



MISSOULA URBAN TRANSPORTATION DISTRICT

COMPREHENSIVE OPERATIONAL ANALYSIS OF MOUNTAIN LINE

Final Report

July 2012



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1 INTRODUCTION

A Comprehensive Operational Analysis (COA) is a thorough assessment of how well a transit system is operating and makes suggestions on how to improve service.

This COA Report forms the foundation of Mountain Line's short-term transit planning. It assesses how well existing services are operating, and what changes are recommended to address unmet needs, operational issues, and planned growth in the community.

Specific elements described includes a full description of current conditions, such as current and past ridership and operating statistics, a peer review, a review of plans and projects from several public and private agencies in Missoula County, an overview of the system's goals and objectives, and an analysis of the service area's population and demographic characteristics.

Market research, including both user- and non-user surveys, as well as stakeholder and focus groups, is summarized herein.

The report also describes the initial recommendations that were developed, and the public response to these recommendations. Finally, a preferred alternative— Mountain Line's roadmap for future service— is presented.

2 SYSTEM OVERVIEW

This chapter provides an overview of the Mountain Line system as well as fixed-route and paratransit operating statistics and trends. Individual route profiles, which are detailed descriptions of each individual route's operating characteristics, are located in Chapter 8.

Mountain Line operates fixed-route, paratransit, and a senior van service throughout the Missoula area. There are a total of 12 fixed routes:

- Route 1 – Downtown / University / Community Hospital
- Route 2 – Target / Southgate Mall
- Route 3 – Northside
- Route 4 – East Broadway Park and Ride / East Missoula / Bonner
- Route 5 – Rattlesnake
- Route 6 – Higgins / Dornblaser / Opportunity Resources / Southgate Mall
- Route 7 – Downtown / Southgate Mall / Wal-Mart
- Route 8 – Adams Center / 5th / 6th / Southgate Mall
- Route 9 – Target Range / Community Hospital
- Route 10 – Mullan Rd / El Mar / Smurfit Stone / Airport
- Route 11 – N Reserve St / Expressway / Airport
- Route 12 – Downtown / University / Dornblaser / South Hills

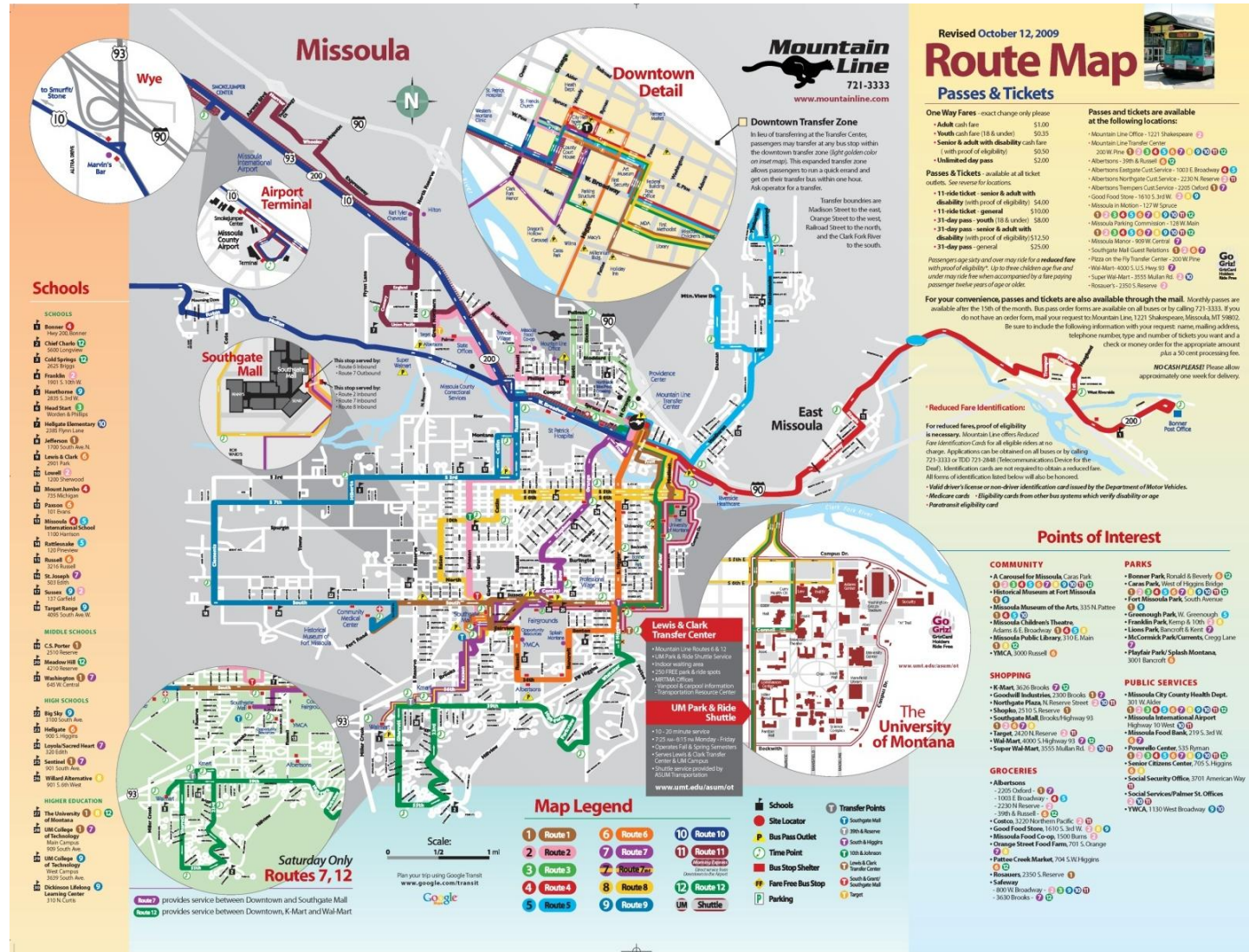
Hours of operation are 5:35 AM to 8:15 PM on weekdays and 9:36 AM to 6:15 PM on Saturdays. All routes operate on Saturday except routes 10 and 11. There is no Sunday service. Operating frequency varies by route. Most routes operate every 30 to 60 minutes during midday and peak periods and every 60 to 90 minutes on Saturday. All routes serve the Transfer Center in downtown Missoula, and most routes arrive and depart around 15 and 45 minutes after each hour to allow for easy transfers.

In addition to the 12 normal routes, there are special routes that operate during certain times of the year. The following routes are not analyzed in this document:

- Saturday Market Service - Service between the Lewis and Clark Transfer Center and Dornblaser Park and Ride lots and the Farmers' Market, People's Market, and the Clark Fork Market in Downtown Missoula. Operates on Saturdays from April to September.
- Out to Lunch Service – Service between the Lewis and Clark Transfer Center and Dornblaser Park and Ride lots and Caras Park in downtown Missoula for the Out to Lunch summer concert series. Operates on Wednesdays from June to August.
- Western Montana Fair Routes – Bus service to and from the Western Montana Fair.

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Figure 1 Mountain Line System Route Map as of October 2009



Fixed Route Assessment

Current Conditions

The following tables and charts present current operating statistics for Mountain Line routes. They are based on data provided by Mountain Line as well as boarding/alighting and on-time data collected in a recent ridecheck effort. Surveyors rode every trip run by Mountain Line on a weekday and Saturday on October 26, 27, and 29, 2011 and recorded the ridership activity and timeliness.

Weekday

Figure 2 presents weekday operating statistics and productivity metrics for all routes as well as the system average. The number of boardings per route is generally correlated with the number of service hours, where high ridership routes have the most service. Operating speeds are between 10 and 15 miles per hour for routes that operate primarily within the urban core and above 15 miles per hour on those that operate primarily outside the core.

Figure 2 Weekday Operating Statistics by Route

Route	Boardings	Service Hours	Passengers per Hour	Revenue Miles	Passengers per Mile	Operating Speed
1	633	20.7	30.6	229.9	2.8	11.1
2	541	23.3	23.3	285.6	1.9	12.3
3	91	4.8	19.0	62.4	1.5	13.0
4	202	10.9	18.6	199.1	1.0	18.3
5	133	9.1	14.6	161.0	0.8	17.7
6	374	17.4	21.5	193.6	1.9	11.1
7	344	18.0	19.1	199.8	1.7	11.1
8	262	14.0	18.7	148.4	1.8	10.6
9	295	13.4	22.0	223.6	1.3	16.7
10	89	8.0	11.1	221.6	0.4	27.7
11	115	9.6	12.0	153.7	0.8	16.0
12	334	17.7	18.9	276.8	1.2	15.6
System Totals	3,413	166.9	20.5	2,355.5	1.5	15.1

Figure 3 shows weekday boardings per service hour by route. The average productivity of the Mountain Line system is 20.5 boardings per service hour. Route 1 has by far the highest productivity, with 30.6 boardings per service hour. Routes 11 and 10 have the lowest productivity with 12 and 11.1 boardings per service hour, respectively. Routes that operate primarily within the urban core do not necessarily have higher productivity than those that do not. This is seen with Route 9, which serves Target Range and Orchard Homes, and is more productive than routes 6, 7, and 8.

Figure 3 Weekday Boardings per Service Hour by Route

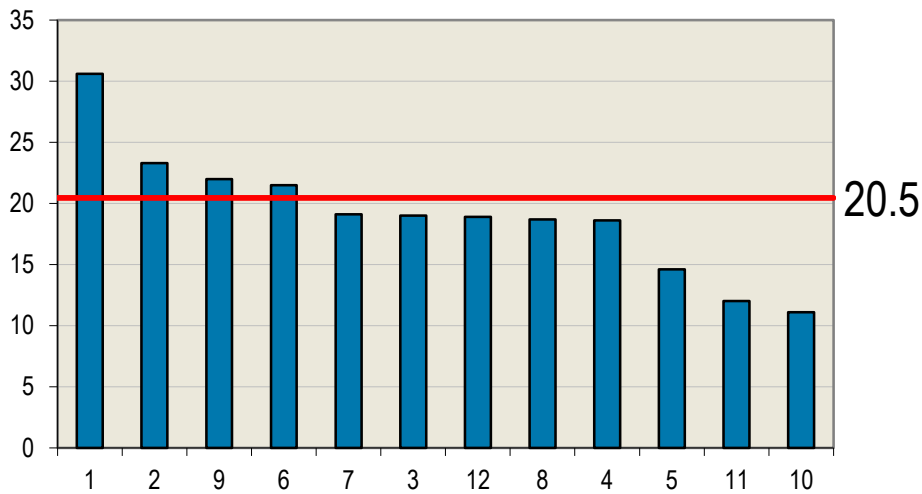


Figure 4 and Figure 5 present weekday on-time performance by route. The percentages are calculated by comparing the scheduled time that the bus was supposed to arrive at a time point with the actual time it arrived. A bus is considered “early” if it arrives at least one minute before the scheduled time and “late” if it arrives more than five minutes after the scheduled time. For example, a route with an on-time percentage of 75% arrives exactly on-time at time points 75% of the time.

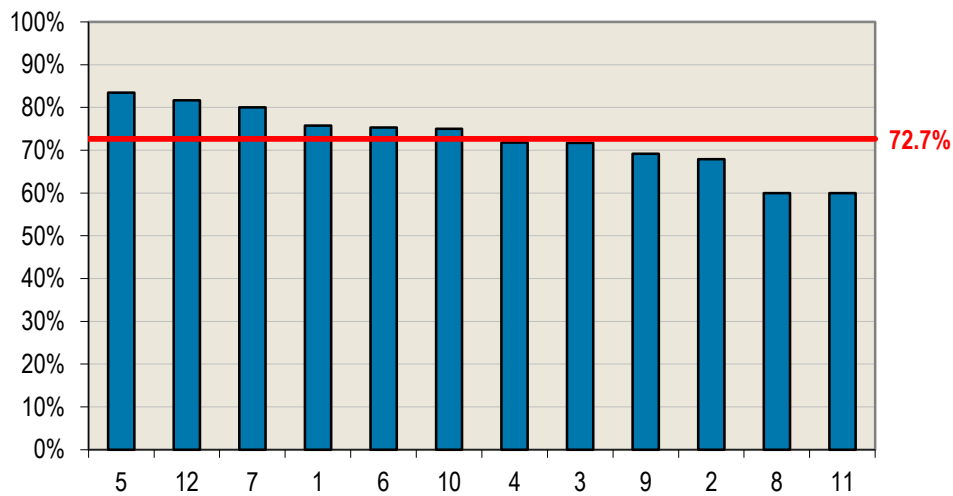
Overall, Mountain Line routes are on-time 72.7% of the time. Technically, Route 5 has the highest on-time percentage at 83.5%, but in reality it frequently arrives late (by several minutes, which does not qualify as ‘late’ by on-time performance standards) at the Transfer Center, making transfers to other routes more difficult unless the buses wait for Route 5. The routes with the worst on-time performance (8 and 11) have poor performance because they arrive early a large percentage of the time.

It should be noted that on-time performance data were collected in good weather conditions. Snow and ice are common during the winter months and often contribute to significantly worse on-time performance.

Figure 4 Weekday On-Time Performance by Route

Route	On-Time	Early	Late
1	75.8%	15.9%	8.2%
2	67.9%	27.9%	4.2%
3	71.7%	22.2%	6.1%
4	71.8%	11.8%	16.4%
5	83.5%	1.8%	14.6%
6	75.3%	21.2%	3.5%
7	80.0%	17.8%	2.2%
8	60.0%	40.0%	0.0%
9	69.2%	9.2%	21.5%
10	75.0%	16.7%	8.3%
11	60.0%	35.0%	5.0%
12	81.7%	8.3%	10.0%
System Average	72.7%	19.0%	8.3%

Figure 5 Weekday On-Time Percentage by Route



Saturday

Figure 6 presents Saturday operating statistics and productivity metrics for all routes operated on Saturday as well as the system average. Route performance varies widely, with a low of 24 daily boardings for Route 3 and a high of 230 daily boardings for Route 2.

Figure 6 Saturday Operating Statistics by Route

Route	Boardings	Service Hours	Passengers per Hour	Revenue Miles	Passengers per Mile	Operating Speed
1	142	7.7	18.6	85.6	1.7	11.1
2	230	8.9	25.9	110.6	2.1	12.4
3	24	2.0	12.0	25.6	0.9	12.8
4	31	3.4	9.1	61.8	0.5	18.2
5	52	5.0	10.4	83.0	0.6	16.6
6	75	6.9	10.9	75.2	1.0	10.9
7	65	4.7	13.9	88.8	0.7	18.9
8	89	8.0	11.1	84.8	1.0	10.6
9	25	4.4	5.7	77.5	0.3	17.6
12	102	7.6	13.5	115.7	0.9	15.2
System Totals	835	59	14.3	809	1.0	13.8

Figure 7 shows Saturday boardings per service hour by route. The average productivity of Mountain Line routes on Saturday is 14.3 boardings per service hour. Route 2 is significantly more productive than other routes, with 25.9 boardings per service hour. Route 9 has the lowest productivity, with 5.7 boardings per service hour, followed by Route 4, which has 9.1 boardings per service hour.

Figure 7 Saturday Boardings per Service Hour by Route

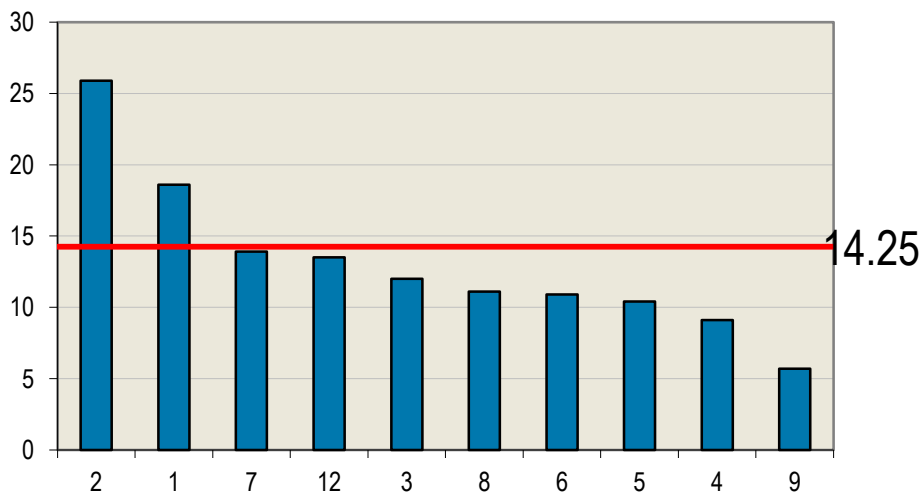
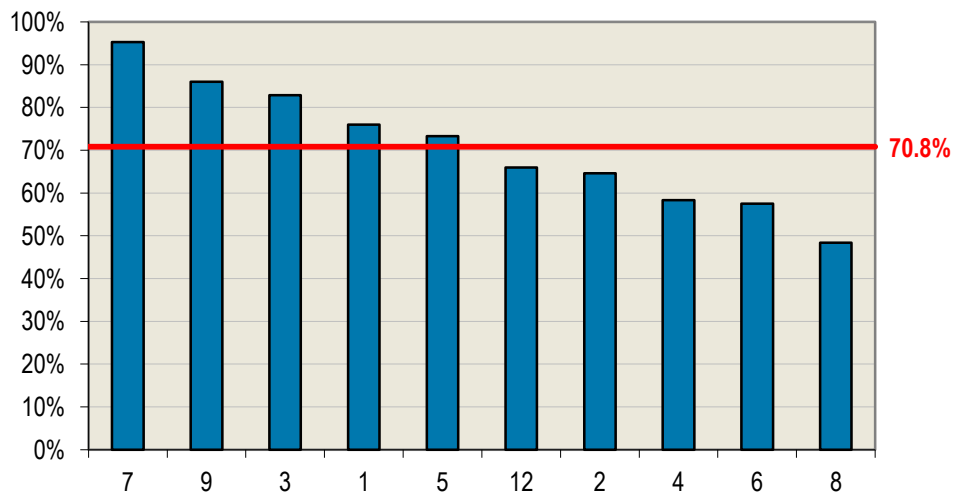


Figure 8 and Figure 9 present Saturday on-time performance by route. Overall, Mountain Line routes are on-time 72.7% of the time on Saturday. Route 7 has the highest percentage of on-time trips at 95.3%, while Route 8 has the lowest percentage at 48.4%. Route 8 has the highest percentage of early trips at 51.6%, and Route 5 has the highest percentage of late trips at 16.7%.

Figure 8 Saturday On-Time Performance by Route

Route	On-Time	Early	Late
1	76.0%	24.0%	0.0%
2	64.6%	31.7%	3.7%
3	82.9%	8.5%	0.0%
4	58.3%	36.1%	5.6%
5	73.3%	10.0%	16.7%
6	57.5%	38.7%	3.8%
7	95.3%	4.7%	0.0%
8	48.4%	51.6%	0.0%
9	86.0%	14.0%	0.0%
12	66.0%	34.0%	0.0%
System Average	70.8%	25.3%	3.0%

Figure 9 Saturday On-Time Percentage by Route



Historical Trends

The following charts and tables present historical operating trends for Mountain Line routes and were derived from internal Mountain Line data.

Figure 10 presents fixed-route operating trends for FY 2007 – FY 2011. Ridership increased by almost 18% during the five-year period, from 735,243 annual passengers to 865,601. Ridership increased from one year to the next in every year but FY 2010, when there was a decrease. The amount of service operated by Mountain Line also increased during that period, from 39,395

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revenue hours in FY 2007 to 45,528 revenue hours in FY 2011, for a change of 15.6%. The relatively equal increases in ridership and revenue hours mean that productivity has remained flat, with an increase in passengers per hour of 1.9%. However, recently the system has seen significant increases in passengers per hour, from 17.53 in FY 2010 to 19.01 in FY 2011, an increase of 8.4%. This was caused by a 9.3% increase in ridership with just a 0.8% increase in revenue hours.

Figures 11 and 12 present fixed-route ridership and passengers per revenue hour by month for FY 2007 – FY 2011.

Figure 10 Fixed-Route Operating Trends

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	% Change (2007-2011)
Service Operated						
Vehicle Revenue Hours	39,395	42,039	44,641	45,148	45,528	15.6%
Vehicle Revenue Miles	596,612	619,521	633,162	636,348	641,771	7.6%
Total Vehicle Miles	617,579	633,029	682,610	671,328	676,812	9.6%
Passenger Boardings						
Revenue Passengers	655,725	714,697	745,430	712,451	777,344	18.5%
Transfer Passengers	79,518	80,519	83,457	79,170	88,257	11.0%
Total Passengers	735,243	795,216	828,887	791,621	865,601	17.7%
Expenses & Revenues						
Total Operating Expenses	\$3,031,734	3,107,700	\$3,407,260	\$3,507,935	\$3,507,493	15.7%
Total Passenger Revenue	\$319,708	351,257	\$399,465	\$403,200	\$404,211	26.4%
Metrics						
System Speed (Rev Miles/Rev Hours)	15.14	14.74	14.18	14.09	14.10	-6.9%
Passengers per Mile	1.23	1.28	1.31	1.24	1.35	9.8%
Passengers per Hour	18.66	18.92	18.57	17.53	19.01	1.9%
Operating Expense per Rev. Mile	\$5.08	\$5.02	\$5.38	\$5.51	\$5.56	9.4%
Operating Expense per Rev. Hour	\$76.96	\$73.92	\$76.33	\$77.70	\$78.42	1.9%
Operating Expense per Pass. Trip	\$4.12	\$3.91	\$4.11	\$4.43	\$4.12	0.0%

Figure 11 Fixed-Route Ridership by Month

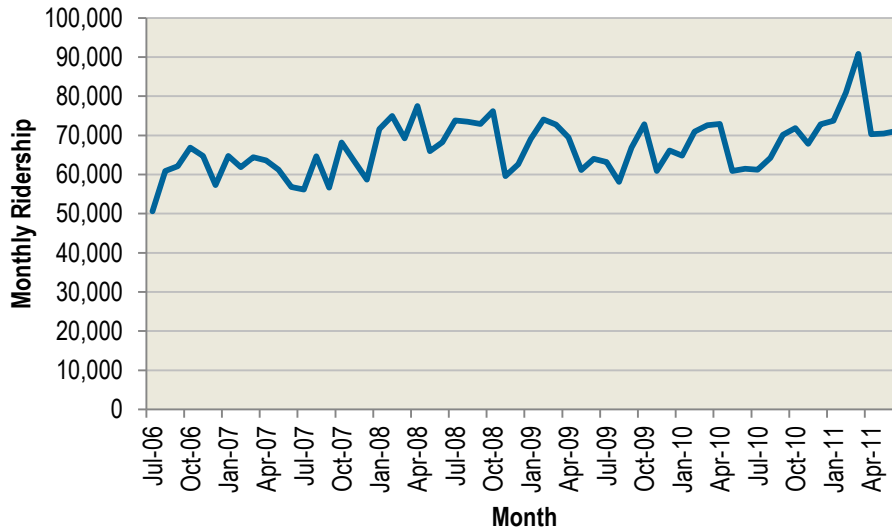


Figure 12 Fixed-Route Passengers per Revenue Hour by Month

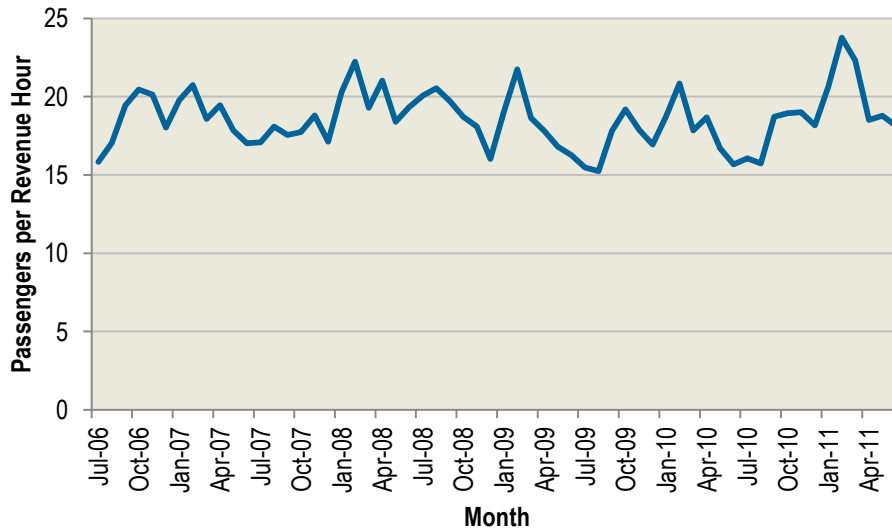
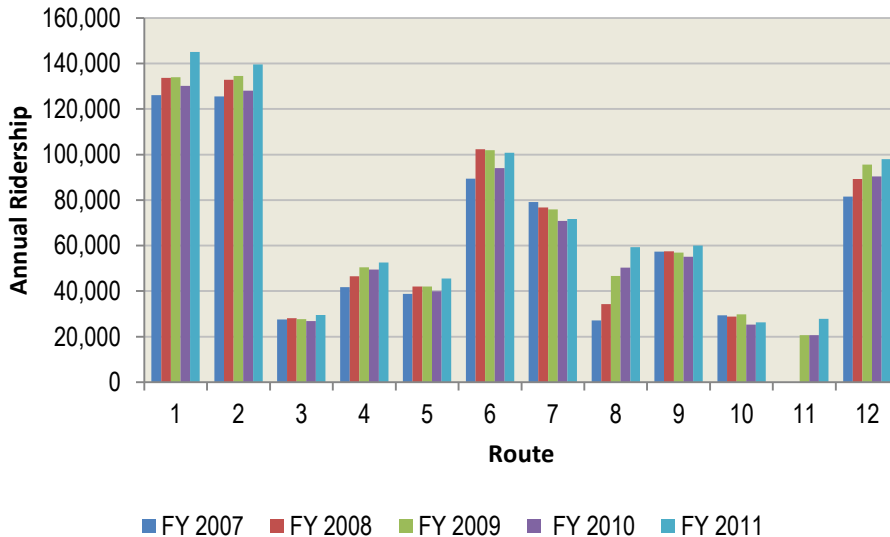


Figure 13 below shows annual ridership by route from FY 2007 – FY 2011. All routes showed ridership gains during that time period except for routes 7 and 10. Route 8 ridership increased substantially from 27,000 in FY 2007 to almost 60,000 in FY 2011, which is likely a result of changes in University housing patterns.

Figure 13 Fixed-Route Annual Ridership by Route



Paratransit

Figures 14 and 15 below present the number of paratransit passengers by month and service productivity, which is measured in paratransit passengers per revenue hour by month. The number of monthly passengers has been somewhat volatile, dropping from about 2,000 in July 2006 to a low of about 1,100 in July 2008. The number of riders then increased and has generally stayed between 1,500 and 2,000 passengers a month. Productivity has remained relatively stable and has tended to be slightly above two passengers per revenue hour throughout the five year period.

Figure 14 Paratransit Passengers by Month

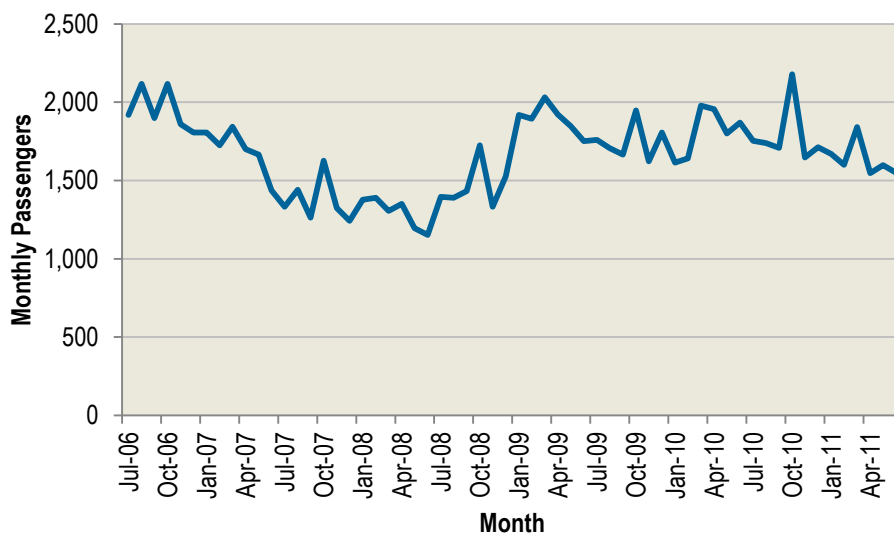
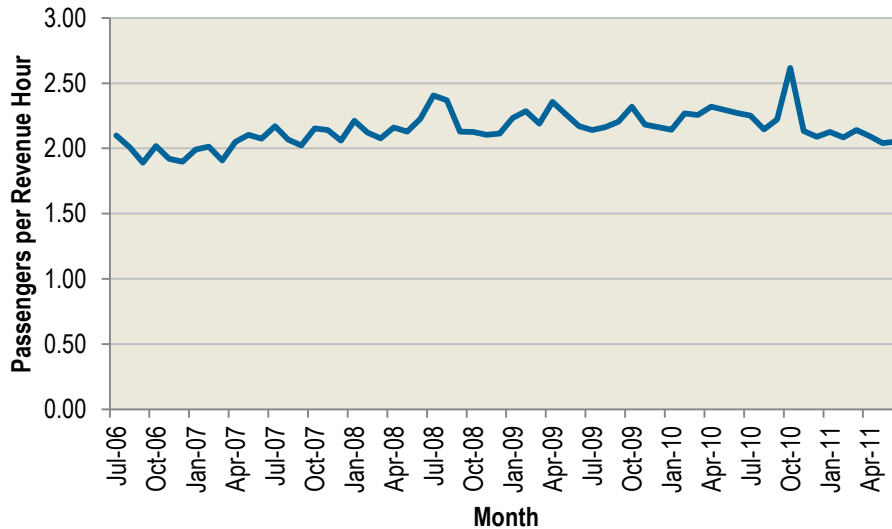


Figure 15 Paratransit Passengers per Revenue Hour by Month



PEER REVIEW

A peer system was conducted to illustrate Mountain Line's performance and to compare it to other similarly-sized systems. Ten systems were chosen as peers:

- Billings Metropolitan Transit (Billings, Montana)
- City of Cheyenne Transit Program (Cheyenne, Wyoming)
- Corvallis Transit System (Corvallis, Oregon)
- Grand Valley Transit (Grand Junction, Colorado)
- Great Falls Transit District (Great Falls, Montana)
- Greeley-Evans Transit (Greeley, Colorado)
- Pocatello Regional Transit (Pocatello, Idaho)
- Pueblo Transit (Pueblo, Colorado)
- Santa Fe Trails (Santa Fe, New Mexico)

Data were collected from the National Transit database (NTD). Figure 16 summarizes key operating statistics for the year 2010 for Mountain Line and the average of its peers. The data show that Mountain Line is comparable to its chosen peers in terms of service area population, passenger trips, and passenger miles, although its service area is much larger than the peer average (70 square miles versus 31 square miles). Its peak to base ratio is 39% higher than the peer average.

Figure 16 Comparison of Key Operating Statistics – Mountain Line and Peer Systems

Statistic (2010 numbers)	Mountain Line	Peer Average	ML vs. Peers
Service area population	69,999	80,710	87%
Service area square miles	70	31	228%
Passenger trips	791,620	627,138	126%
Passenger miles	2,738,311	2,310,636	119%
Vehicle revenue miles	626,355	512,990	122%
Vehicle revenue hours	45,148	37,591	120%
Fare revenues	\$419,372	\$296,752	141%
Operating expense	\$3,276,331	\$2,578,629	127%
Estimated operating subsidy	\$2,856,959	\$2,281,876	125%
Available vehicles	21	18.6	113%
Peak vehicles	19	14.1	135%
Peak to base ratio	1.89	1.36	139%
Average fleet age (years)	3.5	7.0	50%
Percent spares	11%	34%	32%

Figure 17 summarizes system effectiveness measures for Mountain Line and the peer system average. In general, the numbers for Mountain Line are close to the peer system average. Its operating expenses per revenue mile and revenue hour are each about 10% higher than the peer average. Passenger trips per revenue mile and revenue hour are essentially equal to the average. Revenue hours and passenger trips are both significantly higher than the peer average.

Figure 17 Comparison of System Effectiveness – Mountain Line and Peer Systems

Statistic (2010 numbers)	Mountain Line	Peer Average	ML vs. Peers
Operating expense per revenue mile	\$5.23	\$4.78	109%
Operating expense per revenue hour	\$72.57	\$65.23	111%
Passenger trips per revenue mile	1.26	1.26	100%
Passenger trips per revenue hour	17.53	17.27	102%
Revenue hours per capita	0.64	0.48	135%
Passenger trips per capita	11.31	7.81	145%
Average trip length	3.46	3.71	93%

Figure 18 includes detailed statistics for Mountain Line and each of the peers.

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Figure 18 Peer System Statistics

Topic (2010 numbers)	Mountain Line	Billings	Cheyenne	Corvallis	Grand Junction	Great Falls
Operating Statistics						
Service area population	69,999	100,000	53,000	55,125	120,000	63,000
Service area square miles	70	34	18	14	66	20
Passenger trips	791,620	630,068	253,686	700,820	972,485	355,744
Passenger miles	2,738,311	2,335,141	1,082,704	3,388,516	3,628,717	747,062
Vehicle revenue miles	626,355	571,464	339,995	373,922	747,662	414,158
Vehicle revenue hours	45,148	38,637	22,963	26,949	47,171	31,543
Fare Revenues	\$419,372	\$322,726	\$82,796	\$462,844	\$291,355	\$190,600
Operating expense	\$3,276,331	\$3,173,313	\$776,299	\$2,328,937	\$2,539,223	\$2,113,823
Estimated operating subsidy	\$2,856,959	\$2,850,587	\$693,503	\$1,866,093	\$2,247,868	\$1,923,223
Available vehicles	21	26	15	13	21	20
Peak vehicles	19	20	10	10	12	13
Peak to base ratio	1.89	2.00	1.00	1.43	1.09	1.86
Average fleet age in years	3.5	6.9	4.9	7.5	3.9	13.6
Percent spares	11%	30%	50%	30%	75%	54%
Effectiveness Measures						
Operating expense per revenue mile	\$5.23	\$5.55	\$2.28	\$6.23	\$3.40	\$5.10
Operating expense per revenue hour	\$72.57	\$82.13	\$33.81	\$86.42	\$53.83	\$67.01
Passenger trips per revenue mile	1.26	1.1	0.75	1.87	1.3	0.86
Passenger trips per revenue hour	17.53	16.31	11.05	26.01	20.62	11.28
Revenue hours per capita	0.64	0.39	0.43	0.49	0.39	0.50
Passenger trips per capita	11.31	6.30	4.79	12.71	8.10	5.65
Average trip length	3.46	3.71	4.27	4.84	3.73	2.10

Continued on the next page.

COMPREHENSIVE OPERATIONAL ANALYSIS | FINAL REPORT

Mountain Line

Figure 18 Peer System Statistics, continued

Topic (2010 numbers)	Mountain Line	Greeley	Pocatello	Pueblo	Santa Fe
Operating Statistics					
Service area population	69,999	93,000	61,166	105,000	76,100
Service area square miles	70	17	27	39	41
Passenger trips	791,620	493,071	448,404	951,123	838,841
Passenger miles	2,738,311	1,823,115	2,067,142	2,862,880	2,860,447
Vehicle revenue miles	626,355	410,120	270,112	571,282	918,193
Vehicle revenue hours	45,148	30,972	22,667	40,430	76,988
Fare Revenues	\$419,372	\$460,966	\$76,710	\$436,154	\$346,621
Operating expense	\$3,276,331	\$1,849,256	\$894,923	\$3,478,182	\$6,053,701
Estimated operating subsidy	\$2,856,959	\$1,388,290	\$818,213	\$3,042,028	\$5,707,080
Available vehicles	21	14	13	16	29
Peak vehicles	19	11	11	14	26
Peak to base ratio	1.89	1.00	1.38	1.27	1.18
Average fleet age in years	3.5	5.8	8.8	4.3	6.9
Percent spares	11%	27%	18%	14%	12%
Effectiveness Measures					
Operating expense per revenue mile	\$5.23	\$4.51	\$3.31	\$6.09	\$6.59
Operating expense per revenue hour	\$72.57	\$59.71	\$39.48	\$86.03	\$78.63
Passenger trips per revenue mile	1.26	1.2	1.66	1.66	0.91
Passenger trips per revenue hour	17.53	15.92	19.78	23.53	10.9
Revenue hours per capita	0.64	0.33	0.37	0.39	1.01
Passenger trips per capita	11.31	5.30	7.33	9.06	11.02
Average trip length	3.46	3.70	4.61	3.01	3.41

3 SYSTEM GOALS AND OBJECTIVES

The Missoula Urban Transportation District (MUTD) Five-Year Transit Development Plan includes a list of goals and objectives for the agency. The MUTD goals are in the areas of:

- Funding
- System Expansion and Improvement
- Environment and Air Quality
- Development and Land Use
- Outreach and Public Education
- Partnerships and Agency Coordination

The TDP includes five to eight objectives under each goal. The goal most relevant to this COA is the System Expansion and Improvement Goal. The TDP describes the goal and its objectives as follows:

In order to keep pace with urban growth, transit service needs to improve significantly. The MUTD envisions a system that provides safe, convenient, accessible service with coverage to all commercial and residential centers in our community. To achieve these goals, the MUTD will work toward the following objectives:

- *Complete a Comprehensive Service Analysis in the next five years which addresses ridership trends in comparison to population growth, analyzes the investment in transit by passengers per mile, and analyzes the effectiveness of existing route structures.*
- *Provide greater frequency of service on existing routes, with an ultimate goal of 15 minute service.*
- *Providing additional peak service and extending service to 18 hours/day.*
- *Establishing bus service within any given five-block area in the Missoula Urban Transportation District, thereby extending transit into underserved areas of the district.*
- *Decreasing total transit time for trips on Mountain Line bus routes to no more than 200 percent of the total auto time.*
- *Developing passenger amenities at bus stops and boarding areas to include benches, shelters, timetables, route maps and bike racks.*
- *Establishing neighborhood transit centers and park and rides.*
- *Research the feasibility of commuter bus service to Lolo.*

4 BACKGROUND DOCUMENT REVIEW

Overview

This chapter provides a review of previous documents that are relevant to this COA. The review includes internal MUTD documents as well as external planning studies. The reviewed documents include:

- MUTD documents:
 - MUTD Five-Year Transit Development Plan
 - MUTD Transit Guidelines in Project Development
 - MUTD Coordination Plan FY 2012
- External documents:
 - 2011 Missoula Active Transportation Plan
 - 2008 Missoula Long Range Transportation Plan & Envision Missoula Process
 - 2009 Missoula Greater Downtown Transportation Plan
 - Five Valleys Regional Transit Study
 - US 93 Corridor Study

In addition, a summary is provided at the end of this chapter.

