sources
	Little Basin Creek Road Connection - Option 2 This project consists of providing a connection from Little Basin Creek to south Harrison Avenue/Highway 393.	5.8.3, 7.6, Figure 7-8	$1,760,000	BSB	Rural and Fire Related Funding Sources

*** Local Financing Tools (See Chapter 8):**
Optional Motor Vehicle Tax --61-3-537 MCA
Additional road and bridge construction tax – election required --7-14-2504 MCA
Bridge and Road Capital Improvement Fund -- 7-6-616, 7-14-2506 MCA
Local Option Motor Fuel Excise Tax -- 7-14-301 MCA
Special Improvement Districts -- 7-12-4101 MCA
Urban Transportation Districts (bonding authority) -- 7-14-201 MCA
Impact Fees -- 76-3-510 MCA

7.2 Design Modifications

The following design modifications are recommended for detailed analyses and/or implementation under this 2016 Plan Update.

B-1 South Montana Street Lane Reductions

This project consists of modifications to the existing South Montana Street lane layout. Montana Street south of Front Street has some unique challenges that could be addressed by modifications to the travel lanes along this corridor. Currently, Montana Street narrows to a four-lane cross-section passing under the MT Rail Link railroad bridge and then widens again to five lanes. The five-lane section extends south to the intersection with Rowe Road. The geometry along this road corridor creates a variety of safety and operational issues and the road might actually function better as a consistent three-lane roadway with additional turning lanes at intersections. The three-lane section would likely provide a variety of safety benefits along the corridor including a southbound left-turn lane at George Street and channelizing turning maneuvers at intersections. Current traffic volumes along the corridor are constant and within parameters for a well-engineered three-lane roadway (12,000-14,000 VPD). Three-lane roadways are routinely expected to carry up to 18,000 VPD. The primary benefits of the change include the following:

- Creates a consistent road and lane configuration throughout the corridor with fewer lane shifts.
- Creates more options for designated turn lanes and longer turn lanes with more storage at intersections.
- Creates sufficient road width to allow a southbound left-turn lane at George Street to separate left-turn traffic from through traffic.
- Decreases crossing distance and improves visibility for side-street traffic entering the roadway.
- Decreases vehicle speeds and weaving maneuvers.
- Decreases overall traffic volumes.

Both the intersections at George Street and La Salle Street have known crash histories (see Section 4.7.2) that could be improved by potential traffic calming impacts created by decreasing vehicle speeds, traffic volumes, and crossing distances and improving visibility at intersections. The only alternative to enhance access from these side streets is to install traffic signals, which may not be warranted and would be considerably more expensive (based on installation and maintenance costs). Section 5.8.7 suggests that traffic volumes along the corridor would decrease by approximately 33% (up to 4,000 VPD) with the lane reductions.

The proposed modified lane layout is shown in Figure 7-1. Note that the southbound lane reduction would only occur between the north I-90 interchange ramps and just north of Rowe Road. The northbound lane reduction would extend from Rowe Road to just south of Front Street. Overall intersection geometry would only be effected at La Salle Street (eliminate one northbound lane and one southbound lane), George Street (eliminate one northbound lane), and the westbound I-90 ramps (eliminate one northbound lane). These modifications could be performed at low cost (lane striping and median curb work only) and could be tested with temporary lane closures before any permeant work is completed.

B-2 Realignment of Texas at Shields Avenue/Farrell Street

This project consists of the realignment of the intersection of Texas Avenue with Shields Avenue/Farrell Street to correct sight-distance issues to the west. The 2005 Plan Update included this item as recommendation S-3. The realignment would include shifting Texas Avenue approximately 15 feet to the east for improved visibility of on-coming traffic on Shields Avenue and Farrell Street. Figure 7-2 shows the layout.

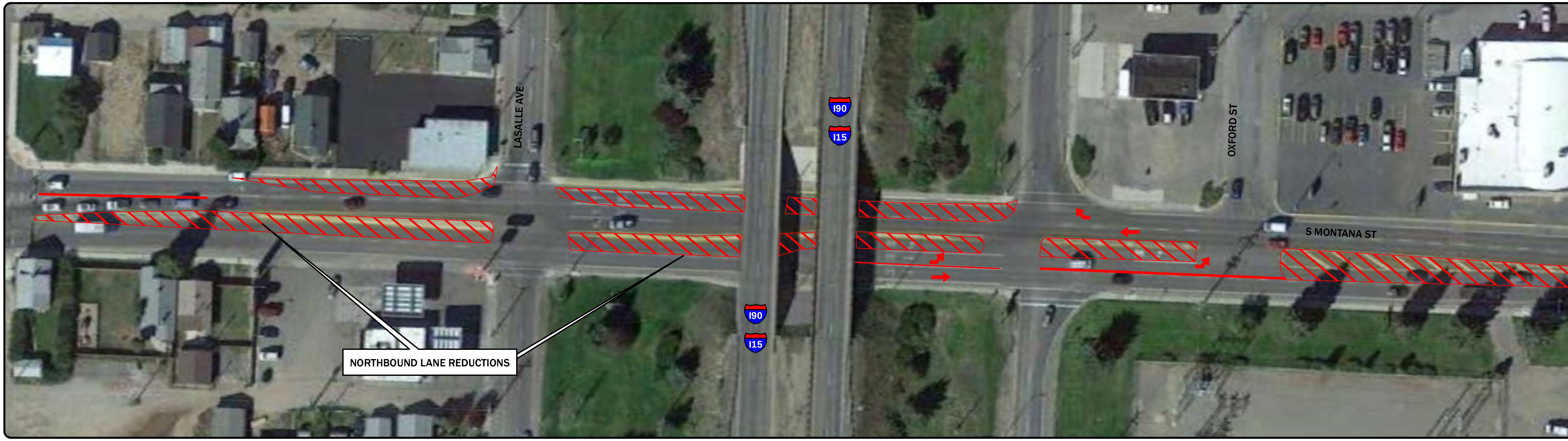
B-3 Intersection Improvements at Kaw Avenue and George Street

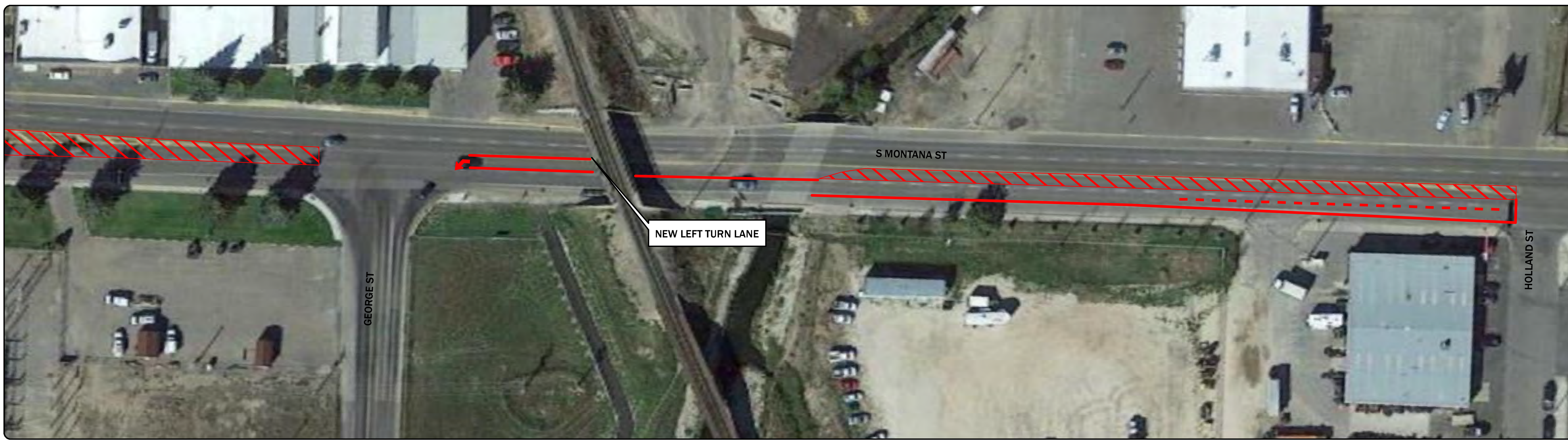
This project consists of reconstructing the intersection of Kaw Avenue and George Street. This intersection was identified in Section 4.7.2 as having a high crash rate and high crash severity rate. The intersection suffers from a variety of geometric challenges including poor sight distance, skewed approaches, adjacent business access (KOA), Upper Silver Bow Creek (USBC) to the north, low nighttime lighting, and a nearby pedestrian trail crossing. All these features contribute to the high crash rate at the intersection. Figure 7-3 shows the existing roadway layout and the issues that need to be addressed with any intersection redesign.

It is noted that there are ongoing Superfund Consent Decree negotiations, remedial action objectives, restoration design, and secondary stakeholder requirements that have the potential to significantly impact future property development beneath and adjacent to George Street. These activities could include partial to full removal and disposal of the Diggings East tailings located in the immediate vicinity, construction of a large storm water basin consuming the majority of the site southeast of the intersection, and restoration of USBC through this same area. Reconstruction of the intersection should align with the future USBC restoration design and address as many of the geometric issues as possible.

B-4 Porphyry Street One-Way Montana Street to Hospital

This project consists of converting Porphyry Street to one-way travel in the westbound direction between Montana Street and Idaho Street (one block). The intersection of Porphyry Street was identified in Section 4.7.2 for its high crash rates associated with eastbound traffic on Porphyry Street trying to enter/cross Montana Street. This location was also identified in public comments that requested Porphyry Street be modified to meet the same design as the St. James Health campus. Due to sight-distance restrictions at the intersection caused by changes in the road grade, there is no practical way to improve visibility at this location for eastbound traffic across Montana Street. The change to one-way would maintain full access to the Hospital while eliminating the existing problematic turning movements onto Montana Street for eastbound traffic. Traffic volume increases on adjacent roadways would be minimal (see Section 5.8.8). The road could also be reconfigured to include additional angle parking to increase overall parking availability near the Hospital and could include additional boulevards and bike lanes. See Figure 7-4 for the layout.





2016 TRANSPORTATION
PLAN UPDATE

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0 40 80 160
Feet

FIGURE 7-1

PIONEER TECHNICAL SERVICES, INC.

SOUTH MONTANA ST
LANE REDUCTIONS

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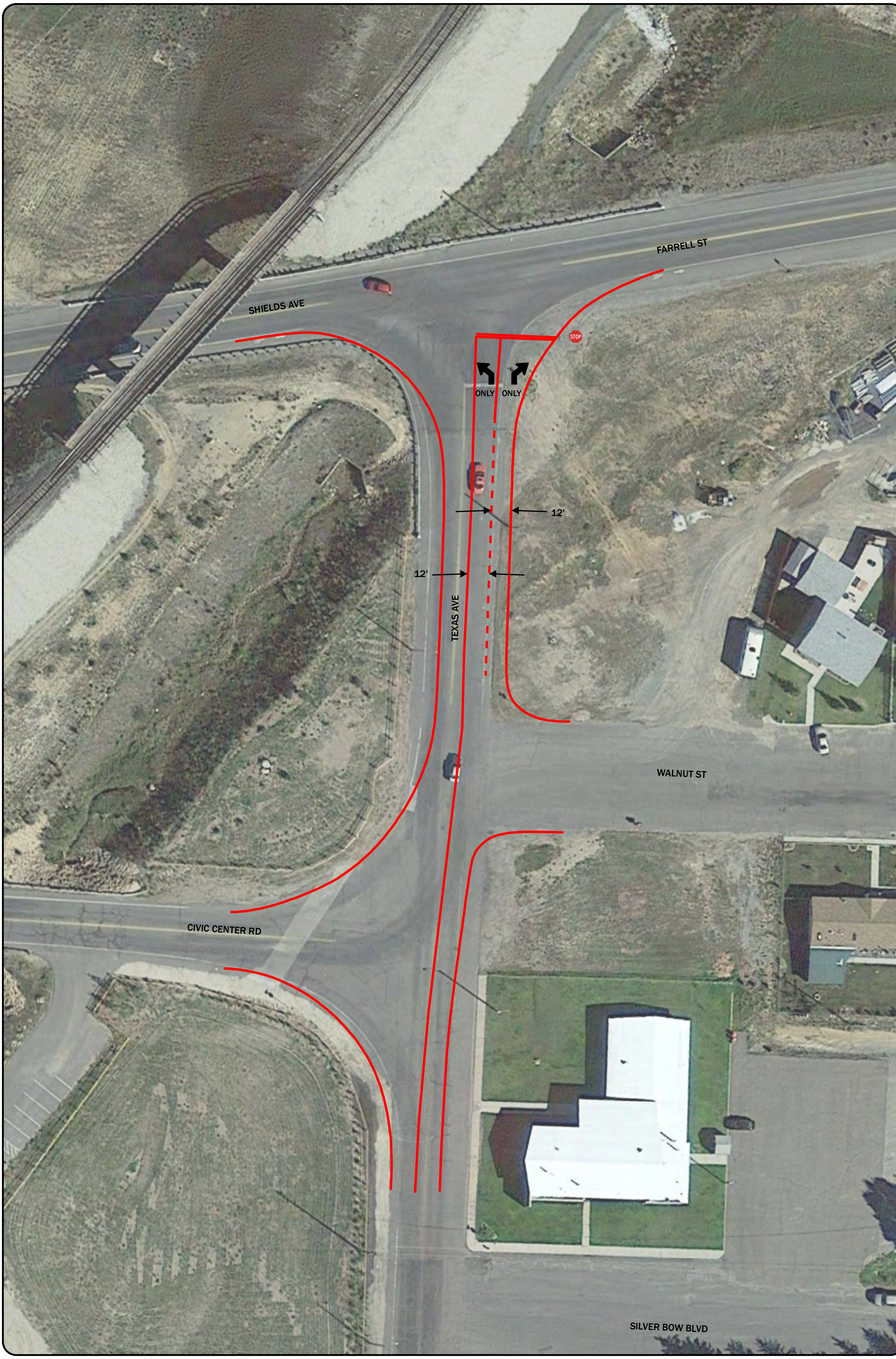

2016 TRANSPORTATION PLAN UPDATE

N

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DATUM: NAD 83
UNITS: INT'L FEET
SOURCE: PIONEER/MDT/BSB

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Feet

FIGURE 7-2

TEXAS AVE REALIGNMENT

PIONEER TECHNICAL SERVICES, INC.

DATE: 1/18/2017

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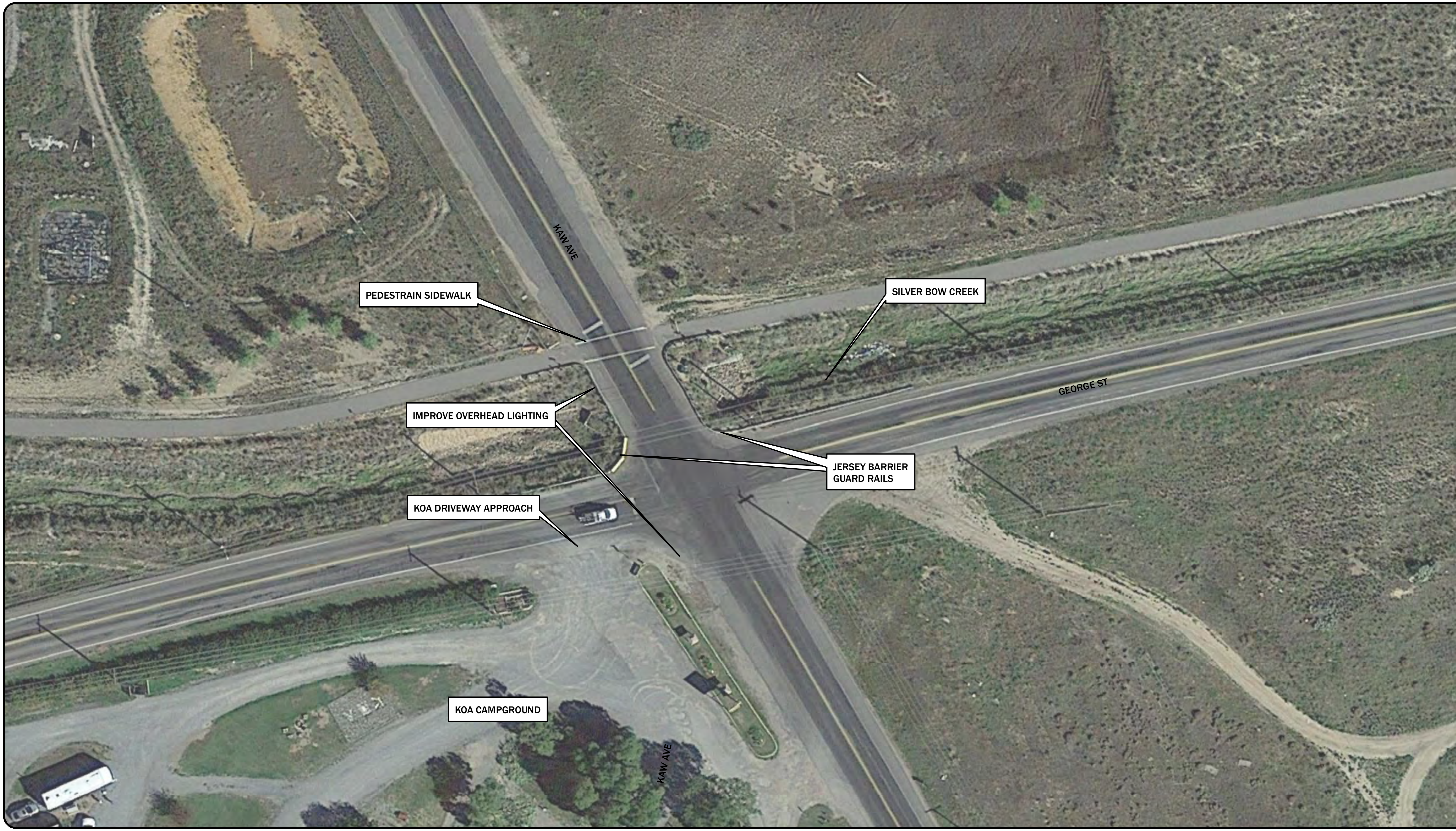

2016 TRANSPORTATION
PLAN UPDATE

N

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DATUM: NAD 83
UNITS: INTN'L FEET
SOURCE: PIONEER/MDT/BSB

0 25 50 100
Feet

FIGURE 7-3

PIONEER TECHNICAL SERVICES, INC.

DATE: 1/18/2017

KAW AVE AND
GEORGE ST
INTERSECTION

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2016 TRANSPORTATION PLAN UPDATE

N

DISPLAYED AS:
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DATUM: NAD 83
UNITS: INTN'L FEET
SOURCE: PIONEER/MDT/BSB

0 50 100 200
Feet

FIGURE 7-4

PORPHYRY ST ONE-WAY

PIONEER TECHNICAL SERVICES, INC.

DATE: 1/18/2017

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B-5 Centennial Avenue

This project consists of creating a three-lane road (one travel lane in each direction and one center turn lane) at Centennial Avenue from Montana Street to Santa Claus Road to match the work completed on West Front Street and to accommodate anticipated future use. Currently designated as a Major Collector, the design modification would improve both traffic movement and business and industrial area access. Public comments requested that Centennial Avenue be reconstructed to spur economic development opportunities and promote infill development. This corridor is currently the site of the BSB Metro Sewer Wastewater Treatment Plant and is under consideration for the relocation of the BSB County Maintenance Center and the Crusher and Hot Plant facility.

B-6 Elizabeth Warren and Howard Avenue

This project consists of studying this area to develop a traffic control plan to address current and future access needs. Improvements could include lane modifications, road expansions, access restrictions, additional median openings, and intersection signal timing and phasing modifications. Elizabeth Warren between south Harrison Avenue and Howard Avenue has been identified as a location with significant congestion due to the intersection and approach density. Of particular concern is the Wells Fargo Bank approach, which is 100 feet east of Harrison Avenue. This approach conflicts with the westbound traffic from Elizabeth Warren onto south Harrison Avenue. When 5 cars are queued along Elizabeth Warren, the approach to Wells Fargo becomes blocked and it can be difficult for drivers to turn into the bank. This situation can also block eastbound traffic on Elizabeth Warren. The Wells Fargo Bank has another approach 200 feet from Harrison Avenue, but because of the Bank's drive-thru lane configuration, drivers must approach the site from the west entrance closer to Harrison Avenue and exit via the eastern approach. Ideally, the drive-thru lanes should be reconfigured so that drivers approach the bank from the farther approach and exit through the western approach; however, this change would require a major modification of the drive-thru lanes at the bank.

Additional issues in this area include the use of Howard Avenue as a cut-through route to avoid the intersection of Harrison Avenue and Elizabeth Warren Avenue. The existing southbound left-turn lane on Harrison Avenue at Elizabeth Warren Avenue has insufficient length to serve the volume of turning traffic, which creates congestion at the intersection and encourages drivers to use other routes. However, the other available routes include using Howard Avenue and White Blvd, which are not designed to accommodate this type of use. In addition, the existing raised medians along Harrison Avenue throughout this section force drivers to make left-turns at the already congested intersections. This area is also slated for further development, which could compound the traffic issues at this location. The MDT has recently completed a median adjustment project along Harrison Avenue that may resolve some vehicle stacking issues and affect the traffic flow patterns through the area. This is a significant issue that will likely get worse over time unless mitigation strategies are developed and implemented. As stated previously, it is recommended that the area be studied to develop a traffic control plan to address current and future access needs.

B-7 Stuart Avenue

This project consists of analyzing Stuart Avenue relative to BSB's existing road construction standards. Requests were received to reconstruct Stuart Avenue with new curbs, sidewalks, gutters, and pavement markings consistent with BSB's current road construction standards for this type of facility. In 2016, BSB successfully obtained Montana TA matching funds to develop and construct an ADA-compliant sidewalk and curb and gutter along the east side of Stuart Avenue from George Street northward approximately 850-feet to the approach of East Middle School (UPN 9157 Sidewalk Connections-Butte). The TA Program provides funding for transportation projects and programs for pedestrian and bicycle facilities, recreational trail projects, and safe routes to school. The project is in the preliminary design phase.

B-8 Mercury Street Improvements

This project consists of creating an aesthetically pleasing entryway and corridor into the Uptown area, beginning at Mercury Street and Continental Drive (Shields Avenue). Previously identified in the 2005 Plan Update, the Mercury Street Improvement project (COR2) would begin at the Belmont Mine on Mercury Street and improvements to the corridor would reflect the area's heritage and historic character. This East Side Butte neighborhood is one of 13 specific neighborhoods or areas that make up the Butte and Walkerville portions of the National Historic Landmark District. Specific COR2 project elements included an entryway at the Belmont Mine, removal and replacement of overhead utility lines along Mercury Street, and the installation of historic lighting and other "hardscape" features such as benches, trash receptacles, interpretive signs, and new sidewalks. Landscaping would include street trees in grates with tree guards and plants.

In 2007, BSB identified improvements to Mercury Street as the next priority project; however, it was noted that Mercury Street was not on the Urban System and was ineligible for available funding. The BSB Council of Commissioners voted unanimously in 2010 to concur with the BTCC recommendation to place Mercury Street on the Urban System. A request was made to the Montana Transportation Commission to officially change the Urban System routes and place Mercury Street, from its beginning point at the intersection with Continental Drive (Shields Avenue) to its intersection with Montana Street, on the Urban System and to functionally re-classify Mercury Street, from Continental Drive (Shields Avenue) to Montana Street, from urban collector. Mercury Street is presently classified as a Major Collector and is an Urban Route U-1823 (See Section 4.2).

Since the 2005 Plan Update, this formerly designated industrial area has witnessed a resurgence in non-industrial development that includes the Maroon Activity Center; the Community, Counseling and Correctional Services, Inc. (CCCS), Stenson Physical Therapy, and Water & Environmental Technologies (WET) office buildings; a new credit union; and the Butte Brewing Company. BSB has actively pursued improvements under this project including working with NorthWestern Energy to remove the utility poles along the corridor.

Improvements would include realignment of Mercury Street and Arizona Avenue. A conceptual design from MDT is detailed in Figure 7-5 below.

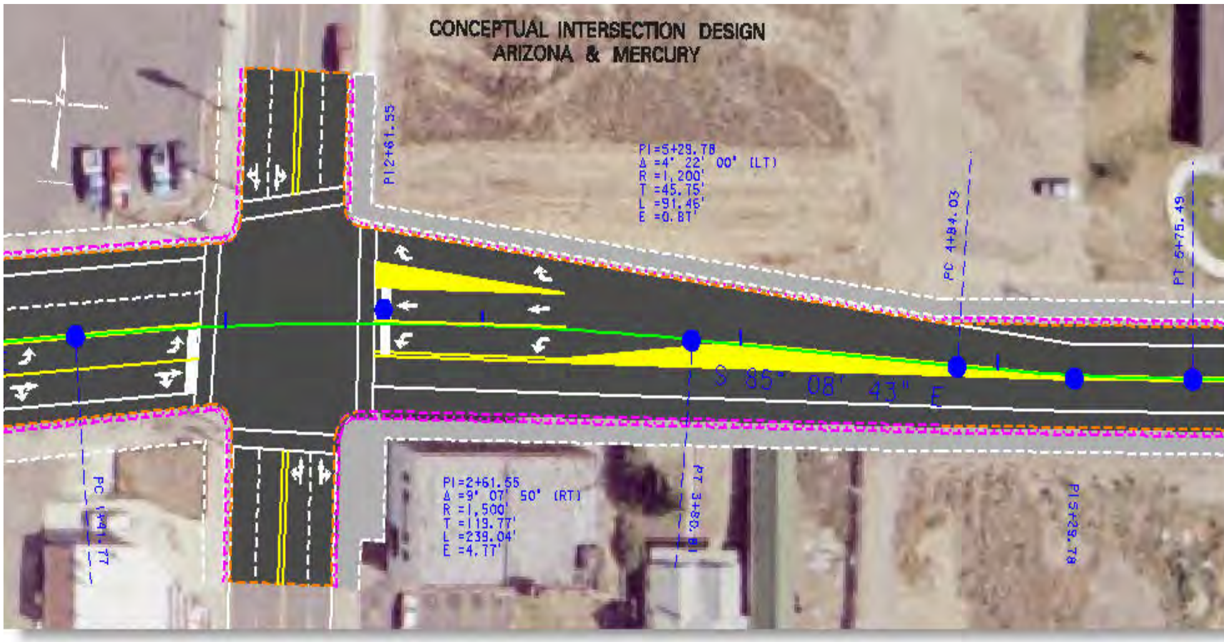

Figure 7-5. Conceptual Intersection Design for Arizona and Mercury

B-9 Grizzly Trail

This project consists of the reconstruction of the Grizzly Trail in Rocker (to include new curbs, gutters, sidewalks, and pavement markings) to help increase economic development in Rocker. Design modification requests for the approximately 0.5 mile length of Grizzly Trail from the Town Pump to South Rocker Road were received from the public.

B-10 Woolman Street

This project consists of reconstructing Woolman Street to include sidewalks, curbs, gutters, and new pavement markings. Public participants requested that Woolman Street, from Montana Street west to N. Jackson Street (approx. 0.15 miles), be reconstructed to create a better traffic pattern, with sidewalks and bike lanes for connectivity.

B-11 North Montana Street

This project consists of analyzing north Montana Street relative to safety and connectivity benefits and relevant design standards. A request was made to rebuild north Montana Street with pedestrian friendly sidewalks, bike lanes, and curbs to match Main Street.

7.3 Geometric Issues

The following geometric issues are recommended for detailed analyses and/or design.

C-1 Dewey and Rowe

This project consists of conducting a design review of the intersection of Dewey Blvd and Rowe Road for realignment should right-of-way be available. The intersection has skewed approaches that can create visibility issues.

C-2 Harrison Avenue Intersections

Public comments suggested that some intersections with south Harrison Avenue have limited visibility of oncoming traffic. However, no specific locations were identified. Additional public input may be necessary to identify specific areas that would benefit from visibility enhancements. Locations with limited intersection visibility could be improved by restricting on-street parking, adding intersection bulb-outs, or eliminating roadside visibility obstructions. Identified sites would need to be evaluated on a case-by-case basis.

C-3 Park Street Intersections

Public comments suggested that some intersections with Park Street have limited visibility of oncoming traffic. However, no specific locations were identified. Additional public input may be necessary to identify specific areas that would benefit from visibility enhancements. Locations with limited intersection visibility could be improved by restricting on-street parking, adding intersection bulb-outs, or eliminating roadside visibility obstructions. Identified sites would need to be evaluated on a case-by-case basis.

C-4 Montana Street Front Street to 2nd Street

This project consists of converting Montana Street between Front Street and Second Street to a five-lane section consistent with the rest of the road to reduce lane shifts and improve safety. Montana Street between Front Street and Second Street narrows from five lanes to four lanes and then expands back to five lanes again. The road configuration is not ideal and previous transportation plans, including the 2005 Plan Update, included the recommendation to convert the entire road to a five-lane section; however, the location of one residential home along this section has made it impractical to convert the entire section of road to five lanes. Negotiations with the landowner would be required to remove the existing on-street parking that is required to convert the road to five lanes.

7.4 Intersection Controls

The operational analysis conducted for this 2016 Plan Update did not raise any significant concern at intersections identified in the public comments. BSB now has current and projected traffic data for key intersections and will conduct additional analyses and address intersection operational issues on a case-by-case basis moving ahead. Future intersection treatments may include additional turn lanes, dedicated turn lane signals, or roundabouts where appropriate.

General removal of signal controls

Recommendation: based on public comment, BSB input, and the operational review contained in Section 4.6, BSB should conduct further reviews and consider removing signal controls and replacing them with STOP controls on the minor approaches at the intersections of the following streets:

- D-1 Montana Street and Broadway Street.
- D-2 Park Street and Washington Street.
- D-3 Park Street and Idaho Street.
- D-4 Broadway Street and Arizona Avenue.

Traffic movements on the major approaches (Montana Street, Park Street, and Arizona Avenue) would become unrestricted and the minor approaches would become STOP controlled.

D-5 Amherst and Harrison Intersection

This project consists of reviewing the signal timing at the intersection of Amherst and Harrison Avenue. Public comments suggested that traffic gets backed up in all directions at this intersection, especially the northbound traffic movement, and that the signalized intersection takes too long to move traffic.

It is noted that public comments also suggested modifications to this intersection as follows: Curb radius is very tight on the southeast corner of the intersection of Amherst and Harrison. This corner could be reconstructed for larger design vehicles; however, the larger radius would require significant property acquisition that would outweigh the operational benefits. For these reasons, this request has not been included as a viable option in this 2016 Plan Update.

D-6 Dewey and Hill

This project consists of analyzing the four-way, STOP-controlled intersection at Dewey Boulevard and Hill Avenue in detail. Public comments suggested that Oregon Street has more cross-traffic and could benefit from moving the four-way STOP control to that location. Additional input received during the public hearings suggested that Utah Avenue could benefit from moving the four-way STOP control to that location in anticipation of increased traffic into Stodden Park due to the new pool, carousel, and upcoming infrastructure improvements. The existing traffic volumes at these intersections should be reviewed and traffic control modification implemented as needed to best serve area traffic.

D-7 Harrison and Cobban

This project consists of analyzing the requests to provide an additional left turn signal for both north and southbound traffic on Harrison to turn left on Cobban Street.

D-8 George and Montana Traffic Signal Warrant Evaluation

This project consists of completing a traffic signal warrant study at the intersection of George Street and Montana Street to determine if a traffic signal would be beneficial. The intersection has a crash history that may be corrected by installing a traffic signal. However, the lane reductions along Montana Street (Recommendation *B-1,* Section 7.2) would likely eliminate the need for a traffic signal at this location.

7.5 Sidewalks

The following sidewalk improvements are recommended for detailed analyses and/or design review.

E-1 Sidewalk Improvements

This project consists of instituting a programmatic approach to replace sub-standard sidewalks or install standard ADA-compliant sidewalks. Improving sidewalk networks allows for predictable trips for pedestrians and improves the overall connectivity of the community. Over the past several years, BSB has been the recipient of several grant-funded sidewalk improvement programs. Approximately 180,000 square feet of ADA-compliant sidewalks have been installed, predominately in the central Butte area. Sidewalks near schools should be prioritized first, followed by gaps that would greatly enhance the overall connectivity of the network including access to bus stops. Coordinate with the MILP and community advocates to prioritize the removal of accessibility barriers. More information on sidewalk and cost sharing programs from other Montana communities can be found in the Montana Building Active Communities Resource Guide (ALTA, 2014).

In addition to the grant-funded sidewalk improvements, BSB offers a Sidewalk Program to local residents. The program allows residents to have sidewalks installed or repaired by a county selected contractor. The contractor will quote a price for each sidewalk project, and the homeowner or business can decide whether to have the work done for that amount. They have the option to pay for the work in full within 30 days with no interest or have it tacked onto their property tax bills to be paid off over 5 years at 7% interest. Work is performed on a first-come, first-serve basis; however, priority may be given to badly deteriorated or dangerous sidewalks.

7.6 Improved Access/Travel Patterns

The following improved access/travel pattern issues are recommended for detailed analyses and/or design review.

F-1 Montana Street I-90 Interchange Access

This project consists of analyzing the Montana Street I-90/I-15 interchange area. Property owners adjacent to the Montana Street I-90/I-15 interchange requested a review of the approaches to the on/off ramps along La Salle at Idaho Street, Placer Street to the south, and Desmet Street to the north. The residents and local businesses have complained that drivers from the on/off ramps are cutting through local roads to avoid the Montana Street intersections. There is no need for these ramps to access the local road network prior to Montana Street. The Team recommends surveying the local residents to determine if those effected agree that that the local road connections should be closed to prevent access from the I-90/I-15 ramps. Another option would be to convert the effected roads to one-way travel only to prevent vehicles from cutting through from the I-90 ramps. See Figure 7-6.

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DISPLAYED AS:
PROJECTION/ZONE: MSP
DATUM: NAD 83
UNITS: INTN'L FEET
SOURCE: PIONEER/MDT/BSB

0 50 100 200
Feet

FIGURE 7-6

MONTANA ST / I-90
INTERCHANGE ACCESS

PIONEER TECHNICAL SERVICES, INC.

DATE: 6/8/2017

Path: P:\Butte-Silver Bow\2015\BSB 2015 Transportation Plan Update\GIS\Project\TransPlan2016\BSB_Trans2016_MT-I90Access_16.mxd

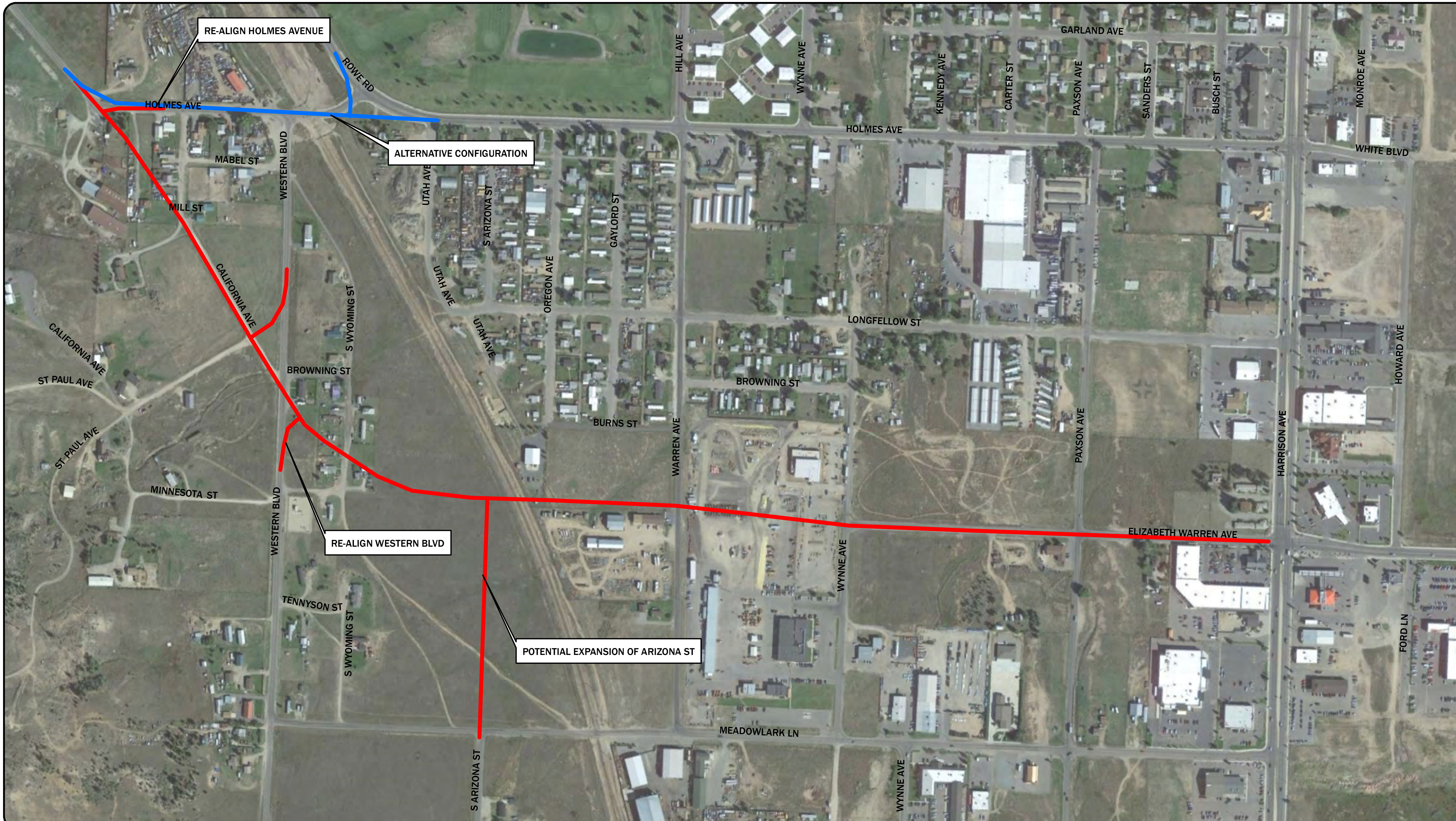
F-2 Hansen/Holmes/Rowe Connection

This project consists of creating an alternate southwestern loop around the community. The 2005 Plan Update identified this project (COR1) that was intended to address the need for an alternative truck route from south Montana Street to Harrison Avenue/Elizabeth Warren. This issue was also identified in public comments suggesting the creation of a better connection from Mt. Highland Drive to Holmes Avenue for neighborhoods and businesses. The route would create an efficient truck route through Butte by creating a direct connection between the I-90/I-15 interchanges at Montana Street and Continental Drive. The route would also create an effective connection to Uptown Butte from the south end of the valley along commercial corridors. The project would assist in the economic and community development for the City by creating a commercial link between primary traffic generators and developing a new route to ensure safe and efficient traffic flow. The route would alleviate traffic congestion along Rowe Road and Holmes Avenue, which are largely residential corridors.

This new loop road project would include extending Elizabeth Warren to the west to connect with Hansen Road via Western Avenue. The route would then follow Hansen Road to south Montana Street. Some portions of south Montana Street have already been reconstructed in anticipation of on-going advancement of this goal.

Challenges for this project include acquiring the necessary right-of way to the south to create the connection with Elizabeth Warren through areas that are already developed. The new route would also direct the major flow of traffic across two exiting railroad crossings, although it should be noted that these crossing are used infrequently by train traffic.

An interim alternative includes reconfiguring the intersection of Holmes Avenue/Rowe Road to make Holmes Avenue the primary route through this area with free-flow traffic and making Rowe Road STOP controlled. Section 5.8.6 details the modeling for this alternative, which effectively transferred traffic from Rowe Road to Hansen Road/Holmes Avenue. The recommended design alternatives are shown in Figure 7-7.



2016 TRANSPORTATION
PLAN UPDATE

N

DISPLAYED AS:
PROJECTION/ZONE: MSP
DATUM: NAD 83
UNITS: INT'L FEET
SOURCE: PIONEER/MDT/BSB

0 200 400 800
Feet

FIGURE 7-7

PIONEER TECHNICAL SERVICES, INC.

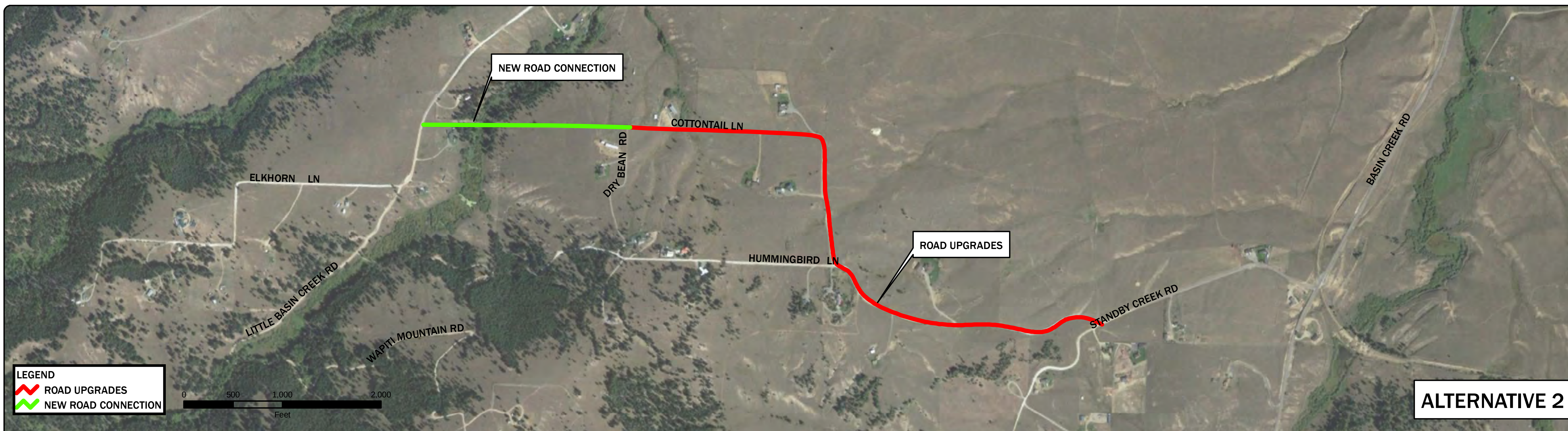
HANSEN/HOLMES/
ROWE CONNECTION

DATE: 1/19/2017

Path: P:\Butte-Silver Bow\2015\BSB 2015 Transportation Plan Update\GIS\Project\TransPlan2016\BSB_Trans2016_HansonHolmes_16.mxd

F-3 Little Basin Creek Road Connection

This project consists of providing a connection from Little Basin Creek to south Harrison Avenue/Highway 393. Little Basin Creek Road extends 5 miles south from Beef Trail Road and provides access to approximately 50 homes. The road has no alternative access point south of Winkie Way. The southern portion of the road is adjacent to several rural subdivisions to the east but there is no formal access between these areas. The City has expressed an interest in providing a connection. To improve traffic flow through the area and provide for emergency services access, 2 alternatives were developed to connect Little Basic Creek Road to the east. The options include extending Coyote Lane east from Basin Creek to Foothill Road and S Warren Avenue (ALT1) and connecting Little Basin Creek Road to Basin Creek Road (ALT2) by extending Cottontail Lane to the west approximately 2,000 feet. The Cottontail Lane extension would carry more traffic (703 VPD on Coyote Lane vs. 1,124 VPD on Cottontail Lane, see Section 5.8.3**)** but could also necessitate reconstructing the connecting Hummingbird Lane to the east to provide access to the route. The Coyote Lane connection would provide a more direct connection to the City street network, but it would contain a significant grade change between Little Basin Creek Road and Foothill Road that could be a construction challenge. The two alternatives are shown in Figure 7-8.



2016 TRANSPORTATION
PLAN UPDATE

N

DISPLAYED AS:
PROJECTION/ZONE: MSP
DATUM: NAD 83
UNITS: INTERNATIONAL FEET
SOURCE: PIONEER/MDT/BSB

FIGURE 7-8

LITTLE BASIN CREEK
RD CONNECTION

PIONEER TECHNICAL SERVICES, INC.

DATE: 1/19/2017

Path: P:\Butte-Silver Bow\2015\BSB 2015 Transportation Plan Update\GIS\Project\TransPlan2016\BSB_Trans2016_LilBasinCrk_16.mxd

8 FUNDING SOURCES

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 BSB area. This section discusses the financial plan for the 2016 Plan Update, projected out to the year 2035. The financial element includes estimates of costs that would be required to implement the 2016 Plan Update recommendations as well as estimates of existing and contemplated fund sources available to pay for these improvements. Due to the current funding limitations of these traditional programs, and the anticipated road development needs of the community, a greater amount of financing will be required from local and private sources if these needs are to be met.

This section provides information on a variety of local and outside sources that are available to BSB to fund transportation needs. It includes publicly supported programs that have expressly included transportation infrastructure as eligible for funding. This document does not contain all the funding sources available as other programs may provide funding for transportation infrastructure as part of specific eligible activities. For example, improvements to bridges and roads may benefit from programs that provide project funding for reclamation, wildlife management, historic preservation, or recreation. This document does not list private foundation sources. In many cases, private foundations do not award grants to government entities. However, there may be instances where private foundation funds can be incorporated into a financing scheme, particularly for special improvements such as lighting, recreational, and interpretive improvements related to transportation corridors. For example, BSB projects that reflect the historic significance of the community may be eligible for private foundation funding. Generally though, funding for transportation infrastructure will come from public sources at the local, state, and federal levels.

Information on the various funding sources is presented in the sections following. Much of the information concerning the federal and state funding programs was assembled with the assistance of the MDT. The intent was to identify traditional federal, state, and local funding sources for transportation-related projects and programs in the BSB area. The narrative description of each potential funding source includes 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.

8.1 Overview of Traditional Funding Sources

The MDT administers a number of programs that are funded from state and federal sources. Each year, in accordance with 60-2-127, Montana Code Annotated (MCA), the Montana Transportation Commission allocates a portion of available federal-aid highway funds for construction purposes and for projects located on the various systems in the state as described throughout this document.

The sections following include federal and state funding sources developed for the distribution of federal and state transportation funding. This includes federal funds the state receives under the Fixing America's Surface Transportation Act (FAST Act). The FAST Act was signed into law on December 4, 2015, and authorizes federal transportation funding for federal fiscal years 2016 through 2020.

The sections also include local funding sources available through the city and county, as well as private sources. As mentioned previously other funding sources are possible, but those listed below reflect the most probable sources at this time.

8.2 Federal Funding Sources

The following sections summarize relevant federal transportation funding categories received by the state through Titles 23-49 U.S.C., including state-developed implementation/sub-programs that may be potential sources for projects. To receive project funding under these programs, projects must be included in the State Transportation Improvement Program (STIP), where relevant.

8.2.1 National Highway Performance Program

The National Highway Performance Program (NHPP) funds are federally apportioned for the NHS roads and bridges, which includes the interstate and non-interstate NHS routes. The purpose of the 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 requirement; and serve interstate and interregional travel. The NHS includes all interstate routes, a large percentage of urban and rural Principal Arterials, the defense strategic highway network, and strategic highway connectors.

Allocations and Matching Requirements: NHPP funds are federally apportioned to Montana and allocated to Districts by the Montana Transportation Commission. Based on system performance, the funds are allocated to three programs: Interstate Maintenance, National Highway, and NHPP Bridge (see Section 8.2.1.1 to 8.2.1.3 below).

Eligibility and Planning Considerations: Activities eligible for NH funding include construction, reconstruction, resurfacing, restoration, and rehabilitation of NH segments; construction, replacement, rehabilitation, preservation and protection of bridges on the National Highway System; and projects or part of a program supporting national goals for improving infrastructure condition, safety, mobility, or freight movements on the National Highway System. Reconstruction, resurfacing, restoration, rehabilitation, or preservation of a bridge on a non-NHS federal-aid highway so long as bridge condition provision requirements are satisfied and operational improvements, projects to reduce risk of failure of critical infrastructure, as well as highway safety improvements are also eligible. Other miscellaneous activities that may qualify for NH funding include bikeways and pedestrian walkways, environmental mitigation, restoration and pollution control, infrastructure based intelligent transportation systems, vehicle-to-infrastructure communication equipment, traffic and traveler monitoring and control, and construction of intra or inter-city bus terminals serving the National Highway System. The Transportation Commission establishes priorities for the use of National Highway Performance Program funds and projects are let through a competitive bidding process.

The MDT Butte District is anticipated to receive an average annual NH apportionment of approximately $24 million during the next five years. Current Butte District priorities already under development total an estimated construction cost of $120 million. Eligible NH funding is currently committed through federal fiscal year 2021 as documented in the 2016 STIP. Given the estimated range planning level costs, NH funding for improvements is highly unlikely over the short term, but may be available toward the end of the planning horizon depending on the other NHS needs within the Butte District.

8.2.1.1 Interstate Maintenance

The Commission approves and awards projects for improvements on the Interstate Highway System, which are let through a competitive bidding process. The Interstate Maintenance (IM) Program finances highway and bridge projects to rehabilitate, restore, resurface, and reconstruct the Interstate System. The MDT districts are allocated IM funds by Montana's Transportation Commission based on system performance. The federal share for this program is 91.24% and the state is responsible for the remaining 8.76%. The state share is funded through the Highway State Special Revenue Account (HSSRA).

8.2.1.2 National Highway

The federal share for non-interstate NHS projects is 86.58% and the state is responsible for the remaining 13.42%. The state share is funded through the HSSRA.

8.2.1.3 National Highway System Bridge Program

Federal funds under the National Highway System Bridge Program (NHPB) program are used to finance bridge inspection, improvement, and replacement projects on interstate and non-interstate National Highway System routes. The NHPB program funding is established at the discretion of the state. However, Title 23 U.S.C. establishes minimum standards for NHS bridge conditions. If more than 10% of the total deck area of NHS bridges in a state is on structurally deficient bridges for three consecutive years, the state must direct NHPB funds equal to 50% of the state's fiscal year 2009 Highway Bridge Program to improve bridges each year until the state's NHS bridge condition meets the minimum standard.

8.2.2 Surface Transportation Block Grant Program

The Surface Transportation System (STP) Block Grant Program (STBG) funds are federally apportioned to Montana and allocated by the Montana Transportation Commission to various programs including the STP Primary Highway System (STPP), Secondary Highway System (STPS), Urban Highway System (STPU), and the Bridge Program (STPB), as well as set-asides for programs including TAs and Recreational Trails. The federal share for these projects is 86.58% with the non-Federal share typically funded through HSSRA.

The Montana Transportation Commission establishes priorities for the use of STBG funds and projects are let through a competitive bidding process.

Surface Transportation Program Primary Highway System[7]

The federal and state funds available under the STPP program are used to finance transportation projects on the state-designated Primary Highway System. The Primary Highway System includes highways that have been functionally classified by MDT and FHWA as either principal or Minor Arterials and that have been selected by the Montana Transportation Commission to be placed on the primary highway system [MCA 60-2-125(3)].

Allocations and Matching Requirements: primary funds are distributed statewide (MCA 60-3-205) to each of five financial districts. The Commission distributes STPP funding based on system performance. The federal share for this program is 86.58% and the state is responsible for the remaining 13.42%. The state share is funded through the HSSRA.

Eligibility and Planning Considerations: STP primary funds are eligible for a wide range of transportation improvement projects and activities, ranging from roadway reconstruction and rehabilitation, to bridge construction and inspection, to highway and transit safety infrastructure, environmental mitigation, carpooling, vehicle-to-infrastructure communication equipment, and bicycle and pedestrian transportation facilities.

Surface Transportation Program Secondary Highway System[8]

The federal and state funds available under the STPS program are used to finance transportation projects on the state-designated Secondary Highway System. The Secondary Highway System includes any highway that is not classified as a local route or rural minor collector and that has been selected by the Montana Transportation Commission to be placed on the Secondary Highway System. Funding is distributed by formula and is used to resurface, rehabilitate, and reconstruct roadways and bridges on the Secondary System.

Allocations and Matching Requirements: secondary funds are distributed statewide (MCA 60-3-206) to each of five financial districts, based on a formula, which takes into account the land area, population, road mileage, and bridge square footage. Federal funds for secondary highways must be matched by non-federal funds. The federal share for this program is 86.58% and the

[7] State funding program developed to distribute federal funding within Montana.
[8] State funding program developed to distribute federal funding within Montana.

state is responsible for the remaining 13.42%. Normally, the match on these funds is from the HSSRA.

Eligibility and Planning Considerations: eligible activities for the use of Secondary funds fall under three major types of improvements: Reconstruction, Rehabilitation, and Pavement Preservation in addition to vehicle-to-infrastructure communication equipment. The Reconstruction and Rehabilitation categories are allocated at 65% of the program funds with the remaining 35% dedicated to Pavement Preservation. Priorities are identified in consultation with the appropriate local government authorities and approved by the Montana Transportation Commission.

Surface Transportation Program Urban Highway System[9]

The federal and state funds available under the STPU program are used to finance transportation projects on Montana's Urban Highway System, as per MCA 60-3-211. The STPU allocations are based on a per capita distribution and are recalculated each decade following the census.

Allocations and Matching Requirements: state law guides the allocation of urban funds to Montana's urban areas (population of 5,000 or greater) through a statutory formula based on each area's population compared to the total population in all urban areas. The federal share for this program is 86.58% and the state is responsible for the remaining 13.42%. The state share is funded through the HSSRA to the following areas:

- Anaconda
- Belgrade
- Billings
- Bozeman
- Butte
- Columbia Falls
- Glendive
- Great Falls
- Hamilton
- Havre
- Helena
- Kalispell
- Laurel
- Lewistown
- Livingston
- Miles City
- Missoula
- Sidney
- Whitefish

Eligibility and Planning Considerations: urban funds are eligible for rehabilitation, resurfacing, new construction, reconstruction of existing facilities, operational improvements, vehicle-to-infrastructure communication equipment, bicycle facilities, pedestrian walkways, carpool projects, and traffic operation projects on the 430 miles on the state-designated Urban Highway System. Priorities for the use of urban funds are established at the local level through local planning processes with final approval by the Transportation Commission.

Surface Transportation Program Bridge Program

The federal and state funds available under the Bridge Program are used to finance bridge projects for on-system and off-system routes in Montana. Title 23 U.S.C. requires that a minimum amount (equal to 15 percent of Montana's 2009 Federal Bridge Program apportionment) be set aside for off-system bridge projects. The remainder of the Bridge Program funding is established at the discretion of the state. Bridge Program funds are primarily used for bridge rehabilitation or reconstruction activities on Primary, Secondary, Urban, or off-system routes. Projects are identified based on bridge condition and performance metrics.

[9] State funding program developed to distribute federal funding within Montana.

Urban Pavement Preservation Program[10]

The Urban Pavement Preservation Program (UPP) is a sub-allocation of the larger Surface Transportation Program that provides funding to urban areas with qualifying Pavement Management Systems (as determined jointly by MDT and FHWA). This sub-allocation is approved annually by the Transportation Commission and provides opportunities for pavement preservation work on urban routes (based on system needs identified by the local Pavement Management Systems).

Set-Aside **(Previously "Transportation Alternatives [TA)] Program" under MAP-21)**

The Set-Aside Program (TA) requires MDT to obligate 50% of the funds within the state based on population, using a competitive process, while the other 50% may be obligated in any area of the state. The federal share for this program is 86.58% and the state is responsible for the remaining 13.42%. The state share is funded through the HSSRA if the project is on-system, the sponsor provides the match if the project is off-system.

Funds may be obligated for projects submitted by:

- Local governments.
- Transit agencies.
- Natural resource or public land agencies.
- School district, schools, or local education authority.
- Tribal governments.
- Other local government entities with responsibility for recreational trails for eligible use of these funds.

Eligibility and Planning Considerations: eligible categories include the following:

- On-road and off-road trail facilities for pedestrians and bicyclists, including ADA improvements.
- Historic preservation and rehabilitation of transportation facilities.
- Archeological activities relating to impacts for a transportation project.
- Any environmental mitigation activity, including prevention and abatement to address highway related storm water runoff and to reduce vehicle/animal collisions including habitat connectivity.
- Turnouts, overlooks, and viewing areas.
- Conversion/use of abandoned railroad corridors for trails for non-motorized users.
- Inventory, control, and removal of outdoor advertising.
- Vegetation management in transportation right-of-way for safety, erosion control, and controlling invasive species.
- Construction, maintenance, and restoration of trails and development and rehabilitation of trailside and trailhead facilities.
- Development and dissemination of publications and operation of trail safety and trail environmental protection programs.

[10] State funding program developed to distribute federal funding within Montana.

- Education funds for publications, monitoring, and patrol programs and for trail-related training.
- Planning, design, and construction of projects that will substantially improve the ability of students to walk and bicycle to school.
- Non-infrastructure-related activities to encourage walking and bicycling to school including public awareness campaigns, outreach to press and community leaders, traffic education and enforcement school vicinities, student sessions on bicycle and pedestrian safety, health, and environment, and funding for training.

Competitive Process: the state is required to allocate TA funds through a competitive process that allows eligible applicants an opportunity to submit projects for funding. The MDT process emphasizes safety, ADA elements, relationships to state and community planning efforts, existing community facilities, and project readiness.

8.2.3 National Highway Freight Program

The National Highway Freight Program (NHFP) was created by the FAST Act to invest in freight projects on the National Highway Freight Network. This program is apportioned to states by formula and a state must have a freight plan in place beginning fiscal year 2018 to receive formula funding. This program provides funding for construction, operational improvements, freight planning, and performance measures. Up to 10% of these funds may be used for intermodal projects. Generally, the federal share for this program is 91.24% and the state is responsible for the remaining 8.76%. The state share is typically funded through the HSSRA for projects on state highways and local governments provide the match for local projects.

8.2.4 Highway Safety Improvement Program

The Highway Safety Improvement Program (HSIP) funds are apportioned to Montana for safety improvement projects approved by the Commission and are consistent with the strategic highway safety improvement plan. Projects described in the state strategic highway safety plan must correct or improve a hazardous road location or feature, or address a highway safety problem. The Commission approves and awards the projects, which are let through a competitive bidding process. Generally, the federal share for the HSIP projects is 90% and the state is responsible for the remaining 10%. Typically, the state share is funded through the HSSRA.

8.2.5 Congestion Mitigation and Air Quality Improvement Program

Federal funds available under the Congestion Mitigation and Air Quality Improvement Program (CMAQ) program are used to finance transportation projects and programs to help improve air quality and meet the requirements of the Clean Air Act. Montana's air pollution problems are attributed to carbon monoxide (CO) and particulate matter (PM10).

Allocations and Matching Requirements: CMAQ funds are federally apportioned to Montana and allocated to various eligible programs by formula and by the Commission. As a minimum apportionment, a federally required formula-based distribution of CMAQ funds goes to projects in Missoula because it was Montana's only designated and classified air quality non-attainment area. The remaining, non-formula funds, referred to as “flexible CMAQ,” are primarily directed to areas of the state with emerging air quality issues through various state programs. The Transportation Commission approves and awards all projects on MDT rights-of-way. Infrastructure and capital equipment projects are let through a competitive bidding process. The federal share for this program is 86.58% and the state is responsible for the remaining 13.42%. The state share is funded through the HSSRA for projects on state highways and local governments provide the match for local projects.

Eligibility and Planning Considerations: in general, eligible activities include transit improvements, ADA upgrades, traffic signal synchronization, bicycle pedestrians projects, intersection improvements, travel demand management strategies, traffic flow improvements, air-quality equipment purchases, vehicle-to-infrastructure communication equipment, and public fleet conversions to cleaner fuels. At the project level, using CMAQ funds is not constrained to a particular system (i.e., Primary, Urban, and NHS). A requirement for using these funds is the estimation of the reduction in pollutants resulting from implementing and program/project. These estimates are reported yearly to FHWA.

CMAQ (formula)

Mandatory CMAQ funds that come to Montana are based on a federal formula and are directed to Missoula—Montana’s only classified, moderate carbon monoxide, non-attainment area. Projects are prioritized through the Missoula Metropolitan planning process.

Montana Air and Congestion Initiative - Guaranteed Program (flexible) [11]

The Montana Air and Congestion Initiative (MACI) - Guaranteed Program is a state program funded with flexible CMAQ funds that the Commission allocates annually to Billings and Great Falls to address carbon monoxide issues in these designated, but “not classified,” carbon monoxide, non-attainment areas. The air quality in these cities is roughly equivalent to Missoula. However, these cities are “not classified” so they do not get direct funding through the federal formula. Projects are prioritized through the respective Billings and Great Falls Metropolitan planning processes.

Montana Air and Congestion Initiative - Discretionary Program (flexible) [12]

The MACI - Discretionary Program provides funding for projects in areas designated non-attainment or recognized as being “high-risk” for becoming non-attainment. Since 1998, MDT has used MACI-Discretionary funds to get ahead of the curve for carbon monoxide and particulate matter (PM10) problems in non-attainment and high-risk communities across Montana. District administrators and local governments nominate projects cooperatively. Projects are prioritized and selected based on air quality benefits and other factors. The most beneficial projects to address these pollutants have been sweepers and flushers, intersection improvements, and signal synchronization projects.

[11] State funding program developed to distribute federal funding within Montana.
[12] State funding program developed to distribute federal funding within Montana.

8.2.6 Federal Lands Access Program

The FLAP was created by the "Moving Ahead for Progress in the 21st Century Act" (MAP-21) to improve access to federal lands, and is continued in the FAST Act. The FHWA Western Federal Lands Division administers the program and MDT is an eligible applicant for the funds.

The program is directed towards public highways, roads, bridges, trails, and transit systems that are under state, county, town, township, tribal, municipal, or local government jurisdiction or maintenance and provide access to federal lands. The FLAP funds improvements to transportation facilities that provide access to, are adjacent to, or are located within federal lands. The program supplements state and local resources for public roads, transit systems, and other transportation facilities, with an emphasis on high-use recreation sites and economic generators. Program funds are subject to the overall federal-aid obligation limitation. Funds are allocated among the states using a statutory formula based on road mileage, number of bridges, land area, and visitation.

Eligibility and Planning Considerations: the following activities are eligible for consideration on Federal Lands Access Transportation Facilities:

1. Preventive maintenance, rehabilitation, restoration, construction, and reconstruction.
2. Adjacent vehicular parking areas.
3. Acquisition of necessary scenic easements and scenic or historic sites.
4. Provisions for pedestrian and bicycles.
5. Environmental mitigation in or adjacent to federal land to improve public safety and reduce vehicle-wildlife mortality while maintaining habitat connectivity.
6. Construction and reconstruction of roadside rest areas, including sanitary and water facilities.
7. Operation and maintenance of transit facilities.

Proposed projects must be located on a public highway, road, bridge, trail, or transit system that is located on, is adjacent to, or provides access to federal lands for which title or maintenance responsibility is vested in a state, county, town, township, tribal, municipal, or local government.

Allocation and Matching Requirements: the federal share for this program is 86.58% and the state provides a match for projects on state highways that address MDT-identified infrastructure condition deficiencies; local governments provide the match for off-system projects. The state share is funded through the HSSRA. Funding is authorized and allocated for each state under U.S.C. Title 23, Chapter 2, MAP-21, Division A, Title I, Subtitle A, Section 1119 distribution formula.

8.2.7 Nationally Significant Freight and Highway Projects

This program was also established by the FAST Act to create competitive grants or Transportation Infrastructure Finance and Innovation Act (TIFA) loans for projects greater than $100 million. This is a discretionary, freight-focused grant program that allows states, metropolitan planning organizations, local governments, tribal governments, special purpose districts and public authorities (including port authorities), and other parties to apply for funding to complete projects that improve safety and hold the greatest promise to eliminate freight bottlenecks and improve critical freight movements. Generally, the federal share for this program is 91.24% and the state is responsible for the remaining 8.76%. The state provides a match for projects on state highways that address MDT-identified infrastructure condition deficiencies; local governments provide the match for off-system projects. The state share is typically funded through the HSSRA.

Eligible Activities:

- Highway freight projects on the National Highway Freight Network.
- NHS highway/bridge projects, projects in National Scenic Areas.
- Freight rail/intermodal/port projects.
- Rail-highway grade crossings or grade separation projects.

8.2.8 Congressionally Directed Funds or Discretionary Funds

Congressionally directed funds may be received through highway program authorization or annual appropriations processes. These funds are generally described as “demonstration” or “earmark” funds. Discretionary funds are typically awarded through a federal application process or Congressional direction. If a locally sponsored project receives these types of funds, MDT will administer the funds in accordance with the Montana Transportation Commission Policy #5 – “*Policy resolution regarding Congressionally directed funding: including Demonstration Projects, High Priority Projects, and Project Earmarks*.”

8.2.9 Transit Capital and Operating Assistance Funding

The MDT Transit Section provides federal and state funding to eligible recipients through federal and state programs. Federal funding is provided through the Section 5310 and Section 5311 transit programs and state funding is provided through the TransADE program. MAP-21 incorporated the Job Access and Reverse Commute (JARC) and New Freedoms Programs into the Section 5311 and 5310 programs, respectively. It also created a new bus and bus facilities discretionary formula program (Section 5339) for fixed-route bus operators. All projects funded must be derived from a locally developed and coordinated public transit-human services transportation plan (a “coordinated plan”).

The coordinated plan must be developed through a process that includes representatives of public, private, and nonprofit transportation and human service providers and participation from the public.

Bus and Bus Facilities (Section 5339)
This program provides capital funding to replace, rehabilitate, and purchase buses and related equipment and to construct bus-related facilities. Federal funds pay 80% of capital costs. The remaining 20% must come from the local recipient. Funds are eligible to be transferred by the state to supplement urban and rural formula grant programs (5307 and 5311, respectively).

Enhanced Mobility of Seniors and Individuals with Disabilities (Section 5310)
Section 5310 authorizes capital grants to eligible organizations to assist in providing transportation for the elderly and/or persons with disabilities. Federal Transit Administration (FTA) funds 80 percent of all costs for equipment, with 20 percent match provided by the local recipient. Eligible recipients for this program are private, nonprofit organizations; public bodies approved by the state to coordinate services for elderly persons and persons with disabilities; or public bodies that certify to the Governor that no nonprofit organization is readily available in a service area to provide this transportation service. Ten percent of the state's Section 5310 apportionment can be used to administer the program, to plan, and to provide technical assistance.

Formula Grants for Rural Areas (Section 5311)
This program enhances the access of people in non-urbanized areas by providing public transportation. Federal funds pay 86.58 percent of capital costs and 54.11 percent of deficit operating costs, 80 percent of administrative costs, and 80 percent of maintenance costs. The remaining 13.42, 45.89, 20, and 20 percent, respectively, must come from the local recipient. Eligible recipients of these funds can be a state agency, a local public body, a nonprofit agency, or an operator of public transportation services. Ten percent of the state's Section 5311 apportionment is dedicated to carrying out a program to develop and support intercity bus transportation.

Urbanized Area Formula Grants (Section 5307)
This program enhances the access of people in urbanized areas by providing public transportation. Federal funds pay 80 percent of capital costs and 50 percent of deficit operating costs. The remaining 20 and 50 percent, respectively, must come from the local recipient. The designated recipient of Section 5307 funds is the Governor who in turn can designate the funds to a public body. In Montana, the Governor has designated Missoula, Great Falls, and Billings as the recipients of the Section 5307 funds.

8.3 State Funding Sources

8.3.1 State Fuel Tax

The State of Montana assesses a tax of $0.27 per gallon on gasoline and $0.2775 per gallon on clear 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 on the following:

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 on the following:

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 the state fiscal year 2017, the City of Butte will receive $585,462.50, and Silver Bow County will receive $39,582.24 in state fuel tax funds. The amount varies annually.

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.

8.3.2 State Funds for Transit Subsidies

The 46th Montana Legislature amended Section 7-14-102 MCA providing funds to offset up to 50% 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:

$$\text{Local Support} = \frac{\text{Expenditure for public transportation operations}}{\text{Mill value of City or urban transportation district}}$$

8.3.3 State Special Revenue/State Funded Construction

Allocations and Matching Requirements: The State Funded Construction Program, which is funded entirely with state funds from the HSSRA, provides funding for projects that are not eligible for federal funds. This program is totally state funded, requiring no match.

Eligibility and Planning Considerations: This program funds projects to preserve the condition and extend the service life of highways. Eligibility requirements are that the highways be maintained by the state. The MDT staff nominate the projects based on pavement preservation needs. The District’s establish priorities and the Montana Transportation Commission approves the program.

8.3.4 TransADE

The TransADE grant program offers operating assistance to eligible organizations providing transportation to the elderly and persons with disabilities.

Allocations and Matching Requirements: This is a state funding program within Montana statute. State funds pay 54.11% of deficit operating costs, 80% of administrative costs, and 80% of maintenance costs. The remaining 45.89%, 20%, and 20%, respectively, must come from the local recipient. Applicants are also eligible to use this funding as match for the federal transit grant programs.

Eligibility and Planning Considerations: Eligible recipients of this funding are counties, incorporated cities and towns, transportation districts, or non-profit organizations. Applications are due to the MDT Transit Section by the first working day of March each year. To receive this funding the applicant is required by state law (MCA 7-14-112) to develop a strong, coordinated system in their community and/or service area.

8.3.5 Rail/Loan Funds

Administration and Matching Requirements: The Montana Rail Freight Loan Program (MRFL) is a revolving loan fund administered by the MDT to encourage projects for construction, reconstruction, or rehabilitation of railroads and related facilities in the state and implements MCA 60-11-113 to MCA 60-11-115. Loans are targeted to rehabilitation and improvement of railroads and their attendant facilities including sidings, yards, buildings, and intermodal facilities. Rehabilitation and improvement assistance projects require a 30% loan-to-value match. Facility construction assistance projects require a 50% match.

Eligibility and Planning Consideration: Eligible applicants for loans under the program include railroads, cities, counties, companies, and regional rail authorities. Port authorities may also qualify, provided they have been included in the state transportation planning process. Projects must be integrally related to the railroad transportation system in the state and demonstrate that they will preserve and enhance cost-effective rail service to Montana communities and businesses.

8.4 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.

8.4.1 Butte-Silver Bow

Special Revenue Funds
These funds are used to budget and distribute revenues that are legally restricted for a specific purpose. Several such funds that benefit the transportation system are discussed briefly in the following paragraphs.

Special Improvement District (SID) Revolving Fund. This fund provides financing to satisfy bond payments for special improvement districts in need of additional funds. The city can establish street SIDs 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. These are generated through state gasoline taxes apportioned from the State of Montana. The city's fiscal year 2016 state gas tax apportionment will be approximately $625,044. Transfers are made from this fund to the General Fund to reimburse expenditures for construction, reconstruction, repair, and maintenance of streets.

Street Maintenance Assessment. Every parcel within the city limits is assessed for street maintenance, with a square footage cap based on the type of property (residential versus commercial). Revenues generated from this assessment fund maintenance activities on public roadways. Street maintenance includes, but is not limited to, the following: sprinkling, graveling, oiling, chip sealing, seal coating, overlaying, treating, general cleaning, sweeping, flushing, snow and ice removal, and leaf and debris removal.

Parking Commission. Monthly lease rental payments and meter collections fund this program. Revenues are used to fund parking improvements in the uptown area. Revenue budget for fiscal year 2017 is $116,000.

County Road Fund
The County Road Fund provides for the construction, maintenance, and repair of all county roads outside the corporate limits of cities and towns in Silver Bow County. Revenues for this fund come 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 road mill levy has a mill levy cap of 27.28 mills. BSB has levied 24.17 mills in fiscal year 2017. Silver Bow County's fiscal year 2016 state gas tax apportionment added approximately $625,044 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
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. 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. Montana law provides for

cities (7-14-4101 MCA) and counties (7-14-2201) to manage transportation infrastructure. Counties are specifically responsible for all the bridges in a county, including those within cities and towns, except those managed by the MDT. City and county budget revenues are based on the "mill," which is equal to one/one thousandth of the county taxable valuation. The city or county sets the number of mills to be levied based on its needs but the levy is subject to overall taxation limitations set by Montana State statute. Each property owner pays taxes in an amount equal to his or her share of the taxable valuation of the property multiplied by the number of mills levied. County road mills are based on the county's taxable value exclusive of incorporated areas while bridge mills are based on county taxable value inclusive of all incorporated and unincorporated areas.

Under 7-14-2501 MCA, a board of county commissioners is authorized to raise revenue for the construction, maintenance, or improvement of public highways. The number of mills levied is subject to the provisions set forth in 15-10-420 MCA. Under 7-14-2502 MCA, a special tax may be levied on all taxable property in the county for the purpose of constructing, maintaining, and repairing free public bridges, which includes those bridges within the municipalities. Municipalities may establish a city road fund under 7-14-4113 MCA.

Payments in Lieu of Taxes

Payments in Lieu of Taxes (PILT) are federal payments to local governments that help offset losses in property taxes due to non-taxable federal lands within their boundaries. The PILT funding program recognizes that the inability of local governments to collect property taxes on federally owned land can create a financial impact. The PILT payments help local governments carry out such vital services as firefighting and police protection, construction of public schools and roads, and search-and-rescue operations. The payments are made annually for tax-exempt federal lands administered by the Bureau of Land Management, the National Park Service, the U.S. Fish and Wildlife Service (all agencies of the Interior Department), the U.S. Forest Service (part of the U.S. Department of Agriculture), and for federal water projects and some military installations.

The formula used to compute the payments is contained in the PILT Act and is based on population, receipt sharing payments, and the amount of federal land within an affected county. The PILT payments are in addition to other federal revenues (such as oil and gas leasing, livestock grazing, and timber harvesting) the federal government transfers to the states. Silver Bow County’s most recent PILT payment, received in June 2016, was in the amount of $542,654 and reflected 234,665 acres of federal lands within Silver Bow County.

Motor Vehicle License Fee

Under 7-14-2511 MCA, all license and registration fees for which there is no specific provision as to disposition are credited to the county motor vehicle fund. Further, under 7-14-2512 MCA, the county motor vehicle funds are divided between the city and the county road funds. The statute requires that 50% of the net license fees derived from owners residing within the city limits must be placed in the city road fund. The remaining funds are placed in the county road fund.

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 changed its method of licensing motor vehicles of ¾ ton or less. The flat fee tax on light vehicles was replaced by a 2% tax on the assessed value of the vehicle, using average trade-in or wholesale value. An ad valorem 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% 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% local vehicle tax that is distributed, with some restrictions, in the same manner as the base vehicle tax. The constituents of the City-County of Butte-Silver Bow approved the assessment of a local option motor vehicle tax. The local motor vehicle option tax would generate approximately $525,000 in fiscal year 2016 to be used within the Road Fund.

Optional Motor Vehicle Tax

Under state law, counties have the option of imposing a 0.7% tax on motor vehicles under 61-3-537 MCA, if it is approved by the electorate. Of the amount collected, 50% is allocated to the county and the remaining 50% is allocated to both the county and incorporated areas based on population. While district courts are given first priority for funding under this program, counties may use a portion of the funds for bridges and roads.

Local Option Motor Fuel Excise Tax

County governments may levy a motor fuel excise tax under 7-14-301 MCA. The tax, which cannot exceed 2 cents per gallon, may be levied as the result of local initiative or by a resolution passed by the board of county commissioners. Funds may be used for the construction, reconstruction, maintenance, and repair of public streets and roads.

Oil and Gas Leases (bridges and roads)

Under 7-14-2505 MCA, counties may allocate 50% of those funds received from oil and gas leases and reserved royalty interest to the county road fund.

Urban Transportation Districts

Urban Transportation District designation is a method of providing local funds to supply transportation services and facilities to district residents and other persons. The creation of an urban transportation district is initiated by a petition of at least 20% 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. An example is the Great Falls Transit District, which 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 include capital improvements funds, rural SIDs, special bonds, and specialized transportation funds. These special funds are discussed briefly below.

Capital Improvements Fund
The governing body of a county may establish a road and bridge capital improvement fund in accordance with the provisions of Title 7, chapter 6, part 616 of the Montana Code. The fund may not exceed $500,000. (7-14-2506 MCA) and must be invested according to Montana law. Amounts that exceed operation requirements may be allocated to this fund over time. This strategy provides a way in which counties can finance major bridge and road work through a minimal appropriation each year. It enables counties to anticipate bridge and road needs over time with respect to the expected useful life rather than being confronted with a crisis. This technique is fiscally sound and may be more politically palatable in that taxpayers are not asked to foot the bill for road or bridge repair or reconstruction all at once through increased assessments or bond debt payments. Revenues are generated by loans from other county funds, and must be repaid within 10 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 rural SID 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.

8.4.2 Debt Financing

Cities and counties can make use of various kinds of debt financing to meet bridge and road needs. These include general obligation bonds, SID and RSID bonds, and revenue bonds. Debt financing enables local governments to finance major infrastructure projects using future revenue from special assessments, user fees, and other forms of revenue. The local government incurs various administrative costs in conjunction with issuing bonds. These costs include the retention of legal counsel and financial consultants, the establishment of reserve funds, and the preparation of the prospectus and various required documents. These bonds provide tax-free interest earnings to purchasers and are therefore subject to detailed scrutiny under both state and federal law. The citations in the Montana Code are listed below, for each type of bond described.

1. Special Improvement Districts

Under 7-12-4101, cities and towns can create special improvement districts for the construction and maintenance of bridges and roads, culverts, gutters, lighting, sidewalks, landscaping, trails, and parking facilities and the conversion of overhead utilities to underground locations in accordance with 69-4-311 through 69-4-314, and other infrastructure. The city governing body may order and create special improvement districts covering projects abutting the city limits and include properties outside the city when the special improvement district abuts and benefits that property. Property owners within the proposed district boundaries outside the city may not be included in the special improvement district if 40% of those property owners protest the creation of the special improvement district. The property outside the city must be treated in a similar manner as to improvements, notices, and assessments as the property inside the city limits. A joint resolution of the city and county must be passed agreeing to the terms of the special improvement district prior to passing the resolution of intention or the resolution creating the special improvement district.

2. Rural Improvement Districts

Debt financing for transportation infrastructure located outside the incorporated limits of cities and towns is undertaken through the formation of rural improvement districts (RID). Section 7-12-2102 and Section 7-12-4102 MCA authorizes a RID for a number of purposes including paving, curbs and gutters, culverts, and bridges. In a RID, the cost of the improvements is born by those property owners that are primarily benefiting from the improvement. Property owners pay an annual fee, which is included on their property tax statements to cover debt service for improvements and/or ongoing maintenance costs.

The creation of a RID can be initiated by the board of county commissioners or by the property owners. Although not required, property owners within the proposed district will often submit a petition to the county commissioners requesting that the district be created. Before any formal action is taken, either the county surveyor and/or a professional consultant prepare cost estimates. Cost estimates should be prepared carefully and include a range of costs that might be anticipated in association with undertaking the proposed construction or maintenance. Once the project has been defined and cost estimates prepared, the commissioners pass a Resolution of Intent to create the district. The resolution informs the property owners of the size of the district, the nature of the improvements, the project engineer, cost estimates, method of assessment and duration (7-12-2103 MCA). The affected property owners are given due notice of the intent to create the district and opportunity to protest. If less than 50% of those property owners protest, the county may proceed with the creation of the RID. Detailed information on the creation of special districts is provided in two Montana Department of Commerce publications, entitled *Rural Special Improvement District Handbook*, and *Special Improvement District Handbook*, Second Edition, both published in May of 1986.

3. Local Improvement Districts for Roads

Upon receipt of a proper petition, the board of county commissioners may create a local improvement district (LID) for roads, which can fund the survey, construction, opening, and improvements of roads (7-14-2701 MCA). The petition must be presented by owners of 2/3 of the lineal feet of land fronting the proposed or existing road or by 2/3 of the residents of the proposed road district. The county commissioners can choose to share the costs with the property owners under 7-14-2733 MCA. This particular provision is available for roads only and is specific to county governments.

4. General Obligation Bonds

Counties may issue general obligation bonds for the financing of bridge and road infrastructure. General obligation bonds are backed by the full faith and credit of the county and must be approved by the voters in an election. As such, they are not subject to the taxing limitation contained in 15-10-402 MCA. General obligation bonds are generally payable from ad valorem taxes (based on the value of property) and expressed in mills. General obligation bonds are attractive to bond buyers because they have voter approval and are not as vulnerable to fluctuations in revenue. Counties are assigned a bond debt limit based on a percentage of taxable valuation. General obligation bonds must fall within this limit. Under 7-14-2520 and 7-14-2521 MCA, counties may issue bonds upon the full faith and credit of the county for the construction or improvement of county roads, state highways, and bridges. It is important to note that under 7-14-2205 MCA, if the county will be undertaking the construction of a bridge in any city or town, and must incur debt of $10,000 or more to complete the project, it must do so by issuing general obligation bonds after approval by a vote of the qualified electors of the county on the question of whether the bridge is to be constructed and paid for by the county. County commissions are often reluctant to consider general obligation bonds because they fear that county residents will vote down the bond, particularly if they see only a segment of the county benefiting from the improvement. One approach to this problem might be to package a number of bridges, strategically located throughout the county, in one construction project to gain support from voters countywide.

5. Revenue Bonds

Under 7-7-2501 MCA, a county may issue revenue bonds to finance any project or activity authorized including the construction of bridges and roads. Revenue bonds are retired through the payment of earnings including user fees incurred by a public enterprise, such as toll bridges or toll roads. Revenue bonds have no claim on the county's taxable resources, unless specified (through a special guarantee, for example). As such, they are not subject to the taxing limitation contained in 15-110-402 MCA. Industrial revenue bonds enable the financing of bridge and road infrastructure, which benefits private industrial concerns. Lease payments are made by the industry to the local government to service bond debt. Bonds may be issued in the form of general obligation bonds, revenue bonds, or a combination. In reality however, the use of revenue bonds for county bridge and road projects is not very feasible, since these projects rarely provide any source of long-term revenue to cover debt service.

8.4.3 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 U.S. 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 effected 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)

Under the Montana Urban Renewal Law (7-15-4201 MCA), communities may establish tax increment financing (TIF) districts for the purposes of revitalizing blighted neighborhoods, central business districts, and infrastructure-deficient industrial areas. The TIF simply means that new property tax dollars resulting from increases in the market value of real property may be directed to the area where the real property is located. The base property tax (before any improvements to real property) continues to be distributed to the local government and school districts. However, tax dollars that accrue from increases in property values (from rehabilitation, new construction, etc.) are available for reinvestment. A tax increment program is authorized for 15 years or longer if the tax increment revenue is pledged to the payment of tax increment bonds. A municipality must identify the specific geographic area where the program will be implemented. Funds may be used to finance roads and bridges within tax increment areas. In the case of industrial infrastructure district, funds may also be used to connect districts to other resources. If the improvement will benefit industrial development within the tax increment district, funds may be used to finance bridges and roads, which include portions outside the increment district. Tax increment programs depend on substantial investment in property but can work in rural communities that are experiencing some growth.

The use of TIFs is restricted to "municipalities" or incorporated areas including consolidated city-county governments. However, as counties are responsible for all off-system bridges, including those that are located in cities and towns, the TIF may offer some local funding for bridge repair or reconstruction if the city or town council, or urban renewal agency, approves the use of tax increment funds for bridge improvements. In addition, if a bridge is historic or offers additional recreational opportunities (e.g. for pedestrian or cyclists), the city might provide tax increment funds for improvements as part of their community revitalization program.

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 a 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 a RSID.

8.4.4 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.

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
A number of cities/counties have contemplated the use of impact fees for the construction and upgrading of roads and bridges in association with new subdivisions. The Montana Subdivision and Platting Act, 76-3-510 MCA, provides for such fees to be assessed as long as they are proportional to the impact created. The statute states, "*A local government may require a sub-divider to pay or guarantee payment for part or all of the costs extending capital facilities related to public health and safety, including but not limited to public roads. The costs must reasonably reflect the suspected impacts directly attributable to the subdivision*." The developer must be provided with information indicating how the fees will be spent. Fees may go for construction, replacement and upgrades but not for regular operations and maintenance.

The county zoning enabling act (76-2-201 et seq., MCA) may provide some basis for the charging of impact fees. Under 76-2-203 MCA, a county may establish zoning regulations designed to, among other things, "*lesson congestion in the streets; to secure safety from fire, panic, and other danger; to facilitate the adequate provision of transportation...and other public requirements*." Therefore, a county, in adopting and administering its zoning regulations, may consider the impact new developments will have on roads and bridges. It would seem that it may also require a developer to pay an impact fee to cover the cost of providing the transportation infrastructure necessary to serve the development. Any such fee would have to be roughly proportional to the additional transportation needs represented by the new development. Also, the fees could be used only for construction or upgrading of facilities and not for operations and maintenance.

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 that 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.

9 REFERENCES

ALTA, 2014. Montana Building Active Communities Resource Guide. ALTA 2014.

TRB, 2000. Special Report 209: Highway Capacity Manual – 3rd edition. Transportation Research Board, 2000. http://www.trb.org/Publications/Blurbs/153893.aspx.

U.S. DOT, 2012. Manual on Uniform Traffic Control Devices for Streets and Highways. 2009 Edition, U.S. Department of Transportation, May 2012.

Montana Tech, 2010. Master Plan 2010. Montana Tech of the University of Montana, 2010.

Paulien & Associates, 2017. Draft Montana Facilities Master Plan. Paulien & Associates, Inc. February 2017.

Appendix A Interactive Web Page Feedback

Point ID	PointType	ProblemType	Details	Name	Phone	Email	DateSubmitted	Votes
1	Automobile	Other	Very busy in morning during school drop off hours	Public			5/5/2016 21:58	
2	Automobile	Intersection Configuration	Please get rid of the stop light at this intersection.	Public	497-6221	jgatzmiller@bsb.mt.gov	5/9/2016 15:35	1
3	Automobile	Traffic Signal	Signal on S Montana south of the Interstate creates odd and undesirable traffic maneuvers.	Public			5/10/2016 3:24	
4	Automobile	Intersection Operation	Visitor traffic existing KOA campground and heading south on Montana has difficult traffic movement (westbound to southbound)	Public			5/9/2016 6:00	
5	Automobile	Traffic Signal	Traffic signals poorly timed	Public			5/9/2016 6:00	
6	Pedestrian	Other	sidewalks and curbs need attention	Public			5/9/2016 6:00	1
7	Automobile	Other	Need better access to Tech from Interstate	Public			5/9/2016 6:00	5
8	Automobile	Intersection Configuration	4-way stop is a problem	Public			5/9/2016 6:00	
9	Automobile	Other	Curb radius is very tight	Public			5/10/2016 3:59	
10	Other	Other	Railroad bridge needs attention	Public			5/9/2016 6:00	
11	Other	Intersection Configuration	Railroad Crossing is a mess	Public			5/9/2016 6:00	
12	Automobile	Intersection Configuration	It is difficult to see cross traffic on Excel	Brad Archibald	4064903032	barchibald@pioneer-technical.com	5/19/2016 15:47	1
13	Pedestrian	Safety	Better/safer pedestrian access along Front to Community Health needed	Brad Archibald	4064903032	barchibald@pioneer-technical.com	5/19/2016 16:16	2
14	Automobile	Safety	Many intersections are blind pulling onto Park st. And Harrison Ave. Maybe some mirrors to see oncoming traffic would help people pull out safely when parked cars are blocking their view. Angled mirrors seem to do the trick in Boise ID.	Erin Sharkey	4064902114	Erin.sharkey@umwestern.edu	5/20/2016 21:43	1
15	Pedestrian	Intersection Operation	High traffic and pedestrian density at the intersection of Ottawa and Continental seems to warrant a lighted intersection.	Josh Bryson	565-7164		6/6/2016 19:31	
16	Automobile	Intersection Configuration	Need dedicated left hand turn lane, and a straight thru or right turn lane	Josh Bryson	565-7164		6/6/2016 6:00	
17	Automobile	Intersection Configuration	Tight curb radius and vehicles trying to turn left across traffic into gas station, papa murphy's, and quiznos	Josh Bryson	565-7164		6/6/2016 6:00	
18	Automobile	Intersection Configuration	Dewey Blvd and Rowe	Becky Krause	4065335377	beckabk@gmail.com	6/8/2016 18:25	
19	Automobile	Traffic Signal	Need a light signal to turn left to centennial.				6/9/2016 22:39	1
20	Automobile	Intersection Operation	Poor traffic flow through Amherst Intersection. Traffic gets backed up in all directions, especially the north bound. Light takes for ever to move traffic. Should have dedicated turn lanes with arrows to speed up traffic flow.				7/11/2016 15:34	
21	Automobile	Intersection Configuration	Difficult to cross Rowe Rd on Dewey during certain times of the day. Should have a light to allow traffic to flow east/west on Dewey across Rowe Rd.				7/11/2016 15:34	
22	Automobile	Other	Continue Dewey to S. Montana St to allow better traffic flow.				7/11/2016 15:34	
23	Automobile	Other	Remove the concrete medians from Amherst to Highway 2 on Harrison Ave. and install a center turning lane.				7/11/2016 15:34	

24	Automobile	Intersection Configuration	Install traffic light at Texas and Continental to allow better traffic flow.				7/11/2016 15:34	
25	Automobile	Other	Tight radius on Oregon and Cobban. Sewer manholes are deeper than road leaving large "holes" on Oregon St.				7/11/2016 15:34	
26	Automobile	Intersection Configuration	Install a left turn signal for northbound traffic turning west on Cobban.				7/11/2016 15:34	1
27	Automobile	Intersection Operation	Install left turn arrow for southbound traffic turning east on to White Blvd.				7/11/2016 15:34	
28	Automobile	Intersection Configuration	Improve intersection at Western & Holmes. Intersection is very wide and confusing and also has bad field of view looking west from Western.				7/11/2016 15:34	
29	Automobile	Other	Get rid of concrete center in Harrison and make it a turning lane like the upper part of Harrison. It's a pain to try and turn into businesses				7/15/2016 14:20	
30	Automobile	Intersection Configuration	Make Dewey and thru street to Montana. This would help with traffic congestion on Rowe Rd				7/15/2016 14:20	
31	Bicycle	Safety	The bike symbols look terrible. Get rid of them or make them at least align with each other				7/15/2016 14:20	
32	Automobile	Intersection Operation	The area between Hill Ave and Oregon on Dewey is cumbersome. It is difficult to get onto Dewey from Oregon but it doesn't seem like there is as much traffic at the 4-way at Hill. Possibly to see if the 4-way at hill is necessary move it to oregon?				7/15/2016 14:20	
33	Automobile	Other	Make better access to MT Tech.				7/15/2016 14:35	
34	Automobile	Other	Make a complete exit at the city center exit. Allow traffic to enter the interstate and go east and allow west bound interstate traffic to exit onto city center.				7/15/2016 14:35	
35	Other	Safety	Designate 1000 block of West Platinum as school zone because Steele St. by West Elementary is a one way	Page Grogan, Aran Macartney, Shane and Joan Martin	4065810428	pagely_76@yahoo.com	7/25/2016 15:51	3
36	Automobile	Safety	Traffic calming measures needed. It experinces heavy traffic and excessive speeding. The location is unique compared to other residential areas on the West side - it is a back door into Montana Tech and a collector street for the neighborhood.	Joan and Shane Martin	701-330-6990	joanobri@yahoo.com	7/25/2016 17:53	6
37	Automobile	Safety	a radar speed sign to reduce speeding due to traffic during the school year	Page Grogan, Aran Macartney, Shane and Joan Martin	4065810428	pagely_76@yahoo.com	7/25/2016 20:08	4
38	Automobile	Traffic Signal	Add left turn signal for south bound traffic on Harrison to turn left on Cobban for Taco Johns.	Bob			9/20/2016 15:39	

39	Automobile	Safety	And Pedestrian issue. There should be bulb outs on the East Side of Excelsior from Diamond Street to Park Street. This would keep cars from parking all the way up to the intersection and would allow pedestrians to be more visible when crossing Excelsior.	Cassie Wick	406-581-7323	cassie.weightman@gmail.com	12/5/2016 16:20	
40	Other	Safety	Issue: Approximately 2-5 cars a day drive the wrong way down Phillips Ave. in front of school, despite One-Way traffic signs. Recommendation: Crosswalk bumpout on the North end of the block limiting wrong-way entrance and improving highly-used crosswalk	Adam Benson		adam@agbenson.com	12/5/2016 17:48	
41	Pedestrian	ADA Accessibility	Curb Cuts are not ADA compliant	Cassie Wick	4067824834	cweightman@milp.us	12/5/2016 16:20	
42	Pedestrian	ADA Accessibility	NW side of street not ADA complaint	Cassie Wick	4067824834	cweightman@milp.us	12/5/2016 16:20	
43	Pedestrian	ADA Accessibility	SE Corner of Granite/MT one curb cut is not ADA compliant	Cassie	4067824834	cweightman@milp.us	12/5/2016 16:20	
44	Pedestrian	ADA Accessibility	Alley Transition on the south side (Dr. Repolas's office) does not have a transition point, inaccessible. Side by Butte School offices is accessible.	Cassie	406-782-4834	cweightman@milp.us	12/5/2016 16:20	
45	Pedestrian	ADA Accessibility	SE Corner of MT/Granite. One curb cut is not ADA complaint.	Cassie	4067824834	cweightman@milp.us	12/5/2016 16:20	
46	Pedestrian	ADA Accessibility	Alley Transition on the south side (Dr. Repolas's office) does not have a transition point, inaccessible. Side by Butte School offices is accessible.	Cassie	4067824834	Alley Transition on the south side (Dr. Repolas's	12/5/2016 16:20	
47	Pedestrian	ADA Accessibility	SE Corner of MT/Broadway is not ADA compliant. No curb cut facing Broadway at all. No trucated domes.	Cassie	4067824834	cweightman@milp.us	12/5/2016 16:20	
48	Pedestrian	ADA Accessibility	South side of alley has no transition point to Pita Pit. Not ADA compliant	Cassie	4067824834	cweightman@milp.us	12/5/2016 16:20	
49	Pedestrian	ADA Accessibility	SE Corner of Park and Montana is not ADA compliant. No truncated domes.	Cassie	4067824834	cweightman@milp.us	12/5/2016 16:20	
50	Pedestrian	Pedestrian/Trail Crossing	Curb cut needed and crosswalk may be beneficial here, several people cross here.	Cassie	4067824834	cweightman@milp.us	12/5/2016 16:20	
51	Other	Other	We need at least couple garbage cans one every block in main walking areas of uptown	Cassie	4067824834	cweightman@milp.us	12/5/2016 16:20	
52	Other	Other	We need at least couple garbage cans one every block in main walking areas of uptown	Cassie	4067824834	cweightman@milp.us	12/5/2016 16:20	
53	Other	Other	We need at least couple garbage cans one every block in main walking areas of uptown	Cassie	4067824834	cweightman@milp.us	12/5/2016 16:20	
54	Pedestrian	ADA Accessibility	Alley is not ADA complaint. There is a step down on both sides of the alley.	Cassie	4067824834	cweightman@milp.us	12/5/2016 16:20	
55	Pedestrian	ADA Accessibility	Alley way next to D & G antiques is not ADA compliant, there is a barrier on both sides.	Cassie	4067824834	cweightman@milp.us	12/5/2016 16:20	
56	Pedestrian	ADA Accessibility	Sidewalk 2-3" setp up on conrner in front of the bench. Not ADA compliant.	Cassie	4067824834	cweightman@milp.us	12/5/2016 16:20	
57	Pedestrian	ADA Accessibility	Park St. Alley on side of Gamers not ADA complaint on either side. Lip on both sides	Cassie	406782-4834	cweightman@milp.us	12/5/2016 16:20	

Route ID	RouteType	ProblemType	Details	Name	Phone	Email	DateSubmitted	Votes
1	Pedestrian	Connectivity – Trail	Need good trail connectivity	Public			5/10/2016 3:48	
2	Automobile	Other	Guardrail constantly damaged	Public			5/10/2016 3:51	
3	Pedestrian	Connectivity – Trail	Need trail connectivity to Thompson Park	Public			5/9/2016 6:00	
4	Automobile	Lane Widths	Lane widths are a problem	Public			5/9/2016 6:00	2
5	Automobile	Travel Pattern	Need to review unrestricted flow pattern from Hwy	Public			5/10/2016 4:06	3
6	Automobile	Connectivity – Roadway	Remove to concrete medians to provide better access to businesses.				7/15/2016 14:30	1
7	Automobile	Connectivity – Roadway	Extend the Dewey Ave to Montana St to allow better flow from Beef Trail and S Montana to downtown Butte.				7/15/2016 14:30	2
8	Automobile	Travel Pattern	Rowe Rd to Holmes Ave should be 35 mph the whole distance. Slowing to 25mph on Rowe Rd is not necessary	Bremda Isaacson	775-848-6186	brenda_isaacson@yahoo.com	7/16/2016 2:18	1
9	Automobile	Travel Pattern	Stop light at Granite & Montana St should be flashing yellow after 6pm when heading north or south on Montana St.	Brenda Isaacson	775-848-6186	brenda_isaacson@yahoo.com	7/16/2016 2:18	1
10	Other	Travel Pattern	Make the 1000 Block of W Platinum St a school zone because the 1000 block of W Steel St is a one way school drop off zone and many of the students and most of the busses have no other option for dropping students off.	Joan and Shane Martin	701-330-6990	joanobri@yahoo.com	7/25/2016 17:47	1
11	Automobile	Travel Pattern	Exit 126				9/6/2016 16:55	3
12	Other	Travel Pattern	Need Roundabout				9/6/2016 16:55	2
13	Other	Travel Pattern	Need Roundabout				9/6/2016 16:55	1
14	Other	Travel Pattern	Need Roundabout				9/6/2016 17:00	
15	Other	Travel Pattern	Need Roundabout				9/6/2016 17:00	1
16	Automobile	Connectivity – Roadway	Re-align Mt. Highland Drive and connect to Holmes Avenue to create a better flow for traffic and access for neighborhoods and businesses.				9/6/2016 17:00	1
17	Other	Connectivity – Roadway	Close access to Desmet Street making road for On-Ramp Only				9/6/2016 17:00	
18	Other	Travel Pattern	Cul-de-sac La Salle Avenue to make off-ramp only from I90				9/6/2016 17:00	
19	Other	Travel Pattern	Cul-de-sac Idaho Street to protect off-ramp traffic from I90				9/6/2016 17:00	
20	Other	Travel Pattern	Cul-de-sac Placer Street to protect on-ramp traffic from I90				9/6/2016 17:00	
21	Other	Travel Pattern	Close Access to La Salle Street to protect I90 On Ramp				9/6/2016 17:00	
22	Automobile	Connectivity – Roadway	Rebuild Centennial Avenue to spur economic development opportunities and promote infill. Create 3 Lane road (1 each direction and 1 turn lane) to match work completed on West Front Street.				9/6/2016 17:00	
23	Bicycle	Connectivity – Trail	Create a Protected Bike Lane along Washington to service neighborhoods, Montana Tech and St. James Health				9/6/2016 17:24	1
24	Bicycle	Connectivity – Trail	Create Protected Bike Lane along Granite to serve as an alternative transportation option connecting Montana Tech and UpTown				9/6/2016 17:24	
25	Other	Connectivity – Roadway	Rebuild Montana Street with Pedestrian Friendly Sidewalks, Bike Lanes and Curbs to match Main Street to improve connectivity and safety.				9/6/2016 17:24	1
26	Automobile	Connectivity – Roadway	Rebuild Woolman from Montana to Jackson to create better traffic pattern, with sidewalks and bike lanes for connectivity.				9/6/2016 17:24	
27	Bicycle	Connectivity – Trail	Create Protected Bike Lane to connect Walkerville to Montana Tech				9/6/2016 17:24	
28	Bicycle	Connectivity – Trail	Reconstruct Porphyry Street to meet the same design at the St. James Health campus with a boulevard in the middle, wide sidewalks and protected bike lane. This will connect two anchor institutions				9/6/2016 17:24	
29	Automobile	Other	Improve Woolman Street with sidewalks, curbs, gutters and new pavement markings.				9/6/2016 17:24	

30	Automobile	Travel Pattern	Reconstruct Intersection, potentially look at roundabout for pedestrian safety.					9/6/2016 17:24	1
31	Bicycle	Connectivity – Trail	Create Protected Bike Lane along Arizona to connect Uptown to the vast residential area servicing both Butte High School and the Park					9/6/2016 17:24	
32	Bicycle	Connectivity – Trail	Create a Protected Bike Lane with improved curbs, gutters, sidewalks and pavement markings to connect Clark Park and East Middle School serving the neighborhood					9/6/2016 17:24	
33	Bicycle	Connectivity – Trail	Create a Protected Bike Lane with improved curbs, gutters, sidewalks and pavement markings to connect C Street Park to Harrison Avenue Commercial, Whittier Elementary and Continental					9/6/2016 17:24	
34	Bicycle	Connectivity – Trail	Create a Protected Bike Lane with improved curbs, gutters, sidewalks and pavement markings to connect Whittier Elementary to East Middle and improve neighborhood transportation options.					9/6/2016 17:24	
35	Bicycle	Connectivity – Trail	Create a Protected Bike Lane with improved curbs, gutters, sidewalks and pavement markings to connect Continental Drive with Clark Park, Harrison Avenue Commercial and C Street Park					9/6/2016 17:24	
36	Pedestrian	Connectivity – Sidewalk	Build new sidewalks with ADA ramps along Elm Street to promote walk-ability.					9/6/2016 17:24	3
37	Pedestrian	Connectivity – Sidewalk	Build new sidewalks with ADA ramps along Locust Street to promote walk-ability.					9/6/2016 17:24	3
38	Pedestrian	Connectivity – Sidewalk	Build new sidewalks with ADA ramps along Walnut Street to promote walk-ability.					9/6/2016 17:24	3
39	Pedestrian	Connectivity – Sidewalk	Build new sidewalks with ADA ramps along Pine Street to promote walk-ability.					9/6/2016 17:24	3
40	Automobile	Other	Reconstruct Stuart Ave. with new curbs, sidewalks, gutters and pavement markings.					9/6/2016 17:24	1
41	Bicycle	Connectivity – Trail	Create a Protected Bike Lane with improved curbs, gutters, sidewalks and pavement markings to connect Harrison Elementary to Harrison Avenue Commercial and improve neighborhood transportation options					9/6/2016 17:24	
42	Bicycle	Connectivity – Trail	Create a Protected Bike Lane with improved curbs, gutters, sidewalks and pavement markings to connect Silver Bow Park Neighborhood with Proposed 2nd Street Protected Bike Lane to provide access for residents to Uptown and Butte High School					9/6/2016 17:24	
43	Bicycle	Connectivity – Trail	Create a Protected Bike Lane with improved curbs, gutters, sidewalks and pavement markings to improve neighborhood transportation options.					9/6/2016 17:24	1
44	Automobile	Other	Reconstruct Grizzly Trail with new curbs, gutters, sidewalks and pavement markings to help increase economic development in Rocker					9/6/2016 20:43	1
45	Pedestrian	Connectivity – Sidewalk	Build new sidewalks with ADA ramps along Lake Street to promote walk-ability.					9/6/2016 20:43	4
46	Pedestrian	Connectivity – Sidewalk	Build new sidewalks with ADA ramps along White Blvd. to promote walk-ability.					9/6/2016 20:47	4
47	Pedestrian	Connectivity – Sidewalk	Build new sidewalks with ADA ramps along Lake Street to promote walk-ability.					9/6/2016 20:47	4

48	Pedestrian	Connectivity – Sidewalk	Build new sidewalks with ADA ramps along Quincy Street to promote walk-ability.				9/6/2016 20:47	3
49	Pedestrian	Connectivity – Sidewalk	Build new sidewalks with ADA ramps along Keokuk Street to promote walk-ability.				9/6/2016 20:47	3
50	Pedestrian	Connectivity – Trail	Like the new grade of the walking path. Please add delineators.	Steve			9/20/2016 15:42	
51	Automobile	Traffic Congestion	traffic is a nightmare with the construction work. in the future the campus needs to improve access to the student parking.	sean			9/20/2016 15:47	
52	Pedestrian	Connectivity – Sidewalk	Curb cut down needed for accessibility to street off of block on Maryland Ave between 1st St and Front St	Alice de Chelley	406-479-4099	lightwoman333@gmail.com	10/25/2016 15:39	2
53	Automobile	Travel Pattern	Granite street is used as a main thoroughfare because, unlike Park, it has very few stop signs or traffic signals along it. While predominantly a residential area, the free movement allows people to speed terribly down Granite. It is very unsafe.	Shari Curtis	406-451-8311	shari.curtis123@gmail.com	12/5/2016 16:20	
54	Other	Connectivity – Sidewalk	Uptown neighborhoods especially west side, upper west side	Carrie Johnson	406-498-0956	carrie3219@aol.com	4/11/2017 16:26	

LEGEND

AUTOMOBILE
BICYCLE
OTHER
PEDESTRIAN
TRANSIT
AUTOMOBILE
BICYCLE
OTHER
PEDESTRIAN
TRANSIT

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DISPLAYED AS:
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DATUM: NAD 1983
UNITS: INT'L FEET
SOURCE: PIONEER

0 500 1,000 2,000
Feet

APPENDIX A - 1

PIONEER TECHNICAL SERVICES, INC.

BUTTE SILVER BOW TRANSPORTATION PLAN COMMENTS

DATE: 4/24/2017

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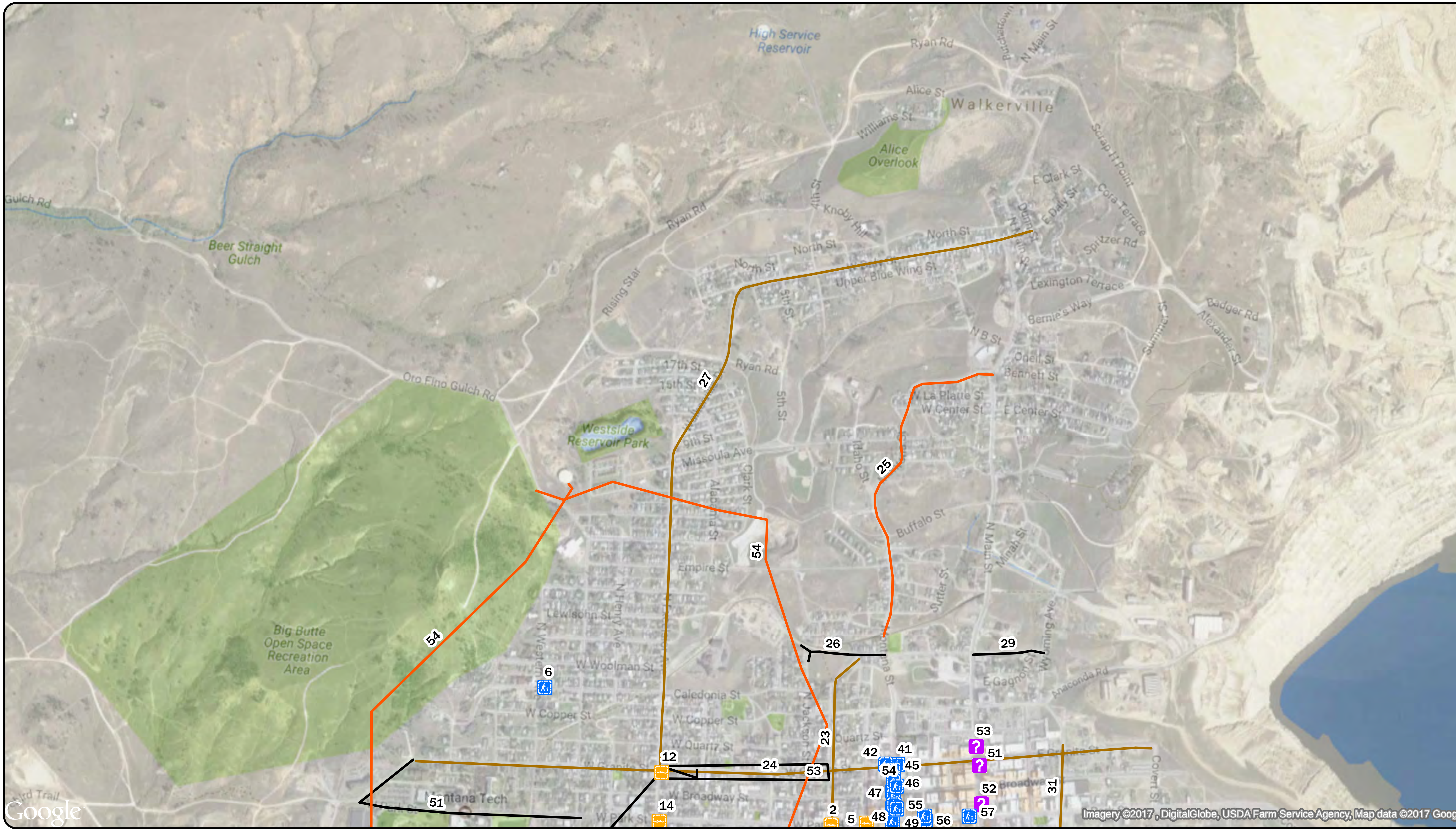

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BICYCLE	TRANSIT	OTHER
OTHER	AUTOMOBILE	PEDESTRIAN
		TRANSIT

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DISPLAYED AS:
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DATUM: NAD 1983
UNITS: INT'L FEET
SOURCE: PIONEER

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APPENDIX A - 2

PIONEER TECHNICAL SERVICES, INC.

BUTTE SILVER BOW TRANSPORTATION PLAN COMMENTS

DATE: 4/24/2017

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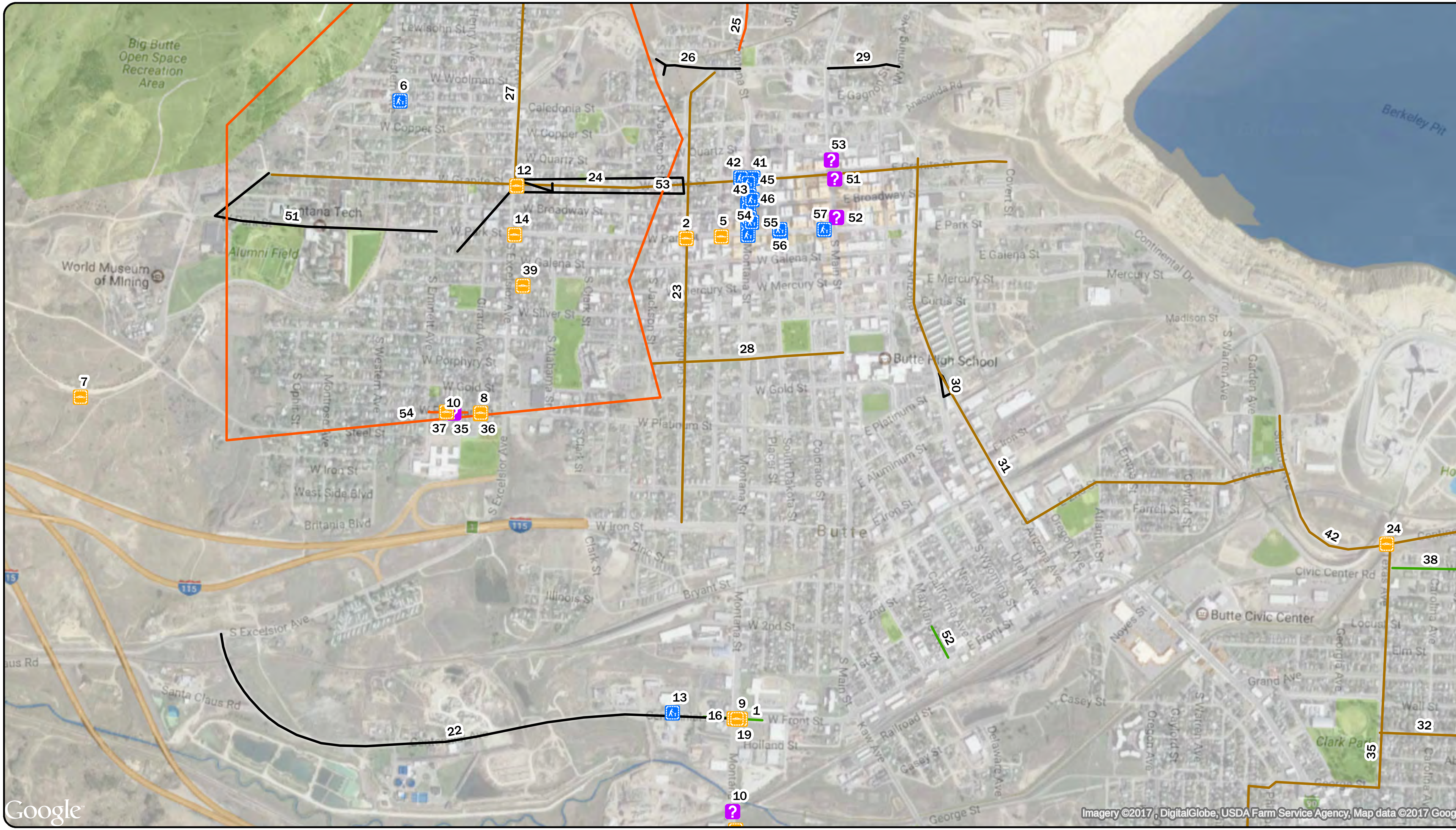

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- BICYCLE (line)
- OTHER (line)
- PEDESTRIAN (line)
- TRANSIT (line)

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SOURCE: PIONEER

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Feet

APPENDIX A - 3

PIONEER TECHNICAL SERVICES, INC.

BUTTE SILVER BOW TRANSPORTATION PLAN COMMENTS

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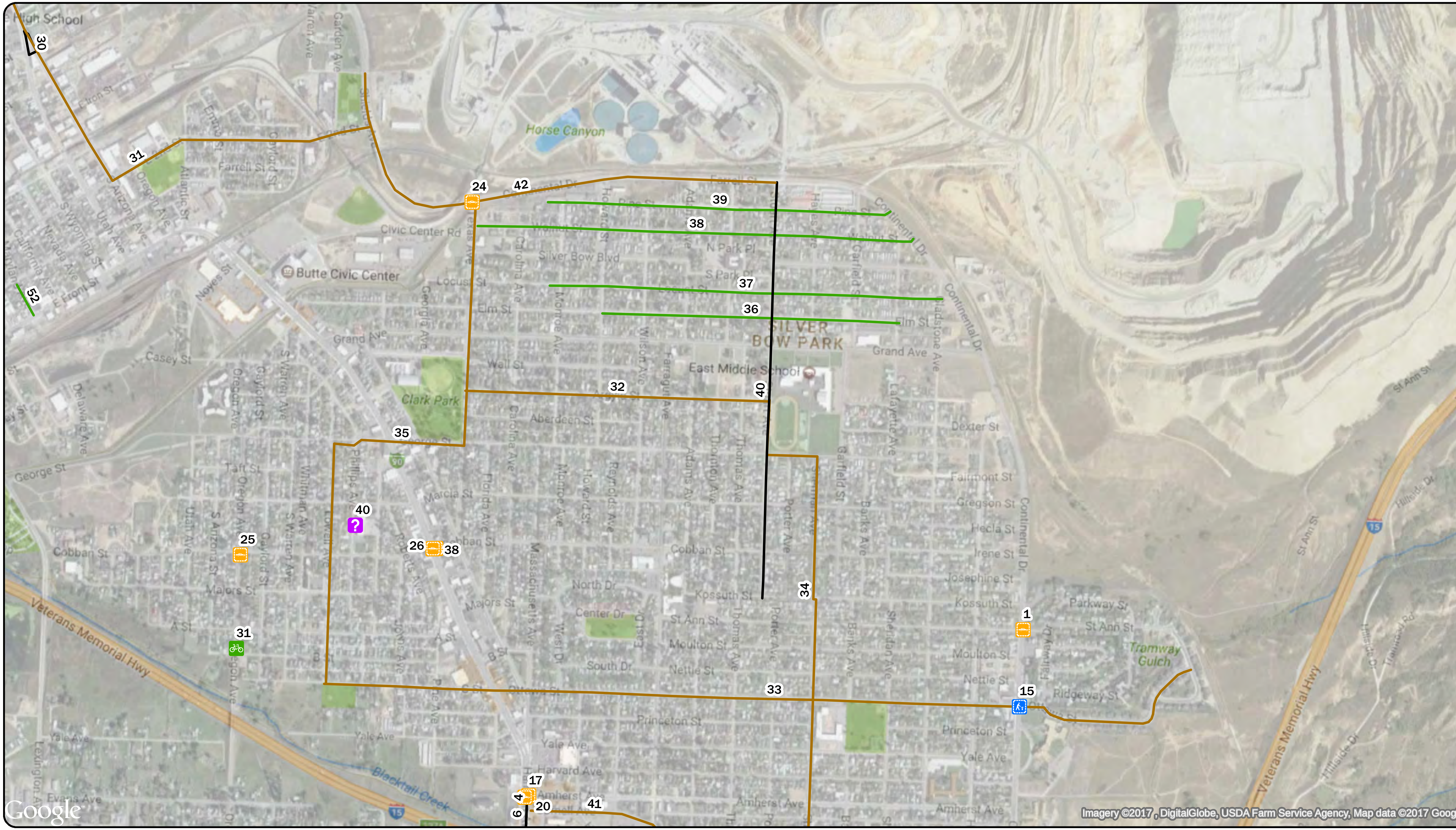

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PEDESTRIAN
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DISPLAYED AS:
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SOURCE: PIONEER

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APPENDIX A - 4

PIONEER TECHNICAL SERVICES, INC.

BUTTE SILVER BOW TRANSPORTATION PLAN COMMENTS

DATE: 4/24/2017

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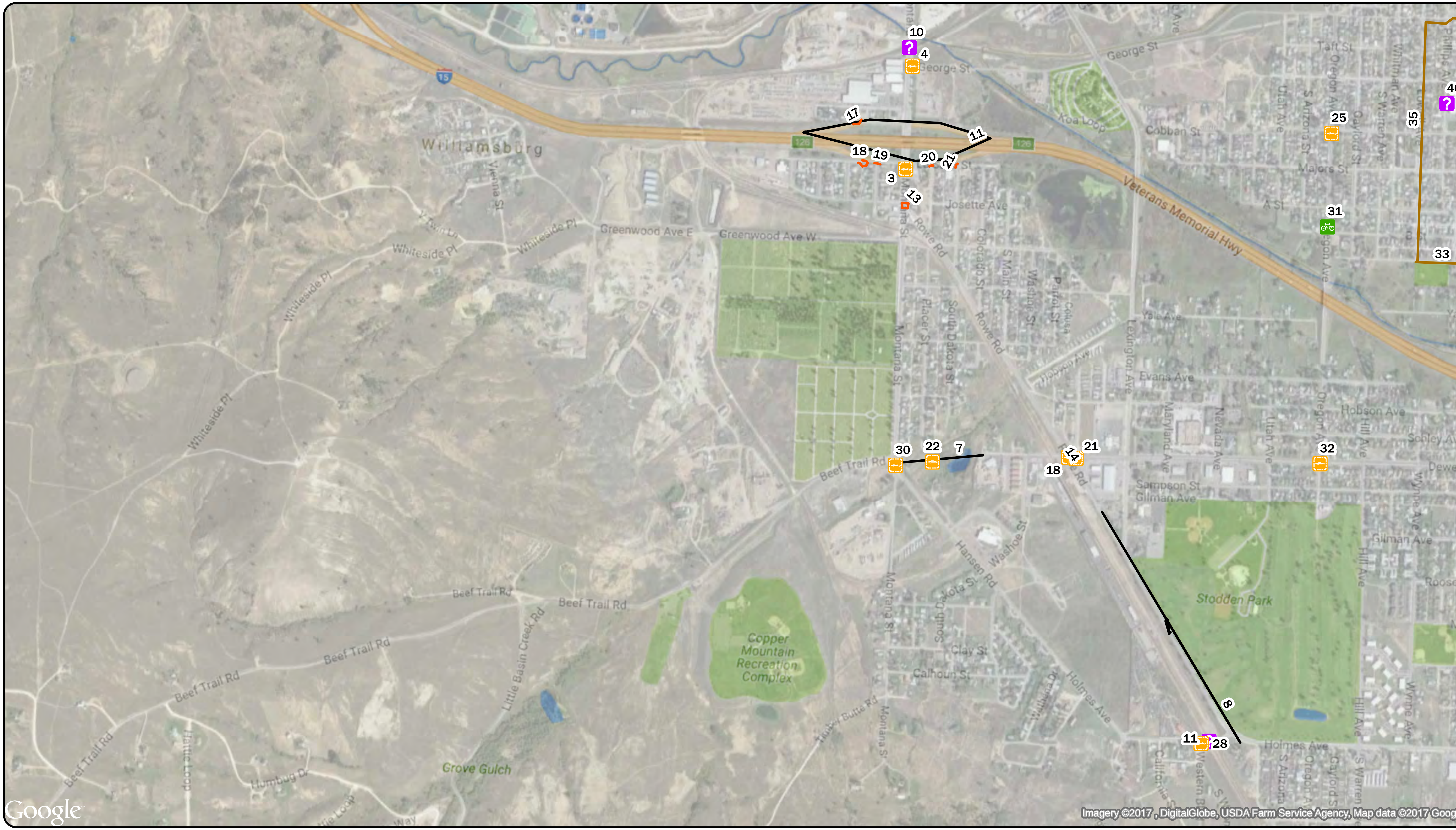

LEGEND

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DISPLAYED AS:
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DATUM: NAD 1983
UNITS: INT'L FEET
SOURCE: PIONEER

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APPENDIX A - 5

PIONEER TECHNICAL SERVICES, INC.

BUTTE SILVER BOW TRANSPORTATION PLAN COMMENTS

DATE: 4/24/2017

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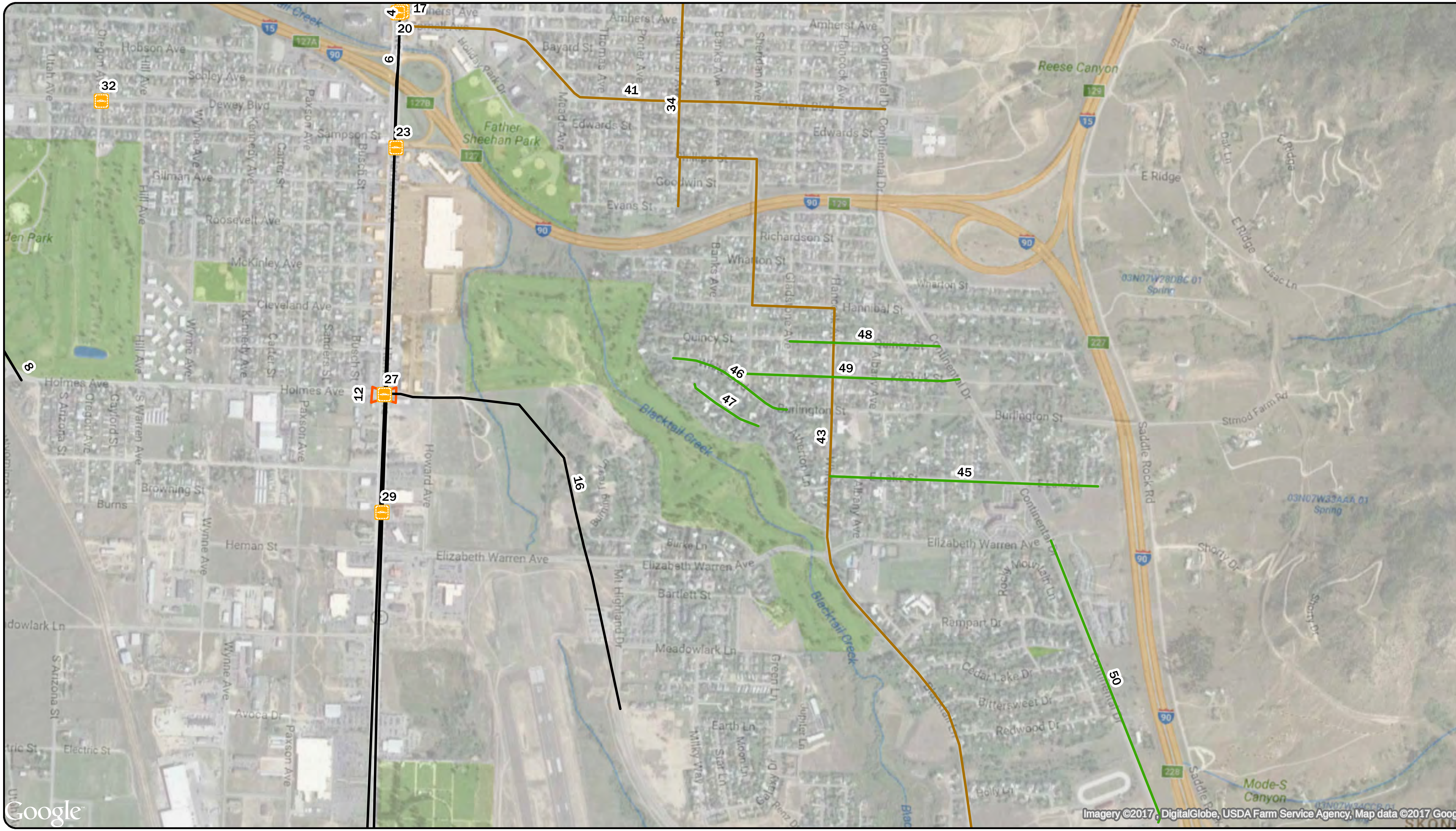

LEGEND

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PEDESTRIAN
BICYCLE
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OTHER
AUTOMOBILE
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OTHER
PEDESTRIAN
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DISPLAYED AS:
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DATUM: NAD 1983
UNITS: INT'L FEET
SOURCE: PIONEER

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APPENDIX A - 6

PIONEER TECHNICAL SERVICES, INC.

BUTTE SILVER BOW TRANSPORTATION PLAN COMMENTS

DATE: 4/24/2017

Path: G:\Butte-Silver Bow\2015 Transportation Plan Update\BSBTP-GIS-PLN-001-17.mxd

LEGEND

AUTOMOBILE | PEDESTRIAN | BICYCLE
BICYCLE | TRANSIT | OTHER
OTHER | AUTOMOBILE | PEDESTRIAN
TRANSIT

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DISPLAYED AS:
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DATUM: NAD 1983
UNITS: INT'L FEET
SOURCE: PIONEER

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Feet

APPENDIX A - 7

PIONEER TECHNICAL SERVICES, INC.

BUTTE SILVER BOW TRANSPORTATION PLAN COMMENTS

DATE: 4/24/2017

Path: G:\Butte-Silver Bow\2015 Transportation Plan Update\BSBTP-GIS-PLN-001-17.mxd

Appendix B Traffic Counts/Studies

COUNTED INTERSECTIONS

#	INTERSECTION	STUDY TYPE
1	Front St.& Main St./Kaw Ave.	Level of Service & Operations
2	Front St. & Utah St.	Level of Service & Operations
3	Harrison Ave. & Amherst Ave.	Level of Service & Operations
4	Harrison Ave. & Dewey Blvd.	Level of Service & Operations
5	Harrison Ave. & Grand Ave.	Level of Service & Operations
6	Montana St. & Front St./Centennial Ave.	Level of Service & Operations
7	Montana St. & Rowe Rd.	Level of Service & Operations
8	Continental Dr. & Texas Ave.	Level of Service & Operations
9	Elizabeth Warren & Mt. Highland Dr.	Level of Service & Operations
10	Montana St. & George St.	Level of Service & Operations
11	Rowe Rd. & Dewey Blvd.	Level of Service & Operations
12	Montana St. & Second St.	Level of Service & Operations
13	Harrison Ave. & Holmes	Level of Service & Operations
14	Montana St. & Platinum St.	Level of Service & Operations
15	Montana St. & Mercury St.	Signal Warrant Evaluation
16	Montana St. & Broadway St.	Signal Warrant Evaluation
17	Montana St. & Granite St.	Signal Warrant Evaluation
18	Broadway St. & Arizona Ave.	Signal Warrant Evaluation
19	Park St. & Main St.	Signal Warrant Evaluation
20	Park St. & Washington St.	Signal Warrant Evaluation
21	Park St. & Idaho St.	Signal Warrant Evaluation
22	Mercury St. & Arizona St.	Signal Warrant Evaluation
23	Harrison Ave. & Roosevelt Ave.	Crash Experience
24	Kaw Ave. & George St.	Crash Experience
25	Montana St. & Porphyry St.	Crash Experience
26	Harrison Ave. & Cobban St.	Crash Experience
27	Harrison Ave. & 4 Mile Rd.	Crash Experience
28	Harrison Ave. & Elizabeth Warren	Level of Service & Operations

Directional road segment information was also collected at selected intersections to support traffic signal warrant evaluations. The directional traffic count information was collected on the approach lanes to the intersections listed below (where possible).

- Montana St. & Mercury St.
- Montana St. & Broadway St.
- Montana St. & Granite St.
- Broadway St. & Arizona Ave.
- Park St. & Main St.
- Park St. & Washington St.
- Park St. & Idaho St.
- Mercury St. & Arizona St.

Additional traffic came from the MDT including historic traffic count data at 126 locations within the study area. The MDT traffic data for these sites can be viewed on the MDT website at: http://www.mdt.mt.gov/publications/datastats/traffic_maps.shtml

Turn Count Summary

#1a

Location: Montana Street at Platinum Street, Butte, MT

GPS Coordinates:

Date: 2015-10-15

Day of week: Thursday

Weather: Daybreak

Analyst: Matthew L. Williams

Peak hour: 07:45 - 08:45

Total vehicle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:15	1	41	2	2	4	3	25	72	2	2	2	26	182
07:30	3	66	1	0	6	3	35	112	4	4	5	36	275
07:45	6	81	3	1	15	3	49	162	6	4	9	59	398
08:00	2	79	0	2	8	6	32	119	5	5	15	50	323
08:15	2	61	3	0	3	6	35	106	2	2	5	36	261
08:30	1	91	3	4	9	5	28	98	5	3	6	36	289

Car traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:15	1	40	2	2	4	3	24	71	1	2	2	26	178
07:30	3	65	1	0	6	3	35	111	4	4	5	36	273
07:45	6	81	3	1	15	3	48	161	6	4	9	59	396
08:00	2	77	0	1	8	6	32	116	4	5	13	50	314
08:15	2	61	3	0	3	6	33	101	2	2	5	36	254
08:30	1	90	3	4	8	5	28	98	5	3	6	36	287

Truck traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:15	0	1	0	0	0	0	1	1	1	0	0	0	4
07:30	0	1	0	0	0	0	0	1	0	0	0	0	2
07:45	0	0	0	0	0	0	1	1	0	0	0	0	2
08:00	0	2	0	1	0	0	0	3	1	0	2	0	9
08:15	0	0	0	0	0	0	2	5	0	0	0	0	7
08:30	0	1	0	0	1	0	0	0	0	0	0	0	2

Bicycle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	1	0	1	0	0	0	1
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	11	312	9	7	35	20	144	485	18	14	35	181	1271
Factor	0.46	0.86	0.75	0.44	0.58	0.83	0.73	0.75	0.75	0.70	0.58	0.77	0.80
Approach Factor	0.87			0.82			0.75			0.80			

Peak Hour Vehicle Summary

Vehicle	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	11	309	9	6	34	20	141	476	17	14	33	181	1251
Truck	0	3	0	1	1	0	3	9	1	0	2	0	20
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0

Turn Count Summary

#1b

Location: Montana Street at Platinum Street , Butte, MT

GPS Coordinates:

Date: 2015-10-15

Day of week: Thursday

Weather: Sunny

Analyst: Matthew L. Williams

Peak hour: 16:45 - 17:45

Total vehicle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	5	166	6	3	12	7	54	101	9	3	12	58	436
16:45	3	118	4	2	19	2	52	112	6	2	17	58	395
17:00	7	212	7	3	24	7	53	124	5	4	10	62	518
17:15	3	157	3	10	28	6	43	126	8	7	9	71	471
17:30	4	128	5	3	22	8	59	143	4	5	11	60	452
17:45	5	103	4	2	6	5	52	117	3	9	13	47	366

Car traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	5	164	6	3	12	7	54	101	9	3	12	58	434
16:45	3	118	4	2	19	2	52	110	6	2	15	58	391
17:00	7	207	7	3	23	7	53	123	5	4	10	61	510
17:15	3	157	3	10	28	6	42	125	8	7	9	70	468
17:30	4	126	5	3	22	8	59	142	4	5	11	59	448
17:45	5	99	4	2	6	5	52	116	3	9	13	46	360

Truck traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	0	2	0	0	0	0	0	0	0	0	0	0	2
16:45	0	0	0	0	0	0	0	2	0	0	0	0	2
17:00	0	4	0	0	0	0	0	1	0	0	0	0	5
17:15	0	0	0	0	0	0	1	1	0	0	0	1	3
17:30	0	2	0	0	0	0	0	1	0	0	0	1	4
17:45	0	4	0	0	0	0	0	1	0	0	0	1	6

Bicycle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	2	0	2
17:00	0	1	0	0	1	0	0	0	0	0	0	1	3
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
16:30	0	4	4	5	0	5	2	0	2	7	0	7	18
16:45	3	0	3	4	0	4	0	1	1	0	1	1	9
17:00	0	0	0	2	2	4	2	0	2	0	0	0	6
17:15	0	1	1	0	1	1	1	0	1	0	1	1	4
17:30	2	0	2	1	0	1	3	0	3	2	0	2	8
17:45	1	0	1	0	1	1	1	0	1	1	4	5	8

Intersection Peak Hour

	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	17	615	19	18	93	23	207	505	23	18	47	251	1836
Factor	0.61	0.73	0.68	0.45	0.83	0.72	0.88	0.88	0.72	0.64	0.69	0.88	0.89
Approach Factor	0.72			0.76			0.89			0.91			

Peak Hour Vehicle Summary

Vehicle	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	17	608	19	18	92	23	206	500	23	18	45	248	1817
Truck	0	6	0	0	0	0	1	5	0	0	0	2	14
Bicycle	0	1	0	0	1	0	0	0	0	0	2	1	5

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	5	1	6	7	3	10	6	1	7	2	2	4	27

Abelin Traffic Services

#2

130 S. Howie Street
Helena, MT 59601

File Name : MontanaSecond
Site Code : 00000000
Start Date : 10/13/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	MONTANA Southbound					SECOND Westbound					MONTANA Northbound					SECOND Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:15 AM	0	62	4	0	66	5	0	1	0	6	1	81	0	0	82	0	0	0	0	0	154
07:30 AM	0	109	9	0	118	7	0	2	0	9	2	173	2	0	177	2	0	0	1	3	307
07:45 AM	0	188	23	0	211	14	0	1	0	15	7	284	1	2	294	2	0	0	1	3	523
Total	0	359	36	0	395	26	0	4	0	30	10	538	3	2	553	4	0	0	2	6	984
08:00 AM	1	155	15	0	171	26	0	1	1	28	3	233	2	0	238	0	0	0	0	0	437
08:15 AM	0	162	8	0	170	8	0	1	0	9	6	172	0	0	178	0	0	0	0	0	357
08:30 AM	1	134	11	0	146	17	0	5	0	22	16	158	0	0	174	0	0	0	0	0	342
*** BREAK ***																					
Total	2	451	34	0	487	51	0	7	1	59	25	563	2	0	590	0	0	0	0	0	1136
*** BREAK ***																					
04:30 PM	0	236	12	0	248	15	0	2	0	17	5	157	3	0	165	0	0	0	0	0	430
04:45 PM	0	204	20	0	224	12	0	4	0	16	5	157	6	0	168	0	0	0	0	0	408
Total	0	440	32	0	472	27	0	6	0	33	10	314	9	0	333	0	0	0	0	0	838
05:00 PM	0	255	19	0	274	11	0	2	0	13	4	183	0	0	187	2	0	0	0	2	476
05:15 PM	0	224	14	0	238	10	0	0	0	10	2	196	0	0	198	0	1	0	1	2	448
05:30 PM	1	192	9	0	202	8	0	2	0	10	4	175	0	1	180	1	0	0	0	1	393
05:45 PM	0	204	8	0	212	6	0	4	0	10	3	193	0	0	196	0	0	0	1	1	419
Total	1	875	50	0	926	35	0	8	0	43	13	747	0	1	761	3	1	0	2	6	1736
Grand Total	3	2125	152	0	2280	139	0	25	1	165	58	2162	14	3	2237	7	1	0	4	12	4694
Apprch %	0.1	93.2	6.7	0		84.2	0	15.2	0.6		2.6	96.6	0.6	0.1		58.3	8.3	0	33.3		
Total %	0.1	45.3	3.2	0	48.6	3	0	0.5	0	3.5	1.2	46.1	0.3	0.1	47.7	0.1	0	0	0.1	0.3	
Unshifted	3	2093	145	0	2241	131	0	25	1	157	58	2136	13	3	2210	7	1	0	4	12	4620
% Unshifted	100	98.5	95.4	0	98.3	94.2	0	100	100	95.2	100	98.8	92.9	100	98.8	100	100	0	100	100	98.4
Bank 1	0	32	7	0	39	8	0	0	0	8	0	26	1	0	27	0	0	0	0	0	74
% Bank 1	0	1.5	4.6	0	1.7	5.8	0	0	0	4.8	0	1.2	7.1	0	1.2	0	0	0	0	0	1.6

Abelin Traffic Services

#3

130 S. Howie Street
Helena, MT 59601

File Name : MontanaCentenial
Site Code : 00000000
Start Date : 10/7/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	MONTANA Southbound					CENTENIAL Westbound					MONTANA Northbound					CENTENIAL Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:15 AM	2	73	29	0	104	32	13	10	0	55	10	109	14	0	133	7	10	1	0	18	310
07:30 AM	10	116	44	0	170	33	15	6	1	55	18	206	23	0	247	14	7	4	0	25	497
07:45 AM	10	110	53	0	173	62	33	16	0	111	32	206	22	0	260	16	13	4	0	33	577
Total	22	299	126	0	447	127	61	32	1	221	60	521	59	0	640	37	30	9	0	76	1384
08:00 AM	4	121	43	0	168	47	22	24	0	93	22	157	17	0	196	16	24	2	1	43	500
08:15 AM	6	76	31	0	113	52	12	13	1	78	14	126	15	0	155	13	10	2	0	25	371
08:30 AM	5	89	42	0	136	46	8	16	0	70	11	119	20	0	150	14	4	4	0	22	378
*** BREAK ***																					
Total	15	286	116	0	417	145	42	53	1	241	47	402	52	0	501	43	38	8	1	90	1249
*** BREAK ***																					
04:15 PM	4	135	82	1	222	50	9	20	0	79	6	104	12	0	122	31	18	4	1	54	477
04:30 PM	5	144	76	0	225	60	16	21	0	97	16	114	14	1	145	26	24	4	0	54	521
04:45 PM	7	169	87	0	263	55	20	33	0	108	17	112	12	3	144	25	23	3	0	51	566
Total	16	448	245	1	710	165	45	74	0	284	39	330	38	4	411	82	65	11	1	159	1564
05:00 PM	1	210	94	0	305	81	19	28	0	128	11	124	16	0	151	30	20	8	0	58	642
05:15 PM	0	161	69	0	230	62	11	23	0	96	8	109	11	0	128	20	12	4	0	36	490
05:30 PM	4	148	79	0	231	56	12	20	0	88	6	133	5	0	144	21	19	3	0	43	506
Grand Total	58	1552	729	1	2340	636	190	230	2	1058	171	1619	181	4	1975	233	184	43	2	462	5835
Apprch %	2.5	66.3	31.2	0		60.1	18	21.7	0.2		8.7	82	9.2	0.2		50.4	39.8	9.3	0.4		
Total %	1	26.6	12.5	0	40.1	10.9	3.3	3.9	0	18.1	2.9	27.7	3.1	0.1	33.8	4	3.2	0.7	0	7.9	
Unshifted	56	1529	723	1	2309	627	182	217	2	1028	162	1605	177	4	1948	230	170	39	2	441	5726
% Unshifted	96.6	98.5	99.2	100	98.7	98.6	95.8	94.3	100	97.2	94.7	99.1	97.8	100	98.6	98.7	92.4	90.7	100	95.5	98.1
Bank 1	2	23	6	0	31	9	8	13	0	30	9	14	4	0	27	3	14	4	0	21	109
% Bank 1	3.4	1.5	0.8	0	1.3	1.4	4.2	5.7	0	2.8	5.3	0.9	2.2	0	1.4	1.3	7.6	9.3	0	4.5	1.9

Abelin Traffic Services

130 S. Howie Street
Helena, MT 59601

#4

File Name : MontanaGeorge
Site Code : 00000000
Start Date : 10/1/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	MONTANA Southbound					GEORGE Westbound					MONTANA Northbound					GEORGE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:30 AM	0	90	6	0	96	16	0	8	0	24	12	165	0	0	177	0	0	0	0	0	297
07:45 AM	0	120	7	0	127	23	1	5	0	29	10	292	0	0	302	0	0	0	0	0	458
Total	0	210	13	0	223	39	1	13	0	53	22	457	0	0	479	0	0	0	0	0	755
08:00 AM	0	128	9	0	137	12	0	1	1	14	8	221	0	0	229	0	0	0	0	0	380
08:15 AM	0	139	8	0	147	11	0	8	0	19	7	154	0	0	161	0	0	0	0	0	327
08:30 AM	1	131	6	0	138	10	0	7	0	17	6	146	0	0	152	0	0	0	0	0	307
08:45 AM	0	104	11	0	115	9	0	4	0	13	5	128	0	0	133	0	0	0	0	0	261
Total	1	502	34	0	537	42	0	20	1	63	26	649	0	0	675	0	0	0	0	0	1275
*** BREAK ***																					
04:30 PM	0	214	18	0	232	7	0	8	0	15	15	144	0	0	159	0	0	0	0	0	406
04:45 PM	0	170	23	0	193	8	0	10	0	18	8	169	0	0	177	0	0	0	0	0	388
Total	0	384	41	0	425	15	0	18	0	33	23	313	0	0	336	0	0	0	0	0	794
05:00 PM	0	246	12	0	258	9	0	11	0	20	13	146	0	0	159	0	0	0	0	0	437
05:15 PM	0	242	21	0	263	13	0	12	0	25	6	139	0	0	145	0	0	0	0	0	433
05:30 PM	0	166	11	0	177	7	0	7	1	15	12	146	0	0	158	0	0	0	0	0	350
05:45 PM	0	151	13	0	164	8	0	2	0	10	11	152	0	0	163	0	0	0	0	0	337
Total	0	805	57	0	862	37	0	32	1	70	42	583	0	0	625	0	0	0	0	0	1557
Grand Total	1	1901	145	0	2047	133	1	83	2	219	113	2002	0	0	2115	0	0	0	0	0	4381
Apprch %	0	92.9	7.1	0		60.7	0.5	37.9	0.9		5.3	94.7	0	0		0	0	0	0		
Total %	0	43.4	3.3	0	46.7	3	0	1.9	0	5	2.6	45.7	0	0	48.3	0	0	0	0	0	
Unshifted	1	1869	144	0	2014	133	1	80	2	216	110	1976	0	0	2086	0	0	0	0	0	4316
% Unshifted	100	98.3	99.3	0	98.4	100	100	96.4	100	98.6	97.3	98.7	0	0	98.6	0	0	0	0	0	98.5
Bank 1	0	32	1	0	33	0	0	3	0	3	3	26	0	0	29	0	0	0	0	0	65
% Bank 1	0	1.7	0.7	0	1.6	0	0	3.6	0	1.4	2.7	1.3	0	0	1.4	0	0	0	0	0	1.5

Abelin Traffic Services

#5

130 S. Howie Street
Helena, MT 59601

File Name : MontanaRowe
Site Code : 00000000
Start Date : 10/6/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	MONTANA Southbound					ROWE Westbound					MONTANA Northbound					ROWE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:15 AM	0	42	1	0	43	0	0	3	0	3	3	12	49	2	66	47	0	1	1	49	161
07:30 AM	1	70	0	0	71	0	0	0	0	0	3	18	57	0	78	92	0	2	0	94	243
07:45 AM	6	64	0	0	70	0	0	5	0	5	0	40	75	0	115	109	0	1	0	110	300
Total	7	176	1	0	184	0	0	8	0	8	6	70	181	2	259	248	0	4	1	253	704
08:00 AM	1	67	1	0	69	1	1	4	0	6	1	29	63	0	93	67	0	0	0	67	235
08:15 AM	0	33	0	0	33	0	0	2	0	2	2	33	77	0	112	68	0	0	0	68	215
08:30 AM	0	42	0	0	42	1	0	2	0	3	2	18	85	0	105	57	0	0	0	57	207
*** BREAK ***																					
Total	1	142	1	0	144	2	1	8	0	11	5	80	225	0	310	192	0	0	0	192	657
*** BREAK ***																					
04:15 PM	0	29	0	0	29	1	0	3	1	5	2	48	104	0	154	96	0	3	0	99	287
04:30 PM	0	31	0	0	31	0	1	3	0	4	3	59	112	0	174	91	0	3	0	94	303
04:45 PM	3	31	0	0	34	0	1	3	0	4	5	63	88	0	156	86	0	2	0	88	282
Total	3	91	0	0	94	1	2	9	1	13	10	170	304	0	484	273	0	8	0	281	872
05:00 PM	0	32	0	0	32	2	2	5	0	9	7	81	122	0	210	93	1	3	0	97	348
05:15 PM	0	41	1	0	42	0	0	2	0	2	7	61	87	0	155	91	0	1	0	92	291
05:30 PM	0	50	0	0	50	2	1	5	0	8	4	59	61	0	124	97	0	3	0	100	282
Grand Total	11	532	3	0	546	7	6	37	1	51	39	521	980	2	1542	994	1	19	1	1015	3154
Apprch %	2	97.4	0.5	0		13.7	11.8	72.5	2		2.5	33.8	63.6	0.1		97.9	0.1	1.9	0.1		
Total %	0.3	16.9	0.1	0	17.3	0.2	0.2	1.2	0	1.6	1.2	16.5	31.1	0.1	48.9	31.5	0	0.6	0	32.2	
Unshifted	10	509	1	0	520	7	6	35	1	49	39	499	952	2	1492	963	1	18	1	983	3044
% Unshifted	90.9	95.7	33.3	0	95.2	100	100	94.6	100	96.1	100	95.8	97.1	100	96.8	96.9	100	94.7	100	96.8	96.5
Bank 1	1	23	2	0	26	0	0	2	0	2	0	22	28	0	50	31	0	1	0	32	110
% Bank 1	9.1	4.3	66.7	0	4.8	0	0	5.4	0	3.9	0	4.2	2.9	0	3.2	3.1	0	5.3	0	3.2	3.5

Abelin Traffic Services

#6

130 S. Howie Street
Helena, MT 59601

File Name : FrontKaw
Site Code : 00000000
Start Date : 10/20/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	KAW Southbound					FRONT Westbound					KAW Northbound					FRONT Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:15 AM	3	10	6	0	19	5	35	9	1	50	4	23	6	0	33	9	30	4	1	44	146
07:30 AM	6	18	7	5	36	5	44	9	0	58	12	33	9	0	54	11	41	3	0	55	203
07:45 AM	13	27	8	0	48	7	81	15	0	103	14	83	33	0	130	18	59	9	1	87	368
Total	22	55	21	5	103	17	160	33	1	211	30	139	48	0	217	38	130	16	2	186	717
08:00 AM	14	27	5	0	46	12	85	8	0	105	13	70	23	0	106	29	61	5	0	95	352
08:15 AM	5	27	4	0	36	3	73	12	0	88	8	37	23	0	68	21	59	4	0	84	276
08:30 AM	8	27	8	1	44	9	56	12	0	77	9	31	23	1	64	14	47	2	0	63	248
*** BREAK ***																					
Total	27	81	17	1	126	24	214	32	0	270	30	138	69	1	238	64	167	11	0	242	876
*** BREAK ***																					
04:30 PM	7	31	15	0	53	6	62	19	1	88	9	20	13	0	42	16	95	9	0	120	303
04:45 PM	12	28	10	1	51	10	59	15	1	85	20	35	22	0	77	26	82	2	0	110	323
Total	19	59	25	1	104	16	121	34	2	173	29	55	35	0	119	42	177	11	0	230	626
05:00 PM	13	44	10	1	68	10	68	11	0	89	12	31	25	0	68	34	81	7	0	122	347
05:15 PM	6	52	10	0	68	8	72	20	0	100	14	41	16	0	71	18	100	2	0	120	359
05:30 PM	9	20	4	0	33	6	80	13	0	99	11	20	13	2	46	28	66	1	0	95	273
05:45 PM	7	23	7	1	38	9	53	7	0	69	7	38	29	1	75	27	61	3	0	91	273
Total	35	139	31	2	207	33	273	51	0	357	44	130	83	3	260	107	308	13	0	428	1252
Grand Total	103	334	94	9	540	90	768	150	3	1011	133	462	235	4	834	251	782	51	2	1086	3471
Apprch %	19.1	61.9	17.4	1.7		8.9	76	14.8	0.3		15.9	55.4	28.2	0.5		23.1	72	4.7	0.2		
Total %	3	9.6	2.7	0.3	15.6	2.6	22.1	4.3	0.1	29.1	3.8	13.3	6.8	0.1	24	7.2	22.5	1.5	0.1	31.3	
Unshifted	99	329	88	9	525	89	743	146	3	981	132	459	228	4	823	246	756	50	2	1054	3383
% Unshifted	96.1	98.5	93.6	100	97.2	98.9	96.7	97.3	100	97	99.2	99.4	97	100	98.7	98	96.7	98	100	97.1	97.5
Bank 1	4	5	6	0	15	1	25	4	0	30	1	3	7	0	11	5	26	1	0	32	88
% Bank 1	3.9	1.5	6.4	0	2.8	1.1	3.3	2.7	0	3	0.8	0.6	3	0	1.3	2	3.3	2	0	2.9	2.5

Abelin Traffic Services

#7a

130 S. Howie Street
Helena, MT 59601

File Name : UtahFront
Site Code : 00000000
Start Date : 10/1/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	UTAH Southbound					FRONT Westbound					UTAH Northbound					FRONT Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:15 AM	8	0	13	0	21	32	67	0	0	99	0	0	0	2	2	0	25	4	0	29	151
07:30 AM	8	0	33	0	41	58	71	0	0	129	0	0	0	1	1	0	52	5	1	58	229
07:45 AM	14	0	60	2	76	160	125	0	0	285	0	0	0	0	0	0	58	10	0	68	429
Total	30	0	106	2	138	250	263	0	0	513	0	0	0	3	3	0	135	19	1	155	809
08:00 AM	15	0	69	0	84	124	124	0	0	248	0	0	0	0	0	0	69	5	0	74	406
08:15 AM	8	0	56	0	64	63	71	0	0	134	0	0	0	0	0	0	54	5	0	59	257
08:30 AM	16	0	39	3	58	48	57	0	0	105	0	0	0	0	0	0	70	5	3	78	241
Grand Total	69	0	270	5	344	485	515	0	0	1000	0	0	0	3	3	0	328	34	4	366	1713
Apprch %	20.1	0	78.5	1.5		48.5	51.5	0	0		0	0	0	100		0	89.6	9.3	1.1		
Total %	4	0	15.8	0.3	20.1	28.3	30.1	0	0	58.4	0	0	0	0.2	0.2	0	19.1	2	0.2	21.4	
Unshifted	69	0	270	5	344	485	515	0	0	1000	0	0	0	3	3	0	328	34	4	366	1713
% Unshifted	100	0	100	100	100	100	100	0	0	100	0	0	0	100	100	0	100	100	100	100	100
Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Abelin Traffic Services

#7b

130 S. Howie Street
Helena, MT 59601

File Name : UtahFrontPM
Site Code : 00000000
Start Date : 9/30/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	UTAH Southbound					FRONT Westbound					UTAH Northbound					FRONT Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:30 PM	11	0	69	0	80	51	75	0	0	126	0	0	0	0	0	0	97	4	0	101	307
04:45 PM	5	0	85	2	92	61	76	0	1	138	0	0	0	0	0	0	110	10	0	120	350
Total	16	0	154	2	172	112	151	0	1	264	0	0	0	0	0	0	207	14	0	221	657
05:00 PM	15	0	111	1	127	65	81	0	0	146	0	0	0	5	5	0	105	7	0	112	390
05:15 PM	11	0	79	0	90	56	86	0	2	144	0	0	0	0	0	0	109	10	0	119	353
05:30 PM	8	0	68	0	76	74	76	0	0	150	0	0	0	0	0	0	82	11	1	94	320
05:45 PM	7	0	54	0	61	52	71	0	1	124	0	0	0	0	0	0	74	2	0	76	261
Total	41	0	312	1	354	247	314	0	3	564	0	0	0	5	5	0	370	30	1	401	1324
Grand Total	57	0	466	3	526	359	465	0	4	828	0	0	0	5	5	0	577	44	1	622	1981
Apprch %	10.8	0	88.6	0.6		43.4	56.2	0	0.5		0	0	0	100		0	92.8	7.1	0.2		
Total %	2.9	0	23.5	0.2	26.6	18.1	23.5	0	0.2	41.8	0	0	0	0.3	0.3	0	29.1	2.2	0.1	31.4	
Unshifted	57	0	466	3	526	359	464	0	4	827	0	0	0	5	5	0	576	44	1	621	1979
% Unshifted	100	0	100	100	100	100	99.8	0	100	99.9	0	0	0	100	100	0	99.8	100	100	99.8	99.9
Bank 1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
% Bank 1	0	0	0	0	0	0	0.2	0	0	0.1	0	0	0	0	0	0	0.2	0	0	0.2	0.1

Abelin Traffic Services

#8

130 S. Howie Street
Helena, MT 59601

File Name : RoweDewey
Site Code : 00000000
Start Date : 10/6/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	ROWE Southbound					DEWEY Westbound					ROWE Northbound					DEWEY Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:15 AM	1	40	8	0	49	13	7	0	0	20	0	37	0	0	37	1	12	0	0	13	119
07:30 AM	1	52	10	0	63	24	6	1	0	31	0	79	1	0	80	0	3	2	0	5	179
07:45 AM	5	58	25	0	88	25	14	1	0	40	0	58	1	0	59	2	17	1	0	20	207
Total	7	150	43	0	200	62	27	2	0	91	0	174	2	0	176	3	32	3	0	38	505
08:00 AM	3	47	11	0	61	15	9	0	0	24	0	56	2	1	59	1	6	2	0	9	153
08:15 AM	5	47	27	1	80	19	12	1	0	32	1	42	3	0	46	0	13	3	0	16	174
08:30 AM	2	64	18	0	84	16	15	0	0	31	0	33	0	0	33	1	8	3	0	12	160
*** BREAK ***																					
Total	10	158	56	1	225	50	36	1	0	87	1	131	5	1	138	2	27	8	0	37	487
*** BREAK ***																					
04:30 PM	2	67	35	0	104	30	17	2	0	49	0	60	0	0	60	3	17	2	0	22	235
04:45 PM	1	82	26	2	111	36	7	1	0	44	2	56	0	0	58	2	15	0	0	17	230
Total	3	149	61	2	215	66	24	3	0	93	2	116	0	0	118	5	32	2	0	39	465
05:00 PM	3	80	33	0	116	42	15	3	0	60	1	67	4	0	72	4	8	4	0	16	264
05:15 PM	1	84	38	0	123	32	9	1	0	42	0	56	1	0	57	2	12	2	0	16	238
05:30 PM	1	45	16	0	62	22	12	1	0	35	0	72	2	0	74	0	11	2	0	13	184
05:45 PM	0	60	18	0	78	24	5	0	0	29	1	61	3	0	65	3	10	5	0	18	190
Total	5	269	105	0	379	120	41	5	0	166	2	256	10	0	268	9	41	13	0	63	876
Grand Total	25	726	265	3	1019	298	128	11	0	437	5	677	17	1	700	19	132	26	0	177	2333
Apprch %	2.5	71.2	26	0.3		68.2	29.3	2.5	0		0.7	96.7	2.4	0.1		10.7	74.6	14.7	0		
Total %	1.1	31.1	11.4	0.1	43.7	12.8	5.5	0.5	0	18.7	0.2	29	0.7	0	30	0.8	5.7	1.1	0	7.6	
Unshifted	23	704	263	3	993	289	126	11	0	426	5	660	14	1	680	16	131	20	0	167	2266
% Unshifted	92	97	99.2	100	97.4	97	98.4	100	0	97.5	100	97.5	82.4	100	97.1	84.2	99.2	76.9	0	94.4	97.1
Bank 1	2	22	2	0	26	9	2	0	0	11	0	17	3	0	20	3	1	6	0	10	67
% Bank 1	8	3	0.8	0	2.6	3	1.6	0	0	2.5	0	2.5	17.6	0	2.9	15.8	0.8	23.1	0	5.6	2.9

Turn Count Summary

#9a

Location: Texas Ave. at Continental Drive, Butte, My

GPS Coordinates:

Date: 2015-10-06

Day of week: Tuesday

Weather: 30's

Analyst: Matthew L. Williams

Peak hour: 07:30 - 08:30

Total vehicle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:15	0	0	0	2	57	0	13	0	6	0	14	6	98
07:30	0	0	0	5	93	0	30	0	4	0	24	13	169
07:45	0	0	0	10	202	2	33	0	7	0	40	20	314
08:00	0	0	0	11	163	1	30	0	7	0	40	33	285
08:15	0	0	0	5	100	1	17	0	7	0	30	20	180
08:30	0	0	0	2	41	1	13	0	5	0	32	6	100

Car traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:15	0	0	0	2	56	0	13	0	3	0	14	4	92
07:30	0	0	0	4	93	0	29	0	4	0	23	11	164
07:45	0	0	0	10	201	2	33	0	5	0	38	19	308
08:00	0	0	0	11	160	1	30	0	6	0	40	32	280
08:15	0	0	0	5	96	1	17	0	5	0	27	19	170
08:30	0	0	0	2	38	1	13	0	5	0	32	6	97

Truck traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:15	0	0	0	0	1	0	0	0	3	0	0	2	6
07:30	0	0	0	1	0	0	1	0	0	0	1	2	5
07:45	0	0	0	0	1	0	0	0	2	0	2	1	6
08:00	0	0	0	0	3	0	0	0	1	0	0	1	5
08:15	0	0	0	0	3	0	0	0	2	0	3	1	9
08:30	0	0	0	0	3	0	0	0	0	0	0	0	3

Bicycle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	1	0	0	0	0	0	0	0	1
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	1	0	1	1
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	0	0	0	31	558	4	110	0	25	0	134	86	948
Factor	0.00	0.00	0.00	0.70	0.69	0.50	0.83	0.00	0.89	0.00	0.84	0.65	0.75
Approach Factor			0.00			0.69			0.84			0.75	

Peak Hour Vehicle Summary

Vehicle	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	0	0	0	30	550	4	109	0	20	0	128	81	922
Truck	0	0	0	1	7	0	1	0	5	0	6	5	25
Bicycle	0	0	0	0	1	0	0	0	0	0	0	0	1

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	0	0	0	0	0	0	0	0	1	0	1	1

Turn Count Summary

#9b

Location: Texas Avenue at Continental Drive, Butte, Mt

GPS Coordinates:

Date: 2015-10-06

Day of week: Tuesday

Weather: Sunny

Analyst: Matthew L. Williams

Peak hour: 17:00 - 18:00

Total vehicle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	0	0	0	12	44	0	20	0	9	0	80	25	190
16:45	0	0	0	12	28	0	18	0	7	0	81	50	196
17:00	0	0	0	10	60	1	18	0	15	0	126	55	285
17:15	0	0	0	4	47	0	16	0	9	0	91	36	203
17:30	0	0	0	9	46	0	18	0	6	0	86	47	212
17:45	0	0	0	6	49	0	22	0	13	0	94	33	217
18:00	0	0	0	0	0	0	0	0	1	0	0	0	1

Car traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	0	0	0	12	44	0	20	0	9	0	77	24	186
16:45	0	0	0	10	28	0	18	0	7	0	80	50	193
17:00	0	0	0	10	58	0	18	0	14	0	126	53	279
17:15	0	0	0	3	46	0	16	0	6	0	91	36	198
17:30	0	0	0	8	46	0	18	0	6	0	86	47	211
17:45	0	0	0	6	49	0	22	0	13	0	94	33	217
18:00	0	0	0	0	0	0	0	0	1	0	0	0	1

Truck traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	0	0	0	0	0	0	0	0	0	0	2	1	3
16:45	0	0	0	2	0	0	0	0	0	0	1	0	3
17:00	0	0	0	0	2	1	0	0	1	0	0	0	4
17:15	0	0	0	1	1	0	0	0	3	0	0	0	5
17:30	0	0	0	1	0	0	0	0	0	0	0	0	1
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0

Bicycle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	0	0	0	0	0	0	0	0	0	0	1	0	1
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	2	2
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	1	0	1	0	0	0	1
17:15	0	0	0	0	0	0	0	1	1	0	0	0	1
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	1	0	1	1
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	0	0	0	29	202	1	74	0	43	0	397	171	917
Factor	0.00	0.00	0.00	0.72	0.84	0.25	0.84	0.00	0.72	0.00	0.79	0.78	0.80
Approach Factor			0.00			0.82			0.84			0.78	

Peak Hour Vehicle Summary

Vehicle	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	0	0	0	27	199	0	74	0	39	0	397	169	905
Truck	0	0	0	2	3	1	0	0	4	0	0	0	10
Bicycle	0	0	0	0	0	0	0	0	0	0	0	2	2

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	0	0	0	0	0	1	1	2	1	0	1	3

Abelin Traffic Services

#10

130 S. Howie Street
Helena, MT 59601

File Name : HighlandWarren
Site Code : 00000000
Start Date : 10/7/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	HIGHLAND Southbound					WARREN Westbound					HIGHLAND Northbound					WARREN Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:15 AM	0	0	0	1	1	0	33	3	0	36	0	0	34	0	34	12	12	0	0	24	95
07:30 AM	0	0	0	0	0	0	40	0	0	40	1	0	52	0	53	19	15	0	0	34	127
07:45 AM	0	0	0	0	0	0	64	1	0	65	0	0	75	0	75	17	19	0	0	36	176
Total	0	0	0	1	1	0	137	4	0	141	1	0	161	0	162	48	46	0	0	94	398
08:00 AM	0	0	0	0	0	0	74	1	0	75	0	0	50	0	50	17	24	0	0	41	166
08:15 AM	0	0	0	0	0	0	54	3	0	57	1	0	35	0	36	33	29	0	0	62	155
08:30 AM	0	0	0	0	0	0	29	0	0	29	2	0	40	0	42	22	31	0	0	53	124
*** BREAK ***																					
Total	0	0	0	0	0	0	157	4	0	161	3	0	125	0	128	72	84	0	0	156	445
*** BREAK ***																					
04:30 PM	0	0	0	0	0	0	46	1	0	47	2	0	45	0	47	40	55	0	0	95	189
04:45 PM	0	0	0	0	0	0	42	1	0	43	3	0	42	0	45	42	66	0	0	108	196
Total	0	0	0	0	0	0	88	2	0	90	5	0	87	0	92	82	121	0	0	203	385
05:00 PM	0	0	0	0	0	0	43	1	0	44	7	0	40	0	47	50	82	0	0	132	223
05:15 PM	0	0	0	0	0	0	64	2	0	66	3	0	37	0	40	66	87	0	0	153	259
05:30 PM	0	0	0	0	0	0	56	1	0	57	5	0	44	0	49	62	72	0	0	134	240
05:45 PM	0	0	0	0	0	0	44	2	0	46	1	0	34	0	35	60	56	0	0	116	197
Total	0	0	0	0	0	0	207	6	0	213	16	0	155	0	171	238	297	0	0	535	919
Grand Total	0	0	0	1	1	0	589	16	0	605	25	0	528	0	553	440	548	0	0	988	2147
Apprch %	0	0	0	100		0	97.4	2.6	0		4.5	0	95.5	0		44.5	55.5	0	0		
Total %	0	0	0	0	0	0	27.4	0.7	0	28.2	1.2	0	24.6	0	25.8	20.5	25.5	0	0	46	
Unshifted	0	0	0	1	1	0	586	15	0	601	23	0	518	0	541	426	541	0	0	967	2110
% Unshifted	0	0	0	100	100	0	99.5	93.8	0	99.3	92	0	98.1	0	97.8	96.8	98.7	0	0	97.9	98.3
Bank 1	0	0	0	0	0	0	3	1	0	4	2	0	10	0	12	14	7	0	0	21	37
% Bank 1	0	0	0	0	0	0	0.5	6.2	0	0.7	8	0	1.9	0	2.2	3.2	1.3	0	0	2.1	1.7

Turn Count Summary

#11a

Location: Harrison Avenue at Grand Avenue, Butte, MT

GPS Coordinates:

Date: 2015-10-08

Day of week: Thursday

Weather: Cloudy

Analyst: Matthew L. Williams

Peak hour: 07:45 - 08:45

Total vehicle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:15	17	35	0	2	0	19	0	66	1	0	0	0	140
07:30	16	49	0	10	0	35	0	98	9	0	0	0	217
07:45	26	70	0	13	0	68	1	197	11	0	0	0	386
08:00	48	98	1	26	0	88	0	187	7	0	0	0	455
08:15	21	87	0	9	0	42	0	134	9	0	0	0	302
08:30	20	91	0	10	0	29	0	90	9	0	0	0	249

Car traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:15	16	31	0	2	0	19	0	66	1	0	0	0	135
07:30	14	48	0	9	0	33	0	97	9	0	0	0	210
07:45	26	67	0	13	0	67	1	192	11	0	0	0	377
08:00	45	97	1	26	0	84	0	180	7	0	0	0	440
08:15	20	83	0	9	0	41	0	125	9	0	0	0	287
08:30	20	85	0	10	0	27	0	88	9	0	0	0	239

Truck traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:15	1	4	0	0	0	0	0	0	0	0	0	0	5
07:30	1	1	0	1	0	2	0	1	0	0	0	0	6
07:45	0	3	0	0	0	1	0	5	0	0	0	0	9
08:00	3	1	0	0	0	4	0	7	0	0	0	0	15
08:15	1	3	0	0	0	1	0	8	0	0	0	0	13
08:30	0	6	0	0	0	2	0	1	0	0	0	0	9

Bicycle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	1	0	0	0	0	0	0	0	0	0	0	0	1
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	1	0	0	0	0	0	1	0	0	0	0	2
08:30	0	0	0	0	0	0	0	1	0	0	0	0	1

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
07:15	0	0	0	0	0	0	4	0	4	0	0	0	4
07:30	0	0	0	0	1	1	1	0	1	0	0	0	2
07:45	0	0	0	0	2	2	0	0	0	0	0	0	2
08:00	0	0	0	1	0	1	1	0	1	0	0	0	2
08:15	0	0	0	1	1	2	1	0	1	0	0	0	3
08:30	2	1	3	0	1	1	0	0	0	0	2	2	6

Intersection Peak Hour

	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	115	346	1	58	0	227	1	608	36	0	0	0	1392
Factor	0.60	0.88	0.25	0.56	0.00	0.64	0.25	0.77	0.82	0.00	0.00	0.00	0.76
Approach Factor	0.79			0.62			0.77			0.00			