MUTD Documents

MUTD Five-Year Transit Development Plan

The *MUTD Five-Year Transit Development Plan*, completed in 2009, is “the strategic guide for public transportation in Missoula over the next 5 years and beyond.” It includes:

- Mission and Goals
- History and Ridership
- Demographics
- Mountain Line Services
- Partnerships and Relationships
- Regional Planning Efforts
- TDP Update Public Outreach
- Building on Success – Plans for the Future
- Five Year Plan and Descriptions
- Exhibits

The MUTD goals and objectives were summarized earlier in this document. The plan includes both planned near-term improvements and future improvements under consideration. The near-term improvements include:

- Commuter service to Lolo
- Provide service to new population centers on the edge of the Missoula Urban Transportation District
- Creating partnerships with local businesses to increase Park and Rides
- Purchase and install Opticom GPS Preemption System at key congested intersections to increase on time performance
- Farebox upgrade / Smart Cards: Mountain Line will continue to upgrade its fare collection system including expanding the Smart Card System
- Undertake a Comprehensive Service Analysis

The future improvements include:

- Miller Creek Service – Lower Miller Creek, Park and Rides
- Increased hours of service possibly including earlier morning service, evening service, and night service on Fridays and Saturdays
- Circulator system serving the downtown, University, and the future Saw Mill District
- 15-minute service on routes 2/6 and 1/12
- Premier Service – 15-minute service seven days per week
- Commuter express bus service, followed by rail service

The plans conclude with a detailed description of capital improvements and MUTD revenues and expenses for FY2010-2014.

MUTD Transit Guidelines in Project Development

In July 2011, the MUTD board approved the *Transit Guidelines in Project Development* document to encourage and guide transit-supportive land development and physical design. MUTD supports the Focus Inward scenario that came out of the Envision Missoula process and wants to promote the coordination of local development and transit services. The document includes the following sections:

- Transit Friendly Urban Design
- Transit Priority Measures
- MUTD Fleet Characteristics
- Streets and Intersections
- Transit Facilities Design

Jurisdictions and developers in the region can use the document and consult with MUTD to help ensure that new developments are compatible with transit service.

MUTD Coordination Plan FY 2012

The *Missoula Urban Transportation District Coordination Plan FY 2012* was adopted in January 2011. The coordination plan is required by the federal SAFETEA-LU legislation and the Montana Department of Transportation and documents coordination efforts by agencies in the Missoula

area. The plan includes a description of transportation providers, a needs assessment, and information about the Special Transportation Advisory Committee.

External Documents

2008 Missoula Long Range Transportation Plan & Envision Missoula Process

In 2007 and 2008, a planning process was undertaken to update the region's existing *Long Range Transportation Plan* and to create a new vision for transportation in Missoula.

Extensive public and stakeholder involvement activities were conducted during the initial stages of the planning process. These activities included:

- Initial Visioning Workshops
- Planning Summit
- Public Telephone Survey
- Inter-Agency Consultations

The initial visioning workshops were conducted through the *Envision Missoula Process* to gather feedback on different land use and transportation patterns. Maps created during the workshops led to the development of three scenarios representing different levels of travel demand management and infrastructure investment. The three scenarios are as follows:

1. *Business as Usual* – Infrastructure investment and development will continue as it has over the past twenty years, with an emphasis on expanding roads and greenfield development.
2. Vision Scenario 1: *Suburban Satellites* – Activities would be concentrated in town centers around the region connected by Multi-Modal Corridors. The proposed Multi-Modal Corridors would include a Lolo-Missoula Corridor and a Northwest Corridor from Downtown Missoula to the US93/I-90 DeSmet interchange. Investments would be made in the corridors to make them into complete streets.
3. Vision Scenario 2: *Focus Inward* – Under this scenario, activities would be focused in one concentrated downtown area. Only one Multi-Modal Corridor would be developed between Lolo and downtown Missoula, and an In-town Mobility District would be created to focus development and improve mobility in the urban core.

A *Planning Summit* was held to gather public comment on the scenarios. The most popular scenario was *Focus Inward*, which was the favorite scenario of two-thirds of summit participants. The public indicated that it wants transportation system development to focus on safety and multi-modal improvements to existing facilities. This is consistent with results from the public survey and consultations with other agencies.

The strategy developed during the visioning process was intended to guide the development of the Long Range Transportation Plan. The Plan includes a list of recommended projects, including transit projects. The MPO funded and MUTD Board prioritized projects including bus replacement, passenger shelters and amenities, midday service enhancements on Route 2, increased peak service, and service expansion to Lolo and other areas outside current MUTD boundaries.

The Focus Inward strategy informed the Urban Fringe Development Area Project, which was used to amend the Missoula County Growth Policy and create residential allocation figures.

2011 Missoula Active Transportation Plan

The *Missoula Active Transportation Plan* provides guidance for the development of active (bicycle and pedestrian) transportation facilities in the Missoula Metropolitan Planning Area. It includes a vision for the community, recommends policies, and includes a list of proposed active transportation projects.

The plan notes the importance of synergy between active transportation and public transit systems. Transit riders access transit vehicles through the active transportation network and transit allows pedestrians and cyclists to travel long distances without a personal motor vehicle. The plan also emphasizes the need for a good interface between transit service and neighborhoods, streets, and other transportation modes. According to the plan, approximately 40% of Missoula bus stops are not directly accessible via sidewalks and 36.5% do not have signs marking the location of the stops. The plan recommends bus stop improvements to improve the transit interface, including improved lighting and shelters and consistent signage. In addition, the plan recommends the installation of additional bike racks at bus stops and the addition of a bicycle station to the downtown Transfer Center.

2009 Missoula Greater Downtown Master Plan

The *Missoula Greater Downtown Master Plan* was developed to plan the future growth of downtown Missoula. It has land use objectives in the areas of retail, open space, housing, employment, and cultural/visitor, and circulation objectives in the areas of bike/pedestrian off-street system, streetcar, and two-way streets. Its vision for downtown is balanced; center development, with a mix of residential and commercial uses to reduce automobile trips and improve economic development.

The transit element of the plan advocates for local circulators and commuter rail to supplement the existing Mountain Line system. A streetcar should link major destinations in downtown and potentially provide future connections to the University and Airport. It envisions a commuter rail line connecting downtown to the region along the I-90 and Highway 93 corridors.

Five Valleys Regional Transit Study

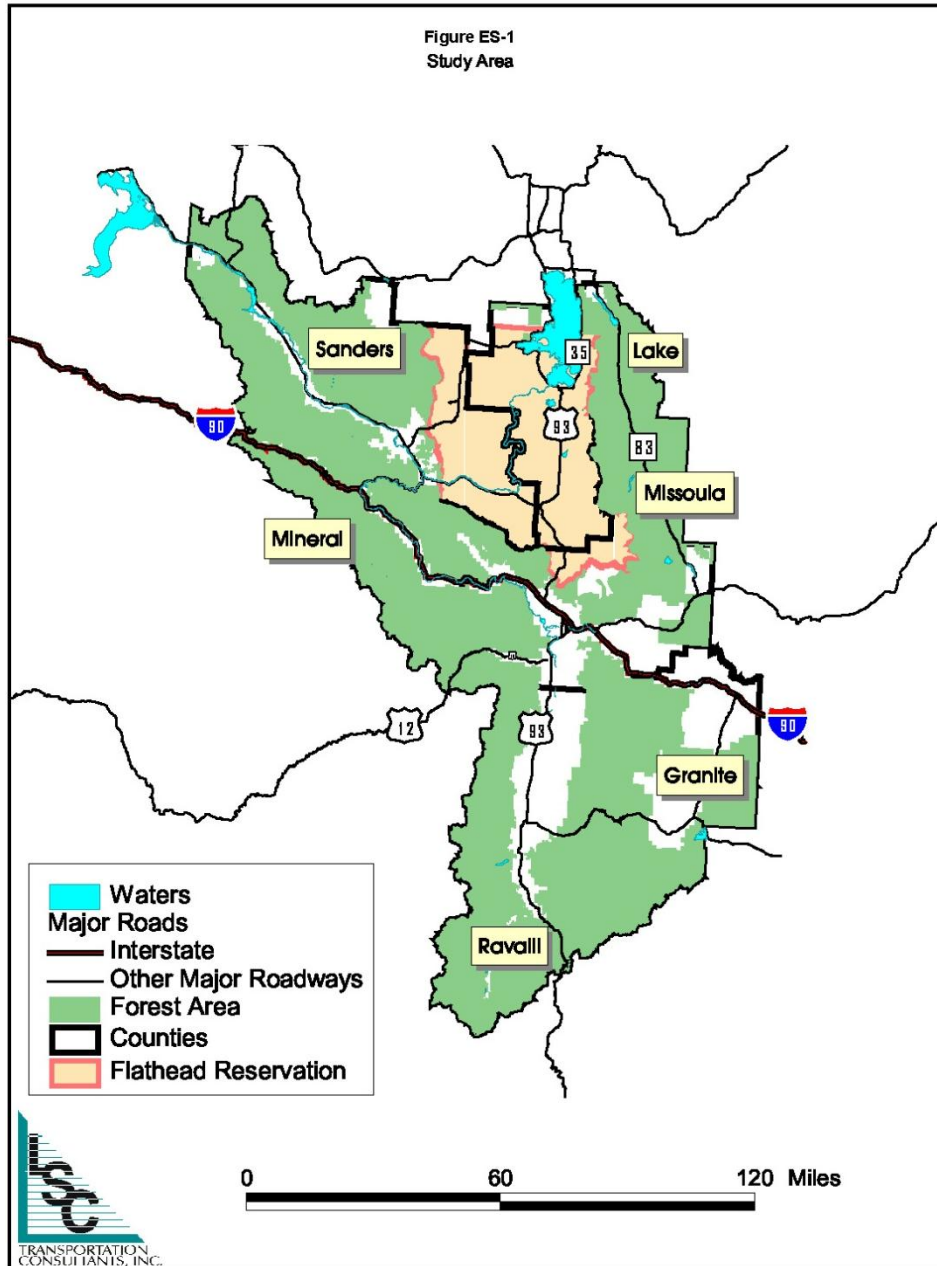
The Five Valleys Regional Transit Study was funded by the Montana Department of Transportation to assess existing and future intercity bus transit needs for the Five Valleys area, including portions of Missoula, Granite, Lake, Mineral, Ravalli, and Sanders Counties. Initially, a survey and community outreach efforts were conducted to identify regional transit needs. The second phase of the study included a transit needs assessment, an analysis of various service options, and recommendations. The recommendations include:

- **Rideshare program** – Consolidate and strengthen existing rideshare programs promoted by the Missoula Ravalli Transportation Management Association (MRTMA) and the Associated Students of the University of Montana.
- **Vanpools** – Build upon the existing vanpool program operated by MRTMA.
- **Bus Service** – Implement bus serve in phases:
 - Phase 1: Commuter Service – Lolo to Missoula – Potentially operated by Mountain Line
 - Phase 2: Commuter Service – Hamilton to Missoula
 - Phase 3: All-Day Service – Lolo to Missoula

- Phase 4: All-Day Service – Hamilton to Missoula
- Plains to Missoula – Use vehicles to provide service from Sanders County and Mineral County to Missoula
- Polson to Kalispell – Start twice-a-day service in this corridor

The plan includes implementation steps and operating and capital cost estimates for each recommendation.

Figure 19 Five Valleys Regional Transit Study Area



US 93 Corridor Study

The *US 93 Corridor Study* was initiated 2008 by the Montana Department of Transportation to study the US 93 Corridor between Florence and Missoula. The final report was completed in 2008. The study developed goals and objectives, conducted a public involvement process, and analyzed existing conditions. The transit analysis portion of the study included five alternatives. Alternative 1 is enhanced rideshare/vanpool programs. The other four alternatives are for transit service between Stevensville and Downtown Missoula. Fixed route bus service (peak and non-peak or peak only) would operate between Stevensville and downtown Missoula with stops at Florence, Lolo, Hwy 93 / Old Hwy 93, and Miller Creek. Rail service (peak and non-peak or peak only) would operate between Stevensville and Downtown Missoula with Stops in Florence, Lolo, and Miller Creek.

The study's final transit recommendations include enhanced vanpool/carpool programs and improved park & ride facilities in the short term. Its mid-to-long term transit recommendation is fixed route bus service operated by MUTD.

Summary

Planning efforts conducted in Missoula over the past several years have been supportive of transit. The *Focus Inward* strategy that emerged from the *Envision Missoula* process calls for focusing development in and around Downtown Missoula, creating a multi-modal corridor between Lolo and Missoula, and creating an in-town mobility district with a focus on transit and other alternative modes.

Other planning efforts have also called for expanded transit, including a downtown circulator (such as a streetcar), improved service on existing Mountain Line routes, and long-distance rail or express bus transit from other areas. Unless funding for transit in the area is significantly increased, investing in all of these transit enhancements will not be possible, making the prioritization of potential improvements necessary.

5 LAND USE AND DEMOGRAPHIC CHARACTERISTICS

The maps in this chapter display land use and demographic characteristics for the MUTD service area. The examined factors are typically indicators of transit usage propensity (i.e. show the likelihood that someone may ride transit). The following seven maps were created:

- Population density
- College-age population density
- Senior-age population density
- Employment density
- Poverty levels
- Renter-occupied housing units
- Vehicle availability

Population and Employment Density

Population and employment density maps at the Census Block level were created using data from the Missoula MPO Travel Demand Model. The maps showing density of college-age and senior-age residents were created using data from the 2010 U.S. Census.

Census Blocks with high population densities are found throughout Missoula. The densest areas are those with high levels of multifamily housing or densely packed single family housing. Some are in central Missoula near downtown and the University of Montana campus, while others are closer to the outskirts, such as the apartments off 34th Street between South Russell Street and Stephens Avenue South. In general, the areas with high population densities within the MUTD have transit service close by.

Unsurprisingly, the densest areas for college age (18-24) residents are generally found around the University. Significant concentrations are also found in apartment complexes throughout the city. The densest concentrations of senior (65 and over) residents are found in retirement communities like The Village (near Community Medical Center), The Springs (off Reserve Street), and Clark Fork Riverside (between Downtown and the river).

The most significant employment centers are Downtown Missoula and the UM campus. There are also significant densities in commercial areas surrounding Brooks Street and Reserve Street. Some of these areas are not directly served by transit.

Figure 20 2010 Population Density by Census Block

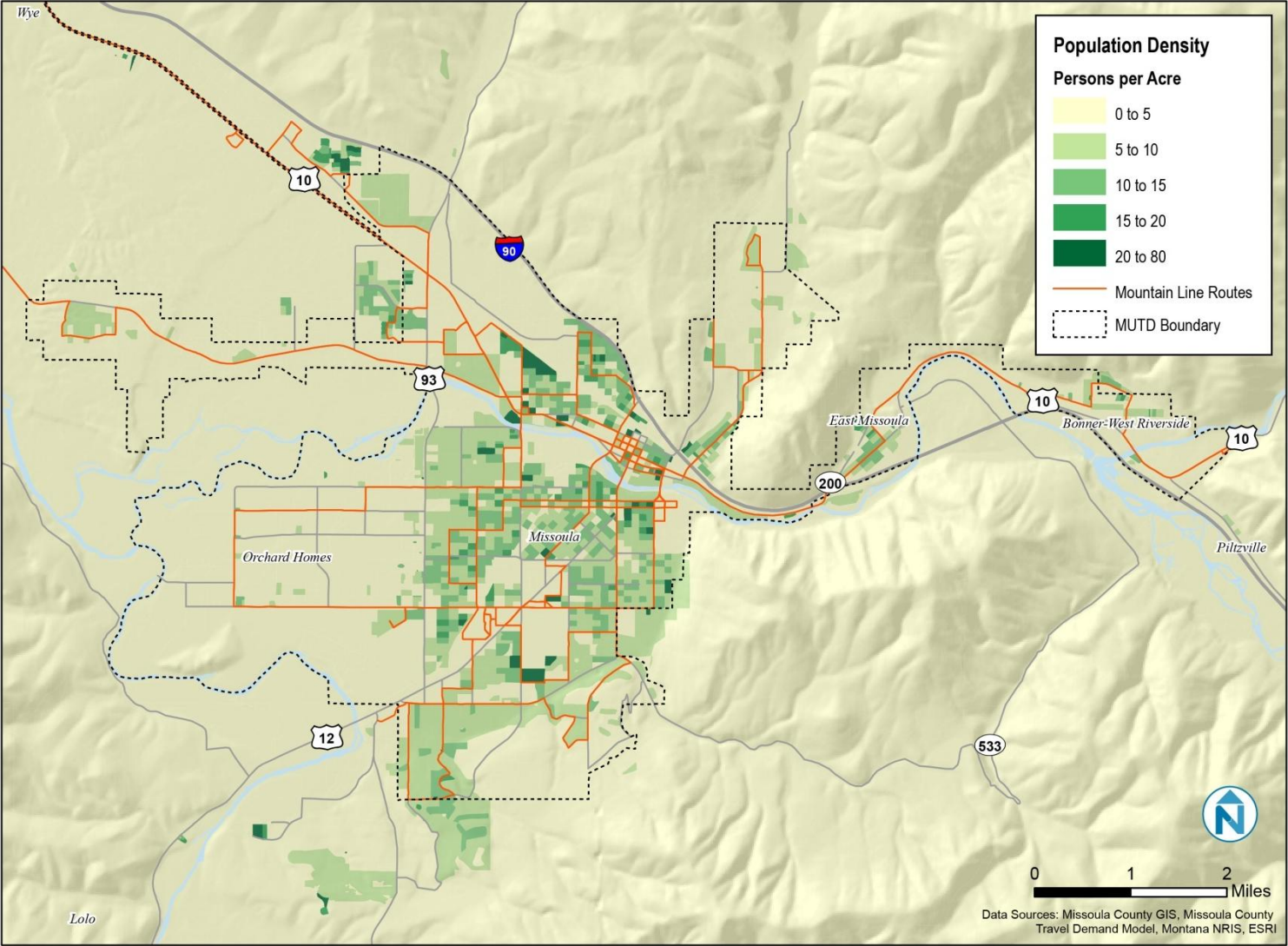


Figure 21 College Age (18-24) Population Density by Census Block

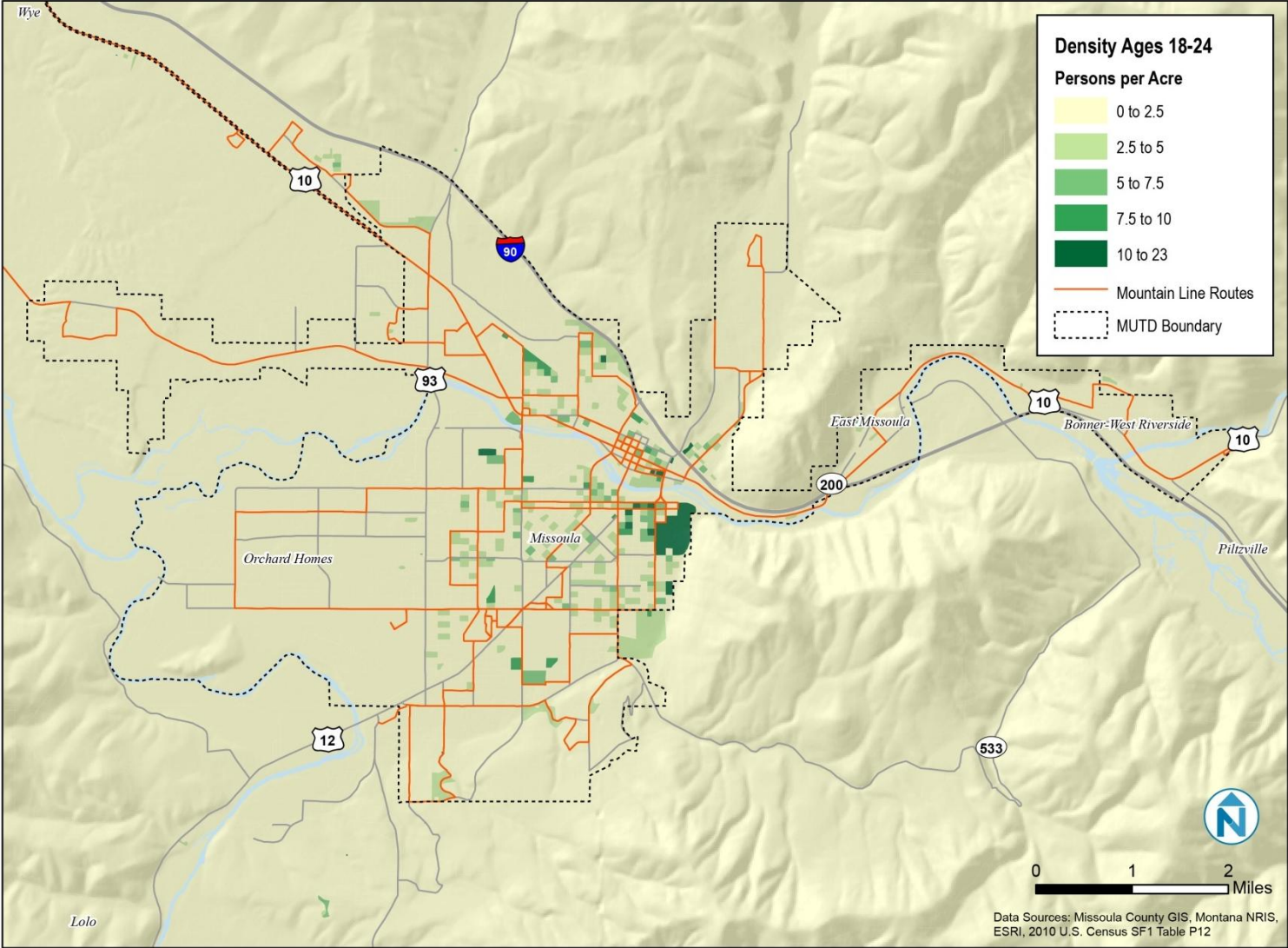


Figure 22 Senior Age (65 and Over) Population Density by Census Block

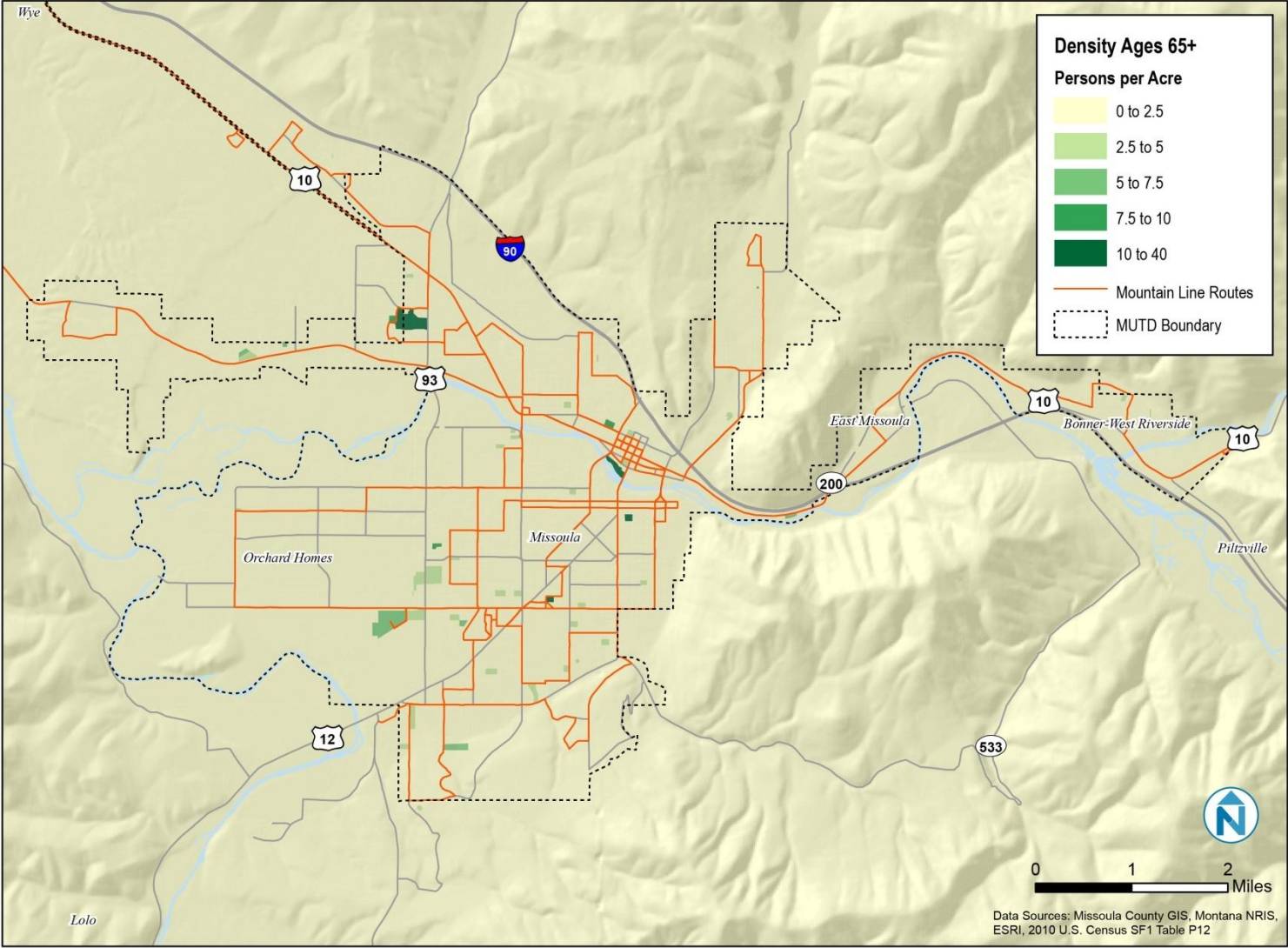
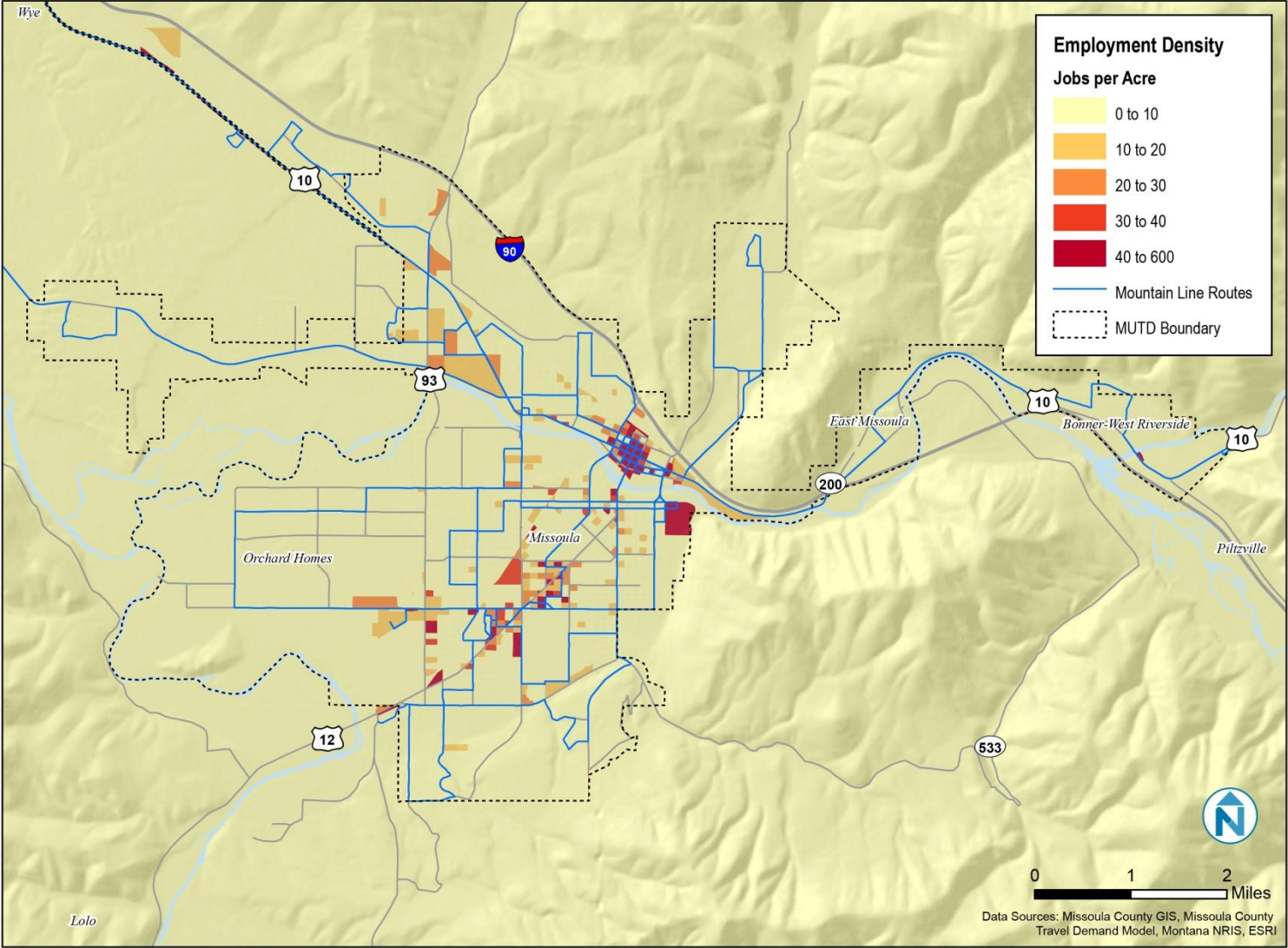


Figure 23 2010 Employment Density by Census Block



Demographic Characteristics

The following demographic maps were produced using data from the 2010 U.S. Census and the American Community Survey (ACS) 2005-2009 5-Year estimates. Data from the 2010 Census are presented at the Census Block level, while ACS data are presented at the Census Tract level. ACS data are also available at the Census Block group geography, which would allow for more fine-grained analysis, but many block group estimates have high margins of error, making the data unreliable. Data were mapped at the tract geography to strike a balance between fine-grained analysis and data reliability.

The Census Tracts with the highest percentages of people in poverty are located in Missoula. The areas with the highest rate are east and south of the UM campus. This is likely due to the high number of low-income students in the area. Areas with high percentages of renters are found throughout the MUTD area and are not concentrated in any one area. The highest percentage of people without access to a motor vehicle is in Downtown Missoula and the surrounding area.

Figure 24 Percentage of Households Below Poverty Level by Census Tract

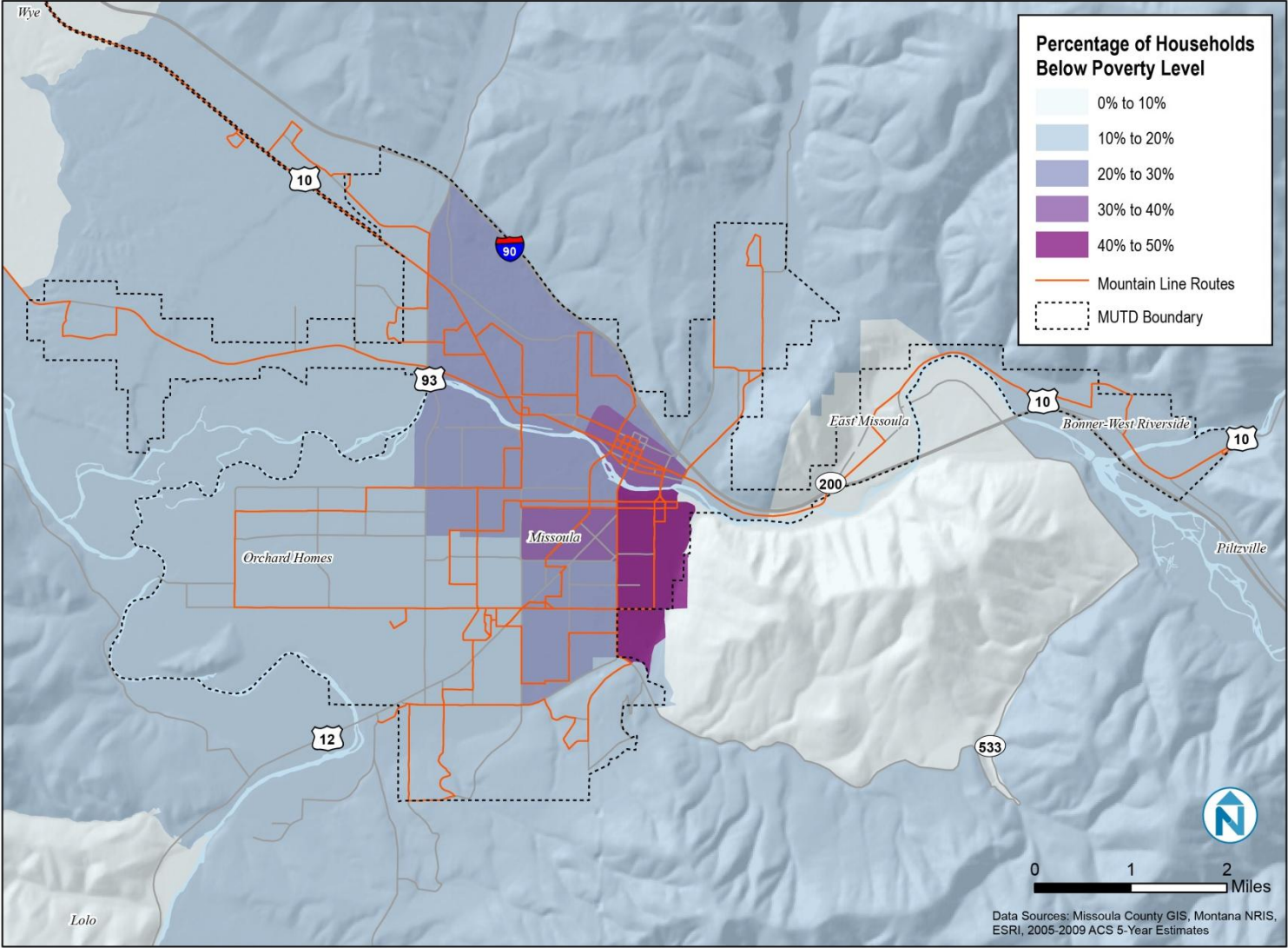


Figure 25 Renter Occupied Housing Units by Census Block

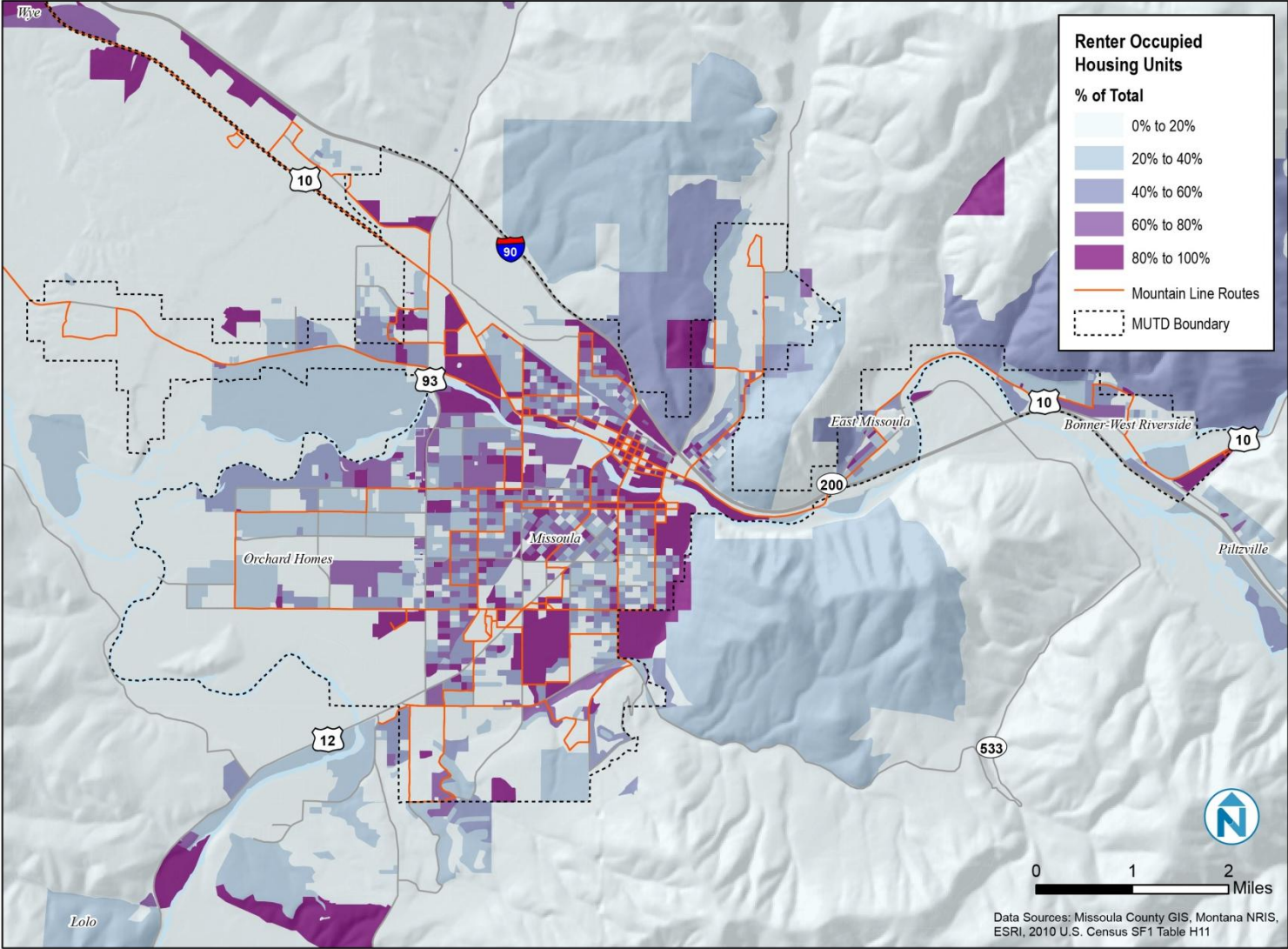
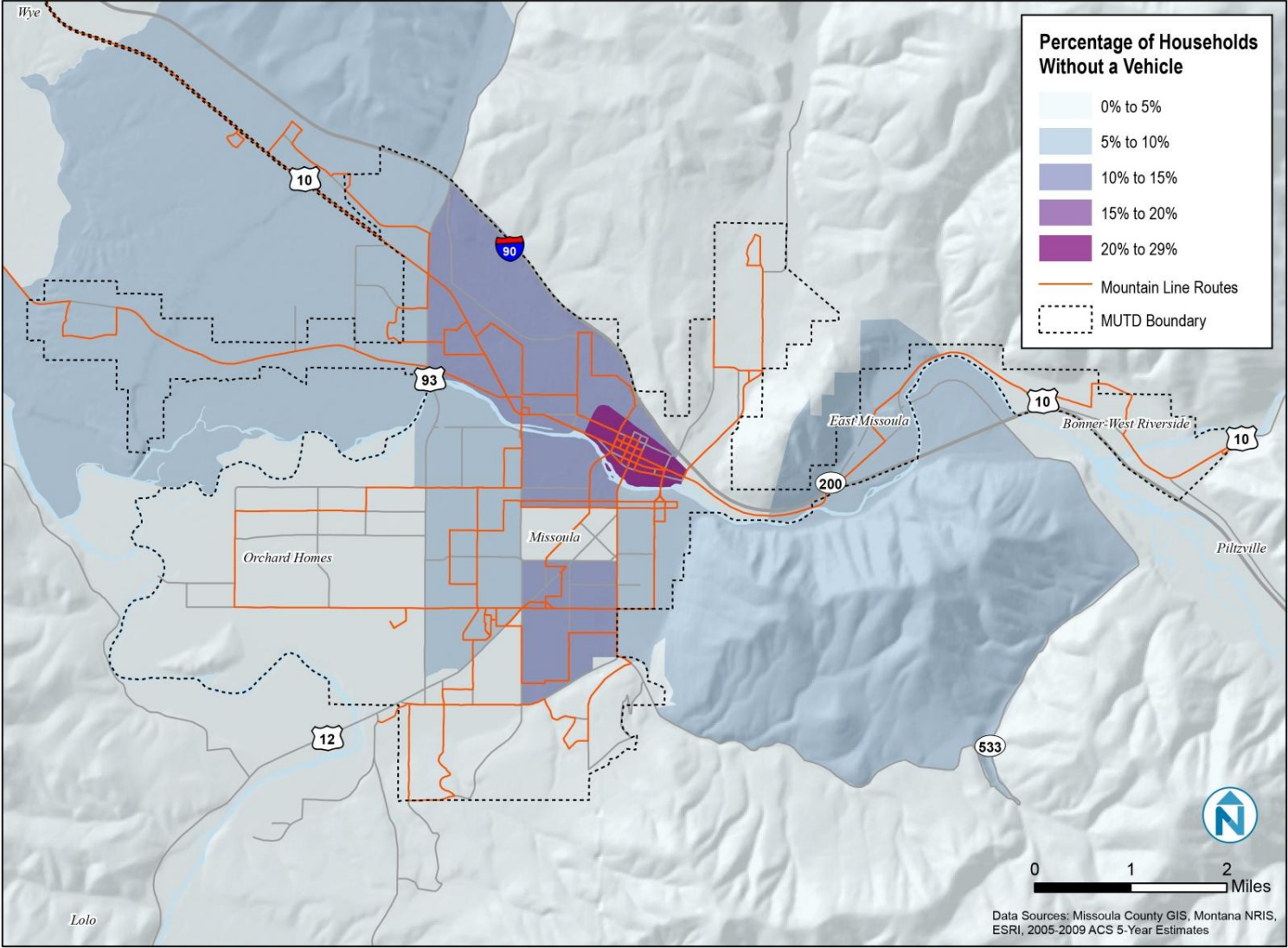


Figure 26 Percentage of Households Without Access to a Vehicle by Census Tract



6 INITIAL PUBLIC OUTREACH

An extensive public outreach effort was conducted as part of the COA. In addition to the survey data collection, which is described in the next chapter, Nelson\Nygaard and Mountain Line staff conducted three focus groups and three public workshops as well as a meeting with the Regional Coordinating Committee, which consists of members from local governments, businesses, and non-profit organizations. This chapter describes the outreach events and summarizes the findings.



Figure 27 **UM Public Workshop**

Focus groups:

- Neighborhood Councils / Community Councils: 10/25/11 from 6:00 PM to 8:00 PM at the Holiday Inn Downtown.
- Transportation/Planning/Development organizations: 10/26/11 from 3:00 PM to 5:00 PM at the Holiday Inn Downtown.
- Advocacy / Social Services organizations: 10/27/11 from 3:00 PM to 5:00 PM at the Holiday Inn Downtown.

Public workshops:

- University of Montana: 10/26/11 from 12:00 PM to 2:00 PM in Room 332.
- Southgate Mall: 10/26/11 from 6:00 PM to 8:00 PM in the Community Room.
- Holiday Inn Downtown: 10/27/11 from 6:00 PM to 8:00 PM.

Regional Coordinating Committee:

- 10/27/11 from 9:00 AM to 11:00 AM at the Holiday Inn Downtown.

A table summarizing the marketing done for public outreach events is included in Appendix F. At each of the events, Nelson\Nygaard and Mountain Line staff presented information about the COA process and gathered input from attendees. In addition to providing verbal input, attendees were asked to fill out two forms: a tradeoff questionnaire and a comment form.

Tradeoffs

The tradeoff questionnaire included a series of tradeoff questions, and attendees were asked to mark their preference for each question. The questions were the same as tradeoff questions included on the intercept and online surveys, which are described in the next chapter.

Results from the questionnaires are shown in figures 28 through 34. Figure 28 shows that attendees preferred providing service to fewer areas with greater service frequency rather than service in more areas with less frequency. They also preferred improving existing services over expanding to new areas, as shown in Figure 29.

Span of service and service frequency are both important to attendees. Figure 30 shows that attendees were nearly evenly split between “Increase service frequency, but operate service for a smaller portion of the day” and “Decrease service frequency, but operate for a larger portion of the day.” There was a preference towards providing less weekday service in order to provide more evening and weekend service, as shown in Figure 31.

Attendees also showed a preference for faster, more efficient service at the expense of providing fewer stops. As shown in Figure 32, 65% chose to “reduce the number of stops in order to make service faster.” The vast majority (72%) of attendees prefer to “operate more routes to more areas with less frequent service to decrease the need for transfers,” as shown in Figure 33. In addition, attendees showed a preference towards “walk longer distances to bus service that is faster and more direct” over “walk shorter distances to bus service that is slower and less direct” (Figure 34).

Figure 28 Service Area

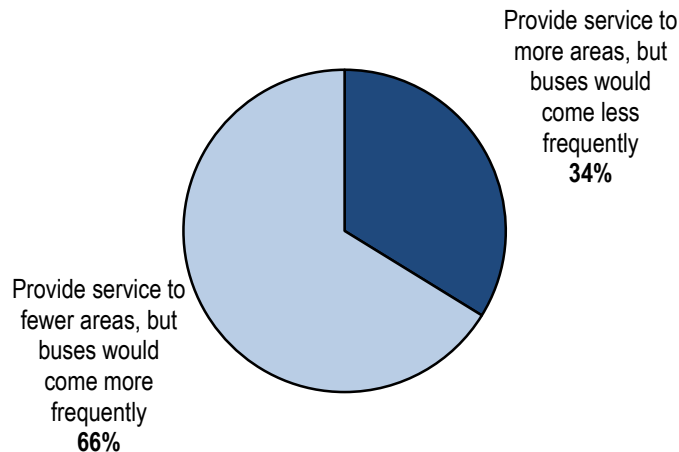


Figure 29 Bus Service Improvements

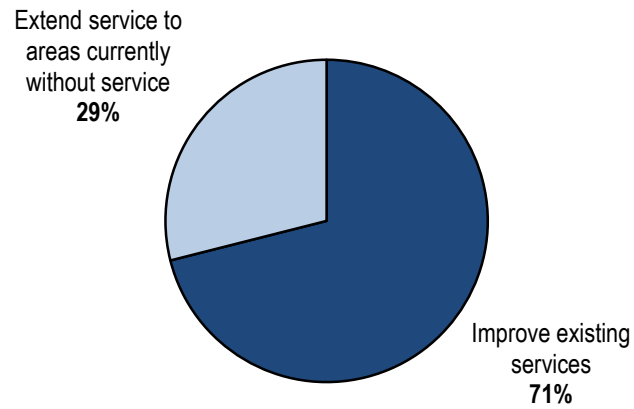


Figure 30 Service Frequency versus Hours of Service

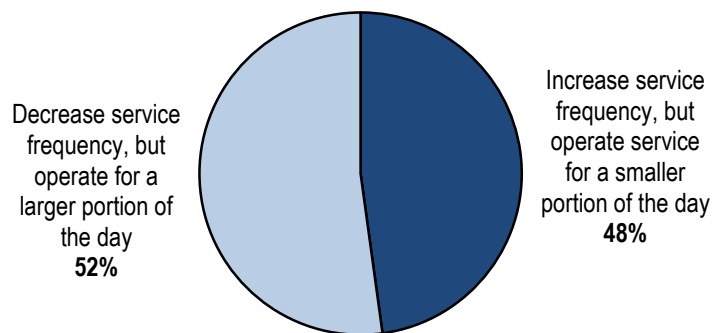


Figure 31 Days of Service

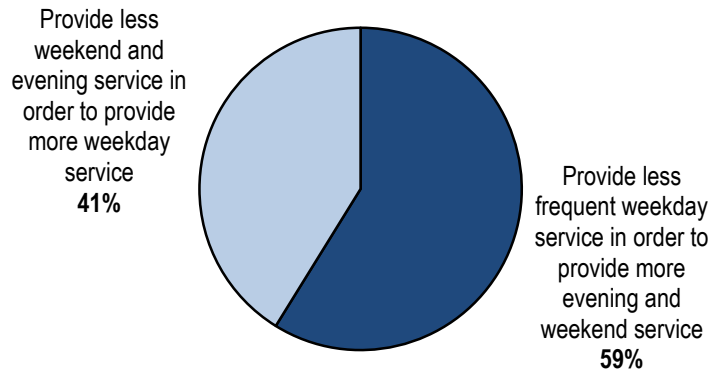


Figure 32 Bus Stop Spacing

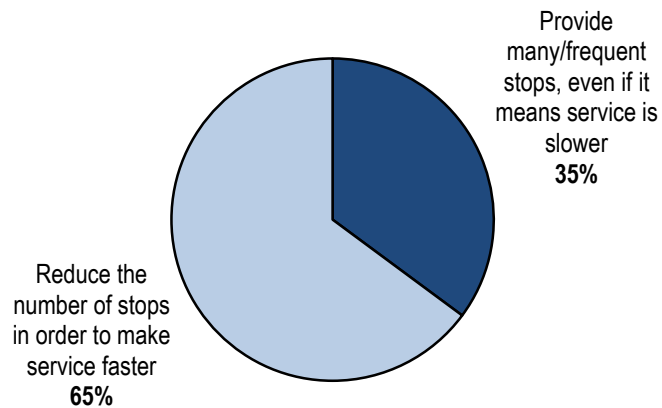


Figure 33 Transfer Frequency

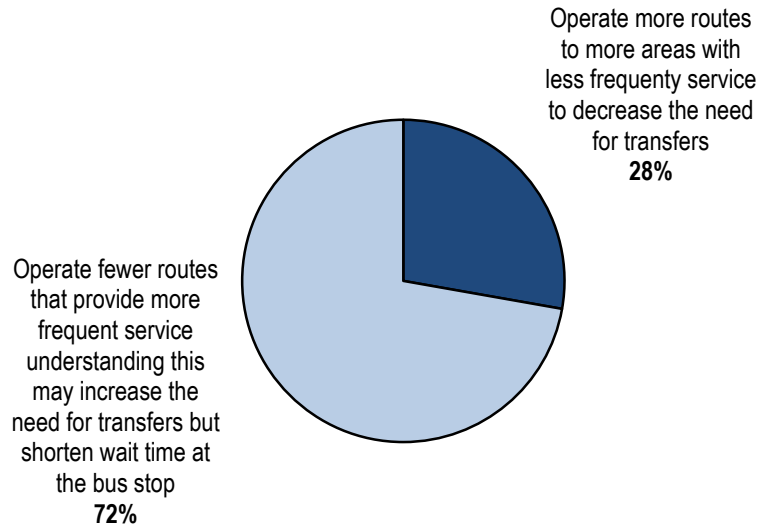
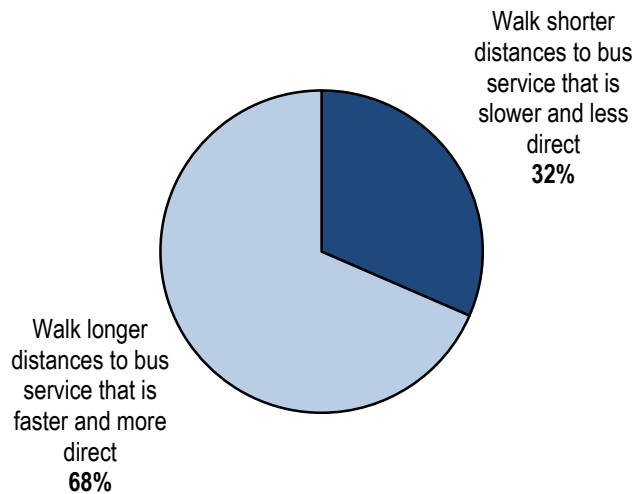


Figure 34 Directness of Service



Comments

Public comments were analyzed to identify major themes. These comments came from comment forms completed by attendees at the public outreach events as well as emails, letters, and telephone calls received by Mountain Line in the period leading up to and during the planning process. A total of 171 people provided comments.

Figure 35 shows the most frequent comments. One-third of people indicated that they would like to see earlier and/or later service. A significant number also asked for service to a new area. The most commonly requested areas were Linda Vista / Miller Creek, Reserve Street, and Lolo. Other

frequent comments were to increase service frequency, operate buses on Sundays, operate more Saturday service, and improve bus shelters or add them to more stops.

Figure 35 Most Frequent Public Comments

Topic	Number of Commenters
Extend span of service	57
Add service to a new area	53
Increase service frequency	42
Operate buses on Sundays	34
Operate more Saturday service	22
Improve/add bus shelters	18

7 MARKET RESEARCH

Introduction

Three different market research surveys were conducted to understand the existing travel market and the needs of existing and potential customers. The on-board survey, online survey, and intercept survey are all discussed below.

On-Board Survey

Methods

On-board passenger surveys were distributed and collected on buses on Wednesday, October 26th, Thursday, October 27th, and Saturday, October 29th 2011. A total of 1,244 surveys were completed during the sample period. A copy of the survey instrument is included in Appendix C.

Results

Trip Specific Characteristics

Survey respondents were asked seven questions about the trip they were currently making. Questions were asked about the route they were riding, boarding time, transfer activity, wait time, mode of access and egress, and trip purpose.

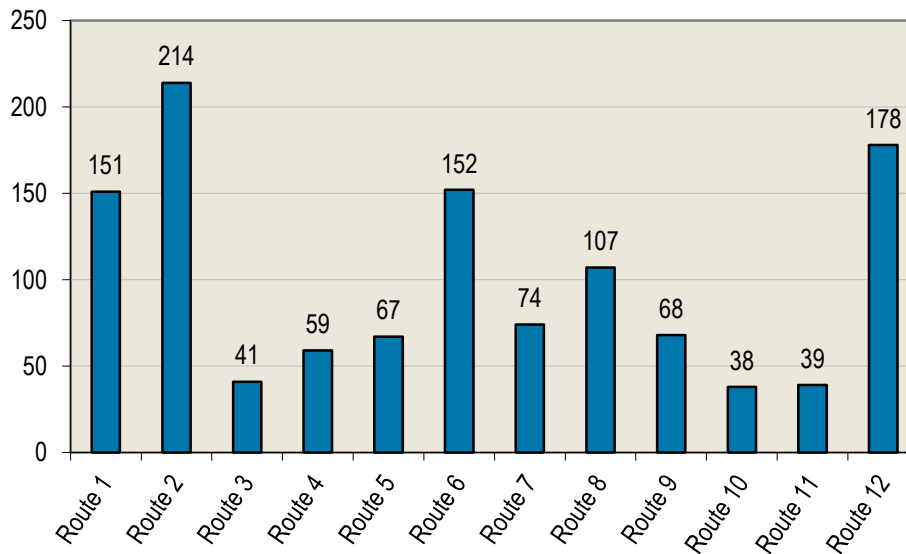
Route

The largest numbers of surveys were collected on Routes 2 and 12—a combined total of 392 completed surveys—which accounts for 23% of all surveys. Large numbers of surveys were also collected on Route 6 (152 surveys) and Route 1 (151 surveys). The number of surveys collected was proportional to ridership on some routes but not others. For example, Route 1 accounts for 18.2% of system ridership but only had 12.7% of all surveys, while Route 12 accounts for 10.3% of system ridership but had 15% of all surveys.

Figure 36 Comparison of Survey Completion and Ridership by Route

Route Number	Completed Surveys	% of Total	Weekday & Saturday Ridership	% of Total
Route 1	151	12.7%	775	18.2%
Route 2	214	18.0%	771	18.1%
Route 3	41	3.5%	115	2.7%
Route 4	59	5.0%	233	5.5%
Route 5	67	5.6%	185	4.4%
Route 6	152	12.8%	449	10.6%
Route 7	74	6.2%	409	9.6%
Route 8	107	9.0%	351	8.3%
Route 9	68	5.7%	320	7.5%
Route 10	38	3.2%	89	2.1%
Route 11	39	3.3%	115	2.7%
Route 12	178	15.0%	436	10.3%
Total	1,188	100%	4,248	100.0%

Figure 37 Number of On-Board Surveys Collected by Route



Transfer Activity

According to the survey data, about 39% of survey respondents had at least one transfer as part of their linked transit trip.

Figure 38 is a transfer matrix based on survey responses. Route connections with at least ten transfers are highlighted in yellow. The strongest connections are between Routes 1 and 2, 1 and 3, 1 and 7, 2 and 6, and 2 and 7. The highest ridership routes— 1 and 2—also receive the most transfers from other routes, with 72 and 79, respectively. The route that sends the most riders to other routes is Route 2, with 77 transfers.

Figure 38 Mountain Line Transfer Matrix

	1	2	3	4	5	6	7	8	9	10	11	12	Total
1	2	14	6	5	2	1	4	0	6	2	1	1	44
2	25	3	3	8	2	7	18	4	5	0	0	2	77
3	10	6	0	0	0	2	5	2	1	1	0	3	30
4	5	8	1	0	2	6	2	1	2	3	1	0	31
5	1	3	1	0	0	2	3	0	7	0	3	0	20
6	2	14	1	6	1	2	7	2	3	0	4	1	43
7	11	12	0	1	2	6	0	3	2	2	2	1	42
8	0	5	0	0	0	3	5	3	1	2	0	1	20
9	5	1	0	2	3	2	6	1	3	1	0	1	25
10	4	3	0	2	0	0	0	1	0	0	2	0	12
11	4	4	0	0	1	1	2	1	3	1	0	4	21
12	3	6	6	0	1	3	2	0	4	0	0	2	27
Total	72	79	18	24	14	35	54	18	37	12	13	16	392

Wait Time

The average wait time for transfers, based on self-reported survey data, is 8.5 minutes. Most riders wait for five minutes, and 95% of all riders wait for less than 30 minutes, while 85% of all riders wait for less than 15 minutes. This indicates that while 5% of transfer passengers wait over 30 minutes, only 15% wait over 15 minutes. Figure 39 shows the wait times for transfers as reported by survey respondents.

Figure 39 Transfer Wait Time

Wait time	Minutes
Average wait time	8
Median wait time	5
Mode wait time	5
95 th percentile	30
85 th percentile	15

Access and Egress Mode

Respondents were asked about mode of travel to get to the bus and from the bus to their final destination. Overwhelmingly, respondents walk to get to and from the bus: 88% for access and 86% for egress. The average number of blocks walked to get to the bus is 2.4 blocks, and the average number of blocks at the end of their trips is 2.5 blocks. Bicycling is the next most common mode of access.

Figure 40 Mode of Access to Transit

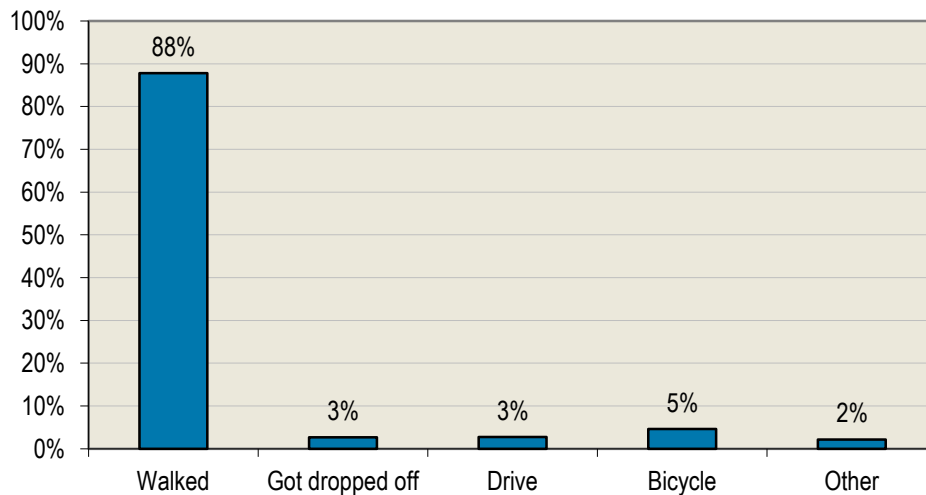


Figure 41 Mode of Egress from Transit

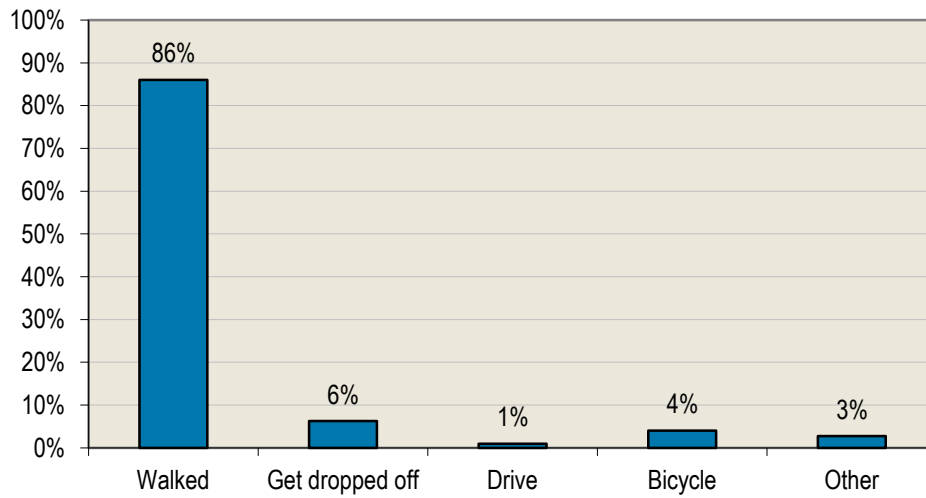


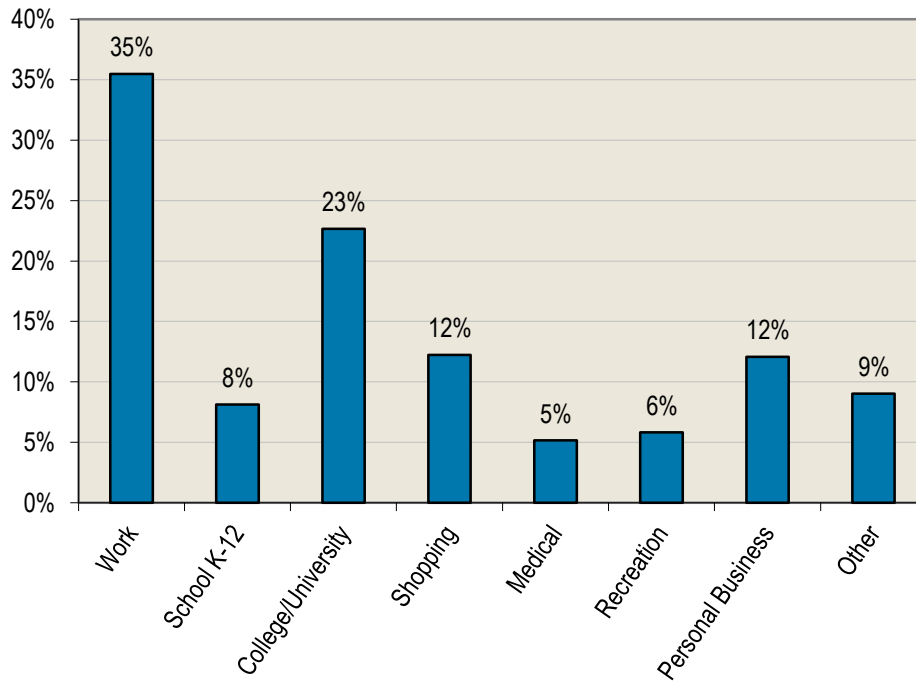
Figure 42 Combined Access and Egress

Mode	Access		Egress		Combined	
	Percent	Count	Percent	Count	Percent	Count
Walked	88%	1,081	86%	1,060	87%	2,141
Got dropped off	3%	33	6%	77	4%	110
Drive	3%	34	1%	12	2%	46
Bicycle	5%	57	4%	49	4%	106
Other	2%	26	3%	34	2%	60
Total		1,231		1,232		2,463

Trip Purpose

As shown in Figure 43, the primary purposes of travel for surveyed respondents are work (35%) and college/university (23%). Respondents were permitted to select more than one choice on this question, which is why the sum of all percentages exceeds 100%. Shopping and personal business each received 12% of the responses.

Figure 43 Purpose of Trip



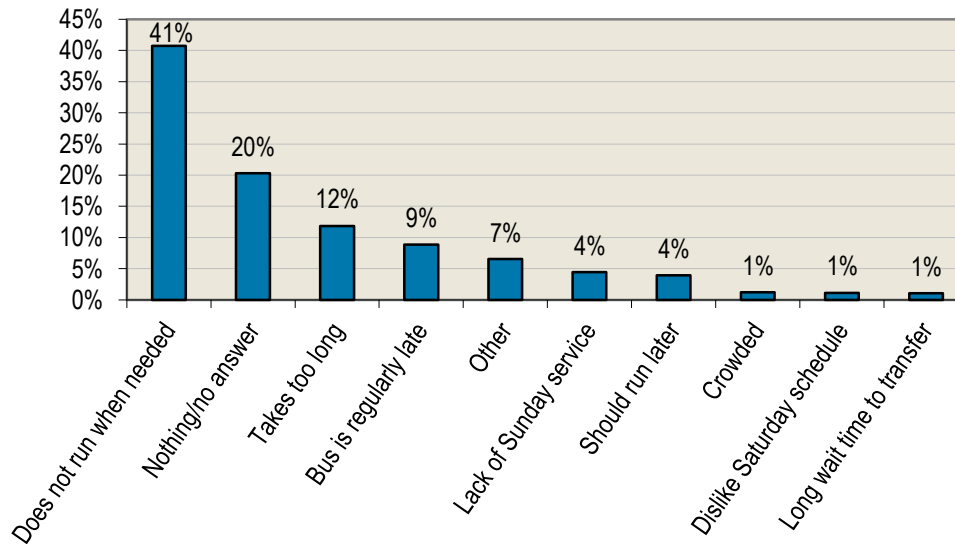
Other Travel Characteristics

Respondents were asked about the worst aspect of riding the bus, if Mountain Line serves the “right” places, and were asked for additional comments.

Opinion of Bus Service

Respondents were asked to state their opinion on riding the bus. The most popular response, “does not run when needed,” was selected by 41% of those surveyed. A large number of respondents selected “other.” After coding the responses that respondents wrote when checking “other,” it was found that 4% feel the bus should run later and 4% feel there should be Sunday service. A significant percentage (20%) stated that there is nothing they dislike about riding the bus or did not answer the question.

Figure 44 Opinion of Riding the Bus



Service Areas

Respondents were also asked if Mountain Line serves the right places. Most respondents (85%) stated that they feel Mountain Line does serve the right locations. The most commonly suggested locations where Mountain Line should serve are shown in Figure 46, with North Reserve and Lolo entered as a majority of the open response. Linda Vista/Miller Creek, the Super Walmart, and Frenchtown also received a number of responses.

Figure 45 Does Mountain Line Serve the Right Places?

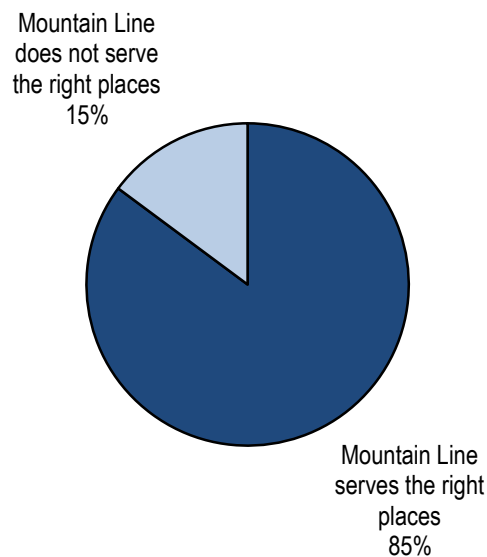
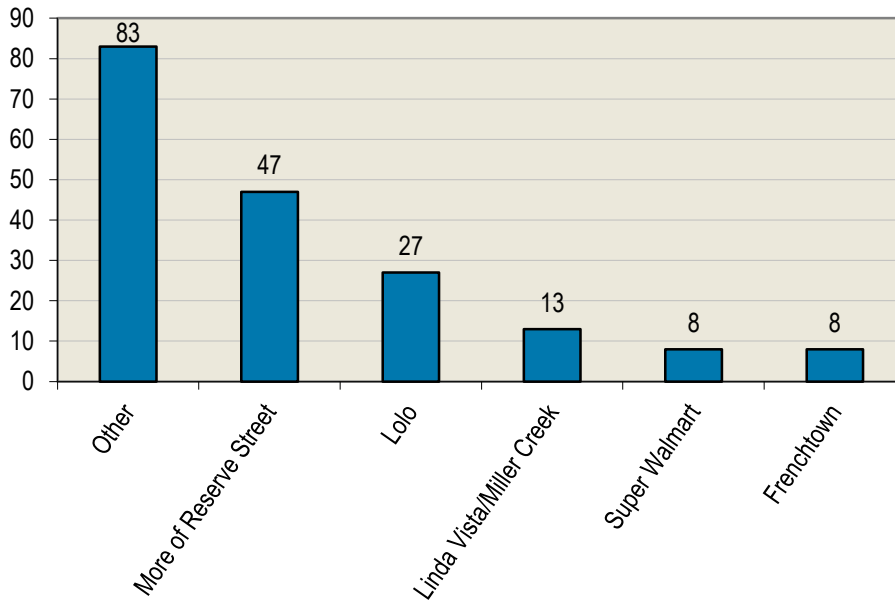


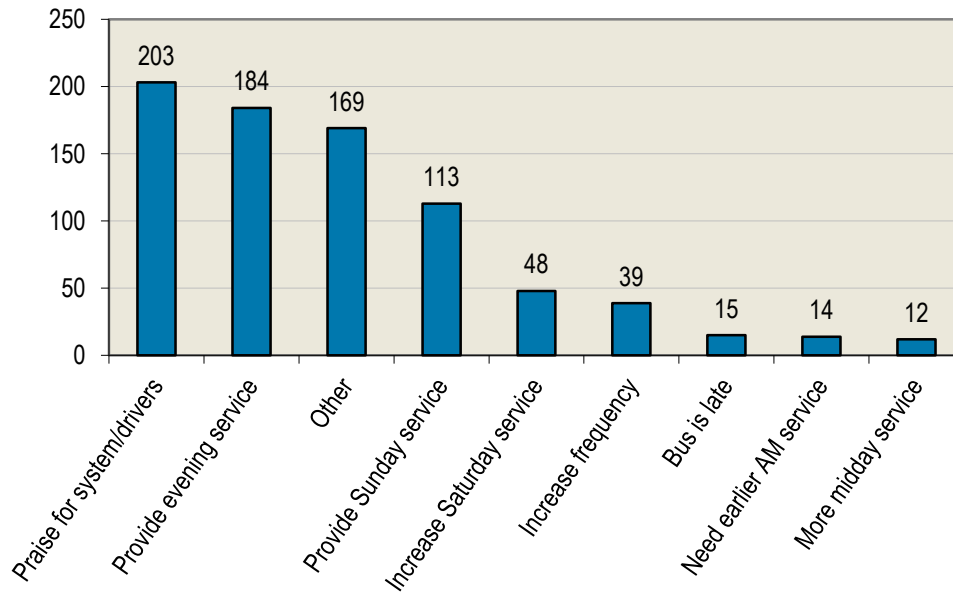
Figure 46 Where Should Mountain Line Go?



Additional Comments

Respondents were also asked to provide additional comments about Mountain Line. Six-hundred and seventy additional comments were provided. The most frequent comments are listed in Figure 47. Overall, riders would like to have evening and Sunday service provided in the system. The majority of the comments (30%) were praise for the system or the drivers. Other common responses suggested increasing service hours on Saturdays and increasing frequency of existing routes.

Figure 47 Most Frequent Additional Comments



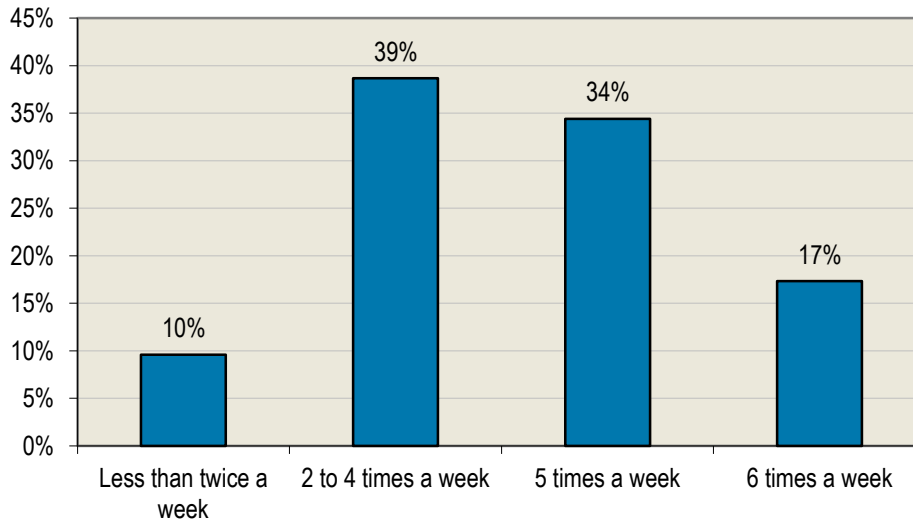
Demographic Characteristics

The survey asked respondents questions about frequency and longevity using Mountain Line. Respondents were also asked questions about age, employment status, and vehicle availability.

Frequency of Use

Mountain Line riders report very frequent use of the service. Fifty-one percent of respondents use the bus five or six times per week. An additional 39% ride two to four times per week, as shown in Figure 48.