Peak Hour Vehicle Summary

Vehicle	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	111	332	1	58	0	219	1	585	36	0	0	0	1343
Truck	4	13	0	0	0	8	0	21	0	0	0	0	46
Bicycle	0	1	0	0	0	0	0	2	0	0	0	0	3

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	2	1	3	2	4	6	2	0	2	0	2	2	13

Turn Count Summary

#11b

Location: Harrison Avenue at Grand Avenue, Butte, MT

GPS Coordinates:

Date: 2015-10-08

Day of week: Thursday

Weather: Cloudy

Analyst: Matthew L. Williams

Peak hour: 16:30 - 17:30

Total vehicle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	32	167	0	8	0	33	0	146	12	0	0	0	398
16:45	32	166	0	19	0	37	0	154	10	0	0	0	418
17:00	67	182	1	13	0	37	1	185	11	0	0	0	497
17:15	38	166	0	13	0	42	1	161	8	0	0	0	429
17:30	40	131	0	15	0	33	0	145	15	0	0	0	379
17:45	29	121	0	14	0	31	0	135	8	0	0	0	338
18:00	0	1	0	0	0	0	0	3	0	0	0	0	4

Car traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	31	166	0	8	0	33	0	143	12	0	0	0	393
16:45	32	163	0	19	0	36	0	151	10	0	0	0	411
17:00	67	182	1	13	0	36	1	185	11	0	0	0	496
17:15	38	165	0	13	0	42	1	159	8	0	0	0	426
17:30	39	130	0	15	0	31	0	144	15	0	0	0	374
17:45	29	119	0	12	0	30	0	132	8	0	0	0	330
18:00	0	1	0	0	0	0	0	3	0	0	0	0	4

Truck traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	0	0	0	0	0	0	0	3	0	0	0	0	3
16:45	0	3	0	0	0	1	0	3	0	0	0	0	7
17:00	0	0	0	0	0	1	0	0	0	0	0	0	1
17:15	0	1	0	0	0	0	0	2	0	0	0	0	3
17:30	0	0	0	0	0	1	0	1	0	0	0	0	2
17:45	0	2	0	2	0	1	0	3	0	0	0	0	8
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0

Bicycle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	1	1	0	0	0	0	0	0	0	0	0	0	2
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	1	1	0	0	0	1	0	0	0	0	0	0	3
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
16:30	0	0	0	0	1	1	0	0	0	0	5	5	6
16:45	0	0	0	0	0	0	1	0	1	0	1	1	2
17:00	0	3	3	0	2	2	0	1	1	0	1	1	7
17:15	0	0	0	0	0	0	3	0	3	0	1	1	4
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	169	681	1	53	0	149	2	646	41	0	0	0	1742
Factor	0.63	0.94	0.25	0.70	0.00	0.89	0.50	0.87	0.85	0.00	0.00	0.00	0.88
Approach Factor	0.85			0.90			0.87			0.00			

Peak Hour Vehicle Summary

Vehicle	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	168	676	1	53	0	147	2	638	41	0	0	0	1726
Truck	0	4	0	0	0	2	0	8	0	0	0	0	14
Bicycle	1	1	0	0	0	0	0	0	0	0	0	0	2

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	3	3	0	3	3	4	1	5	0	8	8	19

Turn Count Summary

#12a

Location: Harrison Avenue at Amherst Avenue, Butte, Mr

GPS Coordinates:

Date: 2015-10-07

Day of week: Wednesday

Weather: Cloudy

Analyst: Matthew L. Williams

Peak hour: 07:30 - 08:30

Total vehicle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:15	2	74	0	60	0	13	0	53	18	1	1	2	224
07:30	12	95	2	102	1	28	2	115	21	1	0	2	381
07:45	23	134	1	120	1	53	3	156	46	5	0	7	549
08:00	18	119	1	120	2	41	6	130	41	5	3	3	489
08:15	23	164	2	117	1	32	8	96	20	0	0	5	468
08:30	12	91	2	65	0	15	5	101	33	2	1	2	329
08:45	0	0	0	1	0	0	0	0	0	0	0	0	1

Car traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:15	2	69	0	60	0	13	0	51	18	1	1	2	217
07:30	12	92	2	101	1	28	2	109	21	1	0	2	371
07:45	23	131	1	120	1	53	3	154	46	5	0	7	544
08:00	18	116	1	119	2	39	6	123	41	5	3	3	476
08:15	23	160	2	115	1	32	8	94	20	0	0	5	460
08:30	12	86	2	63	0	15	5	96	33	2	1	2	317
08:45	0	0	0	1	0	0	0	0	0	0	0	0	1

Truck traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:15	0	5	0	0	0	0	0	2	0	0	0	0	7
07:30	0	3	0	1	0	0	0	6	0	0	0	0	10
07:45	0	3	0	0	0	0	0	2	0	0	0	0	5
08:00	0	3	0	1	0	2	0	7	0	0	0	0	13
08:15	0	4	0	2	0	0	0	2	0	0	0	0	8
08:30	0	4	0	2	0	0	0	5	0	0	0	0	11
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0

Bicycle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	1	0	0	0	0	0	0	0	0	0	0	1
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	1	1	0	0	0	1
08:15	2	0	2	1	0	1	0	0	0	0	0	0	3
08:30	2	0	2	0	0	0	0	0	0	0	1	1	3
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	76	512	6	459	5	154	19	497	128	11	3	17	1887
Factor	0.83	0.78	0.75	0.96	0.62	0.73	0.59	0.80	0.70	0.55	0.25	0.61	0.86
Approach Factor	0.79			0.89			0.79			0.65			

Peak Hour Vehicle Summary

Vehicle	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	76	499	6	455	5	152	19	480	128	11	3	17	1851
Truck	0	13	0	4	0	2	0	17	0	0	0	0	36
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	2	0	2	1	0	1	0	1	1	0	0	0	4

Turn Count Summary

#12b

Location: Harrison Avenue at Amherst Avenue, Butte, MT

GPS Coordinates:

Date: 2015-10-07

Day of week: Wednesday

Weather: Cloudy

Analyst: Matthew L. Williams

Peak hour: 17:00 - 18:00

Total vehicle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	30	165	4	77	3	33	7	192	59	7	1	5	583
16:45	23	170	5	98	0	16	10	185	64	4	1	9	585
17:00	37	165	6	87	2	19	12	203	69	7	6	5	618
17:15	36	205	7	102	2	30	15	198	75	7	3	9	689
17:30	27	176	5	91	6	34	5	218	55	4	4	6	631
17:45	29	179	5	85	2	37	11	169	65	6	3	8	599
18:00	0	1	0	0	0	0	0	0	0	0	0	0	1

Car traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	30	164	4	76	3	33	7	191	59	7	1	5	580
16:45	23	167	5	98	0	16	10	182	64	4	1	9	579
17:00	37	164	6	87	2	19	12	202	69	7	6	5	616
17:15	36	204	7	102	2	30	14	196	75	7	3	8	684
17:30	27	174	5	91	6	34	5	215	55	4	4	6	626
17:45	29	177	5	85	2	37	11	166	65	6	3	8	594
18:00	0	1	0	0	0	0	0	0	0	0	0	0	1

Truck traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	0	1	0	1	0	0	0	1	0	0	0	0	3
16:45	0	3	0	0	0	0	0	3	0	0	0	0	6
17:00	0	1	0	0	0	0	0	1	0	0	0	0	2
17:15	0	1	0	0	0	0	1	2	0	0	0	1	5
17:30	0	2	0	0	0	0	0	3	0	0	0	0	5
17:45	0	2	0	0	0	0	0	3	0	0	0	0	5
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0

Bicycle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
16:30	3	0	3	1	1	2	0	0	0	0	0	0	5
16:45	1	1	2	1	0	1	0	0	0	0	0	0	3
17:00	0	0	0	0	0	0	2	0	2	0	0	0	2
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	2	2	3	0	3	0	1	1	6
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	129	725	23	365	12	120	43	788	264	24	16	28	2537
Factor	0.87	0.88	0.82	0.89	0.50	0.81	0.72	0.90	0.88	0.86	0.67	0.78	0.92
Approach Factor	0.88			0.93			0.95			0.89			

Peak Hour Vehicle Summary

Vehicle	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	129	719	23	365	12	120	42	779	264	24	16	27	2520
Truck	0	6	0	0	0	0	1	9	0	0	0	1	17
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	0	0	0	2	2	5	0	5	0	1	1	8

Abelin Traffic Services

130 S. Howie Street
Helena, MT 59601

#13

File Name : HarrisonDewey
Site Code : 00000000
Start Date : 10/8/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	HARRISON Southbound					DEWEY Westbound					HARRISON Northbound					DEWEY Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:15 AM	32	108	0	0	140	0	0	0	0	0	0	86	4	0	90	8	0	19	1	28	258
07:30 AM	27	151	0	0	178	0	0	0	0	0	0	138	7	0	145	17	0	29	0	46	369
07:45 AM	42	200	0	0	242	0	0	0	0	0	0	189	11	0	200	21	0	52	0	73	515
Total	101	459	0	0	560	0	0	0	0	0	0	413	22	0	435	46	0	100	1	147	1142
08:00 AM	51	207	0	0	258	0	0	0	0	0	0	165	12	0	177	16	0	42	0	58	493
08:15 AM	65	203	0	0	268	0	0	0	0	0	0	149	11	1	161	22	0	36	1	59	488
08:30 AM	43	135	0	1	179	0	0	0	0	0	0	117	9	0	126	22	0	40	0	62	367
*** BREAK ***																					
Total	159	545	0	1	705	0	0	0	0	0	0	431	32	1	464	60	0	118	1	179	1348
*** BREAK ***																					
04:30 PM	81	234	0	0	315	0	0	0	0	0	0	242	24	1	267	36	0	77	0	113	695
04:45 PM	60	223	0	0	283	0	0	0	0	0	0	267	21	0	288	46	0	78	0	124	695
Total	141	457	0	0	598	0	0	0	0	0	0	509	45	1	555	82	0	155	0	237	1390
05:00 PM	78	241	0	0	319	0	0	0	1	1	0	274	41	0	315	50	0	87	1	138	773
05:15 PM	70	272	0	0	342	0	0	0	0	0	0	261	26	0	287	39	0	88	0	127	756
05:30 PM	57	247	0	0	304	0	0	0	1	1	0	234	31	0	265	30	0	74	0	104	674
05:45 PM	53	214	0	0	267	0	0	0	0	0	1	225	24	0	250	24	0	72	0	96	613
Total	258	974	0	0	1232	0	0	0	2	2	1	994	122	0	1117	143	0	321	1	465	2816
Grand Total	659	2435	0	1	3095	0	0	0	2	2	1	2347	221	2	2571	331	0	694	3	1028	6696
Apprch %	21.3	78.7	0	0		0	0	0	100		0	91.3	8.6	0.1		32.2	0	67.5	0.3		
Total %	9.8	36.4	0	0	46.2	0	0	0	0	0	0	35.1	3.3	0	38.4	4.9	0	10.4	0	15.4	
Unshifted	651	2390	0	1	3042	0	0	0	2	2	1	2302	217	2	2522	321	0	687	3	1011	6577
% Unshifted	98.8	98.2	0	100	98.3	0	0	0	100	100	100	98.1	98.2	100	98.1	97	0	99	100	98.3	98.2
Bank 1	8	45	0	0	53	0	0	0	0	0	0	45	4	0	49	10	0	7	0	17	119
% Bank 1	1.2	1.8	0	0	1.7	0	0	0	0	0	0	1.9	1.8	0	1.9	3	0	1	0	1.7	1.8

Turn Count Summary

#14a

Location: Harrison at Holmes, Butte

GPS Coordinates:

Date: 2015-10-13

Day of week: Tuesday

Weather: Daybreak

Analyst: Matthew L. Williams

Peak hour: 07:30 - 08:30

Total vehicle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:17	1	61	7	0	1	1	30	55	0	7	1	21	185
07:30	3	88	9	0	3	0	68	111	0	9	4	29	324
07:45	3	168	13	1	2	2	89	119	2	20	6	47	472
08:00	4	132	15	0	1	1	58	99	1	15	4	50	380
08:15	3	148	7	2	2	0	42	101	2	15	4	29	355
08:30	3	112	14	3	1	3	36	89	1	14	3	44	323
08:45	1	29	2	1	0	0	8	20	0	3	1	11	76

Car traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:17	1	58	7	0	1	1	24	54	0	7	1	20	174
07:30	3	88	9	0	2	0	67	104	0	9	4	29	315
07:45	3	166	13	1	2	2	88	116	2	19	6	45	463
08:00	4	127	15	0	1	1	57	91	1	15	4	49	365
08:15	3	144	7	2	2	0	39	94	2	14	3	29	339
08:30	3	108	13	3	1	3	30	82	1	14	3	44	305
08:45	1	28	2	1	0	0	8	17	0	3	1	11	72

Truck traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:17	0	3	0	0	0	0	6	1	0	0	0	1	11
07:30	0	0	0	0	1	0	1	7	0	0	0	0	9
07:45	0	2	0	0	0	0	1	3	0	1	0	2	9
08:00	0	5	0	0	0	0	1	8	0	0	0	1	15
08:15	0	4	0	0	0	0	3	7	0	1	1	0	16
08:30	0	3	1	0	0	0	6	7	0	0	0	0	17
08:45	0	1	0	0	0	0	0	3	0	0	0	0	4

Bicycle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:17	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	1	0	0	0	0	0	0	0	0	0	0	1
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
07:17	0	0	0	0	1	1	0	0	0	0	0	0	1
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	1	0	1	2	0	2	3
08:00	1	0	1	0	0	0	0	0	0	0	0	0	1
08:15	0	0	0	0	4	4	0	0	0	0	0	0	4
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	1	0	1	0	0	0	0	0	0	0	0	0	1

Intersection Peak Hour

	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	13	536	44	3	8	3	257	430	5	59	18	155	1531
Factor	0.81	0.80	0.73	0.38	0.67	0.38	0.72	0.90	0.62	0.74	0.75	0.78	0.81
Approach Factor	0.81			0.70			0.82			0.79			

Peak Hour Vehicle Summary

Vehicle	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	13	525	44	3	7	3	251	405	5	57	17	152	1482
Truck	0	11	0	0	1	0	6	25	0	2	1	3	49
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	1	0	1	0	4	4	1	0	1	2	0	2	8

Abelin Traffic

Turn Count Summary

#14b

Location: Harrison at Holmes, Butte

GPS Coordinates: Lat=45.975053, Lon=-112.507610

Date: 2015-10-14

Day of week: Wednesday

Weather:

Analyst: RLA

Count period: 16:27 - 17:46

Total vehicle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:27	2	0	14	0	17	1	2	0	0	11	31	2	80
16:30	23	3	49	7	163	17	5	4	7	46	151	1	476
16:45	23	10	73	10	171	18	4	11	5	55	194	1	575
17:00	19	6	75	12	182	13	4	4	5	54	205	1	580
17:15	26	9	62	10	159	11	5	10	5	52	185	3	537
17:30	25	7	42	10	164	9	2	5	3	61	187	3	518
17:45	7	2	4	0	3	0	1	1	0	3	12	0	33

Car traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:27	2	0	14	0	17	1	2	0	0	11	31	2	80
16:30	23	3	49	7	163	17	5	4	7	46	151	1	476
16:45	23	10	73	10	171	18	4	11	5	55	194	1	575
17:00	19	6	75	12	182	13	4	4	5	54	205	1	580
17:15	26	9	62	10	159	11	5	10	5	52	185	3	537
17:30	25	7	42	10	164	9	2	5	3	61	187	3	518
17:45	7	2	4	0	3	0	1	1	0	3	12	0	33

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
16:27	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	1	1	0	0	0	0	0	0	1
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	1	0	1	0	0	0	0	0	0	1
17:15	0	0	0	1	1	2	0	3	3	0	0	0	5

Turn Count Summary

#15a

Location: Montana Street at Mercury Street, Butte, MT

GPS Coordinates:

Date: 2015-10-14

Day of week: Wednesday

Weather: Daybreak

Analyst: Matthew L. Williams

Peak hour: 07:45 - 08:45

Total vehicle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:16	3	35	0	7	5	1	4	38	2	1	0	3	99
07:30	6	58	1	6	5	1	7	65	8	0	1	5	163
07:45	5	88	0	9	11	9	13	133	10	1	8	2	289
08:00	11	65	2	15	12	6	15	101	24	1	7	11	270
08:15	4	71	1	10	9	10	8	85	12	1	3	8	222
08:30	4	62	0	9	9	2	7	82	11	1	5	7	199
08:45	0	2	0	0	0	0	0	5	0	0	1	1	9

Car traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:16	2	35	0	7	5	1	3	38	2	1	0	3	97
07:30	6	58	1	6	5	1	7	65	8	0	1	5	163
07:45	5	87	0	9	11	9	13	133	10	1	8	2	288
08:00	11	65	2	15	12	6	15	101	23	1	7	11	269
08:15	4	71	1	10	9	10	8	83	12	0	3	8	219
08:30	3	62	0	9	9	2	7	79	11	1	5	7	195
08:45	0	2	0	0	0	0	0	5	0	0	1	1	9

Truck traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:16	1	0	0	0	0	0	1	0	0	0	0	0	2
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	1	0	0	0	0	0	0	0	0	0	0	1
08:00	0	0	0	0	0	0	0	0	1	0	0	0	1
08:15	0	0	0	0	0	0	0	2	0	1	0	0	3
08:30	1	0	0	0	0	0	0	3	0	0	0	0	4
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0

Bicycle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:16	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
07:16	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	4	0	4	0	0	0	4
07:45	0	0	0	1	1	2	0	2	2	0	0	0	4
08:00	0	0	0	0	1	1	0	0	0	0	0	0	1
08:15	0	1	1	2	0	2	1	2	3	0	0	0	6
08:30	0	0	0	0	0	0	1	0	1	0	0	0	1
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	24	286	3	43	41	27	43	401	57	4	23	28	980
Factor	0.55	0.81	0.38	0.72	0.85	0.68	0.72	0.75	0.59	1.00	0.72	0.64	0.85
Approach Factor	0.84			0.84			0.80			0.72			

Peak Hour Vehicle Summary

Vehicle	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	23	285	3	43	41	27	43	396	56	3	23	28	971
Truck	1	1	0	0	0	0	0	5	1	1	0	0	9
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	1	1	3	2	5	2	4	6	0	0	0	12

Turn Count Summary

#15b

Location: Montana Street at Mercury Street, Butte, Montana

GPS Coordinates:

Date: 2015-10-14

Day of week: Wednesday

Weather: Sunny

Analyst: Matthew L. Williams

Peak hour: 17:00 - 18:00

Total vehicle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	9	113	0	12	7	8	7	99	12	0	9	7	283
16:45	6	99	0	15	5	7	3	104	6	0	5	9	259
17:00	5	169	0	25	5	13	2	107	3	3	21	5	358
17:15	2	127	4	17	3	6	3	106	6	1	11	13	299
17:30	5	99	2	12	3	6	8	108	8	1	7	9	268
17:45	9	83	5	7	12	9	11	118	7	1	4	8	274
18:00	0	0	0	0	0	0	0	1	0	0	0	0	1

Car traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	9	113	0	12	5	7	7	95	12	0	9	6	275
16:45	6	97	0	14	5	7	3	104	6	0	5	9	256
17:00	4	167	0	25	5	13	2	107	3	3	21	5	355
17:15	2	125	4	17	3	6	3	105	6	1	11	13	296
17:30	5	99	2	12	3	6	8	106	8	1	7	9	266
17:45	9	80	5	7	12	9	11	118	7	1	4	8	271
18:00	0	0	0	0	0	0	0	1	0	0	0	0	1

Truck traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	0	0	0	0	2	0	0	2	0	0	0	0	4
16:45	0	2	0	1	0	0	0	0	0	0	0	0	3
17:00	0	1	0	0	0	0	0	0	0	0	0	0	1
17:15	0	0	0	0	0	0	0	1	0	0	0	0	1
17:30	0	0	0	0	0	0	0	1	0	0	0	0	1
17:45	0	3	0	0	0	0	0	0	0	0	0	0	3
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0

Bicycle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	0	0	0	0	0	1	0	2	0	0	0	1	4
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	1	1	0	0	0	0	0	0	0	0	0	0	2
17:15	0	2	0	0	0	0	0	0	0	0	0	0	2
17:30	0	0	0	0	0	0	0	1	0	0	0	0	1
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
16:30	1	0	1	0	0	0	1	0	1	1	0	1	3
16:45	1	1	2	0	0	0	0	0	0	0	0	0	2
17:00	0	0	0	0	0	0	0	1	1	0	0	0	1
17:15	0	0	0	0	0	0	0	0	0	4	1	5	5
17:30	0	1	1	0	1	1	0	0	0	0	1	1	3
17:45	2	0	2	0	0	0	1	0	1	0	0	0	3
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	21	478	11	61	23	34	24	439	24	6	43	35	1199
Factor	0.58	0.71	0.55	0.61	0.48	0.65	0.55	0.93	0.75	0.50	0.51	0.67	0.84
Approach Factor			0.73			0.69			0.90			0.72	

Peak Hour Vehicle Summary

Vehicle	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	20	471	11	61	23	34	24	436	24	6	43	35	1188
Truck	0	4	0	0	0	0	0	2	0	0	0	0	6
Bicycle	1	3	0	0	0	0	0	1	0	0	0	0	5

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	2	1	3	0	1	1	1	1	2	4	2	6	12

Abelin Traffic Services

#16

130 S. Howie Street
Helena, MT 59601

File Name : MontanaBroadway
Site Code : 00000000
Start Date : 10/14/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	MONTANA Southbound					BROADWAY Westbound					MONTANA Northbound					BROADWAY Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:30 AM	0	24	1	1	26	1	1	5	0	7	5	29	3	0	37	0	0	0	0	0	70
07:45 AM	0	49	0	0	49	2	1	4	0	7	8	33	3	2	46	0	0	1	1	2	104
Total	0	73	1	1	75	3	2	9	0	14	13	62	6	2	83	0	0	1	1	2	174
08:00 AM	1	66	1	2	70	2	4	3	1	10	13	74	5	1	93	1	2	0	1	4	177
08:15 AM	1	32	1	1	35	0	4	4	1	9	13	44	3	2	62	1	1	0	2	4	110
08:30 AM	2	27	0	1	30	2	5	5	1	13	6	29	2	2	39	1	0	1	1	3	85
08:45 AM	1	31	0	0	32	1	1	4	0	6	15	32	1	2	50	2	2	1	0	5	93
Total	5	156	2	4	167	5	14	16	3	38	47	179	11	7	244	5	5	2	4	16	465
*** BREAK ***																					
04:30 PM	0	55	1	3	59	4	4	16	2	26	16	62	8	6	92	4	0	0	3	7	184
04:45 PM	1	54	2	0	57	0	2	23	0	25	11	55	7	2	75	5	1	0	2	8	165
Total	1	109	3	3	116	4	6	39	2	51	27	117	15	8	167	9	1	0	5	15	349
05:00 PM	1	70	2	1	74	3	4	29	1	37	11	73	7	2	93	8	1	0	0	9	213
05:15 PM	0	49	1	0	50	2	8	17	0	27	10	64	12	4	90	7	1	0	0	8	175
05:30 PM	2	43	0	2	47	1	3	17	1	22	24	59	4	4	91	8	1	1	1	11	171
05:45 PM	0	30	2	1	33	2	5	17	2	26	12	62	8	2	84	8	0	2	1	11	154
Total	3	192	5	4	204	8	20	80	4	112	57	258	31	12	358	31	3	3	2	39	713
Grand Total	9	530	11	12	562	20	42	144	9	215	144	616	63	29	852	45	9	6	12	72	1701
Apprch %	1.6	94.3	2	2.1		9.3	19.5	67	4.2		16.9	72.3	7.4	3.4		62.5	12.5	8.3	16.7		
Total %	0.5	31.2	0.6	0.7	33	1.2	2.5	8.5	0.5	12.6	8.5	36.2	3.7	1.7	50.1	2.6	0.5	0.4	0.7	4.2	
Unshifted	9	524	11	12	556	19	42	144	9	214	139	612	63	29	843	45	9	6	12	72	1685
% Unshifted	100	98.9	100	100	98.9	95	100	100	100	99.5	96.5	99.4	100	100	98.9	100	100	100	100	100	99.1
Bank 1	0	6	0	0	6	1	0	0	0	1	5	4	0	0	9	0	0	0	0	0	16
% Bank 1	0	1.1	0	0	1.1	5	0	0	0	0.5	3.5	0.6	0	0	1.1	0	0	0	0	0	0.9

Abelin Traffic

#17a

Turn Count Summary

Location: Montana at Granite, Butte

GPS Coordinates: Lat=46.014090, Lon=-112.539994

Date: 2015-10-15

Day of week: Thursday

Weather:

Analyst: RLA

Count period: 07:29 - 08:30

Total vehicle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:29	0	0	1	0	0	0	0	0	0	0	0	0	1
07:30	6	1	22	0	5	14	0	18	1	7	1	1	76
07:45	8	10	34	0	15	10	1	24	1	7	12	0	122
08:00	5	7	28	0	16	11	1	30	1	13	8	2	122
08:15	4	9	20	0	5	4	1	10	1	5	5	0	64
08:30	0	0	2	0	0	0	1	0	0	0	0	0	3

Car traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:29	0	0	1	0	0	0	0	0	0	0	0	0	1
07:30	6	1	22	0	5	14	0	18	1	7	1	1	76
07:45	8	10	34	0	15	10	1	24	1	7	12	0	122
08:00	5	7	28	0	16	11	1	30	1	13	8	2	122
08:15	4	9	20	0	5	4	1	10	1	5	5	0	64
08:30	0	0	2	0	0	0	1	0	0	0	0	0	3

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
07:29	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	2	1	3	3
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	1	1	0	0	0	2	0	2	0	0	0	3
08:15	1	1	2	1	0	1	1	0	1	1	2	3	7
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0

#17b

Turn Count Summary

Location: Monyana at Granite. , Butte

GPS Coordinates: Lat=46.008773, Lon=-112.548996

Date: 2015-10-15

Day of week: Thursday

Weather:

Analyst: RLA

Count period: 16:15 - 17:00

Total vehicle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:15	16	29	12	1	3	13	0	17	1	26	16	2	136
16:30	20	33	17	0	5	10	0	20	1	23	8	0	137
16:45	15	24	17	0	8	11	0	15	0	15	9	1	115
17:00	0	0	0	0	0	0	1	0	0	0	0	0	1

Car traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:15	16	29	12	1	3	13	0	17	1	26	16	2	136
16:30	20	33	17	0	5	10	0	20	1	23	8	0	137
16:45	15	24	17	0	8	11	0	15	0	15	9	1	115
17:00	0	0	0	0	0	0	1	0	0	0	0	0	1

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
16:15	0	0	0	0	1	1	2	0	2	1	0	1	4
16:30	0	1	1	1	2	3	0	1	1	1	0	1	6
16:45	0	0	0	2	0	2	0	0	0	0	1	1	3
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0

Abelin Traffic Services

130 S. Howie Street
Helena, MT 59601

#18a

File Name : MainParkPM
Site Code : 00000000
Start Date : 4/8/2016
Page No : 1

Groups Printed- Unshifted - Bank 1

	MAIN Southbound					PARK Westbound					MAIN Northbound					PARK Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:30 AM	0	8	7	1	16	2	31	4	2	39	0	8	4	0	12	1	18	2	5	26	93
07:45 AM	3	27	12	4	46	10	45	2	4	61	4	28	7	5	44	11	31	5	5	52	203
Total	3	35	19	5	62	12	76	6	6	100	4	36	11	5	56	12	49	7	10	78	296
08:00 AM	4	22	13	8	47	9	35	1	4	49	5	31	1	2	39	6	37	6	2	51	186
08:15 AM	7	12	6	1	26	3	35	4	3	45	2	18	5	4	29	5	19	7	0	31	131
Grand Total	14	69	38	14	135	24	146	11	13	194	11	85	17	11	124	23	105	20	12	160	613
Apprch %	10.4	51.1	28.1	10.4		12.4	75.3	5.7	6.7		8.9	68.5	13.7	8.9		14.4	65.6	12.5	7.5		
Total %	2.3	11.3	6.2	2.3	22	3.9	23.8	1.8	2.1	31.6	1.8	13.9	2.8	1.8	20.2	3.8	17.1	3.3	2	26.1	
Unshifted	14	69	38	14	135	24	146	11	13	194	11	82	17	11	121	23	104	20	12	159	609
% Unshifted	100	100	100	100	100	100	100	100	100	100	100	96.5	100	100	97.6	100	99	100	100	99.4	99.3
Bank 1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	1	0	0	1	4
% Bank 1	0	0	0	0	0	0	0	0	0	0	0	3.5	0	0	2.4	0	1	0	0	0.6	0.7

Abelin Traffic Services

130 S. Howie Street
Helena, MT 59601

#18b

File Name : MainParkAM
Site Code : 00000000
Start Date : 4/5/2016
Page No : 1

Groups Printed- Unshifted - Bank 1

	MAIN Southbound					PARK Westbound					MAIN Northbound					PARK Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:30 PM	10	28	13	1	52	7	44	4	6	61	4	27	5	0	36	12	36	7	2	57	206
04:45 PM	1	24	14	2	41	4	33	5	0	42	5	20	2	1	28	4	42	8	2	56	167
Total	11	52	27	3	93	11	77	9	6	103	9	47	7	1	64	16	78	15	4	113	373
05:00 PM	6	33	19	1	59	6	37	3	5	51	3	26	7	2	38	9	46	9	2	66	214
05:15 PM	4	15	9	2	30	4	36	6	7	53	1	25	0	0	26	4	23	4	3	34	143
Grand Total	21	100	55	6	182	21	150	18	18	207	13	98	14	3	128	29	147	28	9	213	730
Apprch %	11.5	54.9	30.2	3.3		10.1	72.5	8.7	8.7		10.2	76.6	10.9	2.3		13.6	69	13.1	4.2		
Total %	2.9	13.7	7.5	0.8	24.9	2.9	20.5	2.5	2.5	28.4	1.8	13.4	1.9	0.4	17.5	4	20.1	3.8	1.2	29.2	
Unshifted	21	98	55	6	180	21	150	18	18	207	13	97	14	3	127	28	146	28	9	211	725
% Unshifted	100	98	100	100	98.9	100	100	100	100	100	100	99	100	100	99.2	96.6	99.3	100	100	99.1	99.3
Bank 1	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	1	1	0	0	2	5
% Bank 1	0	2	0	0	1.1	0	0	0	0	0	0	1	0	0	0.8	3.4	0.7	0	0	0.9	0.7

Abelin Traffic Services

#19

130 S. Howie Street
Helena, MT 59601

File Name : WashingtonPark
Site Code : 00000000
Start Date : 10/13/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	Washington Southbound					Park Westbound					Washington Northbound					Park Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:15 AM	0	1	0	0	1	1	21	0	0	22	0	2	0	0	2	0	15	2	0	17	42
07:30 AM	1	0	0	0	1	1	67	1	0	69	0	0	3	0	3	2	41	2	0	45	118
07:45 AM	5	3	1	2	11	1	78	3	0	82	0	1	4	0	5	7	45	1	1	54	152
Total	6	4	1	2	13	3	166	4	0	173	0	3	7	0	10	9	101	5	1	116	312
08:00 AM	3	1	1	0	5	4	49	3	0	56	0	1	2	0	3	3	44	1	1	49	113
08:15 AM	2	2	0	2	6	2	46	7	0	55	3	2	4	1	10	1	45	1	1	48	119
08:30 AM	0	4	1	0	5	0	54	2	0	56	0	1	0	0	1	1	36	1	0	38	100
*** BREAK ***																					
Total	5	7	2	2	16	6	149	12	0	167	3	4	6	1	14	5	125	3	2	135	332
*** BREAK ***																					
04:15 PM	2	2	2	0	6	1	32	1	0	34	4	2	2	3	11	4	55	1	4	64	115
04:30 PM	3	0	4	0	7	2	55	0	0	57	2	1	1	0	4	2	48	1	0	51	119
04:45 PM	2	3	2	0	7	3	52	1	4	60	3	2	1	0	6	3	49	6	1	59	132
Total	7	5	8	0	20	6	139	2	4	151	9	5	4	3	21	9	152	8	5	174	366
05:00 PM	3	5	2	3	13	2	55	3	0	60	2	1	1	0	4	4	78	2	0	84	161
05:15 PM	2	1	0	0	3	1	59	1	0	61	1	0	1	0	2	2	45	2	4	53	119
05:30 PM	1	1	3	0	5	1	58	5	1	65	1	4	3	0	8	6	55	1	3	65	143
Grand Total	24	23	16	7	70	19	626	27	5	677	16	17	22	4	59	35	556	21	15	627	1433
Apprch %	34.3	32.9	22.9	10		2.8	92.5	4	0.7		27.1	28.8	37.3	6.8		5.6	88.7	3.3	2.4		
Total %	1.7	1.6	1.1	0.5	4.9	1.3	43.7	1.9	0.3	47.2	1.1	1.2	1.5	0.3	4.1	2.4	38.8	1.5	1	43.8	
Unshifted	24	23	16	7	70	19	621	26	5	671	16	16	22	4	58	35	546	20	15	616	1415
% Unshifted	100	100	100	100	100	100	99.2	96.3	100	99.1	100	94.1	100	100	98.3	100	98.2	95.2	100	98.2	98.7
Bank 1	0	0	0	0	0	0	5	1	0	6	0	1	0	0	1	0	10	1	0	11	18
% Bank 1	0	0	0	0	0	0	0.8	3.7	0	0.9	0	5.9	0	0	1.7	0	1.8	4.8	0	1.8	1.3

Abelin Traffic Services

#20

130 S. Howie Street
Helena, MT 59601

File Name : ParkIdaho
Site Code : 00000000
Start Date : 10/14/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	IDAHO Southbound					PARK Westbound					IDAHO Northbound					PARK Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:15 AM	0	0	0	0	0	1	17	2	0	20	1	1	0	0	2	0	16	0	0	16	38
07:30 AM	1	0	0	0	1	0	44	2	2	48	1	0	2	0	3	1	29	0	0	30	82
07:45 AM	1	1	0	1	3	1	59	7	1	68	9	3	0	2	14	2	52	0	1	55	140
Total	2	1	0	1	4	2	120	11	3	136	11	4	2	2	19	3	97	0	1	101	260
08:00 AM	1	1	2	1	5	1	57	10	0	68	10	1	4	0	15	3	42	0	0	45	133
08:15 AM	1	0	0	2	3	2	48	0	1	51	2	1	5	2	10	2	46	0	0	48	112
08:30 AM	2	0	1	2	5	0	67	1	0	68	0	1	1	1	3	1	32	1	0	34	110
*** BREAK ***																					
Total	4	1	3	5	13	3	172	11	1	187	12	3	10	3	28	6	120	1	0	127	355
*** BREAK ***																					
04:30 PM	4	2	4	0	10	5	78	4	0	87	3	2	0	3	8	1	63	0	1	65	170
04:45 PM	3	3	4	0	10	3	78	1	1	83	5	3	4	1	13	5	76	2	0	83	189
Total	7	5	8	0	20	8	156	5	1	170	8	5	4	4	21	6	139	2	1	148	359
05:00 PM	2	1	2	0	5	2	58	5	1	66	6	3	1	2	12	3	82	0	0	85	168
05:15 PM	0	1	3	2	6	2	61	4	4	71	11	3	1	3	18	1	93	4	0	98	193
05:30 PM	1	3	3	3	10	9	64	4	1	78	2	3	2	1	8	1	51	6	1	59	155
05:45 PM	2	6	2	1	11	5	53	2	5	65	2	5	3	0	10	5	81	3	0	89	175
Total	5	11	10	6	32	18	236	15	11	280	21	14	7	6	48	10	307	13	1	331	691
Grand Total	18	18	21	12	69	31	684	42	16	773	52	26	23	15	116	25	663	16	3	707	1665
Apprch %	26.1	26.1	30.4	17.4		4	88.5	5.4	2.1		44.8	22.4	19.8	12.9		3.5	93.8	2.3	0.4		
Total %	1.1	1.1	1.3	0.7	4.1	1.9	41.1	2.5	1	46.4	3.1	1.6	1.4	0.9	7	1.5	39.8	1	0.2	42.5	
Unshifted	18	18	21	12	69	31	681	40	16	768	52	26	23	15	116	25	655	16	3	699	1652
% Unshifted	100	100	100	100	100	100	99.6	95.2	100	99.4	100	100	100	100	100	100	98.8	100	100	98.9	99.2
Bank 1	0	0	0	0	0	0	3	2	0	5	0	0	0	0	0	0	8	0	0	8	13
% Bank 1	0	0	0	0	0	0	0.4	4.8	0	0.6	0	0	0	0	0	0	1.2	0	0	1.1	0.8

Abelin Traffic Services

130 S. Howie Street
Helena, MT 59601

#21

File Name : ArizonaMercury
Site Code : 00000000
Start Date : 10/15/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	ARIZONA Southbound					MERCURY Westbound					ARIZONA Northbound					MERCURY Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:15 AM	0	4	1	1	6	0	13	2	0	15	2	17	6	0	25	1	1	1	0	3	49
07:30 AM	0	15	2	0	17	0	8	4	0	12	1	28	6	0	35	3	4	1	1	9	73
07:45 AM	0	16	2	0	18	2	19	6	0	27	4	52	10	0	66	1	10	3	0	14	125
Total	0	35	5	1	41	2	40	12	0	54	7	97	22	0	126	5	15	5	1	26	247
08:00 AM	1	19	1	0	21	0	13	7	1	21	5	32	13	1	51	4	12	1	0	17	110
08:15 AM	0	21	3	0	24	1	9	1	0	11	5	27	7	0	39	3	8	0	1	12	86
08:30 AM	0	13	2	1	16	2	6	2	0	10	8	31	8	2	49	4	6	2	1	13	88
*** BREAK ***																					
Total	1	53	6	1	61	3	28	10	1	42	18	90	28	3	139	11	26	3	2	42	284
*** BREAK ***																					
04:30 PM	3	45	3	1	52	4	11	2	3	20	4	37	10	1	52	8	20	1	2	31	155
04:45 PM	0	39	2	0	41	0	14	1	0	15	7	48	4	1	60	6	10	1	2	19	135
Total	3	84	5	1	93	4	25	3	3	35	11	85	14	2	112	14	30	2	4	50	290
05:00 PM	3	70	3	0	76	2	22	2	0	26	5	49	6	1	61	15	36	4	0	55	218
05:15 PM	3	49	2	0	54	4	25	5	0	34	2	32	10	0	44	16	20	3	1	40	172
05:30 PM	2	38	2	0	42	1	21	6	0	28	1	37	8	0	46	7	18	3	0	28	144
05:45 PM	2	33	5	1	41	5	25	12	2	44	2	43	3	0	48	7	15	0	0	22	155
Total	10	190	12	1	213	12	93	25	2	132	10	161	27	1	199	45	89	10	1	145	689
Grand Total	14	362	28	4	408	21	186	50	6	263	46	433	91	6	576	75	160	20	8	263	1510
Apprch %	3.4	88.7	6.9	1		8	70.7	19	2.3		8	75.2	15.8	1		28.5	60.8	7.6	3		
Total %	0.9	24	1.9	0.3	27	1.4	12.3	3.3	0.4	17.4	3	28.7	6	0.4	38.1	5	10.6	1.3	0.5	17.4	
Unshifted	14	358	28	4	404	21	185	50	6	262	46	426	89	6	567	72	158	20	8	258	1491
% Unshifted	100	98.9	100	100	99	100	99.5	100	100	99.6	100	98.4	97.8	100	98.4	96	98.8	100	100	98.1	98.7
Bank 1	0	4	0	0	4	0	1	0	0	1	0	7	2	0	9	3	2	0	0	5	19
% Bank 1	0	1.1	0	0	1	0	0.5	0	0	0.4	0	1.6	2.2	0	1.6	4	1.2	0	0	1.9	1.3

Abelin Traffic Services

130 S. Howie Street
Helena, MT 59601

#22

File Name : ArizonaBroadway
Site Code : 00000000
Start Date : 10/15/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	ARIZONA Southbound					BROADWAY Westbound					ARIZONA Northbound					BROADWAY Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:15 AM	0	13	0	0	13	0	0	0	1	1	4	21	8	3	36	4	1	0	1	6	56
07:30 AM	1	13	0	0	14	2	0	1	8	11	5	28	14	8	55	6	4	0	0	10	90
07:45 AM	0	14	0	0	14	0	2	0	1	3	3	49	24	7	83	15	3	0	0	18	118
Total	1	40	0	0	41	2	2	1	10	15	12	98	46	18	174	25	8	0	1	34	264
08:00 AM	0	16	0	0	16	0	0	0	0	0	5	22	9	4	40	7	2	0	0	9	65
08:15 AM	0	10	0	0	10	1	2	0	0	3	2	19	12	0	33	3	1	0	0	4	50
08:30 AM	0	11	0	0	11	0	2	1	2	5	1	21	12	1	35	3	2	1	0	6	57
*** BREAK ***																					
Total	0	37	0	0	37	1	4	1	2	8	8	62	33	5	108	13	5	1	0	19	172
*** BREAK ***																					
04:15 PM	2	22	1	2	27	0	5	2	0	7	2	20	15	1	38	17	4	1	4	26	98
04:30 PM	1	33	1	3	38	0	3	4	1	8	2	17	8	2	29	16	4	0	2	22	97
04:45 PM	1	47	1	2	51	2	5	2	0	9	3	30	9	0	42	24	2	0	9	35	137
Total	4	102	3	7	116	2	13	8	1	24	7	67	32	3	109	57	10	1	15	83	332
05:00 PM	1	34	0	0	35	2	4	1	0	7	0	33	12	0	45	15	7	0	2	24	111
05:15 PM	3	29	1	0	33	2	3	1	0	6	2	24	15	0	41	18	4	1	0	23	103
05:30 PM	1	21	0	1	23	0	2	0	0	2	1	20	11	0	32	12	2	0	0	14	71
Grand Total	10	263	4	8	285	9	28	12	13	62	30	304	149	26	509	140	36	3	18	197	1053
Apprch %	3.5	92.3	1.4	2.8		14.5	45.2	19.4	21		5.9	59.7	29.3	5.1		71.1	18.3	1.5	9.1		
Total %	0.9	25	0.4	0.8	27.1	0.9	2.7	1.1	1.2	5.9	2.8	28.9	14.2	2.5	48.3	13.3	3.4	0.3	1.7	18.7	
Unshifted	10	261	4	8	283	9	28	12	13	62	30	303	142	26	501	140	35	3	18	196	1042
% Unshifted	100	99.2	100	100	99.3	100	100	100	100	100	100	99.7	95.3	100	98.4	100	97.2	100	100	99.5	99
Bank 1	0	2	0	0	2	0	0	0	0	0	0	1	7	0	8	0	1	0	0	1	11
% Bank 1	0	0.8	0	0	0.7	0	0	0	0	0	0	0.3	4.7	0	1.6	0	2.8	0	0	0.5	1

Abelin Traffic Services

#23a

130 S. Howie Street
Helena, MT 59601

File Name : MontanaPorphryAM
Site Code : 00000000
Start Date : 10/22/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	MONTANA Southbound					PORPHRY Westbound					MONTANA Northbound					PORPHRY Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:15 AM	2	27	0	1	30	1	1	1	0	3	0	44	15	0	59	8	0	0	0	8	100
07:30 AM	3	59	0	1	63	4	0	0	0	4	4	64	28	0	96	6	0	1	1	8	171
07:45 AM	7	93	1	0	101	5	1	1	1	8	3	101	39	3	146	6	0	0	0	6	261
Total	12	179	1	2	194	10	2	2	1	15	7	209	82	3	301	20	0	1	1	22	532
08:00 AM	10	77	3	1	91	2	0	0	0	2	11	181	57	1	250	8	3	1	0	12	355
08:15 AM	3	78	6	0	87	0	0	1	1	2	18	143	23	0	184	18	2	3	0	23	296
08:30 AM	5	66	0	0	71	0	0	0	1	1	4	92	27	0	123	9	1	1	0	11	206
Grand Total	30	400	10	3	443	12	2	3	3	20	40	625	189	4	858	55	6	6	1	68	1389
Apprch %	6.8	90.3	2.3	0.7		60	10	15	15		4.7	72.8	22	0.5		80.9	8.8	8.8	1.5		
Total %	2.2	28.8	0.7	0.2	31.9	0.9	0.1	0.2	0.2	1.4	2.9	45	13.6	0.3	61.8	4	0.4	0.4	0.1	4.9	
Unshifted	30	393	10	3	436	12	2	3	3	20	40	615	188	4	847	55	6	6	1	68	1371
% Unshifted	100	98.2	100	100	98.4	100	100	100	100	100	100	98.4	99.5	100	98.7	100	100	100	100	100	98.7
Bank 1	0	7	0	0	7	0	0	0	0	0	0	10	1	0	11	0	0	0	0	0	18
% Bank 1	0	1.8	0	0	1.6	0	0	0	0	0	0	1.6	0.5	0	1.3	0	0	0	0	0	1.3

Abelin Traffic Services

130 S. Howie Street
Helena, MT 59601

#23b

File Name : MontanaPorphryPM
Site Code : 00000000
Start Date : 10/21/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	MONTANA Southbound					PORPHRY Westbound					MONTANA Northbound					PORPHRY Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:45 PM	6	146	4	0	156	1	3	1	0	5	0	119	15	0	134	34	0	7	2	43	338
Total	6	146	4	0	156	1	3	1	0	5	0	119	15	0	134	34	0	7	2	43	338
05:00 PM	5	135	1	0	141	3	1	2	1	7	4	130	19	0	153	25	0	7	2	34	335
05:15 PM	3	178	3	0	184	2	0	1	0	3	2	116	15	0	133	34	2	4	0	40	360
05:30 PM	4	111	0	0	115	1	2	1	3	7	1	117	15	0	133	26	1	5	1	33	288
05:45 PM	2	107	1	0	110	1	1	3	2	7	1	117	9	1	128	26	0	2	0	28	273
Total	14	531	5	0	550	7	4	7	6	24	8	480	58	1	547	111	3	18	3	135	1256
06:00 PM	2	94	2	0	98	2	0	3	0	5	5	135	15	0	155	24	0	4	0	28	286
Grand Total	22	771	11	0	804	10	7	11	6	34	13	734	88	1	836	169	3	29	5	206	1880
Apprch %	2.7	95.9	1.4	0		29.4	20.6	32.4	17.6		1.6	87.8	10.5	0.1		82	1.5	14.1	2.4		
Total %	1.2	41	0.6	0	42.8	0.5	0.4	0.6	0.3	1.8	0.7	39	4.7	0.1	44.5	9	0.2	1.5	0.3	11	
Unshifted	22	767	11	0	800	10	7	11	6	34	13	732	88	1	834	169	3	29	5	206	1874
% Unshifted	100	99.5	100	0	99.5	100	100	100	100	100	100	99.7	100	100	99.8	100	100	100	100	100	99.7
Bank 1	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	6
% Bank 1	0	0.5	0	0	0.5	0	0	0	0	0	0	0.3	0	0	0.2	0	0	0	0	0	0.3

Abelin Traffic Services

#24

130 S. Howie Street
Helena, MT 59601

File Name : KawGeorge
Site Code : 00000000
Start Date : 10/21/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	KAW Southbound					GEORGE Westbound					KAW Northbound					GEORGE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:15 AM	2	17	2	0	21	5	7	0	0	12	0	32	6	0	38	5	2	0	0	7	78
07:30 AM	2	28	3	0	33	10	11	1	1	23	0	83	11	0	94	3	7	3	0	13	163
07:45 AM	1	45	3	0	49	21	10	2	0	33	1	116	8	0	125	6	5	5	0	16	223
Total	5	90	8	0	103	36	28	3	1	68	1	231	25	0	257	14	14	8	0	36	464
08:00 AM	0	55	2	1	58	5	8	0	0	13	2	88	3	0	93	8	1	2	0	11	175
08:15 AM	2	34	3	1	40	11	5	2	0	18	1	48	8	0	57	4	2	0	0	6	121
08:30 AM	3	38	1	0	42	3	3	0	0	6	1	37	11	0	49	8	3	3	0	14	111
*** BREAK ***																					
Total	5	127	6	2	140	19	16	2	0	37	4	173	22	0	199	20	6	5	0	31	407
*** BREAK ***																					
04:15 PM	3	68	5	1	77	4	7	5	0	16	2	50	4	0	56	13	7	4	0	24	173
04:30 PM	3	46	7	4	60	2	5	1	2	10	3	55	6	0	64	12	9	1	0	22	156
04:45 PM	4	67	7	0	78	4	5	1	2	12	2	58	5	0	65	11	16	2	0	29	184
Total	10	181	19	5	215	10	17	7	4	38	7	163	15	0	185	36	32	7	0	75	513
05:00 PM	6	94	4	0	104	6	2	1	0	9	2	50	6	0	58	14	11	1	0	26	197
05:15 PM	3	64	6	0	73	8	7	0	5	20	1	40	2	2	45	17	9	4	0	30	168
05:30 PM	7	45	5	4	61	5	5	2	0	12	4	53	7	0	64	13	10	7	1	31	168
Grand Total	36	601	48	11	696	84	75	15	10	184	19	710	77	2	808	114	82	32	1	229	1917
Apprch %	5.2	86.4	6.9	1.6		45.7	40.8	8.2	5.4		2.4	87.9	9.5	0.2		49.8	35.8	14	0.4		
Total %	1.9	31.4	2.5	0.6	36.3	4.4	3.9	0.8	0.5	9.6	1	37	4	0.1	42.1	5.9	4.3	1.7	0.1	11.9	
Unshifted	36	593	48	11	688	83	75	15	10	183	19	701	74	2	796	114	81	32	1	228	1895
% Unshifted	100	98.7	100	100	98.9	98.8	100	100	100	99.5	100	98.7	96.1	100	98.5	100	98.8	100	100	99.6	98.9
Bank 1	0	8	0	0	8	1	0	0	0	1	0	9	3	0	12	0	1	0	0	1	22
% Bank 1	0	1.3	0	0	1.1	1.2	0	0	0	0.5	0	1.3	3.9	0	1.5	0	1.2	0	0	0.4	1.1

Turn Count Summary

#25a

Location: Harrison at Cobban , Butte

GPS Coordinates:

Date: 2015-10-22

Day of week: Thursday

Weather:

Analyst: Matthew L. Williams

Peak hour: 07:45 - 08:45

Total vehicle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30	2	72	5	12	4	12	5	81	3	5	6	5	212
07:45	4	78	1	29	17	22	11	164	4	14	9	15	368
08:00	6	113	5	18	13	26	13	158	3	10	17	21	403
08:15	4	98	4	21	11	15	9	94	3	14	11	12	296
08:30	6	94	2	17	9	9	4	107	7	1	5	5	266
08:45	7	101	4	17	3	14	5	97	2	7	6	10	273

Car traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30	2	71	5	12	4	12	5	79	3	4	6	5	208
07:45	4	76	1	29	16	22	11	164	4	14	9	15	365
08:00	6	110	5	18	13	26	11	154	3	10	17	21	394
08:15	4	96	4	20	11	14	8	90	3	14	11	12	287
08:30	6	91	2	17	9	9	4	104	7	1	5	5	260
08:45	6	98	4	17	3	14	5	94	2	7	6	10	266

Truck traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30	0	1	0	0	0	0	0	2	0	1	0	0	4
07:45	0	2	0	0	1	0	0	0	0	0	0	0	3
08:00	0	3	0	0	0	0	2	4	0	0	0	0	9
08:15	0	2	0	1	0	1	1	4	0	0	0	0	9
08:30	0	3	0	0	0	0	0	3	0	0	0	0	6
08:45	1	3	0	0	0	0	0	3	0	0	0	0	7

Bicycle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
07:30	0	0	0	0	0	0	0	1	1	0	0	0	1
07:45	1	2	3	0	1	1	0	1	1	0	2	2	7
08:00	0	1	1	0	0	0	0	0	0	0	1	1	2
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	1	0	1	0	0	0	0	0	0	1
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	20	383	12	85	50	72	37	523	17	39	42	53	1333
Factor	0.83	0.85	0.60	0.73	0.74	0.69	0.71	0.80	0.61	0.70	0.62	0.63	0.83
Approach Factor			0.84			0.76			0.81			0.70	

Peak Hour Vehicle Summary

Vehicle	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	20	373	12	84	49	71	34	512	17	39	42	53	1306
Truck	0	10	0	1	1	1	3	11	0	0	0	0	27
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	1	3	4	1	1	2	0	1	1	0	3	3	10

Turn Count Summary

#25b

Location: Harrison at Cobban , Butte, MT

GPS Coordinates:

Date: 2015-10-21

Day of week: Wednesday

Weather: Sunny

Analyst: Matthew L. Williams

Peak hour: 16:45 - 17:45

Total vehicle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	18	174	8	22	18	7	11	143	15	12	14	18	460
16:45	9	165	9	29	15	20	9	150	23	6	16	12	463
17:00	13	197	17	25	14	7	11	135	14	5	34	15	487
17:15	9	191	8	24	4	13	15	160	17	8	22	15	486
17:30	8	170	7	28	11	18	8	160	12	8	14	16	460
17:45	14	150	4	35	21	6	15	150	15	7	17	10	444

Car traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	18	170	8	21	17	7	10	140	15	12	14	18	450
16:45	9	164	9	29	15	20	9	147	23	6	16	12	459
17:00	13	197	17	25	12	7	11	135	14	5	34	15	485
17:15	9	188	8	24	4	13	15	155	17	8	22	15	478
17:30	8	169	7	28	11	18	8	157	12	8	14	16	456
17:45	14	146	4	35	21	6	15	146	15	7	17	10	436

Truck traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	0	2	0	1	1	0	1	3	0	0	0	0	8
16:45	0	1	0	0	0	0	0	3	0	0	0	0	4
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	1	0	0	0	0	0	1	0	0	0	0	2
17:30	0	0	0	0	0	0	0	3	0	0	0	0	3
17:45	0	2	0	0	0	0	0	3	0	0	0	0	5

Bicycle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	0	2	0	0	0	0	0	0	0	0	0	0	2
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	2	0	0	0	0	0	0	0	2
17:15	0	2	0	0	0	0	0	4	0	0	0	0	6
17:30	0	1	0	0	0	0	0	0	0	0	0	0	1
17:45	0	2	0	0	0	0	0	1	0	0	0	0	3

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	1	1	0	0	0	0	0	0	1
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	1	1	0	0	0	0	0	0	1
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	39	723	41	106	44	58	43	605	66	27	86	58	1896
Factor	0.75	0.92	0.60	0.91	0.73	0.72	0.72	0.95	0.72	0.84	0.63	0.91	0.97
Approach Factor	0.88			0.81			0.93			0.79			

Peak Hour Vehicle Summary

Vehicle	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	39	718	41	106	42	58	43	594	66	27	86	58	1878
Truck	0	2	0	0	0	0	0	7	0	0	0	0	9
Bicycle	0	3	0	0	2	0	0	4	0	0	0	0	9

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	0	0	0	2	2	0	0	0	0	0	0	2

Abelin Traffic Services

#26

130 S. Howie Street
Helena, MT 59601

File Name : HarrisonRosevelt
Site Code : 00000000
Start Date : 10/20/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	HARRISON Southbound					ROOSEVELT Westbound					HARRISON Northbound					ROOSE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:15 AM	1	106	2	0	109	0	0	0	0	0	0	99	1	0	100	3	0	3	0	6	215
07:30 AM	5	149	4	0	158	0	0	0	0	0	0	121	2	0	123	4	0	3	1	8	289
07:45 AM	0	185	8	1	194	0	0	0	0	0	1	133	3	0	137	2	2	11	0	15	346
Total	6	440	14	1	461	0	0	0	0	0	1	353	6	0	360	9	2	17	1	29	850
08:00 AM	4	176	5	0	185	1	0	0	0	1	0	117	0	0	117	2	0	7	0	9	312
08:15 AM	7	177	9	0	193	2	1	2	0	5	0	107	0	0	107	2	0	6	1	9	314
08:30 AM	5	188	9	0	202	1	0	1	0	2	0	126	2	0	128	7	0	12	0	19	351
*** BREAK ***																					
Total	16	541	23	0	580	4	1	3	0	8	0	350	2	0	352	11	0	25	1	37	977
*** BREAK ***																					
04:15 PM	18	203	31	0	252	8	4	8	0	20	3	231	5	4	243	6	6	29	1	42	557
04:30 PM	9	214	17	0	240	9	2	4	0	15	2	216	2	0	220	6	2	28	2	38	513
04:45 PM	8	198	18	0	224	14	6	8	1	29	5	228	6	1	240	5	5	17	0	27	520
Total	35	615	66	0	716	31	12	20	1	64	10	675	13	5	703	17	13	74	3	107	1590
05:00 PM	20	228	21	1	270	10	0	4	0	14	3	216	6	0	225	10	1	16	0	27	536
05:15 PM	17	229	20	0	266	9	3	4	0	16	5	210	7	2	224	8	1	32	0	41	547
05:30 PM	6	178	20	0	204	6	1	5	0	12	7	226	2	0	235	4	2	18	2	26	477
Grand Total	100	2231	164	2	2497	60	17	36	1	114	26	2030	36	7	2099	59	19	182	7	267	4977
Apprch %	4	89.3	6.6	0.1		52.6	14.9	31.6	0.9		1.2	96.7	1.7	0.3		22.1	7.1	68.2	2.6		
Total %	2	44.8	3.3	0	50.2	1.2	0.3	0.7	0	2.3	0.5	40.8	0.7	0.1	42.2	1.2	0.4	3.7	0.1	5.4	
Unshifted	100	2190	163	2	2455	60	17	36	1	114	23	1991	35	7	2056	58	16	182	7	263	4888
% Unshifted	100	98.2	99.4	100	98.3	100	100	100	100	100	88.5	98.1	97.2	100	98	98.3	84.2	100	100	98.5	98.2
Bank 1	0	41	1	0	42	0	0	0	0	0	3	39	1	0	43	1	3	0	0	4	89
% Bank 1	0	1.8	0.6	0	1.7	0	0	0	0	0	11.5	1.9	2.8	0	2	1.7	15.8	0	0	1.5	1.8

Turn Count Summary

#27A

Location: Harrison at Four Mile Road, Butte, MT

GPS Coordinates:

Date: 2015-10-21

Day of week: Wednesday

Weather: Daybreak-cloudy

Analyst: Matthew L. Williams

Peak hour: 07:45 - 08:45

Total vehicle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:21	0	32	2	0	0	0	0	41	0	3	0	1	79
07:30	0	64	8	0	0	0	5	84	0	8	0	0	169
07:45	0	106	13	0	0	0	6	98	0	15	0	5	243
08:00	0	108	17	0	0	0	7	79	0	8	0	6	225
08:15	0	106	15	0	0	0	7	58	0	9	0	5	200
08:30	0	77	10	0	0	0	4	72	0	18	0	4	185
08:45	0	0	0	0	0	0	0	1	0	0	0	0	1

Car traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:21	0	30	2	0	0	0	0	35	0	3	0	1	71
07:30	0	63	7	0	0	0	5	78	0	8	0	0	161
07:45	0	103	13	0	0	0	6	95	0	12	0	4	233
08:00	0	106	17	0	0	0	7	74	0	6	0	6	216
08:15	0	102	14	0	0	0	7	54	0	8	0	5	190
08:30	0	74	10	0	0	0	4	62	0	18	0	4	172
08:45	0	0	0	0	0	0	0	1	0	0	0	0	1

Truck traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:21	0	2	0	0	0	0	0	6	0	0	0	0	8
07:30	0	1	1	0	0	0	0	6	0	0	0	0	8
07:45	0	3	0	0	0	0	0	3	0	3	0	1	10
08:00	0	2	0	0	0	0	0	5	0	2	0	0	9
08:15	0	4	1	0	0	0	0	3	0	1	0	0	9
08:30	0	3	0	0	0	0	0	10	0	0	0	0	13
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0

Bicycle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:21	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	1	0	0	0	0	1
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
07:21	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	0	397	55	0	0	0	24	307	0	50	0	20	853
Factor	0.00	0.92	0.81	0.00	0.00	0.00	0.86	0.78	0.00	0.69	0.00	0.83	0.88
Approach Factor			0.90			0.00			0.80			0.80	

Peak Hour Vehicle Summary

Vehicle	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	0	385	54	0	0	0	24	285	0	44	0	19	811
Truck	0	12	1	0	0	0	0	21	0	6	0	1	41
Bicycle	0	0	0	0	0	0	0	1	0	0	0	0	1

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0

Turn Count Summary #27b

Location: Harrison at 4 Mile Road, Butte, MT

GPS Coordinates:

Date: 2015-10-22

Day of week: Thursday

Weather: Sunny

Analyst: Matthew L. Williams

Peak hour: 16:30 - 17:30

Total vehicle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	2	90	15	0	0	0	8	94	0	25	0	4	238
16:45	1	102	17	0	0	0	7	99	0	23	0	7	256
17:00	0	99	19	0	0	0	8	161	0	24	0	3	314
17:15	4	110	20	0	0	0	7	97	0	30	0	5	273
17:30	0	90	13	0	0	0	6	87	0	25	0	12	233
17:45	0	85	17	0	0	0	4	100	0	21	0	6	233

Car traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	2	87	14	0	0	0	8	91	0	24	0	4	230
16:45	1	95	17	0	0	0	7	98	0	23	0	7	248
17:00	0	96	19	0	0	0	8	157	0	24	0	3	307
17:15	4	109	19	0	0	0	7	94	0	30	0	5	268
17:30	0	86	13	0	0	0	6	84	0	24	0	12	225
17:45	0	81	17	0	0	0	4	100	0	21	0	5	228

Truck traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	0	3	1	0	0	0	0	3	0	1	0	0	8
16:45	0	7	0	0	0	0	0	0	0	0	0	0	7
17:00	0	3	0	0	0	0	0	4	0	0	0	0	7
17:15	0	1	1	0	0	0	0	3	0	0	0	0	5
17:30	0	3	0	0	0	0	0	3	0	1	0	0	7
17:45	0	4	0	0	0	0	0	0	0	0	0	1	5

Bicycle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	1	0	0	0	0	1
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	1	0	0	0	0	0	0	0	0	0	0	1
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	7	401	71	0	0	0	30	451	0	102	0	19	1081
Factor	0.44	0.91	0.89	0.00	0.00	0.00	0.94	0.70	0.00	0.85	0.00	0.68	0.86
Approach Factor	0.89			0.00			0.71			0.86			

Peak Hour Vehicle Summary

Vehicle	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	7	387	69	0	0	0	30	440	0	101	0	19	1053
Truck	0	14	2	0	0	0	0	10	0	1	0	0	27
Bicycle	0	0	0	0	0	0	0	1	0	0	0	0	1

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0

Abelin Traffic Services

#28

130 S. Howie Street
Helena, MT 59601

File Name : HarrisonElizWarr
Site Code : 00000000
Start Date : 4/7/2016
Page No : 1

Groups Printed- Unshifted - Bank 1

	HARRISON Southbound					WARREN Westbound					HARRISON Northbound					WARREN Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:30 AM	7	89	25	0	121	68	9	33	0	110	11	94	1	0	106	1	7	4	0	12	349
07:45 AM	6	136	35	0	177	84	11	38	0	133	9	106	5	1	121	0	6	7	0	13	444
Total	13	225	60	0	298	152	20	71	0	243	20	200	6	1	227	1	13	11	0	25	793
08:00 AM	9	102	38	0	149	58	6	49	0	113	10	82	2	0	94	0	11	9	0	20	376
08:15 AM	1	141	38	0	180	54	5	41	0	100	34	69	1	6	110	0	7	9	0	16	406
*** BREAK ***																					
Total	10	243	76	0	329	112	11	90	0	213	44	151	3	6	204	0	18	18	0	36	782
*** BREAK ***																					
04:00 PM	9	140	53	0	202	56	13	48	2	119	48	135	4	1	188	1	24	20	1	46	555
04:15 PM	12	112	59	0	183	59	7	42	1	109	40	123	4	1	168	1	12	19	1	33	493
04:30 PM	12	138	69	0	219	57	8	42	0	107	41	135	1	0	177	4	22	23	0	49	552
04:45 PM	6	148	64	0	218	61	9	53	0	123	25	135	5	0	165	1	13	18	0	32	538
Total	39	538	245	0	822	233	37	185	3	458	154	528	14	2	698	7	71	80	2	160	2138
05:00 PM	4	133	93	1	231	58	9	43	1	111	53	161	5	0	219	1	20	22	0	43	604
05:15 PM	7	144	103	0	254	53	7	42	1	103	42	134	1	0	177	3	14	15	0	32	566
Grand Total	73	1283	577	1	1934	608	84	431	5	1128	313	1174	29	9	1525	12	136	146	2	296	4883
Apprch %	3.8	66.3	29.8	0.1		53.9	7.4	38.2	0.4		20.5	77	1.9	0.6		4.1	45.9	49.3	0.7		
Total %	1.5	26.3	11.8	0	39.6	12.5	1.7	8.8	0.1	23.1	6.4	24	0.6	0.2	31.2	0.2	2.8	3	0	6.1	
Unshifted	71	1283	576	1	1931	605	84	431	5	1125	313	1174	29	9	1525	12	136	118	2	268	4849
% Unshifted	97.3	100	99.8	100	99.8	99.5	100	100	100	99.7	100	100	100	100	100	100	100	80.8	100	90.5	99.3
Bank 1	2	0	1	0	3	3	0	0	0	3	0	0	0	0	0	0	0	28	0	28	34
% Bank 1	2.7	0	0.2	0	0.2	0.5	0	0	0	0.3	0	0	0	0	0	0	0	19.2	0	9.5	0.7

Weekly 24 Hour Volume Report: ARIZONA S BROADWAY

Info Line 1 : No Lat ...
Info Line 2 : 447
GPS Lat/Lon :

Last Connected Device Type : Unic-L
Serial Number :
Lanes : 2

Lane #1 (SB) Weekly Data 10/19/2015 to 10/25/2015

Time	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
- AM -										
12 - 1		6	7			7				7
1 - 2		1	5			3				3
2 - 3		3	7			5				5
3 - 4		1	7			4				4
4 - 5		1	4			3				3
5 - 6		4	10			7				7
6 - 7		14	19			17				17
7 - 8		58	71			65				65
8 - 9		69	77			73				73
9 - 10		57	79			68				68
10 - 11		63				63				63
11 - 12	59	100				106				106
- PM -										
12 - 1	114	107				111				111
1 - 2	95	107				101				101
2 - 3	101	93				97				97
3 - 4	120	147				134				134
4 - 5	135	200				168				168
5 - 6	129	199				164				164
6 - 7	52	113				83				83
7 - 8	34	71				53				53
8 - 9	32	45				39				39
9 - 10	16	34				25				25
10 - 11	6	26				16				16
11 - 12	6	16				11				11
TOTALS :	899	1535	286			1423				**1423**
% Avg Day :	121%	108%	48%			100%				

	MON	TUE	WED	THU	FRI	Weekday Average	SAT	SUN	Weekend Average	Week Average
AM (12am-10am) Peak Volumes										
15 Minute :		34	31			33				33
One Hour :		88	101			96				96
P.H.F. :		0.65	0.81			0.73				0.73
PH Begins :		7:30am	7:30am			7:30am				7:30am
Mid (10am-2pm) Peak Volumes										
15 Minute :	42	35				39				39
One Hour :	134	123				129				129
P.H.F. :	0.80	0.88				0.83				0.83
PH Begins :	11:30am	11:30am				11:30am				11:30am
PM (2pm-12am) Peak Volumes										
15 Minute :	58	82				70				70
One Hour :	161	232				197				197
P.H.F. :	0.69	0.71				0.70				0.70
PH Begins :	4:15pm	4:15pm				4:15pm				4:15pm

Lane #2 (NB) Weekly Data 10/19/2015 to 10/25/2015

Time	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
- AM -										
12 - 1		7	9			8				8
1 - 2		8	8			8				8
2 - 3		5	11			8				8
3 - 4		5	12			9				9
4 - 5		5	4			5				5
5 - 6		22	25			24				24
6 - 7		61	61			61				61
7 - 8		165	175			170				170
8 - 9		183	193			188				188
9 - 10		153	152			153				153
10 - 11		150				150				150
11 - 12	83	169				168				168
- PM -										
12 - 1	196	212				204				204
1 - 2	189	202				196				196
2 - 3	159	137				148				148
3 - 4	217	221				219				219
4 - 5	147	225				186				186
5 - 6	173	174				174				174
6 - 7	145	155				150				150
7 - 8	96	120				108				108
8 - 9	67	102				85				85
9 - 10	58	62				60				60
10 - 11	27	42				35				35
11 - 12	18	25				22				22
TOTALS :	1575	2610	650			2539				**2539**
% Avg Day :	119%	103%	61%			100%				

	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
AM (12am-10am) Peak Volumes										
15 Minute :		71	86			77				77
One Hour :		224	245			230				230
P.H.F. :		0.79	0.71			0.75				0.75
PH Begins :		7:30am	7:45am			7:30am				7:30am
Mid (10am-2pm) Peak Volumes										
15 Minute :	60	74				67				67
One Hour :	227	220				217				217
P.H.F. :	0.95	0.74				0.81				0.81
PH Begins :	12:30pm	12:45pm				12:15pm				12:15pm
PM (2pm-12am) Peak Volumes										
15 Minute :	59	66				61				61
One Hour :	217	249				221				221
P.H.F. :	0.92	0.94				0.91				0.91
PH Begins :	3:00pm	3:30pm				3:00pm				3:00pm

Weekly 24 Hour Volume Report: ARIZONA S MERCURY

Info Line 1 : ATS
Info Line 2 : UNICORN 5
GPS Lat/Lon :

Last Connected Device Type : Unic-L
Serial Number :
Lanes : 2

Lane #1 (NB) Weekly Data 10/19/2015 to 10/25/2015

Time	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
- AM -										
12 - 1		10	12			11				11
1 - 2		10	6			8				8
2 - 3		10	13			12				12
3 - 4		7	3			5				5
4 - 5		7	5			6				6
5 - 6		17	23			20				20
6 - 7		61	62			62				62
7 - 8		136	129			133				133
8 - 9		196	200			198				198
9 - 10		141	133			137				137
10 - 11		160				160				160
11 - 12		153				153				153
- PM -										
12 - 1	170	178				174				174
1 - 2	192	184				188				188
2 - 3	134	152				143				143
3 - 4	170	237				204				204
4 - 5	145	163				154				154
5 - 6	106	97				102				102
6 - 7	119	134				127				127
7 - 8	93	108				101				101
8 - 9	68	56				62				62
9 - 10	52	61				57				57
10 - 11	35	43				39				39
11 - 12	23	21				22				22
TOTALS :	1307	2342	586			2278				**2278**
% Avg Day :	115%	103%	62%			100%				
AM (12am-10am) Peak Volumes										
15 Minute :		70	59			65				65
One Hour :		211	215			215				215
P.H.F. :		0.75	0.91			0.83				0.83
PH Begins :		7:45am	7:45am			7:45am				7:45am
Mid (10am-2pm) Peak Volumes										
15 Minute :	62	58				58				58
One Hour :	212	196				203				203
P.H.F. :	0.85	0.88				0.94				0.94
PH Begins :	12:30pm	12:45pm				12:30pm				12:30pm
PM (2pm-12am) Peak Volumes										
15 Minute :	59	73				66				66
One Hour :	183	242				213				213
P.H.F. :	0.78	0.83				0.81				0.81
PH Begins :	2:45pm	2:45pm				2:45pm				2:45pm

Lane #2 (SB) Weekly Data 10/19/2015 to 10/25/2015

Time	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
- AM -										
12 - 1		8	23			16				16
1 - 2		9	9			9				9
2 - 3		9	10			10				10
3 - 4		3	12			8				8
4 - 5		11	5			8				8
5 - 6		16	13			15				15
6 - 7		32	27			30				30
7 - 8		130	164			147				147
8 - 9		215	193			204				204
9 - 10		145	193			169				169
10 - 11		181				181				181
11 - 12		255				255				255
- PM -										
12 - 1	320	314				317				317
1 - 2	265	294				280				280
2 - 3	313	274				294				294
3 - 4	365	355				360				360
4 - 5	310	333				322				322
5 - 6	306	351				329				329
6 - 7	164	181				173				173
7 - 8	112	146				129				129
8 - 9	98	108				103				103
9 - 10	48	82				65				65
10 - 11	23	48				36				36
11 - 12	24	20				22				22
TOTALS :	2348	3520	649			3482				**3482**
% Avg Day :	135%	101%	45%			100%				

AM (12am-10am) Peak Volumes

	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
15 Minute :		87	86			87				87
One Hour :		242	245			242				242
P.H.F. :		0.70	0.71			0.70				0.70
PH Begins :		7:45am	7:30am			7:30am				7:30am

Mid (10am-2pm) Peak Volumes

	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
15 Minute :	101	93				91				91
One Hour :	320	319				321				321
P.H.F. :	0.79	0.86				0.88				0.88
PH Begins :	12:00pm	11:45am				11:30am				11:30am

PM (2pm-12am) Peak Volumes

	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
15 Minute :	112	105				107				107
One Hour :	365	374				362				362
P.H.F. :	0.91	0.93				0.92				0.92
PH Begins :	3:00pm	4:45pm				3:00pm				3:00pm

Weekly 24 Hour Volume Report: BROADWAY E ARIZ

Info Line 1 : UNICORN 1
Info Line 2 :
GPS Lat/Lon :

Last Connected Device Type : Unic-L
Serial Number :
Lanes : 1

Lane #1 (R) Weekly Data 10/19/2015 to 10/25/2015

Time	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
- AM -										
12 - 1		2	0			1				1
1 - 2		0	0			0				0
2 - 3		1	0			1				1
3 - 4		0	4			2				2
4 - 5		0	0			0				0
5 - 6		8	0			4				4
6 - 7		7	2			5				5
7 - 8		20	22			21				21
8 - 9		6	10			8				8
9 - 10		10	5			9				9
10 - 11		7				7				7
11 - 12	15	19				23				23
- PM -										
12 - 1	19	12				16				16
1 - 2	23	20				22				22
2 - 3	14	13				14				14
3 - 4	14	15				15				15
4 - 5	26	28				27				27
5 - 6	37	30				34				34
6 - 7	10	20				15				15
7 - 8	3	3				3				3
8 - 9	6	15				11				11
9 - 10	7	7				7				7
10 - 11	2	0				1				1
11 - 12	0	0				0				0
TOTALS :	176	243	43			246				**246**
% Avg Day :	137%	99%	43%			100%				
AM (12am-10am) Peak Volumes										
15 Minute :		7	6			7				7
One Hour :		21	22			22				22
P.H.F. :		0.75	0.92			0.79				0.79
PH Begins :		6:45am	7:00am			7:00am				7:00am
Mid (10am-2pm) Peak Volumes										
15 Minute :	13	9				10				10
One Hour :	28	22				27				27
P.H.F. :	0.54	0.61				0.68				0.68
PH Begins :	11:15am	11:15am				11:15am				11:15am
PM (2pm-12am) Peak Volumes										
15 Minute :	17	12				12				12
One Hour :	40	40				41				41
P.H.F. :	0.59	0.83				0.85				0.85
PH Begins :	4:45pm	4:45pm				4:45pm				4:45pm

Weekly 24 Hour Volume Report: BROADWAY E MT

Info Line 1 : ATS
Info Line 2 : Unicorn #4
GPS Lat/Lon :

Last Connected Device Type : Unic-L
Serial Number :
Lanes : 1

Lane #1 (R) Weekly Data 10/19/2015 to 10/25/2015

Time	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
- AM -										
12 - 1		6	10			8				8
1 - 2		3	5			4				4
2 - 3		3	3			3				3
3 - 4		2	2			2				2
4 - 5		7	1			4				4
5 - 6		9	15			12				12
6 - 7		9	27			18				18
7 - 8		27	67			47				47
8 - 9		61	98			80				80
9 - 10		78	51			86				86
10 - 11	59	91				100				100
11 - 12	94	93				94				94
- PM -										
12 - 1	91	108				100				100
1 - 2	106	138				122				122
2 - 3	87	117				102				102
3 - 4	108	149				129				129
4 - 5	95	149				122				122
5 - 6	89	129				109				109
6 - 7	51	75				63				63
7 - 8	36	63				50				50
8 - 9	23	50				37				37
9 - 10	19	30				25				25
10 - 11	25	24				25				25
11 - 12	13	8				11				11
TOTALS :	896	1429	279			1353				**1353**
% Avg Day :	118%	106%	52%			100%				

AM (12am-10am) Peak Volumes

	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
15 Minute :		28	29			28				28
One Hour :		78	102			90				90
P.H.F. :		0.70	0.91			0.80				0.80
PH Begins :		9:00am	8:30am			9:00am				9:00am

Mid (10am-2pm) Peak Volumes

	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
15 Minute :	36	40				36				36
One Hour :	106	138				123				123
P.H.F. :	0.76	0.86				0.93				0.93
PH Begins :	1:00pm	1:00pm				1:00pm				1:00pm

PM (2pm-12am) Peak Volumes

	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
15 Minute :	36	45				37				37
One Hour :	116	160				139				139
P.H.F. :	0.81	0.89				0.94				0.94
PH Begins :	3:15pm	3:15pm				3:15pm				3:15pm

Weekly 24 Hour Volume Report: BROADWAY W ARIZ

Info Line 1 : WB
Info Line 2 : 934
GPS Lat/Lon :

Last Connected Device Type : Unic-L
Serial Number : 93934
Lanes : 1

Lane #1 (WB) Weekly Data 10/19/2015 to 10/25/2015

Time	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
- AM -										
12 - 1		6	5			6				6
1 - 2		0	4			2				2
2 - 3		0	4			2				2
3 - 4		0	2			1				1
4 - 5		0	1			1				1
5 - 6		0	3			2				2
6 - 7		1	14			8				8
7 - 8		17	28			23				23
8 - 9		22	47			35				35
9 - 10		23	56			40				40
10 - 11		27				27				27
11 - 12	40	57				55				55
- PM -										
12 - 1	43	47				45				45
1 - 2	32	39				36				36
2 - 3	37	40				39				39
3 - 4	37	70				54				54
4 - 5	50	84				67				67
5 - 6	41	92				67				67
6 - 7	19	49				34				34
7 - 8	17	47				32				32
8 - 9	9	22				16				16
9 - 10	12	17				15				15
10 - 11	5	14				10				10
11 - 12	4	6				5				5
TOTALS :	346	680	164			622				**622**
% Avg Day :	105%	109%	63%			100%				

	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
AM (12am-10am) Peak Volumes										
15 Minute :		9	21			15				15
One Hour :		25	56			40				40
P.H.F. :		0.78	0.67			0.67				0.67
PH Begins :		7:30am	9:00am			9:00am				9:00am
Mid (10am-2pm) Peak Volumes										
15 Minute :	18	18				18				18
One Hour :	60	63				62				62
P.H.F. :	0.83	0.88				0.86				0.86
PH Begins :	11:30am	11:15am				11:30am				11:30am
PM (2pm-12am) Peak Volumes										
15 Minute :	19	40				30				30
One Hour :	58	103				80				80
P.H.F. :	0.76	0.64				0.67				0.67
PH Begins :	4:15pm	4:30pm				4:30pm				4:30pm

Weekly 24 Hour Volume Report: BROADWAY W MT

Info Line 1 : R
Info Line 2 : 826
GPS Lat/Lon :

Last Connected Device Type : Unic-L
Serial Number :
Lanes : 1

Lane #1 (R) Weekly Data 10/19/2015 to 10/25/2015

Time	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
- AM -										
12 - 1		1	1			1				1
1 - 2		0	0			0				0
2 - 3		4	0			2				2
3 - 4		0	1			1				1
4 - 5		0	0			0				0
5 - 6		0	0			0				0
6 - 7		5	3			4				4
7 - 8		6	6			6				6
8 - 9		10	10			10				10
9 - 10		15	11			15				15
10 - 11	10	23				22				22
11 - 12	20	34				27				27
- PM -										
12 - 1	28	39				34				34
1 - 2	21	41				31				31
2 - 3	20	32				26				26
3 - 4	31	52				42				42
4 - 5	15	51				33				33
5 - 6	33	45				39				39
6 - 7	6	37				22				22
7 - 8	4	22				13				13
8 - 9	6	27				17				17
9 - 10	3	12				8				8
10 - 11	4	5				5				5
11 - 12	1	0				1				1
TOTALS :	202	461	32			359				**359**
% Avg Day :	100%	128%	22%			100%				

AM (12am-10am) Peak Volumes

	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
15 Minute :		7	5			7				7
One Hour :		15	14			17				17
P.H.F. :		0.54	0.70			0.61				0.61
PH Begins :		9:00am	8:30am			9:00am				9:00am

Mid (10am-2pm) Peak Volumes

	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
15 Minute :	10	13				12				12
One Hour :	30	41				36				36
P.H.F. :	0.75	0.79				0.75				0.75
PH Begins :	11:45am	1:00pm				11:45am				11:45am

PM (2pm-12am) Peak Volumes

	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
15 Minute :	15	18				13				13
One Hour :	33	59				43				43
P.H.F. :	0.55	0.82				0.83				0.83
PH Begins :	5:00pm	3:30pm				3:00pm				3:00pm

Weekly 24 Hour Volume Report: GRANITE E MT

Info Line 1 : No Lat ...
Info Line 2 : 447
GPS Lat/Lon :

Last Connected Device Type : Unic-L
Serial Number :
Lanes : 1

Lane #1 (ALL) Weekly Data 10/12/2015 to 10/18/2015

Time	10/12 MON	10/13 TUE	10/14 WED	10/15 THU	10/16 FRI	Weekday Average	10/17 SAT	10/18 SUN	Weekend Average	Week Average
- AM -										
12 - 1				5		5				5
1 - 2				5		5				5
2 - 3				14		14				14
3 - 4				5		5				5
4 - 5				10		10				10
5 - 6				8		8				8
6 - 7				24		24				24
7 - 8				50		50				50
8 - 9				74		74				74
9 - 10				130		130				130
10 - 11				128		128				128
11 - 12				163		163				163
- PM -										
12 - 1				171		171				171
1 - 2				154		154				154
2 - 3				139		139				139
3 - 4			51	186		190				190
4 - 5			194	186		190				190
5 - 6			187	200		194				194
6 - 7			96			96				96
7 - 8			68			68				68
8 - 9			57			57				57
9 - 10			54			54				54
10 - 11			36			36				36
11 - 12			21			21				21
TOTALS :			764	1652		1986				**1986**
% Avg Day :			112%	111%		100%				
AM (12am-10am) Peak Volumes										
15 Minute :				40		40				40
One Hour :				130		130				130
P.H.F. :				0.81		0.81				0.81
PH Begins :				9:00am		9:00am				9:00am
Mid (10am-2pm) Peak Volumes										
15 Minute :				71		71				71
One Hour :				195		195				195
P.H.F. :				0.69		0.69				0.69
PH Begins :				11:45am		11:45am				11:45am
PM (2pm-12am) Peak Volumes										
15 Minute :			82	82		82				82
One Hour :			231	214		221				221
P.H.F. :			0.70	0.65		0.67				0.67
PH Begins :			4:30pm	4:15pm		4:15pm				4:15pm

Weekly 24 Hour Volume Report: GRANITE W MT

Info Line 1 :
Info Line 2 : 826
GPS Lat/Lon :