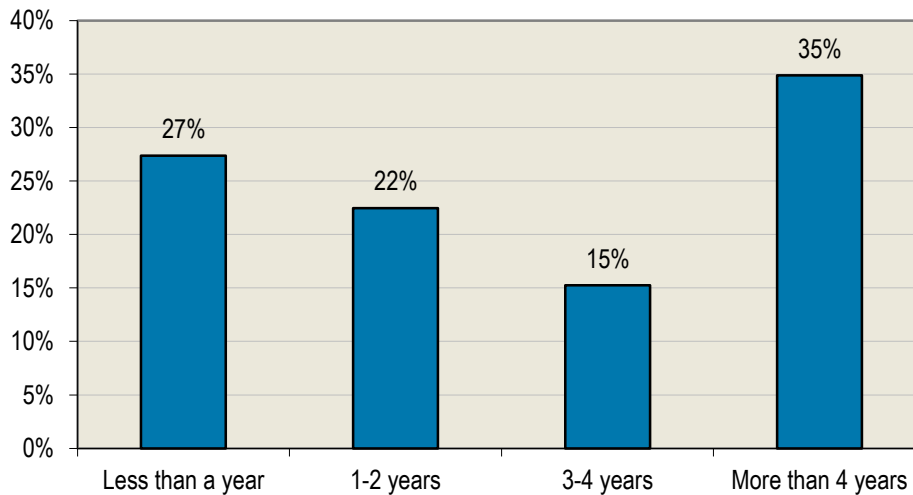
Figure 48 Frequency of Use



Longevity of Use

Figure 49 shows longevity of use for Mountain Line riders. About half have ridden the bus at for least three years. The rider longevity shows a particular challenge and opportunity for Mountain Line: more than a quarter of its ridership is new every year. The University of Montana is a key factor causing rider turnover to be so high, although it should be noted that 20% new riders annually is normal among transit systems nationally.

Figure 49 Longevity of Use



Age

More than half of survey respondents were under age 34, with 28% in the 18-24 age bracket and 19% in the 25-34 age group. The three age groups between 35 and 64 each received around 13%, as can be seen in Figure 50.

Figure 50 Age of Respondents

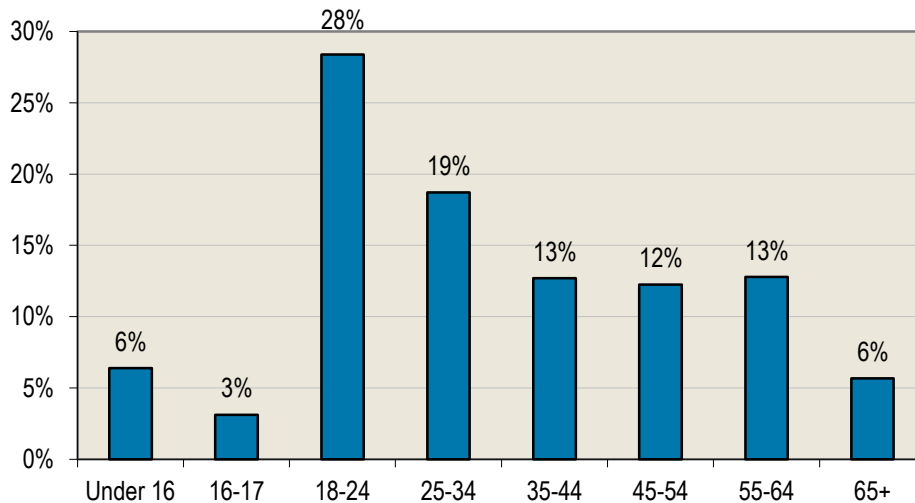


Figure 51 shows the age breakdown of residents of Missoula County and the City of Missoula and Mountain Line survey respondents. The age breakdown of respondents is generally consistent with the breakdown of county and city residents, except for the under 16, 18-24, and 65 and over age groups. College-age students (18-24) are strongly represented among respondents while people under 16 and 65 and over are not. The breakdown for respondents is dependent on two factors: the actual age breakdown of Mountain Line riders and the percentage that are willing and able to complete a survey. Children are generally unable to fill out this type of survey, which leads to that age group being underrepresented in the sample.

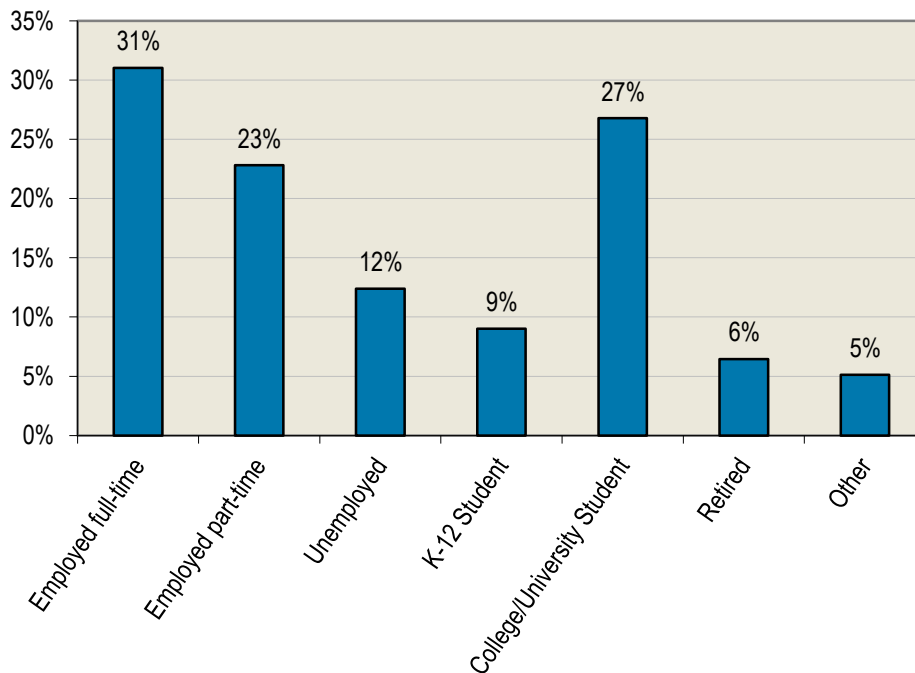
Figure 51 Census 2010 Demographics by Age Group: Missoula County and City of Missoula

Age Group	Missoula County %	City of Missoula %	ML Survey Respondents %
Under 16	17.7%	15.9%	6.4%
16-17	2.3%	1.9%	3.1%
18-24	15.0%	19.8%	28.4%
25-34	15.9%	18.7%	18.7%
35-44	11.6%	10.9%	12.7%
45-54	13.5%	11.5%	12.2%
55-64	12.7%	10.6%	12.8%
65+	11.4%	10.7%	5.7%

Employment Status

A large percentage of on-board survey respondents stated that they are either employed full-time or a college/university student (31% and 27% respectively). Respondents were permitted to select more than one response to this question, which results in a total count over 100% in Figure 52. The next most common responses were employed part-time (23%) and unemployed (12%). Of the “other” category, which comprised 5% of responses, a high number of respondents said they are disabled. A small portion of the respondents are K-12 students or retired.

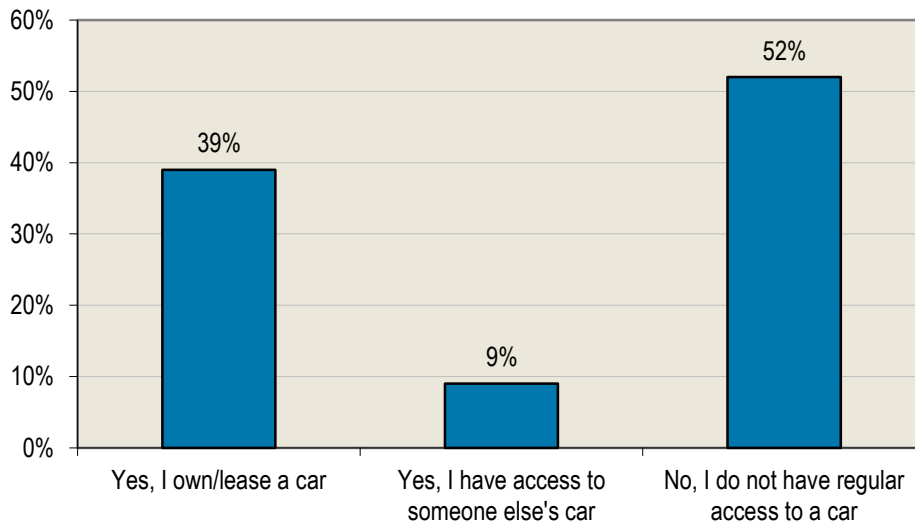
Figure 52 Employment Status



Vehicle Availability

Over half of surveyed riders (52%) indicated that they do not have regular access to a car. Thirty-nine percent own or lease a car, and 9% have access to someone else's vehicle (Figure 53). Mountain Line's ridership is mostly dependent on transit for mobility purposes.

Figure 53 Vehicle Availability



Online Survey

Methods

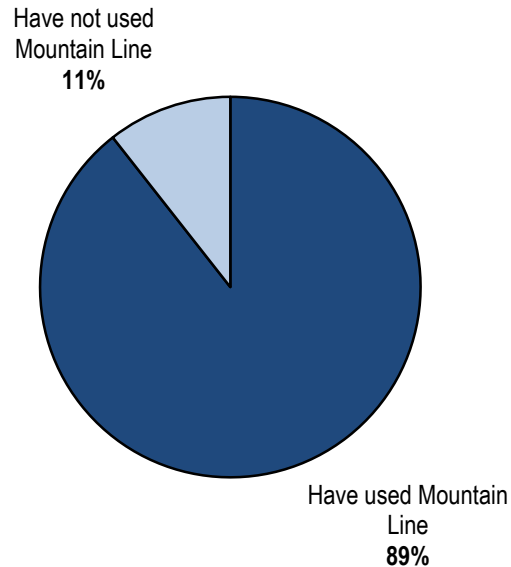
An online survey was conducted to supplement the on-board survey. There were a total of 348 responses. The survey was advertised on the Mountain Line website, mentioned during public meetings, and distributed to community stakeholders. The online survey questions are included in Appendix D.

Results

The charts and tables in this chapter summarize the results of the online survey. On some questions, survey respondents could select more than one answer, making the total percentage greater than 100%.

The first survey question asked respondents if they have used Mountain Line service in the past. Most respondents (311 people, 89%) answered yes with 11% (37 people) indicating that they have never used Mountain Line service.

Figure 54 Percentage of Respondents who Have Used Mountain Line Service



Current or Former Mountain Line Rider Questions

The following chart and tables summarize responses to the three questions asked only to people who have used Mountain Line service in the past. Figure 55 presents the reasons why respondents use Mountain Line service. The most popular reasons were environmental reasons (air pollution, etc.) (57%), save on gas/wear on car (55%), and convenience (38%).

Mountain Line riders were also asked to rank ten potential service improvements in order, with one being the most important and ten the least important. Figure 56 presents the results. “More frequent service” is the most popular improvement, with an average rank of 4.04, followed by “later evening service” (4.26 rank) and “more direct service” (4.98 rank).

The final question for current and former Mountain Line riders asked respondents to rate Mountain Line on 12 different factors on a scale from one to five, with one being poor and five being very good. The system received the highest percentage of four and five scores on “cleanliness of vehicle and facilities,” “driver safety,” “driver courtesy,” and “seating on buses.” The lowest scores were on “convenience (schedules and routes work for me)” and “service is available late enough.” These ratings are summarized in Figure 57, which includes all categories sorted by the percentage of four and five scores they received.

Figure 55 Reasons for Using Mountain Line Service

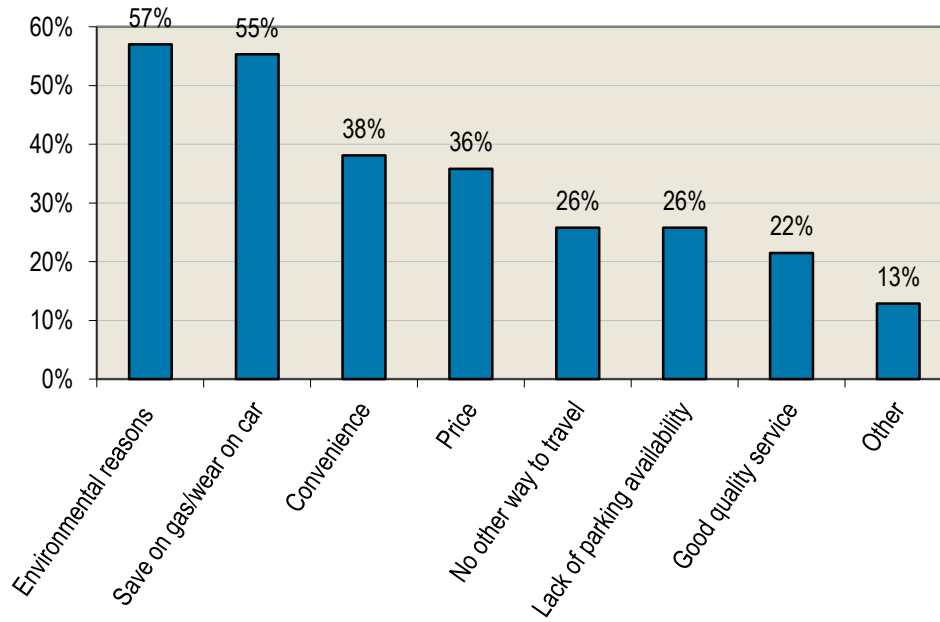
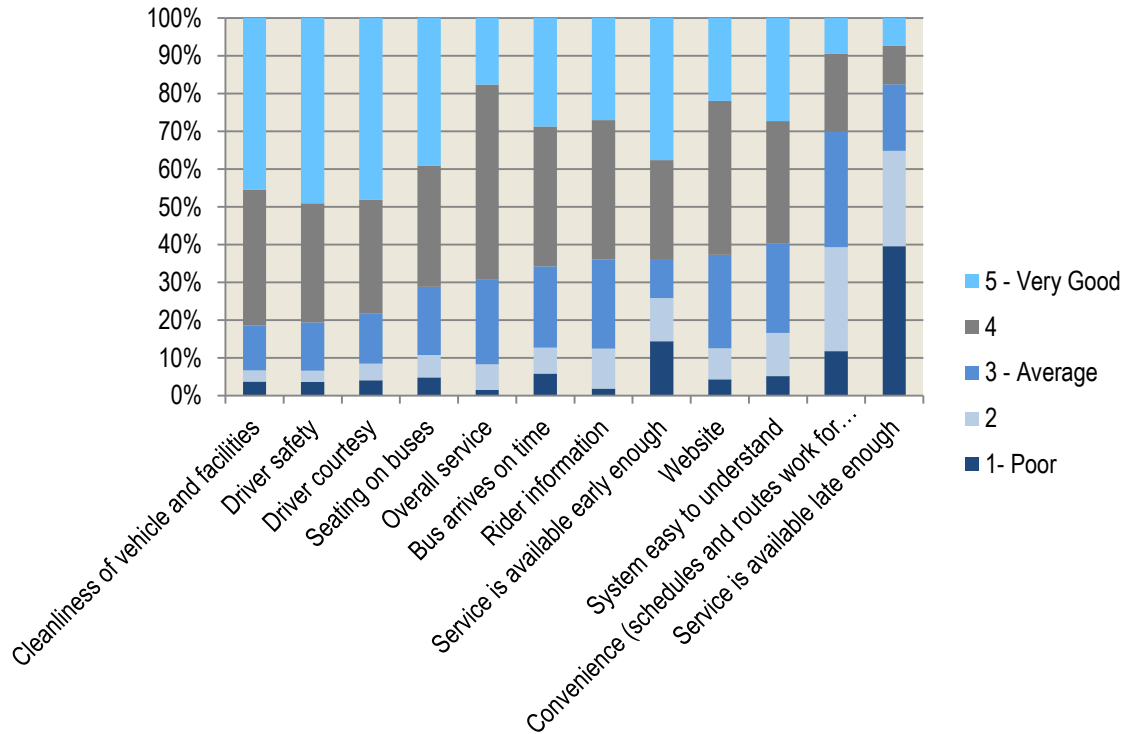


Figure 56 Importance of Potential Service Improvements

Overall	Improvement	Average Rank
1	More frequent service	4.04
2	Later evening service	4.26
3	More direct service	4.98
4	More Saturday service	5.21
5	Reduced travel times	5.23
6	Routes closer to my home	5.63
7	Sunday service	5.74
8	Other	5.93
9	Routes closer to my job	6.08
10	Better service information	6.37

Figure 57 Mountain Line Ratings



Non- Rider Questions

The following charts summarize responses to the two questions asked of people who have not used Mountain Line service. Figure 58 presents reasons why respondents do not use Mountain Line. The most popular reason was “takes too long” (43%) and “other” (43%), followed by “does not go where I need to go” (40%).

Figure 59 presents factors that would encourage non-riders to try public transit. The two most popular responses by a wide margin were “more direct routes” (53%) and “later evening service” (41%). The least popular responses were increased reliability (6%), real time bus location information (9%), and earlier morning service (12%), indicating that Mountain Line is already performing well on these factors and/or they are not very important to potential riders. Fifteen percent responded that nothing would encourage them to try public transit.

Figure 58 Reasons for Not Using Mountain Line

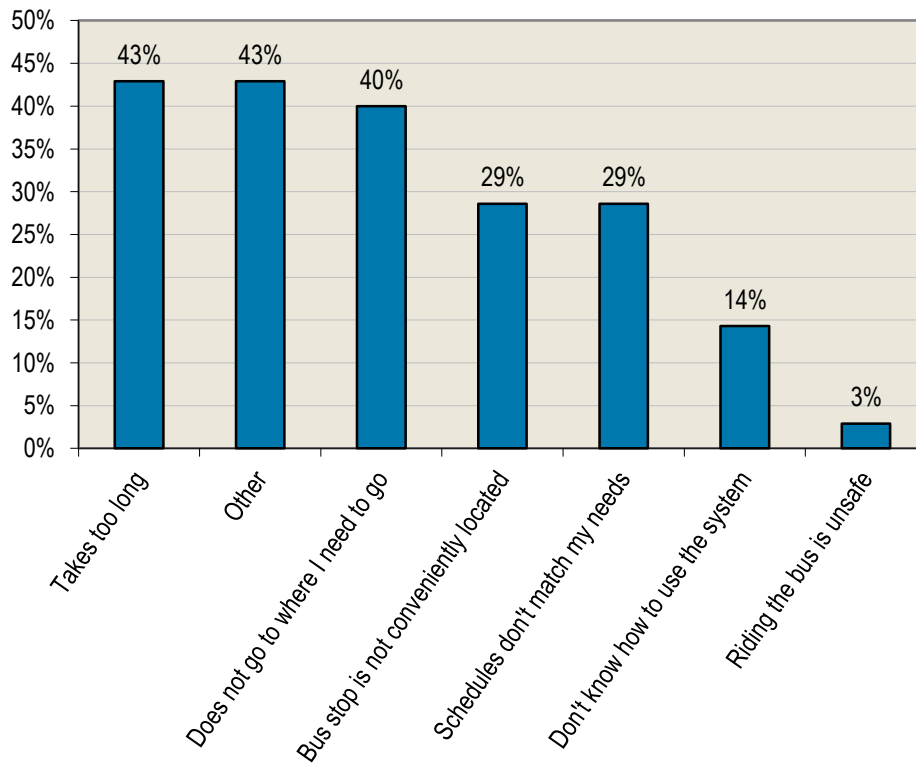
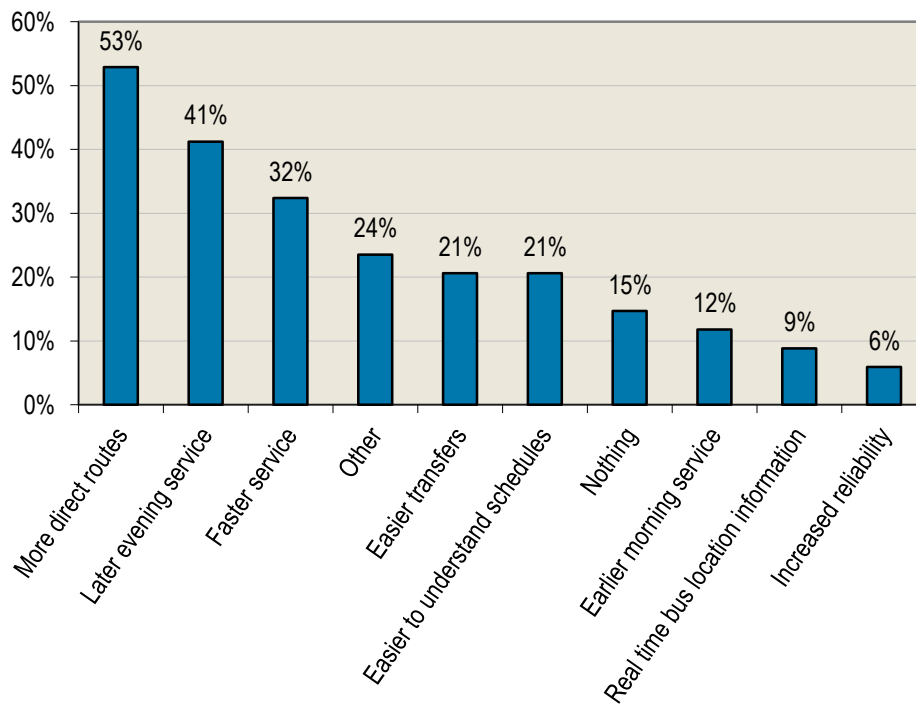


Figure 59 Factors That Would Encourage Respondents to Try Public Transit



Questions for All Respondents

The following charts summarize questions that were asked of all survey takers, regardless of whether they have used Mountain Line or not.

Respondents were asked to rate the importance of public transit in their community on a scale from one to five, with one being not important and five being very important. Eighty-nine percent of respondents think that public transit is either important or very important. The results are summarized in

Figure 60.

Respondents were also asked if Mountain Line serves the right areas. Figure 61 summarizes the responses, with 80% saying yes and 20% saying no. The most common suggestions for places that should be served included Reserve Street, Lolo, and Upper Miller Creek/Miller Creek.

Respondents were asked a series of questions requiring them to choose between two statements. In Figure 62 respondents were asked to choose between Mountain Line serving more areas or providing more frequent service. There was a very slight preference (51%) towards “providing service to fewer areas, but buses would come more frequently.” Respondents showed strong support for improving existing service (63%) over extending service to areas currently without service, as can be seen in Figure 63.

In Figure 64, it can be seen that respondents also prefer a wider span of service in exchange for service frequency. Sixty percent selected “decrease service frequency, but operate for a longer portion of the day.” Respondents also favored evening and weekend service in the following question, Figure 65, where 54% chose “provide less frequent weekday service in order to provide more evening and weekend service.”

Respondents also showed a preference for faster, more efficient service at the expense of providing fewer stops. Shown in Figure 66, 54% chose to “reduce the number of stops in order to make service faster.” The next question asked respondents to choose between fewer routes with more frequent service and the increased need to transfer or less frequent service to a larger service area and a reduced need to transfer buses. In Figure 67, a larger percentage (58%) of respondents chose the former: “operate fewer routes that provide more frequent service understanding this may increase the need for transfers but shorten wait time at the bus stop.” The final question asked respondents to choose between two scenarios presented about walking distance to the bus stop and faster, more direct bus service. In Figure 68, it can be seen that respondents indicated a strong preference (67%) for a scenario where they would “walk longer distances to bus service that is faster and more direct.”

Figure 60 Importance of Public Transit in Community on 1-5 Scale

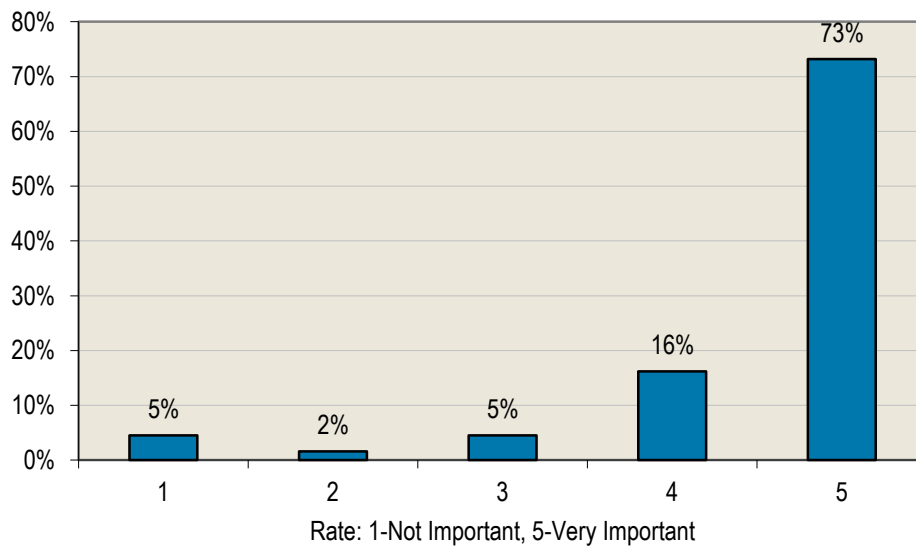


Figure 61 Does Mountain Line Serve the Right Areas?

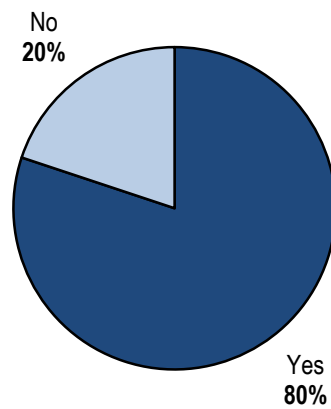


Figure 62 Service Area

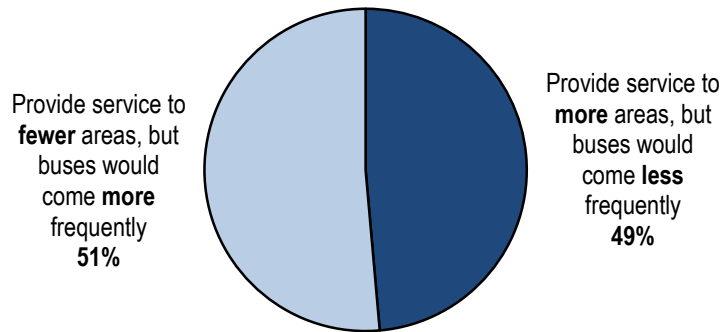


Figure 63 Bus Service Improvements

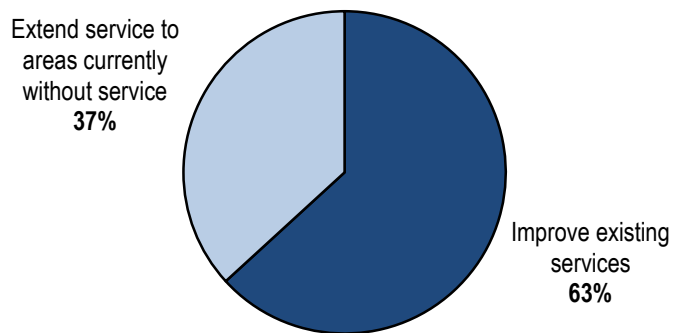


Figure 64 Service Frequency versus Hours of Service

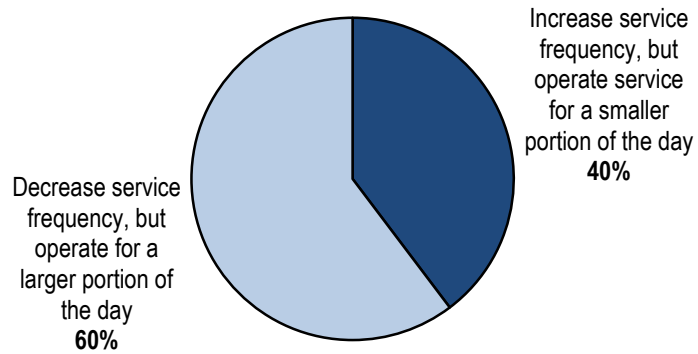


Figure 65 Days of Service

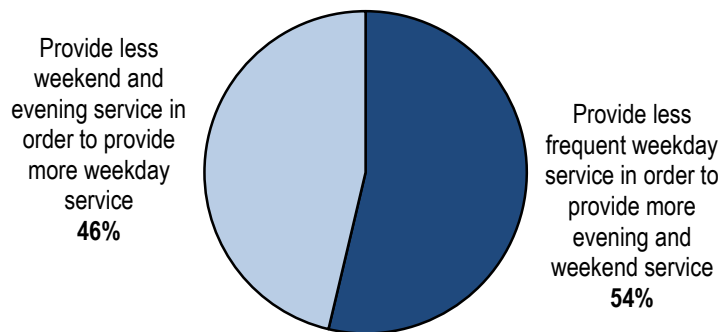


Figure 66 Bus Stop Spacing

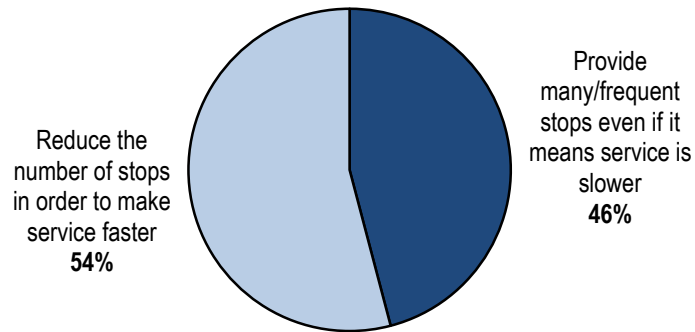


Figure 67 Transfer Frequency

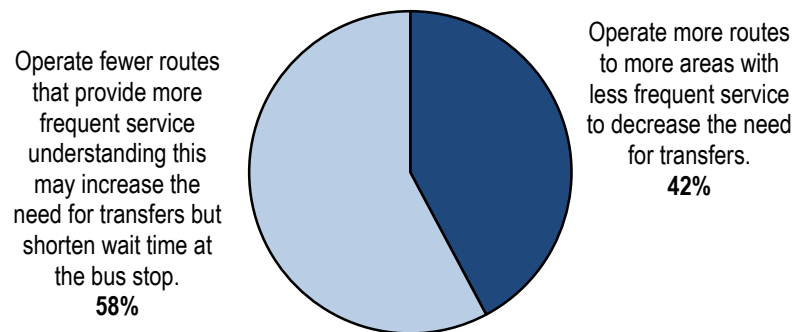


Figure 68 Directness of Service

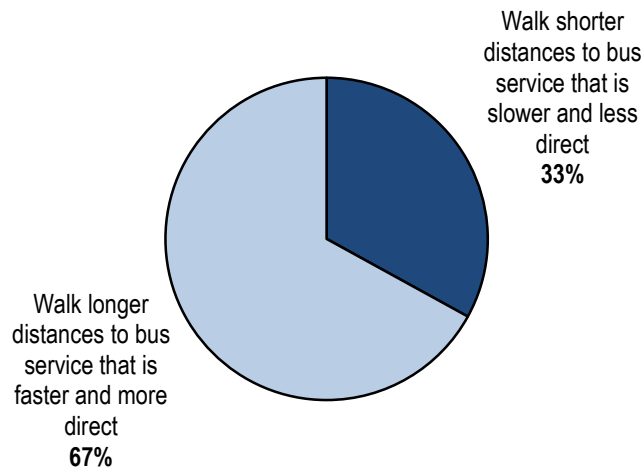


Figure 69 presents the results from a question that asked if respondents would be influenced to ride the bus by the presence of certain technological improvements to the transit system, such as free Wi-Fi on buses, live bus tracking (online/smartphone access to live bus location), and traffic signal priority for buses at major intersections. Well over half (66%) of respondents would be influenced by live bus tracking, followed by 53% influenced by “traffic signal priority for buses at major intersections.” A large percent (45%) of respondents also would be influenced to ride by free Wi-Fi on buses.

Figure 70 presents the employment status of respondents. Most survey respondents are employed full-time (63%) or employed part-time (16%). Fourteen percent are college or university students, less than 5% are unemployed, and 5% are retired.

The total family income for respondents is presented in Figure 71. The largest portion of respondents (28%) has a total family income of \$25,000 to \$49,999. Twenty percent of respondents have a total family income of \$50,000 to \$74,999.

The online survey permitted respondents to leave an open-ended comment at the end. The most frequent comment was to increase evening service to a number of key areas in Missoula. Additionally, a high number of respondents commented that they would like to see evening service targeting the downtown bars and restaurants. Other feedback included praise for Mountain Line drivers, requests for earlier service, and posting of route and schedule information on all stop posts. Figure 72 highlights the top nine responses in the open-ended question.

Figure 69 Technology Amenities' Influence on Decision to Ride Bus

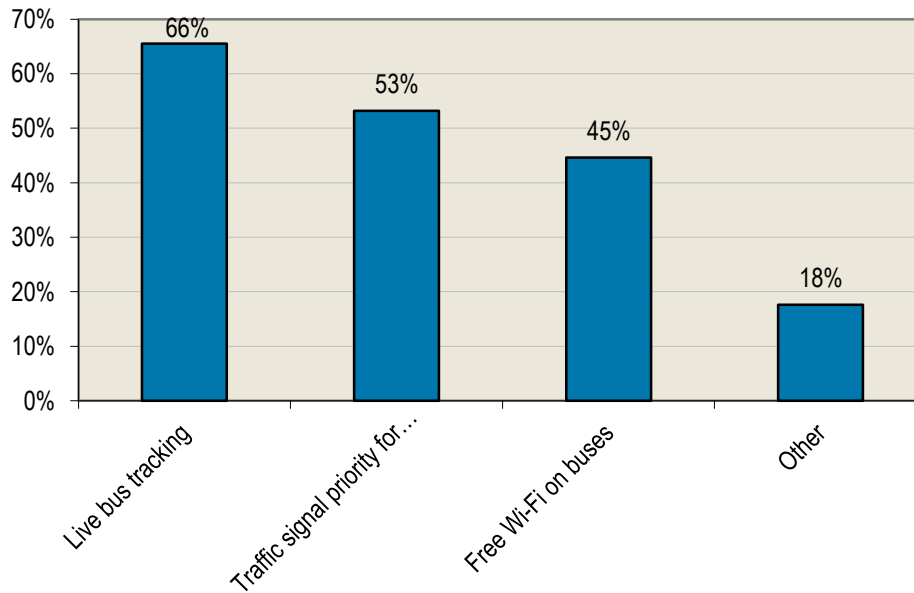


Figure 70 Employment Status

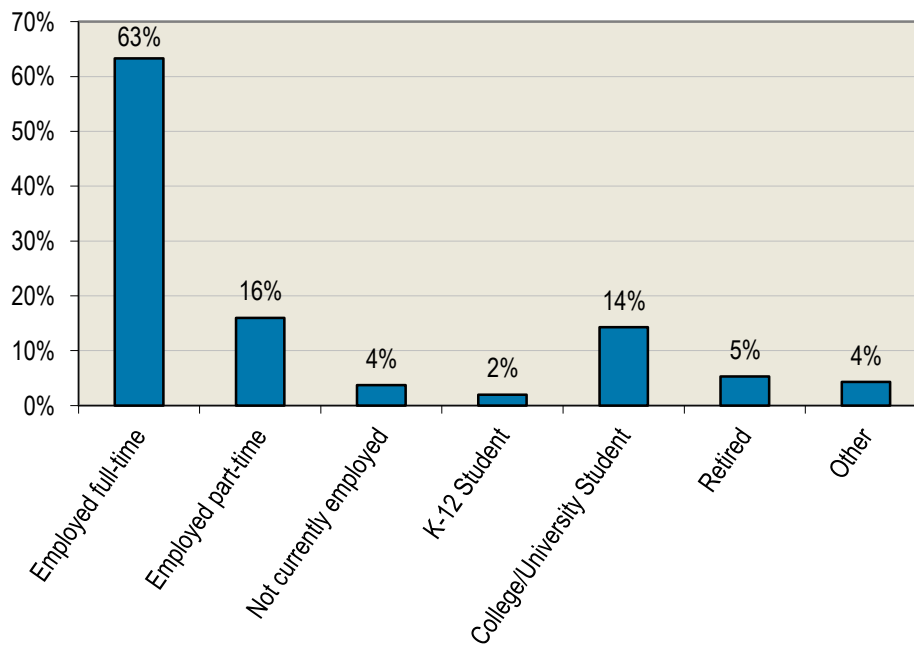


Figure 71 Total Family Income

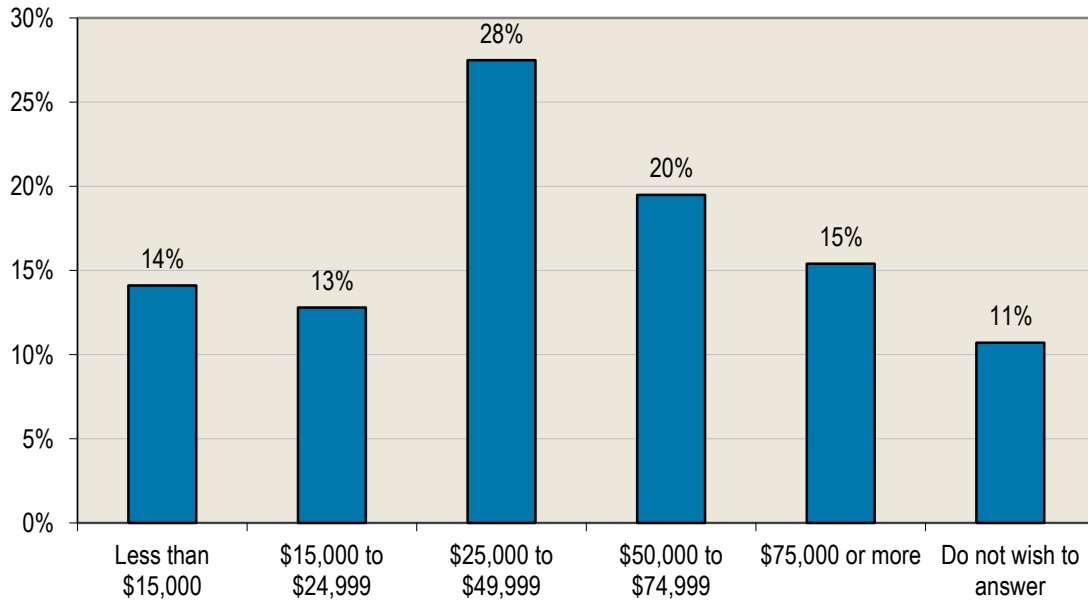


Figure 72 Most Frequent Open-ended Responses

Count	Open-ended Response
25	Increased evening service to a number of key areas
8	Provide evening service to the downtown bars/restaurants
5	Praise for Mountain Line Drivers
5	Provide earlier bus service
5	Increased service on Reserve
4	Post route and schedule information at all stops
4	Service to Lolo
3	Transfer station at the fairground or somewhere else out of downtown
3	Increase service in the winter

Intercept Survey

Introduction

Intercept surveys were conducted to determine the transportation needs of persons that may not be reached by the on-line survey. The questions were identical to the online survey. A total of 130 intercept surveys were conducted at the following locations:

University of Montana University Center

October 28, 2011, 11:00 AM – 1:00 PM.