Last Connected Device Type : Unic-L
Serial Number :
Lanes : 1

Lane #1 (R) Weekly Data 10/12/2015 to 10/18/2015

Time	10/12 MON	10/13 TUE	10/14 WED	10/15 THU	10/16 FRI	Weekday Average	10/17 SAT	10/18 SUN	Weekend Average	Week Average
- AM -										
12 - 1				4		4				4
1 - 2				3		3				3
2 - 3				5		5				5
3 - 4				3		3				3
4 - 5				7		7				7
5 - 6				13		13				13
6 - 7				23		23				23
7 - 8				68		68				68
8 - 9				73		73				73
9 - 10				84		84				84
10 - 11				85		85				85
11 - 12				108		108				108
- PM -										
12 - 1				96		96				96
1 - 2				88		88				88
2 - 3				112		112				112
3 - 4			44	89		89				89
4 - 5			98	87		93				93
5 - 6			97	92		95				95
6 - 7			85			85				85
7 - 8			66			66				66
8 - 9			47			47				47
9 - 10			41			41				41
10 - 11			21			21				21
11 - 12			16			16				16
TOTALS :			515	1040		1325				**1325**
% Avg Day :			110%	105%		100%				
AM (12am-10am) Peak Volumes										
15 Minute :				27		27				27
One Hour :				87		87				87
P.H.F. :				0.81		0.81				0.81
PH Begins :				7:15am		7:15am				7:15am
Mid (10am-2pm) Peak Volumes										
15 Minute :				37		37				37
One Hour :				110		110				110
P.H.F. :				0.74		0.74				0.74
PH Begins :				11:45am		11:45am				11:45am
PM (2pm-12am) Peak Volumes										
15 Minute :			30	34		34				34
One Hour :			105	112		112				112
P.H.F. :			0.91	0.82		0.82				0.82
PH Begins :			4:15pm	2:00pm		2:00pm				2:00pm

Weekly 24 Hour Volume Report: IDAHO N PARK

Info Line 1 : ATS
Info Line 2 : Unicorn #1
GPS Lat/Lon :

Last Connected Device Type : Unic-L
Serial Number :
Lanes : 1

Lane #1 (R) Weekly Data 10/12/2015 to 10/18/2015

Time	10/12 MON	10/13 TUE	10/14 WED	10/15 THU	10/16 FRI	Weekday Average	10/17 SAT	10/18 SUN	Weekend Average	Week Average
- AM -										
12 - 1				0		0				0
1 - 2				3		3				3
2 - 3				0		0				0
3 - 4				2		2				2
4 - 5				1		1				1
5 - 6				3		3				3
6 - 7				0		0				0
7 - 8				8		8				8
8 - 9				13		13				13
9 - 10				15		15				15
10 - 11				27		27				27
11 - 12				35		35				35
- PM -										
12 - 1				40		40				40
1 - 2				20		20				20
2 - 3			13	53		44				44
3 - 4			36	31		34				34
4 - 5			41	37		39				39
5 - 6			40	38		39				39
6 - 7			28			28				28
7 - 8			18			18				18
8 - 9			23			23				23
9 - 10			16			16				16
10 - 11			9			9				9
11 - 12			4			4				4
TOTALS :			228	326		421				**421**
% Avg Day :			137%	103%		100%				
AM (12am-10am) Peak Volumes										
15 Minute :				8		8				8
One Hour :				15		15				15
P.H.F. :				0.54		0.54				0.54
PH Begins :				7:45am		7:45am				7:45am
Mid (10am-2pm) Peak Volumes										
15 Minute :				17		17				17
One Hour :				52		52				52
P.H.F. :				0.76		0.76				0.76
PH Begins :				11:45am		11:45am				11:45am
PM (2pm-12am) Peak Volumes										
15 Minute :			13	20		20				20
One Hour :			47	53		49				49
P.H.F. :			0.90	0.66		0.61				0.61
PH Begins :			4:15pm	2:00pm		2:00pm				2:00pm

Weekly 24 Hour Volume Report: IDAHO S PARK

Info Line 1 : R
Info Line 2 : 843
GPS Lat/Lon :

Last Connected Device Type : Unic-L
Serial Number : 97843
Lanes : 1

Lane #1 (R) Weekly Data 10/12/2015 to 10/18/2015

Time	10/12 MON	10/13 TUE	10/14 WED	10/15 THU	10/16 FRI	Weekday Average	10/17 SAT	10/18 SUN	Weekend Average	Week Average
- AM -										
12 - 1				6		6				6
1 - 2				0		0				0
2 - 3				0		0				0
3 - 4				3		3				3
4 - 5				1		1				1
5 - 6				2		2				2
6 - 7				11		11				11
7 - 8				12		12				12
8 - 9				18		18				18
9 - 10				24		24				24
10 - 11				56		56				56
11 - 12				48		48				48
- PM -										
12 - 1				59		59				59
1 - 2				61		61				61
2 - 3			10	39		39				39
3 - 4			71	47		59				59
4 - 5			72	46		59				59
5 - 6			72	78		75				75
6 - 7			46			46				46
7 - 8			46			46				46
8 - 9			32			32				32
9 - 10			24			24				24
10 - 11			12			12				12
11 - 12			5			5				5
TOTALS :			390	511		698				**698**
% Avg Day :			145%	98%		100%				

AM (12am-10am) Peak Volumes

	10/12 MON	10/13 TUE	10/14 WED	10/15 THU	10/16 FRI	Weekday Average	10/17 SAT	10/18 SUN	Weekend Average	Week Average
15 Minute :				9		9				9
One Hour :				28		28				28
P.H.F. :				0.78		0.78				0.78
PH Begins :				8:30am		8:30am				8:30am

Mid (10am-2pm) Peak Volumes

	10/12 MON	10/13 TUE	10/14 WED	10/15 THU	10/16 FRI	Weekday Average	10/17 SAT	10/18 SUN	Weekend Average	Week Average
15 Minute :				20		20				20
One Hour :				64		64				64
P.H.F. :				0.80		0.80				0.80
PH Begins :				10:15am		10:15am				10:15am

PM (2pm-12am) Peak Volumes

	10/12 MON	10/13 TUE	10/14 WED	10/15 THU	10/16 FRI	Weekday Average	10/17 SAT	10/18 SUN	Weekend Average	Week Average
15 Minute :			27	25		23				23
One Hour :			85	78		76				76
P.H.F. :			0.79	0.78		0.86				0.86
PH Begins :			3:30pm	5:00pm		5:00pm				5:00pm

Weekly 24 Hour Volume Report: MAIN S PARK

Info Line 1 : ATS
Info Line 2 : UNICORN 5
GPS Lat/Lon :

Last Connected Device Type : Unic-L
Serial Number :
Lanes : 1

Lane #1 (NB) Weekly Data 04/04/2016 to 04/10/2016

Time	04/04 MON	04/05 TUE	04/06 WED	04/07 THU	04/08 FRI	Weekday Average	04/09 SAT	04/10 SUN	Weekend Average	Week Average
- AM -										
12 - 1			10	7	17	11				11
1 - 2			7	7	7	7				7
2 - 3			6	10	9	8				8
3 - 4			4	3	3	3				3
4 - 5			6	7	5	6				6
5 - 6			14	13	4	10				10
6 - 7			28	28	25	27				27
7 - 8			90	83	77	83				83
8 - 9			128	110	127	122				122
9 - 10			81	81	35	88				88
10 - 11			102	113		108				108
11 - 12			103	89		96				96
- PM -										
12 - 1			153	143		148				148
1 - 2			181	151		166				166
2 - 3			136	155		146				146
3 - 4		116	164	187		170				170
4 - 5		121	122	167		137				137
5 - 6		134	135	115		128				128
6 - 7		90	13	136		80				80
7 - 8		80	0	80		53				53
8 - 9		42	19	67		43				43
9 - 10		34	44	53		44				44
10 - 11		28	29	25		27				27
11 - 12		20	21	20		20				20
TOTALS :		665	1596	1850	309	1731				**1731**
% Avg Day :		105%	92%	107%	46%	100%				

AM (12am-10am) Peak Volumes

	04/04 MON	04/05 TUE	04/06 WED	04/07 THU	04/08 FRI	Weekday Average	04/09 SAT	04/10 SUN	Weekend Average	Week Average
15 Minute :			46	41	41	41				41
One Hour :			139	131	140	136				136
P.H.F. :			0.76	0.80	0.85	0.83				0.83
PH Begins :			7:45am	7:45am	7:45am	7:45am				7:45am

Mid (10am-2pm) Peak Volumes

	04/04 MON	04/05 TUE	04/06 WED	04/07 THU	04/08 FRI	Weekday Average	04/09 SAT	04/10 SUN	Weekend Average	Week Average
15 Minute :			54	46		45				45
One Hour :			181	151		168				168
P.H.F. :			0.84	0.82		0.95				0.95
PH Begins :			12:30pm	1:00pm		1:00pm				1:00pm

PM (2pm-12am) Peak Volumes

	04/04 MON	04/05 TUE	04/06 WED	04/07 THU	04/08 FRI	Weekday Average	04/09 SAT	04/10 SUN	Weekend Average	Week Average
15 Minute :		46	49	61		55				55
One Hour :		151	175	187		179				179
P.H.F. :		0.82	0.89	0.77		0.81				0.81
PH Begins :		3:15pm	2:45pm	2:45pm		2:45pm				2:45pm

Weekly 24 Hour Volume Report: MERCURY E MT

Info Line 1 : ATS
Info Line 2 : UNICORN 5
GPS Lat/Lon :

Last Connected Device Type : Unic-L
Serial Number :
Lanes : 1

Lane #1 (R) Weekly Data 10/19/2015 to 10/25/2015

Time	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
- AM -										
12 - 1				8	8	8				8
1 - 2				6	3	5				5
2 - 3				6	0	3				3
3 - 4				4	3	4				4
4 - 5				6	7	7				7
5 - 6				6	6	6				6
6 - 7				22	28	25				25
7 - 8				71	68	70				70
8 - 9				87	71	79				79
9 - 10				70		70				70
10 - 11			16	76		74				74
11 - 12			79	116		98				98
- PM -										
12 - 1			130	117		124				124
1 - 2			135	127		131				131
2 - 3			101	104		103				103
3 - 4			122	114		118				118
4 - 5			109	106		108				108
5 - 6			111	98		105				105
6 - 7			97	68		83				83
7 - 8			66	49		58				58
8 - 9			33	24		29				29
9 - 10			26	23		25				25
10 - 11			13	12		13				13
11 - 12			13	9		11				11
TOTALS :			1051	1329	194	1357				**1357**
% Avg Day :			140%	98%	38%	100%				

	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
AM (12am-10am) Peak Volumes										
15 Minute :				38	34	33				33
One Hour :				107	90	98				98
P.H.F. :				0.70	0.66	0.74				0.74
PH Begins :				7:30am	7:45am	7:45am				7:45am
Mid (10am-2pm) Peak Volumes										
15 Minute :			46	44		39				39
One Hour :			144	149		147				147
P.H.F. :			0.78	0.85		0.94				0.94
PH Begins :			12:30pm	12:30pm		12:30pm				12:30pm
PM (2pm-12am) Peak Volumes										
15 Minute :			46	44		43				43
One Hour :			131	127		130				130
P.H.F. :			0.84	0.72		0.77				0.77
PH Begins :			4:30pm	4:30pm		4:30pm				4:30pm

Weekly 24 Hour Volume Report: MERCURY W ARIZ

Info Line 1 : ATS
Info Line 2 : Unicorn #3
GPS Lat/Lon :

Last Connected Device Type : Unic-L
Serial Number :
Lanes : 1

Lane #1 (Q) Weekly Data 10/19/2015 to 10/25/2015

Time	*10/19 MON*	*10/20 TUE*	*10/21 WED*	*10/22 THU*	*10/23 FRI*	*Weekday Average*	*10/24 SAT*	*10/25 SUN*	*Weekend Average*	*Week Average*
- AM -										
12 - 1		6	1			4				4
1 - 2		4	2			3				3
2 - 3		1	1			1				1
3 - 4		4	4			4				4
4 - 5		5	4			5				5
5 - 6		9	9			9				9
6 - 7		12	7			10				10
7 - 8		55	60			58				58
8 - 9		106	99			103				103
9 - 10		57	54			56				56
10 - 11		66				66				66
11 - 12	18	106				99				99
- PM -										
12 - 1	99	110				105				105
1 - 2	93	87				90				90
2 - 3	115	104				110				110
3 - 4	211	213				212				212
4 - 5	113	137				125				125
5 - 6	126	148				137				137
6 - 7	80	78				79				79
7 - 8	42	66				54				54
8 - 9	63	34				49				49
9 - 10	25	25				25				25
10 - 11	9	13				11				11
11 - 12	8	10				9				9
TOTALS :	1002	1456	241			1424				**1424**
% Avg Day :	138%	102%	41%			100%				

	10/19 MON	*10/20 TUE*	*10/21 WED*	*10/22 THU*	*10/23 FRI*	*Weekday Average*	*10/24 SAT*	*10/25 SUN*	*Weekend Average*	*Week Average*
AM (12am-10am) Peak Volumes										
15 Minute :		48	37			43				43
One Hour :		115	108			113				113
P.H.F. :		0.60	0.73			0.66				0.66
PH Begins :		7:30am	7:45am			7:45am				7:45am
Mid (10am-2pm) Peak Volumes										
15 Minute :	41	41				32				32
One Hour :	99	117				106				106
P.H.F. :	0.60	0.71				0.83				0.83
PH Begins :	12:00pm	12:30pm				11:15am				11:15am
PM (2pm-12am) Peak Volumes										
15 Minute :	74	80				77				77
One Hour :	211	213				213				213
P.H.F. :	0.71	0.67				0.69				0.69
PH Begins :	3:00pm	3:00pm				3:00pm				3:00pm

Weekly 24 Hour Volume Report: MERCURY W MT

Info Line 1 : No Lat ...
Info Line 2 : 447
GPS Lat/Lon :

Last Connected Device Type : Unic-L
Serial Number :
Lanes : 1

Lane #1 (R) Weekly Data 10/19/2015 to 10/25/2015

Time	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
- AM -										
12 - 1				3	3	3				3
1 - 2				1	3	2				2
2 - 3				0	0	0				0
3 - 4				0	2	1				1
4 - 5				1	4	3				3
5 - 6				5	4	5				5
6 - 7				9	7	8				8
7 - 8				35	42	39				39
8 - 9				43	42	43				43
9 - 10				29		29				29
10 - 11			7	36		34				34
11 - 12			60	70		65				65
- PM -										
12 - 1			66	57		62				62
1 - 2			64	46		55				55
2 - 3			64	61		63				63
3 - 4			101	97		99				99
4 - 5			70	57		64				64
5 - 6			86	71		79				79
6 - 7			40	49		45				45
7 - 8			27	40		34				34
8 - 9			31	26		29				29
9 - 10			9	14		12				12
10 - 11			9	5		7				7
11 - 12			5	5		5				5
TOTALS :			639	760	107	786				**786**
% Avg Day :			147%	97%	36%	100%				
AM (12am-10am) Peak Volumes										
15 Minute :				13	19	16				16
One Hour :				44	60	53				53
P.H.F. :				0.85	0.79	0.83				0.83
PH Begins :				7:15am	7:15am	7:15am				7:15am
Mid (10am-2pm) Peak Volumes										
15 Minute :			24	22		21				21
One Hour :			67	72		67				67
P.H.F. :			0.84	0.82		0.88				0.88
PH Begins :			11:45am	11:15am		11:30am				11:30am
PM (2pm-12am) Peak Volumes										
15 Minute :			43	37		40				40
One Hour :			105	109		107				107
P.H.F. :			0.61	0.74		0.67				0.67
PH Begins :			3:15pm	3:15pm		3:15pm				3:15pm

Weekly 24 Hour Volume Report: MT N BROADWAY

Info Line 1 : ATS
Info Line 2 : Unicorn # 2
GPS Lat/Lon :

Last Connected Device Type : Unic-L
Serial Number : 91434
Lanes : 2

Lane #1 (SB) Weekly Data 10/19/2015 to 10/25/2015

Time	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
- AM -										
12 - 1		2	19			11				11
1 - 2		10	10			10				10
2 - 3		7	8			8				8
3 - 4		6	11			9				9
4 - 5		17	25			21				21
5 - 6		39	39			39				39
6 - 7		80	67			74				74
7 - 8		154	161			158				158
8 - 9		158	179			169				169
9 - 10		158	121			159				159
10 - 11		144				144				144
11 - 12	191	166				179				179
- PM -										
12 - 1	202	211				207				207
1 - 2	187	188				188				188
2 - 3	184	211				198				198
3 - 4	207	200				204				204
4 - 5	218	222				220				220
5 - 6	206	177				192				192
6 - 7	132	122				127				127
7 - 8	57	119				88				88
8 - 9	82	87				85				85
9 - 10	50	52				51				51
10 - 11	28	55				42				42
11 - 12	32	25				29				29
TOTALS :	1776	2610	640			2612				**2612**
% Avg Day :	126%	100%	60%			100%				

AM (12am-10am) Peak Volumes

	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
15 Minute :		73	74			74				74
One Hour :		196	221			205				205
P.H.F. :		0.67	0.75			0.69				0.69
PH Begins :		7:45am	7:30am			7:30am				7:30am

Mid (10am-2pm) Peak Volumes

	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
15 Minute :	62	56				59				59
One Hour :	221	211				214				214
P.H.F. :	0.89	0.94				0.91				0.91
PH Begins :	11:45am	12:00pm				11:45am				11:45am

PM (2pm-12am) Peak Volumes

	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
15 Minute :	70	80				75				75
One Hour :	237	253				246				246
P.H.F. :	0.85	0.79				0.82				0.82
PH Begins :	4:15pm	4:15pm				4:15pm				4:15pm

Lane #2 (NB) Weekly Data 10/19/2015 to 10/25/2015

Time	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
- AM -										
12 - 1		16	40			28				28
1 - 2		11	22			17				17
2 - 3		11	21			16				16
3 - 4		8	10			9				9
4 - 5		20	10			15				15
5 - 6		20	31			26				26
6 - 7		51	67			59				59
7 - 8		192	162			177				177
8 - 9		182	255			219				219
9 - 10		173	98			155				155
10 - 11		162				162				162
11 - 12	188	186				187				187
- PM -										
12 - 1	233	227				230				230
1 - 2	235	241				238				238
2 - 3	234	239				237				237
3 - 4	247	290				269				269
4 - 5	252	267				260				260
5 - 6	220	276				248				248
6 - 7	189	198				194				194
7 - 8	137	172				155				155
8 - 9	102	140				121				121
9 - 10	70	105				88				88
10 - 11	60	91				76				76
11 - 12	40	47				44				44
TOTALS :	2207	3325	716			3230				**3230**
% Avg Day :	126%	103%	55%			100%				

	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
AM (12am-10am) Peak Volumes										
15 Minute :		70	78			73				73
One Hour :		240	270			244				244
P.H.F. :		0.86	0.87			0.84				0.84
PH Begins :		7:30am	7:45am			7:30am				7:30am
Mid (10am-2pm) Peak Volumes										
15 Minute :	76	73				67				67
One Hour :	240	241				239				239
P.H.F. :	0.86	0.83				0.89				0.89
PH Begins :	12:45pm	1:00pm				1:00pm				1:00pm
PM (2pm-12am) Peak Volumes										
15 Minute :	74	80				76				76
One Hour :	260	290				272				272
P.H.F. :	0.88	0.91				0.96				0.96
PH Begins :	4:15pm	3:00pm				4:15pm				4:15pm

Weekly 24 Hour Volume Report: MT N GRANITE

Info Line 1 : ATS
Info Line 2 : UNICORN 5
GPS Lat/Lon :

Last Connected Device Type : Unic-L
Serial Number :
Lanes : 1

Lane #1 (R) Weekly Data 10/12/2015 to 10/18/2015

Time	10/12 MON	10/13 TUE	10/14 WED	10/15 THU	10/16 FRI	Weekday Average	10/17 SAT	10/18 SUN	Weekend Average	Week Average
- AM -										
12 - 1				7		7				7
1 - 2				6		6				6
2 - 3				8		8				8
3 - 4				3		3				3
4 - 5				10		10				10
5 - 6				19		19				19
6 - 7				40		40				40
7 - 8				66		66				66
8 - 9				88		88				88
9 - 10				70		70				70
10 - 11				75		75				75
11 - 12				83		83				83
- PM -										
12 - 1				90		90				90
1 - 2				89		89				89
2 - 3				75		75				75
3 - 4			33	96		103				103
4 - 5			75	78		77				77
5 - 6			76	76		76				76
6 - 7			74			74				74
7 - 8			58			58				58
8 - 9			42			42				42
9 - 10			41			41				41
10 - 11			17			17				17
11 - 12			10			10				10
TOTALS :			426	979		1227				**1227**
% Avg Day :			101%	106%		100%				

AM (12am-10am) Peak Volumes

	MON	TUE	WED	THU	FRI	Weekday Average	SAT	SUN	Weekend Average	Week Average
15 Minute :				33		33				33
One Hour :				91		91				91
P.H.F. :				0.69		0.69				0.69
PH Begins :				7:30am		7:30am				7:30am

Mid (10am-2pm) Peak Volumes

	MON	TUE	WED	THU	FRI	Weekday Average	SAT	SUN	Weekend Average	Week Average
15 Minute :				30		30				30
One Hour :				99		99				99
P.H.F. :				0.82		0.82				0.82
PH Begins :				11:15am		11:15am				11:15am

PM (2pm-12am) Peak Volumes

	MON	TUE	WED	THU	FRI	Weekday Average	SAT	SUN	Weekend Average	Week Average
15 Minute :			33	31		31				31
One Hour :			87	99		101				101
P.H.F. :			0.75	0.80		0.81				0.81
PH Begins :			5:15pm	2:45pm		3:00pm				3:00pm

Weekly 24 Hour Volume Report: MT N MERCURY

Info Line 1 : ATS
Info Line 2 : Unicorn #3
GPS Lat/Lon :

Last Connected Device Type : Unic-L
Serial Number :
Lanes : 1

Lane #1 (R) Weekly Data 10/19/2015 to 10/25/2015

Time	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
- AM -										
12 - 1				29	50	40				40
1 - 2				27	23	25				25
2 - 3				17	24	21				21
3 - 4				18	10	14				14
4 - 5				19	25	22				22
5 - 6				49	3	26				26
6 - 7				129	0	65				65
7 - 8				250	0	125				125
8 - 9				278	0	139				139
9 - 10				291		291				291
10 - 11				277		277				277
11 - 12			394	399		397				397
- PM -										
12 - 1			486	452		469				469
1 - 2			393	425		409				409
2 - 3			447	416		432				432
3 - 4			529	508		519				519
4 - 5			495	499		497				497
5 - 6			454	449		452				452
6 - 7			307	292		300				300
7 - 8			279	277		278				278
8 - 9			233	173		203				203
9 - 10			220	171		196				196
10 - 11			93	97		95				95
11 - 12			71	50		61				61
TOTALS :			4401	5592	135	5353				**5353**
% Avg Day :			152%	104%	7%	100%				
AM (12am-10am) Peak Volumes										
15 Minute :				113	17	83				83
One Hour :				327	50	291				291
P.H.F. :				0.72	0.74	0.88				0.88
PH Begins :				7:45am	12:00am	9:00am				9:00am
Mid (10am-2pm) Peak Volumes										
15 Minute :			150	143		123				123
One Hour :			486	463		470				470
P.H.F. :			0.81	0.81		0.96				0.96
PH Begins :			12:00pm	12:30pm		12:00pm				12:00pm
PM (2pm-12am) Peak Volumes										
15 Minute :			170	156		158				158
One Hour :			551	515		532				532
P.H.F. :			0.81	0.88		0.84				0.84
PH Begins :			2:45pm	3:15pm		2:45pm				2:45pm

Weekly 24 Hour Volume Report: MT S BROADWAY

Info Line 1 : ATS
Info Line 2 : Unicorn #6
GPS Lat/Lon :

Last Connected Device Type : Unic-L
Serial Number :
Lanes : 1

Lane #1 (R) Weekly Data 10/19/2015 to 10/25/2015

Time	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
- AM -										
12 - 1		21	42			32				32
1 - 2		13	25			19				19
2 - 3		11	22			17				17
3 - 4		8	14			11				11
4 - 5		14	14			14				14
5 - 6		24	35			30				30
6 - 7		67	80			74				74
7 - 8		194	186			190				190
8 - 9		221	316			269				269
9 - 10		204	164			210				210
10 - 11	49	185				187				187
11 - 12	234	232				233				233
- PM -										
12 - 1	228	270				249				249
1 - 2	278	315				297				297
2 - 3	261	288				275				275
3 - 4	289	362				326				326
4 - 5	308	339				324				324
5 - 6	254	349				302				302
6 - 7	223	274				249				249
7 - 8	167	237				202				202
8 - 9	115	172				144				144
9 - 10	95	127				111				111
10 - 11	79	108				94				94
11 - 12	43	54				49				49
TOTALS :	2623	4089	898			3908				**3908**
% Avg Day :	122%	105%	57%			100%				
AM (12am-10am) Peak Volumes										
15 Minute :		74	94			80				80
One Hour :		259	316			281				281
P.H.F. :		0.88	0.84			0.88				0.88
PH Begins :		7:30am	8:00am			7:30am				7:30am
Mid (10am-2pm) Peak Volumes										
15 Minute :	77	90				84				84
One Hour :	280	315				298				298
P.H.F. :	0.91	0.88				0.89				0.89
PH Begins :	12:45pm	1:00pm				1:00pm				1:00pm
PM (2pm-12am) Peak Volumes										
15 Minute :	84	100				90				90
One Hour :	308	365				327				327
P.H.F. :	0.92	0.95				0.94				0.94
PH Begins :	4:00pm	4:30pm				4:30pm				4:30pm

Weekly 24 Hour Volume Report: MT S MERCURY

Info Line 1 : UNICORN 1
Info Line 2 :
GPS Lat/Lon :

Last Connected Device Type : Unic-L
Serial Number :
Lanes : 1

Lane #1 (R) Weekly Data 10/19/2015 to 10/25/2015

Time	10/19 MON	10/20 TUE	10/21 WED	10/22 THU	10/23 FRI	Weekday Average	10/24 SAT	10/25 SUN	Weekend Average	Week Average
- AM -										
12 - 1				37	50	44				44
1 - 2				22	30	26				26
2 - 3				28	22	25				25
3 - 4				11	10	11				11
4 - 5				10	16	13				13
5 - 6				37	33	35				35
6 - 7				117	108	113				113
7 - 8				320	324	322				322
8 - 9				457	418	438				438
9 - 10				354		354				354
10 - 11				340		340				340
11 - 12			403	409		406				406
- PM -										
12 - 1			467	480		474				474
1 - 2			467	482		475				475
2 - 3			450	424		437				437
3 - 4			473	454		464				464
4 - 5			436	399		418				418
5 - 6			499	464		482				482
6 - 7			458	362		410				410
7 - 8			299	263		281				281
8 - 9			224	188		206				206
9 - 10			148	167		158				158
10 - 11			114	118		116				116
11 - 12			72	61		67				67
TOTALS :			4510	6004	1011	6115				**6115**
% Avg Day :			136%	98%	44%	100%				
AM (12am-10am) Peak Volumes										
15 Minute :				151	141	146				146
One Hour :				497	457	478				478
P.H.F. :				0.82	0.81	0.82				0.82
PH Begins :				7:30am	7:30am	7:30am				7:30am
Mid (10am-2pm) Peak Volumes										
15 Minute :			128	137		128				128
One Hour :			476	517		496				496
P.H.F. :			0.93	0.94		0.97				0.97
PH Begins :			12:30pm	12:45pm		12:30pm				12:30pm
PM (2pm-12am) Peak Volumes										
15 Minute :			134	134		130				130
One Hour :			505	471		489				489
P.H.F. :			0.94	0.91		0.94				0.94
PH Begins :			4:30pm	4:30pm		4:30pm				4:30pm

Weekly 24 Hour Volume Report: PARK E IDAHO

Info Line 1 : ATS
Info Line 2 : Unicorn #4
GPS Lat/Lon :

Last Connected Device Type : Unic-L
Serial Number : 91889
Lanes : 1

Lane #1 (R) Weekly Data 10/12/2015 to 10/18/2015

Time	10/12 MON	10/13 TUE	10/14 WED	10/15 THU	10/16 FRI	Weekday Average	10/17 SAT	10/18 SUN	Weekend Average	Week Average
- AM -										
12 - 1				27		27				27
1 - 2				23		23				23
2 - 3				8		8				8
3 - 4				2		2				2
4 - 5				8		8				8
5 - 6				14		14				14
6 - 7				40		40				40
7 - 8				185		185				185
8 - 9				173		173				173
9 - 10				213		213				213
10 - 11				215		215				215
11 - 12				238		238				238
- PM -										
12 - 1				274		274				274
1 - 2				298		298				298
2 - 3			70	250		256				256
3 - 4			291	225		258				258
4 - 5			279	236		258				258
5 - 6			231	273		252				252
6 - 7			0	116		77				77
7 - 8			0			0				0
8 - 9			80			80				80
9 - 10			115			115				115
10 - 11			51			51				51
11 - 12			34			34				34
TOTALS :			1151	2818		3099				**3099**
% Avg Day :			96%	118%		100%				

AM (12am-10am) Peak Volumes

	10/12 MON	10/13 TUE	10/14 WED	10/15 THU	10/16 FRI	Weekday Average	10/17 SAT	10/18 SUN	Weekend Average	Week Average
15 Minute :				93		93				93
One Hour :				247		247				247
P.H.F. :				0.66		0.66				0.66
PH Begins :				7:30am		7:30am				7:30am

Mid (10am-2pm) Peak Volumes

	10/12 MON	10/13 TUE	10/14 WED	10/15 THU	10/16 FRI	Weekday Average	10/17 SAT	10/18 SUN	Weekend Average	Week Average
15 Minute :				86		86				86
One Hour :				298		298				298
P.H.F. :				0.87		0.87				0.87
PH Begins :				1:00pm		1:00pm				1:00pm

PM (2pm-12am) Peak Volumes

	10/12 MON	10/13 TUE	10/14 WED	10/15 THU	10/16 FRI	Weekday Average	10/17 SAT	10/18 SUN	Weekend Average	Week Average
15 Minute :			97	79		81				81
One Hour :			321	276		299				299
P.H.F. :			0.87	0.87		0.92				0.92
PH Begins :			4:45pm	4:45pm		4:45pm				4:45pm

Weekly 24 Hour Volume Report: PARK E MAIN

Info Line 1 : UNICORN 1
Info Line 2 : ATS
GPS Lat/Lon :

Last Connected Device Type : Unic-L
Serial Number :
Lanes : 1

Lane #1 (NB) Weekly Data 04/04/2016 to 04/10/2016

Time	04/04 MON	04/05 TUE	04/06 WED	04/07 THU	04/08 FRI	Weekday Average	04/09 SAT	04/10 SUN	Weekend Average	Week Average
- AM -										
12 - 1			12	6	21	13				13
1 - 2			11	3	18	11				11
2 - 3			8	9	13	10				10
3 - 4			0	2	1	1				1
4 - 5			4	6	4	5				5
5 - 6			13	22	20	18				18
6 - 7			53	57	46	52				52
7 - 8			137	126	103	122				122
8 - 9			172	179	0	117				117
9 - 10			132	147		140				140
10 - 11			122	123		123				123
11 - 12			173	170		172				172
- PM -										
12 - 1			184	171		178				178
1 - 2			202	212		207				207
2 - 3			173	180		177				177
3 - 4		173	166	222		187				187
4 - 5		182	147	190		173				173
5 - 6		175	195	206		192				192
6 - 7		156	144	155		152				152
7 - 8		119	131	155		135				135
8 - 9		87	110	139		112				112
9 - 10		73	68	98		80				80
10 - 11		47	53	57		52				52
11 - 12		26	24	32		27				27
TOTALS :		1038	2434	2667	226	2456				**2456**
% Avg Day :		113%	99%	109%	25%	100%				
AM (12am-10am) Peak Volumes										
15 Minute :			64	59	40	50				50
One Hour :			190	194	103	147				147
P.H.F. :			0.74	0.82	0.64	0.73				0.73
PH Begins :			7:45am	7:30am	7:00am	7:30am				7:30am
Mid (10am-2pm) Peak Volumes										
15 Minute :			55	64		60				60
One Hour :			205	212		208				208
P.H.F. :			0.93	0.83		0.87				0.87
PH Begins :			12:45pm	1:00pm		12:45pm				12:45pm
PM (2pm-12am) Peak Volumes										
15 Minute :		56	58	63		52				52
One Hour :		184	197	222		199				199
P.H.F. :		0.92	0.91	0.96		0.96				0.96
PH Begins :		4:30pm	4:45pm	3:00pm		4:30pm				4:30pm

Weekly 24 Hour Volume Report: PARK W IDAHO

Info Line 1 : WB
Info Line 2 : 934
GPS Lat/Lon :

Last Connected Device Type : Unic-L
Serial Number : 93934
Lanes : 2

Lane #1 (WB) Weekly Data 10/12/2015 to 10/18/2015

Time	10/12 MON	10/13 TUE	10/14 WED	10/15 THU	10/16 FRI	Weekday Average	10/17 SAT	10/18 SUN	Weekend Average	Week Average
- AM -										
12 - 1				25		25				25
1 - 2				18		18				18
2 - 3				10		10				10
3 - 4				4		4				4
4 - 5				6		6				6
5 - 6				11		11				11
6 - 7				38		38				38
7 - 8				158		158				158
8 - 9				180		180				180
9 - 10				189		189				189
10 - 11				197		197				197
11 - 12				165		165				165
- PM -										
12 - 1				249		249				249
1 - 2				231		231				231
2 - 3			59	200		207				207
3 - 4			225	214		220				220
4 - 5			246	204		225				225
5 - 6			284	268		276				276
6 - 7			195	47		194				194
7 - 8			140			140				140
8 - 9			113			113				113
9 - 10			106			106				106
10 - 11			56			56				56
11 - 12			37			37				37
TOTALS :			1461	2414		3055				**3055**
% Avg Day :			124%	104%		100%				
AM (12am-10am) Peak Volumes										
15 Minute :				85		85				85
One Hour :				229		229				229
P.H.F. :				0.67		0.67				0.67
PH Begins :				7:45am		7:45am				7:45am
Mid (10am-2pm) Peak Volumes										
15 Minute :				70		70				70
One Hour :				250		250				250
P.H.F. :				0.89		0.89				0.89
PH Begins :				11:45am		11:45am				11:45am
PM (2pm-12am) Peak Volumes										
15 Minute :			93	99		96				96
One Hour :			308	270		290				290
P.H.F. :			0.83	0.68		0.76				0.76
PH Begins :			4:45pm	4:45pm		4:45pm				4:45pm

Lane #2 (EB) Weekly Data 10/12/2015 to 10/18/2015

Time	10/12 MON	10/13 TUE	10/14 WED	10/15 THU	10/16 FRI	Weekday Average	10/17 SAT	10/18 SUN	Weekend Average	Week Average
- AM -										
12 - 1				20		20				20
1 - 2				14		14				14
2 - 3				14		14				14
3 - 4				11		11				11
4 - 5				7		7				7
5 - 6				29		29				29
6 - 7				54		54				54
7 - 8				102		102				102
8 - 9				140		140				140
9 - 10				161		161				161
10 - 11				213		213				213
11 - 12				279		279				279
- PM -										
12 - 1				265		265				265
1 - 2				311		311				311
2 - 3			91	248		271				271
3 - 4			338	305		322				322
4 - 5			312	249		281				281
5 - 6			324	304		314				314
6 - 7			283	74		286				286
7 - 8			189			189				189
8 - 9			144			144				144
9 - 10			78			78				78
10 - 11			59			59				59
11 - 12			42			42				42
TOTALS :			1860	2800		3606				**3606**
% Avg Day :			134%	102%		100%				

	10/12 MON	10/13 TUE	10/14 WED	10/15 THU	10/16 FRI	Weekday Average	10/17 SAT	10/18 SUN	Weekend Average	Week Average
AM (12am-10am) Peak Volumes										
15 Minute :				55		55				55
One Hour :				174		174				174
P.H.F. :				0.79		0.79				0.79
PH Begins :				8:45am		8:45am				8:45am
Mid (10am-2pm) Peak Volumes										
15 Minute :				91		91				91
One Hour :				311		311				311
P.H.F. :				0.85		0.85				0.85
PH Begins :				1:00pm		1:00pm				1:00pm
PM (2pm-12am) Peak Volumes										
15 Minute :			99	87		90				90
One Hour :			347	311		330				330
P.H.F. :			0.88	0.94		0.92				0.92
PH Begins :			3:15pm	3:15pm		3:15pm				3:15pm

Weekly 24 Hour Volume Report: PARK W MAIN

Info Line 1 : ATS
Info Line 2 : Unicorn # 2
GPS Lat/Lon :

Last Connected Device Type : Unic-L
Serial Number : 91434
Lanes : 1

Lane #1 (ALL) Weekly Data 04/04/2016 to 04/10/2016

Time	04/04 MON	04/05 TUE	04/06 WED	04/07 THU	04/08 FRI	Weekday Average	04/09 SAT	04/10 SUN	Weekend Average	Week Average
- AM -										
12 - 1			12	11	12	12				12
1 - 2			10	7	21	13				13
2 - 3			8	5	9	7				7
3 - 4			4	3	3	3				3
4 - 5			5	3	7	5				5
5 - 6			20	29	28	26				26
6 - 7			38	25	37	33				33
7 - 8			92	85	101	93				93
8 - 9			122	122	144	129				129
9 - 10			135	120		128				128
10 - 11			185	171		178				178
11 - 12			198	190		194				194
- PM -										
12 - 1			219	222		221				221
1 - 2			219	216		218				218
2 - 3		54	214	226		220				220
3 - 4		242	248	271		254				254
4 - 5		220	244	266		243				243
5 - 6		189	235	225		216				216
6 - 7		165	167	184		172				172
7 - 8		119	133	143		132				132
8 - 9		130	123	109		121				121
9 - 10		68	80	71		73				73
10 - 11		28	39	37		35				35
11 - 12		16	28	41		28				28
TOTALS :		1231	2778	2782	362	2754				**2754**
% Avg Day :		116%	101%	101%	35%	100%				

AM (12am-10am) Peak Volumes

	04/04 MON	04/05 TUE	04/06 WED	04/07 THU	04/08 FRI	Weekday Average	04/09 SAT	04/10 SUN	Weekend Average	Week Average
15 Minute :			42	41	49	42				42
One Hour :			135	136	157	143				143
P.H.F. :			0.80	0.83	0.80	0.85				0.85
PH Begins :			9:00am	7:45am	7:45am	7:45am				7:45am

Mid (10am-2pm) Peak Volumes

	04/04 MON	04/05 TUE	04/06 WED	04/07 THU	04/08 FRI	Weekday Average	04/09 SAT	04/10 SUN	Weekend Average	Week Average
15 Minute :			71	63		62				62
One Hour :			246	233		235				235
P.H.F. :			0.87	0.92		0.95				0.95
PH Begins :			12:30pm	11:45am		12:30pm				12:30pm

PM (2pm-12am) Peak Volumes

	04/04 MON	04/05 TUE	04/06 WED	04/07 THU	04/08 FRI	Weekday Average	04/09 SAT	04/10 SUN	Weekend Average	Week Average
15 Minute :		74	80	83		73				73
One Hour :		242	267	281		254				254
P.H.F. :		0.82	0.83	0.94		0.98				0.98
PH Begins :		3:00pm	4:45pm	3:15pm		3:00pm				3:00pm

Weekly 24 Hour Volume Report: PARK W WASH

Info Line 1 : ATS
Info Line 2 : Unicorn #6
GPS Lat/Lon :

Last Connected Device Type : Unic-L
Serial Number : 99217
Lanes : 1

Lane #1 (R) Weekly Data 10/12/2015 to 10/18/2015

Time	10/12 MON	10/13 TUE	10/14 WED	10/15 THU	10/16 FRI	Weekday Average	10/17 SAT	10/18 SUN	Weekend Average	Week Average
- AM -										
12 - 1				20		20				20
1 - 2				13		13				13
2 - 3				16		16				16
3 - 4				7		7				7
4 - 5				7		7				7
5 - 6				31		31				31
6 - 7				62		62				62
7 - 8				110		110				110
8 - 9				157		157				157
9 - 10				161		161				161
10 - 11				206		206				206
11 - 12				246		246				246
- PM -										
12 - 1				247		247				247
1 - 2				303		303				303
2 - 3				239		239				239
3 - 4			224	290		294				294
4 - 5			291	243		267				267
5 - 6			299	293		296				296
6 - 7			264	72		269				269
7 - 8			201			201				201
8 - 9			128			128				128
9 - 10			87			87				87
10 - 11			57			57				57
11 - 12			43			43				43
TOTALS :			1594	2723		3467				**3467**
% Avg Day :			126%	103%		100%				
AM (12am-10am) Peak Volumes										
15 Minute :				55		55				55
One Hour :				181		181				181
P.H.F. :				0.82		0.82				0.82
PH Begins :				8:45am		8:45am				8:45am
Mid (10am-2pm) Peak Volumes										
15 Minute :				88		88				88
One Hour :				303		303				303
P.H.F. :				0.86		0.86				0.86
PH Begins :				1:00pm		1:00pm				1:00pm
PM (2pm-12am) Peak Volumes										
15 Minute :			83	84		80				80
One Hour :			306	293		297				297
P.H.F. :			0.94	0.87		0.93				0.93
PH Begins :			4:45pm	5:00pm		5:00pm				5:00pm

Weekly 24 Hour Volume Report: WASHINGTON N PARK

Info Line 1 : ATS
Info Line 2 : Unicorn #3
GPS Lat/Lon :

Last Connected Device Type : Unic-L
Serial Number : 91888
Lanes : 1

Lane #1 (R) Weekly Data 10/12/2015 to 10/18/2015

Time	10/12 MON	10/13 TUE	10/14 WED	10/15 THU	10/16 FRI	Weekday Average	10/17 SAT	10/18 SUN	Weekend Average	Week Average
- AM -										
12 - 1				0		0				0
1 - 2				1		1				1
2 - 3				2		2				2
3 - 4				0		0				0
4 - 5				1		1				1
5 - 6				0		0				0
6 - 7				9		9				9
7 - 8				14		14				14
8 - 9				12		12				12
9 - 10				11		11				11
10 - 11				20		20				20
11 - 12				32		32				32
- PM -										
12 - 1				16		16				16
1 - 2				27		27				27
2 - 3				24		24				24
3 - 4			37	33		35				35
4 - 5			34	32		33				33
5 - 6			51	56		54				54
6 - 7			33	7		32				32
7 - 8			16			16				16
8 - 9			6			6				6
9 - 10			12			12				12
10 - 11			4			4				4
11 - 12			5			5				5
TOTALS :			198	297		366				**366**
% Avg Day :			144%	107%		100%				

AM (12am-10am) Peak Volumes

	10/12 MON	10/13 TUE	10/14 WED	10/15 THU	10/16 FRI	Weekday Average	10/17 SAT	10/18 SUN	Weekend Average	Week Average
15 Minute :				7		7				7
One Hour :				14		14				14
P.H.F. :				0.50		0.50				0.50
PH Begins :				7:00am		7:00am				7:00am

Mid (10am-2pm) Peak Volumes

	10/12 MON	10/13 TUE	10/14 WED	10/15 THU	10/16 FRI	Weekday Average	10/17 SAT	10/18 SUN	Weekend Average	Week Average
15 Minute :				11		11				11
One Hour :				32		32				32
P.H.F. :				0.73		0.73				0.73
PH Begins :				11:00am		11:00am				11:00am

PM (2pm-12am) Peak Volumes

	10/12 MON	10/13 TUE	10/14 WED	10/15 THU	10/16 FRI	Weekday Average	10/17 SAT	10/18 SUN	Weekend Average	Week Average
15 Minute :			22	19		18				18
One Hour :			51	56		55				55
P.H.F. :			0.58	0.74		0.76				0.76
PH Begins :			5:00pm	4:45pm		5:00pm				5:00pm

Weekly 24 Hour Volume Report: WASHINGTON S PARK

Info Line 1 : ATS
Info Line 2 : Unicorn # 2
GPS Lat/Lon :

Last Connected Device Type : Unic-L
Serial Number : 91434
Lanes : 1

Lane #1 (R) Weekly Data 10/12/2015 to 10/18/2015

Time	10/12 MON	10/13 TUE	10/14 WED	10/15 THU	10/16 FRI	Weekday Average	10/17 SAT	10/18 SUN	Weekend Average	Week Average
- AM -										
12 - 1				3		3				3
1 - 2				0		0				0
2 - 3				1		1				1
3 - 4				2		2				2
4 - 5				1		1				1
5 - 6				1		1				1
6 - 7				1		1				1
7 - 8				5		5				5
8 - 9				10		10				10
9 - 10				19		19				19
10 - 11				25		25				25
11 - 12				21		21				21
- PM -										
12 - 1				32		32				32
1 - 2				16		16				16
2 - 3				24		24				24
3 - 4			67	53		69				69
4 - 5			37	25		31				31
5 - 6			75	47		61				61
6 - 7			16	4		16				16
7 - 8			18			18				18
8 - 9			30			30				30
9 - 10			12			12				12
10 - 11			4			4				4
11 - 12			1			1				1
TOTALS :			260	290		403				**403**
% Avg Day :			177%	95%		100%				
AM (12am-10am) Peak Volumes										
15 Minute :				13		13				13
One Hour :				19		19				19
P.H.F. :				0.37		0.37				0.37
PH Begins :				9:00am		9:00am				9:00am
Mid (10am-2pm) Peak Volumes										
15 Minute :				11		11				11
One Hour :				32		32				32
P.H.F. :				0.73		0.73				0.73
PH Begins :				12:00pm		12:00pm				12:00pm
PM (2pm-12am) Peak Volumes										
15 Minute :			62	30		38				38
One Hour :			86	59		73				73
P.H.F. :			0.38	0.74		0.48				0.48
PH Begins :			3:15pm	3:15pm		3:15pm				3:15pm

UNSIGNALIZED INTERSECTION LEVEL OF SERVICE SUMMARY

	AM Peak Hour				Overall LOS	Control Delay (Sec.)	PM Peak Hour				Overall LOS	Control Delay (Sec.)
	EB	WB	NB	SB			EB	WB	NB	SB		
Platinum St. & Excelsior Ave.	B	B	B	B	**B**	**13.2**	A	B	A	B	**B**	**11.1**
Park St. & Emmett Ave.		A	B	B	**B**	**14.0**	A	A	B	B	**B**	**12.1**
Montana St. & Porphyry St.	C	C	A	A	**C**	**19.2**	C	C	A	A	**C**	**16.7**
Montana St. & Second St.	C	C	A	A	**C**	**21.0**	C	C	A	A	**C**	**18.5**
Montana St. & George St.		C		A	**C**	**19.5**		C		A	**A**	**21.1**
Kaw Ave. & George St.	C	C	A	A	**C**	**15.5**	B	B	A	A	**B**	**12.9**
Rowe Rd. & Dewey Blvd.	C	C	A	A	**C**	**21.7**	C	C	A	A	**C**	**20.5**
Harrison Ave. & 4 Mile Rd.	B		A		**B**	**13.0**	C		A		**C**	**15.3**
Continental Dr. & Texas Ave.		A	D		**D**	**30.8**		A	C		**C**	**19.5**
Elizabeth Warren & Mt. Highland Dr.		A	B		**B**	**14.1**		A	C		**C**	**15.0**
Platinum St. & Excelsior Ave.	B	B	B	B	**B**	**13.2**	A	B	A	B	**B**	**11.1**

Level of Service Criteria for Stop Controlled Intersections	
Level of Service	**Control Delay (Per Vehicle)**
A	≤ 10 Seconds
B	10 - 15 Seconds
C	15 - 25 Seconds
D	25 - 35 Seconds
E	35 - 50 Seconds
F	> 50 Seconds

Source HCM 2010

Level of Service Criteria for Signalized Intersections	
Level of Service	**Control Delay (Per Vehicle)**
A	≤ 10 Seconds
B	10 - 20 Seconds
C	20 - 35 Seconds
D	35 - 55 Seconds
E	55 - 80 Seconds
F	> 80 Seconds

Source HCM 2010

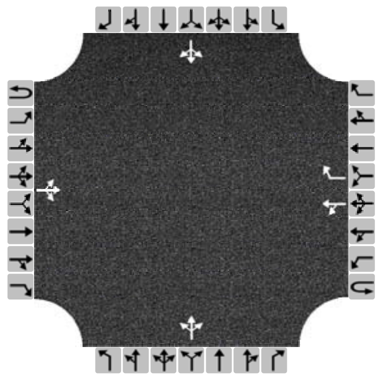
SIGNALIZED INTERSECTION LEVEL OF SERVICE SUMMARY

	AM Peak Hour				Overall LOS	Control Delay (Sec.)	PM Peak Hour				Overall LOS	Control Delay (Sec.)
	EB	WB	NB	SB			EB	WB	NB	SB		
Park St. & Excelsior Ave.	A	A	B	B	**B**	**13.2**	A	A	B	B	**B**	**10.1**
Montana St. & Granite St.	B	B	A	A	**A**	**8.8**	B	B	A	A	**A**	**8.7**
Montana St. & Broadway St.	B	B	A	A	**A**	**7.1**	B	B	A	A	**A**	**8.1**
Montana St. & Mercury St.	C	C	A	A	**A**	**8.0**	C	C	A	A	**A**	**9.6**
Montana St. & Platinum St.	C	C	A	A	**B**	**12.1**	C	C	A	B	**B**	**14.8**
Montana St. & Front St.	C	D	B	A	**B**	**15.3**	C	C	B	A	**B**	**16.8**
Montana St. & Rowe Rd.	D	D	C	B	**C**	**23.6**	D	D	C	B	**C**	**20.3**
Broadway St. & Arizona Ave.	B	B	A	A	**A**	**8.3**	B	B	A	A	**A**	**8.5**
Mercury St. & Arizona Ave.	C	C	A	A	**B**	**11.5**	C	C	A	A	**B**	**12.7**
Park St. & Washington St.	A	A	B	B	**A**	**7.1**	A	A	B	B	**A**	**7.2**
Park St. & Idaho St.	A	A	B	B	**A**	**7.1**	A	A	B	B	**A**	**7.4**
Park St. & Main St.	C	C	B	B	**B**	**19.2**	C	C	B	B	**B**	**18.8**
Front St. & Main St./Kaw Ave.	B	B	B	B	**B**	**14.8**	A	A	C	C	**B**	**13.8**
Front St. & Utah St.	A	A	C	C	**B**	**10.3**	A	A	C	C	**B**	**15.2**
Harrison Ave. & Grand Ave.		C	B	A	**B**	**14.3**		C	A	A	**A**	**8.5**
Harrison Ave & Cobban St.	D	D	A	A	**B**	**12.7**	C	D	A	A	**B**	**11.7**
Harrison Ave. & Amherst Ave.	D	D	B	B	**C**	**24.2**	D	D	B	B	**C**	**22.5**
Harrison Ave. & Dewey Blvd.	C		A	A	**A**	**8.2**	C		A	A	**B**	**11.1**
Harrison Ave. & Roosevelt Ave.	B	A	A	A	**A**	**4.1**	D	D	A	A	**A**	**8.7**
Harrison Ave. & Holmes Ave.	C	C	A	A	**B**	**11.1**	C	C	A	B	**B**	**13.4**
Harrison Ave. & Elizabeth Warren	C	C	B	A	**C**	**16.1**	C	C	B	A	**B**	**15.6**

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	RLA	Intersection	Park & Emmett
Agency/Co.	ATS	Jurisdiction	Butte Silverbow
Date Performed	1/3/2016	East/West Street	Park Street
Analysis Year	2015	North/South Street	Emmett Street
Time Analyzed	AM Peak Hour	Peak Hour Factor	1.00
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Butte TP		

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	1		0	1	0		0	1	0
Configuration			LTR			LT		R			LTR				LTR	
Volume (veh/h)		0	76	4		11	509	4		42	15	46		8	11	0
Percent Heavy Vehicles		2				3				2	2	2		2	2	2
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

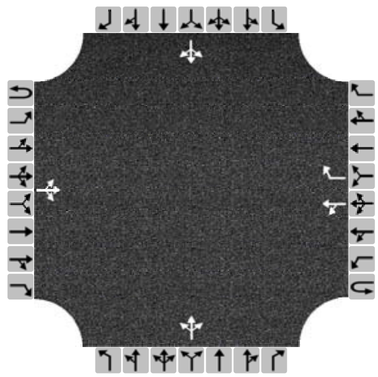
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)						520					103				19	
Capacity		1052				1510					540				383	
v/c Ratio						0.34					0.19				0.05	
95% Queue Length						0.0					0.7				0.2	
Control Delay (s/veh)		8.4				7.4					13.2				14.9	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)					0.2				13.2				14.9			
Approach LOS					A				B				B			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	RLA	Intersection	Park & Emmett
Agency/Co.	ATS	Jurisdiction	Butte Silverbow
Date Performed	1/3/2016	East/West Street	Park Street
Analysis Year	2015	North/South Street	Emmett Street
Time Analyzed	PM Peak Hour	Peak Hour Factor	1.00
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Butte TP		

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	1		0	1	0		0	1	0
Configuration			LTR			LT		R			LTR				LTR	
Volume (veh/h)		11	277	8		19	144	8		11	8	15		4	15	4
Percent Heavy Vehicles		2				3				2	2	2		2	2	2
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

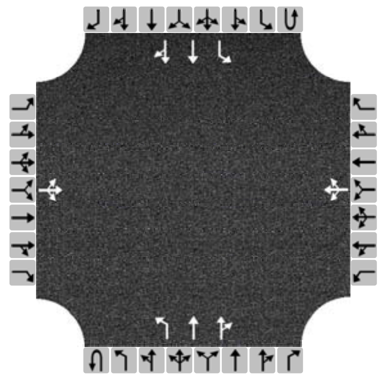
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		11				163					34				23	
Capacity		1428				1270					561				508	
v/c Ratio		0.01				0.13					0.06				0.05	
95% Queue Length		0.0				0.0					0.2				0.1	
Control Delay (s/veh)		7.5				7.9					11.8				12.4	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)	0.3				1.0				11.8				12.4			
Approach LOS	A				A				B				B			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	RLA	Intersection	Montana & Porphyry
Agency/Co.	ATS	Jurisdiction	Butte Silverbow
Date Performed	1/3/2016	East/West Street	Porphyry Street
Analysis Year	2015	North/South Street	Montana Avenue
Time Analyzed	AM Peak Hour	Peak Hour Factor	1.00
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Butte TP		

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	2	0	0	1	2	0
Configuration			LTR				LTR			L	T	TR		L	T	TR
Volume (veh/h)		4	11	30		1	1	8		217	684	42		11	289	1
Percent Heavy Vehicles		1	1	1		1	1	1		1				1		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)			45				10			217				11		
Capacity			269				303			1276				880		
v/c Ratio			0.17				0.03			0.17				0.01		
95% Queue Length			0.6				0.1			0.6				0.0		
Control Delay (s/veh)			21.1				17.3			8.4				9.1		
Level of Service (LOS)			C				C			A				A		
Approach Delay (s/veh)	21.1				17.3				1.9				0.3			
Approach LOS	C				C				A				A			

HCS 2010 Two-Way Stop Control Summary Report

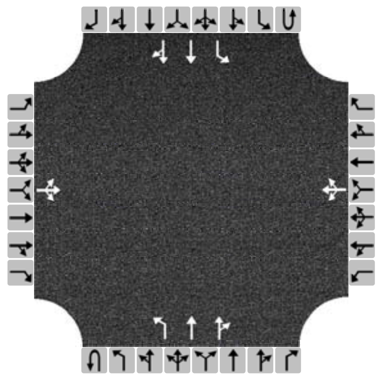
General Information

Analyst	RLA
Agency/Co.	ATS
Date Performed	1/3/2016
Analysis Year	2015
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	Butte TP

Site Information

Intersection	Montana & Porphyry
Jurisdiction	Butte Silverbow
East/West Street	Porphyry Street
North/South Street	Montana Avenue
Peak Hour Factor	1.00
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	2	0	0	1	2	0
Configuration			LTR				LTR			L	T	TR		L	T	TR
Volume (veh/h)		15	8	129		4	1	8		57	437	8		11	669	11
Percent Heavy Vehicles		1	1	1		1	1	1		1				1		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

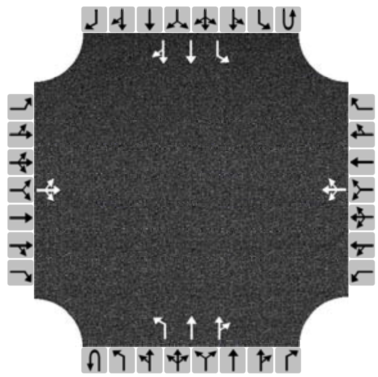
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)			152				13			57				11		
Capacity			459				322			915				1119		
v/c Ratio			0.33				0.04			0.06				0.01		
95% Queue Length			1.4				0.1			0.2				0.0		
Control Delay (s/veh)			16.7				16.6			9.2				8.2		
Level of Service (LOS)			C				C			A				A		
Approach Delay (s/veh)	16.7				16.6				1.0				0.1			
Approach LOS	C				C				A				A			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	RLA	Intersection	Montana & 2nd
Agency/Co.	ATS	Jurisdiction	Butte Silverbow
Date Performed	1/3/2016	East/West Street	2nd Street
Analysis Year	2015	North/South Street	Montana Avenue
Time Analyzed	AM Peak Hour	Peak Hour Factor	1.00
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Butte TP		

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	2	0	0	1	2	0
Configuration			LTR				LTR			L	T	TR		L	T	TR
Volume (veh/h)		1	1	8		4	1	53		4	1072	27		87	703	1
Percent Heavy Vehicles		2	2	2		2	2	2		2				2		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

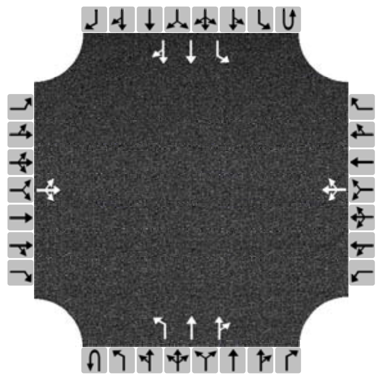
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)			10				58			4				87		
Capacity			223				295			890				631		
v/c Ratio			0.04				0.20			0.00				0.14		
95% Queue Length			0.1				0.7			0.0				0.5		
Control Delay (s/veh)			21.9				20.2			9.1				11.6		
Level of Service (LOS)			C				C			A				B		
Approach Delay (s/veh)	21.9				20.2				0.0				1.3			
Approach LOS	C				C				A				A			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	RLA	Intersection	Montana & 2nd
Agency/Co.	ATS	Jurisdiction	Butte Silverbow
Date Performed	1/3/2016	East/West Street	2nd Street
Analysis Year	2015	North/South Street	Montana Avenue
Time Analyzed	PM Peak Hour	Peak Hour Factor	1.00
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Butte TP		

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	2	0	0	1	2	0
Configuration			LTR				LTR			L	T	TR		L	T	TR
Volume (veh/h)		1	1	8		8	0	42		1	688	15		65	961	1
Percent Heavy Vehicles		2	2	2		2	2	2		2				2		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

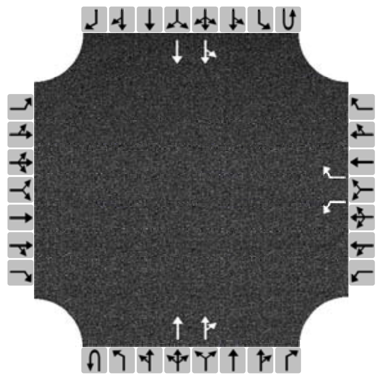
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)			10				50			1				65		
Capacity			245				359			711				891		
v/c Ratio			0.04				0.14			0.00				0.07		
95% Queue Length			0.1				0.5			0.0				0.2		
Control Delay (s/veh)			20.3				16.7			10.1				9.4		
Level of Service (LOS)			C				C			B				A		
Approach Delay (s/veh)	20.3				16.7				0.0				0.6			
Approach LOS	C				C				A				A			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	RLA	Intersection	Montana & George
Agency/Co.	ATS	Jurisdiction	Butte Silverbow
Date Performed	1/3/2016	East/West Street	George Street
Analysis Year	2015	North/South Street	Montana Avenue
Time Analyzed	AM Peak Hour	Peak Hour Factor	1.00
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Butte TP		

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		1	0	1	0	0	2	0	0	0	2	0
Configuration						L		R			T	TR		LT	T	
Volume (veh/h)						23		87			1083	34		27	452	
Percent Heavy Vehicles						3		3						3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

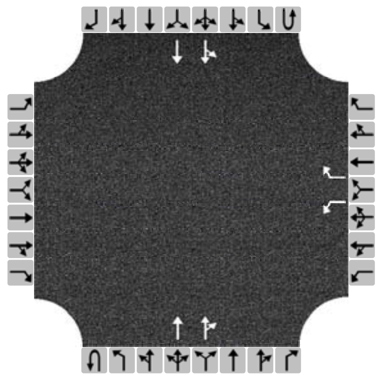
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)						23		87						253		
Capacity						128		471						615		
v/c Ratio						0.18		0.18						0.41		
95% Queue Length						0.6		0.7						0.1		
Control Delay (s/veh)						39.1		14.4						11.1		
Level of Service (LOS)						E		B						B		
Approach Delay (s/veh)					19.5								0.9			
Approach LOS					C								A			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	RLA	Intersection	Montana & George
Agency/Co.	ATS	Jurisdiction	Butte Silverbow
Date Performed	1/3/2016	East/West Street	George Street
Analysis Year	2015	North/South Street	Montana Avenue
Time Analyzed	PM Peak Hour	Peak Hour Factor	1.00
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Butte TP		

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		1	0	1	0	0	2	0	0	0	2	0
Configuration						L		R			T	TR		LT	T	
Volume (veh/h)						42		34			551	46		46	923	
Percent Heavy Vehicles						3		3						3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

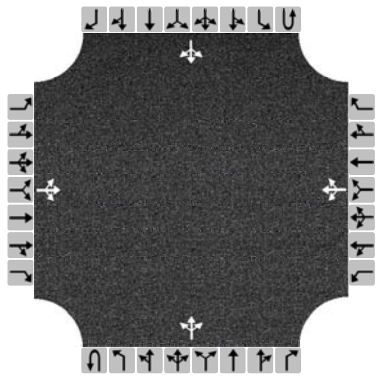
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)						42		34						508		
Capacity						187		695						969		
v/c Ratio						0.22		0.05						0.52		
95% Queue Length						0.8		0.2						0.1		
Control Delay (s/veh)						29.7		10.4						8.9		
Level of Service (LOS)						D		B						A		
Approach Delay (s/veh)					21.1								0.8			
Approach LOS					C								A			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	RLA	Intersection	Kaw & George
Agency/Co.	ATS	Jurisdiction	Butte Silverbow
Date Performed	1/3/2016	East/West Street	George Street
Analysis Year	2015	North/South Street	Kaw Avenue
Time Analyzed	AM Peak Hour	Peak Hour Factor	1.00
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Butte TP		

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		19	19	23		8	38	76		30	437	4		11	171	4
Percent Heavy Vehicles		1	1	1		1	1	1		1				1		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

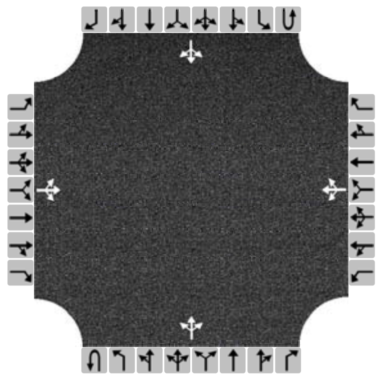
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)			61				122			30				11		
Capacity			395				477			1407				1124		
v/c Ratio			0.15				0.26			0.02				0.01		
95% Queue Length			0.5				1.0			0.1				0.0		
Control Delay (s/veh)			15.8				15.1			7.6				8.2		
Level of Service (LOS)			C				C			A				A		
Approach Delay (s/veh)	15.8				15.1				0.7				0.6			
Approach LOS	C				C				A				A			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	RLA	Intersection	Kaw & George
Agency/Co.	ATS	Jurisdiction	Butte Silverbow
Date Performed	1/3/2016	East/West Street	George Street
Analysis Year	2015	North/South Street	Kaw Avenue
Time Analyzed	PM Peak Hour	Peak Hour Factor	1.00
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Butte TP		

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		4	42	53		4	8	23		23	190	8		15	353	23
Percent Heavy Vehicles		1	1	1		1	1	1		1				1		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

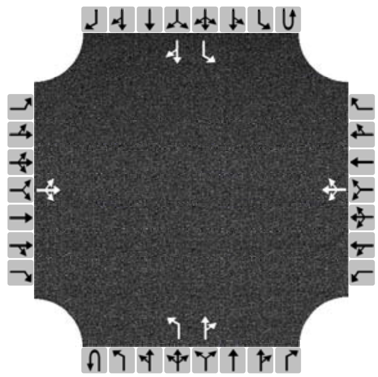
Delay, Queue Length, and Level of Service

	EB U	EB L	EB T	EB R	WB U	WB L	WB T	WB R	NB U	NB L	NB T	NB R	SB U	SB L	SB T	SB R
Flow Rate (veh/h)			99				35			23				15		
Capacity			498				569			1188				1380		
v/c Ratio			0.20				0.06			0.02				0.01		
95% Queue Length			0.7				0.2			0.1				0.0		
Control Delay (s/veh)			14.0				11.7			8.1				7.6		
Level of Service (LOS)			B				B			A				A		
Approach Delay (s/veh)	14.0				11.7				1.0				0.4			
Approach LOS	B				B				A				A			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	RLA	Intersection	Rowe & Dewey
Agency/Co.	ATS	Jurisdiction	Butte Silverbow
Date Performed	1/3/2016	East/West Street	Dewey Blvd
Analysis Year	2015	North/South Street	Rowe Road
Time Analyzed	AM Peak Hour	Peak Hour Factor	1.00
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Butte TP		

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	0	0	1	1	0
Configuration			LTR				LTR			L		TR		L		TR
Volume (veh/h)		4	65	8		4	49	91		1	551	46		46	213	1
Percent Heavy Vehicles		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

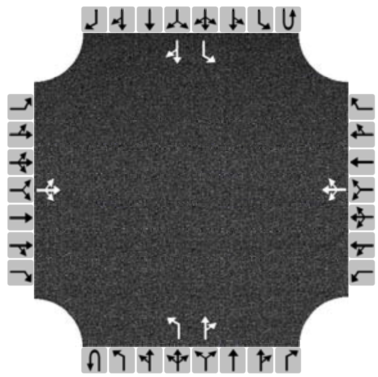
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)			77				144			1				46		
Capacity			273				381			1349				974		
v/c Ratio			0.28				0.38			0.00				0.05		
95% Queue Length			1.1				1.7			0.0				0.1		
Control Delay (s/veh)			23.3				20.1			7.7				8.9		
Level of Service (LOS)			C				C			A				A		
Approach Delay (s/veh)	23.3				20.1				0.0				1.6			
Approach LOS	C				C				A				A			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	RLA	Intersection	Rowe & Dewey
Agency/Co.	ATS	Jurisdiction	Butte Silverbow
Date Performed	1/3/2016	East/West Street	Dewey Blvd
Analysis Year	2015	North/South Street	Rowe Road
Time Analyzed	PM Peak Hour	Peak Hour Factor	1.00
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Butte TP		

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	0	0	1	1	0
Configuration			LTR				LTR			L		TR		L		TR
Volume (veh/h)		15	30	15		11	57	160		15	247	4		122	293	11
Percent Heavy Vehicles		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

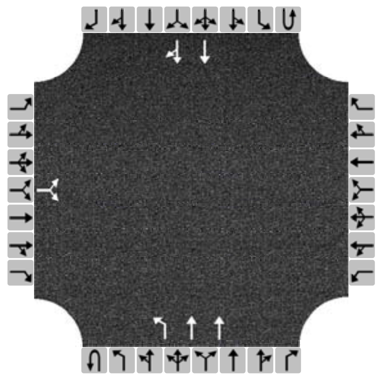
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)			60				228			15				122		
Capacity			263				497			1250				1307		
v/c Ratio			0.23				0.46			0.01				0.09		
95% Queue Length			0.9				2.4			0.0				0.3		
Control Delay (s/veh)			22.7				18.2			7.9				8.0		
Level of Service (LOS)			C				C			A				A		
Approach Delay (s/veh)	22.7				18.2				0.4				2.3			
Approach LOS	C				C				A				A			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	RLA	Intersection	Harrison & 4 Mile
Agency/Co.	ATS	Jurisdiction	Butte Silverbow
Date Performed	1/3/2016	East/West Street	4 Mile Drive
Analysis Year	2015	North/South Street	Harrison Avenue
Time Analyzed	AM Peak Hour	Peak Hour Factor	1.00
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Butte TP		

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	0	0	1	2	0	0	0	2	0
Configuration			LR							L	T				T	TR
Volume (veh/h)		57		19						23	372				403	49
Percent Heavy Vehicles		5		5						5						
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

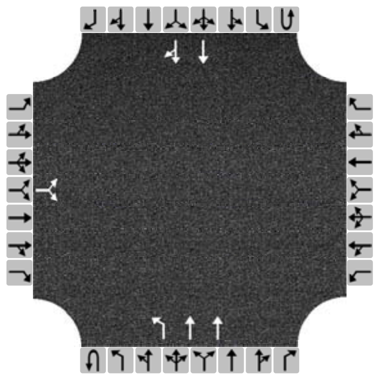
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)			76							23						
Capacity			525							1084						
v/c Ratio			0.14							0.02						
95% Queue Length			0.5							0.1						
Control Delay (s/veh)			13.0							8.4						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)	13.0								0.5							
Approach LOS	B								A							

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	RLA	Intersection	Harrison & 4 Mile
Agency/Co.	ATS	Jurisdiction	Butte Silverbow
Date Performed	1/3/2016	East/West Street	4 Mile Drive
Analysis Year	2015	North/South Street	Harrison Avenue
Time Analyzed	PM Peak Hour	Peak Hour Factor	1.00
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Butte TP		

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	0	0	1	2	0	0	0	2	0
Configuration			LR							L	T				T	TR
Volume (veh/h)		91		11						30	612				376	72
Percent Heavy Vehicles		5		5						5						
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

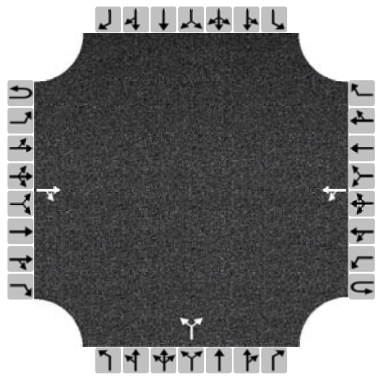
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)			102							30						
Capacity			450							1088						
v/c Ratio			0.23							0.03						
95% Queue Length			0.9							0.1						
Control Delay (s/veh)			15.3							8.4						
Level of Service (LOS)			C							A						
Approach Delay (s/veh)	15.3								0.4							
Approach LOS	C								A							

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	RLA	Intersection	Continental & Texas
Agency/Co.	ATS	Jurisdiction	Butte Silverbow
Date Performed	1/3/2016	East/West Street	Continental
Analysis Year	2015	North/South Street	Texas
Time Analyzed	AM Peak Hour	Peak Hour Factor	1.00
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Butte TP		

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			152	76		38	768			125		27				
Percent Heavy Vehicles						1				1		1				
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

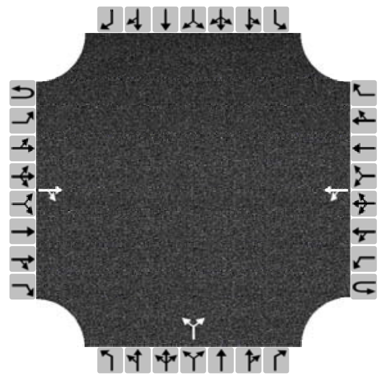
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)						806					152					
Capacity						1346					287					
v/c Ratio						0.60					0.53					
95% Queue Length						0.1					2.9					
Control Delay (s/veh)						7.8					30.8					
Level of Service (LOS)						A					D					
Approach Delay (s/veh)					0.7				30.8							
Approach LOS					A				D							

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	RLA	Intersection	Continental & Texas
Agency/Co.	ATS	Jurisdiction	Butte Silverbow
Date Performed	1/3/2016	East/West Street	Continental
Analysis Year	2015	North/South Street	Texas
Time Analyzed	PM Peak Hour	Peak Hour Factor	1.00
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Butte TP		

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			479	209		38	228			68		57				
Percent Heavy Vehicles						1				1		1				
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

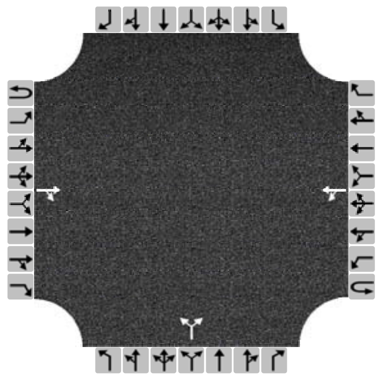
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)						266					125					
Capacity						911					372					
v/c Ratio						0.29					0.34					
95% Queue Length						0.1					1.4					
Control Delay (s/veh)						9.1					19.5					
Level of Service (LOS)						A					C					
Approach Delay (s/veh)					1.7				19.5							
Approach LOS					A				C							

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	RLA	Intersection	Elizabeth W. & Highland
Agency/Co.	ATS	Jurisdiction	Butte Silverbow
Date Performed	1/3/2016	East/West Street	Elizabeth Warren
Analysis Year	2016	North/South Street	Highland Drive
Time Analyzed	AM Peak Hour	Peak Hour Factor	1.00
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Butte TP		

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			68	61		1	243			285		1				
Percent Heavy Vehicles						3				3		3				
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left + Thru															
Median Storage	1															

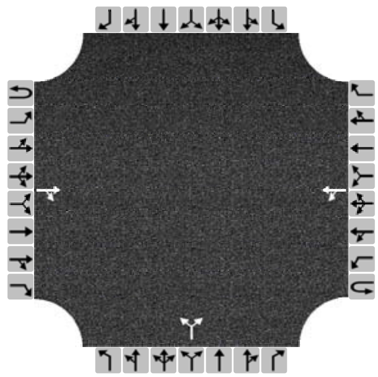
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)						244					286					
Capacity						1449					679					
v/c Ratio						0.17					0.42					
95% Queue Length						0.0					2.1					
Control Delay (s/veh)						7.5					14.1					
Level of Service (LOS)						A					B					
Approach Delay (s/veh)					0.0				14.1							
Approach LOS					A				B							

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	RLA	Intersection	Elizabeth W. & Highland
Agency/Co.	ATS	Jurisdiction	Butte Silverbow
Date Performed	1/3/2016	East/West Street	Elizabeth Warren
Analysis Year	2015	North/South Street	Highland Drive
Time Analyzed	PM Peak Hour	Peak Hour Factor	1.00
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Butte TP		

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			327	243		8	243			133		11				
Percent Heavy Vehicles						3				3		3				
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left + Thru															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)						251					144					
Capacity						997					503					
v/c Ratio						0.25					0.29					
95% Queue Length						0.0					1.2					
Control Delay (s/veh)						8.6					15.0					
Level of Service (LOS)						A					C					
Approach Delay (s/veh)					0.4				15.0							
Approach LOS					A				C							

ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	RLA
Agency/Co.	ATS
Date Performed	8/1/2016
Analysis Time Period	AM Peak Hour

Site Information

Intersection	Platinum & Excelsior
Jurisdiction	City of Butte
Analysis Year	2015

Project ID *Butte TP*

East/West Street: *Platinum* North/South Street: *Excelsior*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	19	248	12	12	241	81
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	78	8	35	159	66	31
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	1.00		1.00		1.00		1.00	
Flow Rate (veh/h)	279		334		121		256	
% Heavy Vehicles	2		2		2		2	
No. Lanes	1		1		1		1	
Geometry Group	1		1		1		1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.1		0.0		0.6		0.6	
Prop. Right-Turns	0.0		0.2		0.3		0.1	
Prop. Heavy Vehicle	0.0		0.0		0.0		0.0	
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	0.0		-0.1		-0.0		0.1	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20		3.20		3.20	
x, initial	0.25		0.30		0.11		0.23	
hd, final value (s)	5.70		5.49		6.21		5.99	
x, final value	0.442		0.510		0.209		0.426	
Move-up time, m (s)	2.0		2.0		2.0		2.0	
Service Time, t_s (s)	3.7		3.5		4.2		4.0	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	634		655		576		595	
Delay (s/veh)	13.1		14.1		10.8		13.4	
LOS	B		B		B		B	
Approach: Delay (s/veh)	13.1		14.1		10.8		13.4	
LOS	B		B		B		B	
Intersection Delay (s/veh)	13.2							
Intersection LOS	B							

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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	RLA
Agency/Co.	ATS
Date Performed	8/1/2016
Analysis Time Period	PM Peak Hour

Site Information

Intersection	Platinum & Excelsior
Jurisdiction	City of Butte
Analysis Year	2015

Project ID *Butte TP*

East/West Street: *Platinum*

North/South Street: *Excelsior*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	1	50	8	50	116	155
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	8	116	12	175	89	12
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	1.00		1.00		1.00		1.00	
Flow Rate (veh/h)	59		321		136		276	
% Heavy Vehicles	2		2		2		2	
No. Lanes	1		1		1		1	
Geometry Group	1		1		1		1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.0		0.2		0.1		0.6	
Prop. Right-Turns	0.1		0.5		0.1		0.0	
Prop. Heavy Vehicle	0.0		0.0		0.0		0.0	
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	-0.0		-0.2		-0.0		0.1	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20		3.20		3.20	
x, initial	0.05		0.29		0.12		0.25	
hd, final value (s)	5.48		4.89		5.33		5.25	
x, final value	0.090		0.436		0.201		0.402	
Move-up time, m (s)	2.0		2.0		2.0		2.0	
Service Time, t_s (s)	3.5		2.9		3.3		3.2	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	656		730		680		690	
Delay (s/veh)	9.0		11.6		9.7		11.7	
LOS	A		B		A		B	
Approach: Delay (s/veh)	9.0		11.6		9.7		11.7	
LOS	A		B		A		B	
Intersection Delay (s/veh)	11.1							
Intersection LOS	B							

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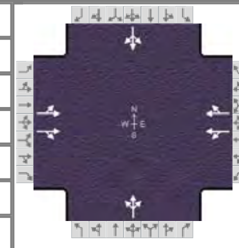
HCS 2010 Signalized Intersection Results Summary

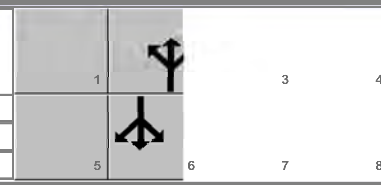
General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 4, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Park Street	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Excelsior Street	File Name	ParkExcelsiorAM.xus		
Project Description	Butte TP				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	23	87	27	19	258	38	152	118	15	95	182	65

Signal Information			
Cycle, s	50.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	16.0	26.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	0.0	0.0	0.0	0.0
Red	1.0	1.0	0.0	0.0	0.0	0.0



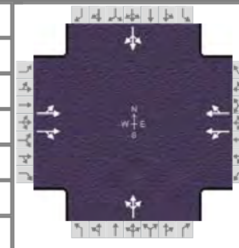
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		30.0		30.0		20.0		20.0
Change Period, ($Y+R_c$), s		4.0		4.0		4.0		4.0
Max Allow Headway (*MAH*), s		3.1		3.1		0.0		0.0
Queue Clearance Time (g_s), s		3.1		4.6				
Green Extension Time (g_e), s		0.8		0.8		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		0.00		0.00				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	72		65	167		148		285			342	
Adjusted Saturation Flow Rate (s), veh/h/ln	1503		1467	1698		1507		1395			1637	
Queue Service Time (g_s), s	0.0		1.1	0.0		2.6		0.0			0.0	
Cycle Queue Clearance Time (g_c), s	1.0		1.1	2.6		2.6		8.7			8.7	
Green Ratio (*g/C*)	0.52		0.52	0.52		0.52		0.32			0.32	
Capacity (c), veh/h	877		763	963		784		557			616	
Volume-to-Capacity Ratio (X)	0.082		0.085	0.173		0.189		0.512			0.555	
Available Capacity (c_a), veh/h	877		763	963		784		557			616	
Back of Queue (Q), veh/ln (50 th percentile)	0.3		0.3	0.8		0.7		2.8			3.3	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00		0.00	0.00		0.00		0.00			0.00	
Uniform Delay (d_1), s/veh	6.0		6.0	6.4		6.4		14.3			14.5	
Incremental Delay (d_2), s/veh	0.2		0.2	0.4		0.5		3.3			3.6	
Initial Queue Delay (d_3), s/veh	0.0		0.0	0.0		0.0		0.0			0.0	
Control Delay (d), s/veh	6.2		6.2	6.8		6.9		17.7			18.0	
Level of Service (LOS)	A		A	A		A		B			B	
Approach Delay, s/veh / LOS	6.2	A		6.8	A		17.7	B		18.0	B	
Intersection Delay, s/veh / LOS	13.2						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.1	B	2.1	B	2.7	B	2.7	B
Bicycle LOS Score / LOS	0.6	A	0.7	A	1.0	A	1.1	A

HCS 2010 Signalized Intersection Results Summary

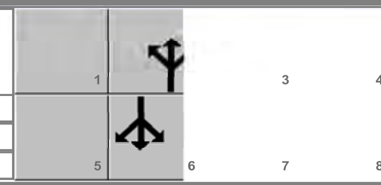
General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 4, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	PM Peak Hour	PHF	1.00
Urban Street	Park Street	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Excelsior Street	File Name	ParkExcelsiorPM.xus		
Project Description	Butte TP				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	27	220	72	30	99	87	42	144	19	46	137	23

Signal Information			
Cycle, s	50.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	16.0	26.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	0.0	0.0	0.0	0.0
Red	1.0	1.0	0.0	0.0	0.0	0.0



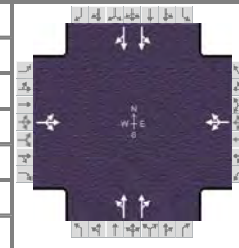
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		30.0		30.0		20.0		20.0
Change Period, ($Y+R_c$), s		4.0		4.0		4.0		4.0
Max Allow Headway (*MAH*), s		3.2		3.2		0.0		0.0
Queue Clearance Time (g_s), s		4.7		3.9				
Green Extension Time (g_e), s		1.0		1.0		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		0.00		0.00				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	170		149	115		101		205			206	
Adjusted Saturation Flow Rate (s), veh/h/ln	1661		1451	1553		1365		1676			1676	
Queue Service Time (g_s), s	0.0		2.7	0.0		1.9		0.0			0.0	
Cycle Queue Clearance Time (g_c), s	2.6		2.7	1.7		1.9		4.5			4.5	
Green Ratio (g/C)	0.52		0.52	0.52		0.52		0.32			0.32	
Capacity (c), veh/h	947		754	898		710		623			624	
Volume-to-Capacity Ratio (X)	0.180		0.198	0.128		0.142		0.329			0.330	
Available Capacity (c_a), veh/h	947		754	898		710		623			624	
Back of Queue (Q), veh/ln (50 th percentile)	0.8		0.7	0.5		0.5		1.7			1.7	
Queue Storage Ratio (RQ) (50 th percentile)	0.00		0.00	0.00		0.00		0.00			0.00	
Uniform Delay (d_1), s/veh	6.4		6.4	6.2		6.2		13.1			13.1	
Incremental Delay (d_2), s/veh	0.4		0.6	0.3		0.4		1.4			1.4	
Initial Queue Delay (d_3), s/veh	0.0		0.0	0.0		0.0		0.0			0.0	
Control Delay (d), s/veh	6.8		7.0	6.5		6.6		14.5			14.5	
Level of Service (LOS)	A		A	A		A		B			B	
Approach Delay, s/veh / LOS	6.9	A		6.5	A		14.5	B		14.5	B	
Intersection Delay, s/veh / LOS	10.1						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.1	B	2.1	B	2.7	B	2.7	B
Bicycle LOS Score / LOS	0.8	A	0.7	A	0.8	A	0.8	A