Number of surveys: 64

Mountain Line Transfer Center

October 28, 2011, 2:00 PM – 5:00 PM

Number of surveys: 66

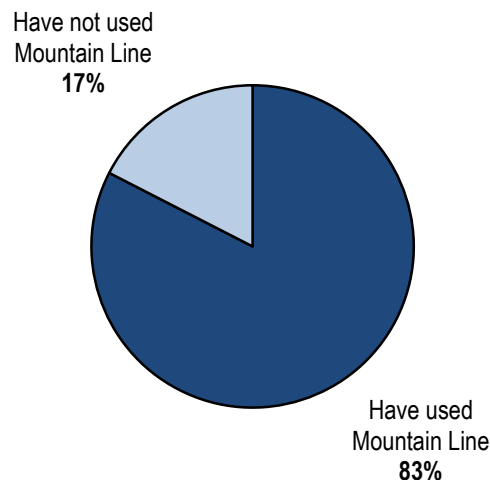
Methods

Surveyors approached people at the University of Montana University Center and the Mountain Line Transfer Center and asked if they would be willing to take a survey. If a person agreed, the surveyor either read the questions to the individual and recorded their answers or gave a copy of the survey directly to the individual to fill out. The survey instrument is included in Appendix E.

Results

Survey respondents were first asked whether or not they have ever used Mountain Line bus service. Of the 126 respondents, 83% (104 people) answered yes and 17% (22 people) said no. Respondents who said “yes” were then asked a set of three questions tailored to Mountain Line users.

Figure 73 Percent of Respondents that Have Used Mountain Line Service



Current or Former Mountain Line Rider Questions

The following figures and tables relate to the set of questions asked of the 104 respondents who stated that they had experience using Mountain Line bus service. Reasons that respondents stated for using Mountain Line service are displayed in Figure 74. The most popular reason selected was “no other way to travel”, stated by 18% of respondents, followed by convenience, which 17% of respondents stated, and environmental reasons, stated by 16%. The reasons stated by the fewest respondents were lack of parking availability, good quality service, and other.

Figure 75 summarizes average ranking responses to the survey question which asked respondents to rank ten potential service improvements in order of importance with one being most important and ten being least important. More frequent service, later evening service, and more Saturday service were the three most desired improvements. It should be noted that these top three priorities correspond to the on-line survey's top three priorities.

Figure 76 shows the percentage of survey respondents who rated each given service characteristic on a scale of one to five, with five being very good and one being poor. Overall, no criterion received a large percent of poor ratings except for "service is available late enough," which received 29% of ratings in the below average category. All criteria except for late service had over 50% of ratings in either the above average or very good category. Almost 60% of respondents rated the availability of late service as either poor or below average. Driver safety, the most consistently highly rated criteria, was considered very good by 54% of respondents. Vehicle cleanliness, seating on buses, driver courtesy, and overall service were rated by more than 75% of respondents as above average or very good.

Figure 74 Reasons for Using Mountain Line Service

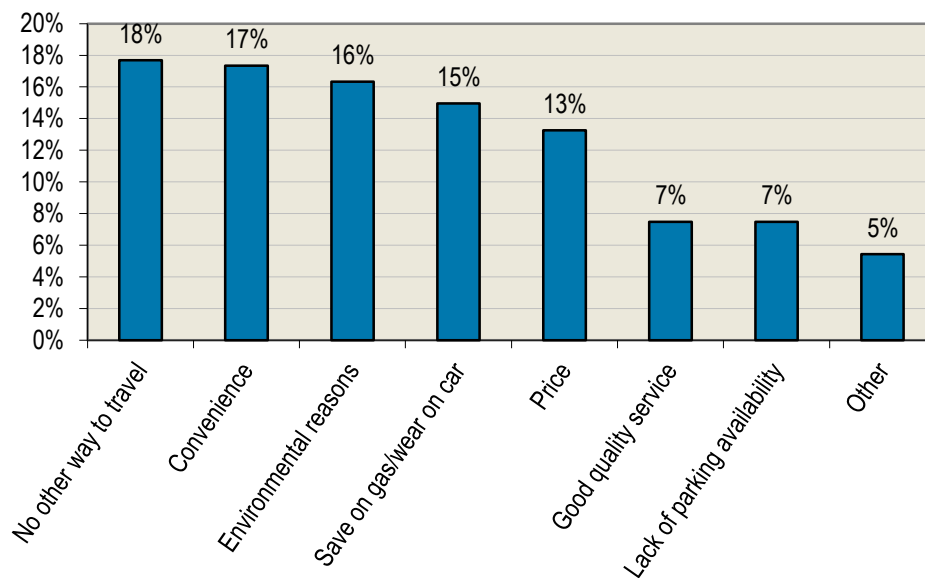
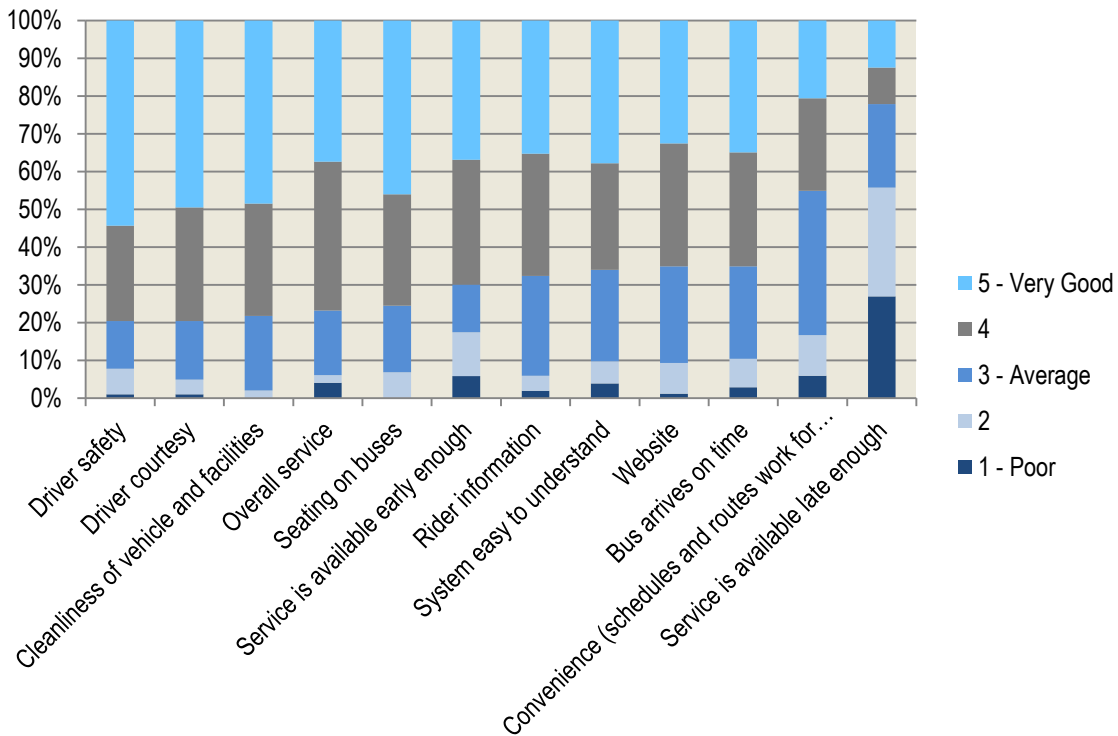


Figure 75 Importance of Potential Service Improvements

Overall	Improvement	Average Rank
1	More frequent service	2.57
2	Later evening service	2.71
3	More Saturday service	3.64
4	Sunday service	4.46
5	More direct service	4.68
6	Routes closer to my home	6.08
7	Reduced travel times	6.12
8	Routes closer to my job	6.42
9	Other	6.44
10	Better service information	7.13

Figure 76 Mountain Line Ratings



Non- Rider Questions

The following two figures relate to the set of questions asked of the 22 survey respondents who stated that they had never used Mountain Line services. As shown in Figure 77, when asked to select reasons for not using Mountain Line services, there was no one reason stated by the majority of respondents. Not knowing how to use the system, preferring to ride a bicycle instead, and other reasons were stated most frequently by 21%, 21%, and 38% of respondents, respectively.

Figure 78 shows the factors that would encourage non-riders to try using transit. Later evening service is the most commonly stated factor that would encourage non-transit users to try using transit, stated by 41% of respondents. The next most common factors are more direct service and easier to understand schedules, each stated by 32% of users, followed by real time bus location information (27%).

Figure 77 Reasons for Not Using Mountain Line

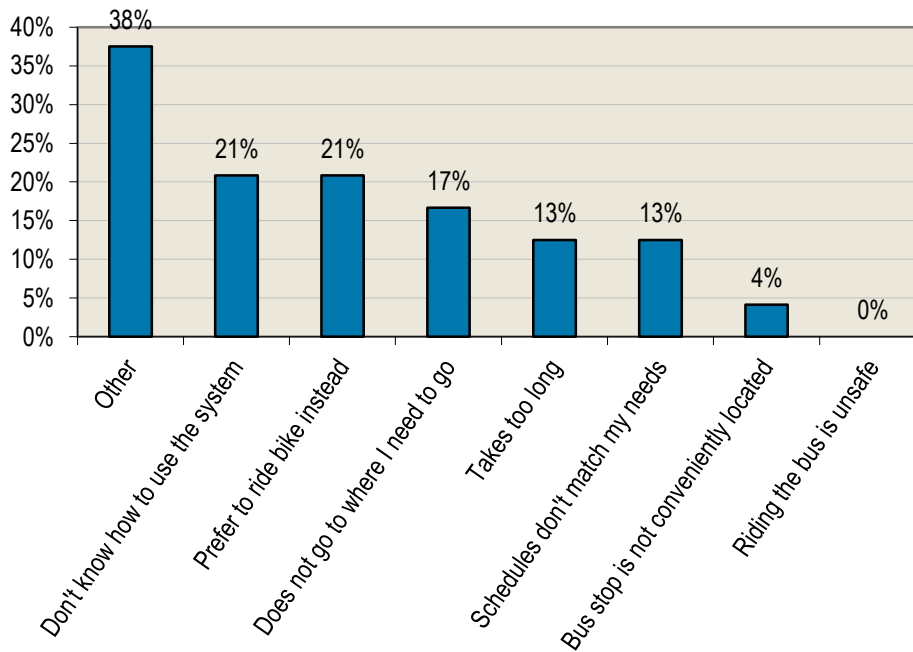
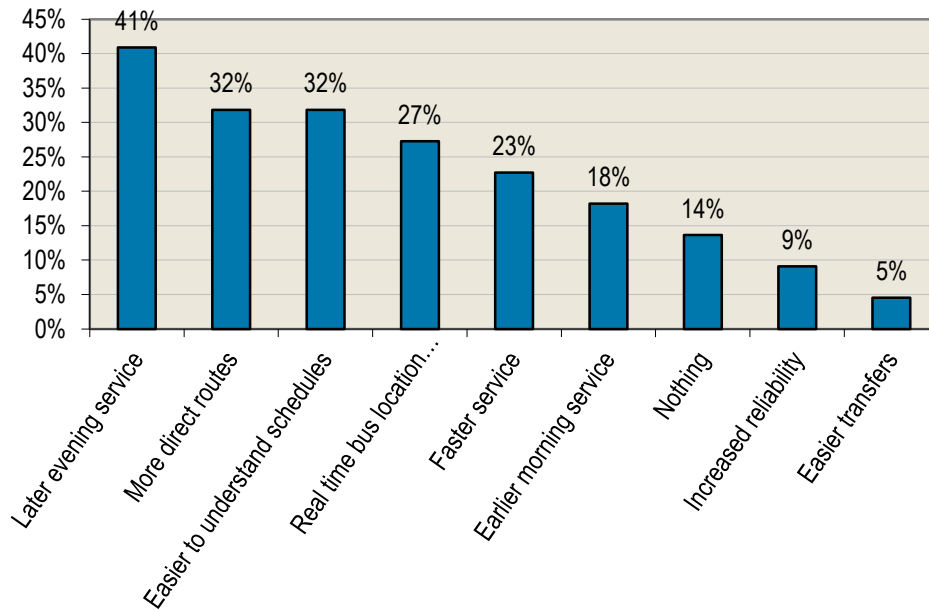


Figure 78 Factors that Would Encourage Respondents to Try Public Transit



Questions for All Respondents

The following figures relate to a series of questions asked of all 126 intercept survey respondents.

As shown in Figure 79, when asked to rank on a scale of one to five (with five being the highest) the importance of public transit in their community, 90% responded in saying transit is either important or very important. Only 6 people rated transit as not being very important (rating of one or two).

Respondents were asked to choose between a series of seven sets of statements, which required making decisions about tradeoffs in the transit system. In Figure 80, respondents chose between service area and frequency of service. There was a slight preference (54%) towards providing service to fewer areas while having buses come more frequently. For bus service improvements, shown in Figure 81, 58% of respondents chose to “extend service to areas currently without service” rather than “improve existing services.” Figure 82 asked respondents about service frequency versus hours of service. Overwhelmingly, respondents chose to “decrease service frequency but operate for a larger portion of the day,” (75%) rather than increasing service frequency and operating for a smaller portion of the day.

Figure 83 asked about days of service. A larger portion (59%) of respondents selected to provide less frequent weekday service in order to provide more evening and weekend service. Regarding bus stop spacing, 55% of respondents chose to reduce the number of stops in order to make service faster, which can be seen in Figure 84. Fifty-five percent of respondents were also in support of reducing the need for transfers by operating more routes to more areas with less frequent service (Figure 85). Finally, 59% of respondents would choose to walk longer distances to bus service that is faster and more direct, as shown in Figure 86.

Respondents were asked if certain technology based amenities would influence their decision to ride transit. The highest stated preference was for live bus tracking (online/smartphone access to

live bus location and notification of when bus would arrive at the stop) by 58% of respondents. Fifty-three percent also selected traffic signal priority for buses at major intersections, and 49% indicated a preference for free Wi-Fi on buses as well.

When asked if respondents thought that Mountain Line served the right areas, 80% said yes and 20% said no. If respondents said no, they were asked to name places that Mountain Line should be serving. The most common suggestions were Lolo and North Reserve/Russell Streets.

Figure 89 displays the employment status of survey respondents. Many respondents who stated that they were students also stated that they were full time, part time, or not employed, causing the total to add up to more than 100%. Fifty percent of respondents in the intercept survey reported that they are university/college students. This is likely related to the location of the intercept surveyors at the University of Missoula. Almost 50% of respondents stated that they were employed full or part time.

Figure 90 below shows the distribution of annual household income levels of the survey respondents. The majority of respondents reported under \$15,000 in annual income (44%). This low average income is likely related to the high number of students responding to the survey. Twenty-one percent of respondents did not wish to answer, and 19% reported an income between \$15,000 and \$24,999.

Figure 79 Rating of Importance of Public Transit in Community

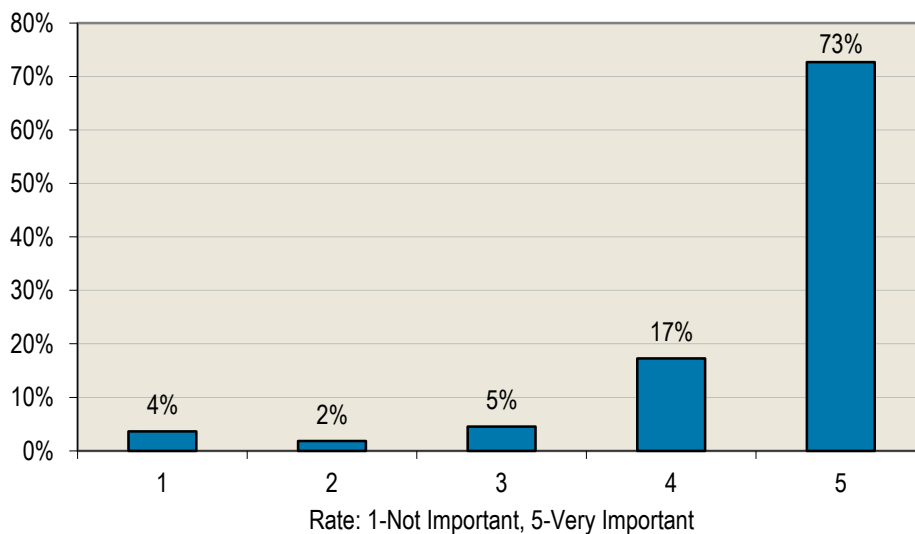


Figure 80 Service Area

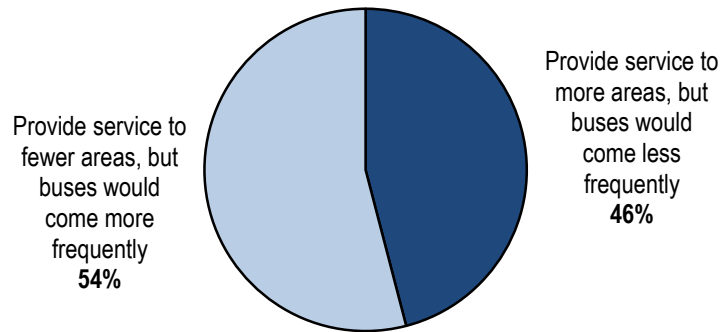


Figure 81 Bus Service Improvements

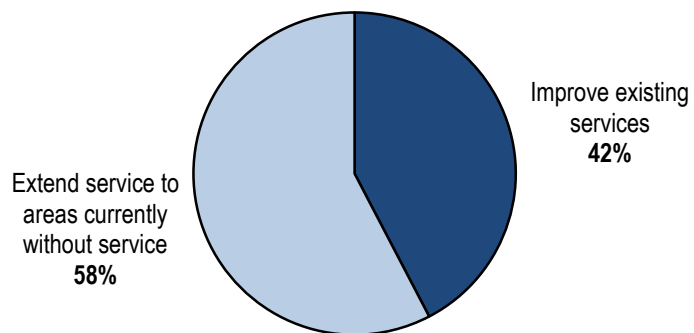


Figure 82 Service Frequency versus Hours of Service

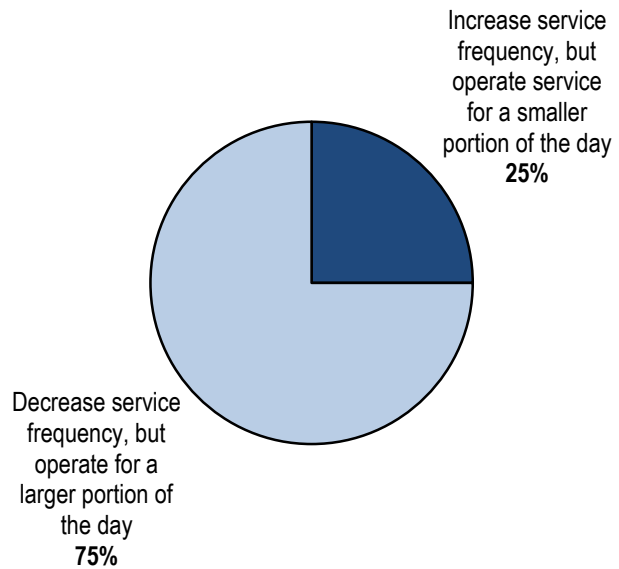


Figure 83 Days of Service

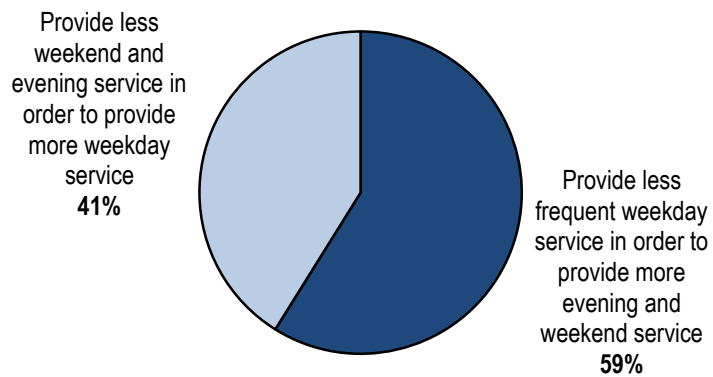


Figure 84 Bus Stop Spacing

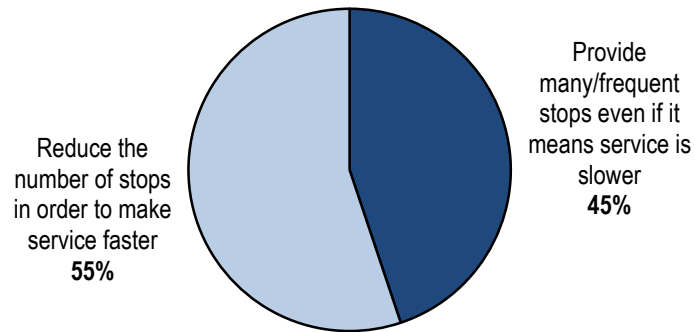


Figure 85 Transfer Frequency

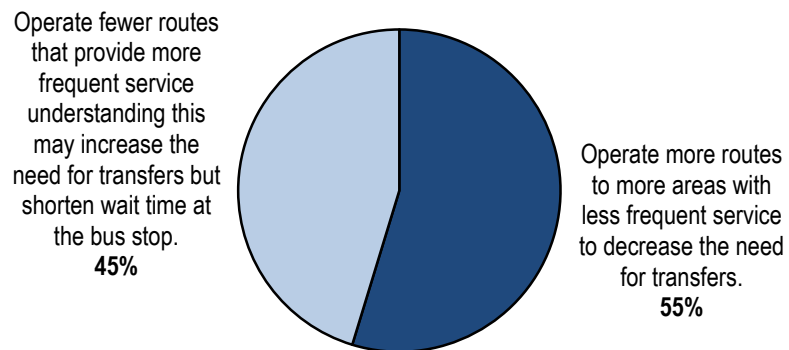


Figure 86 Directness of Service

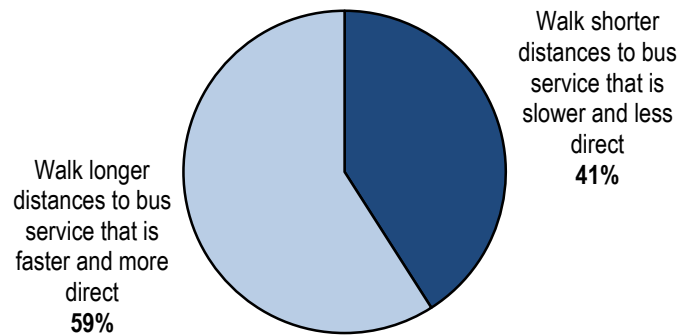


Figure 87 Technology Amenities' Influence on Decision to Ride Bus

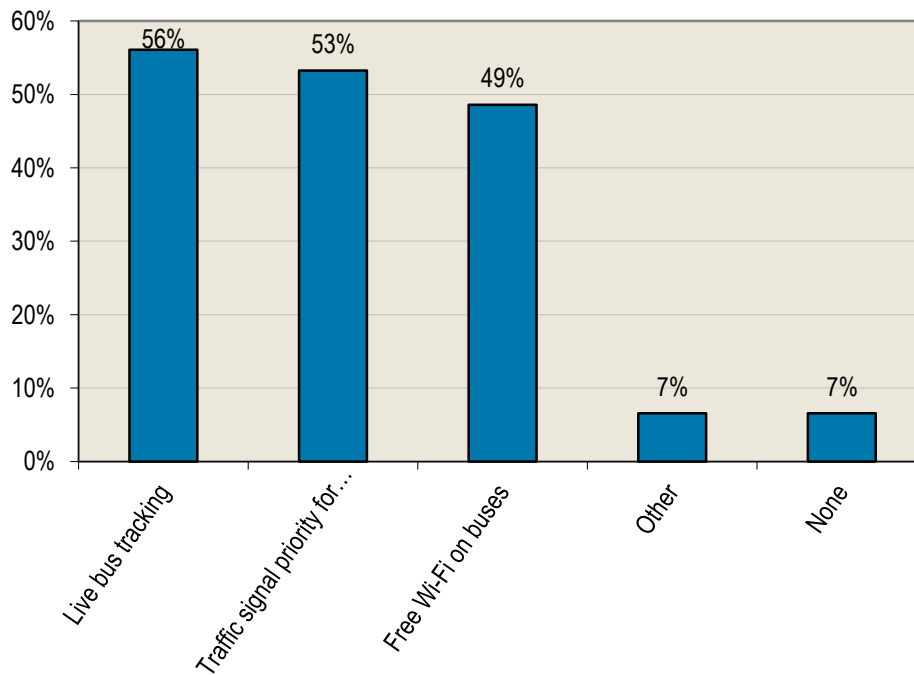


Figure 88 Does Mountain Line Serve the Right Areas?

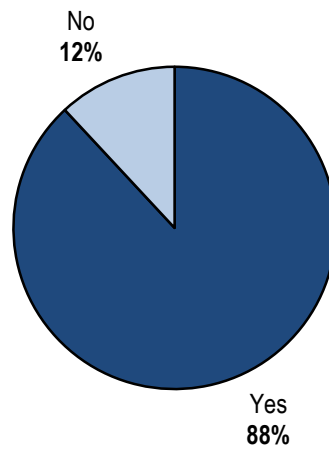


Figure 89 Employment Status

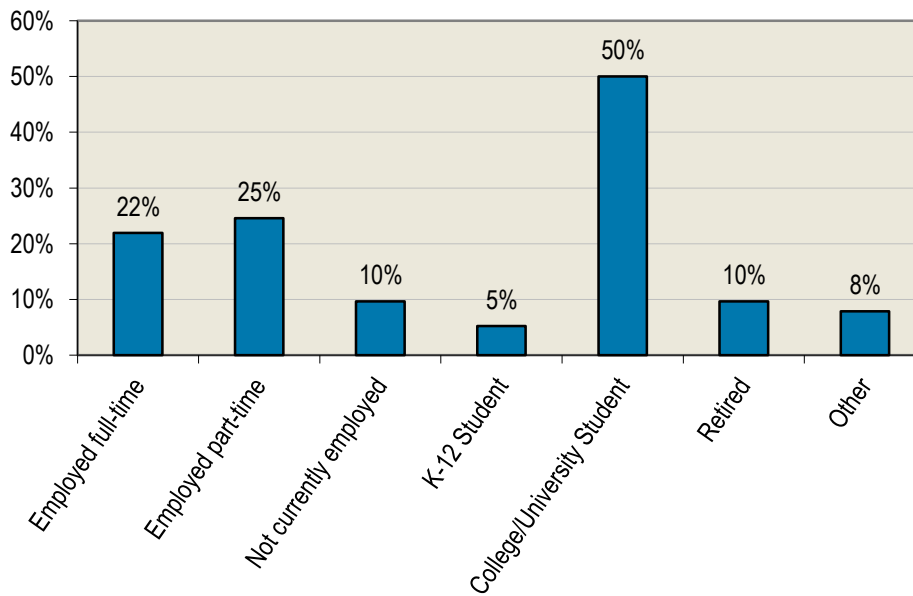
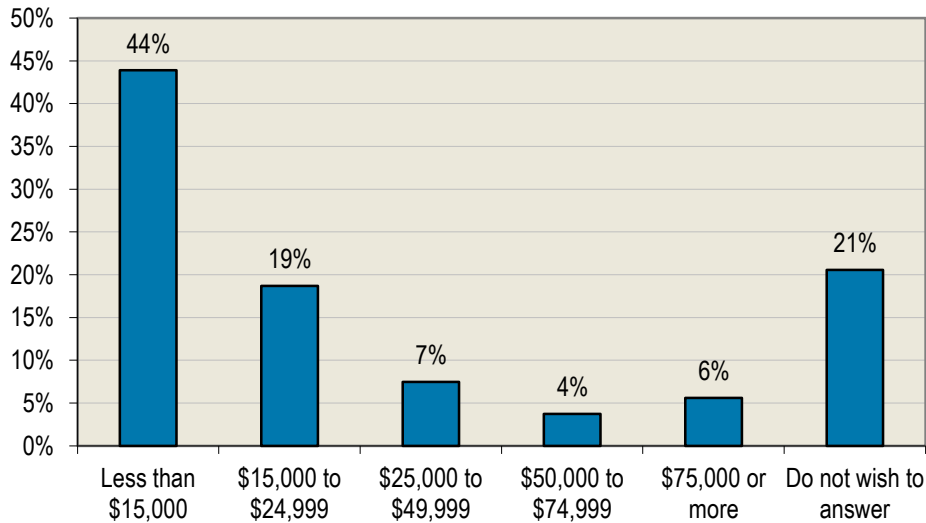


Figure 90 Annual Household Income



Comments

Respondents were asked if they had any additional comments. Figure 91 summarizes the most frequent comments. The most common comment was about increased evening service. Several comments also pertained to increased weekend service hours, both into the mornings and evenings.

Figure 91 Intercept Survey Comments

Count	Open-ended Response
11	Increased evening service
4	Extend weekend service (earlier and later)
2	Later service to the mall
2	Keep bathrooms open at transfer station longer

Market Research Common Themes

Overall, survey respondents were happy with the service that Mountain Line provides and feel that it is an important part of the community. In general, they feel that Mountain Line serves the right areas, but some people would like to see service expanded to new areas, such as Lolo.

From a service planning perspective, there were a few themes that stood out:

- Onboard survey respondents said that the worst thing about riding the bus was that it does not run when needed, and many people said in all three surveys that they would like to see later evening service and more service on Saturday.
- When asked to rank potential service improvements, both online and intercept survey respondents ranked “more frequent service” higher than “later evening service,” but when asked to choose between less frequent service with a longer service span or more frequent

service with a shorter service span, respondents preferred the former. This indicates that both are important, but that riders may not be willing to give up later evening service for more frequent service.

- Respondents are interested in faster, more direct service.

8 ROUTE PROFILES

This chapter includes route profiles that contain descriptions, characteristics, and statistics for each Mountain Line route. Statistics were developed from the data collected in October 2011. Appendix A at the end of the document contains a route report card for each route, and route boarding and alighting maps can be found in Appendix B.

Route 1 Downtown / University / Community Hospital

Route Description

Route 1 provides weekday and Saturday service between the Transfer Center and Community Medical Center via the University of Montana campus, Arthur Avenue, and South Avenue. Major destinations on or close to the route include the UM campus, Sentinel High School, Washington Middle School, Jefferson Elementary School, UM College of Technology, and Southgate Mall. The majority of weekday trips are interlined with Route 9.

Route Characteristics

Weekday ridership on Route 1 is 30.6 boardings per service hour. It is the most productive Mountain Line route on weekdays. In the inbound direction, the load steadily builds from Community Hospital to the UM campus and remains high until the Transfer Center. Productivity is highest in the segment between Arthur Avenue and Keith Avenue and the Transfer Center, at 50.7 boardings per service hour. It is lowest at the other end of the route between Southgate Mall and Community Hospital, at just 10.8 boardings per service hour. There are, however, 49 daily riders from Route 9 outbound who stay on board the bus when it becomes Route 1 inbound at Community Hospital. This increases the load substantially in the first segment. In the outbound direction, 30 people stay on board at Community Hospital to continue on Route 9.

The highest activity stop outside downtown and campus is at the UM College of Technology, with 39 daily boardings in the inbound direction and 41 going outbound.

Productivity is 18.6 boardings per service hour on Saturday, which is the second highest in the system. The highest ridership locations are at the Transfer Center, UM campus and stops around the intersection of Russell Street and South Avenue. There was a UM Football game on the Saturday that data were collected, which may affect the data.

On-Time Performance

Route 1 has above average on-time performance on weekdays and has an on-time percentage of 75.8%. Early arrivals are more of an issue than late arrivals. Weekday running times in the outbound direction vary, with some being faster than the scheduled time and others slower. In the inbound direction, running times also vary but are generally faster than scheduled.

Route Statistics

Boardings

Weekday	633
Weekday per Svc. Hr.	30.6
Saturday	142
Saturday per Svc Hr.	18.6

On-Time Performance - Weekday

On-Time	75.8%
Early	15.9%
Late	8.2%

On-Time Performance - Saturday

On-Time	76.0%
Early	24.0%
Late	0.0%

Service Frequency

Weekday Peak	30 min
Weekday Base	30 - 60 min
Evening	60 min
Saturday	60 - 90 min

Service Span

Weekday	6:45 AM – 7:40 PM
Saturday	9:45 AM – 6:10 PM

Service Provided

Weekday Svc. Hours	20.7
Weekday Trips	43
Saturday Svc. Hours	7.7
Saturday Trips	16

Route 2 Target / Southgate Mall

Route Description

Route 2 provides weekday and Saturday service between the Transfer Center and Southgate Mall. In the outbound direction, it leaves the Transfer Center and serves the Westside neighborhood, Travois Village, and the State Offices via Spruce, Scott, Phillips, Russell, Railroad Commerce, Great Northern Avenue, Palmer Street, and Broadway. It then travels to Southgate Mall via Russell Street, 3rd Street, and Johnson Street. The route is interlined with Route 6 on weekdays.

Route 2 has midday hourly service in the outbound direction and 30-minute service inbound. This pattern is unusual and not conducive to building easy to understand schedules.

Route Characteristics

Weekday ridership is 23.3 boardings per service hour, making Route 2 the second most productive route in the system on weekdays. Productivity is significantly higher in the Midday (27.3 boardings per service hour) and PM Peak periods (26.2 boardings per service hour) than in the AM Peak (17.2 boardings per service hour), suggesting that the route is serving riders going shopping at the many retail locations along the route or doing other personal business rather than commute trips.

The route's highest ridership locations are at the Transfer Center, Russell Street and Howell Street, Target, and Southgate Mall. There are 42 people daily staying on board Route 6 outbound when it turns into Route 2 inbound at Southgate Mall. The route had standees on the 9:45 AM outbound trip, with a load of 46 passengers between downtown and Russell Street and Howell Street.

The route's Saturday productivity is higher than on weekdays, with 230 daily boardings and 25.9 boardings per service hour, making it Mountain Line's most productive Saturday route. Ridership patterns are similar to the weekday patterns.

On-Time Performance

Route 2 has slightly below average on-time performance on weekdays. It is early 28% of the time but late only 4.2% of the time. The route is frequently early in both directions in the segments between Target and Russell Street. It appears that Route 2 has insufficient running time during the PM Peak outbound trips, which is likely caused by congestion.

Route Statistics

Boardings

Weekday	541
Weekday per Svc. Hr.	23.3
Saturday	230
Saturday per Svc Hr.	25.9

On-Time Performance - Weekday

On-Time	67.9%
Early	27.9%
Late	4.2%

On-Time Performance - Saturday

On-Time	64.6%
Early	31.7%
Late	3.7%

Service Frequency

Weekday Peak	30 min
Weekday Base	30 - 60 min
Evening	60 min
Saturday	60 - 90 min

Service Span

Weekday	6:37 AM – 7:33 PM
Saturday	9:45 AM – 6:04 PM

Service Provided

Weekday Svc. Hours	23.3
Weekday Trips	41
Saturday Svc. Hours	8.9
Saturday Trips	16

Route 3 Northside

Route Description

Route 3 provides weekday and Saturday service along a counterclockwise loop through the Westside and Northside neighborhoods. From the Transfer Center, the route travels along Spruce Street, Scott Street, Pullman Street, Dickens Street, Stoddard Street, 5th Street, and Orange Street.

Headways are inconsistent throughout the day and vary from 15 to 60 minutes.

Route Characteristics

Weekday ridership is 91 daily boardings, or 19 boardings per service hour, which is just below the system average. Boarding and alighting activity along the route is relatively consistent, but Scott Street and Pullman Street stands out as the highest ridership location besides the Transfer Center.

The amount of boarding and alighting activity by trip is inconsistent throughout the day. Some trips have very strong activity with eight or more boardings per trip while others have zero boardings. When headways are inconsistent and a trip comes 15 minutes after the previous trip, ridership is low. For example, the 1:00 PM, 2:00 PM, and 4:00 PM trips all run 15 minutes after the previous trip and had one, zero, and two boardings, respectively.

Saturday ridership is 12 boardings per service hour, which is below average. The highest ridership location is Dickens Street and Pullman Street, with a total of nine daily boardings and alightings.

On-Time Performance

Route 3 has a weekday on-time percentage of 71.7%, which is close to the system average. When it is not on-time it runs early more often than late. This occurs exclusively in the first two segments, from the Transfer Center to St. Patrick Hospital and from the hospital to Dickens Street and Pullman Street.

Route Statistics

Boardings

Weekday	91
Weekday per Svc. Hr.	19.0
Saturday	24
Saturday per Svc Hr.	12.0

On-Time Performance - Weekday

On-Time	71.7%
Early	22.2%
Late	6.1%

On-Time Performance - Saturday

On-Time	82.9%
Early	8.5%
Late	0.0%

Service Frequency

Weekday Peak	30 - 60 min
Weekday Base	15 - 60 min
Evening	60 min
Saturday	60 - 90 min

Service Span

Weekday	6:30 AM – 7:21 PM
Saturday	9:36 AM – 6:06 PM

Service Provided

Weekday Svc. Hours	4.8
Weekday Trips	39
Saturday Svc. Hours	2.0
Saturday Trips	16

Route 4 East Broadway Park and Ride / East Missoula / Bonner

Route Description

Route 4 provides weekday and Saturday service between the Transfer Center and the Bonner Post Office. The route follows Highway 200 with deviations to serve residential neighborhoods in East Missoula and West Riverside.

Route Characteristics

Weekday ridership is 202 daily boardings, or 18.6 boardings per service hour, which is slightly below the system average. Productivity is much higher in the first half of the route, between the Transfer Center and Staple Street and Hwy 200 in East Missoula (27 – 42 boardings per service hour, than in the second half (six to eight boardings per service hour). The highest ridership stops along the route include Broadway and Van Buren Street (likely includes many riders taking the pedestrian bridge to the UM Campus), Bonner Grade School, and stops along Staple Street and Speedway Avenue in East Missoula.

Saturday ridership is only 31 daily riders and productivity is half of weekday at 9.1 boardings per service hour, making it the second least productive Saturday route.

On-Time Performance

The weekday on-time percentage is 71.8%, which is essentially equal to the system average. In the outbound direction, the route generally runs late and is almost always late to the 1st Street & W Riverside Drive, but is able to make up time in the final segment and arrive at the route terminus on-time or early. The route is on-time or early to nearly every time point in the inbound direction.

Route Statistics

Boardings

Weekday	202
Weekday per Svc. Hr.	18.6
Saturday	31
Saturday per Svc Hr.	9.1

On-Time Performance - Weekday

On-Time	71.8%
Early	11.8%
Late	16.4%

On-Time Performance - Saturday

On-Time	58.3%
Early	36.1%
Late	5.6%

Service Frequency

Weekday Peak	60 min
Weekday Base	60 – 180 min
Evening	60 min
Saturday	120 min

Service Span

Weekday	6:15 AM – 7:37 PM
Saturday	10:45 AM – 5:45 PM

Service Provided

Weekday Svc. Hours	10.9
Weekday Trips	22
Saturday Svc. Hours	3.4
Saturday Trips	8

Route 5 Rattlesnake

Route Description

Route 5 provides weekday and Saturday service between the Transfer Center and Lower and Upper Rattlesnake. The route travels east on Broadway before turning north on Van Buren Street. It continues on Rattlesnake Drive to Upper Rattlesnake and turns around along Lincoln Road, Timberlane Street, and Creek Crossing Road. It then heads south along Rattlesnake, deviates to serve Lolo and Duncan, and continues along Van Buren Street and Broadway to the Transfer Center.

Route Characteristics

Weekday ridership is 133 daily boardings, or 14.6 boardings per service hour, roughly six boardings per hour below the system average. Productivity is higher in the AM Peak (18.9 boardings per hour) and PM Peak periods (20.8 boardings per hour) than in the midday (12 boardings per hour). Boarding and alighting activity is much higher in the Upper Rattlesnake than in the Lower Rattlesnake. Ridership on the deviation on Lolo and Duncan is small but significant, with 13 boardings and eight alightings daily. Rider activity downtown is concentrated at Broadway & Van Buren Street (riders going to/from campus) and the Transfer Center.

There are 52 boardings on Saturday and productivity of 10.4 boardings per service hour, which is about four boardings per hour below the system average.

On-Time Performance

Route 5's weekday on-time percentage is 83.5%, which is above the system average, but this is somewhat misleading. Its running time in the inbound direction is almost always greater than the scheduled running time, causing it to arrive exactly on-time or late to the Transfer Center. This leads to riders missing their transfer connections unless other routes are held at the Transfer Center.

Route Statistics

Boardings

Weekday	133
Weekday per Svc. Hr.	14.6
Saturday	52
Saturday per Svc Hr.	10.4

On-Time Performance - Weekday

On-Time	83.5%
Early	1.8%
Late	14.6%

On-Time Performance - Saturday

On-Time	73.3%
Early	10.0%
Late	16.7%

Service Frequency

Weekday Peak	30 - 60 min
Weekday Base	30 - 60 min
Evening	30 min
Saturday	30 - 90 min

Service Span

Weekday	6:25 AM – 7:03 PM
Saturday	10:15 AM – 5:15 PM

Service Provided

Weekday Svc. Hours	9.1
Weekday Trips	37
Saturday Svc. Hours	5.0
Saturday Trips	20

Route 6

Higgins / Dornblaser / Opportunity Resources / Southgate Mall

Route Description

Route 6 provides weekday and Saturday service between the Transfer Center and Southgate Mall via Higgins Avenue, Benton Avenue, Bancroft Street, 34th Street, Russell Street, and Fairview Avenue. Destinations along the route include Hellgate High School and Lewis & Clark Transfer Center. Route 6 is interlined with Route 2 on weekdays.

Inbound Route 6 only has 60-minute midday frequency, even though it has 30-minute midday frequency in the outbound direction.

Route Characteristics

Weekday ridership is 374 daily boardings, or 21.5 boardings per service hour, which is slightly above the system average. Ridership activity is highest downtown, near Hellgate High School, and at stops between the Lewis & Clark Transfer Center and Southgate Mall. There is little activity between Higgins Avenue and Beckwith Street and the Lewis & Clark Transfer Center. There are 32 people who remain on board at Southgate Mall when Route 2 outbound turns into Route 6 inbound.

Ridership and productivity on Saturday is significantly lower than on weekdays, particularly when compared to other routes. There are 75 daily boardings, or 10.9 boardings per service hour, which is over three boardings per hour less than the system average. The only locations with significant rider activity are the downtown Transfer Center, Lewis & Clark Transfer Center, 34th Street at Russell Square, near Fairview Avenue and Brooks Street, and Southgate Mall.

On-Time Performance

The weekday on-time percentage for Route 6 is 75.3%, which is higher than the system average. Like many Mountain Line routes, the route is early much more often than it is late.

Route Statistics

Boardings

Weekday	374
Weekday per Svc. Hr.	21.5
Saturday	75
Saturday per Svc Hr.	10.9

On-Time Performance - Weekday

On-Time	75.3%
Early	21.2%
Late	3.5%

On-Time Performance - Saturday

On-Time	57.5%
Early	38.7%
Late	3.8%

Service Frequency

Weekday Peak	30 min
Weekday Base	30-60 min
Evening	60 min
Saturday	60 - 90 min

Service Span

Weekday	6:45 AM – 7:38 PM
Saturday	9:45 AM – 6:10 PM

Service Provided

Weekday Svc. Hours	17.4
Weekday Trips	42
Saturday Svc. Hours	6.9
Saturday Trips	16

Route 7 Downtown / Southgate Mall / Walmart

Route Description

Route 7 provides weekday and Saturday service between the Transfer Center and Southgate Mall. On weekdays, the route extends to Walmart. The alignment follows Orange Street out of downtown and continues on Stephens Avenue until Burlington Avenue. It then generally follows the direction of Brooks Street but only spends a small amount of time on Brooks Street. Destinations along the route include Loyola/Sacred Heart High School, UM College of Technology, and Kmart.

Route Characteristics

Weekday ridership is 344 daily boardings and productivity is 19.1 boardings per service hour, which puts Route 7 just below the system average. Boardings per service hour are somewhat higher in the midday (24.3 boardings per service hour) than in the AM peak (17.4 boardings per service hour) and PM peak periods (18.5 boardings per service hour). Outside the Transfer Center, ridership is distributed relatively evenly throughout the route. The load builds at a generally consistent rate in the inbound direction and decreases consistently in the outbound direction. High ridership stops include Walmart, Kmart, Southgate Mall, Bow & Kensington, and the Transfer Center.

Route 7's alignment is circuitous, and the average running speed of 11.1 mph reflects this.

Saturday ridership is 65 daily boardings, or 13.9 boardings per service hour, which is very close to the Saturday system average. The most significant ridership locations are downtown, South Avenue and Oxford Street (Tremper's Shopping Center), and Southgate Mall. On Saturday, the route ends at the Southgate Mall and does not serve Walmart.

On-Time Performance

Route 7 is on-time to 80% of time points on weekdays. It is early 17.8% of the time, and virtually all of the early running occurs in the segment between Walmart and Southgate Mall, where it is early 56% of the time when both directions are accounted for.

Route Statistics

Boardings

Weekday	344
Weekday per Svc. Hr.	19.1
Saturday	65
Saturday per Svc Hr.	13.9

On-Time Performance - Weekday

On-Time	80.0%
Early	17.8%
Late	2.2%

On-Time Performance - Saturday

On-Time	95.3%
Early	4.7%
Late	0.0%

Service Frequency

Weekday Peak	30 min
Weekday Base	60 min
Evening	60 min
Saturday	60 - 90 min

Service Span

Weekday	6:45 AM – 7:45 PM
Saturday	9:45 AM – 6:00 PM

Service Provided

Weekday Svc. Hours	18.0
Weekday Trips	36
Saturday Svc. Hours	4.7
Saturday Trips	16

Route 8 Adams Center / 5th / 6th / Southgate Mall

Route Description

Route 8 provides weekday and Saturday service between the Transfer Center and Southgate Mall via Madison Street, the UM campus, 5th Street/6th Street, Catlin Street, 10th Street, Eaton Street, North Avenue, and Johnson Street. A number of high schools are close to or on the route, including Hellgate, Loyola/Sacred Heart, and Willard Alternative.

Route Characteristics

Weekday ridership is 262 daily boardings, and productivity is 18.7 boardings per service hour, which is slightly below the system average. Productivity is much higher in the AM peak (35 boardings per service hour) than in the midday (15.4 boardings per service hour) or PM peak periods (21.3 boardings per service hour). Much of the route's ridership is tied to the University. Sixty-six percent of all trips either board or alight at Adams Center, which is the route's highest ridership stop by a wide margin. The downtown Transfer Center has less than half of this ridership. Significant rider activity also exists at 10th Street and Grant Creek Road, Southgate Mall, and at stops along Catlin Street between 5th and 10th Streets.

The first two inbound trips are operating close to or over capacity, which is generally a warrant for additional service.

The Saturday ridership is 89 boardings, with 11.1 boardings per service hour. This is about three boardings per service hour lower than the system average. There was a UM Football game on the Saturday data were collected and the bus did not serve the Adams Center stop, so there are no data for that location. The data show very little activity near the University in the outbound direction but significant activity in the inbound direction. It is likely that patterns are different on a non-gameday.

On-Time Performance

Route 8's weekday on-time percentage is 60%, which is tied for the system low and is caused by early arrivals. Early arrivals are not concentrated in certain sections of the route, but instead occur frequently at each time point.

Route Statistics

Boardings

Weekday	262
Weekday per Svc. Hr.	18.7
Saturday	89
Saturday per Svc Hr.	11.1

On-Time Performance - Weekday

On-Time	60.0%
Early	40.0%
Late	0.0%

On-Time Performance - Saturday

On-Time	48.4%
Early	51.6%
Late	0.0%

Service Frequency

Weekday Peak	60 min
Weekday Base	30 - 60 min
Evening	30 min
Saturday	60 - 90 min

Service Span

Weekday	6:45 AM – 7:15 PM
Saturday	9:45 AM – 6:15 PM

Service Provided

Weekday Svc. Hours	14.0
Weekday Trips	28
Saturday Svc. Hours	8.0
Saturday Trips	16

Route 9 Target Range / Community Hospital

Route Description

Route 9 provides weekday and Saturday service between the Transfer Center and Community Medical Center (CMC) via Target Range. It is interlined with Route 1 on weekdays, creating a loop that serves Target Range, Community Medical Center, Southgate Mall, the UM campus, and Downtown Missoula. The route is interlined with Route 1 on weekdays.

Route Characteristics

Weekday ridership is 295 daily boardings, or 22 boardings per service hour, which makes Route 9 the third most productive route in the system. There are many more boardings in the outbound direction than in the inbound, although the number of alightings is closer. This is partially due to Route 1 outbound riders staying on board the bus at CMC and continuing on to Route 9 inbound. The data show 49 people staying on the bus to transfer from Route 1 to Route 9 and 30 people doing so in the opposite direction.

The highest ridership stops are at the Transfer Center, along Broadway, 3rd Street and Grove, Catlin Street and Montana Street, Mountain View School, Target Range School, and CMC. The large number of boardings at Broadway and May Street and alightings at Catlin Street and Montana Street are due to a school field trip occurring during the survey, and the large number of boardings at Clements Road and Spurgin Road is likely due to a field trip from nearby Mountain View School.

Housing and employment densities in Target Range are generally insufficient to support fixed-route transit. The schools are the reason for decent Route 9 ridership.

Ridership is much lower on Saturday than on weekdays, with only 25 boardings and productivity of only 5.7 boardings per service hour, which is the lowest in the system. Its frequency on Saturday is every two hours, as opposed to every hour for most of weekday service, which may make it much less attractive for riders and thus less productive.

On-Time Performance

The on-time percentage for Route 9 is less than the system average at 69.2%. The route is late to 41.5% of time points in the outbound direction, and the lateness occurs most often at the 3rd Street and Hiberta Street and Clements Road time points.

Route Statistics

Boardings

Weekday	295
Weekday per Svc. Hr.	22
Saturday	25
Saturday per Svc Hr.	5.7

On-Time Performance - Weekday

On-Time	69.2%
Early	9.2%
Late	21.5%

On-Time Performance - Saturday

On-Time	86.0%
Early	14.0%
Late	0.0%

Service Frequency

Weekday Peak	60 min
Weekday Base	60 - 90 min
Evening	60 min
Saturday	120 min

Service Span

Weekday	6:10 AM – 7:42 PM
Saturday	9:45 AM – 6:10 PM

Service Provided

Weekday Svc. Hours	13.4
Weekday Trips	26
Saturday Svc. Hours	4.4
Saturday Trips	9

Route 10 Mullan Rd / El Mar / Smurfit Stone / Airport

Route Description

Route 10 provides weekday service only between the Transfer Center and the closed Smurfit Stone facility. The route essentially operates as a loop, with two trips in the morning traveling to Smurfit Stone via Broadway and Hwy 474 and back to the Transfer Center via Mullan Road, and six afternoon trips serving the loop in the opposite direction. The route serves the Elmar Estates subdivision off of Mullan Road on all trips and Smokejumper Center and the Airport on certain trips.

Route 10 duplicates portions of routes 2, 9, and 11.

Route Characteristics

Weekday ridership is 89 daily boardings, or 11.1 boardings per service hour, which is the lowest productivity in the system and almost half of the system average boardings per service hour. Productivity is higher on the two AM trips (16 boardings per service hour) than on the PM trips (9.5 boardings per service hour).

The reversing loop may be confusing for potential riders. The one hour long one-way loop is a severe disincentive for riders due to lengthy out of direction trips.

Certain trips on this route are carrying few passengers. For instance, the 3:45 PM departure only carried one person and the 6:15 PM departure only carried two persons.

The stops with the most ridership are the Transfer Center, Mullan Station (Walmart), stops in the Elmar Estates subdivision, Mullan Road and Stone Container, Hwy 10 and Futura Park, and Broadway and Eagle Watch.

On-Time Performance

The on-time percentage is 75%, which is higher than the system average. In the clockwise direction, the bus frequently arrives early to the Mullan Road & Stone Container and Hwy 10 & Wye time points.

Route Statistics

Boardings

Weekday	89
Weekday per Svc. Hr.	11.1

On-Time Performance - Weekday

On-Time	75.0%
Early	16.7%
Late	8.3%

Service Frequency

Weekday Peak	30 - 60 min
Weekday Base	1 trip
Evening	1 trip

Service Span

Weekday	6:45 AM – 7:15 PM
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Service Provided

Weekday Svc. Hours	8.0
Weekday Trips	16

Route 11 N Reserve St / Expressway / Airport

Route Description

Route 11 provides weekday service only between the Transfer Center and the Airport. There are two trips in the morning that travel express from the Transfer Center to Smokejumper Center, then back downtown via Expressway, Reserve Street, England Boulevard, Connery Way, Union Pacific Street, Latimer Street, and Broadway. The remaining daily trips travel outbound via Broadway, Latimer Street, Union Pacific Street, Connery Way, England Boulevard, Reserve Street, Expressway, and Broadway again. They travel inbound via Broadway, Reserve Street, England Boulevard, Connery Way, Union Pacific Street, Latimer Street, and Broadway again.

Route 11 duplicates portions of routes 2, 10, and 9 on Broadway.

Route Characteristics

Route 11 has 115 weekday boardings and 12 boardings per service hour, which is the second lowest productivity in the system. Productivity is higher in the AM peak (15.9 boardings per service hour) and Midday periods (15 boardings per service hour) than in the PM peak (10.6 boardings per service hour)

The highest ridership locations are the Transfer Center, Reserve Street and Expressway, Union Pacific Street and Great Northern Avenue (Target), and Broadway and Eagle Watch.

The one-way terminal loop may be confusing for potential riders because the bus travels clockwise for some trips and counterclockwise for others. It also leads to long travel times for some riders. The highest ridership stop outside downtown is at Reserve Street & Expressway, with 17 daily boardings and alightings in the outbound direction and two boardings inbound. The travel time for riders boarding at this stop who are heading downtown after 8:00 AM is long because the bus travels outbound around the loop before turning inbound near the Airport.

On-Time Performance

Route 11 has poor on-time performance when compared to other Mountain Line routes because it is frequently early to time points. This happens in both the inbound and outbound directions.

Route Statistics

Boardings

Weekday	115
Weekday per Svc. Hr.	12.0

On-Time Performance - Weekday

On-Time	60.0%
Early	35.0%
Late	5.0%

Service Frequency

Weekday Peak	60 - 80 min
Weekday Base	60 - 180 min
Evening	2 trips

Service Span

Weekday	5:35 AM – 8:15 PM
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Service Provided

Weekday Svc. Hours	9.6
Weekday Trips	20

Route 12

Downtown / University / Dornblaser / South Hills

Route Description

Route 12 provides weekday and Saturday service between the Transfer Center and Missoula's South Hills via the UM campus, Lewis & Clark Transfer Center, and 39th Street. Riders can transfer to Route 7 along 39th Street, and the southern end of the route runs close to Wal-Mart. On Saturday, the route deviates to serve Kmart and Wal-Mart.

Route 12 duplicates Route 1 between South Avenue and Higgins Avenue and downtown. The schedules for routes 1 and 12 are offset to provide 15 minute frequency during peak periods. Route 12 is not on the timed transfer at the Transfer Center.

Route Characteristics

The route has productivity of 18.9 boardings per service hour, which is slightly below the system average. Boardings per service hour are higher in the AM peak (21.3) and PM peak (22.6) than in the midday (16.4). The route is most productive between the Lewis & Clark Transfer Center and the downtown Missoula Transfer Center, but University-bound ridership is more than double the downtown-bound ridership. Activity to the south of the Lewis & Clark Transfer Center is lower than activity north. The fare-free stops along Higgins Avenue and South Avenue have much higher activity in the inbound direction than in the outbound. This may be caused by riders traveling to the UM campus who take Route 12 to campus, but who take a different route or mode in the outbound direction.

On Saturday, there are 102 daily boardings and the productivity is 13.5 boardings per service hour, which is just below the Saturday system average. There was a UM Football game on the Saturday data were collected, which may affect the data. The highest ridership stops on Saturday are the downtown Missoula Transfer Center, stops near the UM campus, the Lewis & Clark Transfer Center, and Walmart.

On-Time Performance

The route has excellent weekday on-time performance when compared to other Mountain Line routes and is on-time to 81.7% of time points. Arrivals that are not on time are split nearly evenly between early and late arrivals. Weekday running times are inconsistent and are sometimes greater than the scheduled running time in the outbound direction.

Route Statistics

Boardings

Weekday	334
Weekday per Svc. Hr.	18.9
Saturday	102
Saturday per Svc Hr.	13.5

On-Time Performance - Weekday

On-Time	81.7%
Early	8.3%
Late	10.0%

On-Time Performance - Saturday

On-Time	66.0%
Early	34.0%
Late	0.0%

Service Frequency

Weekday Peak	30 - 60 min
Weekday Base	60 - 90 min
Evening	60 min
Saturday	60 - 90 min

Service Span

Weekday	5:58 AM – 7:49 PM
Saturday	9:45AM – 5:49 PM

Service Provided

Weekday Svc. Hours	17.7
Weekday Trips	38
Saturday Svc. Hours	7.6
Saturday Trips	16

9 DESCRIPTION OF THREE INITIAL ALTERNATIVES

The Mountain Line Board of Directors gave specific direction on the three different alternatives they wanted to see in this COA. Using existing funding levels, three different visions for transit were to be created.

- **Business as Usual Alternative:** This alternative largely maintains the existing system but focuses on some of Mountain Line's major operational issues related to on-time performance, improved connectivity, and service duplication.
- **Efficiency Alternative:** Rather than working off the existing system currently in place, this alternative designs an efficient system from scratch as if none had existed before. The design of routes in this alternative aims to maximize ridership but also recognizes the need to provide coverage in certain areas.
- **Focus Inward Alternative.** This alternative builds on the existing system but focuses service only in areas that are expected to generate the highest ridership and productivity. The goal was to provide very frequent service, every 15 minutes, on routes in a smaller geographic region, and thus induce transit demand with this service. This alternative generally focuses service on major transit generators that are within a two to three mile radius of the downtown and UM.

A description of each alternative, including route changes, frequency and span assumptions, and ridership projections follows.

BUSINESS AS USUAL ALTERNATIVE

This alternative focuses on improvements to the existing system but makes modifications that address the major operational needs in the area. As identified through the data collection, on-board survey, and community feedback, the immediate operational issues include:

- **On-time performance.** As a system that relies on the timed transfers at the Downtown Transfer Center, even a single route that is running behind schedule can have profound impacts on the system. The routes that were identified as having the greatest on-time performance issue were Routes 5 and 9, but most routes are having some issue staying on schedule. The on-time performance issues are largely related to traffic congestion and dwell times at some high ridership stops (or on routes with a high number of wheelchair boardings).
- **Service duplication.** While most of the system focuses on separate markets, the area between downtown and the North Reserve retail area have some duplication of service. Routes 9, 10, 11 and 2 all provide service to this area.

- **Faster and more direct service.** Some routes in the system, such as Route 7, make deviations that directly serve important destinations, but degrade the directness of the service (and on-time performance). Survey respondents stated that more direct service is preferable over circuitous routes, even if it meant less front-door service to some destinations.
- **Schedule consistency.** Several routes, such as Routes 3, 2, and 6, do not offer regular “clock-face” headways or do not offer the same level of service in both directions. From a customer standpoint, it is important to provide a consistent and predictable service as much as possible.

The following chapter provides a route-by-route overview of the modifications that are recommended as part of the Business as Usual Alternative.

Route 1

As Mountain Line’s most productive route, major structural changes are not proposed for Route 1. The primary modification is to shorten the route to operate only from the Downtown Transfer Center to the Southgate Mall via the existing alignment. The portion of Route 1 from the Southgate Mall to the Community Hospital would be covered by Route 8 (see modifications below). Route 1 would then be interlined with Route 2. Shortening Route 1 not only ensures that it is able to reliably operate on time, but also improves Route 2 reliability, which experiences on-time performance issues. This modification also offers a single-seat ride connecting some of the major destinations in Missoula (downtown, UM, Southgate Mall, and the North Reserve retail area).

Route 2

Route 2 is Mountain Line’s second most productive route on weekdays and most productive route on Saturdays, and therefore no major structural changes are proposed. The main goals for improvements to this route are to ensure it can reliably operate on schedule and that it begins functioning as one of Mountain Line’s core routes. As such, three improvements are proposed:

- **Interline with Route 1 at Southgate Mall rather than Route 6.** Currently, Route 2 is interlined with Route 6 at the Southgate Mall. Interlining Route 1 with Route 2 provides additional running time and ensures that both routes can reliably operate on schedule (and meet the timed transfer downtown).
- **Operate Route 2 on a consistent schedule in both directions.** Currently, Route 2 operates every 30 minutes all day in the inbound direction but hourly during the midday in the outbound direction. To build a strong market in both directions, it is proposed that this route operate on a consistent 30 minute headway in both directions for as much of the day as possible (hourly midday service would only be provide for three hours). Evening service would continue to be provided every hour until approximately 7:30 PM.
- **Modify alignment at 3rd Street and Russell Street.** It is proposed that Route 2 operate via Montana and Catlin streets on the outbound direction (like the current alignment of Route 9) but continue operating via 3rd and Russell streets in the inbound direction. This change ensures that the outbound right-turn at 3rd Street and Russell Street, which experiences significant delay during peak periods, is avoided. The route would continue to use 3rd and Russell streets in the inbound direction until a new

stoplight is installed at Montana and Russell streets, at which time, Route 2 should travel via Catlin/Montana streets in both directions.

Route 3

While weekday Route 3 productivity is just below average, it plays an important role by serving the lower income and geographically-separated Northside neighborhood. As such, no structural changes are proposed for Route 3. However, several improvements to the schedule are recommended. The most important improvement is to operate Route 3 on a consistent, clock-face headway. Currently, the headway fluctuates between 15, 30, 45 and 60 minutes throughout the day, and there is no regularity to the schedule. While this practice makes sense from an operational standpoint (this route is used to fill gaps in other route schedules), it is preferable from the passengers standpoint to offer service on a regular schedule.

This alternative proposes that Route 3 operate every 30 minutes during peak periods (two hours in the AM peak, two hours in the PM peak) and hourly in the midday and evening periods. Route 3 would be interlined all-day with the existing Route 5 and the new Route 14, which ensures the consistency of connections for Route 3 riders.

Route 4

No modifications are proposed for this route. The only change is that Route 4 would be interlined with Route 9 on Saturdays at the Downtown Transfer Center.

Route 5

The biggest issue with Route 5 is on-time performance; the route is among the worst in the system, especially in the winter where operators report that the route is chronically behind schedule. Given ridership activity, the speed limits on the roadways in the Rattlesnake, and the available bus turnarounds, Route 5's route length can no longer be effectively operated in 30 minutes.

Route 5 currently operates with two separate branches to serve the upper Rattlesnake area: the first via Rattlesnake Drive and the second via Lolo Street and Duncan Drive. The branch via Rattlesnake Drive carries significantly more passengers than the branch via Lolo Street and Duncan Drive.

To improve on-time performance, it is proposed to eliminate the Lolo Street and Duncan Drive branch of this route, which is estimated to save between five and seven minutes of running time. The Lolo/Duncan branch had 15 weekday boardings and one Saturday boarding, which is 30 weekday boardings and two Saturday boardings assuming those passengers made a round trip and found other transportation options. To bring service somewhat closer to the abandoned branch, Route 5 would operate via Lolo Street and Raymond Avenue in the inbound direction (rather than stay on Rattlesnake Drive).

Justification for abandoning the Lolo/Duncan branch includes:

- This route needs to be streamlined to improve reliability and on-time performance. Without adding additional running time (and thus additional resources), this route segment is the least productive area that can be easily shortened.
- Eliminating the Lolo/Duncan branch impacts the fewest number of passengers possible.

- This adjustment improves service directness and reliability for the majority of Route 5 passengers.

As noted above under Route 3, Route 5 would continue to operate every 30 minutes during peak periods (two hours in the AM peak and two hours in the PM peak) and hourly in the midday and evening periods. Route 5 would be consistently interlined with Route 3 and Route 14, utilizing one bus throughout the day.

Route 6

Route 6 performs average in terms of productivity (21.5 passengers per hour on weekdays and 10.5 passengers per hour on Saturday); weekday ridership is stronger during peak periods. As with Route 2, headways on Route 6 are not consistent in both directions with midday headways in the inbound direction every hour but every 30 minutes in the outbound direction.

Because Routes 1 and 2 are now proposed to be interlined (as discussed above), and 30 minute service in just one direction during the midday is not necessary (or possible without a similar arrangement on another route), this alternative proposes to continue 30 minute service during peak periods but reduce service to hourly during the midday and evening periods in both directions.

Two routing modifications are recommended. First, Route 6 would turn around at the Southgate Mall. Also, in order to avoid Route 6's worst traffic bottleneck, and inbound unprotected left-turn from Benton Avenue onto Higgins Street, Route 6 should be rerouted to use South Avenue between Bancroft Street and Higgins Street. This will improve Route 6's schedule reliability and affect few riders.

Route 7

While productivity is average on Route 7, this route serves an important function by serving the Stephens Avenue and Brooks Avenue corridors. However, on-time performance on this route is an issue. In addition, the out-of-direction deviations in the center part of the route are a disincentive for riders from the outlying areas of the route, as there is a perception the bus is slow and indirect.

It is proposed to streamline this route by eliminating the deviation via Burlington Avenue, Bow Street and Central Avenue and instead travel on Stephens Avenue between Mount Avenue and Sussex Avenue before continuing west on South Avenue to the Southgate Mall area. It is also proposed that the route be streamlined south of the Southgate Mall by using Paxson Street between the mall and 39th Street. The route would continue to terminate at the south Walmart on Weeping Willow Drive. These changes are estimated to save at least three minutes of running time in each direction. While several streets on this route are no longer served directly, they are within a ¼ mile walking distance of the revised route.

No schedule changes are proposed on Route 7.

Route 8

While on-time performance is not a major issue on Route 8, the route is much more oriented toward serving the UM market than the downtown market (which is already well served by other routes). This is supported by the boarding and alighting activity patterns, which shows most of the turnover on the route at UM and not in downtown. In addition, the changes proposed to

Route 1 (ending at the Southgate Mall and interlining with Route 2), leave a portion of South Avenue without service. As such, several changes are proposed for this route:

- **Terminate route at the UM campus.** Rather than continuing downtown, Route 8 would now terminate at the UM campus. The majority of existing Route 8 riders to downtown have other options available to them. An alternative option for a one-seat ride is to use the Route 9 alignment described below.
- **Extent route to Community Hospital.** Route 8 would then be modified to serve Southgate Mall (via Garfield Street, Dearborn Avenue, Livingston Avenue, and Grant Street) and terminate at the Community Hospital. Route 8 would then be interlined with Route 9, which also preserves a one-seat ride, albeit an indirect one, to downtown for Route 8 riders.
- **Two hours of 30 minute peak service.** Route 8 is at capacity in the morning peak. Two additional trips are recommended, which would improve service to every 30 minutes between 7:30 AM and 9:30 PM.

Route 9

Route 9 serves several high ridership areas and also acts as a school bus for several schools. It also has several low-ridership areas. Route 9 is a long route that has difficulty staying on schedule. Some of Route 9's on-time performance issues can be attributed to the service it provides along Russell Street, which experiences regular traffic delays at both 3rd Street and at Broadway. Because this segment of Russell Street is already served by Route 2, a route modification on Route 9 is proposed:

- Operate via 3rd Street from Russell and Orange streets and then continue downtown via the Orange Street Bridge.

This modification has several benefits. Most important, this alignment is about ½ mile shorter than traveling via Russell Street and Broadway, which would save an estimated two to three minutes of running time. This alignment would also serve a corridor that does not currently have direct service (though it is only two blocks from Route 8). Riders on Broadway could access either Route 11 or the new Route 14.

Service along 3rd Street and the Orange Street Bridge would attract some new riders to the system and provide more reliable service to existing riders.

Route 10

Route 10 has the lowest ridership of any route in the Mountain Line system with an average of 11 passengers per service hour. Given the low residential and employment densities in the loop west of Reserve Street, it is unlikely ridership will ever grow substantially. Because the areas east of Reserve Street will be served by other services (see Routes 11 and 13), and the outer portion has very low ridership, it is proposed that this route be eliminated.

Route 11

While Route 11 is one of the lowest performing routes in the system, it serves several important corridors and destinations, such as the North Reserve commercial area and the growing Expressway corridor. In addition, the current route structure and limited service during the

midday are barriers to building ridership on the route. As such, several improvements are proposed for this route:

- **Modify route east of Target.** Rather than using Latimer Street and American Way, it is proposed that the route use Palmer Street, Great Northern Avenue, and Union Pacific Street. Palmer Street is a stronger corridor (as evidenced by ridership on Route 2) and this alignment still provides service to the main stop in the area (Target).
- **Provide bi-directional service on Expressway.** As the North Reserve and Expressway corridors continue to develop, bi-directional service is seen as an important way to build ridership in these areas.
- **Offer service to Smoke Jumper Center and the Airport on select trips.** Demand for service to these two locations is very low and concentrated during the peak periods. As such, it is proposed that Route 11 only provide service to these areas during peak periods. Other times of the day the route would turn around at Airway Boulevard.
- **Add 2:15 PM trip from Transit Center.** In order to begin filling in the irregular headways on Route 11, one additional trip should be added.

Route 12

No major modifications are proposed for this route. Route 12 currently has problems maintaining its schedule without speeding. However, to improve on-time performance, this route is recommended to travel via High Park Way instead of Parkview Way. It is estimated that this modification would save about one to two minutes of running time. While several passengers would be impacted by this modification, it is about ¼ mile or less to access the route on High Park and all other passengers would benefit from a more reliable service.

Route 14

This new route would serve the Broadway corridor between the Downtown Transfer Center and Broadway and Russell Street (using the Byron/Cooper Street turnaround) and would provide service in the Broadway corridor that is no longer served by Route 9.

Route 14 would be interlined with routes 5 and 3, and would operate every 30-minutes for two hours during the AM Peak and two hours during the PM Peak. At all other times, including on Saturdays, Route 14 would operate hourly.

Business as Usual Alternative Ridership Estimates

It is estimated that the modifications proposed in this alternative would increase ridership on weekdays by about 4% and on Saturday by 1%. Figure 92 below summarizes the changes proposed for Alternative 1: Business as Usual, including a table summarizing headways, annual revenue hours, and estimated changes in ridership. Figure 93 provides a map of the changes proposed in Alternative 1.