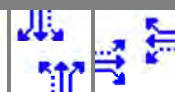
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 4, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Montana Avenue	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Granite Street	File Name	MontanaGraniteAM.xus		
Project Description	Butte TP				

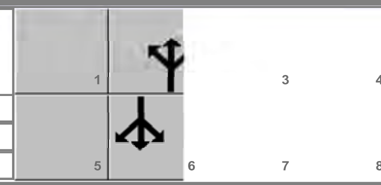


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	1	57	38	27	46	1	30	38	129	4	91	4

Signal Information			
Cycle, s	50.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	26.0	16.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	0.0	0.0	0.0	0.0
Red	1.0	1.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		20.0		20.0		30.0		30.0
Change Period, (*Y+R* $_c$), s		4.0		4.0		4.0		4.0
Max Allow Headway (*MAH*), s		3.1		3.1		0.0		0.0
Queue Clearance Time (g_s), s		4.1		3.5				
Green Extension Time (g_e), s		0.2		0.2		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		0.00		0.00				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		96			74		68		129	52		47
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1617			1585		1537		1336	1711		1553
Queue Service Time (g_s), s		0.0			0.0		0.0		2.6	0.0		0.7
Cycle Queue Clearance Time (g_c), s		2.1			1.5		1.0		2.6	0.7		0.7
Green Ratio (*g/C*)		0.32			0.32		0.52		0.52	0.52		0.52
Capacity (*c*), veh/h		590			605		903		695	967		808
Volume-to-Capacity Ratio (*X*)		0.163			0.122		0.075		0.186	0.054		0.058
Available Capacity (c_a), veh/h		590			605		903		695	967		808
Back of Queue (*Q*), veh/ln (50 th percentile)		0.7			0.6		0.3		0.6	0.2		0.2
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00			0.00		0.00		0.00	0.00		0.00
Uniform Delay (d_1), s/veh		12.3			12.1		6.0		6.4	5.9		5.9
Incremental Delay (d_2), s/veh		0.6			0.4		0.2		0.6	0.1		0.1
Initial Queue Delay (d_3), s/veh		0.0			0.0		0.0		0.0	0.0		0.0
Control Delay (*d*), s/veh		12.9			12.5		6.2		7.0	6.0		6.1
Level of Service (LOS)		B			B		A		A	A		A
Approach Delay, s/veh / LOS	12.9	B		12.5	B		6.7	A		6.1	A	
Intersection Delay, s/veh / LOS	8.8						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.7	B	2.7	B	2.1	B	2.1	B
Bicycle LOS Score / LOS	0.6	A	0.6	A	0.7	A	0.6	A

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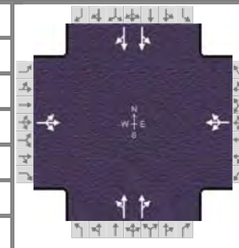
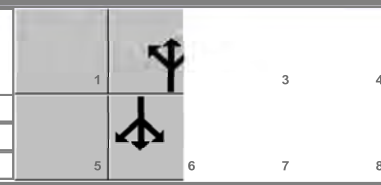
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 4, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	PM Peak Hour	PHF	1.00
Urban Street	Montana Avenue	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Granite Street	File Name	MontanaGranitePM.xus		
Project Description	Butte TP				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	1	19	38	87	30	1	76	125	65	1	76	4

Signal Information										
Cycle, s	50.0	Reference Phase	2							
Offset, s	0	Reference Point	End	Green	26.0	16.0	0.0	0.0	0.0	0.0
Uncoordinated	No	Simult. Gap E/W	On	Yellow	3.0	3.0	0.0	0.0	0.0	0.0
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		20.0		20.0		30.0		30.0
Change Period, ($Y+R_c$), s		4.0		4.0		4.0		4.0
Max Allow Headway (*MAH*), s		3.2		3.2		0.0		0.0
Queue Clearance Time (g_s), s		3.3		4.9				
Green Extension Time (g_e), s		0.2		0.2		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		0.00		0.00				

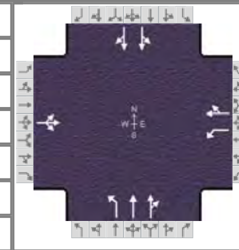
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		58			118		142		124	43		38
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1549			1448		1505		1441	1730		1548
Queue Service Time (g_s), s		0.0			1.6		0.5		2.3	0.0		0.6
Cycle Queue Clearance Time (g_c), s		1.3			2.9		2.2		2.3	0.6		0.6
Green Ratio (*g/C*)		0.32			0.32		0.52		0.52	0.52		0.52
Capacity (*c*), veh/h		569			588		893		749	973		805
Volume-to-Capacity Ratio (*X*)		0.102			0.201		0.159		0.165	0.044		0.048
Available Capacity (c_a), veh/h		569			588		893		749	973		805
Back of Queue (*Q*), veh/ln (50 th percentile)		0.4			0.9		0.6		0.6	0.2		0.2
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00			0.00		0.00		0.00	0.00		0.00
Uniform Delay (d_1), s/veh		12.0			12.5		6.3		6.3	5.9		5.9
Incremental Delay (d_2), s/veh		0.4			0.8		0.4		0.5	0.1		0.1
Initial Queue Delay (d_3), s/veh		0.0			0.0		0.0		0.0	0.0		0.0
Control Delay (*d*), s/veh		12.4			13.3		6.7		6.8	6.0		6.0
Level of Service (LOS)		B			B		A		A	A		A
Approach Delay, s/veh / LOS	12.4	B		13.3	B		6.7	A		6.0	A	
Intersection Delay, s/veh / LOS	8.7						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.7	B	2.7	B	2.1	B	2.1	B
Bicycle LOS Score / LOS	0.6	A	0.7	A	0.7	A	0.6	A

 HCS 2010™ Streets Version 6.70 Generated: 4/21/2016 10:04:38 AM

HCS 2010 Signalized Intersection Results Summary

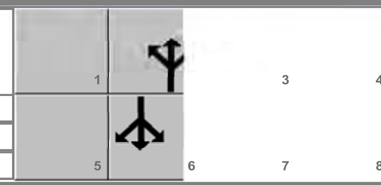
General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 4, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Montana Avenue	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Broadway Street	File Name	MontanaBroadwayAM.xus		
Project Description	Butte TP				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	1	8	4	11	15	8	19	281	49	4	247	4

Signal Information			
Cycle, s	50.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	26.0	16.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	0.0	0.0	0.0	0.0
Red	1.0	1.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		8.0		6.0		6.0		8.0
Phase Duration, s		20.0		20.0		30.0		30.0
Change Period, (*Y+R c*), s		4.0		4.0		4.0		4.0
Max Allow Headway (*MAH*), s		3.1		3.1		0.0		0.0
Queue Clearance Time (*g s*), s		2.3		2.5				
Green Extension Time (*g e*), s		0.0		0.0		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		0.00		0.00				

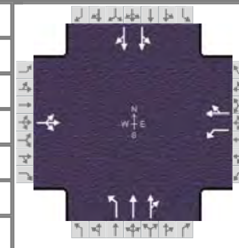
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		13		11	23		19	167	163	134		121
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1634		1424	1631		1135	1733	1643	1727		1567
Queue Service Time (*g s*), s		0.0		0.3	0.5		0.4	2.6	2.6	0.0		2.0
Cycle Queue Clearance Time (*g c*), s		0.3		0.5	0.5		2.5	2.6	2.6	2.0		2.0
Green Ratio (*g/C*)		0.32		0.32	0.32		0.52	0.52	0.52	0.52		0.52
Capacity (*c*), veh/h		600		592	522		689	901	855	972		815
Volume-to-Capacity Ratio (*X*)		0.022		0.019	0.044		0.028	0.186	0.190	0.138		0.149
Available Capacity (*c a*), veh/h		600		592	522		689	901	855	972		815
Back of Queue (*Q*), veh/ln (50 th percentile)		0.1		0.1	0.2		0.1	0.8	0.8	0.6		0.6
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00		0.00	0.00		0.00	0.00	0.00	0.00		0.00
Uniform Delay (*d 1*), s/veh		11.7		11.8	11.7		6.9	6.4	6.4	6.2		6.2
Incremental Delay (*d 2*), s/veh		0.1		0.1	0.2		0.1	0.5	0.5	0.3		0.4
Initial Queue Delay (*d 3*), s/veh		0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Control Delay (*d*), s/veh		11.7		11.9	11.9		7.0	6.8	6.9	6.5		6.6
Level of Service (LOS)		B		B	B		A	A	A	A		A
Approach Delay, s/veh / LOS	11.7		B	11.9		B	6.9		A	6.6		A
Intersection Delay, s/veh / LOS	7.1						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.8	C	2.7	B	2.2	B	2.1	B
Bicycle LOS Score / LOS	0.5	A	0.5	A	0.8	A	0.7	A

 HCS 2010™ Streets Version 6.70 Generated: 4/21/2016 10:01:23 AM

HCS 2010 Signalized Intersection Results Summary

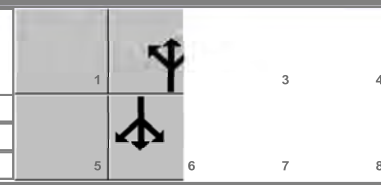
General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 4, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	PM Peak Hour	PHF	1.00
Urban Street	Montana Avenue	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Broadway Street	File Name	MontanaBroadwayPM.xus		
Project Description	Butte TP				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	1	4	30	110	15	8	27	277	42	8	266	4

Signal Information			
Cycle, s	50.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	26.0	16.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	0.0	0.0	0.0	0.0
Red	1.0	1.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		8.0		6.0		6.0		8.0
Phase Duration, s		20.0		20.0		30.0		30.0
Change Period, (*Y+R c*), s		4.0		4.0		4.0		4.0
Max Allow Headway (*MAH*), s		3.2		3.2		0.0		0.0
Queue Clearance Time (*g s*), s		2.8		5.8				
Green Extension Time (*g e*), s		0.2		0.2		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		0.00		0.00				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		35		110	23		27	162	157	146		132
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1499		1396	1631		1116	1733	1653	1715		1568
Queue Service Time (*g s*), s		0.0		3.0	0.5		0.7	2.5	2.5	0.0		2.2
Cycle Queue Clearance Time (*g c*), s		0.8		3.8	0.5		2.9	2.5	2.5	2.2		2.2
Green Ratio (*g/C*)		0.32		0.32	0.32		0.52	0.52	0.52	0.52		0.52
Capacity (*c*), veh/h		554		568	522		675	901	860	968		815
Volume-to-Capacity Ratio (*X*)		0.063		0.194	0.044		0.040	0.179	0.183	0.151		0.162
Available Capacity (*c a*), veh/h		554		568	522		675	901	860	968		815
Back of Queue (*Q*), veh/ln (50 th percentile)		0.3		0.9	0.2		0.1	0.7	0.7	0.7		0.6
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00		0.00	0.00		0.00	0.00	0.00	0.00		0.00
Uniform Delay (*d 1*), s/veh		11.8		13.2	11.7		7.0	6.4	6.4	6.3		6.3
Incremental Delay (*d 2*), s/veh		0.2		0.8	0.2		0.1	0.4	0.5	0.3		0.4
Initial Queue Delay (*d 3*), s/veh		0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Control Delay (*d*), s/veh		12.1		13.9	11.9		7.2	6.8	6.8	6.6		6.7
Level of Service (LOS)		B		B	B		A	A	A	A		A

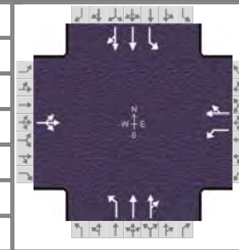
	EB		WB		NB		SB	
Approach Delay, s/veh / LOS	12.1	B	13.6	B	6.8	A	6.7	A
Intersection Delay, s/veh / LOS	8.1				A			

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.8	C	2.7	B	2.2	B	2.1	B
Bicycle LOS Score / LOS	0.5	A	0.7	A	0.8	A	0.7	A

 HCS 2010™ Streets Version 6.70 Generated: 4/21/2016 10:02:05 AM

HCS 2010 Signalized Intersection Results Summary

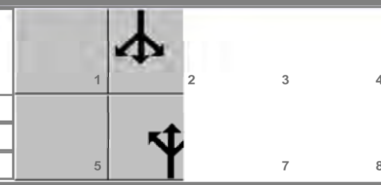
General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 4, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Montana Avenue	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Mercury Street	File Name	MontanaMercuryAM.xus		
Project Description	Butte TP				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	4	30	8	34	42	34	49	505	38	19	334	1

Signal Information			
Cycle, s	70.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	45.0	15.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	0.0	0.0	0.0	0.0
Red	2.0	2.0	0.0	0.0	0.0	0.0



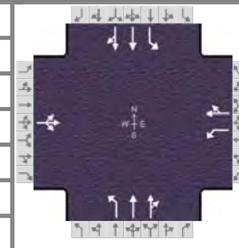
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		6		2
Case Number		8.0		6.0		6.0		6.0
Phase Duration, s		20.0		20.0		50.0		50.0
Change Period, ($Y+R_c$), s		5.0		5.0		5.0		5.0
Max Allow Headway (MAH), s		4.2		4.2		0.0		0.0
Queue Clearance Time (g_s), s		3.4		4.8				
Green Extension Time (g_e), s		0.3		0.3		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		0.00		0.01				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	1	6	16	5	2	12
Adjusted Flow Rate (v), veh/h		42		34	76		49	274	269	19	168	167
Adjusted Saturation Flow Rate (s), veh/h/ln		1660		1391	1604		1051	1733	1690	868	1733	1731
Queue Service Time (g_s), s		0.0		1.4	2.7		1.4	4.7	4.7	0.7	2.7	2.7
Cycle Queue Clearance Time (g_c), s		1.4		2.8	2.7		4.0	4.7	4.7	5.4	2.7	2.7
Green Ratio (g/C)		0.21		0.21	0.21		0.64	0.64	0.64	0.64	0.64	0.64
Capacity (c), veh/h		412		373	344		738	1114	1086	602	1114	1113
Volume-to-Capacity Ratio (X)		0.102		0.091	0.221		0.066	0.246	0.247	0.032	0.150	0.150
Available Capacity (c_a), veh/h		412		373	344		738	1114	1086	602	1114	1113
Back of Queue (Q), veh/ln (50 th percentile)		0.5		0.4	1.0		0.3	1.4	1.4	0.1	0.8	0.8
Queue Storage Ratio (RQ) (50 th percentile)		0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh		22.2		23.3	22.7		5.7	5.3	5.3	6.5	4.9	4.9
Incremental Delay (d_2), s/veh		0.1		0.1	0.3		0.2	0.5	0.5	0.1	0.3	0.3
Initial Queue Delay (d_3), s/veh		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh		22.3		23.4	23.0		5.9	5.8	5.9	6.6	5.2	5.2
Level of Service (LOS)		C		C	C		A	A	A	A	A	A
Approach Delay, s/veh / LOS	22.3	C		23.1	C		5.8	A		5.3	A	
Intersection Delay, s/veh / LOS	8.0						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.8	C	2.8	C	2.2	B	2.0	B
Bicycle LOS Score / LOS	0.6	A	0.7	A	1.0	A	0.8	A

 HCS 2010™ Streets Version 6.70 Generated: 4/21/2016 10:05:12 AM

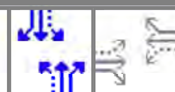
HCS 2010 Signalized Intersection Results Summary



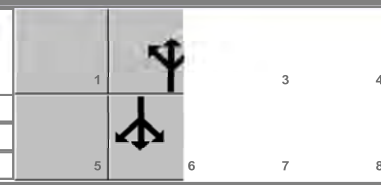
General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 4, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	PM Peak Hour	PHF	1.00
Urban Street	Montana Avenue	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Mercury Street	File Name	MontanaMercuryPM.xus		
Project Description	Butte TP				

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	11	80	19	95	19	49	8	407	11	19	642	1

Signal Information			
Cycle, s	70.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	45.0	15.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	0.0	0.0	0.0	0.0
Red	2.0	2.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		8.0		6.0		6.0		6.0
Phase Duration, s		20.0		20.0		50.0		50.0
Change Period, (*Y+R c*), s		5.0		5.0		5.0		5.0
Max Allow Headway (*MAH*), s		4.2		4.2		0.0		0.0
Queue Clearance Time (*g s*), s		5.9		10.4				
Green Extension Time (*g e*), s		0.6		0.4		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		0.06		0.81				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		110		95	68		8	210	208	19	322	321
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1661		1317	1534		791	1733	1716	974	1733	1732
Queue Service Time (*g s*), s		0.0		4.6	2.6		0.3	3.4	3.5	0.6	5.7	5.7
Cycle Queue Clearance Time (*g c*), s		3.9		8.4	2.6		6.0	3.4	3.5	4.0	5.7	5.7
Green Ratio (*g/C*)		0.21		0.21	0.21		0.64	0.64	0.64	0.64	0.64	0.64
Capacity (*c*), veh/h		413		313	329		547	1114	1103	681	1114	1113
Volume-to-Capacity Ratio (*X*)		0.267		0.304	0.207		0.015	0.188	0.189	0.028	0.289	0.289
Available Capacity (*c a*), veh/h		413		313	329		547	1114	1103	681	1114	1113
Back of Queue (*Q*), veh/ln (50 th percentile)		1.5		1.4	0.9		0.1	1.0	1.0	0.1	1.7	1.7
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (*d 1*), s/veh		23.1		26.7	22.6		6.8	5.1	5.1	5.9	5.5	5.5
Incremental Delay (*d 2*), s/veh		0.3		0.5	0.3		0.0	0.4	0.4	0.1	0.7	0.7
Initial Queue Delay (*d 3*), s/veh		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		23.5		27.2	22.9		6.8	5.5	5.5	6.0	6.1	6.1
Level of Service (LOS)		C		C	C		A	A	A	A	A	A

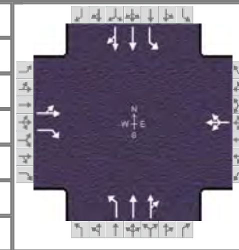
	EB		WB		NB		SB	
Approach Delay, s/veh / LOS	23.5	C	25.4	C	5.5	A	6.1	A
Intersection Delay, s/veh / LOS	9.6				A			

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.8	C	2.8	C	2.2	B	2.0	B
Bicycle LOS Score / LOS	0.7	A	0.8	A	0.8	A	1.0	A

 HCS 2010™ Streets Version 6.70 Generated: 4/21/2016 10:05:40 AM

HCS 2010 Signalized Intersection Results Summary

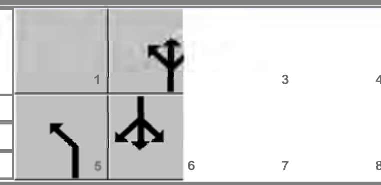
General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 4, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	AM Peak Hour	PHF	0.92
Urban Street	Montana Avenue	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Platinum Street	File Name	MontanaPlatinumAM.xus		
Project Description	Butte TP				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	15	34	224	4	57	11	186	616	23	23	308	11

Signal Information			
Cycle, s	70.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	6.2	35.4	14.4	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	0.0	0.0	0.0
Red	1.0	2.0	2.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2		6
Case Number		7.0		8.0	1.0	4.0		6.3
Phase Duration, s		19.4		19.4	10.2	50.6		40.4
Change Period, (*Y+R c*), s		5.0		5.0	4.0	5.0		5.0
Max Allow Headway (*MAH*), s		4.3		4.3	4.1	0.0		0.0
Queue Clearance Time (*g s*), s		13.1		4.7	5.7			
Green Extension Time (*g e*), s		1.3		1.4	0.7	0.0		0.0
Phase Call Probability		1.00		1.00	0.98			
Max Out Probability		0.00		0.00	0.00			

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		53	243		78		202	349	345	25	174	173
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1630	1468		1679		1650	1733	1710	754	1733	1711
Queue Service Time (*g s*), s		0.0	11.1		0.0		3.7	6.2	6.2	1.2	3.9	3.9
Cycle Queue Clearance Time (*g c*), s		1.8	11.1		2.7		3.7	6.2	6.2	1.2	3.9	3.9
Green Ratio (*g/C*)		0.21	0.21		0.21		0.62	0.65	0.65	0.51	0.51	0.51
Capacity (*c*), veh/h		401	301		399		718	1130	1115	484	876	866
Volume-to-Capacity Ratio (*X*)		0.133	0.809		0.196		0.282	0.309	0.310	0.052	0.199	0.200
Available Capacity (*c a*), veh/h		756	629		770		1317	1130	1115	484	876	866
Back of Queue (*Q*), veh/ln (50 th percentile)		0.7	4.0		1.0		1.0	1.8	1.8	0.2	1.4	1.4
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (*d 1*), s/veh		22.8	26.5		23.2		6.0	5.3	5.3	8.8	9.5	9.5
Incremental Delay (*d 2*), s/veh		0.1	5.1		0.2		0.2	0.7	0.7	0.2	0.5	0.5
Initial Queue Delay (*d 3*), s/veh		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		23.0	31.7		23.4		6.2	6.0	6.0	9.0	10.0	10.0
Level of Service (LOS)		C	C		C		A	A	A	A	B	B
Approach Delay, s/veh / LOS	30.1		C	23.4		C	6.1		A	10.0		A
Intersection Delay, s/veh / LOS	12.1						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.8	C	2.8	C	2.0	B	2.2	B
Bicycle LOS Score / LOS	1.0	A	0.6	A	1.2	A	0.8	A

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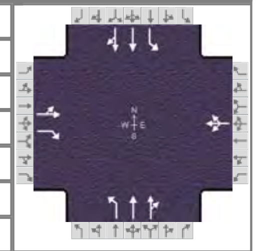
HCS 2010 Signalized Intersection Results Summary

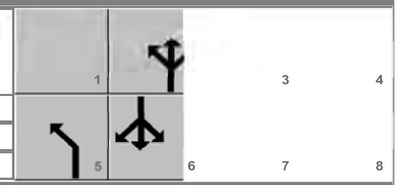
General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 4, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	PM Peak Hour	PHF	0.92
Urban Street	Montana Avenue	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Platinum Street	File Name	MontanaPlatinumPM.xus		
Project Description	Butte TP				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	15	38	236	11	91	27	201	471	19	27	806	27

Signal Information			
Cycle, s	70.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	6.8	34.0	15.2	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	0.0	0.0	0.0
Red	1.0	2.0	2.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2		6
Case Number		7.0		8.0	1.0	4.0		6.3
Phase Duration, s		20.2		20.2	10.8	49.8		39.0
Change Period, (*Y+R* $_c$), s		5.0		5.0	4.0	5.0		5.0
Max Allow Headway (*MAH*), s		4.3		4.3	4.1	0.0		0.0
Queue Clearance Time (g_s), s		13.6		7.0	6.1			
Green Extension Time (g_e), s		1.6		1.7	0.7	0.0		0.0
Phase Call Probability		1.00		1.00	0.99			
Max Out Probability		0.01		0.00	0.00			

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		58	257		140		218	268	265	29	455	450
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1620	1468		1655		1650	1733	1709	876	1733	1713
Queue Service Time (g_s), s		0.0	11.6		0.0		4.1	4.6	4.6	1.2	12.8	12.8
Cycle Queue Clearance Time (g_c), s		1.9	11.6		5.0		4.1	4.6	4.6	1.3	12.8	12.8
Green Ratio (*g/C*)		0.22	0.22		0.22		0.61	0.64	0.64	0.49	0.49	0.49
Capacity (*c*), veh/h		418	319		415		450	1109	1094	529	842	832
Volume-to-Capacity Ratio (*X*)		0.138	0.805		0.338		0.485	0.241	0.242	0.056	0.541	0.541
Available Capacity (c_a), veh/h		750	629		761		1017	1109	1094	529	842	832
Back of Queue (*Q*), veh/ln (50 th percentile)		0.7	4.2		1.9		1.2	1.4	1.4	0.2	4.8	4.8
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh		22.2	26.0		23.4		8.5	5.4	5.4	9.6	12.5	12.5
Incremental Delay (d_2), s/veh		0.1	4.8		0.5		0.8	0.5	0.5	0.2	2.5	2.5
Initial Queue Delay (d_3), s/veh		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		22.3	30.8		23.9		9.3	5.9	5.9	9.8	15.0	15.1
Level of Service (LOS)		C	C		C		A	A	A	A	B	B

	EB		WB		NB		SB	
Approach Delay, s/veh / LOS	29.2	C	23.9	C	6.9	A	14.9	B
Intersection Delay, s/veh / LOS	14.8				B			

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.8	C	2.8	C	2.0	B	2.2	B
Bicycle LOS Score / LOS	1.0	A	0.7	A	1.1	A	1.3	A

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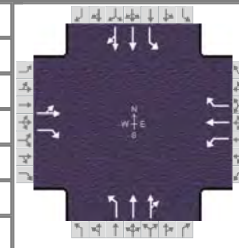
HCS 2010 Signalized Intersection Results Summary

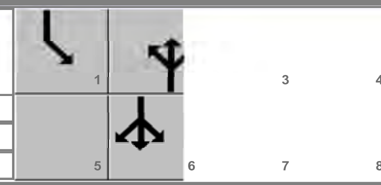
General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 3, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Montana	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Front/Centennial	File Name	MontanaFrontAM.xus		
Project Description	Butte				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	11	30	61	57	118	232	80	779	114	201	418	38

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	6.6	53.7	17.7	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	0.0	0.0	0.0
Red	1.0	1.0	1.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2	1	6
Case Number		7.0		5.0		6.3	1.0	4.0
Phase Duration, s		21.7		21.7		57.7	10.6	68.3
Change Period, (*Y+R c*), s		4.0		4.0		4.0	4.0	4.0
Max Allow Headway (*MAH*), s		4.3		4.3		0.0	4.1	0.0
Queue Clearance Time (*g s*), s		7.3		15.7			5.9	
Green Extension Time (*g e*), s		2.0		2.0		0.0	0.7	0.0
Phase Call Probability		1.00		1.00			0.99	
Max Out Probability		0.00		0.00			0.00	

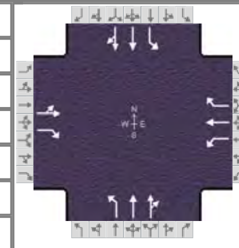
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		41	61	57	118	232	80	457	436	201	230	226
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1590	1454	1374	1716	1454	931	1673	1598	1634	1716	1665
Queue Service Time (*g s*), s		0.0	3.2	3.4	5.3	13.7	3.4	13.6	13.6	3.9	4.0	4.0
Cycle Queue Clearance Time (*g c*), s		5.3	3.2	8.6	5.3	13.7	3.4	13.6	13.6	3.9	4.0	4.0
Green Ratio (*g/C*)		0.20	0.20	0.20	0.20	0.20	0.60	0.60	0.60	0.69	0.71	0.71
Capacity (*c*), veh/h		363	286	271	337	286	636	999	954	476	1226	1190
Volume-to-Capacity Ratio (*X*)		0.113	0.213	0.211	0.350	0.812	0.126	0.457	0.457	0.423	0.188	0.190
Available Capacity (*c a*), veh/h		804	695	657	820	695	636	999	954	1234	1226	1190
Back of Queue (*Q*), veh/ln (50 th percentile)		0.7	1.1	1.1	2.2	5.1	0.7	4.8	4.6	1.1	1.2	1.2
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (*d 1*), s/veh		29.8	30.3	34.8	31.2	34.6	8.0	10.0	10.0	6.9	4.2	4.2
Incremental Delay (*d 2*), s/veh		0.1	0.4	0.4	0.6	5.5	0.4	1.5	1.6	0.6	0.3	0.4
Initial Queue Delay (*d 3*), s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		29.9	30.7	35.2	31.8	40.1	8.4	11.6	11.6	7.5	4.6	4.6
Level of Service (LOS)		C	C	D	C	D	A	B	B	A	A	A
Approach Delay, s/veh / LOS	30.4		C	37.0		D	11.3		B	5.5		A
Intersection Delay, s/veh / LOS			15.3						B			

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.8	C	2.8	C	2.4	B	2.2	B
Bicycle LOS Score / LOS	0.7	A	1.2	A	1.3	A	1.0	A

 HCS 2010™ Streets Version 6.70 Generated: 4/21/2016 10:03:08 AM

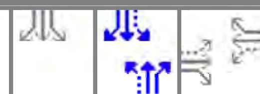
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 3, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	PM Peak Hour	PHF	1.00
Urban Street	Montana	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Front/Centennial	File Name	MontanaFrontPM.xus		
Project Description	Butte				

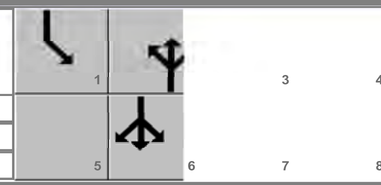


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	30	76	114	99	68	308	61	467	42	357	794	4

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	12.4	43.1	22.5	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	0.0	0.0	0.0
Red	1.0	1.0	1.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2	1	6
Case Number		7.0		5.0		6.3	1.0	4.0
Phase Duration, s		26.5		26.5		47.1	16.4	63.5
Change Period, (*Y+R c*), s		4.0		4.0		4.0	4.0	4.0
Max Allow Headway (*MAH*), s		4.0		4.0		0.0	4.1	0.0
Queue Clearance Time (*g s*), s		7.7		20.2			11.1	
Green Extension Time (*g e*), s		2.4		2.3		0.0	1.4	0.0
Phase Call Probability		1.00		1.00			1.00	
Max Out Probability		0.00		0.00			0.00	

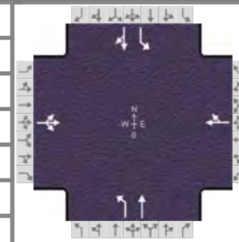
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		106	114	99	68	308	61	257	252	357	399	399
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1613	1454	1318	1716	1454	678	1673	1624	1634	1716	1713
Queue Service Time (*g s*), s		0.0	5.7	5.8	2.8	18.2	4.6	8.5	8.6	9.1	9.2	9.2
Cycle Queue Clearance Time (*g c*), s		4.4	5.7	10.3	2.8	18.2	4.7	8.5	8.6	9.1	9.2	9.2
Green Ratio (*g/C*)		0.25	0.25	0.25	0.25	0.25	0.48	0.48	0.48	0.64	0.66	0.66
Capacity (*c*), veh/h		454	363	344	428	363	405	801	778	646	1135	1133
Volume-to-Capacity Ratio (*X*)		0.233	0.314	0.288	0.159	0.849	0.151	0.321	0.324	0.553	0.352	0.352
Available Capacity (*c a*), veh/h		816	695	645	820	695	405	801	778	1210	1135	1133
Back of Queue (*Q*), veh/ln (50 th percentile)		1.8	2.0	1.9	1.1	6.7	0.8	3.3	3.2	2.8	3.1	3.1
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (*d 1*), s/veh		27.0	27.5	31.1	26.4	32.1	13.4	14.4	14.5	8.5	6.7	6.7
Incremental Delay (*d 2*), s/veh		0.1	0.2	0.5	0.2	5.6	0.8	1.1	1.1	0.7	0.9	0.9
Initial Queue Delay (*d 3*), s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		27.1	27.7	31.6	26.6	37.7	14.2	15.5	15.6	9.3	7.6	7.6
Level of Service (LOS)		C	C	C	C	D	B	B	B	A	A	A
Approach Delay, s/veh / LOS	27.4		C	34.8		C	15.4		B	8.1		A
Intersection Delay, s/veh / LOS	16.8						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.8	C	2.8	C	2.4	B	2.2	B
Bicycle LOS Score / LOS	0.9	A	1.3	A	1.0	A	1.4	A

 HCS 2010™ Streets Version 6.70 Generated: 4/21/2016 10:03:42 AM

HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 3, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Montana Avenue	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Rowe Road	File Name	MontanaRoweAM.xus		
Project Description	Butte TP				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	19	1	1		4	407	1	258		277	144	1

Signal Information										
Cycle, s	90.0	Reference Phase	2							
Offset, s	0	Reference Point	End	Green	11.2	34.5	21.9	2.5	0.0	0.0
Uncoordinated	No	Simult. Gap E/W	On	Yellow	3.0	3.0	3.0	3.0	0.0	0.0
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	2.0	2.0	2.0	0.0	0.0

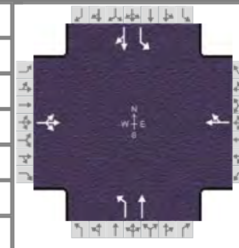
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2	1	6
Case Number		12.0		12.0		6.3	1.0	4.0
Phase Duration, s		7.5		26.9		39.5	16.2	55.7
Change Period, ($Y+R_c$), s		5.0		5.0		5.0	5.0	5.0
Max Allow Headway (*MAH*), s		3.6		3.9		0.0	3.6	0.0
Queue Clearance Time (g_s), s		3.1		21.0			10.4	
Green Extension Time (g_e), s		0.0		0.9		0.0	0.7	0.0
Phase Call Probability		0.41		1.00			1.00	
Max Out Probability		0.00		0.00			0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14		8	18	5	2		1	6	16
Adjusted Flow Rate (*v*), veh/h		21			311		1	258		277	145	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1661			1429		1263	1750		1667	1748	
Queue Service Time (g_s), s		1.1			19.0		0.0	9.6		8.4	3.6	
Cycle Queue Clearance Time (g_c), s		1.1			19.0		0.1	9.6		8.4	3.6	
Green Ratio (*g/C*)		0.03			0.24		0.38	0.38		0.53	0.56	
Capacity (*c*), veh/h		45			347		564	671		602	984	
Volume-to-Capacity Ratio (*X*)		0.464			0.895		0.002	0.385		0.460	0.147	
Available Capacity (c_a), veh/h		556			651		564	671		1111	984	
Back of Queue (*Q*), veh/ln (50 th percentile)		0.5			6.9		0.0	4.0		2.9	1.3	
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00			0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh		43.1			33.0		17.1	20.1		12.9	9.4	
Incremental Delay (d_2), s/veh		5.4			6.3		0.0	1.7		0.4	0.3	
Initial Queue Delay (d_3), s/veh		0.0			0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh		48.5			39.2		17.1	21.7		13.3	9.7	
Level of Service (LOS)		D			D		B	C		B	A	
Approach Delay, s/veh / LOS	48.5	D		39.2	D		21.7	C		12.1	B	
Intersection Delay, s/veh / LOS	23.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.3	B	2.3	B	2.2	B	2.1	B
Bicycle LOS Score / LOS	0.5	A	1.0	A	0.9	A	1.2	A

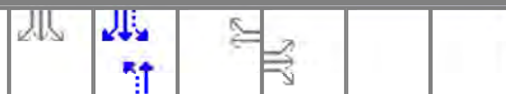
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 3, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	PM Peak Hour	PHF	1.00
Urban Street	Montana Avenue	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Rowe Road	File Name	MontanaRowePM.xus		
Project Description	Butte TP				

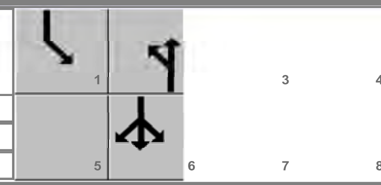


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	19	8	8		8	354	1	103		445	296	27

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	17.9	29.9	18.7	3.5	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	0.0	0.0
Red	2.0	2.0	2.0	2.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2	1	6
Case Number		12.0		12.0		6.3	1.0	4.0
Phase Duration, s		8.5		23.7		34.9	22.9	57.8
Change Period, ($Y+R_c$), s		5.0		5.0		5.0	5.0	5.0
Max Allow Headway (*MAH*), s		3.7		3.9		0.0	3.6	0.0
Queue Clearance Time (g_s), s		3.9		18.0			16.6	
Green Extension Time (g_e), s		0.1		0.8		0.0	1.3	0.0
Phase Call Probability		1.00		1.00			1.00	
Max Out Probability		0.00		0.00			0.00	

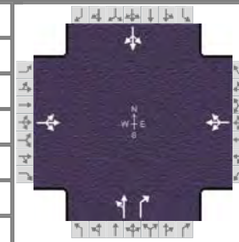
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14		8	18	5	2		1	6	16
Adjusted Flow Rate (*v*), veh/h		35			262		1	103		445	323	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1638			1433		1074	1750		1667	1724	
Queue Service Time (g_s), s		1.9			16.0		0.1	3.8		14.6	8.6	
Cycle Queue Clearance Time (g_c), s		1.9			16.0		0.1	3.8		14.6	8.6	
Green Ratio (*g/C*)		0.04			0.21		0.33	0.33		0.55	0.59	
Capacity (*c*), veh/h		64			298		436	581		792	1011	
Volume-to-Capacity Ratio (*X*)		0.550			0.880		0.002	0.177		0.562	0.319	
Available Capacity (c_a), veh/h		624			653		436	581		1234	1011	
Back of Queue (*Q*), veh/ln (50 th percentile)		0.8			5.9		0.0	1.6		5.0	3.1	
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00			0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh		42.5			34.6		20.1	21.3		12.5	9.5	
Incremental Delay (d_2), s/veh		5.4			6.3		0.0	0.7		0.5	0.8	
Initial Queue Delay (d_3), s/veh		0.0			0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh		47.9			40.9		20.1	22.0		13.0	10.3	
Level of Service (LOS)		D			D		C	C		B	B	
Approach Delay, s/veh / LOS	47.9	D		40.9	D		22.0	C		11.9	B	
Intersection Delay, s/veh / LOS	20.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.3	B	2.3	B	2.3	B	2.1	B
Bicycle LOS Score / LOS	0.5	A	0.9	A	0.7	A	1.8	A

 HCS 2010™ Streets Version 6.70 Generated: 8/10/2016 1:28:00 PM

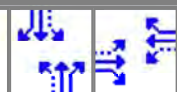
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 4, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Arizona Street	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Broadway Street	File Name	ArizonaBroadwayAM.xus		
Project Description	Butte TP				

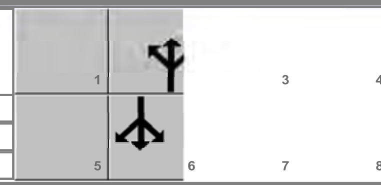


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	10	57	1	8	1	91	186	11	1	53	1

Signal Information			
Cycle, s	50.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	26.0	16.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	0.0	0.0	0.0	0.0
Red	1.0	1.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		8.0		8.0		7.0		8.0
Phase Duration, s		20.0		20.0		30.0		30.0
Change Period, ($Y+R_c$), s		4.0		4.0		4.0		4.0
Max Allow Headway (*MAH*), s		3.3		3.3		0.0		0.0
Queue Clearance Time (g_s), s		3.6		2.2				
Green Extension Time (g_e), s		0.1		0.1		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		0.00		0.00				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h		68			10			277	11		55	
Adjusted Saturation Flow Rate (s), veh/h/ln		1505			1685			1595	1468		1725	
Queue Service Time (g_s), s		0.0			0.0			0.6	0.2		0.0	
Cycle Queue Clearance Time (g_c), s		1.6			0.2			4.7	0.2		0.8	
Green Ratio (g/C)		0.32			0.32			0.52	0.52		0.52	
Capacity (c), veh/h		555			618			925	763		970	
Volume-to-Capacity Ratio (X)		0.123			0.016			0.299	0.014		0.057	
Available Capacity (c_a), veh/h		555			618			925	763		970	
Back of Queue (Q), veh/ln (50 th percentile)		0.5			0.1			1.4	0.0		0.2	
Queue Storage Ratio (RQ) (50 th percentile)		0.00			0.00			0.00	0.00		0.00	
Uniform Delay (d_1), s/veh		12.1			11.6			6.9	5.8		5.9	
Incremental Delay (d_2), s/veh		0.5			0.0			0.8	0.0		0.1	
Initial Queue Delay (d_3), s/veh		0.0			0.0			0.0	0.0		0.0	
Control Delay (d), s/veh		12.6			11.7			7.7	5.8		6.1	
Level of Service (LOS)		B			B			A	A		A	

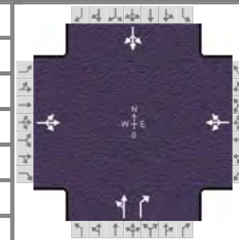
	EB		WB		NB		SB	
Approach Delay, s/veh / LOS	12.6	B	11.7	B	7.6	A	6.1	A
Intersection Delay, s/veh / LOS	8.3				A			

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.3	B	2.1	B	2.1	B	2.1	B
Bicycle LOS Score / LOS	0.6	A	0.5	A	1.0	A	0.6	A

 HCS 2010™ Streets Version 6.70 Generated: 4/21/2016 9:16:21 AM

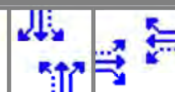
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 4, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	PM Peak Hour	PHF	1.00
Urban Street	Arizona Street	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Broadway Street	File Name	ArizonaBroadwayPM.xus		
Project Description	Butte TP				

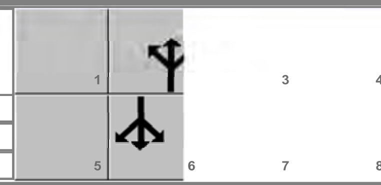


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	1	8	91	8	19	8	30	110	11	4	179	4

Signal Information			
Cycle, s	50.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	26.0	16.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	0.0	0.0	0.0	0.0
Red	1.0	1.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		8.0		8.0		7.0		8.0
Phase Duration, s		20.0		20.0		30.0		30.0
Change Period, (*Y+R c*), s		4.0		4.0		4.0		4.0
Max Allow Headway (*MAH*), s		3.3		3.3		0.0		0.0
Queue Clearance Time (*g s*), s		4.4		2.7				
Green Extension Time (*g e*), s		0.2		0.2		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		0.00		0.00				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		100			35			140	11		187	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1488			1593			1609	1468		1723	
Queue Service Time (*g s*), s		0.0			0.0			0.0	0.2		0.0	
Cycle Queue Clearance Time (*g c*), s		2.4			0.7			2.1	0.2		2.9	
Green Ratio (*g/C*)		0.32			0.32			0.52	0.52		0.52	
Capacity (*c*), veh/h		549			598			924	763		970	
Volume-to-Capacity Ratio (*X*)		0.182			0.058			0.152	0.014		0.193	
Available Capacity (*c a*), veh/h		549			598			924	763		970	
Back of Queue (*Q*), veh/ln (50 th percentile)		0.8			0.3			0.6	0.0		0.9	
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00			0.00			0.00	0.00		0.00	
Uniform Delay (*d 1*), s/veh		12.4			11.8			6.3	5.8		6.5	
Incremental Delay (*d 2*), s/veh		0.7			0.2			0.3	0.0		0.4	
Initial Queue Delay (*d 3*), s/veh		0.0			0.0			0.0	0.0		0.0	
Control Delay (*d*), s/veh		13.1			12.0			6.6	5.8		6.9	
Level of Service (LOS)		B			B			A	A		A	

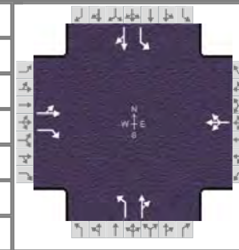
	EB		WB		NB		SB	
Approach Delay, s/veh / LOS	13.1	B	12.0	B	6.6	A	6.9	A
Intersection Delay, s/veh / LOS	8.5				A			

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.3	B	2.1	B	2.1	B	2.1	B
Bicycle LOS Score / LOS	0.7	A	0.5	A	0.7	A	0.8	A

 HCS 2010™ Streets Version 6.70 Generated: 4/21/2016 9:17:38 AM

HCS 2010 Signalized Intersection Results Summary

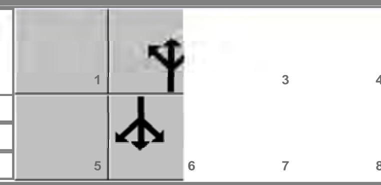
General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 4, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Arizona Street	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Mercury Street	File Name	ArizonaMercuryAM.xus		
Project Description	Butte TP				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	11	38	4	23	72	8	38	194	15	8	61	1

Signal Information			
Cycle, s	70.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	55.8	6.2	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	0.0	0.0	0.0	0.0
Red	1.0	1.0	0.0	0.0	0.0	0.0



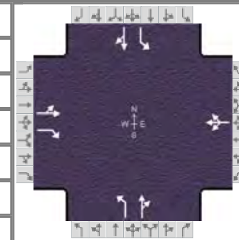
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		7.0		8.0		6.0		6.0
Phase Duration, s		10.2		10.2		59.8		59.8
Change Period, (*Y+R* $_c$), s		4.0		4.0		4.0		4.0
Max Allow Headway (*MAH*), s		3.1		3.1		0.0		0.0
Queue Clearance Time (*g* $_s$), s		3.9		6.2				
Green Extension Time (*g* $_e$), s		0.2		0.2		0.0		0.0
Phase Call Probability		0.95		0.95				
Max Out Probability		0.00		0.00				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		49	4		103		38	209		8	62	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1668	1468		1642		1348	1693		1180	1728	
Queue Service Time (*g* $_s$), s		0.0	0.2		2.4		0.4	2.0		0.1	0.5	
Cycle Queue Clearance Time (*g* $_c$), s		1.9	0.2		4.2		1.0	2.0		2.1	0.5	
Green Ratio (*g/C*)		0.09	0.09		0.09		0.80	0.80		0.80	0.80	
Capacity (*c*), veh/h		210	129		207		1168	1351		1010	1378	
Volume-to-Capacity Ratio (*X*)		0.234	0.031		0.496		0.033	0.155		0.008	0.045	
Available Capacity (*c* $_a$), veh/h		669	545		666		1168	1351		1010	1378	
Back of Queue (*Q*), veh/ln (50 th percentile)		0.7	0.1		1.6		0.1	0.3		0.0	0.1	
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.00		0.00		0.00	0.00		0.00	0.00	
Uniform Delay (*d* $_1$), s/veh		30.0	29.2		31.0		1.6	1.6		1.9	1.5	
Incremental Delay (*d* $_2$), s/veh		0.2	0.0		0.7		0.1	0.2		0.0	0.1	
Initial Queue Delay (*d* $_3$), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh		30.2	29.2		31.7		1.6	1.9		1.9	1.5	
Level of Service (LOS)		C	C		C		A	A		A	A	
Approach Delay, s/veh / LOS	30.1	C		31.7	C		1.8	A		1.6	A	
Intersection Delay, s/veh / LOS	11.5						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.3	B	2.3	B	2.0	B	2.2	B
Bicycle LOS Score / LOS	0.6	A	0.7	A	0.9	A	0.6	A

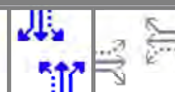
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 4, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	PM Peak Hour	PHF	1.00
Urban Street	Arizona Street	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Mercury Street	File Name	ArizonaMercuryPM.xus		
Project Description	Butte TP				

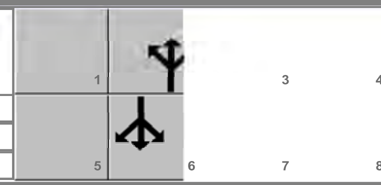


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	15	137	57	8	84	8	23	186	19	11	266	11

Signal Information			
Cycle, s	70.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	53.5	8.5	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	0.0	0.0	0.0	0.0
Red	1.0	1.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		7.0		8.0		6.0		6.0
Phase Duration, s		12.5		12.5		57.5		57.5
Change Period, (*Y+R* $_c$), s		4.0		4.0		4.0		4.0
Max Allow Headway (*MAH*), s		3.1		3.1		0.0		0.0
Queue Clearance Time (g_s), s		8.0		5.8				
Green Extension Time (g_e), s		0.5		0.5		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		0.00		0.00				

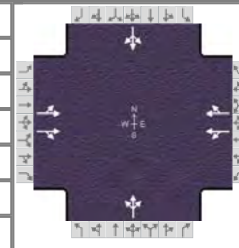
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		152	57		100		23	205		11	277	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1704	1468		1689		1109	1687		1184	1720	
Queue Service Time (g_s), s		2.1	2.5		0.0		0.4	2.3		0.2	3.2	
Cycle Queue Clearance Time (g_c), s		6.0	2.5		3.8		3.6	2.3		2.5	3.2	
Green Ratio (*g/C*)		0.12	0.12		0.12		0.76	0.76		0.76	0.76	
Capacity (*c*), veh/h		263	178		260		900	1290		969	1315	
Volume-to-Capacity Ratio (*X*)		0.578	0.320		0.384		0.026	0.159		0.011	0.211	
Available Capacity (c_a), veh/h		683	545		675		900	1290		969	1315	
Back of Queue (*Q*), veh/ln (50 th percentile)		2.4	0.8		1.5		0.1	0.4		0.0	0.6	
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.00		0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh		29.6	28.1		28.7		2.8	2.2		2.5	2.3	
Incremental Delay (d_2), s/veh		0.7	0.4		0.3		0.1	0.3		0.0	0.4	
Initial Queue Delay (d_3), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh		30.4	28.5		29.1		2.9	2.5		2.6	2.7	
Level of Service (LOS)		C	C		C		A	A		A	A	
Approach Delay, s/veh / LOS	29.9		C	29.1		C	2.5		A	2.7		A
Intersection Delay, s/veh / LOS	12.7						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.3	B	2.3	B	2.0	B	2.2	B
Bicycle LOS Score / LOS	0.8	A	0.7	A	0.9	A	1.0	A

 HCS 2010™ Streets Version 6.70 Generated: 8/10/2016 1:29:42 PM

HCS 2010 Signalized Intersection Results Summary

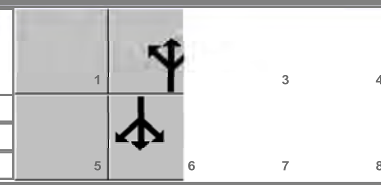
General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 4, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Park Street	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Washington Street	File Name	ParkWashingtonAM.xus		
Project Description	Butte TP				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	4	171	27	8	293	4	15	1	1	4	11	19

Signal Information			
Cycle, s	50.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	16.0	26.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	0.0	0.0	0.0	0.0
Red	1.0	1.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		30.0		30.0		20.0		20.0
Change Period, ($Y+R_c$), s		4.0		4.0		4.0		4.0
Max Allow Headway (*MAH*), s		3.1		3.1		0.0		0.0
Queue Clearance Time (g_s), s		3.6		4.4				
Green Extension Time (g_e), s		0.9		0.9		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		0.00		0.00				

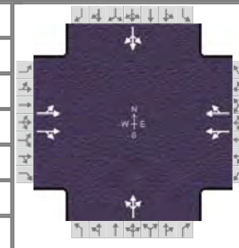
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	107		95	160		145		17			34	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1724		1500	1722		1569		1456			1622	
Queue Service Time (g_s), s	0.0		1.6	0.0		2.4		0.0			0.0	
Cycle Queue Clearance Time (g_c), s	1.6		1.6	2.4		2.4		0.3			0.7	
Green Ratio (*g/C*)	0.52		0.52	0.52		0.52		0.32			0.32	
Capacity (*c*), veh/h	971		780	971		816		601			600	
Volume-to-Capacity Ratio (*X*)	0.110		0.122	0.165		0.178		0.028			0.057	
Available Capacity (c_a), veh/h	971		780	971		816		601			600	
Back of Queue (*Q*), veh/ln (50 th percentile)	0.5		0.4	0.7		0.7		0.1			0.2	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00		0.00	0.00		0.00		0.00			0.00	
Uniform Delay (d_1), s/veh	6.1		6.2	6.3		6.3		11.7			11.8	
Incremental Delay (d_2), s/veh	0.2		0.3	0.4		0.5		0.1			0.2	
Initial Queue Delay (d_3), s/veh	0.0		0.0	0.0		0.0		0.0			0.0	
Control Delay (*d*), s/veh	6.4		6.5	6.7		6.8		11.8			12.0	
Level of Service (LOS)	A		A	A		A		B			B	
Approach Delay, s/veh / LOS	6.4	A		6.8	A		11.8	B		12.0	B	
Intersection Delay, s/veh / LOS	7.1						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.1	B	2.1	B	2.7	B	2.7	B
Bicycle LOS Score / LOS	0.7	A	0.7	A	0.5	A	0.5	A

 HCS 2010™ Streets Version 6.70 Generated: 4/21/2016 10:24:17 AM

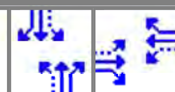
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 4, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	PM Peak Hour	PHF	1.00
Urban Street	Park Street	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Washington Street	File Name	ParkWashingtonPM.xus		
Project Description	Butte TP				

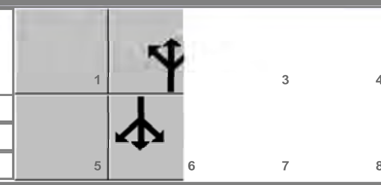


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	8	296	15	11	209	8	4	4	8	8	19	11

Signal Information			
Cycle, s	50.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	16.0	26.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	0.0	0.0	0.0	0.0
Red	1.0	1.0	0.0	0.0	0.0	0.0



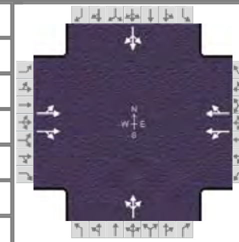
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		30.0		30.0		20.0		20.0
Change Period, ($Y+R_c$), s		4.0		4.0		4.0		4.0
Max Allow Headway (*MAH*), s		3.1		3.1		0.0		0.0
Queue Clearance Time (g_s), s		4.6		3.8				
Green Extension Time (g_e), s		0.9		0.9		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		0.00		0.00				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	168		151	120		108		16			38	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1722		1549	1690		1556		1578			1668	
Queue Service Time (g_s), s	0.0		2.6	0.0		1.8		0.0			0.0	
Cycle Queue Clearance Time (g_c), s	2.6		2.6	1.8		1.8		0.3			0.8	
Green Ratio (*g/C*)	0.52		0.52	0.52		0.52		0.32			0.32	
Capacity (*c*), veh/h	971		806	958		809		595			621	
Volume-to-Capacity Ratio (*X*)	0.173		0.188	0.125		0.134		0.027			0.061	
Available Capacity (c_a), veh/h	971		806	958		809		595			621	
Back of Queue (*Q*), veh/ln (50 th percentile)	0.8		0.7	0.5		0.5		0.1			0.3	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00		0.00	0.00		0.00		0.00			0.00	
Uniform Delay (d_1), s/veh	6.4		6.4	6.2		6.2		11.7			11.8	
Incremental Delay (d_2), s/veh	0.4		0.5	0.3		0.3		0.1			0.2	
Initial Queue Delay (d_3), s/veh	0.0		0.0	0.0		0.0		0.0			0.0	
Control Delay (*d*), s/veh	6.8		6.9	6.5		6.5		11.8			12.0	
Level of Service (LOS)	A		A	A		A		B			B	
Approach Delay, s/veh / LOS	6.8	A		6.5	A		11.8	B		12.0	B	
Intersection Delay, s/veh / LOS	7.2						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.1	B	2.1	B	2.7	B	2.7	B
Bicycle LOS Score / LOS	0.8	A	0.7	A	0.5	A	0.6	A

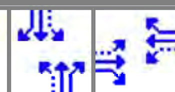
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 4, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Park Street	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Idaho Street	File Name	ParkIdahoAM.xus		
Project Description	Butte TP				

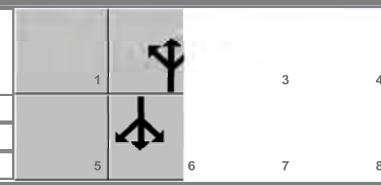


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	0	198	8	27	224	4	1	11	34	1	4	4

Signal Information			
Cycle, s	50.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	16.0	26.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	0.0	0.0	0.0	0.0
Red	1.0	1.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		30.0		30.0		20.0		20.0
Change Period, (*Y+R c*), s		4.0		4.0		4.0		4.0
Max Allow Headway (*MAH*), s		3.1		3.1		0.0		0.0
Queue Clearance Time (*g s*), s		3.5		4.0				
Green Extension Time (*g e*), s		0.8		0.8		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		0.00		0.00				

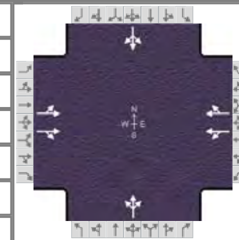
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	0		103	133		122		46			9	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0		1709	1626		1567		1573			1651	
Queue Service Time (*g s*), s	0.0		1.5	0.0		2.0		0.0			0.0	
Cycle Queue Clearance Time (*g c*), s	0.0		1.5	2.0		2.0		1.0			0.2	
Green Ratio (*g/C*)			0.52	0.52		0.52		0.32			0.32	
Capacity (*c*), veh/h			889	932		815		577			608	
Volume-to-Capacity Ratio (*X*)	0.000		0.116	0.143		0.150		0.080			0.015	
Available Capacity (*c a*), veh/h			889	932		815		577			608	
Back of Queue (*Q*), veh/ln (50 th percentile)	0.0		0.5	0.6		0.6		0.3			0.1	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00		0.00	0.00		0.00		0.00			0.00	
Uniform Delay (*d 1*), s/veh			6.1	6.2		6.2		11.9			11.6	
Incremental Delay (*d 2*), s/veh	0.0		0.3	0.3		0.4		0.3			0.0	
Initial Queue Delay (*d 3*), s/veh	0.0		0.0	0.0		0.0		0.0			0.0	
Control Delay (*d*), s/veh			6.4	6.6		6.6		12.2			11.7	
Level of Service (LOS)			A	A		A		B			B	
Approach Delay, s/veh / LOS	6.4		A	6.6		A	12.2		B	11.7		B
Intersection Delay, s/veh / LOS	7.1						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.1	B	2.1	B	2.7	B	2.7	B
Bicycle LOS Score / LOS	0.7	A	0.7	A	0.6	A	0.5	A

 HCS 2010™ Streets Version 6.70 Generated: 4/21/2016 10:22:52 AM

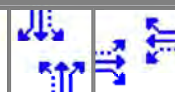
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 4, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	PM Peak Hour	PHF	1.00
Urban Street	Park Street	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Idaho Street	File Name	ParkIdahoPM.xus		
Project Description	Butte TP				

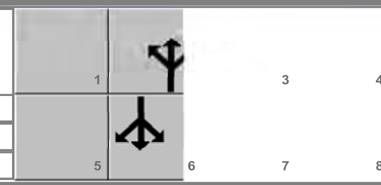


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	15	353	4	15	232	8	4	11	42	11	4	1

Signal Information			
Cycle, s	50.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	16.0	26.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	0.0	0.0	0.0	0.0
Red	1.0	1.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		30.0		30.0		20.0		20.0
Change Period, ($Y+R_c$), s		4.0		4.0		4.0		4.0
Max Allow Headway (*MAH*), s		3.1		3.1		0.0		0.0
Queue Clearance Time (g_s), s		5.1		4.0				
Green Extension Time (g_e), s		1.1		1.1		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		0.00		0.00				

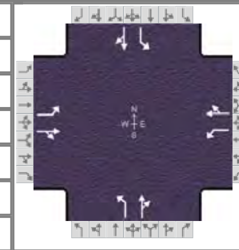
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	195		177	133		122		57			16	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1706		1570	1668		1558		1569			1518	
Queue Service Time (g_s), s	0.0		3.1	0.0		2.0		0.0			0.0	
Cycle Queue Clearance Time (g_c), s	3.0		3.1	2.0		2.0		1.3			0.3	
Green Ratio (*g/C*)	0.52		0.52	0.52		0.52		0.32			0.32	
Capacity (*c*), veh/h	965		817	948		810		579			607	
Volume-to-Capacity Ratio (*X*)	0.202		0.217	0.141		0.150		0.098			0.026	
Available Capacity (c_a), veh/h	965		817	948		810		579			607	
Back of Queue (*Q*), veh/ln (50 th percentile)	0.9		0.8	0.6		0.6		0.4			0.1	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00		0.00	0.00		0.00		0.00			0.00	
Uniform Delay (d_1), s/veh	6.5		6.5	6.2		6.2		12.0			11.7	
Incremental Delay (d_2), s/veh	0.5		0.6	0.3		0.4		0.3			0.1	
Initial Queue Delay (d_3), s/veh	0.0		0.0	0.0		0.0		0.0			0.0	
Control Delay (*d*), s/veh	7.0		7.1	6.6		6.6		12.3			11.7	
Level of Service (LOS)	A		A	A		A		B			B	
Approach Delay, s/veh / LOS	7.0	A		6.6	A		12.3	B		11.7	B	
Intersection Delay, s/veh / LOS	7.4						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.1	B	2.1	B	2.7	B	2.7	B
Bicycle LOS Score / LOS	0.8	A	0.7	A	0.6	A	0.5	A

 HCS 2010™ Streets Version 6.70 Generated: 4/21/2016 10:23:53 AM

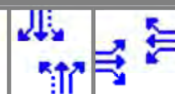
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 4, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Main Street	Analysis Year	2016	Analysis Period	1> 7:00
Intersection	Park Street	File Name	MainParkAM.xus		
Project Description	Butte TP				

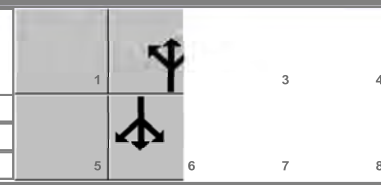


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	8	189	42	21	130	46	29	118	17	20	113	13

Signal Information			
Cycle, s	50.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	16.0	11.0	11.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	0.0	0.0	0.0
Red	1.0	1.0	1.0	0.0	0.0	0.0



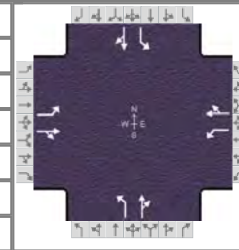
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		10.0		10.0		6.0		6.0
Phase Duration, s		15.0		15.0		20.0		20.0
Change Period, (*Y+R c*), s		4.0		4.0		4.0		4.0
Max Allow Headway (*MAH*), s		3.1		3.1		0.0		0.0
Queue Clearance Time (*g s*), s		8.2		6.6				
Green Extension Time (*g e*), s		0.1		0.1		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		1.00		0.29				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	8	231		21	176		29	135		20	126	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1667	1678		1667	1655		1272	1694		1262	1701	
Queue Service Time (*g s*), s	0.2	6.2		0.5	4.6		0.9	2.9		0.6	2.7	
Cycle Queue Clearance Time (*g c*), s	0.2	6.2		0.5	4.6		3.6	2.9		3.5	2.7	
Green Ratio (*g/C*)	0.22	0.22		0.22	0.22		0.32	0.32		0.32	0.32	
Capacity (*c*), veh/h	367	369		367	364		482	542		473	544	
Volume-to-Capacity Ratio (*X*)	0.022	0.626		0.057	0.483		0.060	0.249		0.042	0.231	
Available Capacity (*c a*), veh/h	367	369		367	364		482	542		473	544	
Back of Queue (*Q*), veh/ln (50 th percentile)	0.1	2.9		0.2	2.0		0.2	1.1		0.2	1.0	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (*d 1*), s/veh	15.3	17.6		15.4	17.0		13.8	12.6		13.9	12.5	
Incremental Delay (*d 2*), s/veh	0.1	7.8		0.3	4.5		0.2	1.1		0.2	1.0	
Initial Queue Delay (*d 3*), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	15.4	25.4		15.7	21.6		14.0	13.7		14.0	13.5	
Level of Service (LOS)	B	C		B	C		B	B		B	B	
Approach Delay, s/veh / LOS	25.1	C		20.9	C		13.7	B		13.6	B	
Intersection Delay, s/veh / LOS	19.2						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.3	B	2.3	B	2.3	B	2.3	B
Bicycle LOS Score / LOS	0.9	A	0.8	A	0.8	A	0.7	A

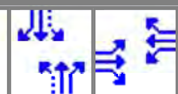
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 4, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	PM Peak Hour	PHF	1.00
Urban Street	Main Street	Analysis Year	2016	Analysis Period	1> 7:00
Intersection	Park Street	File Name	MainParkPM.xus		
Project Description	Butte TP				

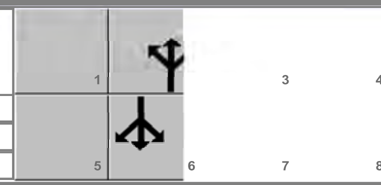


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	13	155	25	38	193	38	29	109	13	80	139	25

Signal Information			
Cycle, s	50.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	16.0	11.0	11.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	0.0	0.0	0.0
Red	1.0	1.0	1.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		10.0		10.0		6.0		6.0
Phase Duration, s		15.0		15.0		20.0		20.0
Change Period, ($Y+R_c$), s		4.0		4.0		4.0		4.0
Max Allow Headway (MAH), s		3.1		3.1		0.0		0.0
Queue Clearance Time (g_s), s		6.6		8.2				
Green Extension Time (g_e), s		0.1		0.1		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		0.27		1.00				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	13	180		38	231		29	122		80	164	
Adjusted Saturation Flow Rate (s), veh/h/ln	1667	1690		1667	1683		1229	1700		1277	1686	
Queue Service Time (g_s), s	0.3	4.6		0.9	6.2		0.9	2.6		2.4	3.7	
Cycle Queue Clearance Time (g_c), s	0.3	4.6		0.9	6.2		4.6	2.6		5.1	3.7	
Green Ratio (g/C)	0.22	0.22		0.22	0.22		0.32	0.32		0.32	0.32	
Capacity (c), veh/h	367	372		367	370		447	544		485	540	
Volume-to-Capacity Ratio (X)	0.035	0.484		0.104	0.624		0.065	0.224		0.165	0.304	
Available Capacity (c_a), veh/h	367	372		367	370		447	544		485	540	
Back of Queue (Q), veh/ln (50 th percentile)	0.1	2.0		0.4	2.9		0.3	1.0		0.7	1.4	
Queue Storage Ratio (RQ) (50 th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	15.3	17.0		15.6	17.6		14.5	12.5		14.3	12.8	
Incremental Delay (d_2), s/veh	0.2	4.5		0.6	7.7		0.3	1.0		0.7	1.4	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh	15.5	21.5		16.1	25.3		14.8	13.4		15.0	14.3	
Level of Service (LOS)	B	C		B	C		B	B		B	B	
Approach Delay, s/veh / LOS	21.1	C		24.0	C		13.7	B		14.5	B	
Intersection Delay, s/veh / LOS	18.8						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.3	B	2.3	B	2.3	B	2.3	B
Bicycle LOS Score / LOS	0.8	A	0.9	A	0.7	A	0.9	A

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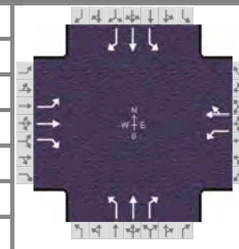
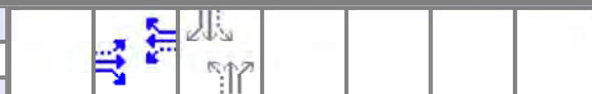
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 3, 2016	Area Type	Other
Jurisdiction	Butte/Silverbow	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Front Street	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Main/Kaw	File Name	FrontMainAM.xus		
Project Description	Butte TP				

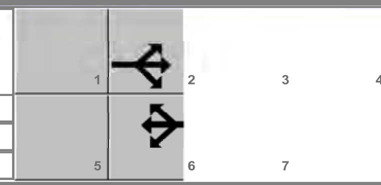


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	34	205	65	57	285	27	118	308	53	30	103	46

Signal Information			
Cycle, s	70.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	31.0	29.0	0.0	0.0	0.0	0.0
Yellow	3.0	4.0	0.0	0.0	0.0	0.0
Red	2.0	1.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		4
Case Number		5.0		6.0		5.0		5.0
Phase Duration, s		36.0		36.0		34.0		34.0
Change Period, (*Y+R c*), s		5.0		5.0		5.0		5.0
Max Allow Headway (*MAH*), s		0.0		0.0		4.2		4.2
Queue Clearance Time (*g s*), s						11.0		12.4
Green Extension Time (*g e*), s		0.0		0.0		2.3		2.3
Phase Call Probability						1.00		1.00
Max Out Probability						0.01		0.02

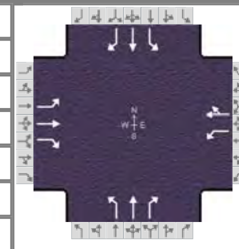
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	34	205	65	57	312		118	308	53	30	103	46
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1063	1716	1454	1219	1689		1286	1716	1454	1067	1716	1454
Queue Service Time (*g s*), s	1.6	5.3	1.8	2.2	8.8		4.4	9.0	1.6	1.4	2.6	1.3
Cycle Queue Clearance Time (*g c*), s	10.4	5.3	1.8	7.5	8.8		7.0	9.0	1.6	10.4	2.6	1.3
Green Ratio (*g/C*)	0.44	0.44	0.44	0.44	0.44		0.41	0.41	0.41	0.41	0.41	0.41
Capacity (*c*), veh/h	440	760	644	551	748		588	711	602	408	711	602
Volume-to-Capacity Ratio (*X*)	0.077	0.270	0.101	0.104	0.417		0.201	0.433	0.088	0.073	0.145	0.076
Available Capacity (*c a*), veh/h	440	760	644	551	748		588	711	602	408	711	602
Back of Queue (*Q*), veh/ln (50 th percentile)	0.4	2.0	0.6	0.6	3.3		1.3	3.5	0.5	0.3	0.9	0.4
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (*d 1*), s/veh	16.9	12.3	11.4	14.7	13.3		15.0	14.6	12.5	18.4	12.8	12.4
Incremental Delay (*d 2*), s/veh	0.3	0.9	0.3	0.4	1.7		0.8	1.9	0.3	0.1	0.1	0.1
Initial Queue Delay (*d 3*), s/veh	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	17.2	13.2	11.7	15.1	15.0		15.7	16.6	12.7	18.4	12.9	12.5
Level of Service (LOS)	B	B	B	B	B		B	B	B	B	B	B
Approach Delay, s/veh / LOS	13.3	B		15.0	B		15.9	B		13.7	B	
Intersection Delay, s/veh / LOS	14.8						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.4	B	2.4	B	2.3	B	2.4	B
Bicycle LOS Score / LOS	1.0	A	1.1	A	1.3	A	0.8	A

 HCS 2010™ Streets Version 6.70 Generated: 4/21/2016 9:19:26 AM

HCS 2010 Signalized Intersection Results Summary

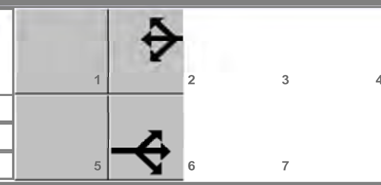
General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 3, 2016	Area Type	Other
Jurisdiction	Butte/Silverbow	Time Period	PM Peak Hour	PHF	1.00
Urban Street	Front Street	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Main/Kaw	File Name	FrontMainPM.xus		
Project Description	Butte TP				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	8	380	68	76	274	27	61	156	53	38	194	23

Signal Information			
Cycle, s	70.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	45.5	14.5	0.0	0.0	0.0	0.0
Yellow	4.0	3.0	0.0	0.0	0.0	0.0
Red	1.0	2.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2		8		4
Case Number		5.0		6.0		5.0		5.0
Phase Duration, s		50.5		50.5		19.5		19.5
Change Period, (*Y+R* $_c$), s		5.0		5.0		5.0		5.0
Max Allow Headway (*MAH*), s		0.0		0.0		4.2		4.2
Queue Clearance Time (g_s), s						12.4		9.4
Green Extension Time (g_e), s		0.0		0.0		2.0		2.0
Phase Call Probability						1.00		1.00
Max Out Probability						0.00		0.00

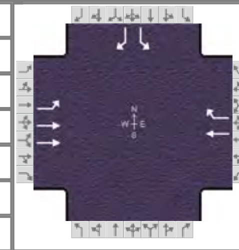
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	8	380	68	76	301		61	156	53	38	194	23
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1074	1716	1454	1039	1688		1184	1716	1454	1226	1716	1454
Queue Service Time (g_s), s	0.2	7.0	1.2	2.5	5.3		3.4	5.5	2.1	1.9	7.1	0.9
Cycle Queue Clearance Time (g_c), s	5.6	7.0	1.2	9.6	5.3		10.4	5.5	2.1	7.4	7.1	0.9
Green Ratio (*g/C*)	0.65	0.65	0.65	0.65	0.65		0.21	0.21	0.21	0.21	0.21	0.21
Capacity (*c*), veh/h	716	1112	943	671	1095		232	358	304	263	358	304
Volume-to-Capacity Ratio (*X*)	0.011	0.342	0.072	0.113	0.275		0.263	0.435	0.175	0.145	0.542	0.076
Available Capacity (c_a), veh/h	716	1112	943	671	1095		881	1299	1101	935	1299	1101
Back of Queue (*Q*), veh/ln (50 th percentile)	0.0	2.1	0.3	0.5	1.6		1.0	2.2	0.7	0.6	2.8	0.3
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	6.5	5.6	4.5	7.7	5.3		29.3	24.1	22.7	27.3	24.7	22.3
Incremental Delay (d_2), s/veh	0.0	0.8	0.1	0.3	0.6		0.6	0.8	0.3	0.2	1.3	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	6.5	6.4	4.7	8.1	5.9		29.9	24.9	23.0	27.6	26.0	22.4
Level of Service (LOS)	A	A	A	A	A		C	C	C	C	C	C
Approach Delay, s/veh / LOS	6.1		A	6.3		A	25.7		C	25.9		C
Intersection Delay, s/veh / LOS	13.8						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.4	B	2.4	B	2.3	B	2.4	B
Bicycle LOS Score / LOS	1.2	A	1.1	A	0.9	A	0.9	A

 HCS 2010™ Streets Version 6.70 Generated: 4/21/2016 9:20:06 AM

HCS 2010 Signalized Intersection Results Summary

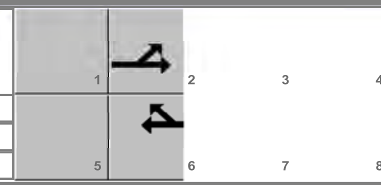
General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 3, 2016	Area Type	Other
Jurisdiction	Butte/Silverbow	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Front Street	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Utah	File Name	FrontUtahAM.xus		
Project Description	Butte TP				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	38	220			475	608				228		53

Signal Information			
Cycle, s	70.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	48.8	11.8	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	0.0	0.0	0.0	0.0
Red	1.4	2.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6				4
Case Number		6.0		7.0				9.0
Phase Duration, s		53.2		53.2				16.8
Change Period, ($Y+R_c$), s		4.4		4.4				5.0
Max Allow Headway (*MAH*), s		0.0		0.0				3.2
Queue Clearance Time (g_s), s								11.4
Green Extension Time (g_e), s		0.0		0.0				0.5
Phase Call Probability								1.00
Max Out Probability								0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16				7		14
Adjusted Flow Rate (*v*), veh/h	38	220			475	608				228		53
Adjusted Saturation Flow Rate (*s*), veh/h/ln	915	1633			1716	1483				1634		1454
Queue Service Time (g_s), s	1.3	1.5			8.1	14.8				9.4		2.2
Cycle Queue Clearance Time (g_c), s	9.4	1.5			8.1	14.8				9.4		2.2
Green Ratio (*g/C*)	0.70	0.70			0.70	0.70				0.17		0.17
Capacity (*c*), veh/h	634	2276			1195	1033				276		246
Volume-to-Capacity Ratio (*X*)	0.060	0.097			0.397	0.589				0.825		0.216
Available Capacity (c_a), veh/h	634	2276			1195	1033				584		519
Back of Queue (*Q*), veh/ln (50 th percentile)	0.2	0.4			2.2	3.6				3.6		0.7
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00			0.00	0.00				0.00		0.00
Uniform Delay (d_1), s/veh	6.4	3.5			4.5	5.5				28.1		25.1
Incremental Delay (d_2), s/veh	0.2	0.1			1.0	2.5				2.4		0.2
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0				0.0		0.0
Control Delay (*d*), s/veh	6.6	3.5			5.4	7.9				30.5		25.2
Level of Service (LOS)	A	A			A	A				C		C

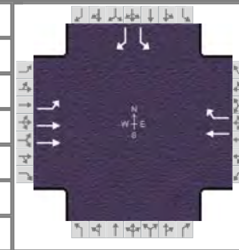
	EB		WB		NB		SB	
Approach Delay, s/veh / LOS	4.0	A	6.8	A	0.0		29.5	C
Intersection Delay, s/veh / LOS	10.3				B			

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	0.6	A	2.2	B	2.7	B	2.5	B
Bicycle LOS Score / LOS	0.7	A	2.3	B				F

 HCS 2010™ Streets Version 6.70 Generated: 4/21/2016 9:21:17 AM

HCS 2010 Signalized Intersection Results Summary

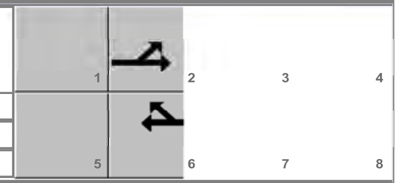
General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 3, 2016	Area Type	Other
Jurisdiction	Butte/Silverbow	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Front Street	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Utah	File Name	FrontUtahPM.xus		
Project Description	Butte TP				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	27	399			308	247				422		57

Signal Information			
Cycle, s	70.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	40.4	20.2	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	0.0	0.0	0.0	0.0
Red	1.4	2.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6				4
Case Number		6.0		7.0				9.0
Phase Duration, s		44.8		44.8				25.2
Change Period, (*Y+R* $_c$), s		4.4		4.4				5.0
Max Allow Headway (*MAH*), s		0.0		0.0				3.2
Queue Clearance Time (g_s), s								19.4
Green Extension Time (g_e), s		0.0		0.0				0.8
Phase Call Probability								1.00
Max Out Probability								0.01

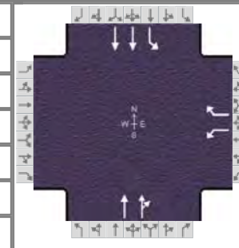
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16				7		14
Adjusted Flow Rate (*v*), veh/h	27	399			308	247				422		57
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1067	1633			1716	1483				1634		1454
Queue Service Time (g_s), s	0.9	4.1			6.5	5.9				17.4		2.0
Cycle Queue Clearance Time (g_c), s	7.4	4.1			6.5	5.9				17.4		2.0
Green Ratio (*g/C*)	0.58	0.58			0.58	0.58				0.29		0.29
Capacity (*c*), veh/h	621	1888			991	857				470		419
Volume-to-Capacity Ratio (*X*)	0.043	0.211			0.311	0.288				0.897		0.136
Available Capacity (c_a), veh/h	621	1888			991	857				700		623
Back of Queue (*Q*), veh/ln (50 th percentile)	0.2	1.2			2.1	1.7				7.1		0.6
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00			0.00	0.00				0.00		0.00
Uniform Delay (d_1), s/veh	9.5	7.1			7.6	7.5				23.9		18.5
Incremental Delay (d_2), s/veh	0.1	0.3			0.8	0.8				7.7		0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0				0.0		0.0
Control Delay (*d*), s/veh	9.6	7.4			8.4	8.3				31.6		18.5
Level of Service (LOS)	A	A			A	A				C		B
Approach Delay, s/veh / LOS	7.5		A	8.4		A	0.0			30.1		C
Intersection Delay, s/veh / LOS	15.2						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	0.7	A	2.2	B	2.7	B	2.5	B
Bicycle LOS Score / LOS	0.8	A	1.4	A				F

 HCS 2010™ Streets Version 6.70 Generated: 4/21/2016 9:22:33 AM

HCS 2010 Signalized Intersection Results Summary

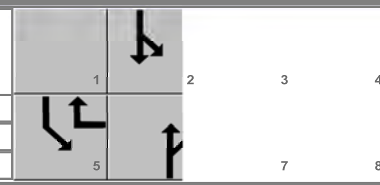
General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 3, 2016	Area Type	Other
Jurisdiction	Butte Silver Bow	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Harrison Avenue	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Grand Avenue	File Name	HarrisonGrandAM.xus		
Project Description	Butte TP				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h				99		334		711	27	182	372	

Signal Information			
Cycle, s	70.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	6.1	32.1	16.8	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	0.0	0.0	0.0
Red	2.0	2.0	2.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				4		6	5	2
Case Number				9.0		8.3	1.0	4.0
Phase Duration, s				21.8		37.1	11.1	48.2
Change Period, (*Y+R* c), s				5.0		5.0	5.0	5.0
Max Allow Headway (*MAH*), s				3.3		0.0	4.1	0.0
Queue Clearance Time (*g* s), s				16.1			5.7	
Green Extension Time (*g* e), s				0.7		0.0	0.5	0.0
Phase Call Probability				1.00			0.97	
Max Out Probability				0.03			0.00	

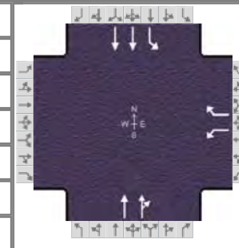
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				7		14		6	16	5	2	
Adjusted Flow Rate (*v*), veh/h				99		334		371	367	182	372	
Adjusted Saturation Flow Rate (*s*), veh/h/ln				1634		1454		1716	1693	1634	1633	
Queue Service Time (*g* s), s				3.4		14.1		15.2	10.5	3.7	3.4	
Cycle Queue Clearance Time (*g* c), s				3.4		14.1		15.2	10.5	3.7	3.4	
Green Ratio (*g/C*)				0.24		0.33		0.46	0.46	0.57	0.62	
Capacity (*c*), veh/h				392		475		788	778	418	2017	
Volume-to-Capacity Ratio (*X*)				0.253		0.704		0.471	0.472	0.435	0.184	
Available Capacity (*c* a), veh/h				584		646		788	778	819	2017	
Back of Queue (*Q*), veh/ln (50 th percentile)				1.2		4.5		3.9	3.9	1.1	1.0	
Queue Storage Ratio (*RQ*) (50 th percentile)				0.00		0.00		0.00	0.00	0.00	0.00	
Uniform Delay (*d* 1), s/veh				21.5		20.6		13.1	13.1	10.0	5.8	
Incremental Delay (*d* 2), s/veh				0.1		1.0		2.0	2.0	0.7	0.2	
Initial Queue Delay (*d* 3), s/veh				0.0		0.0		0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh				21.7		21.6		15.1	15.1	10.7	6.0	
Level of Service (LOS)				C		C		B	B	B	A	
Approach Delay, s/veh / LOS	0.0			21.6		C	15.1		B	7.5		A
Intersection Delay, s/veh / LOS	14.3						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.7	B	2.9	C	2.3	B	0.7	A
Bicycle LOS Score / LOS				F	1.1	A	0.9	A

 HCS 2010™ Streets Version 6.70 Generated: 4/21/2016 9:47:27 AM

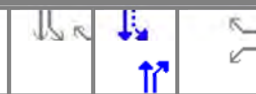
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 3, 2016	Area Type	Other
Jurisdiction	Butte Silver Bow	Time Period	PM Peak Hour	PHF	1.00
Urban Street	Harrison Avenue	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Grand Avenue	File Name	HarrisonGrandPM.xus		
Project Description	Butte TP				

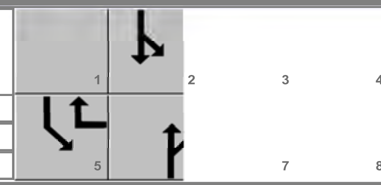


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h				49		141		703	42	255	692	