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Figure 92 Business as Usual Alternative Summary

Rte	Modifications	Weekday Avg. Frequency			Saturday Frequency	Annual Revenue Hours			Ridership Change (% over existing) ¹	
		Peak	Midday	Evening		Weekday	Saturday	Total	Weekday	Saturday
1	Interline with Route 2 at Southgate Mall; Provide consistent 30 minute headway throughout the day (with hourly service in the evening)	30	30 ²	60	60	6,100	400	6,500	113	0
2	Interline with Route 1 at Southgate Mall; Provide consistent 30 minute headway throughout the day (with limited hourly service midday)	30	30 ¹	60	60	5,300	400	5,700	48	0
3	30 minute peak headway (4 hours), 60 minute headway other times; consistent schedule; interline with Route 5	30	60	60	60	1,100	100	1,200	0	0
4	No change; Interline with Route 9 (Saturday)	60	60	60	120	3,300	200	3,500	0	0
5	Eliminate Lolo/Duncan segment; 30 minute peak headway (4 hours), 60 minute headway other times; interline with Route 3	30	60	60	60	2,200	200	2,400	-30	-2
6	Provide consistent 30 minute peak, 60 minute midday headway in both directions; modify to operate via South instead of Benton between Higgins and Bancroft	30	60	60	60	4,600	400	5,000	-39	0
7	Modify to operate via Stephens between Mount and South	30	60	60	60	4,400	400	4,800	0	0
8	Modify to operate from UM to Community Hospital; Modify to serve Southgate via Garfield, Dearborn, Grant; provide 30 minute headway during peak periods (2 hours only); Interline with 9 (weekdays)	30	60	60	60	3,800	400	4,200	76	9
9	Modify to operate via 3 rd Street and Orange; Interline with Route 8 at Community Hospital (weekday) and Route 4 downtown (Saturday)	60	60	60	120	3,300	200	3,500	-30	0
10	Eliminate due to poor ridership	-	-	-	-	0	0	0	-89	0
11	Modify to operate via Palmer and Union Pacific; provide consistent hourly headway (with the exception of a 3 hour break in the early afternoon); provide service to airport/Smokejump Center during AM and PM peak periods only	60	60 ³	60	-	2,700	0	2,700	6	0
12	Modify to operate via High Park Way instead of Parkview	30	60	60	60	4,500	400	4,900	0	0
14	New route that provide service between downtown and west end of downtown (via Broadway)	60	60	60	-	1,100	100	1,200	80	5
Total						42,400	3,200	45,600	135 (4%)	12 (1%)

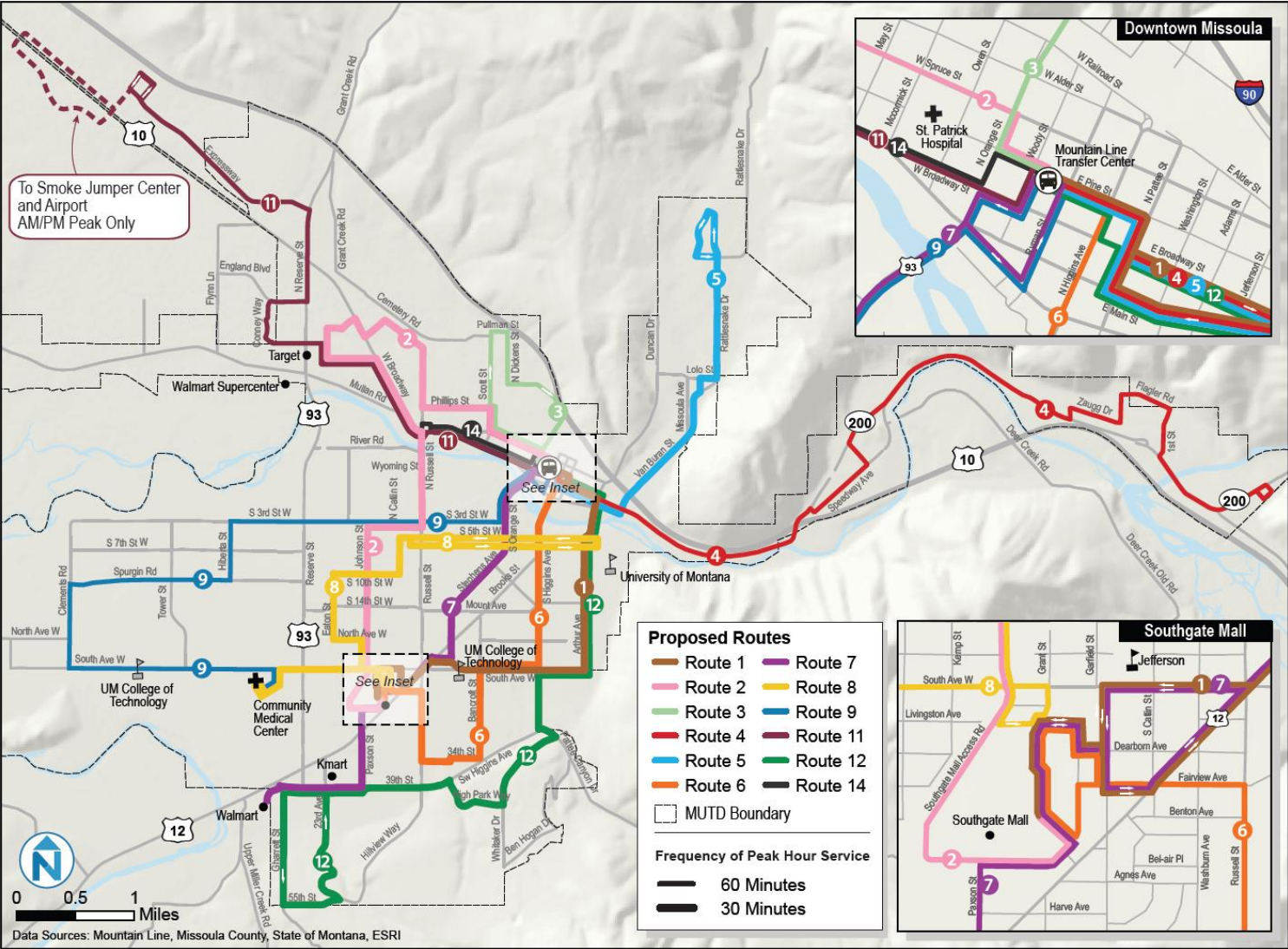
¹ Daily ridership based on the October 2011 is 3,413 (weekday) and 835 (Saturday)

² Routes 1 and 2 would mostly operate every 30 minutes with the exception of two to three hours of midday hourly headways-

³ Route 11 has a three-hour break between 8:45 AM and 11:45 AM

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Figure 93 Business as Usual Alternative Map



EFFICIENCY ALTERNATIVE

This alternative also assumes existing funding levels, but redesigns service in the most efficient manner possible as if none had existed before. This results in a service alternative that is designed not exclusively around travel patterns on the existing system, but around connecting major destinations and corridors within Missoula. As such, this alternative accomplishes the following:

- Shift resources more towards the UM market. UM is the major transit generator in the Missoula area and is the only location where parking is significantly constrained. A focus on UM is highly likely to generate substantial new ridership.
- Builds more 30 minute service throughout the day in major corridors. These corridors would then be the first candidates for improved service headways if additional funding were available.
- Eliminates routes that have the lowest ridership potential but retains geographic coverage.

Routes 1 and 2

These routes would retain the same structure as the Business as Usual Alternative, but headways would be 30 minutes during peak and midday periods (with hourly service in the evening) as well as 30 minute service on Saturday.

Routes 3, 5 and 14

These routes would all be structurally the same as the Business as Usual Alternative, but headways would be hourly throughout the day on weekdays and Saturday. These three routes would be interlined to maximize the use of a single bus.

Route 4

This route would be the same as the Business as Usual Alternative, with the exception that headways would be every hour on weekdays and Saturday (service is currently every two hours on Saturday). As a result, this route would no longer be interlined with Route 9 on Saturday.

Route 6

This route would be significantly modified from the existing route structure. It would start at the Downtown Transfer Center, travel via the Higgins Street bridge and then deviate via University and Arthur avenues to serve the UM campus. The route would then continue via Mount Avenue to Russell Street, continue south on Russell Street to 39th Street and then make the counterclockwise loop previously served by Route 12 via Gharrett Street, 55th Street and 23rd Avenue. Route 6 would not serve the Southgate Mall directly. The stop at Russell Street and Fairview Avenue would be the closest to the Mall. This route would also operate with 30 minute headways during peak and midday periods (11 hours total), with hourly headways in the evening and on Saturday.

Route 7

This route is similar to the Business as Usual Alternative with several important modifications:

- Rather than continue to downtown via Higgins, it would travel from Stephens to UM via 5th and 6th streets and then continue downtown via the Madison Street Bridge.
- Service headways on this route would be 30 minutes during peak and midday periods (11 hours total) with hourly headways in the evening and on Saturday.

Route 8

This route would be the same as the Business as Usual Alternative except headways would be every 30 minutes during peak and midday periods (11 hours total). Headways would be every hour in the evening and on Saturday. This route would also not be interlined with Route 9 at the Community Hospital as Route 9 would be eliminated in this alternative.

Routes 9 and 10

Both of these routes are proposed for elimination in this alternative. Both Target Range on Route 9 and the loop west of Reserve Street on Route 10 have insufficient density to ensure long-term cost-effective transit viability. Consequently, both Routes 9 and 10 are recommended for deletion.

Route 11

This route would be the same as the Business as Usual Alternative, operating hourly on weekdays only (no Saturday service).

Route 12

This route would be significantly modified in this alternative to focus service on the UM market. On the north end, Route 12 would make a large counterclockwise loop via South Avenue, Arthur Avenue, 5th Street and Higgins Avenue. The route would then continue via Higgins Avenue and make another counterclockwise loop via Benton Avenue, Bancroft Street, Higgins Avenue, High Park Way, Whitaker Drive, Pattee Canyon Drive, and Higgins Avenue. This route would operate every 30 minutes throughout the day and on Saturday.

Efficiency Alternative Ridership Estimates

It is estimated that the modifications proposed in this alternative would increase ridership on weekdays by about 11% and on Saturday by about 6% over existing levels.

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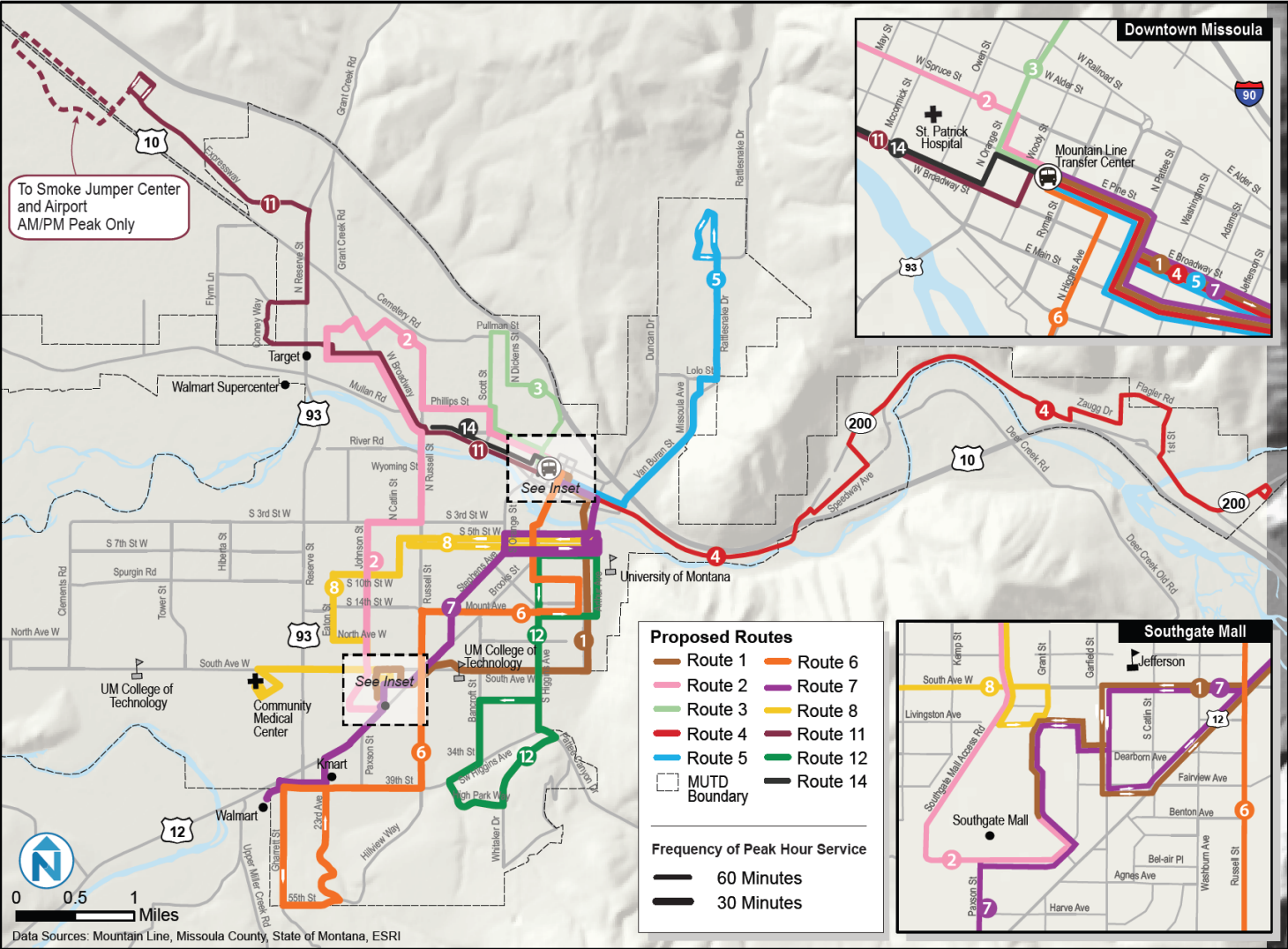
Figure 94 Efficiency Alternative Summary

Rte	Modifications	Weekday Avg. Frequency			Saturday Frequency	Annual Revenue Hours			Ridership Change (% over existing) ⁴	
		Peak	Midday	Evening		Weekday	Saturday	Total	Weekday	Saturday
1	Same as Business as Usual Alternative except 30 minute service peak and midday (11 hours total)	30	30	60	30	6,100	800	6,900	161	147
2	Same as Business as Usual Alternative except 30 minute service peak and midday (11 hours total)	30	30	60	30	6,100	800	6,900	96	173
3	Same as Alternative 2 (hourly service weekday and Saturday); interlined with Route 5 and 13	60	60	60	60	800	200	1,000	0	0
4	Same as Business as Usual Alternative (hourly service weekday and Saturday)	60	60	60	60	2,800	200	3,000	0	0
5	Same as Business as Usual Alternative (hourly service weekday and Saturday); interlined with Route 1 and 13	60	60	60	60	1,700	200	1,900	-64	-2
6	Route modified to serve UM and southern portion of Route 12 (Gharrett, 55 th Street, 23 rd Ave. loop); increased headway to 30 minutes peak and midday (11 hours total)	30	30	60	60	6,100	400	6,500	101	55
7	Same as Business as Usual Alternative except realigned via 5 th and 6 th Street to serve UM	30	30	60	60	6,100	400	6,500	147	36
8	Same as Business as Usual Alternative but operate 30 minute headway during peak and most of midday period (9 hours total).	30	30/60	60	60	5,600	400	6,000	180	9
9	Eliminated	-	-	-	-	0	0	0	-295	-25
10	Eliminated	-	-	-	-	0	0	0	-89	0
11	Same as Business as Usual Alternative.	60	60	60	-	3,300	0	3,300	20	0
12	Route modified to operate from UM to High Park/Whitaker loop; 30 minute headway all day.	30	30	30	30	3,300	400	3,700	56	-31
14	Same as Business as Usual Alternative.	30	60	60	60	1,100	100	1,200	80	5
Total						43,000	3,900	46,900	392 (11%)	367 (44%)

⁴ Daily ridership based on the October 2011 is 3,413 (weekday) and 835 (Saturday)

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Figure 95 Efficiency Alternative Map



FOCUS INWARD ALTERNATIVE

This alternative utilizes existing resources but significantly shifts Mountain Line service to focus on generating ridership as opposed to provide service coverage. Services are therefore concentrated largely in the core of the city and routes or segments of routes with low ridership are eliminated.

These services are then reinvested into creating high frequency routes that come every 15 minutes. The idea is to provide high-quality service that would attract more choice riders in lieu of providing broad geographical coverage. With existing funding, sufficient revenues to improve frequency on only the highest two ridership routes, Routes 1 and 2, is available. A brief discussion of proposed changes in this alternative is provided below.

Routes 1 and 2

These routes would remain exactly as they were proposed in the Business As Usual Alternative, except they would operate every 15 minutes during peak and midday periods (and every 30 minutes in the evening). Service on Saturday would be provided every 30 minutes.

The goal with operating these routes every 15 minutes is to provide the highest level of service in Missoula's strongest corridors connecting the major destinations. It should be noted that the resources required for these two routes is over half of Mountain Line's total resources.

Routes 3 and 4

No structural changes are proposed for Route 3, but service would be limited to every hour on weekdays and Saturdays. Making the use of a single vehicle, this route would be interlined with Routes 4 and the new Route 14.

Route 4 would be shortened to operate only between the Transfer Center and East Missoula. Service on this route would operate every hour on weekdays and Saturday.

While Routes 3 and 4 are not expected to generate high ridership, they are retained in this alternative because both areas have a higher proportion of low-income residents with few other transportation options.

Route 6

This route is not modified significantly from the Business as Usual Alternative, but is realigned to directly serve UM. Service headways on this route would also be every 30 minutes during peak and midday periods (with hourly service in the evening).

Route 7

This route would remain essentially the same as the Business as Usual Alternative with one exception: the route would travel via Higgins and Brooks between downtown and the Southgate Mall.

Route 8

This route would remain essentially unchanged from the Business as Usual Alternative except two more hours of 30 minute service would be provided between 3:00 PM and 5:00 PM. As in the

Business as Usual Alternative, Route 8 would also have 30-minute service between 7:30 AM and 9:30 AM.

Routes 5, 9, 10, 11, and 12

Routes 5, 9, 10, 11, and 12 would be eliminated in this alternative. These are the lowest performing routes operated by Mountain Line, and they also have population and employment densities that are unlikely to support higher levels of transit service.

Route 14

This route would be the same as in the Business as Usual Alternative, with hourly service between the Downtown Transfer Center and Broadway/Russell Street. Service would be provided on weekdays and Saturdays. This route would be interlined with Routes 3 and 4.

Focus Inward Ridership Estimates

It is estimated that the modifications proposed in this alternative would increase ridership on weekdays by 15% and on Saturday by 28% over the existing system. System coverage, however, would be reduced dramatically, and a substantial number of existing riders would permanently lose their current service.

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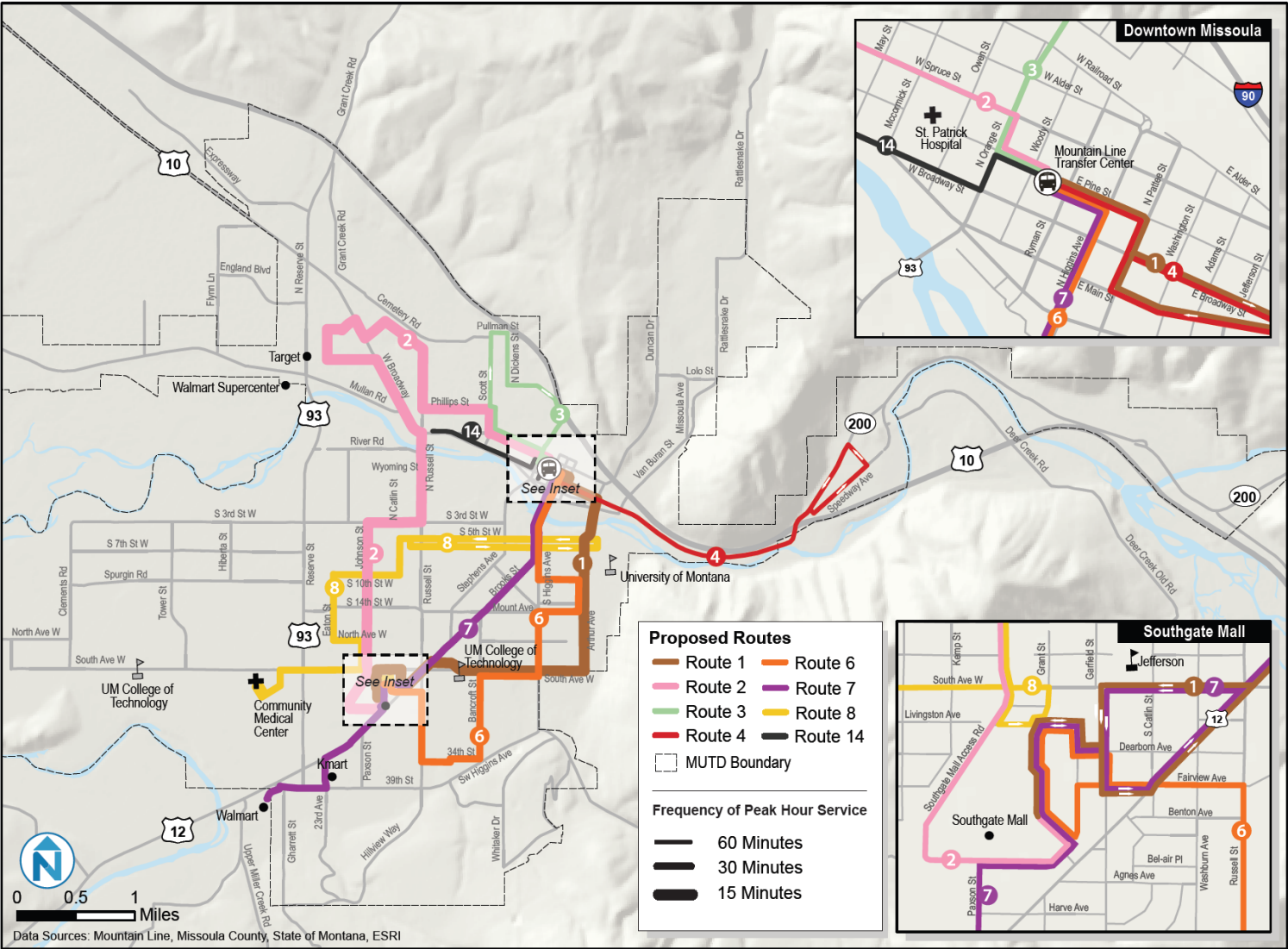
Figure 96 Focus Inward Alternative Summary

Rte	Modifications	Weekday Avg. Frequency			Saturday Frequency	Annual Revenue Hours			Ridership Change (% over existing) ⁵	
		Peak	Midday	Evening		Weekday	Saturday	Total	Weekday	Saturday
1	Same as Business as Usual Alternative except increase headway to every 15 minutes (peak and midday), 30 minute headway evening	15	15	30	30	12,100	800	12,900	732	138
2	Same as Business as Usual Alternative except increase headway to every 15 minutes (peak and midday), 30 minute headway evening	15	15	30	30	12,100	800	12,900	443	181
3	Reduce headway to every hour, weekday and Saturday. Interline with Route 4 and 13.	60	60	60	60	900	100	1,000	0	0
4	Reduce headway to every hour, weekday and Saturday. Interline with Route 3 and 13.	60	60	60	60	1,700	200	1,900	-42	15
5	Eliminated	-	-	-	-	0	0	0	-133	-52
6	Modify to serve UM (via University and Mount)	30	30	60	60	6,100	400	6,500	140	73
7	Streamline via Higgins and Brooks	30	60	60	60	4,600	400	5,000	0	0
8	Same as Business as Usual Alternative but operate two more hours of 30 minute headway during peak periods.	30	60	60	60	4,300	400	4,700	142	9
9	Eliminated	-	-	-	-	0	0	0	-295	-25
10	Eliminated	-	-	-	-	0	0	0	-89	0
11	Eliminated	-	-	-	-	0	0	0	-115	0
12	Eliminate	-	-	-	-	0	0	0	-334	-102
14	New route that provides service between downtown and west end of downtown (via Broadway), interline with 3 and 4	60	60	60	-	800	100	900	80	5
Total						42,600	3,200	45,800	529 (15%)	237 (28%)

⁵ Daily ridership based on the October 2011 is 3,413 (weekday) and 835 (Saturday)

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Figure 97 Focus Inward Alternative Map



ENHANCED FOCUS INWARD ALTERNATIVE

Initial response to the Focus Inward Alternative was positive due to the creation of high-frequency service connecting the five most significant destinations in Missoula: downtown, the University of Montana, Southgate Mall, and the commercial area around Reserve Street. However, the severe reductions in coverage would negatively affect approximately 25% of existing passengers, and initial response was this was a severe disincentive for this option. An additional alternative was developed to restore geographic coverage at an additional cost.

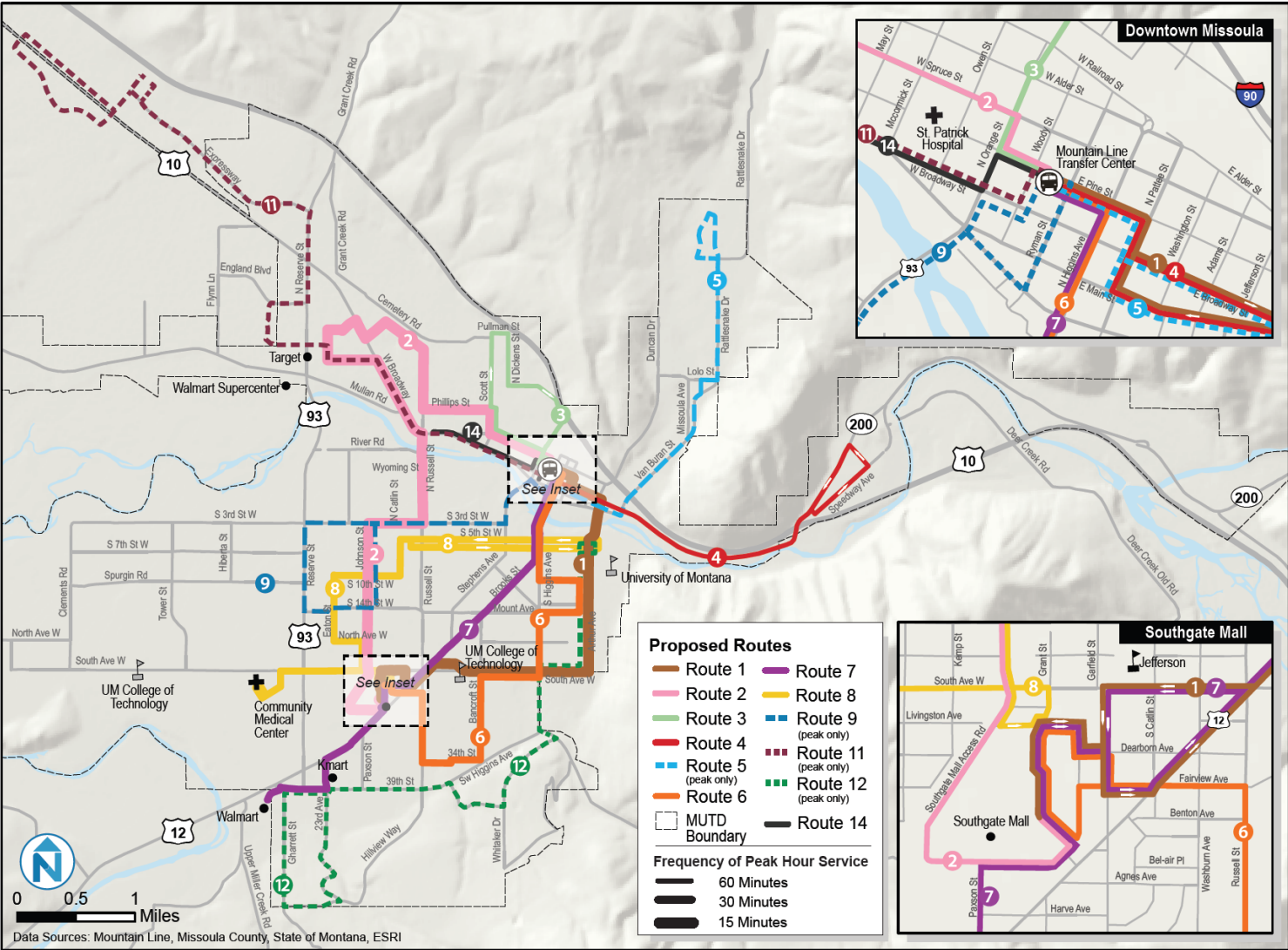
The Enhanced Focus Inward Alternative restores limited morning and afternoon services on Routes 5, 9, 11, and 12. For Routes 5, 9, and 11, two trips in the morning and two trips in the afternoon would be provided. It should be noted that Route 9 would travel only as far west as Reserve Street. Target Range would no longer be directly served by Route 9. For Route 12, a shortened version connecting South Hill with the University of Montana was developed, which would operate four trips in the morning and four trips in the afternoon at a 45 minute frequency.

The Enhanced Focus Inward Alternative also addresses one of the primary unmet needs identified in the market research process, namely evening service. Three additional hours of weekday evening service would allow service workers at retail locations such as the Southgate Mall to use Mountain Line. The Enhanced Focus Inward Alternative calls for extending service on the highest ridership routes (Routes 1, 2, 6, and 7) to operate until 10:30 PM.

The Enhanced Focus Inward Alternative cannot be operated under the existing budget levels. It would require an additional \$580,000 annually to operate. From a ridership perspective, it is projected to increase ridership over existing conditions by 28%.

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Figure 98 Enhanced Focus Inward Alternative



10 PUBLIC FEEDBACK ON ALTERNATIVES

In March 2012, the three service alternatives were presented to the public. Several different outreach methods were used to collect feedback from the community:

- On-Line Survey—A description of the alternatives was posted on the Mountain Line website. A series of survey questions were then provided to collect the feelings and thoughts of respondents. A total of 270 responses were collected, and most responses included extensive comments regarding why certain options were seen as more desirable than others.
- Public Meetings—Three different public meetings were held in Missoula, including at the University of Montana, the Fairgrounds, and in downtown Missoula. A total of 117 people attended these meetings. Respondents at the meetings had the option of writing down their comments and had a chance to respond to a series of questions that were identical to the online survey.
- Letters / Emails / Written Comments—More than 200 comments were collected by Mountain Line via traditional communication methods. These included several petitions signed by dozens of people.

It should be noted that the vast majority of respondents were existing riders, many of whom would be negatively affected by these changes. Non-riders, in particular those who could benefit by some of the changes, did not respond in great numbers.

Themes of Public Input

The level of support for each alternative varied strongly. Overall, there was strong opposition to service coverage reductions, except when it would provide an improvement to on-time performance. Adding frequent service to Routes 1 and 2 was also uniformly supported, although opinions on how to pay for this improvement were diverse. Directly serving the University of Montana campus with more routes was also supported. The responses also made it clear that for existing customers, retaining coverage is more important than adding evening service or additional frequency.

Specific findings for each alternative are described below.

Public Response to the Business As Usual Alternative

Majority of respondents were supportive of the overall alternative, with 66% of respondents either supporting or accepting of the proposal. In particular, combining Mountain Line's best routes—Routes 1 and 2—was well received. Some of the other service improvements, such as adding trips to Route 8 to address capacity issues, were also supported.

There were many comments regarding opposition reductions in service for several route segments, particularly Route 10. However, the overall survey response indicated that reductions in service to improve on-time performance and/or reinvest in some additional frequency were supported.

Public Response to the Efficiency Alternative

Public support for the Efficiency Analysis was significantly lower than the Business as Usual Alternative. Just over 50% of respondents either supported or could accept the changes.

Specific elements that received significant support included combining Mountain Line's best routes (Routes 1 and 2) and improving their frequency. Restructuring routes to better serve the University of Montana were also well received.

Several route proposals in the Efficiency Alternative were not supported. A downtown orientation for Route 12 was desired; the option to end the route from South Hill at the University of Montana did not receive significant support. Reductions in service on Routes 9 and 10 reinvest in some additional frequency on other routes were not supported.

One interesting finding was that close to 50% of respondents supported adding 15 minute service to Routes 1 and 2, knowing that it would cost an additional \$920,000 annually. It should be noted that many respondents questioned the need for such frequent service.

Public Response to the Focus Inward Alternative

Public support for the Focus Inward Alternative was tepid. More than 80% of respondents disapproved of this alternative.

While the overall alternative was almost universally panned, several elements did receive support, including improving the frequency and combining Routes 1 and 2, as well as restructuring several routes to better directly serve the University of Montana.

The responses as well as the comments heard made it clear that dramatic reductions in service in outlying areas to improve service within the core of Missoula were not supported. Multiple residents who would benefit by frequency improvements did not support the enhancements if it came at the expense of their fellow citizens. Deleting five routes and dramatically shrinking the service area was seen as too extreme.

When asked about the Enhanced Focus Inward Alternative, more than 58% of respondents supported adding limited service to Routes 5, 9, 11, and 12 as well as adding evening service. The desire to maintain broad geographic coverage in at least a limited form is clear.

11 RECOMMENDED SERVICE PLAN

The public outreach process indicated that there was support for greater service frequency in Missoula, but that it needs to be balanced with coverage. The Recommended Service Plan was developed to create this balance. The Recommended Service Plan is the roadmap for service improvements over the next ten years.

It is clear that more transit need exists in Missoula than can be provided within the existing funding levels. Therefore, a two phased Service Plan is presented in this chapter. The first phase is cost-neutral, and can be accomplished using existing resources. The second phase will require additional operating funding. Both phases take steps that support Missoula's future economic and development goals.

Phase I Recommended Service Plan – (2012-2013)

Phase I recommendations are designed to be implemented with existing resources, both in terms of operating hours as well as the number of buses in service. Phase I recommendations take the first step in improving transit service levels that support the vision for a livable community where frequent service is common. In particular, market research has shown that bus service every 15 minutes will attract more choice riders and people will use the service as part of their everyday mobility pattern. The population and employment density between Southgate Mall, the University of Montana and downtown Missoula is such that improved service levels will lead to appreciable ridership gains.

The Phase I service plan largely maintains the existing route structure, but makes adjustments to almost every route. In addition to creating 15 minute all-day weekday service on Missoula's most promising transit corridor, it addresses major operational issues currently affecting Mountain Line, including overloads and on-time performance issues. Service levels are reduced in areas where population and employment densities are insufficient to effectively support regular fixed-route transit service.

The Phase I Recommended Service Plan is projected to increase weekday ridership by 7% (68,000 new riders annually) and Saturday ridership by 5% (2,000 new riders annually) over existing conditions.

A brief discussion of proposed changes in this alternative is provided below.

Route 1

As Mountain Line's most productive route, major structural changes are not proposed for Route 1. The primary modification is to shorten the route to operate only from the Downtown Transfer Center to the Southgate Mall via the existing alignment. The portion of Route 1 from the Southgate Mall to the Community Hospital would be covered by Route 8 (see modifications below). All trips will continue North on Arthur to the Madison Street Bridge. Service frequencies

on Route 1 would be doubled, so that it would operate every 15 minutes between 7:15 AM and 5:45 PM.

Route 2

Route 2 is Mountain Line's second most productive route on weekdays and most productive route on Saturdays, and is therefore not proposed for major structural changes. Frequency would remain similar to today's levels. Trips would continue to interline with Route 6.

Route 3

No structural changes are proposed for Route 3. However, several adjustments to the schedule are recommended. The most important improvement is to operate Route 3 on a consistent, clock-face headway. Currently, the headway fluctuates between 15, 30, 45, and 60 minutes throughout the day, and there is no regularity to the schedule. While this practice makes sense from an operational standpoint (this route is used to fill gaps in other route schedules), it is preferable from the passengers standpoint to offer service on a regular schedule.

Route 3 should operate every 60 minutes throughout the day. In both the morning and afternoon peaks, additional trips should be added in as buses travel between the Mountain Line base and the downtown Transit Center. Route 3 would be interlined all-day with the existing Route 5 and the new Route 14, which ensures the consistency of connections for Route 3 riders.

Route 4

No route modifications are proposed for this route. On Saturdays, Route 4 would improve to hourly service for portions of the service day, instead of the current every two hour service.

Route 5

The Lolo and Duncan branch of Route 5 should be eliminated to improve on-time performance. To bring service somewhat closer to the eliminated branch, Route 5 should operate via Lolo and Raymond in the inbound direction (rather than stay on Rattlesnake Drive).

Peak service frequency on Route 5 should be reduced to hourly service. Route 5 should also be consistently interlined with Route 3 and Route 14.

Route 6

One routing change is recommended. In order to avoid Route 6's worst traffic bottleneck, and inbound unprotected left-turn from Benton Avenue onto Higgins Street, Route 6 should be rerouted to use South Avenue between Bancroft Street and Higgins Street. This will improve Route 6's schedule reliability and affect few riders.

Route 7

In order to improve on-time performance and enhance route directness, Route 7 should be streamlined by operating on Stephens Avenue between Mount and Sussex avenues, instead of operating via Burlington Avenue, Bow Street and Central Avenue. Missoula Manor would continue to have service. On Saturdays, Route 7 should operate to Walmart and K-Mart.

Route 8

Route 8 should be restructured to terminate at the UM campus. Most Route 8 riders are destined to either the Southgate Mall or the UM campus, not downtown. Route 8 should also be extended to the Community Medical Center. During the morning peak, 30-minute service should be implemented to address peak loads.

Route 9

Due to low ridership at off-peak times, Route 9 should only operate during peak times. To improve on-time performance, Route 9's alignment should be adjusted to operate via 3rd Street from Russell Street and 3rd Street and then continue downtown via the Orange Street Bridge. The Russell Street and Broadway portions of Route 9 would be eliminated. Route 2 would still provide service on Russell Street and Route 14. Route 11 would provide service on Broadway between Russell Street and downtown.

Route 10

Route 10 has the lowest productivity of any route in the Mountain Line system. Given the low residential and employment densities in the loop west of Reserve Street, it is unlikely ridership will ever grow substantially. Route 10 should be eliminated.

Route 11

Early morning service from the Lewis & Clark Transit Center should be discontinued due to low ridership. No other changes to the route are proposed.

Route 12

To improve on-time performance, inbound and outbound Route 12 should travel via High Park Way instead of Parkview Way. All trips will continue North on Arthur to the Madison Street Bridge. Saturday service will not serve either K-Mart or Walmart, as Route 7 will be serving those destinations on Saturdays.

Route 14

A new Route 14 should replace Route 9 in serving the Broadway corridor between the Downtown Transfer Center and Broadway and Russell Street (using the Byron/Cooper Street turnaround). Route 14 should be interlined with Routes 5 and 3, and would operate hourly.

Projected span and frequency for all routes are shown in Figure 99 and Figure 100. The route alignment is shown in Figure 101.