Signal Information				
Cycle, s	70.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	6.7	40.2	8.1	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	0.0	0.0	0.0
Red	2.0	2.0	2.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				4		6	5	2
Case Number				9.0		8.3	1.0	4.0
Phase Duration, s				13.1		45.2	11.7	56.9
Change Period, (*Y+R c*), s				5.0		5.0	5.0	5.0
Max Allow Headway (*MAH*), s				3.3		0.0	4.1	0.0
Queue Clearance Time (*g s*), s				7.9			5.9	
Green Extension Time (*g e*), s				0.3		0.0	0.9	0.0
Phase Call Probability				0.98			0.99	
Max Out Probability				0.00			0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				7		14		6	16	5	2	
Adjusted Flow Rate (*v*), veh/h				49		141		376	369	255	692	
Adjusted Saturation Flow Rate (*s*), veh/h/ln				1634		1454		1716	1681	1634	1633	
Queue Service Time (*g s*), s				1.9		5.9		15.4	8.4	3.9	4.9	
Cycle Queue Clearance Time (*g c*), s				1.9		5.9		15.4	8.4	3.9	4.9	
Green Ratio (*g/C*)				0.12		0.21		0.57	0.57	0.70	0.74	
Capacity (*c*), veh/h				188		307		985	966	512	2424	
Volume-to-Capacity Ratio (*X*)				0.260		0.459		0.382	0.382	0.498	0.285	
Available Capacity (*c a*), veh/h				584		659		985	966	1100	2424	
Back of Queue (*Q*), veh/ln (50 th percentile)				0.7		1.9		2.8	2.7	0.9	0.9	
Queue Storage Ratio (*RQ*) (50 th percentile)				0.00		0.00		0.00	0.00	0.00	0.00	
Uniform Delay (*d 1*), s/veh				28.3		24.1		8.1	8.1	7.1	3.0	
Incremental Delay (*d 2*), s/veh				0.3		0.4		1.1	1.1	0.8	0.3	
Initial Queue Delay (*d 3*), s/veh				0.0		0.0		0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh				28.5		24.5		9.2	9.3	7.9	3.3	
Level of Service (LOS)				C		C		A	A	A	A	

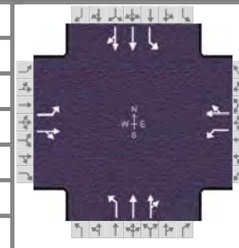
	EB		WB		NB		SB	
Approach Delay, s/veh / LOS	0.0		25.5	C	9.3	A	4.5	A
Intersection Delay, s/veh / LOS	8.5				A			

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.7	B	2.9	C	2.2	B	0.6	A
Bicycle LOS Score / LOS				F	1.1	A	1.3	A

 HCS 2010™ Streets Version 6.70 Generated: 4/21/2016 9:48:02 AM

HCS 2010 Signalized Intersection Results Summary

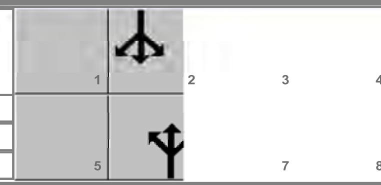
General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 3, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Harrison Avenue	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Cobban	File Name	HarrisonCobanAM.xus		
Project Description	Butte TP				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	38	65	80	38	49	99	49	600	11	23	429	19

Signal Information				
Cycle, s	90.0	Reference Phase	2	
Offset, s	0	Reference Point	End	
Uncoordinated	No	Simult. Gap E/W	On	
Force Mode	Fixed	Simult. Gap N/S	On	

Green	66.1	13.9	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	0.0	0.0	0.0	0.0
Red	2.0	2.0	0.0	0.0	0.0	0.0



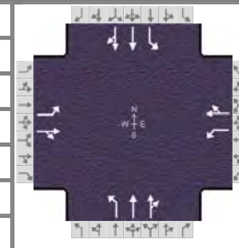
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8		4		6		2
Case Number		6.0		6.0		6.0		6.0
Phase Duration, s		18.9		18.9		71.1		71.1
Change Period, ($Y+R_c$), s		5.0		5.0		5.0		5.0
Max Allow Headway (*MAH*), s		4.3		4.3		0.0		0.0
Queue Clearance Time (g_s), s		12.7		12.4				
Green Extension Time (g_e), s		1.1		1.1		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		0.02		0.02				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	38	145		38	148		49	306	305	23	225	223
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1235	1561		1238	1531		938	1716	1705	807	1716	1690
Queue Service Time (g_s), s	2.7	7.8		2.7	8.1		1.5	5.2	5.2	0.9	3.6	3.6
Cycle Queue Clearance Time (g_c), s	10.7	7.8		10.4	8.1		5.2	5.2	5.2	6.1	3.6	3.6
Green Ratio (*g/C*)	0.15	0.15		0.15	0.15		0.73	0.73	0.73	0.73	0.73	0.73
Capacity (*c*), veh/h	160	242		165	237		730	1259	1251	625	1259	1240
Volume-to-Capacity Ratio (*X*)	0.237	0.600		0.230	0.624		0.067	0.243	0.243	0.037	0.179	0.180
Available Capacity (c_a), veh/h	312	434		318	425		730	1259	1251	625	1259	1240
Back of Queue (*Q*), veh/ln (50 th percentile)	0.8	3.0		0.8	3.1		0.3	1.5	1.5	0.1	1.0	1.0
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	40.6	35.4		40.2	35.6		4.5	3.9	3.9	4.9	3.7	3.7
Incremental Delay (d_2), s/veh	0.8	2.4		0.7	2.7		0.2	0.5	0.5	0.1	0.3	0.3
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	41.3	37.8		40.9	38.3		4.7	4.3	4.3	5.0	4.0	4.0
Level of Service (LOS)	D	D		D	D		A	A	A	A	A	A
Approach Delay, s/veh / LOS	38.5	D		38.8	D		4.4	A		4.0	A	
Intersection Delay, s/veh / LOS	12.7						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.8	C	2.8	C	2.2	B	2.2	B
Bicycle LOS Score / LOS	0.8	A	0.8	A	1.0	A	0.9	A

HCS 2010 Signalized Intersection Results Summary

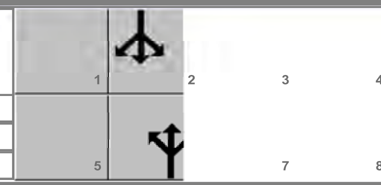
General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 3, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	PM Peak Hour	PHF	1.00
Urban Street	Harrison Avenue	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Cobban	File Name	HarrisonCobanPM.xus		
Project Description	Butte TP				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	19	129	57	95	53	27	42	513	53	49	749	65

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	63.0	19.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	0.0	0.0	0.0	0.0
Red	1.0	1.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8		4		6		2
Case Number		6.0		6.0		6.0		6.0
Phase Duration, s		23.0		23.0		67.0		67.0
Change Period, ($Y+R_c$), s		4.0		4.0		4.0		4.0
Max Allow Headway (MAH), s		4.2		4.2		0.0		0.0
Queue Clearance Time (g_s), s		11.2		18.0				
Green Extension Time (g_e), s		1.2		0.9		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		0.01		0.18				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (v), veh/h	19	186		95	80		42	287	279	49	413	401
Adjusted Saturation Flow Rate (s), veh/h/ln	1313	1626		1193	1617		668	1716	1659	842	1716	1667
Queue Service Time (g_s), s	1.1	9.2		6.9	3.7		2.4	5.4	5.5	2.0	8.5	8.5
Cycle Queue Clearance Time (g_c), s	4.7	9.2		16.0	3.7		11.0	5.4	5.5	7.5	8.5	8.5
Green Ratio (g/C)	0.21	0.21		0.21	0.21		0.70	0.70	0.70	0.70	0.70	0.70
Capacity (c), veh/h	304	342		211	341		484	1202	1162	618	1202	1168
Volume-to-Capacity Ratio (X)	0.063	0.543		0.451	0.235		0.087	0.239	0.240	0.079	0.343	0.344
Available Capacity (c_a), veh/h	406	470		304	467		484	1202	1162	618	1202	1168
Back of Queue (Q), veh/ln (50 th percentile)	0.3	3.6		2.1	1.4		0.4	1.7	1.6	0.4	2.6	2.6
Queue Storage Ratio (RQ) (50 th percentile)	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	31.4	31.7		38.8	29.5		7.5	4.8	4.9	6.2	5.3	5.3
Incremental Delay (d_2), s/veh	0.1	1.3		1.5	0.3		0.4	0.5	0.5	0.3	0.8	0.8
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	31.5	33.0		40.3	29.8		7.9	5.3	5.3	6.5	6.1	6.1
Level of Service (LOS)	C	C		D	C		A	A	A	A	A	A
Approach Delay, s/veh / LOS	32.9	C		35.5	D		5.5	A		6.1	A	
Intersection Delay, s/veh / LOS	11.7						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.8	C	2.8	C	2.2	B	2.2	B
Bicycle LOS Score / LOS	0.8	A	0.8	A	1.0	A	1.2	A

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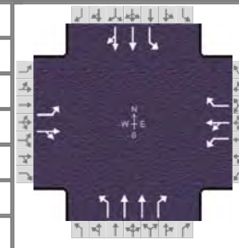
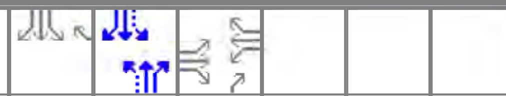
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 3, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Harrison Avenue	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Amherst Avenue	File Name	HarrisonAmhersAM.xus		
Project Description	Butte TP				

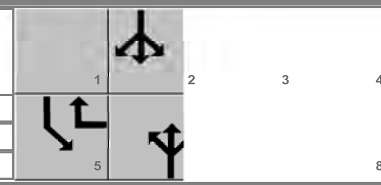


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	19	1	27	456	4	201	11	593	175	87	509	4

Signal Information				
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	4.4	34.0	27.9	4.1	0.0	0.0
Yellow	4.0	3.6	3.0	3.0	0.0	0.0
Red	0.0	2.0	2.0	2.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8		4		6	5	2
Case Number		10.0		9.0		5.3	1.0	4.0
Phase Duration, s		9.1		32.9		39.6	8.4	47.9
Change Period, ($Y+R_c$), s		5.0		5.0		5.6	4.0	5.6
Max Allow Headway (*MAH*), s		4.3		4.2		0.0	3.1	0.0
Queue Clearance Time (g_s), s		3.7		26.0			4.8	
Green Extension Time (g_e), s		0.1		1.9		0.0	0.1	0.0
Phase Call Probability		0.69		1.00			0.89	
Max Out Probability		0.00		0.25			0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (v), veh/h	19	28		456	4	201	11	593	175	87	257	256
Adjusted Saturation Flow Rate (s), veh/h/ln	1634	1462		1634	1716	1454	884	1633	1512	1634	1716	1711
Queue Service Time (g_s), s	1.0	1.7		24.0	0.1	9.3	0.7	12.4	3.7	2.8	8.4	8.4
Cycle Queue Clearance Time (g_c), s	1.0	1.7		24.0	0.1	9.3	0.8	12.4	3.7	2.8	8.4	8.4
Green Ratio (g/C)	0.05	0.05		0.31	0.31	0.36	0.38	0.38	0.69	0.45	0.47	0.47
Capacity (c), veh/h	75	67		507	532	521	413	1233	1040	355	807	805
Volume-to-Capacity Ratio (X)	0.252	0.416		0.899	0.008	0.385	0.027	0.481	0.168	0.245	0.318	0.318
Available Capacity (c_a), veh/h	310	277		635	667	636	413	1233	1040	711	807	805
Back of Queue (Q), veh/ln (50 th percentile)	0.4	0.7		10.9	0.1	3.1	0.2	4.7	1.0	1.0	3.3	3.3
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	41.4	41.7		29.7	21.5	21.5	17.7	21.3	5.0	15.8	14.8	14.8
Incremental Delay (d_2), s/veh	1.7	4.0		13.6	0.0	0.5	0.1	1.3	0.3	0.1	1.0	1.0
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	43.2	45.8		43.3	21.5	21.9	17.8	22.6	5.3	15.9	15.9	15.9
Level of Service (LOS)	D	D		D	C	C	B	C	A	B	B	B
Approach Delay, s/veh / LOS	44.7	D		36.7	D		18.7	B		15.9	B	
Intersection Delay, s/veh / LOS	24.2						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	3.0	C	2.9	C	2.4	B	2.3	B
Bicycle LOS Score / LOS	0.6	A	1.6	A	1.1	A	1.0	A

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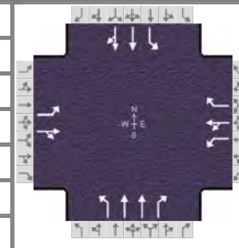
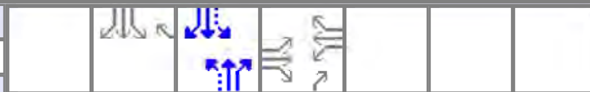
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 3, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	PM Peak Hour	PHF	1.00
Urban Street	Harrison Avenue	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Amherst Avenue	File Name	HarrisonAmhersPM.xus		
Project Description	Butte TP				

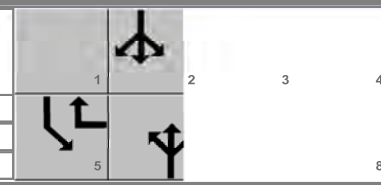


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	27	11	34	388	8	114	57	752	285	137	779	27

Signal Information				
Cycle, s	90.0	Reference Phase	2	
Offset, s	0	Reference Point	End	
Uncoordinated	No	Simult. Gap E/W	On	
Force Mode	Fixed	Simult. Gap N/S	On	



Green	6.3	35.0	24.1	5.0	0.0	0.0
Yellow	4.0	3.6	3.0	3.0	0.0	0.0
Red	0.0	2.0	2.0	2.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8		4		6	5	2
Case Number		10.0		9.0		5.3	1.0	4.0
Phase Duration, s		10.0		29.1		40.6	10.3	50.9
Change Period, (Y+R_c), s		5.0		5.0		5.6	4.0	5.6
Max Allow Headway (*MAH*), s		4.2		4.2		0.0	3.1	0.0
Queue Clearance Time (g_s), s		4.6		22.5			6.3	
Green Extension Time (g_e), s		0.2		1.6		0.0	0.2	0.0
Phase Call Probability		0.83		1.00			0.97	
Max Out Probability		0.00		0.05			0.00	

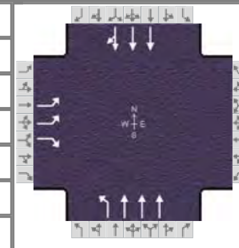
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	27	45		388	8	114	57	752	285	137	405	401
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1634	1510		1634	1716	1454	673	1633	1512	1634	1716	1695
Queue Service Time (g_s), s	1.4	2.6		20.5	0.3	5.1	5.4	16.5	7.2	4.3	13.8	13.8
Cycle Queue Clearance Time (g_c), s	1.4	2.6		20.5	0.3	5.1	9.0	16.5	7.2	4.3	13.8	13.8
Green Ratio (*g/C*)	0.06	0.06		0.27	0.27	0.34	0.39	0.39	0.66	0.48	0.50	0.50
Capacity (*c*), veh/h	91	84		438	460	491	315	1269	993	340	863	852
Volume-to-Capacity Ratio (*X*)	0.297	0.535		0.885	0.017	0.232	0.181	0.592	0.287	0.403	0.470	0.470
Available Capacity (c_a), veh/h	379	350		635	667	667	315	1269	993	713	863	852
Back of Queue (*Q*), veh/ln (50 th percentile)	0.6	1.1		9.0	0.1	1.7	0.9	6.3	2.1	1.5	5.4	5.3
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	40.8	41.4		31.6	24.2	21.4	20.8	21.9	6.5	15.6	14.6	14.6
Incremental Delay (d_2), s/veh	1.8	5.2		10.3	0.0	0.2	1.3	2.0	0.7	0.3	1.8	1.9
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	42.6	46.6		41.9	24.2	21.6	22.1	23.9	7.3	15.9	16.4	16.4
Level of Service (LOS)	D	D		D	C	C	C	C	A	B	B	B
Approach Delay, s/veh / LOS	45.1	D		37.1	D		19.5	B		16.3	B	
Intersection Delay, s/veh / LOS	22.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	3.0	C	2.9	C	2.4	B	2.3	B
Bicycle LOS Score / LOS	0.6	A	1.3	A	1.4	A	1.3	A

 HCS 2010™ Streets Version 6.70 Generated: 8/10/2016 2:06:41 PM

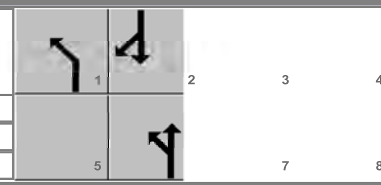
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 3, 2016	Area Type	Other
Jurisdiction	Butte Silvebow	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Harrison Avenue	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Dewey Blvd	File Name	HarrisonDeweyAM.xus		
Project Description	Butte TP				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	198		76				38	699			733	156

Signal Information										
Cycle, s	70.0	Reference Phase	2							
Offset, s	0	Reference Point	End	Green	3.1	45.1	6.8	0.0	0.0	0.0
Uncoordinated	No	Simult. Gap E/W	On	Yellow	3.0	3.0	3.0	0.0	0.0	0.0
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	2.0	2.0	0.0	0.0	0.0



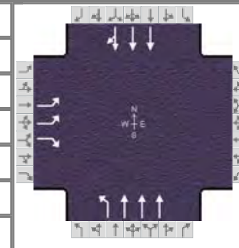
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8			1	6		2
Case Number		9.0			1.0	4.0		8.3
Phase Duration, s		11.8			8.1	58.2		50.1
Change Period, (*Y+R c*), s		5.0			5.0	5.0		5.0
Max Allow Headway (*MAH*), s		3.2			4.1	0.0		0.0
Queue Clearance Time (g_s), s		6.2			2.5			
Green Extension Time (g_e), s		0.6			0.1	0.0		0.0
Phase Call Probability		1.00			0.52			
Max Out Probability		0.00			0.00			

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3		18				1	6			2	12
Adjusted Flow Rate (*v*), veh/h	198		76				38	699			609	280
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1587		1454				1699	1558			1716	1560
Queue Service Time (g_s), s	4.2		3.5				0.5	2.9			11.7	5.5
Cycle Queue Clearance Time (g_c), s	4.2		3.5				0.5	2.9			11.7	5.5
Green Ratio (*g/C*)	0.10		0.10				0.72	0.76			0.64	0.64
Capacity (*c*), veh/h	306		140				488	3555			2211	1005
Volume-to-Capacity Ratio (*X*)	0.647		0.542				0.078	0.197			0.275	0.279
Available Capacity (c_a), veh/h	1133		519				1219	3555			2211	1005
Back of Queue (*Q*), veh/ln (50 th percentile)	1.6		1.2				0.1	0.5			1.5	1.5
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00		0.00				0.00	0.00			0.00	0.00
Uniform Delay (d_1), s/veh	30.5		30.1				4.3	2.4			5.4	5.4
Incremental Delay (d_2), s/veh	0.9		1.2				0.1	0.1			0.3	0.7
Initial Queue Delay (d_3), s/veh	0.0		0.0				0.0	0.0			0.0	0.0
Control Delay (*d*), s/veh	31.3		31.4				4.3	2.5			5.7	6.1
Level of Service (LOS)	C		C				A	A			A	A
Approach Delay, s/veh / LOS	31.3		C	0.0			2.6		A	5.8		A
Intersection Delay, s/veh / LOS	8.2						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	3.3	C	3.2	C	0.6	A	2.4	B
Bicycle LOS Score / LOS		F			0.9	A	1.0	A

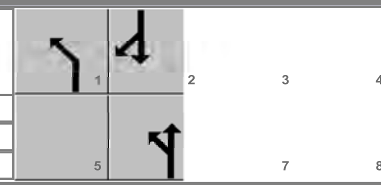
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	ATS			Duration, h	0.25	
Analyst	RLA	Analysis Date	Jan 3, 2016	Area Type	Other	
Jurisdiction	Butte Silvebow	Time Period	PM Peak Hour	PHF	1.00	
Urban Street	Harrison Avenue	Analysis Year	2015	Analysis Period	1> 7:00	
Intersection	Dewey Blvd	File Name	HarrisonDeweyPM.xus			
Project Description	Butte TP					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	334		144				99	988			1022	266

Signal Information										
Cycle, s	70.0	Reference Phase	2							
Offset, s	0	Reference Point	End	Green	5.1	39.8	10.1	0.0	0.0	0.0
Uncoordinated	No	Simult. Gap E/W	On	Yellow	3.0	3.0	3.0	0.0	0.0	0.0
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	2.0	2.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8			1	6		2
Case Number		9.0			1.0	4.0		8.3
Phase Duration, s		15.1			10.1	54.9		44.8
Change Period, ($Y+R_c$), s		5.0			5.0	5.0		5.0
Max Allow Headway (*MAH*), s		3.2			4.1	0.0		0.0
Queue Clearance Time (g_s), s		9.0			3.4			
Green Extension Time (g_e), s		1.0			0.3	0.0		0.0
Phase Call Probability		1.00			0.85			
Max Out Probability		0.00			0.00			

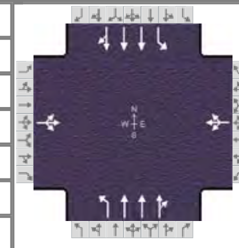
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3		18				1	6			2	12
Adjusted Flow Rate (*v*), veh/h	334		144				99	988			890	398
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1587		1454				1699	1558			1716	1531
Queue Service Time (g_s), s	7.0		6.6				1.4	5.4			18.8	10.6
Cycle Queue Clearance Time (g_c), s	7.0		6.6				1.4	5.4			18.8	10.6
Green Ratio (*g/C*)	0.14		0.14				0.67	0.71			0.57	0.57
Capacity (*c*), veh/h	457		210				361	3332			1950	870
Volume-to-Capacity Ratio (*X*)	0.730		0.687				0.275	0.296			0.456	0.457
Available Capacity (c_a), veh/h	1133		519				962	3332			1950	870
Back of Queue (*Q*), veh/ln (50 th percentile)	2.6		2.2				0.4	1.1			3.4	3.3
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00		0.00				0.00	0.00			0.00	0.00
Uniform Delay (d_1), s/veh	28.7		28.5				8.0	3.7			8.8	8.8
Incremental Delay (d_2), s/veh	0.8		1.5				0.4	0.2			0.8	1.7
Initial Queue Delay (d_3), s/veh	0.0		0.0				0.0	0.0			0.0	0.0
Control Delay (*d*), s/veh	29.5		30.0				8.4	3.9			9.6	10.5
Level of Service (LOS)	C		C				A	A			A	B
Approach Delay, s/veh / LOS	29.6	C		0.0			4.3	A		9.9	A	
Intersection Delay, s/veh / LOS	11.1						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	3.3	C	3.2	C	0.6	A	2.4	B
Bicycle LOS Score / LOS		F			1.1	A	1.2	A

 HCS 2010™ Streets Version 6.70 Generated: 4/21/2016 9:46:41 AM

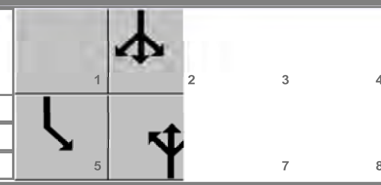
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 3, 2016	Area Type	Other
Jurisdiction	Butte Silvebow	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Harrison Avenue	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Rosevelt Avenue	File Name	HarrisonRooseveltAM.xus		
Project Description	Butte TP				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	42	4	8	1	1	1	11	479	1	30	695	1

Signal Information										
Cycle, s	90.0	Reference Phase	2							
Offset, s	0	Reference Point	End	Green	3.2	67.3	4.6	0.0	0.0	0.0
Uncoordinated	No	Simult. Gap E/W	On	Yellow	4.0	3.0	3.0	0.0	0.0	0.0
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	2.0	2.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8		4		6	5	2
Case Number		8.0		8.0		6.3	1.0	4.0
Phase Duration, s		9.6		9.6		72.3	8.2	80.4
Change Period, (*Y+R c*), s		5.0		5.0		5.0	5.0	5.0
Max Allow Headway (*MAH*), s		4.1		4.1		0.0	3.1	0.0
Queue Clearance Time (g_s), s		5.1		2.1			2.3	
Green Extension Time (g_e), s		0.1		0.1		0.0	0.0	0.0
Phase Call Probability		0.76		0.76			0.53	
Max Out Probability		0.00		0.00			0.00	

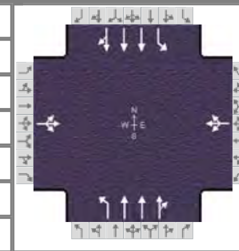
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h		54			3		11	320	160	30	464	232
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1523			1676		746	1716	1714	1667	1716	1714
Queue Service Time (g_s), s		3.0			0.0		0.3	2.3	2.3	0.3	2.3	2.3
Cycle Queue Clearance Time (g_c), s		3.1			0.1		0.4	2.3	2.3	0.3	2.3	2.3
Green Ratio (*g/C*)		0.05			0.05		0.75	0.75	0.75	0.80	0.84	0.84
Capacity (*c*), veh/h		148			138		637	2565	1281	809	2876	1437
Volume-to-Capacity Ratio (*X*)		0.364			0.022		0.017	0.125	0.125	0.037	0.161	0.161
Available Capacity (c_a), veh/h		578			591		637	2565	1281	1407	2876	1437
Back of Queue (*Q*), veh/ln (50 th percentile)		1.2			0.1		0.0	0.6	0.6	0.1	0.3	0.3
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00			0.00		0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh		42.0			40.6		2.9	3.2	3.2	1.9	1.4	1.4
Incremental Delay (d_2), s/veh		1.5			0.1		0.0	0.1	0.2	0.0	0.1	0.2
Initial Queue Delay (d_3), s/veh		0.0			0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		43.5			40.7		3.0	3.3	3.4	1.9	1.5	1.6
Level of Service (LOS)		D			D		A	A	A	A	A	A
Approach Delay, s/veh / LOS	43.5	D		40.7	D		3.3	A		1.5	A	
Intersection Delay, s/veh / LOS	4.1						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	3.3	C	3.3	C	2.0	B	2.0	A
Bicycle LOS Score / LOS	0.6	A	0.5	A	0.8	A	0.9	A

 HCS 2010™ Streets Version 6.70 Generated: 8/10/2016 2:07:25 PM

HCS 2010 Signalized Intersection Results Summary

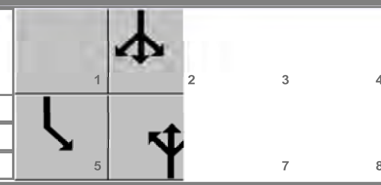
General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 3, 2016	Area Type	Other
Jurisdiction	Butte Silvebow	Time Period	PM Peak Hour	PHF	1.00
Urban Street	Harrison Avenue	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Rosevelt Avenue	File Name	HarrisonRooseveltPM.xus		
Project Description	Butte TP				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	122	4	30	15	11	34	27	794	19	76	859	65

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	5.1	58.0	11.9	0.0	0.0	0.0
Yellow	4.0	3.0	3.0	0.0	0.0	0.0
Red	1.0	2.0	2.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8		4		6	5	2
Case Number		8.0		8.0		6.3	1.0	4.0
Phase Duration, s		16.9		16.9		63.0	10.1	73.1
Change Period, (*Y+R* $_c$), s		5.0		5.0		5.0	5.0	5.0
Max Allow Headway (*MAH*), s		4.2		4.2		0.0	3.1	0.0
Queue Clearance Time (g_s), s		11.2		4.9			3.2	
Green Extension Time (g_e), s		0.7		0.8		0.0	0.1	0.0
Phase Call Probability		1.00		1.00			0.85	
Max Out Probability		0.00		0.00			0.00	

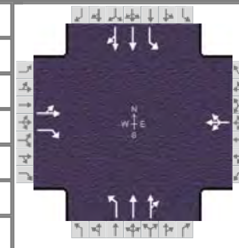
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h		156			60		27	544	269	76	623	301
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1477			1653		603	1716	1694	1667	1716	1652
Queue Service Time (g_s), s		6.3			0.0		1.5	6.0	6.0	1.2	4.9	4.9
Cycle Queue Clearance Time (g_c), s		9.2			2.9		1.5	6.0	6.0	1.2	4.9	4.9
Green Ratio (*g/C*)		0.13			0.13		0.64	0.64	0.64	0.72	0.76	0.76
Capacity (*c*), veh/h		266			268		468	2212	1092	568	2597	1250
Volume-to-Capacity Ratio (*X*)		0.586			0.224		0.058	0.246	0.246	0.134	0.240	0.241
Available Capacity (c_a), veh/h		643			669		468	2212	1092	1180	2597	1250
Back of Queue (*Q*), veh/ln (50 th percentile)		3.4			1.2		0.2	1.9	2.0	0.3	1.2	1.2
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00			0.00		0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh		37.9			35.2		6.0	6.8	6.8	4.0	3.2	3.3
Incremental Delay (d_2), s/veh		2.0			0.4		0.2	0.3	0.5	0.0	0.2	0.5
Initial Queue Delay (d_3), s/veh		0.0			0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		39.9			35.6		6.2	7.0	7.3	4.0	3.5	3.7
Level of Service (LOS)		D			D		A	A	A	A	A	A
Approach Delay, s/veh / LOS	39.9		D	35.6		D	7.1		A	3.6		A
Intersection Delay, s/veh / LOS	8.7						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	3.3	C	3.3	C	2.1	B	2.0	B
Bicycle LOS Score / LOS	0.7	A	0.6	A	0.9	A	1.0	A

 HCS 2010™ Streets Version 6.70 Generated: 8/10/2016 2:08:04 PM

HCS 2010 Signalized Intersection Results Summary

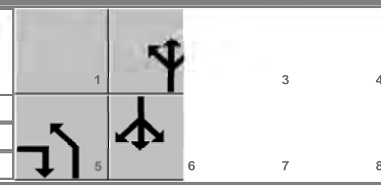
General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 4, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Harrison Avenue	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Holmes Avenue	File Name	HarrisonHolmesAM.xus		
Project Description	Butte TP				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	76	23	179	4	8	8	338	452	8	11	638	49

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	8.9	54.6	11.9	0.0	0.0	0.0
Yellow	4.0	3.6	3.0	0.0	0.0	0.0
Red	0.0	2.0	2.0	0.0	0.0	0.0



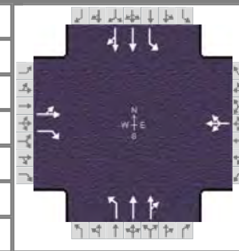
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2		6
Case Number		7.0		8.0	1.0	4.0		6.3
Phase Duration, s		16.9		16.9	12.9	73.1		60.2
Change Period, (*Y+R* $_c$), s		5.0		5.0	4.0	5.6		5.6
Max Allow Headway (*MAH*), s		3.3		3.3	3.1	0.0		0.0
Queue Clearance Time (g_s), s		11.5		3.0	8.2			
Green Extension Time (g_e), s		0.4		0.5	0.7	0.0		0.0
Phase Call Probability		1.00		1.00	1.00			
Max Out Probability		0.02		0.00	0.00			

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		99	179		20		338	231	229	11	348	339
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1498	1483		1597		1667	1750	1739	947	1750	1706
Queue Service Time (g_s), s		4.5	9.5		0.0		6.2	3.4	3.4	0.4	8.8	8.8
Cycle Queue Clearance Time (g_c), s		5.5	9.5		1.0		6.2	3.4	3.4	0.4	8.8	8.8
Green Ratio (*g/C*)		0.13	0.23		0.13		0.73	0.75	0.75	0.61	0.61	0.61
Capacity (*c*), veh/h		269	343		259		635	1312	1304	654	1062	1035
Volume-to-Capacity Ratio (*X*)		0.368	0.522		0.077		0.532	0.176	0.176	0.017	0.327	0.328
Available Capacity (c_a), veh/h		402	476		400		1194	1312	1304	654	1062	1035
Back of Queue (*Q*), veh/ln (50 th percentile)		2.0	3.3		0.4		1.6	0.9	0.9	0.1	3.1	3.1
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh		36.2	30.3		34.3		5.3	3.2	3.2	7.0	8.7	8.7
Incremental Delay (d_2), s/veh		0.3	0.5		0.0		0.3	0.3	0.3	0.0	0.8	0.8
Initial Queue Delay (d_3), s/veh		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		36.5	30.7		34.3		5.6	3.5	3.5	7.1	9.5	9.5
Level of Service (LOS)		D	C		C		A	A	A	A	A	A
Approach Delay, s/veh / LOS	32.8	C		34.3	C		4.4	A		9.5	A	
Intersection Delay, s/veh / LOS	11.1						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.8	C	2.8	C	2.0	B	2.2	B
Bicycle LOS Score / LOS	0.9	A	0.5	A	1.1	A	1.1	A

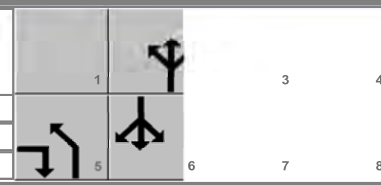
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Jan 4, 2016	Area Type	Other
Jurisdiction	Butte Silverbow	Time Period	PM Peak Hour	PHF	1.00
Urban Street	Harrison Avenue	Analysis Year	2015	Analysis Period	1> 7:00
Intersection	Holmes Avenue	File Name	HarrisonHolmesPM.xus		
Project Description	Butte TP				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	72	23	285	15	15	19	205	779	4	46	692	49

Signal Information										
Cycle, s	90.0	Reference Phase	2							
Offset, s	0	Reference Point	End	Green	6.6	51.0	18.2	0.0	0.0	0.0
Uncoordinated	No	Simult. Gap E/W	On	Yellow	3.6	3.6	3.0	0.0	0.0	0.0
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	2.0	2.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2		6
Case Number		7.0		8.0	1.0	4.0		6.3
Phase Duration, s		23.2		23.2	10.2	66.8		56.6
Change Period, ($Y+R_c$), s		5.0		5.0	3.6	5.6		5.6
Max Allow Headway (*MAH*), s		3.4		3.4	3.1	0.0		0.0
Queue Clearance Time (g_s), s		17.5		4.2	6.3			
Green Extension Time (g_e), s		0.7		1.0	0.4	0.0		0.0
Phase Call Probability		1.00		1.00	0.99			
Max Out Probability		0.09		0.00	0.00			

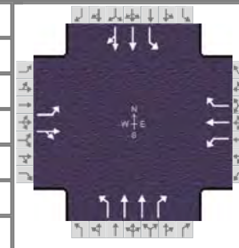
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		95	285		49		205	392	391	46	375	366
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1478	1483		1558		1667	1750	1747	702	1750	1709
Queue Service Time (g_s), s		2.6	15.5		0.0		4.3	8.3	8.3	2.7	10.6	10.6
Cycle Queue Clearance Time (g_c), s		4.8	15.5		2.2		4.3	8.3	8.3	2.7	10.6	10.6
Green Ratio (*g/C*)		0.20	0.28		0.20		0.66	0.68	0.68	0.57	0.57	0.57
Capacity (*c*), veh/h		369	408		367		529	1190	1188	478	992	969
Volume-to-Capacity Ratio (*X*)		0.257	0.698		0.133		0.387	0.329	0.329	0.096	0.378	0.378
Available Capacity (c_a), veh/h		480	521		483		1208	1190	1188	478	992	969
Back of Queue (*Q*), veh/ln (50 th percentile)		1.7	5.5		0.9		1.3	2.7	2.7	0.4	4.0	3.9
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh		30.5	29.2		29.5		7.1	5.9	5.9	9.0	10.7	10.7
Incremental Delay (d_2), s/veh		0.1	1.7		0.2		0.2	0.7	0.7	0.4	1.1	1.1
Initial Queue Delay (d_3), s/veh		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		30.7	30.9		29.7		7.3	6.7	6.7	9.4	11.8	11.9
Level of Service (LOS)		C	C		C		A	A	A	A	B	B
Approach Delay, s/veh / LOS	30.9	C		29.7	C		6.8	A		11.7	B	
Intersection Delay, s/veh / LOS	13.2						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.8	C	2.8	C	2.0	B	2.2	B
Bicycle LOS Score / LOS	1.1	A	0.6	A	1.3	A	1.1	A

 HCS 2010™ Streets Version 6.70 Generated: 8/10/2016 2:09:39 PM

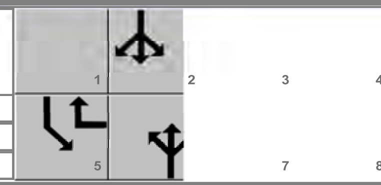
HCS 2010 Signalized Intersection Results Summary

General Information				**Intersection Information**	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Apr 19, 2016	Area Type	Other
Jurisdiction	Butte Silvebow	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Harrison Avenue	Analysis Year	2016	Analysis Period	1> 7:00
Intersection	Elizabeth Warren	File Name	HarrisonElizabethAM.xus		
Project Description	Butte TP				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	29	25	0	160	46	353	21	445	8	147	571	25

Signal Information										
Cycle, s	90.0	Reference Phase	2							
Offset, s	0	Reference Point	End	Green	5.8	46.8	23.3	0.0	0.0	0.0
Uncoordinated	No	Simult. Gap E/W	On	Yellow	4.0	3.0	3.0	0.0	0.0	0.0
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	2.0	2.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8		4		6	5	2
Case Number		6.0		5.0		5.3	1.0	4.0
Phase Duration, s		28.3		28.3		51.8	9.8	61.7
Change Period, (*Y+R c*), s		5.0		5.0		5.0	4.0	5.0
Max Allow Headway (*MAH*), s		4.3		4.3		0.0	3.1	0.0
Queue Clearance Time (*g s*), s		5.2		21.0			5.4	
Green Extension Time (*g e*), s		2.5		2.3		0.0	0.3	0.0
Phase Call Probability		1.00		1.00			0.97	
Max Out Probability		0.00		0.01			0.00	

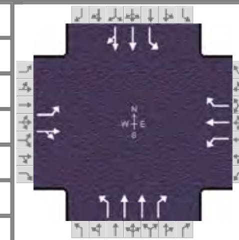
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	29	0		160	46	353	21	445	8	147	300	296
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1354	0		1408	1820	1483	818	1633	1483	1667	1716	1690
Queue Service Time (*g s*), s	1.5	0.0		8.7	1.7	19.0	1.1	6.8	0.2	3.4	7.1	7.1
Cycle Queue Clearance Time (*g c*), s	3.2	0.0		9.6	1.7	19.0	1.1	6.8	0.2	3.4	7.1	7.1
Green Ratio (*g/C*)	0.26			0.26	0.26	0.32	0.52	0.52	0.52	0.61	0.63	0.63
Capacity (*c*), veh/h	405			430	472	481	506	1700	772	615	1080	1064
Volume-to-Capacity Ratio (*X*)	0.072	0.000		0.372	0.098	0.734	0.042	0.262	0.010	0.239	0.278	0.278
Available Capacity (*c a*), veh/h	656			691	809	756	506	1700	772	1297	1080	1064
Back of Queue (*Q*), veh/ln (50 th percentile)	0.5	0.0		2.9	0.7	6.7	0.2	2.4	0.1	1.1	2.4	2.4
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (*d 1*), s/veh	26.6			28.7	25.3	27.0	10.6	12.0	10.4	8.1	7.5	7.5
Incremental Delay (*d 2*), s/veh	0.1	0.0		0.5	0.1	2.2	0.2	0.4	0.0	0.1	0.6	0.7
Initial Queue Delay (*d 3*), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	26.6			29.2	25.4	29.2	10.8	12.4	10.4	8.2	8.1	8.1
Level of Service (LOS)	C			C	C	C	B	B	B	A	A	A
Approach Delay, s/veh / LOS	25.9	C		28.9	C		12.3	B		8.1	A	
Intersection Delay, s/veh / LOS	16.1						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	3.0	C	2.8	C	2.4	B	2.2	B
Bicycle LOS Score / LOS	0.6	A	1.4	A	0.9	A	1.1	A

 HCS 2010™ Streets Version 6.70 Generated: 8/10/2016 2:10:34 PM

HCS 2010 Signalized Intersection Results Summary

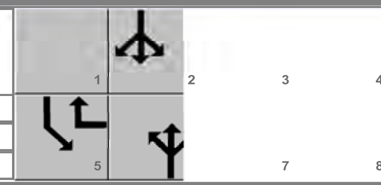
General Information				Intersection Information	
Agency	ATS			Duration, h	0.25
Analyst	RLA	Analysis Date	Apr 19, 2016	Area Type	Other
Jurisdiction	Butte Silvebow	Time Period	PM Peak Hour	PHF	1.00
Urban Street	Harrison Avenue	Analysis Year	2016	Analysis Period	1> 7:00
Intersection	Elizabeth Warren	File Name	HarrisonElizabethPM.xus		
Project Description	Butte TP				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	29	84	4	181	38	244	21	676	223	391	559	17

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	12.5	44.1	19.4	0.0	0.0	0.0
Yellow	4.0	3.0	3.0	0.0	0.0	0.0
Red	0.0	2.0	2.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8		4		6	5	2
Case Number		6.0		5.0		5.3	1.0	4.0
Phase Duration, s		24.4		24.4		49.1	16.5	65.6
Change Period, ($Y+R_c$), s		5.0		5.0		5.0	4.0	5.0
Max Allow Headway (*MAH*), s		4.3		4.3		0.0	3.1	0.0
Queue Clearance Time (g_s), s		5.6		17.2			11.7	
Green Extension Time (g_e), s		2.3		2.2		0.0	0.8	0.0
Phase Call Probability		1.00		1.00			1.00	
Max Out Probability		0.00		0.00			0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	29	88		181	38	244	21	676	223	391	289	287
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1364	1805		1330	1820	1483	834	1633	1483	1667	1716	1698
Queue Service Time (g_s), s	1.6	3.6		11.7	1.5	11.4	1.2	12.0	8.1	9.7	6.0	6.0
Cycle Queue Clearance Time (g_c), s	3.0	3.6		15.2	1.5	11.4	1.3	12.0	8.1	9.7	6.0	6.0
Green Ratio (*g/C*)	0.22	0.22		0.22	0.22	0.35	0.49	0.49	0.49	0.65	0.67	0.67
Capacity (*c*), veh/h	354	391		316	394	527	487	1598	725	586	1153	1141
Volume-to-Capacity Ratio (*X*)	0.082	0.225		0.573	0.096	0.463	0.043	0.423	0.307	0.667	0.251	0.251
Available Capacity (c_a), veh/h	665	802		619	809	865	487	1598	725	1214	1153	1141
Back of Queue (*Q*), veh/ln (50 th percentile)	0.5	1.6		3.8	0.7	3.9	0.2	4.3	2.8	2.9	1.9	1.9
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	29.4	29.0		35.2	28.2	22.4	12.1	14.8	13.8	9.4	5.8	5.8
Incremental Delay (d_2), s/veh	0.1	0.3		1.6	0.1	0.6	0.2	0.8	1.1	0.5	0.5	0.5
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	29.5	29.3		36.9	28.3	23.0	12.3	15.6	14.9	9.9	6.3	6.3
Level of Service (LOS)	C	C		D	C	C	B	B	B	A	A	A
Approach Delay, s/veh / LOS	29.4	C		28.9	C		15.4	B		7.8	A	
Intersection Delay, s/veh / LOS	15.6						B					

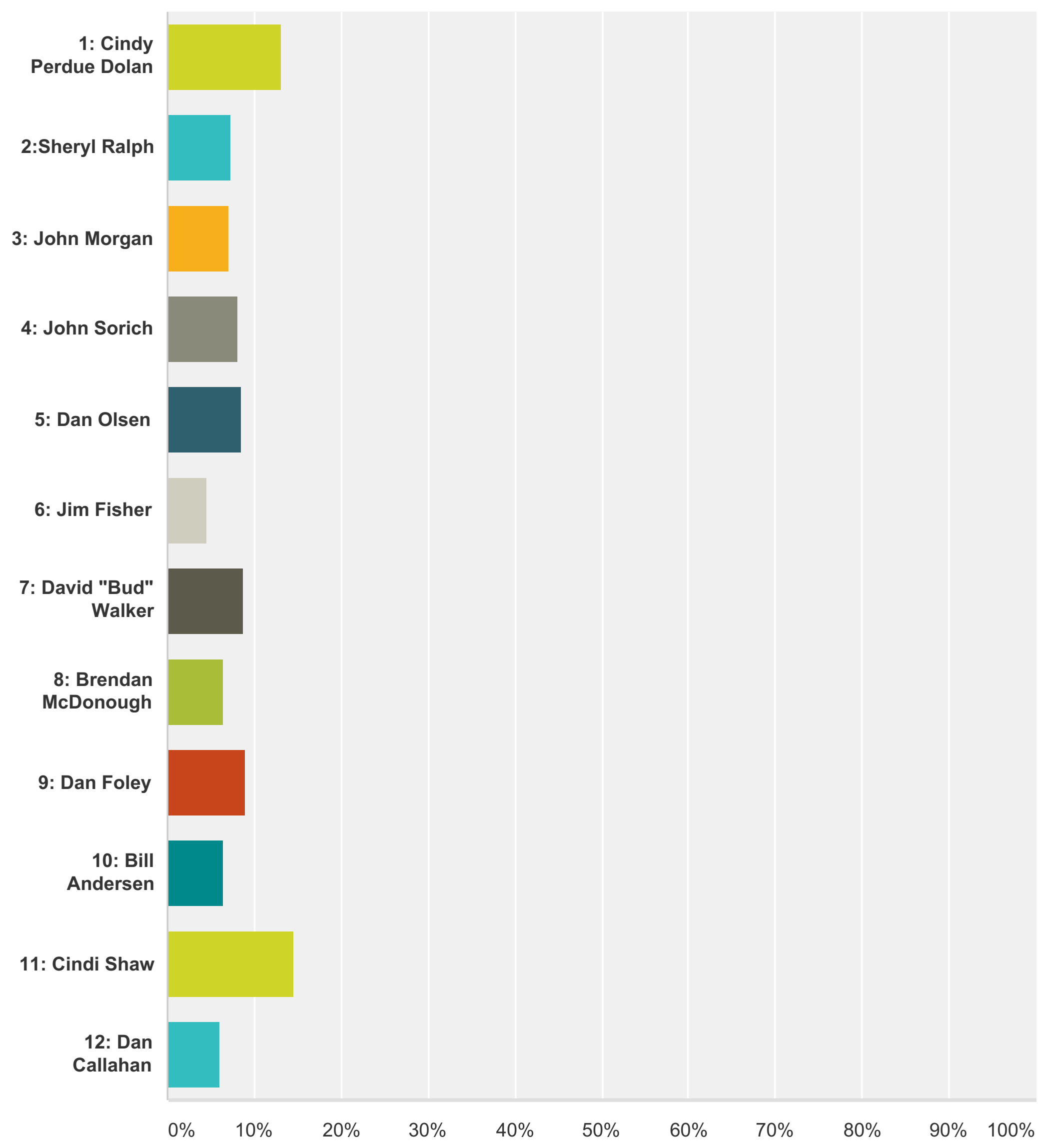
Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	3.0	C	2.8	C	2.4	B	2.2	B
Bicycle LOS Score / LOS	0.7	A	1.3	A	1.2	A	1.3	A

 HCS 2010™ Streets Version 6.70 Generated: 8/10/2016 2:11:07 PM

Appendix C MILP Butte Active Transportation Survey Data

Q1 Who is your council member on the commission? (http://co.silverbow.mt.us/DocumentCenter/Home/View/8709)

Answered: 533 Skipped: 0

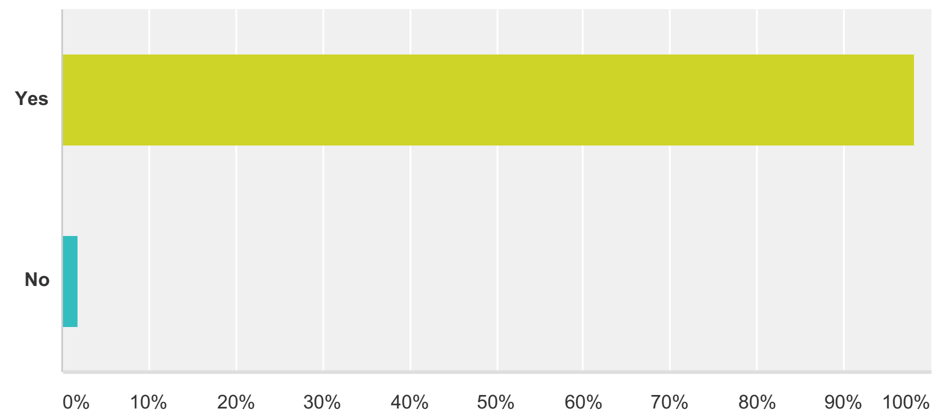


Answer Choices	Responses	
1: Cindy Perdue Dolan	**13.13%**	70
2:Sheryl Ralph	**7.32%**	39
3: John Morgan	**7.13%**	38
4: John Sorich	**8.07%**	43
5: Dan Olsen	**8.63%**	46
6: Jim Fisher	**4.50%**	24

7: David "Bud" Walker	**8.82%**	47
8: Brendan McDonough	**6.38%**	34
9: Dan Foley	**9.01%**	48
10: Bill Andersen	**6.38%**	34
11: Cindi Shaw	**14.63%**	78
12: Dan Callahan	**6.00%**	32
Total		**533**

Q2 Do you have a working motor vehicle in your household?

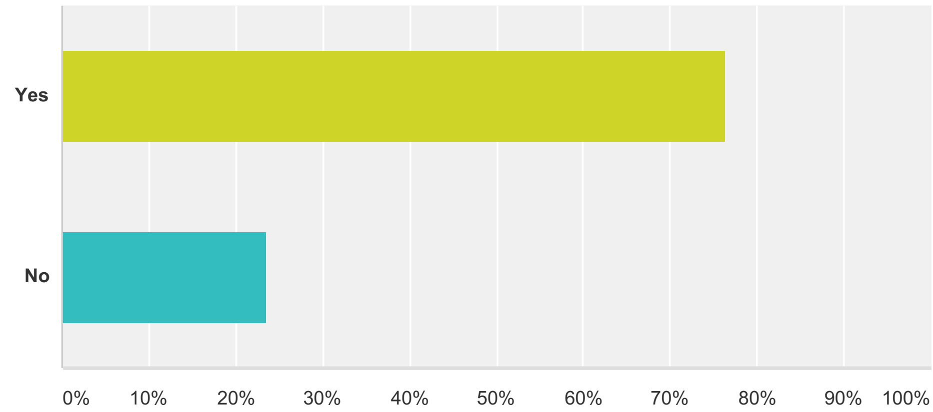
Answered: 531 Skipped: 2



Answer Choices	Responses	
Yes	**98.12%**	521
No	**1.88%**	10
Total		**531**

Q3 Do you have bicycle?

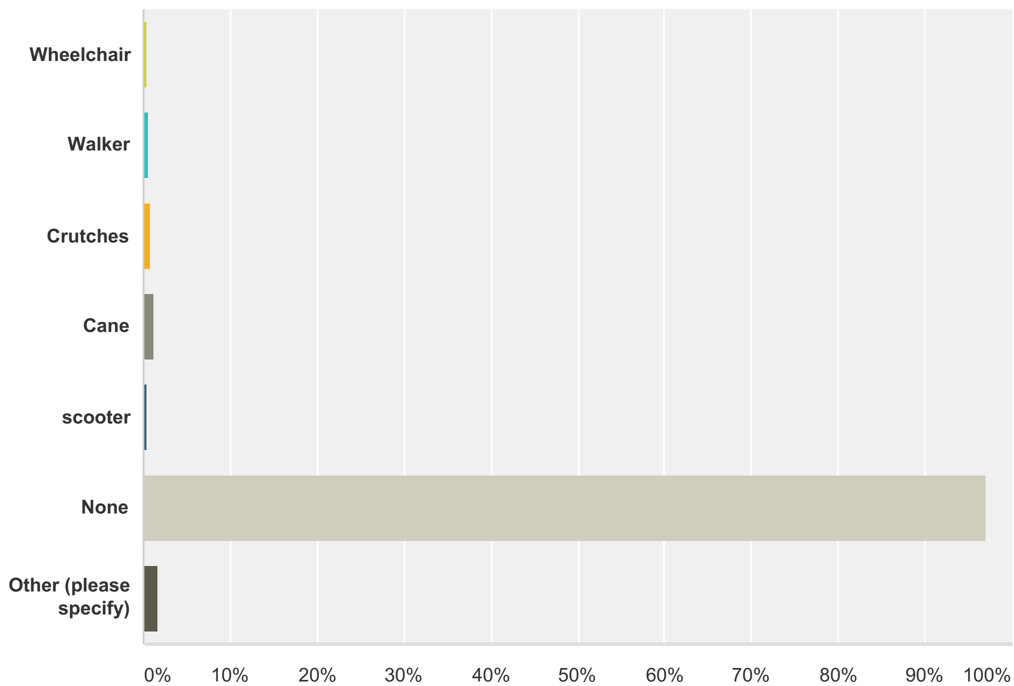
Answered: 532 Skipped: 1



Answer Choices	Responses	
Yes	**76.32%**	406
No	**23.68%**	126
Total		**532**

Q4 Do you use a mobility aid to access the community?

Answered: 517 Skipped: 16



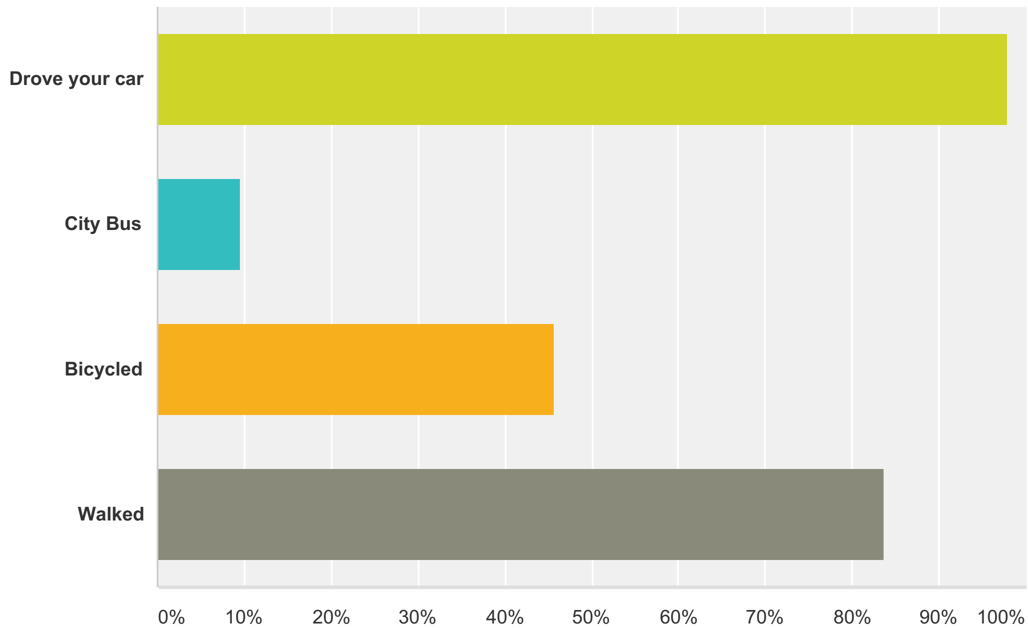
Answer Choices	Responses	
Wheelchair	**0.39%**	2
Walker	**0.58%**	3
Crutches	**0.77%**	4
Cane	**1.35%**	7
scooter	**0.39%**	2
None	**97.10%**	502
Other (please specify)	**1.74%**	9
Total Respondents: 517		

#	Other (please specify)	Date
1	my dad has a wheelchair he gets around town on, and , I know he knows where he can and cannot take it...	4/14/2017 3:01 PM
2	Stroller	3/28/2017 4:11 PM
3	I have a bicycle, but I think the majority of the bicycle lanes all over town are absolutely ridiculous	3/8/2017 4:12 PM
4	I	2/13/2017 2:26 PM
5	I don't use a mobility aid, but my Mother-In-Law who lives with me uses a cane and occasionally a wheelchair.	2/10/2017 5:48 PM
6	HEARING DEVICES	2/10/2017 5:41 PM
7	No	2/3/2017 8:02 PM
8	Travel with kids	2/3/2017 11:57 AM

9	Son has wheelchair	2/2/2017 12:47 PM

Q5 Which of the following modes of transportation have you used in the past year to get from one place to another. (Please select all that apply)

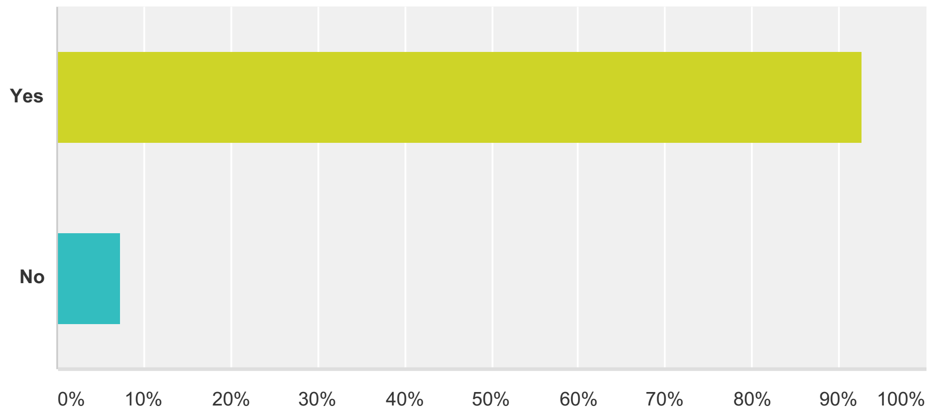
Answered: 529 Skipped: 4



Answer Choices	Responses	
Drove your car	**97.92%**	518
City Bus	**9.64%**	51
Bicycled	**45.75%**	242
Walked	**83.74%**	443
Total Respondents: 529		

Q6 In the past year, in a usual week, have you walked for at least 10 minutes at a time for recreation, exercise, to get to and from places, or for any other reason?

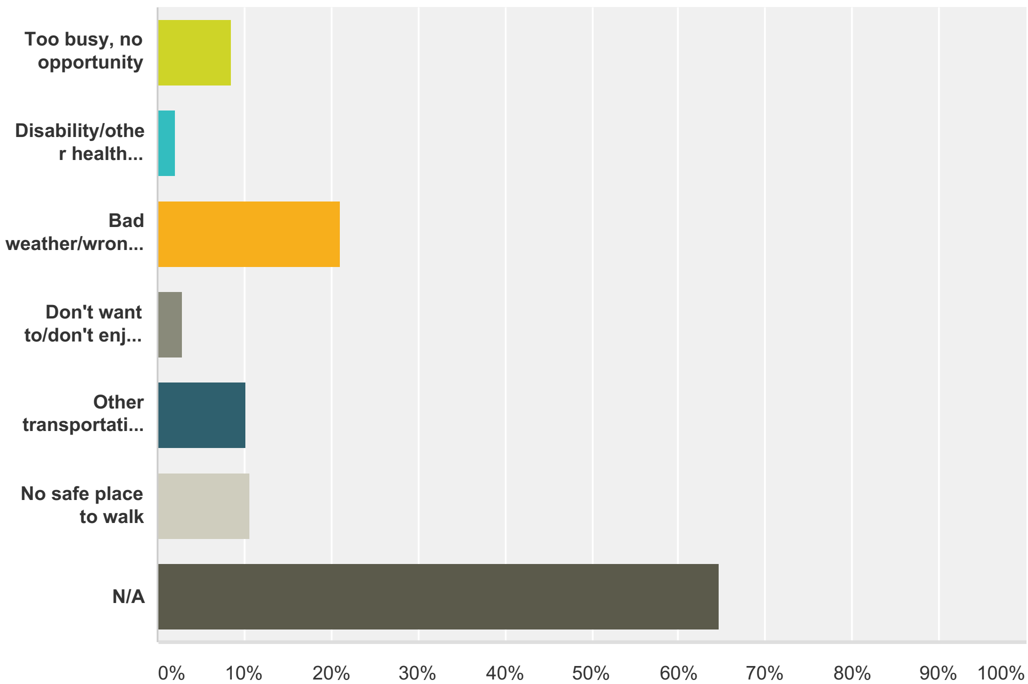
Answered: 530 Skipped: 3



Answer Choices	Responses	
Yes	**92.64%**	491
No	**7.36%**	39
Total		**530**

Q7 Why haven't you walked outdoors for at least 10 minutes in the past year?

Answered: 422 Skipped: 111



Answer Choices	Responses	
Too busy, no opportunity	**8.53%**	36
Disability/other health impairment	**2.13%**	9
Bad weather/wrong season	**21.09%**	89
Don't want to/don't enjoy it/Lazy	**2.84%**	12
Other transportation is faster	**10.19%**	43
No safe place to walk	**10.66%**	45
N/A	**64.69%**	273
Total Respondents: 422		

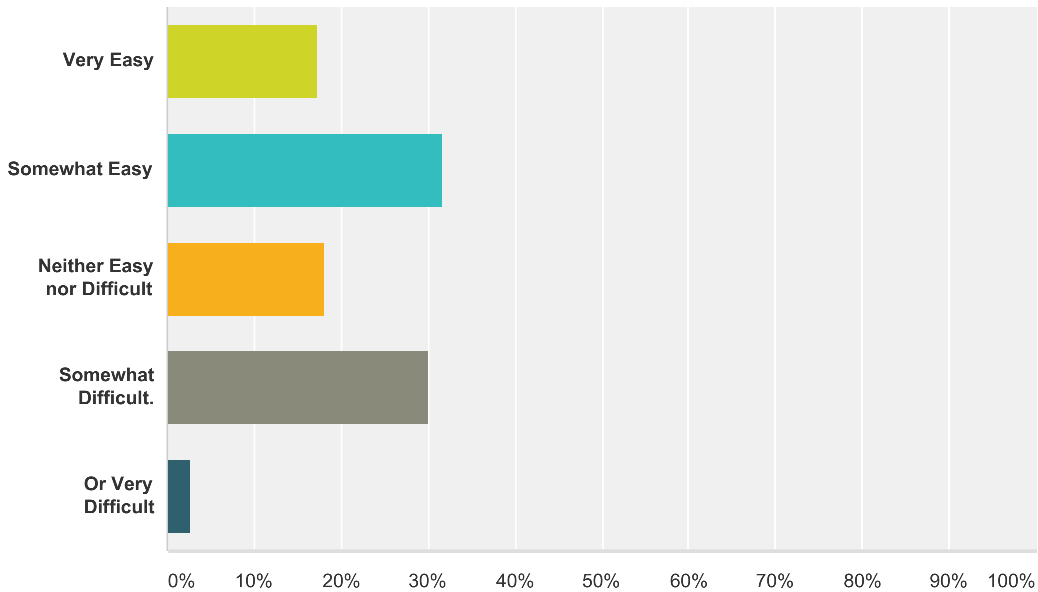
#	Other (please specify)	Date
1	I live right by a trail system and the city is very good at clearing it in the winter, so it is easier for me, but it all depends on where a person lives. There are many places in Butte with no sidewalks or safe places to walk in Butte.	5/9/2017 8:47 AM
2	We don't have sidewalks in our neighborhoods. Most streets are asphalt up to property line. Other streets have no asphalt. We usually have a muddy street full of trenches. Since it is a dirty road we have people driving it like there is no speed limit. we have to put up our own street signs to TRY and get people to slow down. Our kids are in danger because we have cars swerving to miss the trenches from the water run off. (FAIRMONT STREET)	4/20/2017 5:13 AM
3	No easy access to many dogs not confined to yards.	4/14/2017 8:48 PM
4	Not safe because of aggressive dogs running.	4/14/2017 3:48 PM
5	exercise at gym 6 days a week	4/14/2017 2:53 PM

6	Dangerous intersections and lack of snow removal on sidewalks	4/12/2017 2:50 PM
7	I walk the trails in uptown Butte at least 5 times per week.	4/12/2017 9:19 AM
8	snow removal is poor	4/11/2017 5:43 PM
9	Because I can take a break - take a 5 minute walk frequently indoors when the weather is inclement. I don't want to insult the "experts" but you do not have to spend millions of $$$ on infrastructure to encourage people to"Walk For Health". A little paint and a few signs to remind people to "Take A Break - Take A Walk" would be helpful. Please see: http://www.co.silverbow.mt.us/documentcenter/view/2713 Take A Break - Take A Walk is an initiative to designate Five Minute Healthy Habit Walking Pathway Routes at Highway Rest Stops and OTHER CONVENIENT LOCATIONS.	4/11/2017 10:46 AM
10	The paved trails uptown have been maintained very well this winter with prompt snow removal! Very much appreciated!	3/10/2017 5:20 PM
11	I prefer to watch television while I walk on the treadmill for exercise. I have no fear of a dog coming after me while safe in my basement.	3/10/2017 8:02 AM
12	I walk the dog every day once or twice	3/9/2017 4:57 PM
13	recooperating from knee surgery. sidewalks in my area are to unstable & I live in uptown to I'm still not able to do hills.	3/9/2017 2:34 PM
14	I do	3/9/2017 1:55 PM
15	UNSAFE NEIGHBORHOODS AND HARRISON UNDERPASS BY CIVIC CENTER CONNECTED TO WALKING TRAILS. PEOPLE DRINKING AND DRUGGING IS VERY UNSAFE	3/9/2017 12:13 PM
16	You can't walk with other people because there are trees and cutouts in the sidewalks! Why would you plant trees in the sidewalks so the roots can eventually make the sidewalk buckle and you have to avoid the holes? Also it didn't take 10 minutes to go where I needed to go!	3/8/2017 4:36 PM
17	I answered that I do walk for at least 10 minutes, usually a lot more than that	3/8/2017 4:12 PM
18	I run every day either in uptown Butte or around my neighborhood	3/8/2017 4:01 PM
19	None of the abandoned building have snow removed.....it gets very slick!	3/8/2017 3:58 PM
20	up hill commute	3/8/2017 3:55 PM
21	??Did I say I haven't?? No. I walked the Blacktail Cr trail & run indoor laps at KCAC. I have walked t and from appt.'s i.e. from BioScience Lab to E. Broadway; from bus trf station to W. Front round trip. I often walk shorter distances along Harrison Ave; also from Roosevelt (home) to Wal-Mart. Often to Harrison Ave Safeway for groc and full backpack of groc from Safeway (12 blocks RT).	2/24/2017 2:28 PM
22	The sidewalks are dangerous in the winter months. Street lighting is missing in some neighborhoods. Some sidewalks do not connect - dangerous shoulders on roads.	2/18/2017 12:16 PM
23	Some sidewalks in terrible shape, risk of tripping and breaking a bone	2/17/2017 11:47 PM
24	I walk every day. If the roads & sidewalks are clear or snowy but not icy, I walk 3+ miles. If they are icy, I walk 1/2 mile or so.	2/17/2017 2:09 PM
25	Poor sidewalks	2/17/2017 10:16 AM
26	I have walked in the past year but the sidewalks are horrible on Excelsior and Park Street is ugly. This is the main entrance to Montana Tech. It is supposed to look inviting to the visitors not scare them away.	2/16/2017 2:33 PM
27	I WOULD WALK MORE BUT THE SIDEWALKS ARE ICY. MANY PEOPLE DO NOT SHOVEL THEIR WALKS	2/15/2017 2:55 PM
28	It is a challenge to walk around in uptown Butte because of ice and snow covered sidewalks. Very poor enforcement of ordinance. Huge detractor in getting people uptown.	2/15/2017 1:09 PM
29	some sidewalks are damaged to the point it's safer to walk in the street rather than risk a "trip and fall"	2/10/2017 4:00 PM
30	Truthfully, just not in the habit.	2/7/2017 4:27 PM
31	I don't walk as much as I'd like to because sidewalks are in such disrepair and often have ice in the winter. Not to mention so many have trees with branches that will poke out an eye. Also, roaming dogs are a problem.	2/7/2017 3:45 PM
32	Usually have to drive to a safe walking trail	2/7/2017 12:33 PM
33	Very few people shovel their sidewalks and I do not want to wear my snow boots to go for a casual stroll. I would walk on the walking trails because they are plowed but they are so icy!! I am glad they plow them but I still don't use them until spring because of ice.	2/7/2017 11:42 AM
34	I would like more trails and nicer sidewalks along with better lighting so that is is safe.	2/7/2017 9:47 AM

35	In particular, people trying to get to the bus stop by the Copper King Convention center. Motor view is incredibly dangerous with no where for people to, but especially in winter!	2/6/2017 5:47 PM
36	Walks aren't clear, lighting in areas makes me uncomfortable to walk.	2/6/2017 11:26 AM
37	In a usual week, during nice weather I've walked lots of places (home from work 2.3 miles). In a usual week when the weather is cold, winter season - not very much. The sidewalks that we do have are not always free of ice & snow. On some streets the sidewalks are non-existent or are in bad shape (missing pieces, buckling, etc.)	2/3/2017 2:09 PM
38	Walks not cleared / too icy.	2/3/2017 1:16 PM
39	People in this town are sketchy! Walking two doors down to a friends and I've been attacked by a homeless person, to which I called the police and nothing was done. You are out of your mind if you think I am walking for fun.	2/3/2017 1:13 PM
40	I would walk everywhere if I felt safe. I don't feel safe walking to my car in some neighborhoods let alone walking down the street.	2/3/2017 12:58 PM
41	Scary dogs running loose in Centerville.	2/3/2017 10:51 AM
42	No safe place to walk/bike in from Green Acres	2/3/2017 8:41 AM

Q8 How easy or difficult is it to walk in Butte-Silver Bow? Would you say...

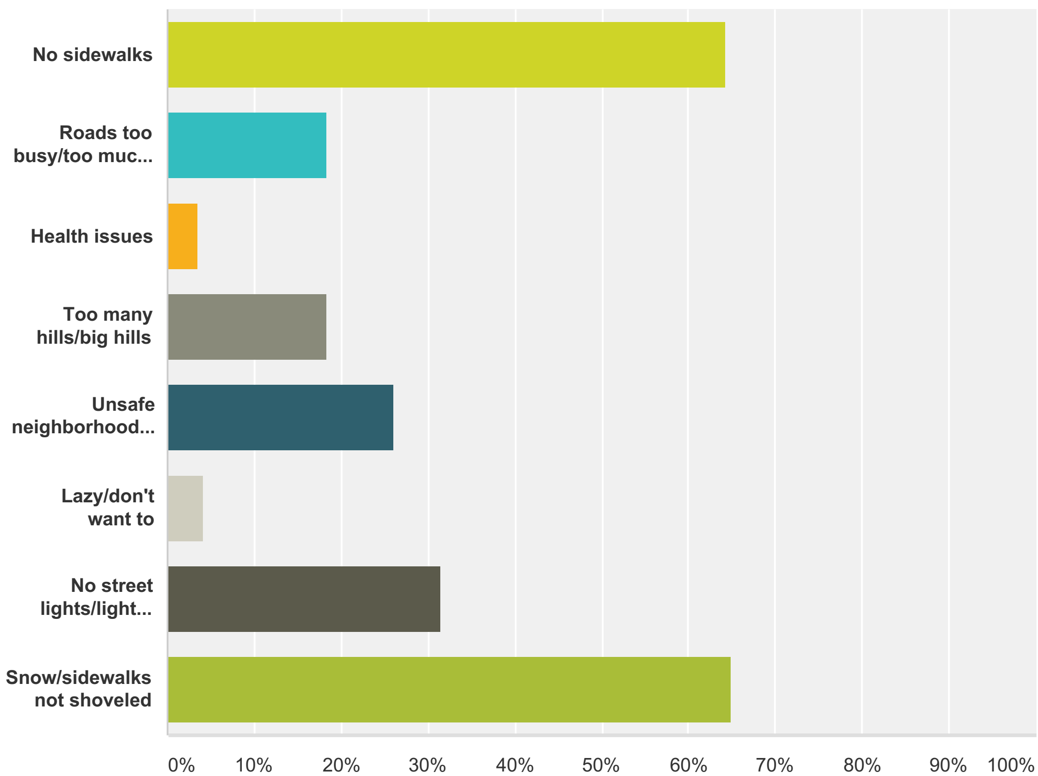
Answered: 528 Skipped: 5



Answer Choices	Responses	
Very Easy	**17.42%**	92
Somewhat Easy	**31.63%**	167
Neither Easy nor Difficult	**18.18%**	96
Somewhat Difficult.	**30.11%**	159
Or Very Difficult	**2.65%**	14
Total		**528**

Q9 What makes it difficult to walk in Butte-Silver Bow?

Answered: 470 Skipped: 63



Answer Choices	Responses	
No sidewalks	**64.26%**	302
Roads too busy/too much traffic	**18.30%**	86
Health issues	**3.62%**	17
Too many hills/big hills	**18.30%**	86
Unsafe neighborhood/safety	**26.17%**	123
Lazy/don't want to	**4.26%**	20
No street lights/lighting is bad	**31.49%**	148
Snow/sidewalks not shoveled	**64.89%**	305
Total Respondents: 470		

#	Other (please specify)	Date
1	dogs lunging at the fence and barking. many dogs are not behind adequate fences, which is very scary, and many of them are viciously snapping, with no supervision. the lunging is scary, but even when not afraid, it is upsetting to walk down a street and be barked at by a line of unsupervised dogs. unsupervised dogs escape, too, and i've had loose dogs confront me many times, and also on three occasions attack my little dog.	6/7/2017 4:17 PM
2	Streets in the residential areas are NEVER plowed or sanded	5/18/2017 8:09 AM
3	bike riders on the sidewalks	4/30/2017 6:57 PM

4	Poor planning and layout of communities and business	4/28/2017 3:56 PM
5	Some streets are not sheltered by trees. Also some walks are not very interesting. I like to see different things and walking along parking lot after parking lot is depressing.	4/20/2017 6:23 PM
6	Panhandlers	4/20/2017 10:03 AM
7	No sidewalks, and many of the streets are bumpy. Hard to push a stroller on old bumpy pavement. Never shake a baby!	4/19/2017 11:49 AM
8	Sidewalks in poor condition-crumbling-holes-etc.	4/19/2017 9:25 AM
9	Sidewalks in general are pretty bad, or don't continue	4/18/2017 1:38 PM
10	Broken, cracked and deteriorated sidewalks. Obstructions in the parking lanes where sidewalks are broken. Traffic is aggressive toward pedestrians and bikes. Little to no courtesy when pedestrians are crossing the street or runners or bikes are in the lanes.	4/17/2017 9:10 AM
11	I really do not find it difficult to walk in Butte.	4/17/2017 7:58 AM
12	for work: My issue is having to tote bags and work items to and from even though I live only a mile away from work. I walk everyday with my dog.	4/15/2017 9:00 AM
13	Dogs not confined to yards.	4/14/2017 8:48 PM
14	UNPAINTED CROSSWALKS! The courthouse area I notice well painted. Out on the flats, poorly. Particularly at intersection of Harrison & Amhurst, drivers coming south on Harrison to turn left onto Amhurst, do not stop behind the crosswalk! Why not? Because if it isn't painted boldly, they apparently forget. The crosswalks at Harrison & Roosevelt--terrible! I have nearly been struck a few times there.	4/14/2017 7:57 PM
15	sidewalks that are in disrepair	4/14/2017 4:29 PM
16	Some streets have no sidewalks ie George st. Some sidewalks are in bad shape.	4/14/2017 3:55 PM
17	Aggressive dogs.	4/14/2017 3:48 PM
18	unsteady ground..I am a fall risk	4/14/2017 3:22 PM
19	side walks that are in disrepair	4/14/2017 2:53 PM
20	Motorists don't stop for pedestrians in crosswalks	4/12/2017 2:50 PM
21	MY HUSBAND AND I USUALLY TAKE DAILY WALKS,TO WALK OUR DOG.SO MY ONLY COMPLAINT WOULD BE ALL THE LOOSE DOGS.THOSE WHO ARE NOT ON LEASHES OR THOSE THAT JUST ROAM FREE.WE HAVE A SMALL DOG AND I WORRY ABOUT HIM GETTING ATTACKED BY OTHER DOGS.	4/12/2017 11:41 AM
22	I walk the trails around Butte all the time. However, dogs not on leashes and feces all over. Makes it difficult to get around it/them. Also, bikers/skateboarders on the trails make it dangerous at times. They have no regard for the walkers/runners. There are speed limit signs on the trail uptown, but bikers do not follow it.	4/12/2017 9:19 AM
23	The walking trails are unsafe to walk alone. I live near the civic center and the walking trail/tunnel is the hang out spot for transients, so is front street where we like to walk on lunch hour. They beg for money and the men harass us. Not safe.	4/12/2017 8:30 AM
24	Weather	4/11/2017 10:49 PM
25	There are still unleashed dogs!!	4/11/2017 8:08 PM
26	Loose dogs	4/11/2017 6:24 PM
27	I have dogs that I like to walk unleashed. Butte is NOT pet friendly even for dogs on leashes.	4/11/2017 5:32 PM
28	More walking paths connecting more areas of Butte, or better sidewalks, lighting, etc would make it much nicer to walk anywhere you needed to go.	4/11/2017 11:26 AM
29	Not the proper encouragement from the experts. I don't want to insult the "experts" but you do not have to spend millions of $$$ on infrastructure to encourage people to"Walk For Health". A little paint and a few signs to remind people to "Take A Break - Take A Walk" would be helpful. Please see: http://www.co.silverbow.mt.us/documentcenter/view/2713 Take A Break - Take A Walk is an initiative to designate Five Minute Healthy Habit Walking Pathway Routes at Highway Rest Stops and OTHER CONVENIENT LOCATIONS.	4/11/2017 10:46 AM
30	Too many broken sidewalks or gaps that discourage walking especially in older neighborhoods.	4/11/2017 10:40 AM
31	Lack of sidewalks	4/5/2017 1:35 PM
32	Non-existent/Dilapidated/unmaintained Sidewalks	3/28/2017 12:06 PM

33	Some people do not contain their dogs while others that are out walking do not have theirs on a leash. Makes it very difficult to walk my dogs when I have mine on a leash at all times.	3/27/2017 11:46 AM
34	Sidewalks and road shoulders are in terrible condition where they even exist.	3/20/2017 7:18 PM
35	concentrations of shady characters; i usually feel safe almost all the time and i do walk around town regularly. however, i must say that the block of broadway (and immediate vicinity) with the prerelease facility often gives me pause. i have seen altercations in the street in front of the party palace and watched as a cop car drove right past without stopping to address it. vehicles, trailers, and campers, parked on sidewalks and blocking pedestrian and bicycle access and/or visibility. roaming loose dogs that harass pedestrians. also the sidewalks in the uptown area, especially the business district tend to be filthy and/or covered with snow. i have had to step over all kinds of trash, broken glass, dog excrement, drunk passed out people, etc. this situation is more common than uncommon. why can't the city take over sidewalk snow removal in the business district ?	3/10/2017 8:36 PM
36	One example, when Continental drive was repaved last summer the walking area on the side became more narrow and less safe. Not very happy about that happening!	3/10/2017 5:20 PM
37	Although I do a considerable amount of running and walking from my workplace in Uptown Butte, often the sidewalks are not maintained - this includes sidewalks that are maintained by Butte-Silver Bow. In addition, there is often a considerable amount of garbage and animal waste on the streets and sidewalks. Butte-Silver Bow had a young man who use to pick up garbage, break up ice, shovel, etc. This young man was a very hard worker - what happened to this position? The central business district is dirty and unsightly. It needs to be clean every day of the week, not just during a festival. People do not enjoy walking when they have spend most of their time avoid stepping in something!	3/10/2017 10:07 AM
38	Sidewalks in disrepair.	3/9/2017 1:38 PM
39	There are some neighborhoods, (for example -W Park street, from Montana to Tech) where the snow and ice are not removed (ever!) and this makes it unsafe to safely walk until the spring thaw! Dogs in Walkerville are running loose making walking unsafe.	3/9/2017 12:44 PM
40	Roads in terrible condition, when taking a family walk we need a jogging stroller just to navigate the terribly paved streets, potholes, etc.	3/9/2017 12:35 PM
41	SIDEWALKS ARE UNEVEN AND CRACKED AND NOT TAKEN CARE OF. DOG POOP AND PEOPLE PUKE ON SIDEWALKS ESPECIALLY IN UPTOWN AREA. DISCUSTING HOW BUTTE CARES SO LITTLE FOR HOW THE COMMUNITY AND CITY LOOK. SOME NEIGHBORHOODS ARE RUNDOWN AND FRIGHTENING TO WALK THROUGH.	3/9/2017 12:13 PM
42	In the summer, crumbling sidewalks make walking dangerous due to uneven surfaces and trip hazards. Crumbling sidewalks are also unsightly and depressing (neighborhood blight). In the winter, property owners do not adequately shovel their sidewalks. Some obviously put zero effort into keeping their sidewalks clear. The result are snowy and slippery sidewalks that severely impede pedestrians and pose a danger of sliding and falling. Isn't it a law to remove snow from sidewalks? Why isn't that law enforced??	3/9/2017 12:02 PM
43	Hard to cross busy streets without street lights .	3/9/2017 11:55 AM
44	Most sidewalks have deteriorated badly and county lot sidewalks are not updated.	3/9/2017 9:08 AM
45	Dog poop on the walkway. It stinks so bad in the summer that it is repulsive to walk the trails.	3/9/2017 8:08 AM
46	no consistency in sidewalks (to many breaks that put you in the street)----street lights along Harrison ave	3/9/2017 3:07 AM
47	need a trail along Continental Drive south of Three Bears	3/8/2017 8:07 PM
48	I love walking in Uptown Butte, BECAUSE of the hills! However, the biggest things for me that would make it more pleasant to walk in Butte is (1) clean sidewalks and streets - no litter!, (2) more trees planted, and (3) those trees and existing trees left alone -pruned properly/NOT topped! - to actually grow tall enough to make shade in the summers.	3/8/2017 5:59 PM
49	Many sidewalks are not walkable because, they have obstructions such as: disrepair and lack of cleaning and also, street signs, fire hydrants, traffic signals, trees and planters placed within the walkable space.	3/8/2017 5:29 PM
50	Uneven, unmaintained sidewalks.	3/8/2017 5:24 PM
51	The main issue is the lack of keeping sidewalks clear from snow and ice. Also, crossing streets uptown is dangerous as crosswalks are disregarded by many drivers who will not stop down for pedestrians.	3/8/2017 5:13 PM
52	Not Difficult	3/8/2017 4:50 PM
53	Same as above there are trees and cutouts in the sidewalks making it difficult to walk with others.	3/8/2017 4:36 PM
54	dogs	3/8/2017 4:34 PM
55	Sidewalks are uneven, residents do not always shovel or keep ice off, and the trail system is not close to our house.	3/8/2017 4:33 PM

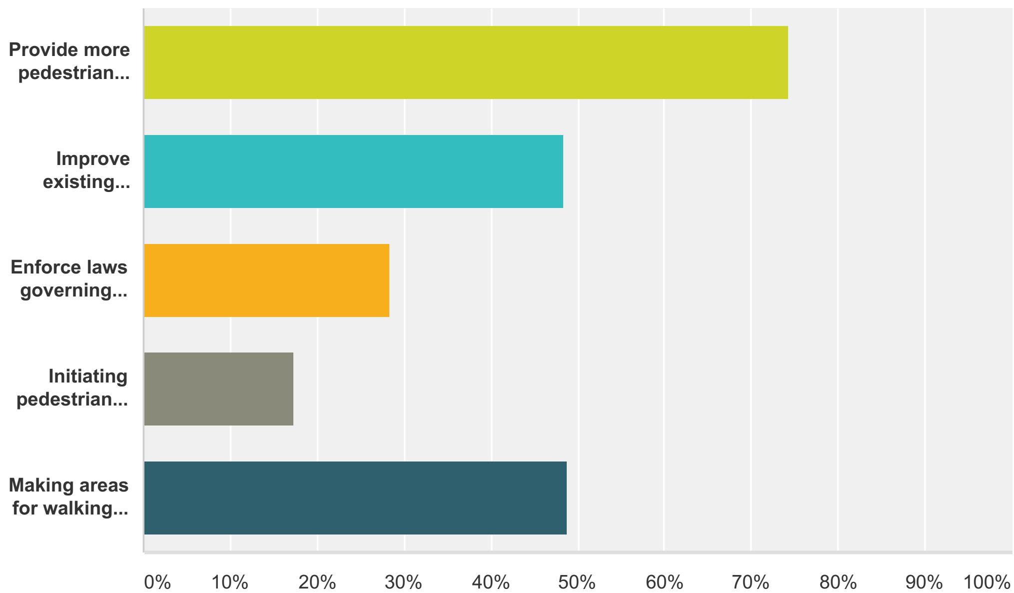
56	BIGGEST ISSUE FOR ME IS DRIVERS NOT STOP AT RED LIGHTS BEFORE TURNING RIGHT, CHECKING FOR PEDESTRIANS OR ROLLING AND STOPPING IN THE MIDDLE OF CROSSWALK CAUSING ME TO WALK PARTIALLY IN TRAFFIC TO GO AROUND THEM; NO LIGHTS ON CONTINENTAL WHICH IS A MAIN ROUTE TO WALK UPTOWN FROM MY HOME ON WALNUT SO I HAVE TO LIMIT MY NIGHT WALKING	3/8/2017 4:19 PM
57	Some areas have little-no sidewalk coverage. Drivers are a huge deterrent, they don't stop or consider pedestrians. Neither do the cops.	3/8/2017 4:13 PM
58	sidewalks in disrepair, cars not stopping for crosswalks because they are not clearly marked.	3/8/2017 4:12 PM
59	Dogs running loose. On walking path, at Chamber of Commerce, do not feel save.	3/8/2017 4:12 PM
60	People do not want to stop for stop signs or give you the right of way when walking, especially on Grand Ave. This includes, police car also	3/8/2017 4:08 PM
61	Dog chasing you especially in the Blacktail Loop area HUGE HUGE dog problem in the Blacktail Loop area. Another HUGE HUGE HUGE problem is the walking trail on Continental Drive was removed when the road was repaved. They made the shoulder of the road the walking path. Very dangerous, cars could easily hit you on the shoulder of the road. This path previously was used by many many people in our area now it is rarely used because of the traffic, speed at which the cars travel and the poor set up of the trail. Huge mistake by the planners huge mistake	3/8/2017 4:01 PM
62	the wrong element (bars) that you have to pass through to get where you are walking to.	3/8/2017 3:58 PM
63	and, drivers do not stop at crosswalks.	3/8/2017 3:58 PM
64	People do not stop for pedestrian traffic, even at pedestrian crosswalks.	3/8/2017 3:57 PM
65	hills uptown, no indoor bike storage	3/8/2017 3:55 PM
66	Sidewalks in disrepair	3/3/2017 4:25 PM
67	Lots of sidewalks could use repair. Sidewalks in neighborhoods around the flats a very hit and miss. Plenty of homes have no sidewalks in front of them.	3/2/2017 8:59 PM
68	Bad sidewalks(breaking up) Vehicles parked too close to intersections to block visibility up street.	3/2/2017 12:10 PM
69	Deteriorating sidewalks	2/26/2017 8:20 PM
70	CROSSWALKS poorly maintained! 2016 big bucks spent on reshaping intersection corners on Harrison, but crosswalks were not painted! Almost unreadable at Roosevelt entrance to Mall. Should use stronger attention-getting colors. Many drivers stop at edge of crosswalk, not at the stop line. Scary. I had 4 near misses in 2016! NO MUFFLERS cause raw exhaust fumes walking along Harrison. EXCESS SPEED. Butte is lawless for vehicle/driver ordinances. Does it have any? Harley bikers no mufflers a BIG issue! They seem to be above the law. Are you afraid of them?	2/24/2017 2:28 PM
71	Sidewalks are broken and in disrepair, and when they are repaired, they begin to crumble after 1-2 years.	2/22/2017 1:07 PM
72	Loose dogs	2/22/2017 9:35 AM
73	lack of trees in area east of main street, I like to walk where there are trees and other vegitation	2/17/2017 11:47 PM
74	Even shoveled sidewalks can be icy. I wear grippers on my boots and ice is still a problem in winter.	2/17/2017 2:09 PM
75	I walk at Fr Sheehan. I've walked there for years. The walking trail is in need of repair. Some of the cracks are large. We need to maintain what we already have.	2/17/2017 1:53 PM
76	No easy way to go from the flats to uptown on foot. Montana Street traffic unsafe at time for bicycles.	2/17/2017 7:57 AM
77	Sidewalks in disrepair	2/16/2017 8:26 PM
78	No crosswalks on Harrison Ave except for at traffic lights! The crosswalk located at El Taco was removed years ago for unknown reasons.	2/16/2017 5:22 PM
79	I enjoy the challenge of maneuvering across busted curbs, uneven sidewalks, holes, broken glass and rusty metal.	2/16/2017 5:18 PM
80	Although I cannot say we don't have sidewalks but the sidewalks we do have are very poor.	2/16/2017 2:33 PM
81	Dogs not on leashes.	2/15/2017 10:16 PM
82	Few bike lanes and/or wide shoulders	2/13/2017 3:48 PM
83	Trash on sidewalks, dirty, noisy	2/13/2017 2:40 PM
84	No sidewalks or uneven sidewalks; walking trails not lighted	2/13/2017 2:35 PM
85	Sidewalks in poor condition. Not everyone shovels snow.	2/13/2017 2:19 PM

86	The driver's that don't acknowledge pedestrians. And don't get me started on Crosswalks. Save the county some money and don't utilize cross walks. Nobody stops.	2/13/2017 2:14 PM
87	The existing side walks are full of slips/trips/fall hazards.	2/13/2017 12:28 PM
88	Most homeowners are good about clearing their walkways, but not everyone. If I go for a walk in the winter, I make sure to wear snow boots!	2/13/2017 12:15 PM
89	The sidewalks in and around my neighborhood are old and broken	2/13/2017 11:59 AM
90	Weather can be an issue. Too cold to take my kids out most of the time.	2/13/2017 9:26 AM
91	dogs on the loose!	2/12/2017 5:40 PM
92	I wish we had more lighting and other amenities that promote walking and being out on the street, such as outdoor seating at cafe's and bars, enforcing swamping sidewalks, wayfinding signage, lights in trees, and decorated store front windows. These are things that say "be here, there is something happening."	2/12/2017 3:37 PM
93	Some sidewalks are in disrepair	2/11/2017 5:52 PM
94	I do not find it difficult.	2/10/2017 6:58 PM
95	Poorly maintained sidewalks, particularly uptown west of Montana Street, are a source of difficulty. Lots of cracks and abrupt bumps. Often plowed snow is piled up against the curb at street crossings so that one must climb over it to cross the street. Poorly functioning signals at crosswalks also do not help. Also, when I first moved here I would often get lost due to the scarcity of street signs.	2/10/2017 5:48 PM
96	MOSTLY STREETS OFF MAIN STREETS	2/10/2017 5:41 PM
97	Some areas I do not feel particularly safe walking in. However in my neighborhood I feel fine.	2/10/2017 4:51 PM
98	Also, when I moved here no one stops for people walk way or not. In another county the police would ticket these drivers setting the tone to always stop for people crossing the street. Super dangerous around here.	2/10/2017 4:44 PM
99	Easy to walk in Butte	2/10/2017 4:32 PM
100	see above. Hills are manageable!	2/10/2017 4:00 PM
101	I would like to see traffic slowed down in uptown. For example, people drive too fast on Park and there are four lanes. Makes crossing the street feel unsafe. Would prefer to see two lanes and slowing mechanisms.	2/9/2017 6:25 PM
102	Sidewalks (where they exist) are in terrible condition.	2/8/2017 7:54 PM
103	poorly maintained sidewalks Traffic not obeying pedestrian laws	2/7/2017 10:58 PM
104	Dogs!	2/7/2017 8:56 PM
105	Trees overgrowing and total disrepair of concrete. Culture of people refusing to stop for pedestrians, ironically it's often a police car.	2/7/2017 3:45 PM
106	It does depend on where, but I've not lived in a town with such poorly managed roads, sidewalks, curbing, lighting, and multi-transportation-friendly ever. It floors me most of the time.	2/7/2017 2:38 PM
107	Lots of sidewalks could use repairs, tree trimming requirements should be enforced where they block the sidewalks. Also the utilization of paint and awareness for crosswalks in uptown Butte is very dismal. Crosswalks at could be more apparent especially on the west side as they are the main corridor for students walking to call. More specifically - Clark and Park, Park and Excelsior, Granite and excelsior.	2/7/2017 2:31 PM
108	Too great of distance between uptown and downtown.	2/7/2017 11:36 AM
109	Sidewalks and streets in poor repair	2/7/2017 10:10 AM
110	Where there are sidewalks they are often cracked or crumpling, hedges are overhanging in the summer, in the winter they are not free of ice and snow. Trails are minimal for people who are not in great fitness levels.	2/7/2017 9:47 AM
111	Would love to see Blacktail Creek/Chamber trail connect with Greenway. The recently completed sidewalk from Montana to the Batch Plant is a good start, but the rest of Centeniall/Santa Claus Way needs to have improved access for bikes/walkers!!! Thanks!!	2/6/2017 2:56 PM
112	I use a wheelchair/scooter and the sidewalks in my neighborhood are not accessible. I have to use the street which is very unsafe.	2/6/2017 2:41 PM
113	Adequately maintained sidewalks, lighting, and appropriate crossings are contributors. Vehicle traffic (including local law enforcement) view pedestrians as a nuisance, not a viable method of transportation.	2/6/2017 10:21 AM

114	Sidewalks not shoveled, ice / snow build up in handicap cut-outs, snow plow leaves high snow berms making it difficult to cross streets. Broken sidewalks and curbs, potholes.	2/6/2017 9:44 AM
115	Lights around the walking trails would be great (solar panel lights)	2/3/2017 5:57 PM
116	nothing you can walk as you wish	2/3/2017 2:11 PM
117	Too many cars/rv's/other parked on sidewalk.	2/3/2017 1:16 PM
118	Homeless population also is a problem.	2/3/2017 1:13 PM
119	trails not completed across Montana Av.	2/3/2017 12:29 PM
120	I find uptown easier to walk than Harrison. Even when it's not completely shoveled uptown. The traffic is better and there are trail systems with the rails to trails.	2/3/2017 11:57 AM
121	Walking is fine.	2/3/2017 11:06 AM
122	Dogs running loose	2/3/2017 10:51 AM
123	It is easy for me to walk but for people with a disability it is not. I have walk over Park Street towards MT Tech and realized how dificult it would be with a wheelchair to go even 1 block. That was during the summer. When I walk in the winter I choose the walking trail because it is usually clear of snow within a few hours. If I were in a wheelchair or walker I do not feel it would be easily accessiblbe. I walk for health not to get from 1 place to another. For people who have to walk to work or to school and transit system is there only other option I think the bus stops need to be better wc/walker accessible. Clear of snow and ice and smooth transition in the sidewalks.	2/3/2017 10:14 AM
124	Dogs out at night on the loose.	2/3/2017 9:56 AM
125	It's difficult to cross Harrison Ave. --unless at a stop light.	2/2/2017 10:26 PM
126	Not enough marked cross walks	2/2/2017 9:12 PM
127	Easier to walk in street.	2/2/2017 8:38 PM
128	you have a great walking trail by the civic center. The tunnel and trail is covered in garbage and people drinking/passed out. I never feel safe walking over there alone or with my kids	2/2/2017 8:13 PM
129	Sidewalks are so crumbled and in disrepair (Tech)	2/2/2017 7:56 PM
130	it depends where you are walking. i f you are a person that walks slowly, it might be difficult to cross at the crosswalks on harrison avenue for instance. harrison avenue seems hostile to pedestrians. also, given the number of folks driving WUI, i would never use the lane on continental that is only separated from traffic by a thin line of paint. seems like an accident begging to happen, and an unsafe choice for those on foot. there are also a number of households that think its a great idea to park their vehicles on the sidewalk, blocking access for anyone trying to use the sidewalk for safe passage off of the road. not sure why these people are not ticketed as it is a common occurrence with some neighborhoods worse than others.	2/2/2017 4:26 PM
131	No shoulder to ride your bike	2/2/2017 1:27 PM
132	Sidewalks in poor condition.	2/2/2017 12:17 PM
133	Sidewalks in many areas are in terrible shape.	2/2/2017 11:39 AM

Q10 Which of these changes would you recommend be made in Butte-Silver Bow to make it easier for you to walk more?

Answered: 490 Skipped: 43



Answer Choices	Responses	
Provide more pedestrian facilities such as sidewalks, paths, trails, lighted areas, safe signals and intersections, crosswalks	**74.29%**	364
Improve existing facilities	**48.37%**	237
Enforce laws governing motorist behavior	**28.37%**	139
Initiating pedestrian safety education	**17.35%**	85
Making areas for walking safer	**48.78%**	239
Total Respondents: 490		

#	Other (please specify)	Date
1	all neighborhoods should be safe from dog aggression. including being confronted by an unsupervised dog an inch away while using a public sidewalk, inadequate fencing, and nonstop barking. by the way, it is not safe for me to tell the owner anything. there has to be a way to report and have it investigated as a community concern.	6/7/2017 4:17 PM
2	Fix sidewalks and lighting.	5/22/2017 11:54 AM
3	PLOW AND AND SAND THE RESIDENTIAL STREETS WHICH IS WHERE MOST PEOPLE WALK. REPAIR SIDEWALKS	5/18/2017 8:09 AM
4	Add sidewalks and lights in neighborhoods that are less safe, even alleyways that have been known for criminal activity. I believe with all of these, it could and would also cut down on crime. Witnesses could see more and do more if they could see what is happening, and there would be less break ins on cars that are in darker neighborhoods.	5/9/2017 8:47 AM
5	The meth users around the neighborhood do not have souls and are opportunists. For several years now I have been trying to encourage law enforcement to do more toward making our town safe.	5/3/2017 2:32 PM
6	enforce laws governing bike use	4/30/2017 6:57 PM
7	Drivers should be taught about pedestrian safety. Pedestrians have legal right to cross in crosswalk.	4/28/2017 4:17 PM

8	Better planning. Don't plan residential neighborhoods with no school bus service, and then allow a truck stop right in the middle of them.	4/28/2017 3:56 PM
9	I would like to see sidewalks available and not parked on. I would also like to see (Uptown) new construction being open to the sidewalk and interesting. US Bank and Northwestern both have "dead space" with nothing to look at while walking.	4/20/2017 6:23 PM
10	complete neighborhoods. MAKE SIDEWALKS. MOST AREAS WOULD BE COMPLETE IF THEY WOULD INSTALL SIDEWALKS.	4/20/2017 5:13 AM
11	We have great trails and walk paths	4/17/2017 5:50 PM
12	enforce the sidewalk shoveling law in the winter. ticket people that park their cars on the sidewalks.	4/17/2017 8:41 AM
13	I have no issues with walking in Butte	4/16/2017 8:58 PM
14	I think making parks accessible for walkers with dogs would provide some safe places for people to walk. I think adding sidewalks and clearing them or streets in the winter would help people who want to walk. It is very hard for me to walk 2-3 miles per day in the winter when I have to walk on the side of the road and cars are coming at me and debris is flying. When I try to use the trails in the winter, up town, often there are shady looking characters, so I have to not go alone, and look for a safe route. These thing have made it impossible when trying to walk with small kids or pets.	4/16/2017 12:51 PM
15	the streets are dusty and I get "dusted" on occasion. A safety issue for respiratory and health.	4/15/2017 9:00 AM
16	Make sure a leash law is enforced or that dogs are kept in secured yards.	4/14/2017 8:48 PM
17	There seems to be no law enforcement of speed. Park Av uptown, many drive too fast for that street! Harley riders use Harrison for a racetrack! And what about mufflers? Isn't there an ordnance for requirement? Are you afraid to confront the "gang members" to require mufflers? I raised this with Jim Fisher 2yrs ago and he told me he was too busy to consider it further.	4/14/2017 7:57 PM
18	Street designs to calm traffic in high pedestrian areas.	4/12/2017 2:50 PM
19	Fix the walking path on Continental Drive that you took out when you fixed the street.	4/12/2017 9:22 AM
20	ENFORCE leash laws and the pickup of the feces. Control the bikers/skateboarders.	4/12/2017 9:19 AM
21	more pathway away from the streets	4/12/2017 8:53 AM
22	Control the transients	4/12/2017 8:30 AM
23	Bathrooms or portable toilets.	4/11/2017 9:47 PM
24	No sidewalks in williamsburg	4/11/2017 7:13 PM
25	Making Butte a more pet friendly community	4/11/2017 5:32 PM
26	Particularly the benefits of short frequent walking. I don't want to insult the "experts" but you do not have to spend millions of $$$ on infrastructure to encourage people to"Walk For Health". A little paint and a few signs to remind people to "Take A Break - Take A Walk" would be helpful. Please see: http://www.co.silverbow.mt.us/documentcenter/view/2713 Take A Break - Take A Walk is an initiative to designate Five Minute Healthy Habit Walking Pathway Routes at Highway Rest Stops and OTHER CONVENIENT LOCATIONS.	4/11/2017 10:46 AM
27	Need program to fix or replace sidewalks in front of neglected properties in particular.	4/11/2017 10:40 AM
28	Crosswalks need to be enforced.	4/11/2017 8:49 AM
29	Keep the bike riders off the sidewalks, the bike lane is right next to them.	4/9/2017 4:45 PM
30	Fix sidewalks by improving curbs, width, and removal of obstructions that make it difficult to manuver a stroller around.	3/28/2017 4:11 PM
31	Enforce the leash laws.	3/27/2017 11:46 AM
32	One of the older trails in Butte - from the Chamber to Harrison Ave is starting to age and develop a lot of cracks. So it is important that what we have is maintained to keep it walkable and safe. As new subdivisions and new residential and commercial developments come to Butte, make sure that pedestrian needs are recognized and provided for in the plans approved by BSB.	3/24/2017 9:48 AM
33	Enforce snow removal on sidewalks and enforce parked, abandoned, junk vehicles in violation of existing laws that block road shoulders where no sidewalks exist.	3/20/2017 7:18 PM
34	ice is the only deterent for me not to walk.	3/18/2017 10:21 AM

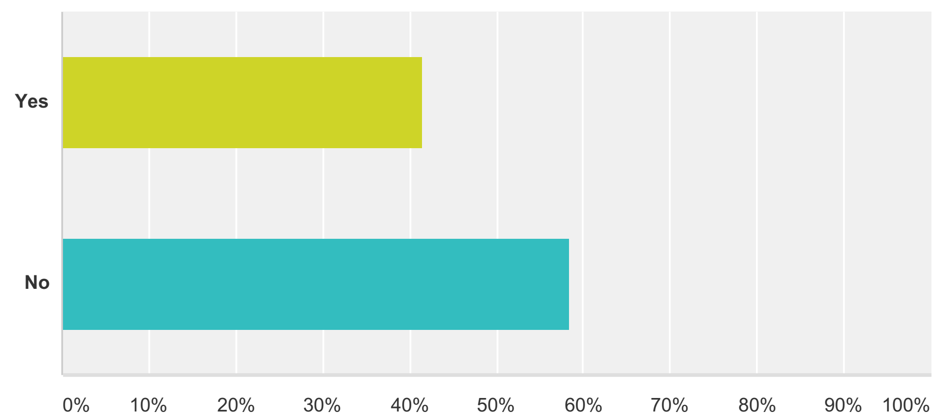
35	blinking lights to warn traffic of pedestrians, flags for pedestrians to carry to increase visibility to oncoming traffic (like in salt lake city). better lit crossing zones.	3/10/2017 8:36 PM
36	No need to spend money on this. There are already walking trails and sidewalks. The current conditions do NOT keep those who really want to walk or run from doing so. I have several friends who do walk/run/bike.	3/10/2017 8:02 AM
37	No one in Butte - including BSB vehicles - stop at crosswalks! I've almost been hit twice now while crossing the street in a cross walk where the driver was looking down on a phone and didn't even see me!	3/9/2017 12:52 PM
38	Enforce snow removal laws, dog leash laws and crosswalk laws.	3/9/2017 12:44 PM
39	Put effort into maintaining the roads permanently, not just patch and wait. Also, timing of the road work is usually in the fall and sometimes as the snow flies.	3/9/2017 12:35 PM
40	People that walk their dogs have to pick up the poop.	3/9/2017 8:08 AM
41	Great walking paths in Butte Silver Bow. The problems are the existing sidewalks, snow covered, ice covered sidewalks.	3/8/2017 9:21 PM
42	Build a trail from Three Bears to the Nine Mile along Continental Drive	3/8/2017 8:07 PM
43	Clean, litter-free sidewalks and streets and tall, properly pruned - NOT TOPPED - trees for SHADE!!!	3/8/2017 5:59 PM
44	Traffic signals are safer than stop signs for bicycles & pedestrians. Lighting and crosswalks could be added in more areas.	3/8/2017 5:29 PM
45	None. We already have more than we need.	3/8/2017 4:57 PM
46	fix the pot holes in the streets so the traffic stays in the traffic lane	3/8/2017 4:54 PM
47	We don't need additional sidewalks or paths, fix the holes in the sidewalks and take the trees out.	3/8/2017 4:36 PM
48	DOGS	3/8/2017 4:34 PM
49	It's got to come from the top down: we have a cell phone ordinance that EVERYONE ignores. If our officials/cops don't consider pedestrians, then we'll never have buy-in.	3/8/2017 4:13 PM
50	lighting	3/8/2017 4:02 PM
51	The copperway trail in the winter is well maintained and I greatly appreciate the opportunity to use it the continental drive trail is a disaster. Also citizens of Butte are not the best at shoveling snow Butte Central High School never shovels the snow	3/8/2017 4:01 PM
52	Enforce existing snow removal laws.	3/8/2017 3:58 PM
53	corner of park and Wyoming is very dangerous - no one stops for pedestrians	3/8/2017 3:56 PM
54	rope tows	3/8/2017 3:55 PM
55	Enforce snow removal and improve lighting where needed.	3/4/2017 12:21 PM
56	find more actually interesting things for teens to do in the summer.	2/24/2017 2:17 PM
57	beautify area with trees, etc.	2/24/2017 1:55 PM
58	I don't trust people to stop for me when I walk in Butte. I also don't always feel safe driving due to jaywalking in places with low visibility like Uptown w/ all the cars parked by the sidewalk.	2/24/2017 1:50 PM
59	n/a every time i use a trail it seems to be clean and safe	2/24/2017 10:31 AM
60	Enforce snow removal on sidewalks	2/22/2017 8:36 AM
61	Enforce snow shoveling	2/17/2017 11:47 PM
62	requiring people to maintain their sidewalks	2/17/2017 9:50 AM
63	Enforce laws protecting bicyclists. Really enforce them.	2/17/2017 7:57 AM
64	Crosswalks need to be installed in places other than intersections with traffic lights. The distance between traffic lights usually make me walk out of my way to cross busier streets like Harrison Ave & Montana St. People will stop for you at a crosswalk before they would stop if there isn't one. I risk my safety crossing these streets by not using a crosswalk.	2/16/2017 5:22 PM
65	Put more lights in existing high traffic pedestrian areas. Campus is awful, the cross walks should be flooded with light. I think the ally behind the Party Palace is better lit than the cross walks on campus. I'm surprised the has not been any campus road kill while going to school here.	2/16/2017 5:18 PM

66	Not "easier" exactly, but I often wish there was less dog waste along sidewalks and walking paths. I believe this is exacerbated by the lack of leash enforcement, as people take less responsibility for their dog's behavior and.. deposits. Could also be improved by making dog waste stations (bags and waste receptacle) more common.	2/16/2017 5:15 PM
67	Enforce leash laws.	2/15/2017 10:16 PM
68	This isn't to make it "easier" to walk, necessarily, but many of the mountain and city trails have excessive dog waste. I'm not sure if there is a way to enforce owner clean-up, but on warm (spring especially with snow melt) days, it is difficult to walk on the trails in town (smell). I usually walk on the trail beginning at the Chamber or uptown from the MT Tech area to Main St. or Granite Mtn., but also hike near by trails (probably maintained by FWP, rather than BSB).	2/15/2017 10:57 AM
69	Add more sidewalks in and around the Margaret Leary School area.	2/15/2017 8:56 AM
70	Make people uptown remove snow, this includes private citizens as well as businesses> Unrestrained dogs are also an issue.	2/14/2017 10:49 AM
71	Bike paths, especially away from Uptown and Harrison. Bike paths in high traffic urban areas can be very hazardous for bicyclists. Portland, OR has well marked paths and other safeguards, but still has a large number of automobile-bicycle collisions	2/13/2017 3:48 PM
72	Safety- the underground access on the walking trails is great, but scary at times due to homeless and others frequenting those underground passes. It would be good to see and over the street pass option as they are both on Harrison Ave.	2/13/2017 2:35 PM
73	I HAVE EXPERIENCED INTIMIDATION BY DRIVERS WHEN TRYING TO CROSS FRONT ST also there isn't close enough cross walks.	2/13/2017 9:53 AM
74	Placemaking.	2/12/2017 3:37 PM
75	What is pedestrian safety education? Look both ways?	2/10/2017 5:48 PM
76	I worry about vagrants.	2/10/2017 4:51 PM
77	Just require new construction to have sidewalks	2/10/2017 4:32 PM
78	Cross walks! Fix sidewalks!	2/10/2017 2:52 PM
79	This is particularly needed in the winter. I try to run outside as much as possible even with the cold, snow and ice. Sidewalks can be hit or miss so I usually find myself on the road (which for some can be intimidating because of traffic). I	2/10/2017 10:07 AM
80	Slow traffic; reduce automobile driving lanes;	2/9/2017 6:25 PM
81	Trim trees to be above 7 feet off the sidewalk.	2/7/2017 3:45 PM
82	BSB wastes money on this area, for a town that cannot afford to waste it. Painting yellow curbs, how about with paint that lasts, and how about not on GRAVEL broken up where sidewalk should be? How about sweeping the gravel away to at least paint where a yellow curb section should be? How about potholes, curbing, and sidewalk maintenance? Many neighborhoods do not have lighting as well. How about being "efficient" with the money we do have. Cobban was torn completely up, I was excited...only to find that they never painted street lines for over 8 months, and also did not bother fixing any other road issues or curbing. And within one day 2 areas caved in, one right by my house, and then last summer about 20 spots were completely dug up again. If fixing a road, fix it ALL so it is proper for transportation, but also sidewalks, electrical/gas/water lines so that we aren't Redoing much as well! That's only ONE example from ONE street in this town. Don't even get me started on the bike lanes, which should have been done amazing, and the city made a shitshow of it all, then tried to remove it - yet installed with temporary paint, in October in a town that's covered with snow 2 weeks later, and nobody - car, bike, pedestrian can no longer safely know what the hell is going on. Do things PROPERLY and not half-assed all the damn time!	2/7/2017 2:38 PM
83	Enforce cell phone ban, have almost been run over while walking/biking by motorist on phones who don't look both left and right before making turns!!!	2/6/2017 2:56 PM
84	Providing accessible sidewalks for those using mobility devices.	2/6/2017 2:41 PM
85	To truly support a safe walking initiative, all forms of improvement are necessary. Butte has never fully supported this type of initiative.	2/6/2017 10:21 AM
86	Drugs / meth / DUI / homeless / pan handlers; Empathetic to their needs but scary when approached in parking lots let alone out walking / cycling for pleasure whether on the streets, sidewalks or trails.	2/6/2017 9:44 AM
87	Enforce snow removal laws to eliminate slick ice	2/5/2017 4:27 AM

88	Nothing. there are plenty of walking paths and bike paths in the city for recreation and movement from one side of town to the other. the money that has been wasted to paint stupid signs on all the roads should have been more wisely spent like on equipment to plow side streets in the winter so it isnt like 4 wheeling in the mountains trying to drive down the residential side streets. But this would be to much for the city to do for the people of Butte.	2/4/2017 10:01 AM
89	Cars need to yield to pedestrians. Too many times it is the other way round.	2/3/2017 9:56 PM
90	Alot of the trails my husband and I like walking on gets so impacted with homeless that we sometimes try to find other areas! I try and run out side during the non snow seasons and sometimes I don't feel safe even with my pepper spray in hand because of the homeless issues, and where I try to run.	2/3/2017 3:06 PM
91	there are plenty of trails and walking areas	2/3/2017 2:11 PM
92	Get better sidewalks installed (poured) & make a better effort of getting not only side walks but some side streets clear of ice & snow.	2/3/2017 2:09 PM
93	Many sidewalks are dangerous.	2/3/2017 1:30 PM
94	see above	2/3/2017 12:29 PM
95	My primary concern is that sidewalks are either non-existent in neighborhoods on the flats, cars drive well above the speed limit, and city parks that are within walking distance are not dog friendly.	2/3/2017 11:40 AM
96	Especially around schools!!!	2/3/2017 10:35 AM
97	Enforce laws on bicycles and letting them know that sidewalks are not for bikes. They are on the sidewalks and then cross out onto the street going with the wrong way flow of traffic. Not wearing clothes that will reflect off headlights in the evening and early morning.	2/3/2017 9:56 AM
98	ticket vehicles parked in such a way as to impede foot traffic on sidewalks - enforce ordinances.keep motorized vehicles off of trails dedicated to foot and bike traffic - enforce ordinances	2/2/2017 4:26 PM
99	More trees, buffers between pedestrians and cars. Disinsentivise driving	2/2/2017 12:54 PM
100	Sidewalks uptown can be very bad- crumpling or non-exsistent	2/2/2017 12:42 PM
101	enforce snow removal laws	2/2/2017 12:05 PM
102	enforce shoveling	2/2/2017 11:19 AM

Q11 In the past year, in a usual week, have you bicycled for at least 10 minutes at a time for recreation, exercise, to get to and from places, or for any other reason?

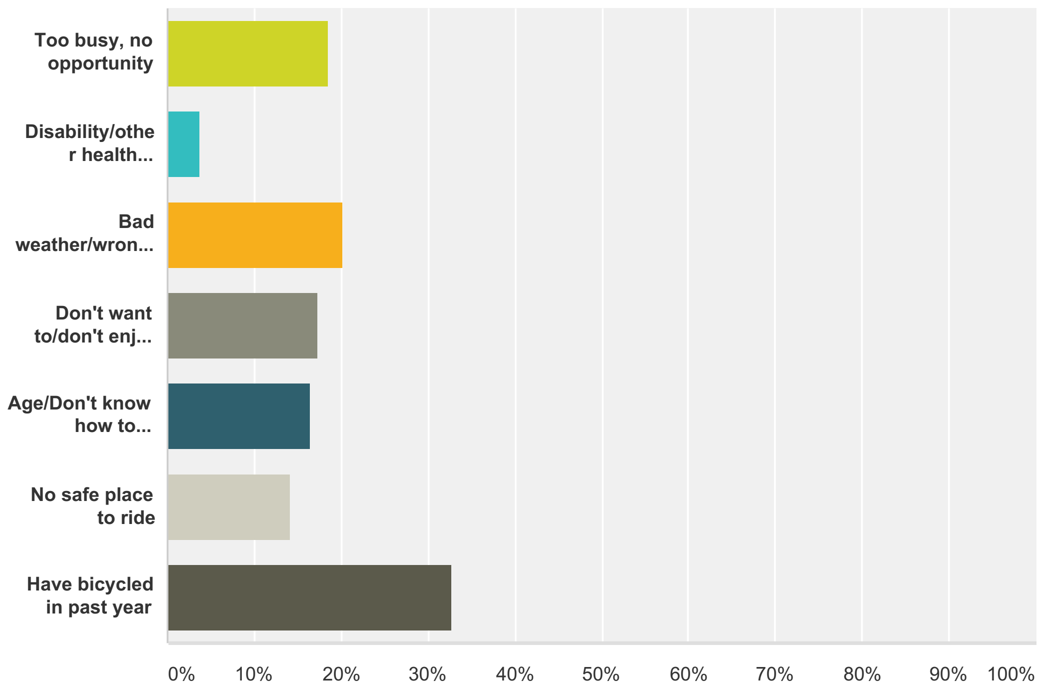
Answered: 531 Skipped: 2



Answer Choices	Responses	
Yes	**41.62%**	221
No	**58.38%**	310
Total		**531**

Q12 If you have not ridden a bicycle outdoors for at least ten minutes in the past year, why?”

Answered: 394 Skipped: 139



Answer Choices	Responses	
Too busy, no opportunity	**18.53%**	73
Disability/other health impairment	**3.81%**	15
Bad weather/wrong season	**20.30%**	80
Don't want to/don't enjoy it/Lazy	**17.26%**	68
Age/Don't know how to ride/Don't have a bicycle	**16.50%**	65
No safe place to ride	**14.21%**	56
Have bicycled in past year	**32.74%**	129
Total Respondents: 394		

#	Other (please specify)	Date
1	lazy? wow. how about a multiple choice for you: why did you put that in? __ felt like it/forgot to erase it/jerk you could still fix that, if you aren't too lazy. to answer: i prefer walking, and i prefer walking in the winter when there are no bikers. they don't understand that yelling "on your left" as they pass is in fact very poor manners. if you would make them ring a little bell from a distance, that would help.	6/7/2017 4:17 PM
2	I only ride on the trail system. Unless the City of Butte truly adds bike lanes, most places are not safe because of traffic. It doesn't matter how many painted signs are on the road.	5/9/2017 8:47 AM
3	bike users are scarce and always violate motorist laws, police do nothing	4/30/2017 6:57 PM
4	I enjoy walking and hiking much more	4/20/2017 10:03 AM

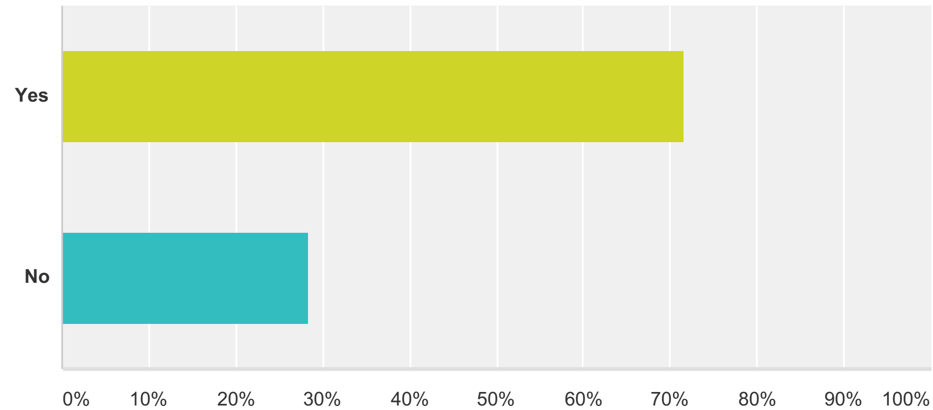
5	We would love to leave our house with our kids and stroll through our neighborhoods.	4/20/2017 5:13 AM
6	We have a lot of bike paths, trails. We do not need more bike lanes	4/17/2017 5:50 PM
7	I don't have a bike and I have balance issues so I will not be getting a bike	4/16/2017 8:58 PM
8	Dogs not confined to yards.	4/14/2017 8:48 PM
9	Bicycle cost. Plus, most of my errand outings are uptown where hills are a factor at my age. Driver speed is a risk factor. I make great use of our city buses! It would be nice to have a Harrison/Uptown evening schedule. Maybe between Montana Tech/Park/Walmart, until 10:00OM. Residents without cars cannot participate in social events because of having to pay for taxi both ways.	4/14/2017 7:57 PM
10	bicycle needs to be repaired	4/14/2017 4:29 PM
11	My bike needs repair and at my age walking is easier	4/14/2017 4:00 PM
12	I don't have a bicycle and i don't enjoy riding bikes. I don't care for the bike lanes around town especially Main St. Mercury St. Continental Drive etc.	4/14/2017 3:55 PM
13	Like to walk.	4/14/2017 3:48 PM
14	do not have bike	4/14/2017 3:22 PM
15	my family members have bikes and feel unsafe riding them because of traffic and unailability of safe bike lanes or unrepaired sidewalks.	4/14/2017 3:01 PM
16	Large hills	4/14/2017 2:46 PM
17	No shoulder between williamsburg and montana street	4/11/2017 7:13 PM
18	I have bicycled once in the past year, used the trail to Rocker; great trail!! Getting there was quite the task, sharing the road with motor vehicles is awful in Butte..bikes and vehicles sharing the same lane is too much. I won't do it again. Next time I want to ride my bike, I will put it in my car and drive it to a trail; it's just safer that way.	4/11/2017 4:05 PM
19	Not necessary.	4/11/2017 10:46 AM
20	So many hills!	4/11/2017 8:12 AM
21	North of Front St too hilly(steep) for typical biking. The entire area north of Front St is extremely limited for biking other than those that like hill climbing. I would think that is too small a number to support wasting money on. Since the changes to Uptown for the "Bikers" I have been able to count the number of bikers Uptown on any given day, on one hand. I am Uptown 4-5 times a week, and sometimes more.	4/3/2017 12:25 PM
22	Riding on hills has no interest to me.	3/28/2017 4:11 PM
23	I live uptown - bicycling through narrow streets, uphill, and through traffic all at once makes bicycling un-enjoyable in my neighborhood. I take my wife and kids to the trail access near father Sheehan - which turns into an ordeal instead a nice on-the-fly activity.	3/28/2017 12:06 PM
24	Hills very extreme on bikes	3/27/2017 10:59 PM
25	Bad road conditions	3/26/2017 6:11 PM
26	This town is incredibly dangerous for bicycle transportation due to narrow and deteriorated roads, but mostly from vehicles who deliberately attempt to run down and hurt bicyclists. I gave up riding in town after being struck by a motorist who deliberately hit me with his door as he drove past me.	3/20/2017 7:18 PM
27	Need to make it more of my exercise program. Just purchased bike in last year..	3/18/2017 10:21 AM
28	too many hills	3/10/2017 10:50 AM
29	unsafe in with traffic	3/9/2017 4:57 PM
30	The trail tunnel by the Civic Center is not safe. I've detoured around it because of transients frequenting the tunnel.	3/9/2017 12:44 PM
31	Many of the sidewalks where I would ride don't have curb ramps so it's inconvenient to get on and off of them. The uptown hills also make it difficult.	3/9/2017 11:42 AM
32	don't own a bike	3/9/2017 3:07 AM
33	I live on the lower west side, and have ridden my bike to and from work a few times over the last few years. However, 2 things prevent me from riding more: (1) In winter, the snow and ice. (2) I have to get in better shape to make it up the "big hill" going east on Park, starting at the 600 or 700 block of Park.	3/8/2017 5:59 PM
34	Don't currently own a modern bike.	3/8/2017 5:24 PM

35	JUST PREFER TO WALK	3/8/2017 4:19 PM
36	If I am going to take a bike ride with my daughter in a tow-behind, I ONLY feel safe on a designated walk/bike path. I feel completely unsafe on the actual roads, even those with bike lanes. Butte drivers aren't conditioned to take notice of bikers and I don't trust them to acknowledge my right of way if they are taking a right-hand turn through my lane.	3/8/2017 4:13 PM
37	Don't have a bicycle	3/8/2017 3:58 PM
38	Don't have. Street issues don't encourage investing in one.	2/24/2017 2:28 PM
39	live out of town	2/24/2017 2:13 PM
40	I would rather run or walk.	2/24/2017 10:31 AM
41	no bicycle	2/23/2017 7:32 PM
42	Riding up hill in the middle of the road with cars is dangerous.	2/22/2017 1:07 PM
43	We need to connect all of our major parks with bike trails. For instance Copper Mountain to Stodden and Clark park to McGruff	2/17/2017 11:47 PM
44	Drivers are very rude to bike riders, even if we try to ride responsibly. I have had things thrown at me and have been 'spenked' by a passenger in a car going by, which could have caused me to crash. I know of people who have been harrassed on bicycles and have even been 'aimed at' by drivers who attempt to 'clip' a bikerider. If this person had not had rear view mirrors on his bike and swerved out of the way, he probably would have been hit.	2/17/2017 2:09 PM
45	The trails around Butte are AWESOME!	2/16/2017 5:18 PM
46	I need to get a bike, and likely will at some point. Part of why I've put it off is the lack of bike lanes as compared to other places I have lived. I also assume several months of the year will not be viable, due to snow/ice on sidewalks.	2/16/2017 5:15 PM
47	Often with children and route is not friendly to biking with children, whereas if I biked alone I would be ok	2/13/2017 2:40 PM
48	Prefer running over bicycling	2/13/2017 11:37 AM
49	Shoulders on roadways such as Hwy 2 and Continental Drive have no shoulders.	2/11/2017 1:31 PM
50	No bike.	2/11/2017 12:44 PM
51	don't have a bicycle	2/10/2017 4:31 PM
52	More bike signage (sharrows, lanes, marked routes, share the road!)	2/10/2017 2:52 PM
53	I DONT OWN A BIKE	2/9/2017 2:57 PM
54	Hills make it too difficult.	2/8/2017 7:54 PM
55	Not in the habit	2/7/2017 4:27 PM
56	With the way people drive is terrifying. I cannot and will not allow my son on the streets with the college kids ripping through uptown.	2/7/2017 3:45 PM
57	Prefer to walk or hike.	2/7/2017 12:07 PM
58	I love to ride my bike, but I do not feel safe on the city streets. Even with the new bike lanes, I am not a confident rider and prefer to ride on the walking trails throughout town, but it is cumbersome to load my bike in my car to go down to the trails.	2/7/2017 11:42 AM
59	Biking areas in town are in poor repair/falling apart/dangerous. Trails are not clearly marked.	2/7/2017 10:10 AM
60	I have a fear of biking in traffic.	2/7/2017 9:47 AM
61	I just don't ride in winter and during thaw since I get splashed. Otherwise I ride to run many errands.	2/6/2017 5:47 PM
62	Access to walking trails from streets, homes, etc. Harrison Ave is not safe for riding a bike many days/times/weather and traffic related!!	2/6/2017 2:56 PM
63	I can bicycle but can not get on and off the bike easily, and there is too much traffic to ride safely.	2/6/2017 2:41 PM
64	do not own a bicycle	2/4/2017 2:56 PM
65	Have a dog to walk instead	2/3/2017 8:02 PM
66	Don't have a bike.	2/3/2017 6:04 PM
67	Really, lazy is an answer? Yep I guess I'm lazy.	2/3/2017 4:45 PM
68	Alot of motorists here do not give bicyclist enough room when passing them and don't slow down to do so	2/3/2017 3:06 PM

69	Got bicycle late in the season - plan to use it more this spring/summer.	2/3/2017 2:09 PM
70	Just got my bike	2/3/2017 10:35 AM
71	i enjoy walking more so than biking. I feel that the bicyclist are not safe in Butte but I also feel that in surrounding areas like Missoula and Helena and Bozeman the bicyclist oby the laws when it is in their best interest otherwise they are in and out of traffic and going between stopped cars so that they do not have to stop at a red light. This has happened to me on several occasions in Missoula. I have walked with my elderly mother in the uptown sidewalks in Butte and the bicyclist have been on the sidewalk trying to get around us and in the process putting us in a dangerous position. I feel it should be safe for bikes in our community. I think that it is so healthy and that our town needs to promote bike use and a healthy lifestyle. i hope this plan goes well.	2/3/2017 10:14 AM
72	No bike.	2/3/2017 9:56 AM
73	I enjoy biking for commuting and recreating in the warmer months	2/2/2017 7:41 PM
74	Living on the hill makes biking daunting. It is easier to walk or drive. When I lived in flatter cities, I biked all the time. Uptown Butte is just too hilly for me to enjoy biking as a way to commute.	2/2/2017 12:42 PM
75	I ride near my house, but my work is too far away to bike.	2/2/2017 12:19 PM

Q13 Would you like to bicycle more?

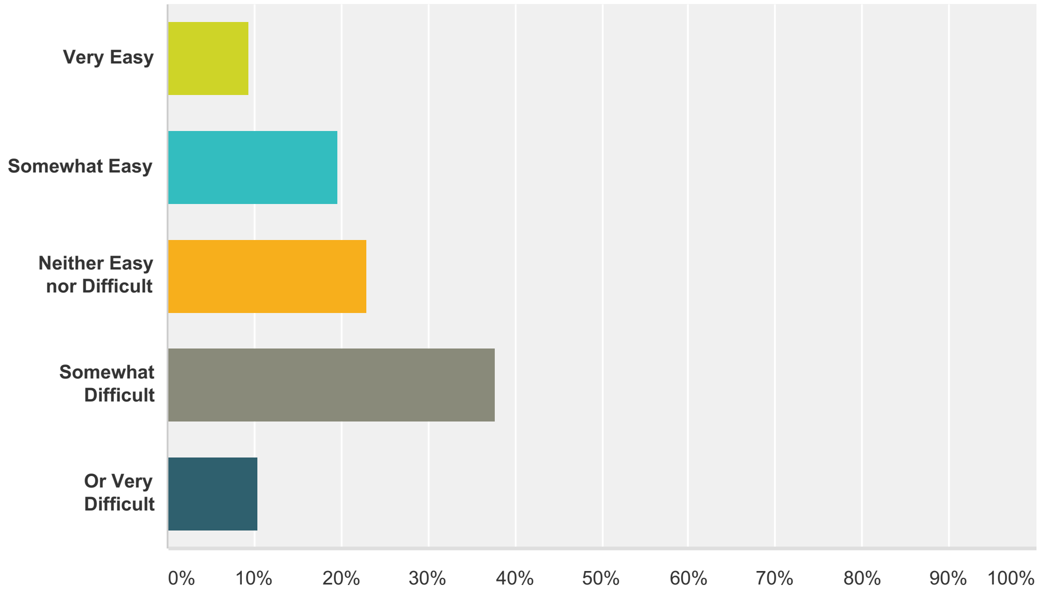
Answered: 525 Skipped: 8



Answer Choices	Responses	
Yes	**71.62%**	376
No	**28.38%**	149
Total		**525**

Q14 How easy or difficult is it to bicycle in Butte-Silver Bow? Would you say...

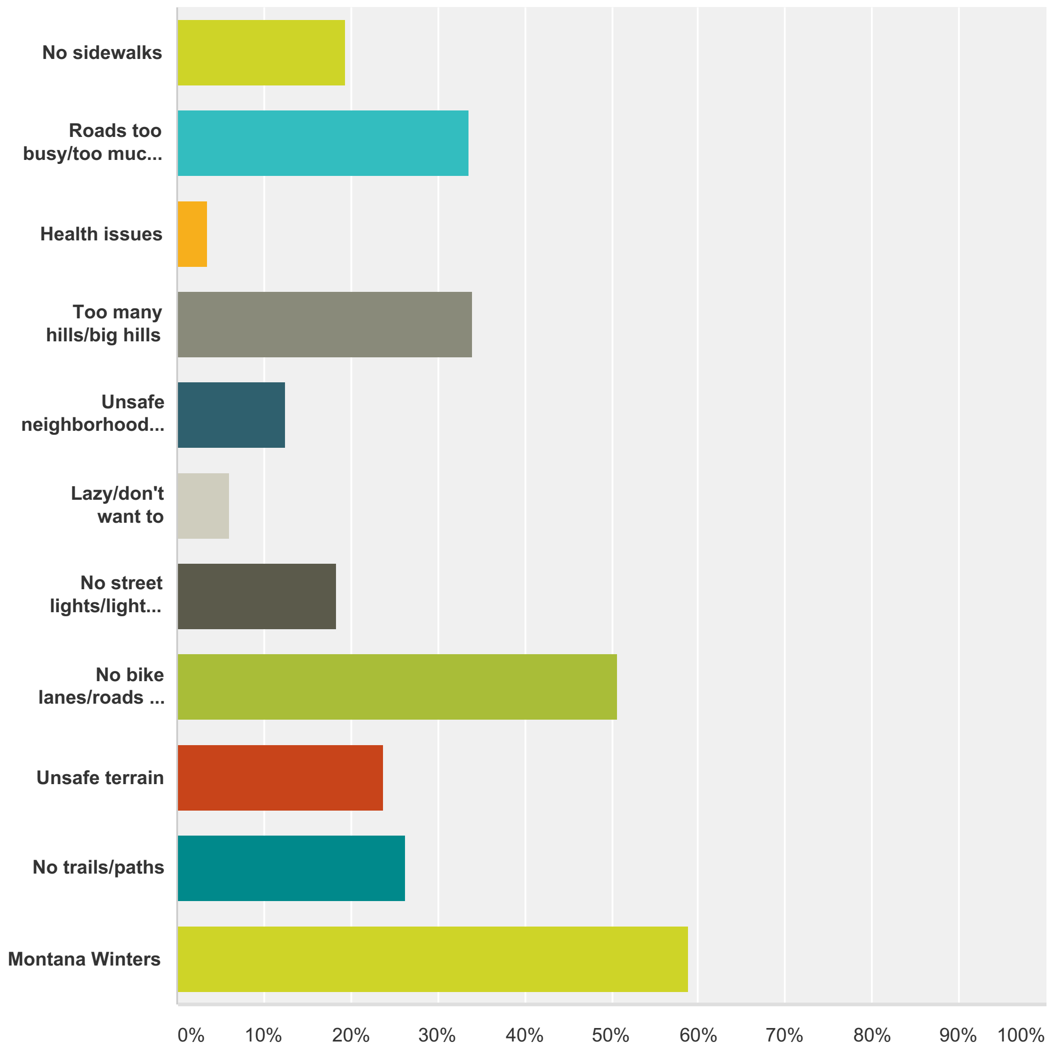
Answered: 502 Skipped: 31



Answer Choices	Responses	
Very Easy	**9.36%**	47
Somewhat Easy	**19.52%**	98
Neither Easy nor Difficult	**22.91%**	115
Somewhat Difficult	**37.85%**	190
Or Very Difficult	**10.36%**	52
Total		**502**

Q15 What obstacles makes it difficult to bicycle in Butte-Silver Bow

Answered: 463 Skipped: 70



Answer Choices	Responses	
No sidewalks	**19.44%**	90
Roads too busy/too much traffic	**33.69%**	156
Health issues	**3.46%**	16
Too many hills/big hills	**34.13%**	158
Unsafe neighborhood/safety	**12.53%**	58
Lazy/don't want to	**6.05%**	28
No street lights/lighting is bad	**18.36%**	85
No bike lanes/roads too narrow/no shoulder	**50.76%**	235
Unsafe terrain	**23.76%**	110

No trails/paths	**26.35%**	122
Montana Winters	**58.96%**	273
Total Respondents: 463		

#	Other (please specify)	Date
1	please do not do anything to make bicycling in winter happen. i love the winter walks without the yelling.	6/7/2017 4:17 PM
2	Only safe on the trail systems.	5/9/2017 8:47 AM
3	Connecting the trails around Butte would be a great way to make biking safer in the area and somehow providing safe routes to the trails from downtown and residential areas would make biking easier and safer as well.	4/27/2017 4:16 PM
4	I don't feel safe with some of the drivers. Also there are terrible potholes and bumpy railroad crossings (Main St).	4/20/2017 6:23 PM
5	Bicyclists following traffic laws would make it safer	4/17/2017 5:50 PM
6	The roads suck. if you want to ride, you are forced to use a mountain bike. When I moved back here, I was forced to sell my road bike because riding it on the streets was impossible.	4/17/2017 8:41 AM
7	N/A	4/17/2017 8:10 AM
8	Uneducated motorists.	4/17/2017 7:58 AM
9	No obstacles	4/16/2017 8:58 PM
10	I bike 6 months a year back and forth to work. I am a pediatrician. Many of my patients talk to me about biking but are afraid to due to the lack of safe bike lanes and signage and lighting. I think this is creating a health issue for our city. I have many overweight children in my practice and would like to encourage them to ride, but I have to admit, I often don't feel safe when I ride. Please try to connect existing trails and try to tie in the flats where many of my patients live in trailers, have no parks to play in and sit inside all day.	4/16/2017 12:51 PM
11	More trails/bike lanes have been established, but more needed	4/15/2017 10:45 AM
12	Don't bike in snow or ice and too cold for me, hills kill me if I am going to work and don't want to be sweaty when I get there, no place to lock my bike so I bring it in my office, gravel and sand on road worries me, motorists don't see me. This is a really harsh climate to commute by biking.	4/15/2017 9:00 AM
13	Dogs not confined to yards.	4/14/2017 8:48 PM
14	Age ok on the flat, too much for hilly streets. I praise the bicycle racks on city buses!	4/14/2017 7:57 PM
15	I could ride down the middle of the street but that is not what I want to be teaching my young child to do.	4/14/2017 4:11 PM
16	Motorist education	4/14/2017 4:00 PM
17	I don't bicycle so I wouldn't know.	4/14/2017 3:55 PM
18	Bike lanes need to be created that DO NOT include the main roadway.	4/14/2017 3:48 PM
19	Lack of trails for recreation use.	4/14/2017 3:48 PM
20	not a bike friendly environment by most people (my opinion)	4/14/2017 2:53 PM
21	Inertia	4/11/2017 10:40 AM
22	Streets near my home have many potholes and uneven edges.	4/9/2017 4:45 PM
23	Hills and trails leading to family areas. Missoula and Bozeman have proven to have a very enjoyable biking experience for my family and a lot more people utilizing the biking resources. Along the path are different types of parks and equipment for the kids and parents. Places for picnics along the way, trails that lead to play areas, restaurants. We don't always want to ride into the middle of nowhere, we want to be involved with community activities and locations of interest. Make the trails connect places where my family wants to go. Father Sheehan park is a good example.	3/28/2017 12:06 PM
24	I will again refer to some individuals that do not leash their dogs. I have been chased numerous times both on foot and riding my bike by dogs that can get out of the yard or by others that are not on a leash.	3/27/2017 11:46 AM
25	When I ride a Bike in Butte, I always ride very defensively - because Butte drivers are not generally aware. I think that the bicycle signage added in the last year was a great addition and goes a long way towards making motorists more aware.	3/24/2017 9:48 AM
26	Mainly from motorists being negligent and belligerent.	3/20/2017 7:18 PM

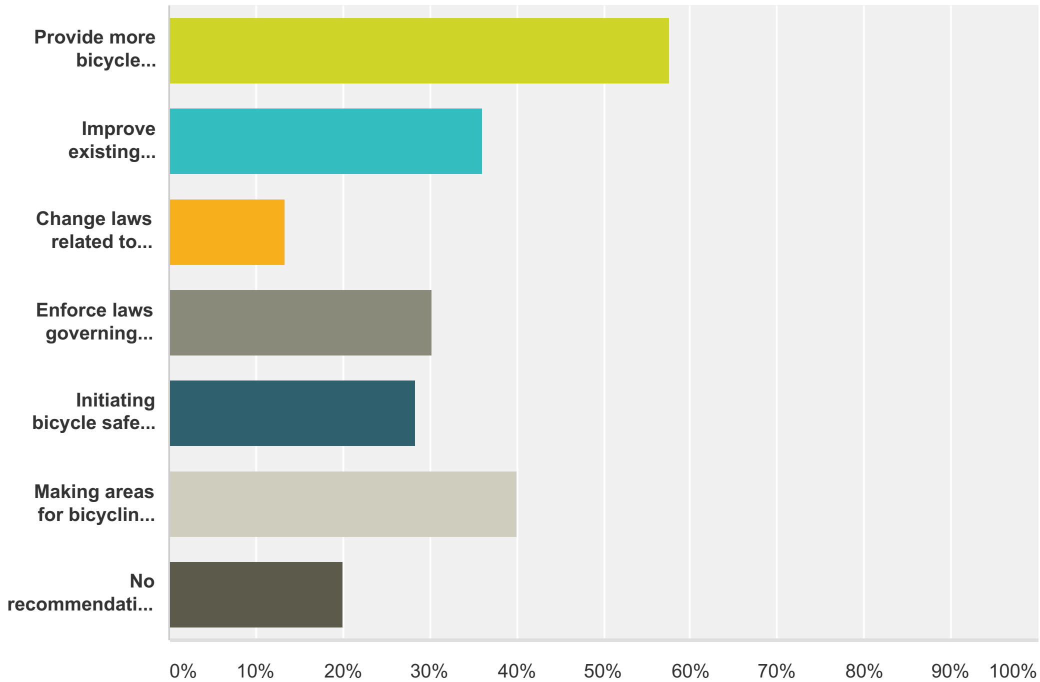
27	More of me making it a priority.	3/18/2017 10:21 AM
28	We need more and longer connected trails and bike lanes.	3/13/2017 5:27 PM
29	If someone really wants to bicycle they can. It's not necessary to have designated bicycle lanes, we just need a little more education for the motor vehicle drivers. There are many side roads that can be used to bicycle on, the main thoroughfares should be for motor vehicles.	3/12/2017 12:37 PM
30	i feel unsafe sharing many of buttes roads with vehicle traffic while biking. i have had close calls with intoxicated and unruly drivers. i love the trail system that has been established on the old rail line and cuts across the hill. now we need more trails to link the uptown area with the flats. these trails allow for much safer use of bicycles for transportation.	3/10/2017 8:36 PM
31	The number of busy streets that do not have wide enough shoulder areas. Why did they make the shoulder area smaller when Continental drive was repaved last summer?	3/10/2017 5:20 PM
32	Butte is a mountain with steep roads too difficult to climb	3/9/2017 4:57 PM
33	Horrible motorists... got hit by a car near Fred's BBQ.	3/9/2017 1:18 PM
34	Again - drivers need training - no one knows what the new bike lanes mean!	3/9/2017 12:52 PM
35	I absolutely don't think painting bike lanes or bike signs in the middle of residential roads is the answer.	3/9/2017 12:35 PM
36	Sharing the road with Butte motorists is scary. Butte motorists have no respect for bicyclists. You feel like you are putting your life at risk riding a bike on Butte streets. That is why I always try to stay on bike paths where there are no cars.	3/9/2017 12:02 PM
37	Many sidewalks don't have ramps so using the sidewalks is difficult.	3/9/2017 11:42 AM
38	drivers scare the crap out of me	3/9/2017 3:07 AM
39	Continental is a nightmare to ride a bike but that is the area we live in.	3/8/2017 8:07 PM
40	Not enough sidewalks and maintained sidewalks. Too many obstructions in sidewalks make them difficult to use for bicycling and walking.	3/8/2017 5:29 PM
41	Don't trust drivers.	3/8/2017 5:24 PM
42	I generally feel that biking in Butte is unsafe unless travelling on a designated bike route. Most roads don't have an adequate shoulder (i.e. Continental Dr south of Mt Highland Dr). Also, there are a few motorists that feel that bikes don't belong on the road and don't give adequate space to bikers.	3/8/2017 5:14 PM
43	Dogs	3/8/2017 4:57 PM
44	potholes	3/8/2017 4:54 PM
45	NOT SURE DONT CURRENTLY CYCLE	3/8/2017 4:19 PM
46	As in previous comment: drivers are NOT conditioned to respect bikers. They don't treat bikers as vehicles. Conversely, bikers are COMPLETELY inconsiderate! They treat sidewalks like roadways and they often ride in the opposite direction of traffic.	3/8/2017 4:13 PM
47	the bike lanes are ridiculous - makes it hard for motorists to know what they're supposed to do. They're right in the middle of every street.	3/8/2017 4:12 PM
48	Also, loose dogs.	3/8/2017 4:12 PM
49	Existing walking/bike paths don't connect.	3/8/2017 3:58 PM
50	drivers are not cautious of pedestrians and bicycalist	3/8/2017 3:56 PM
51	mountain biking trails in this area are great. Road biking is a little more fraught. It would be great if there were more obvious bike lanes so the culture around biking was more friendly to bikers and less deferential to motorists	3/2/2017 8:59 PM
52	No experience.	2/24/2017 2:28 PM
53	If you want to promote bikes, create a dedicated riding/hiking trail along Continental from Mt. Highland Drive (Three Bears) to Uptown/Park Street. The climb up the hill past the mine is manageable. It would be best to create a bike path/hiking path on both sides of Continental.	2/22/2017 1:07 PM
54	Sidewalks either in disrepair or hard to get off and on in order to easily ride a bicycle. Neighborhood roads are too narrow to drive 2 cars down let alone ride a bike on the street.	2/16/2017 8:26 PM
55	Cars do not always acknowledge or see bicycles.	2/16/2017 5:57 PM

56	I ride on the side walks even though I know it is illegal because it is safe to assume everyone in Butte is driving drunk.	2/16/2017 5:18 PM
57	The Copperway and Greenway trails are excellent for riding. Without these trails, riding in Butte would be much more difficult.	2/16/2017 3:11 PM
58	Rough roads (potholes, etc.) make road biking a bit treacherous. Also from a road biking perspective: I appreciate the paved paths, as I don't have the tires to ride on gravel paths. Paved all the way, please!	2/16/2017 2:34 PM
59	I just live too far away from work, shopping, etc. (my opinion).	2/15/2017 10:57 AM
60	Now that bicycles are required to be ridden on the street where streets are marked with signs, it is far too unsafe. I understand that you do not want someone barreling down the sidewalk on their bike, but I simply can't go 25mph down the street with my baby on my bike. The trails uptown are nice for recreational use, but they can't get me where I need to go.	2/14/2017 11:43 AM
61	motorists are not very accepting of cyclist. While obviously there are some that are aware and accepting there are many that are not. Also stray or unrestrained dogs are a problem	2/14/2017 10:49 AM
62	Certain dangerous places. Mostly driver knowledge seems poor and their is hostility toward bicyclists-like we should not be allowed.	2/14/2017 8:08 AM
63	Traffic is my biggest concern. I do not feel safe while biking due in part to erratic and inattentive motorists, as well as unaccommodating infrastructure such as narrow streets, non-existent shoulders, and challenging pathfinding. While the pathways provide good recreation opportunities they are not usable as commuting infrastructure and do not effectively provide non-motorized access to major businesses and employers along arterial corridors such as Harrison Ave., Montana St., Park St., or the Uptown district.	2/13/2017 4:29 PM
64	We compare poorly to other areas I have lived in, ie New Mexico and Oregon in terms of bicycle lanes and paths	2/13/2017 3:48 PM
65	People are ignorant when it comes to riders. We ride with our children all the time and people are horrible. I live on Grand and the people fly down that street as well. It would sure be nice for people to obey traffic rules and for the police to enforce and not let their friends go and make it a safe place for my children to ride more. It'd be nice if they could ride their bikes to school.	2/13/2017 2:58 PM
66	The bike lanes help quite a bit with using a bike as transportation, but I find that not many people know the rules of the road when it comes to cyclists/cars.	2/13/2017 12:15 PM
67	dogs!	2/12/2017 5:40 PM
68	I feel like it is now a political position to be opposed to cycling and therefore cyclists due to the poor rollout of the bike lanes. More public education needs to happen to promote cycling, educate people on the vernacular of bike-car road share. I think it is dangerous for a city of our size, at this time when every major city is making huge investments in active transportation, to fail to invest in this infrastructure.	2/12/2017 3:37 PM
69	It's not hard if you know what you're doing, i have been biking in Butte for 40 plus years. I think bike lanes, signs and those weird skubbies painted on the streets are stupid.	2/11/2017 5:52 PM
70	Motorists do not understand the bike lanes	2/10/2017 5:26 PM
71	Nothing	2/10/2017 4:32 PM
72	Motor vehicles not paying attention to bike lanes or bike traffic.	2/10/2017 4:22 PM
73	Have biked on trails in past	2/10/2017 4:00 PM
74	This mostly applies to the winter months :)	2/10/2017 10:07 AM
75	Drivers aren't respectful of bikers. They don't want to share the road.	2/7/2017 8:56 PM
76	The streets are just not conducive to riding bikes, I don't care what measures the city has taken the automotive traffic is just too much and people don't pay attention. Like I said before I am a very casual bike rider so I would never use the bike lanes on the roadways because I do not feel safe. Plus, the hills uptown! Unless you are super fit those are going to kill the average/casual rider.	2/7/2017 11:42 AM
77	I think the biggest thing is the unsafe terrain and motorists.	2/7/2017 9:47 AM
78	Drivers do not respect bicyclists. Intersections are death traps for cyclists. (from personal experience)	2/6/2017 10:21 AM
79	The designated bike path on George Street from Oregon Ave to Harrison Ave is dangerous. That part of George is too narrow to handle even the vehicle traffic it gets.	2/6/2017 10:19 AM
80	Drivers are unconscious to pedestrians and cyclists including emergency vehicles. On my way to work this morning, several cars failed to give an ambulance right-of-way; same drivers who fail to give right-of-way to cyclists / walkers.	2/6/2017 9:44 AM
81	affordability of a decent bicycle	2/4/2017 2:56 PM

82	Horrible drivers, inattentive. Cell phone law never enforced	2/3/2017 11:11 PM
83	Cars need to abide by sharrrows	2/3/2017 9:56 PM
84	I'm so lazy I'm shocked I'm even completing this survey for you.	2/3/2017 4:45 PM
85	none great place to ride a bike	2/3/2017 2:11 PM
86	Just starting to ride a bicycle again (hadn't had one for many years) so I would ride on bike/walking trails/paths. Would not want to ride on the roads.	2/3/2017 2:09 PM
87	see above #9	2/3/2017 12:29 PM
88	To bike from uptown to a grocery store like Safeway or go to the Y is quite difficult. We "like" to swing out past the slaughter house and animal shelter to avoid the steeper hills, but there is no shoulder and there are big trucks. Feels adventurous but maybe not safe with the kids.	2/3/2017 11:57 AM
89	the city has made an effort to include spray painting on the streets to share the roads with motorists except motorist, especially in Butte, are not educated in road sharing etiquette. I get yelled at all the time to ride on the sidewalks, which are dangerous and uneven.	2/3/2017 11:40 AM
90	Roads are very rough	2/3/2017 11:14 AM
91	motor vehicle drivers	2/3/2017 11:09 AM
92	Winter is tough to bike in Butte and even walk because of snow build up on the corners. However in spring and summer some bike riders follow the law. A majority of the riders not kids adults ride going in the wrong lane of traffice and at the same time cut traffic off by not following any of the laws of the road.	2/3/2017 9:56 AM
93	Need a safe lane on the road between and Continental	2/3/2017 8:41 AM
94	Our community doesn't feel very open to walking and biking on the roads. I do love the trail systems! They are fantastic!	2/2/2017 10:26 PM
95	Drivers are unsafe... sometimes purposely rev, swerve at bikers	2/2/2017 7:56 PM
96	Limited bike lanes and sharrows, particularly on continental drive	2/2/2017 7:41 PM
97	Drivers aren't aware	2/2/2017 5:20 PM
98	Gravel on roads and motorists that do not safely pass cyclists.	2/2/2017 5:17 PM
99	Not enough bike lanes or sharrows in Butte. Some motorists have no regard for bicycles and there appears to be no enforcement from Butte police.	2/2/2017 4:48 PM
100	it would be great to connect the uptown and flats with a non-motorized trail. i live on the hill and work all the way out on the flat. it is a 6 mile trip[one way with a gigantic hill. if i had a better connected, complete trail, that allowed me to climb the hill in a safe manner (away from traffic) i might ride to work more often. but riding home after a long day, knowing i have to navigate thru traffic and up that hill is daunting. i recreate on the trail system in town and to rocker and enjoy being able to ride my bike on the existing trail system. just wish we could extend the system down the flat.	2/2/2017 4:26 PM
101	Poor road construction and maintenance	2/2/2017 12:47 PM
102	unaware vehicles, unsafe storm drains ans road conditions	2/2/2017 12:05 PM
103	Many drivers do not respect the rights of cyclists.	2/2/2017 11:39 AM

Q16 What recommendations would you make to improve cycling opportunities in Butte-Silver Bow

Answered: 474 Skipped: 59



Answer Choices	Responses	
Provide more bicycle facilities such as bike paths, bike lanes, bike parking racks, lighted areas, safe signals and intersections	**57.59%**	273
Improve existing facilities	**36.08%**	171
Change laws related to bicycling and motorists	**13.29%**	63
Enforce laws governing bicycling	**30.17%**	143
Initiating bicycle safety education	**28.48%**	135
Making areas for bicycling safer	**40.08%**	190
No recommendations/None	**20.04%**	95
Total Respondents: 474		

#	Other (please specify)	Date
1	tell them it is not the end of the world if they slow down for a pedestrian, and not to be bullies.	6/7/2017 4:17 PM
2	Biking uptown is not worth pushing - the hills are too much for most people. The trail system is a much better use of resources for biking. While I do bike - I am much more of a walker and I find bikes to be too aggressive and have seen several near collisions due to bikers racing or not really paying attention especially on the continental divide trail system. I would like to see more rules governing aggressive bikers.	5/22/2017 11:54 AM
3	GET RIDE OF BIKE LANES IN UPTOWN BUTTE PARTICULARLY GRANITE STREETS--THE ROAD IS TOO NARROW AND STEEP. IF YOU LIVE IN THE AREA YOU KNOW THAT BIKERS USE THE WALKING TRAIL--GRADE IS BETTER.	5/18/2017 8:09 AM

4	ban bike cycling because bike users do not obey the laws of the road and are disrespectful of motorists and pedestrians, bike users do not pay road user taxes or vehicle registration fees for bikes etc	4/30/2017 6:57 PM
5	Do not allow truck stops to be built in the middle of residential neighborhoods. Allow bicycles on sidewalks along with pedestrians. Often sidewalks are empty with no one on them. These two modes need to be combined onto the same lanes.	4/28/2017 3:56 PM
6	No "sharrows". Create a bike path along Continental from Uptown to as far south as you want to, preferably at least to Highland Drive.	4/20/2017 1:18 PM
7	Biking is difficult, even with bike lanes in uptown Butte. Streets are narrow. Maybe bike paths.	4/18/2017 10:54 AM
8	Make bike paths......far away from the streets!!! The bike lanes and sharrows are an accident waiting to happen, and are very annoying when trying to get around town in our vehicles!!!	4/18/2017 8:41 AM
9	Please provide a better map of the biking routes than the one available on the BSB website. I have not been able to get it to print. And it is too small to read off the site.	4/17/2017 10:06 AM
10	In my opinion, being active is a choice. Growing up in Butte, we rode our bikes everywhere. This includes to the Gardens. Rarely do I see kids on bikes anymore. People need to beleive that being active is important to them. Then they will start walking/biking.	4/14/2017 9:31 PM
11	Leash law enforced or secure yards for dogs.	4/14/2017 8:48 PM
12	Increased driver speed enforcement.	4/14/2017 7:57 PM
13	Id like to see more consistent sidewalks that are in decent condition.	4/14/2017 4:11 PM
14	Remove bicycle lanes on Main St, Mercury St, and Continental Drive. I don't see them being used at all.	4/14/2017 3:55 PM
15	Enforce bicycle laws with people riding the bikes.	4/14/2017 3:49 PM
16	More education on a frequent basis for both bicyclists and motorists regarding rules of the road.	4/11/2017 9:47 PM
17	Promote existing multi-use trails and publicize rules for co-existence of cyclists, walkers and dog-walkers. Publicize events on existing trails and bikeable streets.	4/11/2017 10:40 AM
18	Smoother streets.	4/9/2017 4:45 PM
19	I think the bike lanes and signage has been a large waste of money. In Butte not that many use bikes	4/6/2017 12:11 PM
20	Biking in Butte is something only a very few will due in summer(60 days maybe), and not at all the rest of the year. No more taxpayer funds should be used to promote biking that will never be able to have a large following for 60 days or less.	4/3/2017 12:25 PM
21	Widen sidewalks and allow bikes on sidewalks.	3/28/2017 4:11 PM
22	Better access to trails for uptown neighborhoods. Drawing lines on the roads with a picture of a bicycle and calling it a lane has not helped us - gives the cosmetic illusion, but has not had a real impact. Sidewalks near trees need repair and tree trimming.	3/28/2017 12:06 PM
23	Flat trails	3/27/2017 10:59 PM
24	Drivers are rude to cyclists. There is no share the road ethos in Butte unlike other communities. I mean Twin Bridges has a bike lane.	3/27/2017 6:14 PM
25	Bicycles should not be ridden on the streets. They are not vehicles and cannot keep up with traffic. Bicycle lanes are great but should not interfere with the flow of vehicular traffic in any way.	3/27/2017 11:46 AM
26	Providing bike lanes with smoother road. The rough road tears up your bike and is not fun to ride on	3/26/2017 6:11 PM
27	What BSB has done in the last year with bike lanes and bicycle signage was a great step forward. Now make sure that the signage and lanes are maintained and kept fresh.	3/24/2017 9:48 AM
28	I think BSB is trying to do a good job.	3/18/2017 10:21 AM
29	We need more and longer connected trails and bike lanes.	3/13/2017 5:27 PM
30	I would like to see the statistics on how many actual bicyclists there are in Butte.	3/12/2017 12:37 PM
31	I think it is a waste of money making biking areas on the streets in Butte. The percentage of people that bike on the streets is too small, especially uptown.	3/10/2017 10:50 AM
32	Fix the crazy huge potholes and narrow, steep shoulders	3/9/2017 11:35 PM

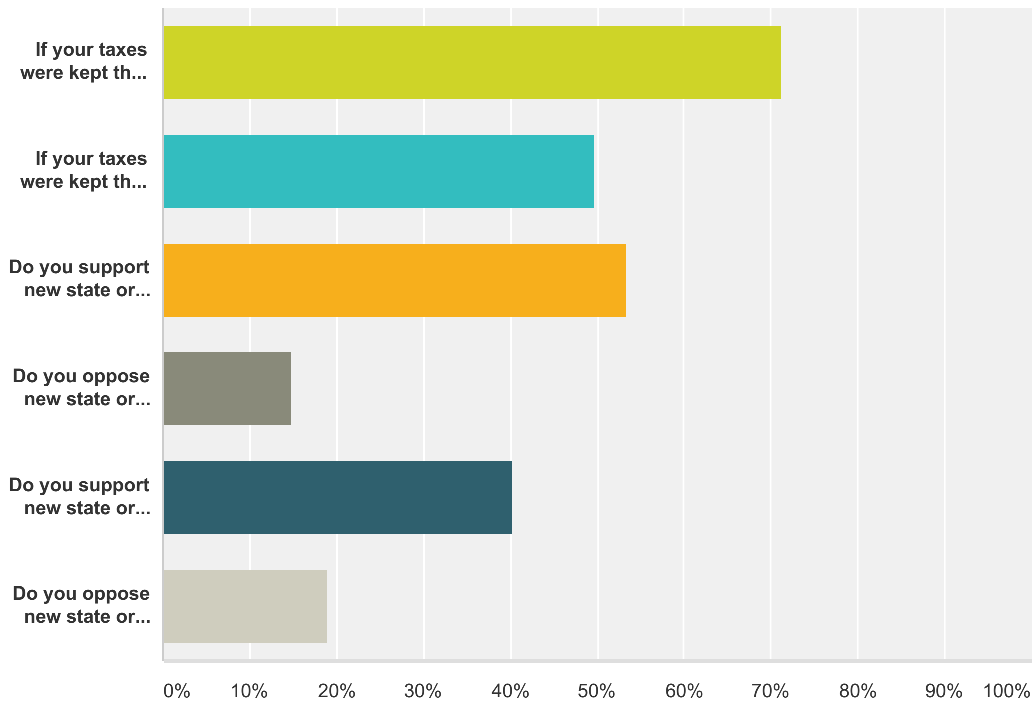
33	don't designate any more bike routes until the existing expensive designated are used. No body uses them now!!!! I see more bikes on sidewalks that in bike routes	3/9/2017 4:57 PM
34	The new bike lanes and bike markings are great - repainting them this spring should be a top priority. The more people that get out and bike, the better.	3/9/2017 1:38 PM
35	Butte is not a bike friendly town. For example, there are few if any bike racks. Other Montana cities have numerous bike racks around town where you can park and lock your bike. Butte should install more bike parking, especially Uptown.	3/9/2017 12:02 PM
36	Great opportunities for Mountain Biking in Butte for exercise. For commuting to work, the hill makes it pretty difficult. I don't know that throwing money at improvements will fix the elevation issue.	3/8/2017 9:21 PM
37	Add a bike trail along Continental from Three Bears to the Nine Mile.	3/8/2017 8:07 PM
38	The DOT recognizes bicycles as vehicular traffic but, few riders can keep up with the DOT's 35mph increases in speed limits. DOT should reduce speed limits back to 25mph on highways located in urban parts of town, as it was when bikes were added as vehicular traffic. The city should also, initiate a maximum speed of 25mph. San Luis Obispo, CA recently did this to make their city more walkable, bikeable AND to reduce stress. Ideally, bicycles should be required to have turn signals and brake lights if DOT wants them to be a part of traffic; otherwise, bicycles should be required to stay on sidewalks and road shoulders (where available and un-obstructed) while on high traffic streets.	3/8/2017 5:29 PM
39	The best thing to a bicyclist is having an adequate shoulder to ride out of the way of traffic. I feel that if the shoulder is adequate then motorists are respectful of bicyclists.	3/8/2017 5:14 PM
40	if you want to improve cycling make sure the people who use the cycling pay for the cycling paths. I have no interest in raising my taxes to support a cycling lane or path of any sort. fix the pot holes in the streets so the traffic stays in the traffic lane	3/8/2017 4:54 PM
41	We don't need to spend more tax dollars to paint bike symbols on the roads. We could always bike on ANY road. Now people are confused if that can do that any more. Some of the locations of the symbols are ridiculous! If I wanted to live in Bozeman or Missoula I would. I want to live here! Quit trying to stop people from driving by creating slower roads!	3/8/2017 4:36 PM
42	UNKNOWN	3/8/2017 4:19 PM
43	there are plenty now	3/8/2017 4:12 PM
44	I think what has been done to date for cycling has been ridiculous. With the hills that are in Butte, not that many people can or do cycle. If they do, it is on the flat and I don't believe we have an issue.	3/8/2017 4:12 PM
45	there really isn't any place for riding on the flats that children or noncompetitive riding adults can go, without worrying about cars, or dogs.	3/8/2017 3:58 PM
46	remove hills	3/8/2017 3:55 PM
47	I work in uptown Butte. Since the bike lanes and sharows have been installed, I've seen three cyclists use them. They were going east on Park Street and they were from another town.	3/4/2017 12:21 PM
48	Bicyclists already have a lot of access to paths, streets and sidewalks. They need to be held more accountable to laws and regulations just like motorists, They should not be allowed on the highways without a adequate shoulder for them. Roosevelt Drive is a prime example. Any road above 35 mph should not allow bicycles without a shoulder.	3/2/2017 12:10 PM
49	Adding the bike lanes made things more confusing, not less. Bikes driving in the same lane with quickly moving traffic is not helpful.	2/28/2017 7:08 PM
50	No experience. I'd like to comment that encounters with bicycles have been very positive. High level of courtesy. Bravo.	2/24/2017 2:28 PM
51	places to park bikes outside of business.	2/24/2017 1:55 PM
52	NONE... This issue has been Buried dug back up and buried again. NOBODY wants more bike lanes, trails, pathways. LET THIS ISSUE DIE ALREADY.	2/22/2017 8:36 AM
53	Need to not just make the bike lane the same as the driving lane. Such as a lot of places such as Cobban street and many others. this is not a good solution for either the bikes or the vehicles.	2/21/2017 12:10 PM
54	Many drivers don't know about the realities of bicycle riding. They don't know that opening a driver's side door without looking could mean death for a bicycle rider. They don't know that turning a corner in front of a bicycle can cause them to crash. They don't realize that it takes time for a bicycle to stop, even though they are smaller than a car. Many other concerns.	2/17/2017 2:09 PM
55	Please see my comment for #21	2/16/2017 5:22 PM

56	Motorists also need training to respect bicycles on the road and look out for them.	2/16/2017 4:47 PM
57	We also need to educate cyclists to drive bike safely and smart.	2/14/2017 8:08 AM
58	I would like to see an emphasis placed on bike commuting opportunities in Butte. Specifically, I would like to see infrastructure to: 1. Safely travel from the "flats" to Uptown; 2. Access businesses along Harrison Ave; 3. Dedicated bike path and/or wider shoulders along Highway 2 to Blacktail Loop and Thompson Park recreation area. My dream request is for the entire pathway between Butte and the Copperway Trail near Fairmont Hot Springs to be paved. This route would provide superb recreation opportunities for the people of Butte as well as guests at Fairmont.	2/13/2017 4:29 PM
59	as I said above. People in butte are ignorant when it comes to cycling. Not very smart!	2/13/2017 2:58 PM
60	Many cycling people do not pay attention to motorists; all the guilt or fault falls to the motorist. Have also witnessed those motorized bicycles on the walking trails.	2/13/2017 2:35 PM
61	I saw a bike the other day riding on a designated 'sharow ' lane. He was riding down the middle of the lane, and there was a line of 5 cars behind him, very annoyed. Because of the diagonal parking, there was no way for him to move over and let the cars pass even if he wanted to. The sharrows are an accident waiting to happen.	2/11/2017 9:50 PM
62	RE: Changing Laws - The primary one here would be cycling with a helmet (at least for minors). Research shows that bike helmets reduce the risk of traumatic brain injury (TBI) and this is especially important for minors. Billings is currently the only city in MT that has a law in place requiring helmets for anyone under the age of 16.	2/10/2017 10:07 AM
63	Slow automobile traffic; reduce lanes to two...	2/9/2017 6:25 PM
64	I would like to see bike lanes connecting the trail systems. It would also be great if the cyclist input was actually considered in the implementation of Bike lanes. In the numerous community meetings attended by bicycle advocates, including myself, absolutely ZERO suggestions of improvements to the bike routes were implemented. The plan was implements EXACTLY how it was proposed by public works and the community development department in the first public meeting on the subject. I think it is great to implement bike lanes but I think there was a lot of great public input that would have improved this plan and alleviated a lot of community push back but was completely ignored in the implementation of the bike routes. Community engagement and involvement is important in the implementation of transportation plans and being utilized effectively.	2/7/2017 2:31 PM
65	I don't ride my bike on the city streets so I am not a huge supporter.	2/7/2017 11:42 AM
66	"Idaho yield rules" - where bikes interpret stop signs as yield signs	2/6/2017 4:27 PM
67	Overpasses/underpasses - lights where under/over pass not practical	2/6/2017 2:56 PM
68	All forms of improvement are necessary. Butte has never fully supported this type of initiative. Simply painting a few "sharrows" on existing lanes does little to improve safety since the share the road concept is not new. The safest cycling is done away from vehicular traffic as much as possible.	2/6/2017 10:21 AM
69	See above re George Street.	2/6/2017 10:19 AM
70	Education / awareness for public, drivers, cyclists.	2/6/2017 9:44 AM
71	move the existing bike lanes from Main street to another street	2/5/2017 12:44 PM
72	Connect existing bicycle routes, for example there is a bike route to Dewey Boulevard from the north and the south, but they do not connect, or at least are not marked as such. The north access is a block west of the south access.	2/5/2017 4:27 AM
73	create a bicycling safety program comprised of unpaid volunteers to promote cycling safety and educate young and old how to safely pedal in a busy metropolitan setting. create a nonprofit, volunteer managed bicycle sharing association which could repair / refurbish donated bicycles. once roadworthy the bikes could be used as loaners or made available for sale to fiscally challenged individuals within their financial means.	2/4/2017 2:56 PM
74	Instead of making accessibility, how about enforcing traffic laws on bicyclist.	2/4/2017 10:01 AM
75	get rid of bike lanes	2/3/2017 3:25 PM
76	Sidewalks potholes and lack of shoulders are main obstacles	2/3/2017 1:30 PM
77	see #9	2/3/2017 12:29 PM
78	Linking residential with commercial areas with safe routes would help.	2/3/2017 11:57 AM
79	Butte is not a bike friendly city especially on the flats (anything below front street). Adding lanes uptown does nothing when I live on the flats. I feel unsafe sharing the road with motorists who either actively try to hit me when there is no shoulder or bike trail or yell profanities at me to get off the road.	2/3/2017 11:40 AM

80	I think that the "Sharrows" are just an accident waiting to happen! Never sure who has the right of way, and it is very annoying trying to drive in this town on the streets that have sharrows and bike lanes.....especially the narrow streets uptown!!!!	2/3/2017 10:50 AM
81	Both motorist and bicyclist need training. The rules are about everyone every day. You pick and choose when to be following the rules. I think bile lanes are great idea in Butte. I do not feel that they are defined enough. They need to be more clear to motorist where the bike lanes start and end. I think the police, the schools, the health department, the medical commun ity needs to enforce helmet use for bicyclist. Why do people in this town laugh at helmet users-esp children. Safe streets, safe routes but protect those heads. Parents need to be told their children need to be in child passenger seats and wear bike helmets at all times. they should be educated by law enforcement if they are seen with no helmet. Not a fine, just education.	2/3/2017 10:14 AM
82	Winter is tough to bike in Butte and even walk because of snow build up on the corners. However in spring and summer some bike riders follow the law. A majority of the riders not kids adults ride going in the wrong lane of traffice and at the same time cut traffic off by not following any of the laws of the road.	2/3/2017 9:56 AM
83	Safe lane between Harrison and continental	2/3/2017 8:41 AM
84	You cannot go under Harrison Avenue tunnels due to water and ice. Also homeless people in summer. One day I was alone and there were 4 sketchy people in tunnel. We will not use them due to safety concerns which then makes us cross at crossways and the light near the path by Walgreens barely gives you enough time to ride across let alone walk. And during winter you have to climb over snow piled in middle of road.	2/2/2017 8:38 PM
85	Motorist education in safely passing cyclists.	2/2/2017 5:17 PM
86	the new bike trail system out to rocker and beyond is awesome! can we now connect the flat with the hill, strategically, so that the hill doesn't have to conquered in one bad uphill run.	2/2/2017 4:26 PM
87	Promote existing trails for biking. There are several miles of trails that are under used by the people of Butte.	2/2/2017 1:22 PM
88	incentivize ridership: eg discounts at coffee shops. fix streets and storm drains, plow bike lanes	2/2/2017 12:05 PM

Q17 Which of the following tax/spending changes would you support for active transportation?