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Figure 99 Phase I Weekday Projected Frequency/Span of Service Summary

Route	Existing Weekday			Proposed Weekday		
	Span	Peak Frequency	Midday Frequency	Span	Peak Frequency	Midday Frequency
1	6:45-19:15	30	60	6:45-20:15	15	15
2	6:40-19:30	30	30-60	6:34-19:30	30	30-60 ¹
3	6:30-19:20	15-60	15-60	6:30-19:00	45-60	60
4	6:15-19:40	60	60-180	6:15-19:40	60	60-180 ²
5	6:25-19:00	30	60	7:15-18:45	60	60
6	6:45-19:40	30	30-60	6:45-18:45	30	30-60 ¹
7	6:45-19:45	30	60	6:45-19:45	30	60
8	6:45-19:15	60	60	6:55-18:50	30	60
9	6:10-19:45	60	60	6:45-9:45 15:15-18:15	60	N/A
10	6:45-19:15	60	3-3.5 hours	N/A	N/A	N/A
11	5:35-20:15	60	60-180	5:35-20:15	60	60-180 ³
12	6:00-19:50	30	60	6:00-19:49	30	60
14	N/A	N/A	N/A	8:00-19:15	60	60

Notes:

- 1 - Routes 2 and 6 would operate the same schedule as today, with 30-minute service all-day in the “clockwise” direction and hourly midday service between 8:15 AM and 2:45 PM
- 2 - Route 4 would continue to have a 3 hour gap in service between 9:45 AM and 12:45 PM
- 3 - Route 11 would continue to have a 3 hour gap in service between 8:45 AM and 11:45 AM and a 2.5 hour gap in service between 12:45 PM and 3:15 PM

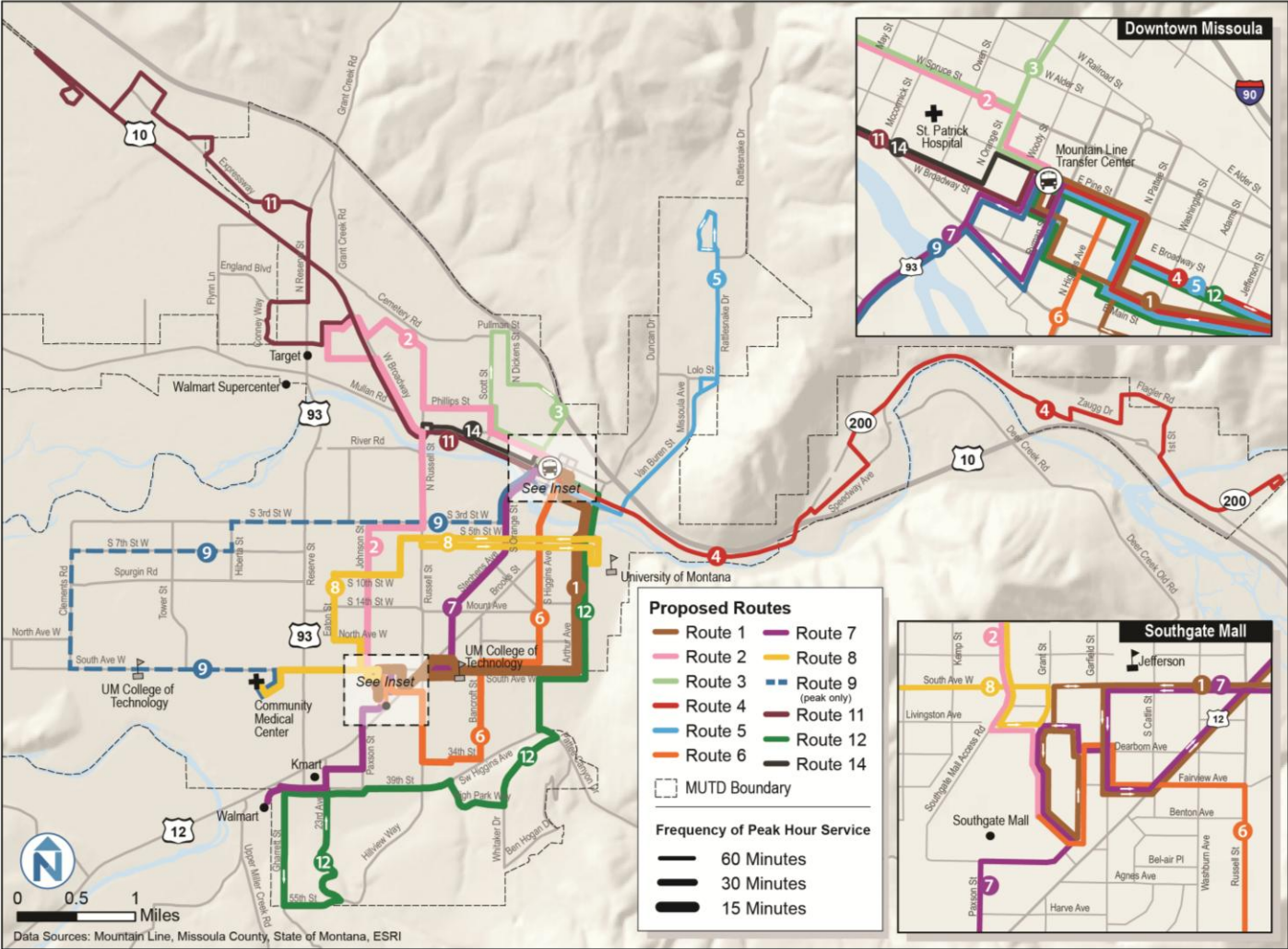
Figure 100 Phase I Saturday Projected Frequency/Span of Service Summary

Route	Existing Saturdays		Proposed Saturdays	
	Span	Frequency	Span	Frequency ¹
1	9:45-18:10	60-90	9:45-18:00	60-90
2	9:45-18:03	60-90	9:45-18:03	60-90
3	9:36-18:06	60-90	9:36-18:06	60-90
4	10:45-17:45	120	9:45-17:45	60-90
5	10:15-17:15	30	9:45-17:45	60-90
6	9:45-18:10	60-90	9:45-18:10	60-90
7	9:45-18:00	60-90	9:45-18:15	60-90
8	9:45-18:10	60-90	9:55-18:25	60-90
9	9:45-18:10	120	N/A	N/A
12	9:45-17:49	60-90	9:45-17:49	60-90
14	N/A	N/A	10:15-18:00	60-90

1 - All routes would continue to have a 30 minute break in service between 1:45 PM and 2:15 PM

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Figure 101 Phase I Recommended Service Plan Map (2012-2013)



Recommended Service Plan Phase II – (2014-2016)

As part of the needs determination, as well as to complement the City of Missoula's economic development goals, it became clear that additional Mountain Line services are necessary to enhance livability and coordinate with land-use decisions.

Phase II recommendations expand the number of routes with frequent service and further address some of the capacity issues currently facing Mountain Line. In addition, evening service is provided, which should enhance the ability of persons working service jobs to use Mountain Line. No service reductions are anticipated as part of Phase II recommendations.

Phase II recommendations will require approximately an additional \$1.1 million in annual operating funds and three additional vehicles. The Phase II Recommended Service Plan is projected to increase weekday ridership by 29% (255,000 new riders annually) and Saturday ridership by 29% (21,000 new riders annually) over existing conditions.

No changes are recommended for Routes 3, 4, 5, 9, 11, 12, or 14. Specific proposed changes for Phase II are detailed below:

Route 1

Route 1 should be interlined with Route 2 at the Southgate Mall, so that a continuous service loop serving downtown, University of Montana, Southgate Mall, the Reserve commercial area, and downtown exists in both directions. This ties together the highest ridership destinations and densest residential areas in the city. Route 1 would continue to operate every 15 minutes throughout the day.

Evening service should be provided on weekdays, extending service to 10:45 PM.

Route 2

Route 2 should be interlined with Route 1 at the Southgate Mall. The current interline with Route 6 should be terminated. Route 2 frequencies should be improved to every 15 minutes throughout the day.

Evening service should be provided on weekdays, extending service to 10:45 PM.

Route 6

Route 6 should terminate at the Southgate Mall and not interline with Route 2. In addition, Route 6 should be realigned to directly serve UM from Higgins Avenue via Beckwith Street, Arthur Avenue, and University Avenue. Midday frequency on Route 6 should improve to every 30 minutes.

Evening service should be provided on weekdays, extending service to 10:45 PM.

Route 7

No routing or daytime schedule changes are recommended. Evening service should be provided on weekdays, extending service to 10:45 PM.

Route 8

Additional peak hour service on Route 8 would be added to address load issues.

Figure 102 Phase II Weekday Projected Frequency/Span of Service Summary

Route	Proposed Phase I Weekday			Proposed Phase II Weekday		
	Span	Peak Frequency	Midday Frequency	Span	Peak Frequency	Midday Frequency
1	6:45-20:25	15	15	6:45-22:45	15	15
2	6:45-19:30	30	30-60 ¹	6:35-22:45	15	15
3	7:00-19:20	45-60	60	6:30-19:00	45-60	60
4	6:15-19:40	60	60-180 ²	6:15-19:40	60	60-180 ¹
5	7:15-18:45	60	60	7:15-18:45	60	60
6	6:45-19:30	30	30-60 ¹	6:45-22:45	30	30
7	6:45-19:45	30	60	6:45-22:45	30	60
8	7:15-19:15	30	60	6:55-18:50	30	60
9	6:45-9:45 3:45-6:45	60	N/A	6:45-9:45 15:15-18:15	60	N/A
11	5:45-20:15	60	60-180 ³	5:35-20:15	60	60-180 ²
12	6:00-19:50	30	60	6:00-19:50	30	60
14	8:00-19:15	60	60	8:00-19:15	60	60

Notes:

1 - Route 4 would continue to have a 3 hour gap in service between 9:45 AM and 12:45 PM

2 - Route 11 would continue to have a 3 hour gap in service between 8:45 AM and 11:45 AM and a 2.5 hour gap in service between 12:45 PM and 3:15 PM

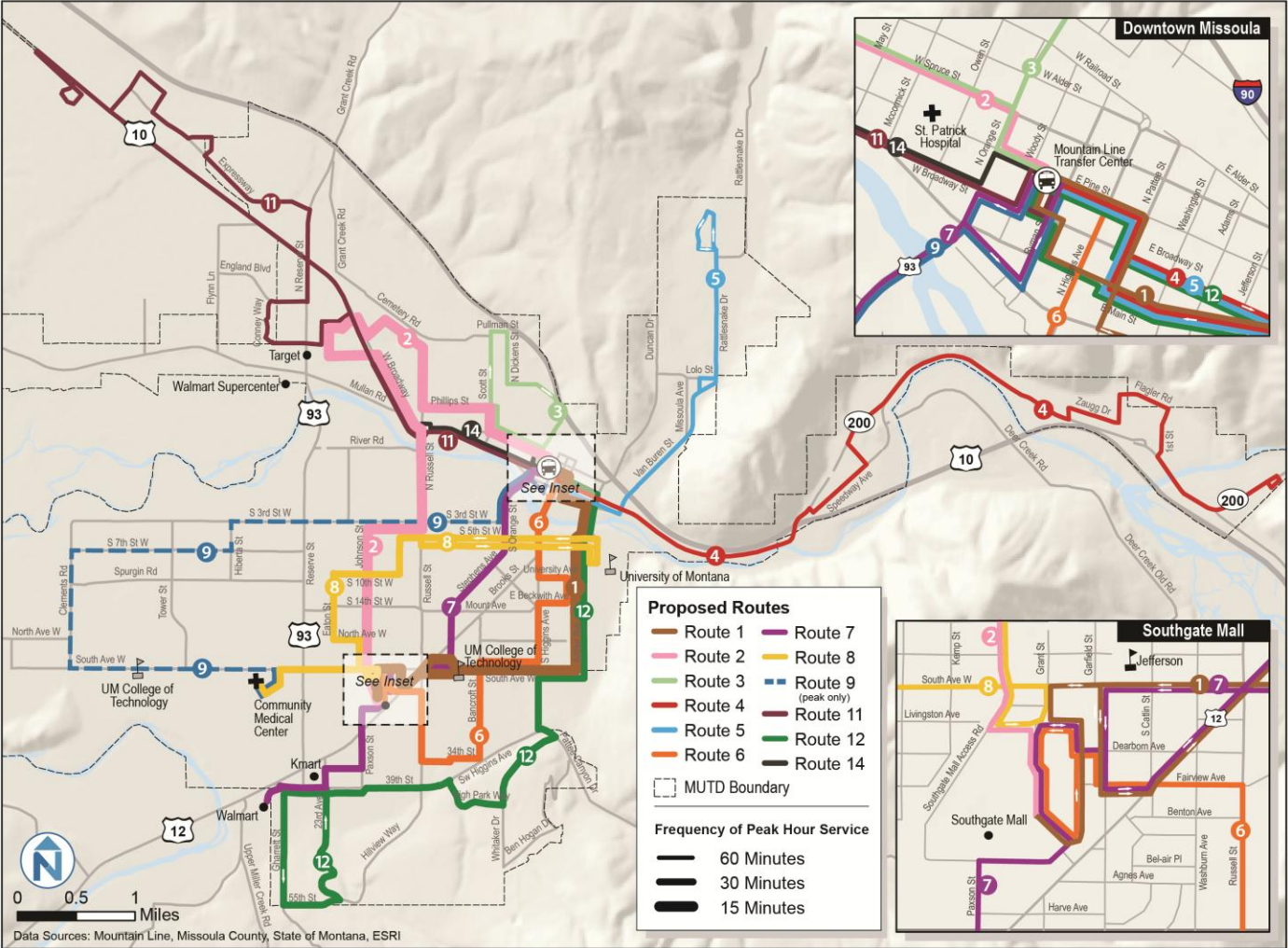
Figure 103 Phase II Saturday Projected Frequency/Span of Service Summary

Route	Proposed Phase I Saturdays		Proposed Phase II Saturdays	
	Span	Midday Frequency ¹	Span	Midday Frequency ¹
1	9:45-18:10	60-90	9:45-18:10	30
2	9:45-18:03	60-90	9:45-18:03	30
3	10:00-18:00	60-90	9:36-18:06	60-90
4	9:45-18:10	60-90	9:45-17:45	60-90
5	10:15-17:15	60-90	9:45-17:45	60-90
6	9:45-18:10	60-90	9:45-18:10	60-90
7	9:45-18:15	60-90	9:45-18:15	60-90
8	9:55-18:25	60-90	9:55-18:25	60-90
12	9:45-17:49	60-90	9:45-17:49	60-90
14	11:00-17:55	60-90	10:15-18:00	60-90

1 - All routes but Routes 1 and 2 would continue to have a 30-minute break in service between 1:45 PM and 2:15 PM

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Figure 104 Preferred Alternative Phase II (2014-2016)



APPENDIX A: ROUTE REPORT CARDS

APPENDIX B: ROUTE BOARDING & ALIGHTING MAPS

APPENDIX C: ON-BOARD SURVEY INSTRUMENT



Mountain Line On-Board Survey

☐ Check this box if you completed this survey on another bus

1. What is the route number of this bus? Route _____

2. What time did you get on this bus?
_____ AM _____ PM

3. Did you transfer to this bus from another bus?
☐ No ☐ Yes (From route _____)

If yes, how long did you wait for this bus?
_____ minutes

4. Will you transfer to another bus to get to your final destination?
☐ No ☐ Yes (To route _____)

5. How did you get to the bus stop when you started your trip?
☐ Walked (Number of blocks _____)
☐ Got dropped off
☐ Drove
☐ Bicycle
☐ Other (Specify _____)

6. How will you get to your final destination from the bus stop?
☐ Walk (Number of blocks _____)
☐ Get dropped off
☐ Drive
☐ Bicycle
☐ Other (Specify _____)

7. Which describes the best reason for you making this trip?
☐ Work ☐ Medical
☐ School K-12 ☐ Recreation
☐ College/University ☐ Personal Business
☐ Shopping
☐ Other _____

8. How many days per week do you usually ride the bus?
_____ days

9. How long have you been a transit rider?
☐ Less than a year ☐ 3-4 years
☐ 1-2 years ☐ More than 4 years

10. Do you typically have a car available for your use?

- ☐ Yes, I own/lease a car
☐ Yes, I have access to someone else's car
☐ No, I do not have regular access to a car

11. What is your age group?

- ☐ Under 16 ☐ 35-44
☐ 16-17 ☐ 45-54
☐ 18-24 ☐ 55-64
☐ 25-34 ☐ 65 or over

12. Are you? (Check one or more)

- ☐ Employed full-time ☐ K-12 Student
☐ Employed part-time ☐ College/University Student
☐ Unemployed ☐ Retired
☐ Other _____

13. What is the worst thing about riding the bus?

- ☐ Takes too long ☐ Does not run when needed
☐ Bus is regularly late
☐ Other _____

14. Does Mountain Line serve the right places?

- ☐ Yes
☐ No

If no, where should Mountain Line go?

15. Do you have any additional comments?

Please return this completed form to the surveyor or drop in the envelope at the back door.

APPENDIX D: ONLINE SURVEY INSTRUMENT

*** 1. Have you ever used Mountain Line?**

- ☐ Yes
☐ No

2. Why did you use Mountain Line? (Mark All That Apply)

- ☐ Price
☐ Environmental reasons (air quality, etc.)
☐ Save on gas/wear on car
☐ Convenience (Mountain Line goes where I want to go when I want to go)
☐ No other way to travel
☐ Good quality service
☐ Lack of parking availability
☐ Other

please specify

Note: Questions 2 – 4 are only for those who answered “Yes” on Question 1.

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3. Please consider the following potential service improvements. Rank them in order of importance to you with 1 being most important and 10 being least important. You may only use each number between 1 and 10 once.

	1	2	3	4	5	6	7	8	9	10
More frequent service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Later evening service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More Saturday service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More direct service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reduced travel times	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Routes closer to my home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Routes closer to my job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Better service information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sunday service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

please specify

4. On a 1-5 scale (where 1 means poor and 5 means very good) please rate the following items about Mountain Line

	1	2	3	4	5
Bus arrives on time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Service is available early enough	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Service is available late enough	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Convenience (schedules and routes work for me)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rider information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
System easy to understand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cleanliness of vehicle and facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seating on buses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Driver courtesy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Driver safety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. Why don't you use Mountain Line for your transportation needs? (Mark all that apply)

- ☐ Does not go to where I need to go (not convenient to use)
- ☐ Takes too long
- ☐ Bus stop is not conveniently located
- ☐ Don't know how to use the system
- ☐ Schedules don't match my needs
- ☐ Riding the bus is unsafe
- ☐ Other

Note: Questions 5 and 6 are only for those who answered "No" on Question 1.

please specify

6. What would encourage you to try public transit? (Mark your top 3 choices)

- ☐ Easier transfers
- ☐ Faster service
- ☐ Later evening service
- ☐ Earlier morning service
- ☐ Increased reliability
- ☐ More direct routes
- ☐ Easier to understand schedules
- ☐ Real time bus location information
- ☐ Nothing
- ☐ Other

please specify

7. On a scale of 1 to 5, with 1 being not important and 5 being very important, how important is public transit in your community?

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5

Note: Questions 7 - 18 are for all survey takers.

8. Which of these two statements regarding service area do you most agree with?

- ☐ Provide service to more areas, but buses would come less frequently
- ☐ Provide service to fewer areas, but buses would come more frequently

9. Which of these two statements regarding bus service improvement do you most agree with?

- ☐ Improve existing services
- ☐ Extend service to areas currently without service

10. Which of these two statements regarding service frequency/hours of service do you most agree with?

- ☐ Increase service frequency, but operate service for a smaller portion of the day
- ☐ Decrease service frequency, but operate for a larger portion of the day

11. Which of these two statements regarding days of service do you most agree with?

- ☐ Provide less frequent weekday service in order to provide more evening and weekend service
- ☐ Provide less weekend and evening service in order to provide more weekday service

12. Which of these two statements regarding bus stop spacing do you most agree with?

- ☐ Provide many/frequent stops even if it means service is slower
- ☐ Reduce the number of stops in order to make service faster

13. Which of these two statements regarding transfer frequency do you most agree with?

- ☐ Operate more routes to more areas with less frequent service to decrease the need for transfers.
- ☐ Operate fewer routes that provide more frequent service understanding this may increase the need for transfers but shorten wait time at the bus stop.

14. Which of these two statements regarding directness of service do you most agree with?

- ☐ Walk shorter distances to bus service that is slower and less direct
- ☐ Walk longer distances to bus service that is faster and more direct

15. Which of the following technology based amenities would influence your decision to ride the bus? Mark all that apply

- ☐ Free Wi-Fi on buses
- ☐ Live bus tracking – online/smartphone access to live bus location and notification of when the bus will arrive at your bus stop
- ☐ Traffic signal priority for buses at major intersections
- ☐ Other

please specify

16. Does Mountain Line serve the right areas?

- ☐ Yes
- ☐ No

17. What destination would you like Mountain Line to serve that it currently does not?

Enter Destination Name

Nearest Intersection:

City in which destination is located:

18. Please select the option below that BEST describes you.

Are you:

- ☐ Employed full-time
- ☐ Employed part-time
- ☐ Not currently employed
- ☐ K-12 Student
- ☐ College/University Student
- ☐ Retired
- ☐ Other

please specify

APPENDIX E: INTERCEPT SURVEY INSTRUMENT

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INTERCEPT SURVEY QUESTIONNAIRE – TO BE COMPLETED BY INTERCEPT SURVEYOR

Q1. Have you ever used Mountain Line?

- ☐₁ Yes
☐₂ No [SKIP TO Q5]

[Coding Note: Questions 2-4 are only for those who answered "Yes" in Question 1]

YES
↓

Q2. Why did you use Mountain Line? (MARK ALL THAT APPLY)

- ☐₁ Price
☐₂ Environmental reasons (air quality, etc.)
☐₃ Save on gas/wear on car
☐₄ Convenience (Mountain Line goes where I want to go when I want to go)
☐₅ No other way to travel
☐₆ Good quality service
☐₇ Lack of parking availability
☐₈ Other _____

Q3. Please consider the following potential service improvements, and rank in terms of the relevant importance to you.

Rank from 1 (most important) to (10 least important)

- ____ More frequent service
____ Later evening service
____ More Saturday service
____ More direct service
____ Reduced travel times
____ Routes closer to my home
____ Routes closer to my job
____ Better service information
____ Sunday service
____ Other: _____

Q4. On a 1-5 scale (where 1 means poor and 5 means very good) please rate the following items about Mountain Line:

	Poor		Average		Very Good
	1	2	3	4	5
Bus arrives on time					
Service is available early enough					
Service is available late enough					
Convenience (schedules and routes work for me)					
Rider information					
Website					
System easy to understand					
Cleanliness of vehicle and facilities					
Seating on buses					
Driver courtesy					
Driver safety					
Overall service					

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[Coding Note: Questions 5 – 6 are only for those that answered "NO" to Question 1]

NO
↓

Q5. Why don't you use Mountain Line for your transportation needs? (MARK ALL THAT APPLY)

- ☐₁ Does not go to where I need to go (not convenient to use)
- ☐₂ Takes too long
- ☐₃ Bus stop is not conveniently located
- ☐₄ Don't know how to use the system
- ☐₅ Schedules don't match my needs
- ☐₆ Riding the bus is unsafe
- ☐₇ Other _____

Q6. What would encourage you to try public transit? (Mark your top 3 choices)

- ☐₁ Easier transfers
- ☐₂ Faster service
- ☐₃ Later evening service
- ☐₄ Earlier morning service
- ☐₅ Increased reliability
- ☐₆ More direct routes
- ☐₇ Easier to understand schedules
- ☐₈ Real time bus location information
- ☐₉ Nothing

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ALL
↓

[CODING NOTE: Questions 7- 14 are for all survey takers]

Q7. On a scale of 1 to 5 with 1 being not important and 5 being very important, how important is public transit in your community?

Q8. Consider each of the following sets of choices and indicate your preference by selecting “A” or “B” for each category.

Service Area:

- | | |
|--|---|
| A Provide service to more areas, but buses would come less frequently | B Provide service to fewer areas, but buses would come more frequently |
|--|---|

Bus Service Improvements:

- | | |
|------------------------------------|--|
| A Improve existing services | B Extend service to areas currently without service |
|------------------------------------|--|

Service Frequency vs. Hours of Service:

- | | |
|---|--|
| A Increase service frequency, but operate service for a smaller portion of the day | B Decrease service frequency, but operate for a larger portion of the day |
|---|--|

Days of Service:

- | | |
|---|--|
| A Provide less frequent weekday service in order to provide more evening and weekend service | B Provide less weekend and evening service in order to provide more weekday service |
|---|--|

Bus Stop Spacing:

- | | |
|---|---|
| A Provide many/frequent stops even if it means service is slower | B Reduce the number of stops in order to make service faster |
|---|---|

Transfer Frequency:

- | | |
|--|--|
| A Operate more routes to more areas with less frequent service to decrease the need for transfers | B Operate fewer routes that provide more frequent service understanding this may increase the need for transfers but shorten wait time at the bus stop. |
|--|--|

Directness of Service:

- | | |
|---|--|
| A Walk shorter distances to bus service that is slower and less direct | B Walk longer distances to bus service that is faster and more direct |
|---|--|

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Q9. Which of the following technology based amenities would influence your decision to ride the bus? Mark all that apply.

- ☐ ₁ Free Wi-Fi on buses
- ☐ ₂ Live bus tracking – online/smartphone access to live bus location and notification of when the bus will arrive at your bus stop
- ☐ ₃ Traffic signal priority for buses at major intersections.
- ☐ ₄ Other _____

Q10. Does Mountain Line serve the right areas?

- ☐ ₁ Yes
- ☐ ₂ No

Q10a. If no, what destination would you like Mountain Line to serve that it currently does not?

Name of Destination _____

Nearest intersection is _____ and _____

City destination is located in _____

Q11. Please select the option below that BEST describes you. Are you:

- ☐ ₁ Employed full-time
- ☐ ₂ Employed part-time
- ☐ ₃ Not currently employed
- ☐ ₄ K-12 Student
- ☐ ₅ College/University Student
- ☐ ₆ Retired
- ☐ ₇ Other

Q12. What was the total family income last year (before taxes) of all persons in your household?

- ☐ ₁ Less than \$15,000
- ☐ ₂ \$15,000 to \$24,999
- ☐ ₃ \$25,000 to \$49,999
- ☐ ₄ \$50,000 to \$74,999
- ☐ ₅ \$75,000 or more
- ☐ ₆ Do not wish to answer

Q13. Do you have any comments about Mountain Line that you would like to share?

Q14. Please provide us with your email address if you would like to receive project updates.

APPENDIX F:

PUBLIC OUTREACH MARKETING SUMMARY

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COA Community Outreach

Agency Name	Publication	Contact	Phone	Email / URL	Submitted?
COMMUNITY CALENDARS / NEWSLETTERS / SOCIAL MEDIA					
Press Release	Sent to all Media Contacts on 9/26/11				
Mountain Line Facebook Page / Website	Facebook / Website				
Posters and Flyers	YMCA, YWCA, Currents, Missoula Senior Center, Library, Mall, Parks and Rec, University Center, Various University Buildings, Mountain Line Ticket Outlets				
Email to Sociology / Political Science Dpts @ University	Email encouraging professors to offer extra credit to students attending meetings				
Email to all Community / Neighborhood Council Members	COA Public Meetings Flyers			skhadnot@hotmail.com; jsmpro@yahoo.com;	Emailed 10/5
OPG	Email to all OPG staff	Alex Stokman	258-4963	astokman@co.missoula.mt.us	Emailed 9/30
Missoula County	Missoula County Employee Newsletter	Robin Moore / Sharon Reed	258-4932 (Reed)	sreed@co.missoula.mt.us	Included in next newsletter
Missoula Events .net	Online Events Calendar				Running
Missoulia	Online Events Calendar			calendar.189422@trumba.com	Running
City of Missoula	Online Events Calendar	Melani Coyle	552-6001	mcoyle@ci.missoula.mt.us	Emailed 9/22
KMSO / Mountain FM	"In the Community's Interest"	Rick Sanders	542-1025	rick@mtnbdc.com	Emailed 9/22, 9/28
Missoula Independent	Online Events Calendar / Story?	Lynne Foland, Publisher	543-6609	lfoland@missoulanews.com	Emailed
Missoula Community Access Television (MCAT)	Televised Community Calendar	Lori Hudak; Program Director, Community Calendar	542-6228	lhudak@mcac.org	Confirm 9/27
Missoula Cultural Council	Weekly Newsletter, online calendar	Tom Bensen, Director	541-0860	mcc@missoulacultural.org	Confirmed / In 10/17, 10/24

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ASUM Transportation	Flyers on buses	Nancy Wilson, Director	243-4599	nancy.wilson@mso.umt.edu	Confirm flyers on buses 9/28
U of M 'The Source'	Flyers on Community Board	The Source	243-4636	ucinfoasst.student@mso.umt.edu	Emailed 9/28, Spoke 10/4. Will deliver 10/7
Destination Missoula	Missoula Events Calendar / Newsletter	Barb Neilan, Director	532-3250	http://www.missoulacvb.org	Emailed and submitted Events 9/28
Missoula In Motion	MIM website / Facebook Page/Weekly and Montly emails to WTG Club Members	Jennifer Thompson, Program Specialist	258-4962	jthompson@co.missoula.mt.us	Emailed 9/28
Missoula County	County Newsletter to Outlying Communities	Laurie Hire	258-3432	lhire@co.missoula.mt.us	Included in Newsletter
KECI/NBC TV	Community Calendar		721-2063	comcal@nbcmontana.com	Emailed submission 9/29
KECI	Morning News	Rob Hudson		rhudson@keci.com	Running
City Council	Staff Announcement	Marty Rehbein		mrehbein@ci.missoula.mt.us	Emailed 9/29
City of Missoula	News Feed	Ginny Merriam		Gmerriam@ci.missoula.mt.us	Emailed 9/29
County Commissioners	Staff Announcement	Patty Rector		prector@co.missoula.mt.us	Pub Announ. 10/12, hung in Courthouse
Fresh/U 104.5	Community Calendar	Leah Lewis		leah@montanaradio.com	Emailed 9/29
KPAX	Community Spotlight	Tonya?		community@kpax.com	Emailed 9/29
KPAX	Morning News	Angela Marshall		angela@kpax.com	Emailed 9/29
KTMF	"Wake Up Montana"	Terri Elander		telander@mctinc.org	Emailed 9/29
KTMF/KWYB	Online Events Calendar			http://www.abcmontana.com/community/events/submission	Submitted 9/29

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Montana Public Radio	Public Service Announcement		243-3299	http://www.mtpr.net/send_a_psa_univ_comm.html	Submitted 9/30
Lively Times	Community Calendar / Print			http://www.livelytimes.com/lt/submit_event/	Submitted 9/30
Mamalode Magazine	Events Calendar				Submitted 9/30
Bike/Walk Alliance Missoula	Website News, Online Calendar	Bob Watchel, BWAM Web Manager		quailr@msn.com	Posted per Bob
Missoula Institute for Sustainable Transportation (MIST)	Online Calendar / News	Bob Giordano, Exec Director	880-6834	mist@strans.org	Called / Emailed 10/5
Make it Missoula	Newsletter	Carol Blodgett	241-6138		Confirmed 10/11
Missoula First United Methodist Church	Monthly Newsletter / Flyers		549-6118	firstumc@centric.net	Emailed 10/6
Families First / Children's Museum	Weekly Newsletter / E-Newsletter	Katie	721-7690	katie@familiesfirstmontana.org	Called, Emailed 10/6
Missoula County Public Schools	Employee Newsletter, Post Fliers, Send info to Principals for School Newsletters	Leslie Bratsfield	728-2400, x 1030		Confirmed 10/7
Missoula Aging Services	Posted in-house (lobby, break room)	Ann Andre	728-7682	aandre@missoulaagingservices.org	Emailed 10/6
Missoula Aging Services	Volunteer Newsletter (RSVP)	Helen	Will Call		Confirmed 10/6
Summit Independent Living / Specialized Transportation Advisory	Email to STAC members, flyers to Summit ILC	Mike Mayer, Executive Director	728-1630	mmayer@summitilc.org	Emailed 10/6
Missoula Downtown Association	Online 'Missoula Downtown News' story, posting on calendar	Joel	543-4238	http://www.missouladowntown.com	Posted
Missoula County	County Computer Log-In Screens	Janice Goldsby		jgoldsby@co.missoula.mt.us	Confirmed 10/17
Missoula Office of Neighborhoods	Newsletter (10/14)	Jane Kelly	552-6081	jkelly@ci.missoula.mt.us	Called, emailed info for newsletter 10/11
Missoula Housing Authority	Newsletter?	Jessica	549-4113		Called, Left Msg 10/7

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Human Resource Council	Flyer to Low-Income Households? (Waiting for reply from Michael)	Diane	728-3710		
Missoula Chamber of Commerce	Online Calendar			http://missoulamtcoc.weblinkconnect.com/CWT/EXTERNAL/WCPAGES/WCEvents/EventSubmission.aspx	Submitted Online 10/10
Sustainable Business Council	October Newsletter	Miriam Aylward		miriam@sustainablebusinesscouncil.org	Confirmed 10/13
Bike/Ped Office		Phil Smith		psmith@ci.missoula.mt.us	Emailed 10/10
Craig and Al Morning Show	Radio Morning Show on 10/25	Al	531-1293	alank@townsquaremedia.com	Confirmed 10/11
Missoula Office of Transportation	Newsletter	Mirtha Becerra, Transportation Information Specialist	258-4989	mbecerra@co.missoula.mt.us	Emailed, responded 10/11
Missoula Community Listserv	Missoula Community News	Administrator		Missoula-Community-News@vortex.wildrockies.org	Emailed to Distrib List 10/11
The University Center	TV Monitors in UC	Adrienne Donald	243-6029	adonald@mso.umt.edu	Called, Emailed slides 10/11
FRENCHTOWN					
Frenchtown Post Office	Flyers / Bulletin Board	Kathleen Ament	626-5772	kathleen.l.ament@usps.gov	Called, emailed flyer 10/11
HUSON					
Huson Post Office			626-5823		Called 10/11, no answer
ALBERTON					
Alberton Post Office	Flyers / Bulletin Board			susan.i.hanson@usps.gov	Called, emailed flyer 10/11
BONNER					

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Bonner School Newsletter	Out Each Wednesday (10/5, 12, 19)	Diana Hendrix	258-6151	dhendrix@bonner.k12.mt.us	Confirmed 10/11
Friends of Two Rivers	Website	Gary Matson	370-6584	gmatson@montana.com	Will be posted per Gary
ARLEE					
Arlee Community Development Corporation	Arlee Community Website (http://www.arleemontana.org)	Kelly	726-5550	arleecdc@arleemontana.org	Emailed 10/5
Arlee Community Center	Flyer / Handouts	Steve Minez			5-Oct
HAMILTON					
Hamilton School District	SynergE Newsletter / Monthly Newsletter			leilanit@hsd3.org	Emailed 10/5
Community Boards					Emailed 10/5
Ravalli Republic (newspaper)	Community Calendar	Perry Bakcus	363-3300	events@ravallirepublic.com	Emailed 10/5
LOLO					
Lolo Public Schools	Newsletter	Michael Magone, Superintendent	273-0451	mikem@lolo.k12.mt.us	Emailed 10/5
Lolo Community Center	Community Board / Flyer	Kathy Means	550-2295	kathym@hayloftinc.com	Emailed 10/5
STORIES / ARTICLES IN PRINT AND ONLINE MEDIA					
Missoula Independent	Story 10/20/2011	Lynne Foland, Publisher	543-6609	lfoland@missoulanews.com	
Missoulain	Story 10/24/2011	Keila Szpaller		Keila.Szpaller@lee.net	
UM Kaimin	Story 10/25/2011	Rebecca Dolin	243-4310	Met with Rebecca on 10/7/2011	
KPAX Online	Story 10/6/2011				

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KPAX TV Interview	10/7/2011				
Make it Missoula	Story 10/25/2011	Carol Blodgett	241-6138	carol.blodgett@gmail.com	
KECI Interview	9/28/2011				
Mountain Broadcasting on-air Interview	10/6/2011	Carolyn Buchta, Account Executive	544-5835	CarolynB@MtnBdc.com	
Wake Up Montana Interview	10/18/2011	Terri Elander	728-1911 x232	telander@mctinc.org	
KGVO News Talk Radio Interview	10/19/2011	Shande Wiest	728-9300	shandewiest@townsquaremedia.com	
KYSS FM Radio Show	10/25/2011	Glenn Schmidt	728-5000	gschmidt@cherrycreekradio.com	
Missoula Community Access Television (MCAT) Interview	10/7/2011	Joel Baird, General Manager	542-6228	jbaird@mcats.org	
PAID ADVERTISING					
Missoulian	300 x 250 Banner Ad Online, 3 col x 5" color ad to run 10/19, 10/21, 10/23, 10/25	Brooke Redpath, Advertising Consultant	523-5217	Brooke.Redpath@lee.net	Confirmed 10/12
Kaimin	3 col x 6" Ad to run 10/20, 10/25	Kinsey Netzorg		kaiminads@montanakaimin.com	Confirmed 10/12
Independent	6.375 x 6.675 ad to run in 10/13 Publication	Lynne Foland, Publisher	543-6609	lfoland@missoulaneews.com	10/13 Ad Confirmed 10/10
Montana Radio	30-Second Ads on Jack FM, 104.5, Trail 10/10, 10/17, 10/24, 10/26-27	Shelly Gaertner, Senior Marketing Executive	329-1860	shelly@montanaradio.com	Confirmed 10/7
Mountain Broadcasting	15-Second 'Merchant Spotlight' Ads 12x/day 10/18, 21, 24-26. 30-Second PSAs	Carolyn Buchta, Account Executive	544-5835	CarolynB@MtnBdc.com	Confirmed
Cherry Creek Radio	4 30-second Ads per day on Z100, Eagle 93, 10/22-26	Glenn Schmidt	728-5000	gschmidt@cherrycreekradio.com	Confirmed 10/7
Missoulian	3 col X 5" color ad 'Online Survey' to run 11/9	Brooke Redpath, Advertising Consultant	523-5217	Brooke.Redpath@lee.net	Confirmed 11/8
Cherry Creek Radio	30-Second 'Online Survey' ads, KGGL 11/8-10	Glenn Schmidt	728-5000	gschmidt@cherrycreekradio.com	Confirmed 11/8

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Montana Radio	30-Second 'Online Survey' ads, 104.5, Jack FM 11/8-11	Shelly Gaertner, Senior Marketing Executive	329-1860	shelly@montanaradio.com	Confirmed 11/7
Mountain Broadcasting	30-Second 'Online Survey' ads, Mtn FM 11/8-12	Carolyn Buchta, Account Executive	544-5835	CarolynB@MtnBdc.com	Confirmed 11/7
PUBLIC MEETINGS / EVENTS					
Ministerial Association			10/5/2011		
STAC / TPCC / TTAC			September Meetings		
Missoula Downtown Association			9/6/2011		
Missoula Midtown Association			9/14/2011		
MDA- Downtown Mater Plan Implementation Committee			9/15/2011		
MIST (Missoual Institute for Sustainable Transportation)			9/16/2011		
ASUM Board			9/20/2011		
Captain John Mullan Neighborhood Council			9/21/2011		
Missoula In Motion Quarterly Breakfast			9/22/2011		
Neighborhood Community Forum			9/22/2011		
Specialized Transportation Advisory Committee (STAC)			9/30/2011		
Community Leadership Team			10/4/2011		
Missoula Parks & Recreation Department Presentation			10/12/2011		