Answered: 499 Skipped: 34



Answer Choices	Responses	
If your taxes were kept the same but the funds would be re-distributed, do you support additional state/local spending of transportation funds for improving walking conditions?	71.14%	355
If your taxes were kept the same but the funds would be re-distributed, do you support additional state/local spending of transportation funds for improving bicycling conditions?	49.70%	248
Do you support new state or local taxes for improving conditions for walking	53.51%	267
Do you oppose new state or local taxes for improving conditions for walking	14.83%	74
Do you support new state or local taxes for improving conditions for bicycling	40.28%	201
Do you oppose new state or local taxes for improving conditions for bicycling	19.04%	95
Total Respondents: 499		

Q18 What one thing could the city do to encourage bicycling or walking in your area?

Answered: 333 Skipped: 200

#	Responses	Date
1	making bicyclers and dog owners aware of common courtesy (common courtesy can be helpful for survey writers also). and penalties for everyone, to make them care.	6/7/2017 4:17 PM
2	More paths around town	5/29/2017 8:46 PM
3	Active PSA campaign to alert and educate motorists of bicycle/pedestrian safety and rights to the road	5/25/2017 9:35 AM
4	Fix the sidewalks uptown and figure out a way to address the homeless issue.	5/22/2017 11:54 AM
5	FIX THE STREETS!!!! POT HOLES AND MAN HOLES COVERS MAKE BICYCLING DANGEROUS	5/18/2017 8:09 AM
6	Make room for actual bike lanes on the roads.	5/9/2017 8:47 AM
7	Get the drug abusers out of our neighborhoods.	5/3/2017 2:32 PM
8	ban bike use on all public streets	4/30/2017 6:57 PM
9	See that sidewalks are maintained.	4/28/2017 4:17 PM
10	More combination biking/walking paths separate from road ways paid for by development impact fees.	4/28/2017 3:56 PM
11	Raised crosswalks, designated bike paths, sidewalks.	4/27/2017 4:16 PM
12	sidewalks	4/24/2017 10:22 PM
13	Spend more money on walkability and biking. Divert some road money for this if need be. You can attract millenials this way, especially Uptown.	4/20/2017 6:23 PM
14	I think Butte has excellent walking areas.	4/20/2017 1:41 PM
15	Fix existing sidewalks, and use good concrete when you do so. Two year old sidewalks are already crumbling.	4/20/2017 1:18 PM
16	fix our existing streets and sidewalks.	4/20/2017 5:13 AM
17	Properly maintain the streets.	4/19/2017 11:55 PM
18	Walking/Bike paths	4/19/2017 4:55 PM
19	Make bike lanes	4/19/2017 11:49 AM
20	Education	4/19/2017 9:25 AM
21	Provide a tax incentive	4/19/2017 8:01 AM
22	wider bike lanes that are well marked and education on biking laws for all bikers and drivers	4/18/2017 3:21 PM
23	Proper maintenance of roads, sidewalks and paths. Along Hansen Road, by the YMCA, there is no sidewalk at all for bikes or pedestrians, and this is a very busy street and will get busier with the new baseball park.	4/18/2017 1:38 PM
24	lighting, improved streets/sidewalks.	4/18/2017 10:54 AM
25	Actual bike//walking paths.....not on the roads!!	4/18/2017 8:41 AM
26	Already plenty of opportunity	4/17/2017 5:50 PM
27	We live in the 9-mile area. Everyday people are riding their bikes and walking on Continental Dr. Due to the new housing in the area traffic has increased tremendously including construction vehicles. Because there is no shoulder on the road it causes a huge safety issue. The road is relatively flat and attracts many riders especially those getting to other trails in the area and beginner riders. Many motorists are NOT courteous and I'm so afraid there is going to be a serious accident soon. Please look at expanding the road to include a shoulder.	4/17/2017 10:06 AM
28	Nothing the walking areas are excellent	4/16/2017 8:58 PM
29	Biking and hiking paths, and sidewalks.	4/16/2017 12:51 PM

30	More paths like copper walkway	4/15/2017 1:35 PM
31	Provide a bicycle trail connecting Uptown Butte to Thompson Park	4/15/2017 10:45 AM
32	N/a	4/15/2017 9:35 AM
33	Show people how being inactive has bad consequences on their pocket book. This would include fuel cost and increased health care costs.	4/14/2017 9:31 PM
34	Leash law with significant penalties. Secured yard laws for pets. With significant penalties and forfeiture of pet.	4/14/2017 8:48 PM
35	Mandatory crosswalk maintenance!	4/14/2017 7:57 PM
36	This city needs better lighting in the residential areas.	4/14/2017 7:18 PM
37	Fix potholes	4/14/2017 6:51 PM
38	Make me want to, there's nothing to see very little foliage as msla and BZN have. Few events to ride to/ no where to securly lock up bike. Uptown seems like an easy place for bikes to get stolen do I won't take the risk.	4/14/2017 6:19 PM
39	fix the roads and sidewalks	4/14/2017 4:29 PM
40	more bike lanes	4/14/2017 4:19 PM
41	Fix the sidewalks	4/14/2017 4:11 PM
42	Not sure. Improve sidewalks?	4/14/2017 3:55 PM
43	I would support more funds going for transit to provider more hours and weekend.	4/14/2017 3:49 PM
44	Sidewalks, lighting and higher fines for dogs running.	4/14/2017 3:48 PM
45	Sidewalks	4/14/2017 3:47 PM
46	Update Painted lines. Enforce Car/ Pedistrain laws	4/14/2017 3:30 PM
47	enclosed area or path to walk	4/14/2017 3:22 PM
48	have safe areas to walk outside on.. I fell our trails are unsafe. loose dogs.. overgrowth of trees, unable to see whats around you.	4/14/2017 3:01 PM
49	educate benefits of exercise to overall health and disease prevention	4/14/2017 2:53 PM
50	Fix the streets, not just filling potholes. Make the streets more user friendly, IE: wider, add a shoulder, not just sharrows..........	4/14/2017 2:47 PM
51	Better bike lanes, sidewalk repair, walking trails	4/14/2017 2:46 PM
52	Create safer ways to walk and bike.	4/14/2017 2:42 PM
53	Lights, trails, bike racks	4/13/2017 4:00 PM
54	Safer sidewalks and roads for walking and bicycling	4/13/2017 3:01 PM
55	Traffic calming measures, such as raised crosswalks or bulb outs, on residential and high pedestrian areas.	4/12/2017 2:50 PM
56	bike lanes	4/12/2017 11:43 AM
57	Pave the roads in Butte. They tear up my bicycle.	4/12/2017 11:33 AM
58	Bicycle Lanes, and better lighting in walking areas	4/12/2017 11:16 AM
59	We really appreciate the walking trails that the city has provided. They are great, but a few more sidewalks would help and fixing some of the existing trails would be nice.	4/12/2017 9:22 AM
60	Clean up the trails and enforce rules regarding the bicycles and skateboarders. ENFORCE leash laws, etc.	4/12/2017 9:19 AM
61	more pathways away from the street	4/12/2017 8:53 AM
62	More police presence. I rarely see any when I walk.	4/12/2017 8:30 AM
63	Give bike safety classes to older folks like me	4/11/2017 11:56 PM
64	Better lighting, enforce snow removal (especially on Harrison Ave), enforce leash laws	4/11/2017 8:08 PM
65	Widen shoulders and build sidewalks in williamsburg	4/11/2017 7:13 PM

66	More trails with easier access and kid friendly and people really need to keep there pets leashed when outside the dog run area. It's hard to bicycle when dogs are running loose at skyline park and also when our kids stop to fish dogs are swimming in the pond! Very upsetting.	4/11/2017 7:10 PM
67	More bicycle/walking trails	4/11/2017 6:43 PM
68	Maintain roadways better for all vehicles. Create more biking lanes and continue to add sidewalks that connect more generally throughout the city.	4/11/2017 5:25 PM
69	Make it safer.	4/11/2017 4:05 PM
70	Make it more attractive in more areas	4/11/2017 11:26 AM
71	Implement the previous communication relative to Take A Break - Take A Walk! I don't want to insult the "experts" but you do not have to spend millions of $$$ on infrastructure to encourage people to"Walk For Health". A little paint and a few signs to remind people to "Take A Break - Take A Walk" would be helpful. Please see: http://www.co.silverbow.mt.us/documentcenter/view/2713 Take A Break - Take A Walk is an initiative to designate Five Minute Healthy Habit Walking Pathway Routes at Highway Rest Stops and OTHER CONVENIENT LOCATIONS.	4/11/2017 10:46 AM
72	Fix sidewalks in systematic way, to upgrade routes that connect and go somewhere, and publicize which streets in which blocks are 100% good for walking.	4/11/2017 10:40 AM
73	enforce traffic laws- the judges need to enforce the finessssss.	4/11/2017 8:49 AM
74	Patrol tunnels (specifically near Albertson's) for transients. Create a greenway or bike path from Continental St. to Uptown Butte.	4/11/2017 8:17 AM
75	Bike lanes	4/11/2017 8:12 AM
76	For one why put a state tax on us when the city of Butte is the Richest Hill On Earth maybe cut back on spending where it's obvious your over spending I mean for the past 3 years I may have seen one plow truck plow my road on placer and maybe just a couple time if lucky do we get Iron st plowed But I See the jails always full and there's a new police cars I just think that this town focuses on one or two things and seems the rest gets shoved under BUT WE DO HAVE OUR PRIORITYS HERE IN BUTTE AND THATS THE FESTIVALS	4/10/2017 11:31 AM
77	Sidewalks	4/9/2017 4:45 PM
78	Nothing! If someone wants to walk or bike, they will. The City needs to focus on other pertinent issues instead of trying to make Butte like some other place that we are not. Butte is a Mining town steeped in history. That is the draw to this place.	4/3/2017 12:25 PM
79	Increase the number of protected bike paths. Make each protected bike path easily accessible from each neighborhood.	3/28/2017 4:15 PM
80	Fix the sidewalks and remove obstructions.	3/28/2017 4:11 PM
81	Invest in a major starting point of a trail. Missoula seems successful because of the carousel, dragon's hollow, children's museum, the river, and lots of restaurants, etc. - My kids love it, it's a hub...	3/28/2017 12:06 PM
82	More incentives for people to use alternative transportation. Sharrows and bike lanes are nice though. Main street is a great bike lane for going uphill, but people are not very courteous to cyclists going down main street. The speed llimit is 25 and bikes can easily go 25 but drivers are not courteous to cyclists.	3/27/2017 6:14 PM
83	Do a Bike Butte series of events	3/27/2017 1:05 PM
84	Enforce leash laws	3/27/2017 11:46 AM
85	Better roads conditions	3/26/2017 6:11 PM
86	Keep doing what the city is doing - don't slow down or stop.	3/24/2017 9:48 AM
87	education	3/24/2017 8:13 AM
88	More policing of motorists violating bikers and pedestrians.	3/20/2017 7:18 PM
89	I don't have a suggestion	3/18/2017 10:21 AM
90	Designated areas for walking. Connecting the many great trails we have here already	3/17/2017 5:07 PM
91	We need more and longer connected trails and bike lanes.	3/13/2017 5:27 PM
92	Sidewalk	3/13/2017 1:20 PM
93	make it safer	3/10/2017 8:36 PM
94	Make sure the streets are wide enough for bicycling and walking	3/10/2017 5:20 PM

95	they have done enough.	3/10/2017 10:50 AM
96	So I live on the hill and work waaaaay out on the flats. Biking and walking to or from (especially from my work) aren't even options for me at the moment. It would be nice to be able to take the bus down to the flats and then bike or walk to work from there on a dedicated path for walking and/or biking. The walking trails are a fantastic idea that I think we could apply to commuting, if that's even possible.	3/10/2017 9:33 AM
97	Fix the crazy huge potholes and narrow, steep shoulders. More bike and pedestrian areas, yes. But, having decent roads in the first place makes it easier to share existing infrastructure. Giant holes, cracks and other obstacles make traffic unpredictable and especially difficult for cyclists. Riding on sidewalks doesn't really work out. So, good sidewalks and improved roads first. Then more alternative routes connect to existing (some really great) walking and bike lanes.	3/9/2017 11:35 PM
98	Care for/fix up sidewalks and keep roads/sidewalks clear of snow	3/9/2017 8:27 PM
99	use side streets not main ones	3/9/2017 4:57 PM
100	fix the existing sidewalks & install sidewalks in uptown	3/9/2017 2:34 PM
101	Why should the government be encouraging or discouraging any type of recreational activity?	3/9/2017 1:39 PM
102	Repair sidewalks. Organize community walking or biking events - fun bike rides in the evenings in summer, for example, as a social way to get people out and active.	3/9/2017 1:38 PM
103	More trails to get around town easier - connect uptown to downtown on a trail along Continental ideally!	3/9/2017 12:52 PM
104	Enforce the laws that are already on the books, snow removal, dog leash laws and pedestrian right of ways.	3/9/2017 12:44 PM
105	Get the roads in "good" shape, not excellent but definitely need to improve the condition they are in now.	3/9/2017 12:35 PM
106	TAKE MORE PRIDE IN THE CITY HOW IT LOOKS AND ITS UPKEEP.	3/9/2017 12:13 PM
107	Butte should actively pursue the creation of additional bicycle/walking trails. For example, every abandoned railroad track should be converted into a path. I am specifically thinking about the tracks along the East Ridge. The East Ridge tracks should be converting into a world-class biking/hiking trail. Also, it is imperative to close the gap in the Silver Bow Creek Trail west of the Visitors Center. I cannot stress this enough! Let me repeat: the gap in the trail system west of the Visitors Center ("Slag Wall Canyon") MUST be closed. This connectivity issue is critically important to making the Butte trail system world-class. Regardless of whether this is a land right issue or an engineering issue or whatever, a solution needs to be found to fix this.	3/9/2017 12:02 PM
108	Better lighting and curb ramps.	3/9/2017 11:42 AM
109	Address current issues such as neighborhood safety issues and enforce the laws already in place to set the tone that we won't tolerate things in our town.	3/9/2017 9:25 AM
110	Increase the trails throughout the city.	3/9/2017 9:08 AM
111	If I walk or bike will you reduce my tax burden? Ill do it for money. Why does the city want to encourage bicycling or walking? My property taxes went up significantly in 2016. Fix the streets, Plow the side streets, enforce the shoveling ordinance. Walking and biking in deep snow is dangerous and difficult.	3/8/2017 9:21 PM
112	Add a bike trail from Three Bears to Nine Mile along Continental Drive	3/8/2017 8:07 PM
113	Keep streets and sidewalks clean and litter free!	3/8/2017 5:59 PM
114	Advertise that Butte is a walk and bike friendly town; because, we don't have the traffic problems like Missoula, Bozeman, ... We do need to fix the maintenance and sidewalk obstruction issues.	3/8/2017 5:29 PM
115	Improve existing sidewalks.	3/8/2017 5:24 PM
116	sidewalk maintenance/repair, snow removal for walking. educate motorist on bicycle rights.	3/8/2017 5:21 PM
117	Add shoulders when roads are being worked on.	3/8/2017 5:14 PM
118	Enforcing city ordinances requiring homeowners and business owners to keep sidewalks clear of snow and ice after storms.	3/8/2017 5:13 PM
119	get better paying jobs so that people might have the opportunity to use these facilities instead of having to work multiple jobs to sustain life.	3/8/2017 4:54 PM
120	Educate People as to all the available trails in and around Butte	3/8/2017 4:50 PM
121	Why does my city think it has to 'encourage' biking or walking? That is NOT your business!	3/8/2017 4:36 PM

122	Bicycling in Butte Montana is not a reasonable transportation method. It's not practical. It is a great recreational opportunity but it is not a reasonable method to get from point A to point B. The weather isn't conducive. It takes longer than driving. And most people have "stuff" with them and biking doesn't allow for it. I think the effort should be on improving biking paths as a recreational opportunity. The trails we have now are great but more would be even better. Connect them further south than Father Sheehan park.	3/8/2017 4:21 PM
123	Better and cleaner sidewalks	3/8/2017 4:20 PM
124	I BELIEVE MORE ADVERTISEMENT	3/8/2017 4:19 PM
125	Thoroughfares for uptown-downtown travel.	3/8/2017 4:13 PM
126	First of all you need to fix the streets/roads before you start spending money on biking and walking paths/trails......	3/8/2017 4:13 PM
127	there's plenty now	3/8/2017 4:12 PM
128	I think we should be working on keeping our streets up for cars first. The streets are a mess in Butte and a hazard to cars so are also a hazard for walking and cycling. This is where our money should be spent.	3/8/2017 4:12 PM
129	More sidewalks and sidewalk repairs.	3/8/2017 4:09 PM
130	provide a walking path throughout the town.	3/8/2017 4:08 PM
131	bicycle lanes along the roads.	3/8/2017 4:07 PM
132	Continue to maintain the walking trails that we have in uptown Butte you are doing great with the uptown Butte area. Please do something for the Continental Dr Trail this was a huge mistake it is dangerous. Make it a law to keep dogs in the Blacktail Loop area under lock and key, keep them chained and indoors at all times, the road way is not a good place for snoopy who really doesn't want to bite, he just wants to show you all his really big teeth	3/8/2017 4:01 PM
133	enforce existing laws	3/8/2017 3:58 PM
134	More sidewalks and crosswalks. Paths that connect with each other.	3/8/2017 3:58 PM
135	Education for bicycling safety education and the law.	3/8/2017 3:57 PM
136	City and landowners taking care of the sidewalks	3/8/2017 3:57 PM
137	street lighting	3/8/2017 3:56 PM
138	remove hills	3/8/2017 3:55 PM
139	Improve lighting	3/8/2017 3:51 PM
140	More Bike Lanes!	3/8/2017 3:49 PM
141	Enforce traffic laws for bicycles. I have seen bicyclists ignore stop signs/lights and weave in and out of traffic. If they are going to use streets and roads they should have to follow the same laws as other vehicles.	3/4/2017 12:21 PM
142	Fix the sidewalks and the curbs at intersections	3/3/2017 4:25 PM
143	Side walks and better lighting in some of the areas around my neighborhood	3/3/2017 9:47 AM
144	many streets are wide enough, emphasize bike lanes and advertise them heavily	3/2/2017 8:59 PM
145	We already Have Enough trails and paths and parks. We need to look more at infrastructure to spend money.	3/2/2017 12:10 PM
146	Maintain sidewalks	2/28/2017 7:08 PM
147	Get more businesses Uptown to avoid having to drive downtown.	2/26/2017 8:20 PM
148	Property owners keep sidewalks cleared in winter! ENFORCE or CREATE muffler ordnance. ADD sidewalks, i.e. Busch Ave. Educate dog owners to keep hostile pets in back yards. Amhurst, for one, is intimidating to walk. I may start carrying a water pistol loaded with vinegar!	2/24/2017 2:28 PM
149	Contests or prizes	2/24/2017 2:17 PM
150	Sidewalks, trails	2/24/2017 2:15 PM
151	Making newer and safer opportunities for biking	2/24/2017 2:10 PM
152	Plant trees, flowers, etc. to make the areas nicer instead of dead grass fields.	2/24/2017 2:08 PM
153	Improve sidewalk conditions/build more sidewalks	2/24/2017 2:06 PM
154	While the Butte 100 is awesome & a big event, there isn't really any running event. While the Butte Track Club has grown considerably in the past year, it could do a lot more for our city's youth.	2/24/2017 2:03 PM

155	Beautify the city.	2/24/2017 1:57 PM
156	Beautify area, and publicize because there are actually a lot of cute businesses uptown that people do not know about.	2/24/2017 1:55 PM
157	Make sidewalks nicer. Reduce bumps and cracks especially for those who ride on bike or long boards or any like that. That would also keep people off the roads they shouldn't be on. Trees or flowers would be nice.	2/24/2017 1:50 PM
158	Promote the health/environmental benefits. Make both more accessible. Especially uptown. There are still many building tenants uptown who do not keep sidewalks cleared of snow.	2/24/2017 12:31 PM
159	Organize community walks/bike rides to get people outside, together.	2/24/2017 12:17 PM
160	Reminder of trails throughout town. There are many in all different locations of town. P	2/24/2017 10:31 AM
161	just have more safe trails lighted.	2/22/2017 4:51 PM
162	Dedicated bike paths away from traffic.	2/22/2017 1:07 PM
163	Enforce traffic laws so motorists don't kill pedestrians--particularly speeding in residential ares	2/22/2017 9:31 AM
164	NOTHING! People will do what they want without any help.	2/22/2017 8:36 AM
165	Making the sidewalks better and the lighting to the streets better.	2/21/2017 11:59 PM
166	no idea	2/21/2017 11:34 PM
167	Safer areas, less drugged people on sidewalks hanging out-- would make it safer	2/21/2017 2:06 PM
168	Create a bicycling community and perhaps put a bike shop in uptown butte	2/21/2017 1:36 PM
169	More bike lanes, lighter area, plowed/shoeveled streets and sidewalks	2/21/2017 1:07 PM
170	Bike racks would help. It is just hard because of all the hills.	2/21/2017 12:20 PM
171	Improve sidewalks	2/21/2017 12:10 PM
172	businesses that are open	2/20/2017 9:19 AM
173	repairing sidewalks and ADA corners, ensuring the roads and sidewalks are clear of snow and other obstacles, improving street and sidewalk cleaning schedule, (supporting Mainstreet's efforts and perhaps the creation of a B.I.D.?) ensuring proper lighting after dusk, repairing/highlighting pedestrian crosswalks at major arterial streets.	2/18/2017 12:16 PM
174	The interest rate on the county sidewalk program is too high (around 7%) A cheaper rate would be a better incentive to home owners to replace sidewalks. The county would do fine with 3% in a revolving fund.	2/17/2017 11:47 PM
175	Educate motorists on bicycle laws and bicycle riding realities	2/17/2017 2:09 PM
176	assure sidewalks are cleared of snow and make sure there are sidewalks available in the first place. make sure there is a large enough shoulder on the road to allow a bike lane.	2/17/2017 12:39 PM
177	Make the bike/walk trails greener and more visually attractive, and make the trails more interconnected.	2/17/2017 11:46 AM
178	Work to improve walking infrastructure	2/17/2017 10:16 AM
179	improve lighting and enforce sidewalk maintenance	2/17/2017 9:50 AM
180	Enforce existing laws protecting pedestrians and bicyclists.	2/17/2017 7:57 AM
181	Lights	2/16/2017 5:18 PM
182	I think the Butte Walk and Roll initiative is great; support for that and other programs would be good to see.	2/16/2017 5:15 PM
183	Have a series of weekend days in the summer where you hold a big bike/walk awareness event and shut down a few streets- making them only for bikes/pedestrians- make it a big event with music, booths on education for biking / walking, food and drink. Look at Portland's Sunday Parkways (https://www.portlandoregon.gov/transportation/46103) as a great model.	2/16/2017 4:47 PM
184	Repair/maintain existing sidewalks. Install sidewalks where none exist, like the 1400 block of W Granite St.	2/16/2017 3:11 PM
185	bike lanes	2/16/2017 2:52 PM
186	Make our recreational areas more attractive.	2/16/2017 2:33 PM
187	Clearly mark bike lanes/paths and provide more bike racks.	2/16/2017 2:28 PM
188	Have more events	2/16/2017 2:11 PM

189	Provide more crosswalks in areas commonly accessed by the bus.	2/16/2017 12:43 PM
190	Bicycle paths	2/16/2017 12:36 PM
191	If funds are utilized for biking, they need to have separate bike paths. If bikes are used on city streets for transportation they need to follow the traffic rules and be taxed as a form of transportation to help maintain the roads.	2/16/2017 9:20 AM
192	Enforce ordinances, educate, make it safer	2/15/2017 1:09 PM
193	Increase participation as to lead by example...."Hey, more and more folks are cycling...looks like fun...lets try it.	2/15/2017 1:00 PM
194	do more to get people to shovel their sidewalks	2/15/2017 11:26 AM
195	More safety education and more sidewalks	2/15/2017 8:56 AM
196	Longer lights across Montana	2/14/2017 5:27 PM
197	more sidewalks	2/14/2017 3:42 PM
198	Better bigger sidewalks.	2/14/2017 11:43 AM
199	Advertise, promote both more. Encourage walking to school or work if close enough. Encourage cycling to school or work. More cycling events in town for kids.	2/14/2017 10:49 AM
200	More education for cyclists and motor vehicle drivers. Cycling Savy especially for 3Cs bicyclists who bike to work and MT TECH . .also regular cyclists...it's tough out there.	2/14/2017 8:08 AM
201	SAFE NEIGHBORHOODS.	2/13/2017 5:41 PM
202	better trails, especially on the flats	2/13/2017 5:35 PM
203	Aggressively enforce traffic laws both for motorists and non-motorists.	2/13/2017 4:29 PM
204	wide shoulders on Continental Drive and Highway 2 up to the first hill.	2/13/2017 3:48 PM
205	more bike racks	2/13/2017 3:44 PM
206	Better paths to access parks, better sidewalks to access stores uptown. Angle parking on Broadway creates a barrier for the bus driver to drive.	2/13/2017 3:31 PM
207	Public knowledge on where to walk and/or bicycle. Good maps and guides.	2/13/2017 3:28 PM
208	enforcement of laws. Education. Make sure people know it's a true thing not just a joke of painting bicycles on the roadways etc. Kids need to be able to get to the pond, or parks or ball fields on their bikes or by walking. It'd be good for their health and get them out.	2/13/2017 2:58 PM
209	better paths	2/13/2017 2:40 PM
210	Encourage a community clean up several times per year, pick up trash and dirt along sidewalks and streets, encourage residents to fix up their homes and yards, keep dogs behind fences.	2/13/2017 2:40 PM
211	Make sure sidewalks are shoveled	2/13/2017 2:39 PM
212	Making bicyclists responsible also. It should not always be on the motorist.	2/13/2017 2:35 PM
213	Improve the aesthetics of the community	2/13/2017 2:17 PM
214	Bike Lanes, Improved,	2/13/2017 12:28 PM
215	Good Question	2/13/2017 11:59 AM
216	I think the city does a great job providing places for people to bike/walk. I think the weather makes it tough to always get out and about.	2/13/2017 9:26 AM
217	TV campaign	2/13/2017 8:16 AM
218	market the positives and opportunities of active transportation to capture the participation of those undecided about it rather than focus on the opponents and convincing those whose minds are already made up.	2/12/2017 3:37 PM
219	Enforce residents to shovel sidealks, like give fines.	2/12/2017 1:31 PM
220	walking trails and perhaps bike trails	2/12/2017 1:28 PM
221	My commissioner, Jim Fisher, needs to stop being close minded and support bicycling in our community.	2/11/2017 9:56 PM
222	Enforce snow removal. The last block on park street before the college, on the south side of the street , is never shoveled , except for the brick apartment building. It is very dangerous because it is steep.	2/11/2017 9:50 PM

223	Fix the sidewalks. BTW that train bridge/street underpass where Front turns into Harrison is crumbling badly and no one seems to notice.	2/11/2017 5:52 PM
224	Circulate Free bikes for the community, like some communities do.	2/11/2017 12:44 PM
225	Provide Education and Safety information as well as safe places for people.	2/11/2017 10:06 AM
226	Make property owners responsible for their sidewalks and property!!!!	2/10/2017 6:05 PM
227	Fix the sidewalks. Also it would help if the streets and sidewalks were kept cleaner. It is not uncommon to come across broken glass and/or vomit when walking uptown. There use to be a gentlemen who did some sidewalk cleaning, which seemed to make a really big difference. But I don't see him anymore.	2/10/2017 5:48 PM
228	Promote it	2/10/2017 5:26 PM
229	Making the walking/bicycing trails safer	2/10/2017 5:10 PM
230	Educate the community.	2/10/2017 4:55 PM
231	Safety-vagrants	2/10/2017 4:51 PM
232	Create Events to gain awareness and get people out and moving.	2/10/2017 4:45 PM
233	Safety. Advising that it is the law to watch for people walking or bicycling and to stop if needed to cross.	2/10/2017 4:44 PM
234	Not the city's place to encourage or discourage....	2/10/2017 4:32 PM
235	Attract a younger population	2/10/2017 4:25 PM
236	Continued education for motorists regarding bikes traffic.	2/10/2017 4:22 PM
237	sidewalk repair for walking	2/10/2017 4:00 PM
238	Improving existing paths/sidewalks/trails and educating the public (motorists, cyclists, walkers, runners) about related laws, more awareness events to encourage people to get out and ride/walk, better mapping of trails for walking/biking (with mileage/signage along the route) available online, weekly meet ups to encourage group walking/cycling along trails, monthly education sessions on walking/cycling sponsored by local businesses.	2/10/2017 10:07 AM
239	Host more cycling events, build more dirt and paved biking trails	2/9/2017 9:21 PM
240	Slow cars	2/9/2017 6:25 PM
241	I WOULD LIKE TO CYCLE IN BUTTE BUT I DONT OWN A BIKE OR HAVE A PLACE TO STORE A BIKE. IF THERE WAS A RENTAL OPPORTUNITY FOR A BIKE BY THE HOUR OR DAY I WOULD BE HAPPY TO DO SO	2/9/2017 2:57 PM
242	more bike paths or trails like the "greenway trail" located throughout city of Butte and surrounding area.	2/9/2017 2:42 PM
243	Better/more sidewalks and curbs; enforce the ordinance requirement for shoveling sidewalks	2/9/2017 2:31 PM
244	Repair crumbling sidewalks.	2/8/2017 7:54 PM
245	Better signage leading to greenways and walk and bike baths.	2/8/2017 5:32 PM
246	Signs and bike lanes to make drivers more aware.	2/7/2017 8:56 PM
247	More bike lanes and walking trails.	2/7/2017 8:44 PM
248	Public awareness! People love to get involved in something fun. If we can change the culture, the funding will follow.	2/7/2017 4:27 PM
249	More established crossing points on major streets and maybe even a few bridges over Montana Street.	2/7/2017 3:45 PM
250	Enforce existing laws about clearing the sidewalks from snow for walking.	2/7/2017 3:32 PM
251	#17 above. I do not feel confident answering that I'd support new taxes...not because I don't support walking or biking, but because of my answers above as to HOW the city manages our money so poorly. Inefficiently and wasteful. So I fear that new taxes would also be wasted and not making the best bang for MY buck. Sad to say that. The city already DISCOURAGED walking and biking with a poorly instituted, then threatened to remove it (by Palmer who now is elected - ugh). Doing poorly to not give a real chance, then "wondering" if it wasn't working here was beyond ridiculous. Give bike lanes a chance, walking conditions too. We as a town have a social responsibility to encourage healthy alternatives, for the environment as well as physical health. Keep the bike lanes, now get busy on proper sidewalks, curbs, handicap accessibility and how about enforce the LAWS - 75% of people are on their cell phones making ANY road, bike lane, unsafe. Enforce for a while and things would simmer down quite a lot.	2/7/2017 2:38 PM
252	Continue to improve routes and advocacy for the trails and routes. Develop maps and resources related to the infrastructure. Incentives for Bike/walk to work month.	2/7/2017 2:31 PM

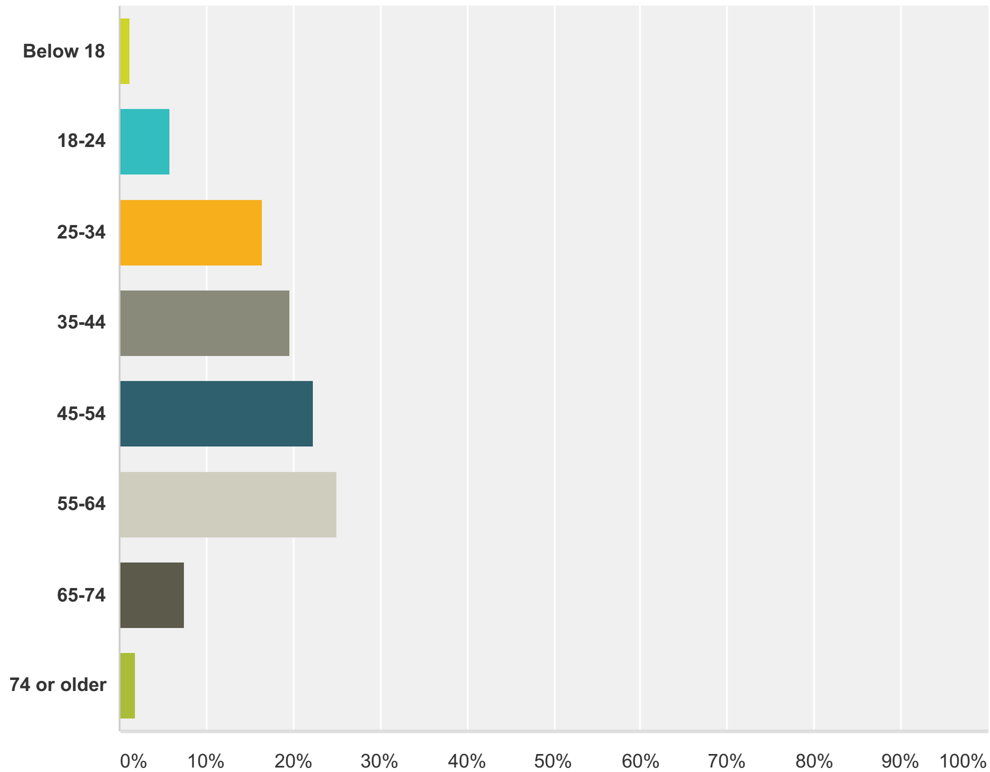
253	Alleviate potentially dangerous vehicle congestion, provide safe, well-lit areas to walk at night/evening, upkeep sidewalks to ensure they are accessible to all.	2/7/2017 1:43 PM
254	make it cool!	2/7/2017 12:33 PM
255	I live on the flats and not all areas have sidewalks or good lighting.	2/7/2017 12:07 PM
256	Fix the sidewalks! Put in some lighting!	2/7/2017 11:42 AM
257	Take care of the infrastructures that exist!	2/7/2017 10:10 AM
258	Make uptown appears more safe with lighting, cleaner buildings and sidewalks, increase trees and plants that provide shade, sitting areas that are well lit.	2/7/2017 9:47 AM
259	Many neighbors do not have a car and need a ride to bus on Harrison. Adding a sidewalk on motor view and possibly Warren and Four Mile would help so much!	2/6/2017 5:47 PM
260	Educate drivers about right of way for pedestrians and treat cyclists consistent with the laws for movement.	2/6/2017 5:02 PM
261	Enforce snow removal rules for sidewalks; pass an Idaho yield law	2/6/2017 4:27 PM
262	Focus more on alternative transportation rather than just automobiles.	2/6/2017 2:41 PM
263	Make it easier for people to ride and have placed marked to the streets for them to ride on.	2/6/2017 12:43 PM
264	Better street lighting, educate drives on law that affect bikers and pedestrians.	2/6/2017 11:26 AM
265	Markings on pavement are great! I think having more people out riding would show the community it is common and acceptable	2/6/2017 11:00 AM
266	Make more automobile free paths	2/6/2017 10:23 AM
267	Safe crossing access at major intersections (build a bridge across Montana Street).	2/6/2017 10:21 AM
268	Keeping greenways free of transients, especially in tunnels.	2/6/2017 9:51 AM
269	Improving areas / districts where parks & recs are, including Thompson Park.	2/6/2017 9:44 AM
270	educate people	2/5/2017 12:44 PM
271	Impose penalties for businesses that have deep snow pack or ice on their sidewalks	2/5/2017 4:27 AM
272	Nothing really. It comes down to personal motivation.	2/4/2017 4:19 PM
273	create a bicycling health and safety program to teach bicycling rules and promote safe use of sidewalks and streets for a healthier lifestyle	2/4/2017 2:56 PM
274	More sidewalks	2/3/2017 11:11 PM
275	Improve bike lanes on Harrison av, Front Street and Continental too.	2/3/2017 9:56 PM
276	nothing that comes to mind	2/3/2017 9:33 PM
277	Enforce laws such as cars must stop at crosswalks etc	2/3/2017 8:02 PM
278	Nothing, I also don't think the bike lanes are safe where they have been placed.	2/3/2017 6:04 PM
279	Sidewalks	2/3/2017 5:26 PM
280	Question 17 is a list of yes no questions. How can I select one? I hope whoever was in charge of this survey is not the same person in charge of the next 20 years of Butte's transportation issues.	2/3/2017 4:45 PM
281	Enforcement of snow shoveling	2/3/2017 4:40 PM
282	For bicycling, more racks to safely park bikes upon arrival at destination. Walking is more/repaired sidewalks.	2/3/2017 4:34 PM
283	O	2/3/2017 4:29 PM
284	Knowing areas are safe, I dont like being stared down and made to feel uneasy by the homeless population!	2/3/2017 3:06 PM
285	nothing its a personal choice	2/3/2017 2:11 PM
286	Help with sidewalk repairs and fill the potholes on side streets.	2/3/2017 1:30 PM
287	don't waste your time or the taxpayers money	2/3/2017 1:28 PM
288	Dedicated safe trails not piggy-backed with existing roads. Enough of the sharrows crap.	2/3/2017 1:16 PM
289	Clean trails and parking areas of trash and dog feces. Better lighting.	2/3/2017 12:59 PM

290	Improve safety	2/3/2017 12:58 PM
291	Better sidewalks, crosswalks with law enforced, better street lighting.	2/3/2017 12:44 PM
292	Clean the sidewalks	2/3/2017 12:40 PM
293	see#9	2/3/2017 12:29 PM
294	More ADA curbing uptown.	2/3/2017 11:57 AM
295	honestly, motorists need to have better education on what sharing the road means and City parks need to be open to allowing dogs.	2/3/2017 11:40 AM
296	sidewalks are garbage. Make property owners keep them safe (and paved - not just ice). Park Street is a mess.	2/3/2017 11:09 AM
297	Let the public know about bicycling and walking areas.	2/3/2017 11:06 AM
298	bike racks in areas and better lanes for bikes	2/3/2017 10:52 AM
299	Dog control	2/3/2017 10:51 AM
300	Improve safety	2/3/2017 10:50 AM
301	Make actual bike paths and trails....away from the traffic areas	2/3/2017 10:50 AM
302	Make it mandatory that all roads within one mile of schools have sidewalks. Kids can't walk to school without being in the street.	2/3/2017 10:35 AM
303	Enforce snow removal rules.	2/3/2017 10:27 AM
304	Widen Contenintel	2/3/2017 10:23 AM
305	Make it the norm. Northwestern Energy employees and local and state government and anyone whould encourage it. Should compliment people on it. Should tell children how nice it is to see them riding bikes. She stop people not wearing helmets and educate them and maybe distribute helmets while they are out patroling.	2/3/2017 10:14 AM
306	We do not have sidewalks in my neighborhood. Encouraging neighborhoods to create districts that would pay for the improvements would be a suggestion. Some neighborhoods may not want them but they would have a choice.	2/3/2017 10:08 AM
307	Educate the public to start seeing bicycles.	2/3/2017 10:04 AM
308	enforce/ensure sidewalks are shoveled	2/3/2017 9:57 AM
309	Biggest is education for both walkers and bike riders on traffic laws. Winter time cleaning of the sidewalks even on Harrison Avenue. The curb cuts are not clean because of the plows pusshing snow and blocking them.	2/3/2017 9:56 AM
310	Safe lane between Harrison and continental	2/3/2017 8:41 AM
311	I think the community just needs time to get used to bikers and walkers.	2/2/2017 10:26 PM
312	Have more bike racks around businesses.	2/2/2017 10:06 PM
313	More visual cross walks	2/2/2017 9:12 PM
314	Pave more paths. I ride a lot but not best balance for mountain biking so to pave paths to tech and behind hillcrest would be awesome.	2/2/2017 8:38 PM
315	clean streets, develop more lanes/sharrows, reduce the number of lanes on some city streets, then MAINTAIN these things!	2/2/2017 7:56 PM
316	At a bike lane along Continental Drive	2/2/2017 7:41 PM
317	More paths, like connector to Anaconda.	2/2/2017 5:17 PM
318	Enforce the current laws regarding pedestrian and bicycle right of ways. For example cars stopping in the pedestrian crossings and crowding bicycles in the designated lanes. This happens frequently to me on North Main St.	2/2/2017 4:48 PM
319	provide safe trails that are separated from motorized traffic. also implement nonmotorized ordinance on existing system. can't tell you how many times i have chased ya-hoos in trucks and on motorcycles off of the trail system below tech. these idiots were speeding directly at groups of walkers on the trail.	2/2/2017 4:26 PM
320	Widen shoulders of roads	2/2/2017 2:58 PM
321	Make it safer! And make trails that connect uptown to the flats.	2/2/2017 2:30 PM
322	Safety	2/2/2017 1:27 PM
323	Better safety messages for both bikers and motor vehicles.	2/2/2017 1:22 PM

324	Education for both bikers and drivers	2/2/2017 12:56 PM
325	Improved/better maintained infrastructure (sidewalks, bike lanes, etc)	2/2/2017 12:53 PM
326	Sidewalk and street repair.	2/2/2017 12:52 PM
327	Better quality of road construction in town and better planning,	2/2/2017 12:47 PM
328	Have a snow shoveling service, maybe some 4-wheelers with shovels that service all the sidewalks in the city.	2/2/2017 12:42 PM
329	More/better parks in neighborhoods. More trees!	2/2/2017 12:19 PM
330	Community events to get people out biking and/or walking together to experience to the great trail system that already exists in Butte.	2/2/2017 12:17 PM
331	better maintenance of bike lanes.	2/2/2017 12:05 PM
332	Promote bike safety in schools and biking programs and events for kids.	2/2/2017 11:39 AM
333	connect all the trails and major bike lanes	2/2/2017 11:19 AM

Q19 What is your age?

Answered: 533 Skipped: 0



Answer Choices	Responses	
Below 18	**1.31%**	7
18-24	**5.82%**	31
25-34	**16.51%**	88
35-44	**19.70%**	105
45-54	**22.33%**	119
55-64	**24.95%**	133
65-74	**7.50%**	40
74 or older	**1.88%**	10
Total		**533**

Q20 Please provide your email address if you are interested in being notified about events/happenings in our community surrounding active transportation.

Answered: 129 Skipped: 404

#	Responses	Date
1	debter1@hotmail.com	4/24/2017 10:22 PM
2	lkambich@aol.com	4/20/2017 1:41 PM
3	rodneynichols@msn.com	4/20/2017 5:13 AM
4	ivy.fredrickson@gmail.com	4/19/2017 11:49 AM
5	jimolsen308@gmail.com	4/19/2017 8:01 AM
6	dotwarner_17@msn.com	4/18/2017 3:21 PM
7	cwesleyhiggins@gmail.com	4/18/2017 1:38 PM
8	belmontannu@belmont.com	4/18/2017 10:54 AM
9	lovshinmom@hotmail.com	4/17/2017 12:26 PM
10	Cmwhite@aap.net	4/16/2017 12:51 PM
11	dptribe@gmail.com	4/15/2017 1:35 PM
12	wyssl@aol.com	4/15/2017 10:45 AM
13	healthlinkpt@gmail.com	4/15/2017 9:00 AM
14	bschuelke1942@gmail.com	4/14/2017 8:48 PM
15	themuse1969@yahoo.com	4/14/2017 7:57 PM
16	micknshirley@bresnan.net	4/14/2017 4:19 PM
17	kellyruffner@hotmail.com	4/14/2017 4:11 PM
18	psanders1910walnut@yahoo.com	4/14/2017 3:49 PM
19	jvanduyn@earthlink.net	4/14/2017 3:30 PM
20	frozan@bsb.mt.gov	4/14/2017 2:47 PM
21	Mtcooky@bresnan.net	4/13/2017 10:12 AM
22	shanemartin@hotmail.com	4/12/2017 2:50 PM
23	dsswi@Hotmail.com	4/12/2017 11:43 AM
24	mdavis@buttehousing.org	4/12/2017 9:19 AM
25	bdolsen.mt@gmail.com	4/12/2017 8:53 AM
26	Xavierandkt@msn.com	4/11/2017 7:13 PM
27	coleigh79@gmail.com	4/11/2017 7:10 PM
28	Damontman@hotmail.com	4/11/2017 6:11 PM
29	phillip.borup@butteymca.org	4/11/2017 5:25 PM
30	katysheehan@hotmail.com	4/11/2017 11:26 AM
31	REBanderob@outlook.com	4/11/2017 10:46 AM
32	Terryspath@yahoo.com	4/11/2017 9:37 AM
33	katedean406@gmail.com	4/11/2017 8:17 AM

34	kellympacker@gmail.com	4/11/2017 8:12 AM
35	blandblom@gmail.com	3/28/2017 4:15 PM
36	Buttegirl@gmail.com	3/27/2017 1:05 PM
37	TomR@prodigy.net	3/24/2017 9:48 AM
38	mary8042@gmail.com	3/17/2017 5:07 PM
39	Daniel.kaluza@northwestern.com	3/13/2017 5:27 PM
40	lovessauna@gmail.com	3/12/2017 12:37 PM
41	mlouzie@gmail.com	3/10/2017 8:36 PM
42	lakarhm@hotmail.com	3/10/2017 5:20 PM
43	1opendoor1@gmail.com	3/10/2017 10:50 AM
44	snowskimt@aol.com	3/10/2017 10:07 AM
45	onthedivide@rocketmail.com	3/9/2017 11:35 PM
46	tharps1689@gmail.com	3/9/2017 8:27 PM
47	humhead23@gmail.com	3/9/2017 1:18 PM
48	oscbond@yahoo.com	3/9/2017 12:33 PM
49	gonefishinginchina@gmail.com	3/9/2017 11:42 AM
50	mg.sullivan0@gmail.com	3/8/2017 8:07 PM
51	shawn.gleason@northwestern.com	3/8/2017 4:50 PM
52	brian.ranf@gmail.com	3/8/2017 3:57 PM
53	dwb.bentley@gmail.com	3/8/2017 3:56 PM
54	sure	3/8/2017 3:55 PM
55	darkkitten@gmail.com	3/3/2017 9:47 AM
56	gregoryjamesschulte@gmail.com	3/2/2017 8:59 PM
57	wapitimt@bresnan.net	3/2/2017 12:10 PM
58	healing.current55@gmail.com	2/24/2017 2:28 PM
59	sjschonsberg@gmail.com	2/24/2017 2:06 PM
60	karenquinn565@gmail.com	2/24/2017 1:57 PM
61	camimcewen@yahoo.com	2/24/2017 1:55 PM
62	minky-99@hotmail.com	2/24/2017 1:50 PM
63	tbillteen@live.com	2/24/2017 12:31 PM
64	tjpallister@live.com	2/21/2017 1:36 PM
65	imaginebutte@gmail.com	2/18/2017 12:16 PM
66	bridgetshop@gmail.com	2/17/2017 2:09 PM
67	anatoart@yahoo.com	2/17/2017 12:39 PM
68	david.abrams@gmail.com	2/17/2017 11:46 AM
69	catebock@hotmail.com	2/17/2017 9:13 AM
70	jml54@mac.com	2/17/2017 7:57 AM
71	rscoopshvl@yahoo.com	2/16/2017 5:22 PM
72	caricoe@gmail.com	2/16/2017 4:47 PM
73	stickmt@gmail.com	2/16/2017 3:11 PM
74	dcoe@mtech.edu	2/16/2017 2:52 PM

75	prieto.dario@gmail.com	2/16/2017 2:28 PM
76	Elijah.drew.hodges@gmail.com	2/16/2017 12:43 PM
77	mstosich@bsb.mt.com	2/15/2017 1:00 PM
78	Rebecca_mills@ymail.com	2/15/2017 10:49 AM
79	laibchuck@gmail.com	2/14/2017 3:42 PM
80	feelinpink@gmail.com	2/14/2017 8:08 AM
81	Smurf40@netzero.net	2/13/2017 6:37 PM
82	adam@agbenson.com	2/13/2017 4:29 PM
83	mike@mikepaffhausen.com	2/13/2017 12:28 PM
84	jvanduyn@earthlink.net	2/13/2017 9:53 AM
85	wulfpj@msn.com	2/13/2017 8:16 AM
86	hoangiao@gmail.com	2/12/2017 1:31 PM
87	Pegnregan@bresnan.net	2/11/2017 9:50 PM
88	Rkbirk@seanet.com	2/11/2017 12:44 PM
89	kfaulkner0988@gmail.com	2/11/2017 10:06 AM
90	Mariapochervina@gmail.com	2/10/2017 4:51 PM
91	mpphyfield@msn.com	2/10/2017 4:31 PM
92	faulknerte@gmail.com	2/10/2017 4:22 PM
93	kraczowsky@gmail.com	2/10/2017 10:07 AM
94	mtironman1@aol.com	2/9/2017 2:42 PM
95	RTIMary@gmail.com	2/9/2017 2:31 PM
96	chadtmoney@ymail.com	2/8/2017 11:56 AM
97	Conlanjohn@yahoo.com	2/7/2017 8:44 PM
98	ecnylund@hotmail.com	2/7/2017 3:45 PM
99	thunkler@gmail.com	2/7/2017 2:31 PM
100	kate.brockman@gmail.com	2/7/2017 9:47 AM
101	tuttyirish@gmail.com	2/6/2017 5:02 PM
102	spanisko@gmail.com	2/6/2017 4:51 PM
103	lightwoman333@gmail.com	2/6/2017 2:41 PM
104	Willoughbysa@gmail.com	2/6/2017 10:23 AM
105	katedean406@gmail.com	2/6/2017 9:51 AM
106	info@buttehalloween.com	2/5/2017 4:27 AM
107	dk693@yahoo.com	2/4/2017 2:56 PM
108	scoulthard@bresnan.net	2/3/2017 9:56 PM
109	jas058mt@gmail.com	2/3/2017 9:33 PM
110	Leslie.houchin@gmail.com	2/3/2017 8:02 PM
111	chris@thestonefly.com	2/3/2017 6:15 PM
112	tracyskocilich@benefis.org	2/3/2017 4:34 PM
113	jcgilman1572@gmail.com	2/3/2017 12:59 PM
114	frozan@bresnan.net	2/3/2017 12:44 PM
115	Sborduin@hotmail.com	2/3/2017 11:57 AM

116	trishasouthergill@gmail.com	2/3/2017 11:09 AM
117	linzilulu2@hotmail.com	2/3/2017 11:06 AM
118	kenglish@hrc12.org	2/3/2017 11:06 AM
119	emilyc@ncat.org	2/3/2017 10:56 AM
120	crghedval@gmail.com	2/3/2017 10:52 AM
121	ddolan@mt.gov	2/3/2017 10:23 AM
122	epperson.andy@gmail.com	2/3/2017 10:07 AM
123	abmadaarmom@gmail.com	2/3/2017 9:57 AM
124	psanders1910walnut@yahoo.com	2/3/2017 9:56 AM
125	Na	2/2/2017 7:41 PM
126	sierralutke@gmail.com	2/2/2017 2:30 PM
127	Scoester@gmail.com	2/2/2017 12:56 PM
128	ericbergyyz@gmail.com	2/2/2017 12:17 PM
129	tmichalek@centurylink.net	2/2/2017 11:39 AM

Q21 Are there any specific areas in our community that you believe should be prioritized for better walkability or bikeability?

Answered: 256 Skipped: 277

#	Responses	Date
1	neighborhoods. please don't just focus on recreation. walking for many of us is basic transportation. let's make it safe and as pleasant as it can be.	6/7/2017 4:17 PM
2	Continental all the way to park st	5/29/2017 8:46 PM
3	Connect existing trails in the community. There is very little ability to travel north/south without exposure to heavy traffic risk areas.	5/25/2017 9:35 AM
4	Uptown sidewalks	5/22/2017 11:54 AM
5	THE FLATS ARE IDEAL FOR BIKING BUT USE COMMON SENSE AND AVOID THE BUSY STREETS.	5/18/2017 8:09 AM
6	Anywhere you have to waste money painting signs on the road over and over, every ten feet. Spend that money putting more room and actual lanes for bikes on the road.	5/9/2017 8:47 AM
7	All of uptown Butte.	5/3/2017 2:32 PM
8	all sidewalks need snow shoveling on a regular basis	4/30/2017 6:57 PM
9	Better walkability should be developed in uptown Butte to help enhance this part of town. Also around schools and parks.	4/28/2017 4:17 PM
10	Rocker, Ramsay, Melrose, Fairmont, Divide	4/28/2017 3:56 PM
11	racetrack area, around East Middle School	4/24/2017 10:22 PM
12	I like the existing trail system but would like to see it expanded. Also when I drive by the school on Grand Ave by Continental I see bikes chained to the railings. Is there not a bike rack at a school?	4/20/2017 6:23 PM
13	No	4/20/2017 1:41 PM
14	Clean Uptown. Clean the exteriors of county buildings. Power wash the building the water department is in.	4/20/2017 1:18 PM
15	Remove the panhandlers from town that are bothering people by getting in their face.	4/20/2017 10:03 AM
16	YES, take a good look at John Sorich district. Lack of sidewalks, Lack of drivable streets. Lack of walkable streets.	4/20/2017 5:13 AM
17	Walking-uptown Butte	4/19/2017 9:25 AM
18	Extend bus hours	4/17/2017 5:50 PM
19	See comment above for question 18.	4/17/2017 10:06 AM
20	South Butte on Highway 2	4/17/2017 7:58 AM
21	No	4/16/2017 8:58 PM
22	The flats.	4/16/2017 12:51 PM
23	Uptown.	4/15/2017 1:35 PM
24	Uptown Butte for walking & the southern Flats area for biking	4/15/2017 10:45 AM
25	I'm not sure because although I would love a walking mall area uptown, a lot of people cannot participate because of the weather, physical conditions and hills.	4/15/2017 9:00 AM
26	Not at this time.	4/14/2017 8:48 PM
27	Yes, crosswalks at Plaza Mall entrance and sidewalks to Star Lanes constructed, then enforcecement of businesses to keep their portion of sidewalks clear during winter. Sidewalk constructed from Dewey to Holmes!	4/14/2017 7:57 PM
28	East Junior High area	4/14/2017 3:47 PM

29	the walking trail , by the geese trail needs to be kept up , geese poop, overgrowth of trees and homeless people living there makes me feel unsafe. my family that bikes feels that the roads are not mindful of bikers.	4/14/2017 3:01 PM
30	When there is an improvement in an area (sewer, gas line, phone or other utility) entire street should be re-surfaced and coordination of all underground utilities should be coordinated. This would reduce multiple street projects and allow for better/newer streets. Also coordinate curb and sidewalk repair/replacement with street projects. Develop master plan for this type of infrastructure repair/replacement. Coordinate with all utilities and entities that have underground structures.	4/14/2017 2:53 PM
31	Cobban street	4/14/2017 2:47 PM
32	Uptown...by creating connecting paths for walking and biking. For example, connect the current walk way that goes above the business district to the business district. Connect neighborhoods to the south of the business district to the district.	4/14/2017 2:42 PM
33	Flat areas	4/13/2017 4:00 PM
34	Platinum St around West Elementary and bike lanes or sidewalks on Rowe and Warren streets	4/12/2017 2:50 PM
35	Continental Road between the I 90 access and the 9 mile. It would also be good for highway 2	4/12/2017 11:43 AM
36	BIKE TRAILS,MAYBE ON THE OUT SKIRTS OF TOWN.	4/12/2017 11:41 AM
37	The flats, too hard to walk on the hill.	4/12/2017 9:22 AM
38	maintain the trails that are already in place. Perhaps pave the trail from Montana Tech to Rocker.	4/12/2017 9:19 AM
39	Basin Creek Rd is a favorite for bicycling. They are in the middle of the road and won't move over. A path along the street would be a safer solution or use the old Milwaukee tracks, that have been removed, for them.	4/12/2017 8:53 AM
40	Don't know	4/11/2017 11:56 PM
41	More sidewalks on the flat	4/11/2017 10:30 PM
42	Williamsburg	4/11/2017 7:13 PM
43	Skyline park, montana tech, big M, the walking trails along black tail creek from the chamber to father Sheehan park would be nice.	4/11/2017 7:10 PM
44	We have some nice trails but it would be great if they were connected	4/11/2017 6:43 PM
45	Helping kids get to school by walking or biking	4/11/2017 6:11 PM
46	continental drive is still unsafe with the changes the state made to the path. It is way too close to moving traffic. The walkway in front of the Country Club is still very unsafe- no connectivity from the 9 mile road to Elizabeth Warren that is safe.	4/11/2017 5:43 PM
47	Around parks and businesses first and then expand out to neighborhoods.	4/11/2017 5:25 PM
48	Uptown.	4/11/2017 4:05 PM
49	The uptown area	4/11/2017 11:26 AM
50	Encourage people to develop a frequent 5 minute walking habit.	4/11/2017 10:46 AM
51	Uptown and historic neighborhoods	4/11/2017 10:40 AM
52	uptown areas,	4/11/2017 8:49 AM
53	Continental Drive	4/11/2017 8:17 AM
54	uptown	4/11/2017 8:12 AM
55	Addressed it all already thank you	4/10/2017 11:31 AM
56	Uptown is our Diamond in the rough, lets do some polishing there.	4/3/2017 12:25 PM
57	Montana street and Rowe	3/28/2017 4:55 PM
58	We would like to see more bike paths, but a protected bike path along Continental Dr could be a great place to start. We just moved here from Denver/Boulder Colorado and we love the area but find the number of bike paths lacking. Thanks.	3/28/2017 4:15 PM
59	Uptown has a large contingent of people who rely on walking for transportation. Improving the accessablilty to safe consistent sidewalks would make it easier for the population utilize the compact nature of the uptown business district.	3/28/2017 4:11 PM

60	Above front street - the flats are flat, have wide streets, newer infrastructure, and easier access to parks, recreation, and entertainment - uptown needs the majority of funds - it's what people tink of when they think of butte.	3/28/2017 12:06 PM
61	Uptown	3/27/2017 10:59 PM
62	Oregon Ave, the best way to get across the insterstate but the bridge is really narrow. If the streets were linked and signed into the paths that would be good to. The path to ramsey is really fun and seems to be really popular (its almost always busy).	3/27/2017 6:14 PM
63	Uptown! Between Main and Montana especially.	3/27/2017 1:05 PM
64	Nobody should be afraid to walk or ride anywhere in this community. Butte is a beautiful place. My only complaints are related to the individuals that feel their animals are well behaved and don't need to be leashed. Leash laws need to be enforced as any animal can become aggressive, regardless of how well behaved they are. I love to walk my dogs, but have completely refrained from taking them on walks due to other animals we encounter on the way. Bicycle routes should not be in the midst of any street. Lanes are great, but I've already seen way too many cyclists trying to ride their bikes in the middle of traffic. They are not vehicles and should not be treated as if they are. The bike lane markers that are in the middle of the streets of Butte should be removed.	3/27/2017 11:46 AM
65	It would like to see more of the exiting pieces of the trail system linked together.	3/24/2017 9:48 AM
66	school area's	3/24/2017 8:13 AM
67	Side streets and alternative roads need priority for development and maintenance of sidewalks, lighting, signage, road improvement, bike lanes, and increased law enforcement presence.	3/20/2017 7:18 PM
68	Connect the trail system we have and continue adding to it.	3/17/2017 5:07 PM
69	The area behind Montana Tech west of Big Butte is has awesome potential, but needs to be controlled from fire arms and vehicle traffic.	3/13/2017 5:27 PM
70	We already have some great walking trails that need to be continually kept in shape.	3/12/2017 12:37 PM
71	creating connections between the flats and the hill and continuing the bike/walk trail system. i am not a huge fan of the shared bike lanes in existing roads. i feel that we have too many careless, intoxicated or otherwise distracted drivers and they are not very motivated or skilled at sharing roads with bikes. also focus on cleaning things up!	3/10/2017 8:36 PM
72	Uptown and along Continental Drive.	3/10/2017 5:20 PM
73	no	3/10/2017 10:50 AM
74	Replacing sidewalks in need of repair. TAKE A WALK AROUND UPTOWN BUTTE - THERE ARE MANY.	3/10/2017 10:07 AM
75	I don't have a specific area in mind, but I think the sidewalks in general should have higher priority. Biking uptown is miserable on those cracked, degenerate sidewalks.	3/10/2017 9:33 AM
76	West Park, Excelsior, Uptown core sidewalks and crosswalks. Thanks!	3/9/2017 11:35 PM
77	No specific areas, just improvement all around	3/9/2017 8:27 PM
78	rural areas like big butte or north to Moulton lake	3/9/2017 4:57 PM
79	Bill Anderson's District	3/9/2017 2:34 PM
80	Let's worry about infrasture such as roads, water and sewer LONG before were let government get involved in an activity that I have been easily enjoying for over 40 years.	3/9/2017 1:39 PM
81	Uptown, and its surrounding neighborhoods.	3/9/2017 1:38 PM
82	Continental, Montana from uptown to the flats, Harrison Ave.	3/9/2017 12:52 PM
83	The trail from Butte to Rocker.	3/9/2017 12:44 PM
84	In general, Uptown is the area of Butte most blighted and neglected. At the same time, Uptown is Butte's biggest asset - what makes it a truly unique place. I always feel that Uptown should be prioritized. If Uptown thrives, so too does the rest of Butte.	3/9/2017 12:02 PM
85	Granite Street is terrible for sidewalks and lights. The main streets should be the primary focus (Montana, Excelsior, Main, Park, Granite, and Front).	3/9/2017 11:42 AM
86	Uptown, side streets off of Harrison, areas around schools and parks.	3/9/2017 9:25 AM
87	Uptown area, we are always asked for spare change, the dog poop in terrible, and the lighting is insufficient.	3/9/2017 8:08 AM
88	Empire Street needs a sidewalk and a bridge improvement to allow safe pedestrian walking. I walk passed many elementary kids walking to Kennedy. There is not a good walkway between Main and Excelsior above Granite street.	3/8/2017 9:21 PM

89	Continental drive from Three Bears south	3/8/2017 8:07 PM
90	Could use a bike lane along side walking track between Harrison ave and Montana st .So walkers are not disturbed while they are walking.	3/8/2017 6:36 PM
91	(1) Enforce litter laws or make it a crime if it isn't already. (2) Encourage residents and businesses to keep their property free of litter year-round and free of snow and ice in the winter. (3) Encourage residents and businesses to plant and PROPERLY MAINTAIN trees to provide shade. (4) Make it illegal to top, tip, de-branch trees. Encourage healthy, strong, TALL trees!!!!!!!!	3/8/2017 5:59 PM
92	Sidewalks on Butte's main streets have a lot of obstructions that should be moved to make the sidewalks walkable and bicycle friendly. It's hard to walk 2 abreast on many of our sidewalks without running into these obstructions. Cleaning and maintenance also, need to improve.	3/8/2017 5:29 PM
93	Yes. Park Street between Montana and Excelsior is unsightly especially towards Excelsior and the curbs are not maintained and contain accumulated litter and dirt.	3/8/2017 5:24 PM
94	Uptown for sidewalks. they are hazardous, especially in winter.	3/8/2017 5:21 PM
95	POTHOLES	3/8/2017 4:54 PM
96	Highway #2 & Continental Drive.	3/8/2017 4:50 PM
97	No.	3/8/2017 4:36 PM
98	Along Continental and connecting to other existing trails.	3/8/2017 4:33 PM
99	A bike path in the area of NCAT	3/8/2017 4:20 PM
100	UPTOWN BUTTE	3/8/2017 4:13 PM
101	Areas near parks. We live near Clark's park and must take a roundabout way to walk to the park with our small children. Many sidewalks are in awful disrepair (or non existent) making it impossible for our children to ride their bikes without going into the street.	3/8/2017 4:09 PM
102	The Continental and Mount Highland Dr area would be a great place to start.	3/8/2017 4:08 PM
103	Uptown. Around the college.	3/8/2017 4:08 PM
104	The "Flat Area" redo the Continental Drive trail, keep dogs locked in the Blacktail Loop area	3/8/2017 4:01 PM
105	I think you should focus more on what can be done with the roads during the winter and sever storms. I am tired of taking my life in my hands driving to work after a snow storm. I cannot believe the sanders and plows do not begin working before 6 am on weekdays and you NEVER see them on the weekends. We have the best snow removal equipment, but it's hardly used. This is very frustrating. Walking and biking is great BUT it is more dangerous to drive on the slippery, pot holed roads. PRIORITIES!!	3/8/2017 4:00 PM
106	the flat	3/8/2017 3:58 PM
107	Many newer residential areas have no sidewalks.	3/8/2017 3:58 PM
108	continental drive bike lanes are just paint, very unsafe; painting a charette on streets is a joke and waste of money, very dangerous and delusional	3/8/2017 3:55 PM
109	A bike lane along side Continental Drive from the Interstate exit to Highway One.	3/4/2017 12:21 PM
110	Uptown	3/3/2017 4:25 PM
111	No Specific areas, they all need attention for walkers	3/3/2017 9:47 AM
112	Prioritization should be more on streets and sidewalks on side streets that tend to get overlooked.	3/2/2017 12:10 PM
113	Glad to see so many corners getting the curb cuts so bikes and wheelchairs, etc can get around better.	2/28/2017 7:08 PM
114	Park St., Broadway.	2/26/2017 8:20 PM
115	Harrison Ave from I-90 to Wal-Mart. All of Busch St. W. Park from Idaho to Tech. Residents on southside of W. Park as well as Excelsior are negligent.	2/24/2017 2:28 PM
116	Areas by East Middle School have no sidewalks.	2/24/2017 2:08 PM
117	Uptown Butte	2/24/2017 2:06 PM
118	Blacktail lane- I always run along that road and there is hardly any sidewalk by the golf course. I am worried one day either my dog or I will end up getting hit.	2/24/2017 2:03 PM
119	Uptown Butte- very unique and needs to be beautified and publicized.	2/24/2017 1:55 PM

120	Uptown is already a place that is fun to walk so I think prioritizing that would improve walking for more people since more people already seem to walk there. Larger Demographic.	2/24/2017 1:50 PM
121	Uptown and Harrison Avenue. (If you are not near a traffic light on Harrison Avenue it is not easy and somewhat dangerous to cross)	2/24/2017 12:31 PM
122	No I believe that the city does an amazing job in keeping walking trail clean and safe.	2/24/2017 10:31 AM
123	near Tech, uptown ps. it would help if this survey had live links not only for commissioners but also from BSB website, many people have difficulties using computers	2/23/2017 7:32 PM
124	Snow removal	2/23/2017 12:45 PM
125	all could be better for biking and walking	2/22/2017 4:51 PM
126	Along Continental.	2/22/2017 1:07 PM
127	Lots of Sharrows in my area, very few users.	2/22/2017 9:35 AM
128	NONE	2/22/2017 8:36 AM
129	Uptown Butte's central business district and its connectivity points to the hill's trail systems, access to green space.	2/18/2017 12:16 PM
130	Biking from the west side to Copper Mountain is really dangerous because you have to go down Montana St from just below Iron all the way to Rowe Rd before it is safe again. I know it is difficult but please investigate a route from the Travonia area to Centennial by Metro Sewer over the creek, under the Interstate, behind the cemetery to Copper Mountain.	2/17/2017 11:47 PM
131	'The hill' is great for exercise but it's terrible for bicycling safely. Main, Montana, Park, Granite are pretty scary due to cars.	2/17/2017 2:09 PM
132	Cobban Street between Utah Street and Kaw has no sidewalks and is a very unsafe area for pedestrians. It is also the only link between Kaw and that neighborhood without taking a very large detour.	2/17/2017 12:39 PM
133	More interconnected trails on the Flats.	2/17/2017 11:46 AM
134	Park Street corridor NEEDS to be improved/beautified. This is the entryway to Montana Tech and it currently deters potential students and parents who see that entryway and immediately decide "I don't" or "I don't want my child to live in this town".	2/17/2017 10:16 AM
135	I would like to see walking trail on continental dr improved between Elisabeth Warren and Mount Highland drive.	2/17/2017 9:13 AM
136	Better approaches to uptown from the flats. There are no trails. You have to use a main (busy) street.	2/17/2017 7:57 AM
137	Safe access to uptown; safe access to businesses on 'the flats'.	2/16/2017 5:57 PM
138	I believe the state/county has to install better lighting along Harrison Ave. In the recent past there have been 2 people hit and 1 person who died in the civic center/trail area. I feel they were hit because of poor lighting conditions because I almost hit someone in the same place not to long ago. Lighting is horrible on the entire street. I would suggest Crosswalks & Improved Lighting for both walkers & bikers. Thank You :)	2/16/2017 5:22 PM
139	no.	2/16/2017 5:18 PM
140	Uptown.	2/16/2017 4:47 PM
141	Sidewalks on W Granite St.	2/16/2017 3:11 PM
142	Uptown	2/16/2017 2:52 PM
143	Excelsior and Park Street. As mentioned earlier, these are the main areas that give not only Montana Tech, but Butte a bad impression because they are in horrible shape.	2/16/2017 2:33 PM
144	Uptown.	2/16/2017 2:28 PM
145	Front street is busy, but you have to cross it in order to get off the bus heading away from mtech. A crosswalk at Maryland or California could alleviate this.	2/16/2017 12:43 PM
146	FIX THE SIDEWALKS IN UPTOWN BUTTE	2/15/2017 2:55 PM
147	Uptown Butte for walkability	2/15/2017 1:09 PM
148	BSB does great work! I have been particularly impressed this year by the speedy snow removal and sanding. Thank you BSB!	2/15/2017 10:57 AM
149	Parks and School Areas	2/15/2017 8:56 AM

150	Keep repainting current bike routes, they get most people to work and most places. Next add Continental corridor to Thompson Park and top of Harding way. This is dominant route of mountain bikers to trail system and roadies to most popular climb. This is also on tour company routes su h as ADVENTURE Cycling Association.	2/14/2017 8:08 AM
151	Centennial ave	2/13/2017 11:06 PM
152	The homeless people on the walking path, should be patrolled more.	2/13/2017 5:41 PM
153	The trail by the Chamber is great, but the trail on Continental was removed. It was used daily by many, but not now. We need something on the flats.	2/13/2017 5:35 PM
154	-See Answers Above-	2/13/2017 4:29 PM
155	Better walkabilty on Harrison Avenue specifically where the bus stops are (signs was placed improperly on Copper/Excel, should be on Caledonia/Excel, some stops are too far spread apart and inconvenient between stops) and how fast the lights change, you can hardly cross the street before the light changes on you, specifically from the transfer station to Stokes Market. Traffic speed by Walmart is too fast and is a safety issue for pedestrians and cars.	2/13/2017 3:31 PM
156	It would be nice on some of the busier streets (Contiental, Harrison etc) so that kids can get to some things they need to whether walking or biking.	2/13/2017 2:58 PM
157	neighborhood routes to parks	2/13/2017 2:40 PM
158	Uptown Butte is really interesting, and the area north of uptown with its older homes is also really interesting. I don't mind hills. Maybe have a walking tour guide for some of the more interesting neighborhoods. Public restrooms in strategic areas along walking trails.	2/13/2017 2:40 PM
159	Better access over Harrison Avenue, especially south of civic center	2/13/2017 2:35 PM
160	Beef Trail Road Area ... connecting to Copper Mountain Rec Park.	2/13/2017 12:22 PM
161	Harrison Ave. for practicable purposes.	2/13/2017 9:53 AM
162	keep the walking trails mosquito free, (as best as possible) keep it maintained from ice and snow (as best as it can be) more lighting , and clear of geese feces. and, let the public know hours people can walk at the Civic Center	2/13/2017 9:35 AM
163	More Greenbelts	2/13/2017 8:16 AM
164	Uptown for walkability, trails for biking/walking, and downtown for biking bc it's flat. Diehards don't need infrastructure to bike uptown.	2/12/2017 3:37 PM
165	Uptown butte historic district	2/12/2017 1:31 PM
166	connect the walking trail that ends at Montana street with the Whiskey Gulch trail.	2/12/2017 1:28 PM
167	The existing walking trails are very nice	2/11/2017 9:50 PM
168	NOTE: This is NOT a transportation study. It is a bike survey! Why is BSB so hung-up on biking??? We are not Missoula.	2/11/2017 5:52 PM
169	Continental Drive and Hwy 2	2/11/2017 1:31 PM
170	So many streets don't have basic sidewalks or lighting! Education, especially for seniors who don't believe Butte can be a bike-able town.	2/11/2017 12:44 PM
171	Harrison Ave/Highlands college area, Emerson area. Updated sidewalks and adding sidewalks in these areas are needed.	2/11/2017 10:06 AM
172	Make property owners responsible for their property and sidewalks!!!	2/10/2017 6:05 PM
173	Uptown	2/10/2017 5:48 PM
174	Walking trail	2/10/2017 5:10 PM
175	On our urban trail at times and Uptown if the rescue mission is moved to North Main Street	2/10/2017 4:51 PM
176	Holmes By the Stodden Golf area desperately needs a sidewalk.	2/10/2017 4:45 PM
177	NO	2/10/2017 4:32 PM
178	uptown area	2/10/2017 4:31 PM
179	Put sidewalks/gutters in all the flats neighborhoods and do not make the homeowners pay for it...except for the taxes they already pay. That is the kind of thing we pay taxes for.	2/10/2017 4:26 PM
180	equity for all	2/10/2017 4:25 PM

181	Access to continued trail routes. Develop a plan that connects trail options without using public streets or secondary highways. These are the areas that I usually encounter conflict with motorists.	2/10/2017 4:22 PM
182	areas around schools, esp. Tech. Parking is tricky around Tech and better access (paths, lighting, sidewalk repair) for walkers and bikers might encourage folks who are able & willing.	2/10/2017 4:00 PM
183	Uptown to flats corridor!	2/10/2017 2:52 PM
184	Uptown Butte	2/9/2017 6:25 PM
185	downtown/flats areas of Butte	2/9/2017 2:42 PM
186	I live along the Copperway trail so think my Uptown neighborhood got a heads up in comparison with the rest of the community.	2/9/2017 2:31 PM
187	Park Street up to Tech and Park Street down to the Flatts/Continental Drive	2/8/2017 5:32 PM
188	Maybe connecting community spaces with bike lanes or trails. Similar to the gallagator trail in Bozeman. Have a path that goes from park to park or to the YMCA and over to Stodden park and/or by some restaurants or grocery stores, etc.	2/7/2017 8:56 PM
189	The area from Montana and Front Street to Whiskey Gulch trail head would be perfect for a bike/walking lane.	2/7/2017 8:44 PM
190	connect paths uptown with downtown. Specifically a bridge over Montana Street near the railroad.	2/7/2017 3:45 PM
191	Uptown poses a close-proximity areas for walking, shops and events that encourage uptown usage, and businesses and events can also draw people. The town shouldn't be embarrassing, run down, broken, and shoddy.	2/7/2017 2:38 PM
192	I think bike lanes connecting to the copper way trail are imperative. I also feel that cross walks for the intersections mentioned in question 9 - Clark and Park, Park and Excelsior, Granite and Excelsior should have better signage, line painting and general awareness.	2/7/2017 2:31 PM
193	Uptown Butte - Many establishments, businesses, and residential areas are within walking distance to one another. It is also the oldest, most historic, and most tourist-oriented area in Butte.	2/7/2017 1:43 PM
194	I like to walk around my own neighborhood in the areas between Front Street and Platinum Street but the sidewalks are terrible. I really feel like this area of town is so often overlooked. Main Street has been fixed up nicely with nice sidewalks and street lights but just turn any corner off of Main and the whole area is terrible. Crumbling sidewalks everywhere, no street lights, etc. I also love the walking trails but have noticed an influx of homeless people on the trail around the visitor center. There needs to be some sort of patrol down there or maybe some lighting put it in.	2/7/2017 11:42 AM
195	Everything in Butte City Limits	2/7/2017 10:10 AM
196	The uptown area where there are local business are and where tourists come to experience Butte. With a nice downtown where businesses can have tables out front, plants and walking areas people will stay longer and spend more money!	2/7/2017 9:47 AM
197	walkways to schools Continental Drive	2/6/2017 5:02 PM
198	Routes to schools and shopping - not just for recreation	2/6/2017 4:27 PM
199	Centennial Ave/Santa Claus Lane Crossing Harrison Ave/ parallel route to Harrison	2/6/2017 2:56 PM
200	Uptown, uptown, uptown!	2/6/2017 2:41 PM
201	Uptown and surrounding areas. The corridors to schools.	2/6/2017 11:26 AM
202	Flat area	2/6/2017 10:23 AM
203	Simply complete plans to connect existing trails within the city to access more areas.	2/6/2017 10:21 AM
204	Getting from the flats to uptown area.	2/6/2017 9:51 AM
205	Safer community to enjoy these activities and infrastructure improvements.	2/6/2017 9:44 AM
206	Margret Leary school area	2/5/2017 12:44 PM
207	campus, uptown	2/4/2017 2:56 PM
208	Link the trail at chamber of commerce to the greenway trail west	2/4/2017 6:55 AM
209	Rowe road is horrible. I think this would be a good place to put in an actual sidewalk. also uptown, there are quite a few streets without sidewalks.	2/3/2017 11:11 PM
210	Increased need to improve crumbling/neglected sidewalks in the Uptown Residential areas	2/3/2017 9:56 PM
211	not really	2/3/2017 9:33 PM

212	the parks	2/3/2017 6:04 PM
213	Uptown walking trail needs lights !!!!	2/3/2017 5:57 PM
214	A side walk should be built from Hansen road to copper king park! Or the grass path needs to be cut! The sidewalks all the way to the YMCA should be cleared during the winter seasons!	2/3/2017 3:06 PM
215	Connecting uptown to flats trails	2/3/2017 2:44 PM
216	Can't think of any.	2/3/2017 2:09 PM
217	Continental drive	2/3/2017 1:32 PM
218	Visitors center connectivity to the west.	2/3/2017 1:16 PM
219	Number one thing is safety.	2/3/2017 1:13 PM
220	Rocker/Ramsay trails	2/3/2017 12:59 PM
221	Cobban Street	2/3/2017 12:44 PM
222	#17 no new taxes, cancel pool levy, stick to legitimate government spending.	2/3/2017 12:29 PM
223	School routes and residential to commercial routes.	2/3/2017 11:57 AM
224	Uptown. Corridor down Park St. to MTech.	2/3/2017 11:09 AM
225	Continental Street leading all the way to uptown	2/3/2017 11:06 AM
226	No, I believe the walking/biking paths are great.	2/3/2017 11:06 AM
227	Snow and ice on the sidewalks	2/3/2017 10:56 AM
228	No	2/3/2017 10:52 AM
229	Centerville, Walkerville	2/3/2017 10:51 AM
230	Walking access to Maude S Canyon along Continental Drive	2/3/2017 10:50 AM
231	1 mile around schools	2/3/2017 10:35 AM
232	Uptown Butte	2/3/2017 10:07 AM
233	A bike path at Continental Drive and Texas Ave that goes over/beside/around/under that bridge heading uptown	2/3/2017 10:04 AM
234	Harrison Avenue, Walking Trails, and Uptown Butte business area.	2/3/2017 9:56 AM
235	Better lighting and better sidewalks.	2/3/2017 9:56 AM
236	Safe lane between Harrison and continental	2/3/2017 8:41 AM
237	Keep on connecting the trails! Our nearby walking path is cleared, of snow, frequently --and makes such a difference! We love getting outside all year ...but especially in the winter ...when other areas are harder to drive to.	2/2/2017 10:26 PM
238	Main Street/ Uptown Butte	2/2/2017 10:06 PM
239	Just the 2 I mentioned above.	2/2/2017 8:38 PM
240	By the civic center	2/2/2017 8:13 PM
241	Connect flats to uptown... connect town to Thompson park	2/2/2017 7:56 PM
242	Uptown for walking. Continental Drive for biking.	2/2/2017 7:41 PM
243	Around Front St and Montana to connect to the bike path to Rocker	2/2/2017 5:17 PM
244	Harrison Avenue.	2/2/2017 4:48 PM
245	finish trail system. connect the hill to an extensive trail that covers the flats.	2/2/2017 4:26 PM
246	Uptown to the flats and all of Continental out past Wagner's and beyond.	2/2/2017 2:30 PM
247	Main roads for traveling in the city need walking or bike lanes	2/2/2017 1:27 PM
248	Uptown	2/2/2017 12:56 PM
249	Uptown street repair.	2/2/2017 12:52 PM
250	Snow clearing on streets sidewalks along busy streets	2/2/2017 12:47 PM

251	Uptown neighborhoods around the business district.	2/2/2017 12:42 PM
252	Residential areas and connecting trails to parks! I would love to see better inter-connectivity for all of Butte's parks. Off street routes would be great (like the walking trail by the chamber or the BA&P trail uptown, but all over and connected)	2/2/2017 12:19 PM
253	Areas around schools. Uptown.	2/2/2017 12:17 PM
254	I think a north/south bike route other than Main st makes more sense, maybe Dakota or Colorado. The sidewalks on Park st to campus are horrendous for walking, either nonexistent or covered in snow/debris and unlit. Tech could do a lot more to encourage riding/walking	2/2/2017 12:05 PM
255	Areas around schools. Connecting to rural paths and trails.	2/2/2017 11:39 AM
256	Montana Street and connection of trail to Whiskey Gulch	2/2/2017 11:19 AM