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TECHNICAL MEMORANDUM

Basin Transit Services - Transit Development Plan Update

Technical Memo #3: Future Needs for Transit with in the BTS Service Area

Date: March 29, 2013 Project #:12799
To: Project Management Team & Project Advisory Committee
From: Susan Wright, P.E., Bob Kniefel, P.E., Matt Kittelson, P.E., and Jenny Miner

INTRODUCTION

This memorandum discusses the future needs for transit within the Basin Transit Service (BTS) service area and potential surrounding expansion areas. Needs are identified based on population growth and future density, as well as from BTS driver and customer input. Future funding potential from growth-related increases in property taxes is also considered. The purpose of this memorandum is to identify potential policies and projects for improving existing and future transit service, for potential inclusion in the Transit Development Plan.

IDENTIFIED NEEDS

The existing conditions analysis focused on documenting how the BTS system operates today. Through that analysis, existing needs, future needs, and future constraints were identified. These are summarized below.

- BTS operates within a strict fiscal reality. Farebox recovery for the agency has been below 17 percent for fixed route service and below 8 percent for Dial-A-Ride service. As such, the agency is highly dependent on property taxes to fund the majority of its operating costs. This reality should be considered when future expansions are considered, especially outside the existing transit service boundary.
- Outlying areas of the BTS service areas are currently served largely by the extended service program. The expansion of fixed route service to existing unserved areas should be considered in conjunction with a funding feasibility analysis of such service.
- Transit service currently operates six days a week from roughly 6:00 a.m. to 7:30 p.m. on weekdays and 10 a.m. to 4 p.m. on Saturdays. Ridership and funding analyses should be conducted to evaluate the need for and/or feasibility of additional service hours or days.
- Bus headways are currently 60 minutes during all service hours except for locations where Mainline Route 1 and Mainline Route 2 overlap, resulting in a combined headway of 30

minutes. Additional analysis should be conducted to determine if headways should be modified on particular routes during specific time periods.

- Many local transit service providers, both public and private, exist within the BTS service area. An evaluation of potential opportunities to further collaborate with other service providers should be conducted.
- Opportunities for additional efficiencies within the existing transit service should be considered and explored, including route design, operational plans, and fleet maintenance.
- Public outreach should continue to be an integral part of the BTS mission. Informing the service population of transit service and transit service modifications should be continued and expanded where necessary.

In addition, transit service was evaluated using the performance measures previously used in the TDP update process. The system is operating within many of the standards set, while those not met are within a small margin of the standard. These metrics include:

- On time pickups for dial-a-ride
- Farebox recovery
- Subsidy per passenger for dial-a-ride
- Miles between preventable incidents
- Injuries per mile

BTS employees, riders, and other members of the community were surveyed in regards to several aspects of the BTS system. Overall, respondents considered the system to be operating well and offered positive opinions of the system as a whole. Of the concerns stated, many followed similar themes. These include:

- New buses or better maintenance as there are many breakdowns
- Request for more stops along routes
- Expanded service hours – daily and weekly
- Expanded service areas – within and outside of existing service area
- Better trained bus drivers on customer service
- Bus routes need to be on time
- More accessible bus route information

POPULATION AND GROWTH ASSUMPTIONS

The Klamath Falls Urban Area Travel Demand Model projects traffic conditions for the area within the urban growth boundary (UGB). The UGB roughly aligns with the BTS service area. Therefore, the land

use assumptions included within the Klamath Falls Urban Area Travel Demand Model are assumed to represent an existing and future year land use scenario for the transit district.

Household Growth

The Klamath Falls Urban Area Travel Demand Model incorporates an increase of 4,093 households from 2008 to 2037. The highest amount of this growth is projected to happen in the area south and west of Lakeshore Drive along the Upper Klamath Lake (Southview area) and the area north of Foothills Boulevard (Basin View area). Figure 1 shows where the projected household growth is anticipated to occur within the Klamath Falls urban area. The data are grouped by the transportation analysis zones (TAZs) defined within the model.

Table 1 shows the estimated growth in households and employment for the Klamath Falls Urban Area by gross increase, total percent increase, and average yearly percent increase.

Table 1 Klamath Falls Urban Area Land Use Assumptions

Land Use Type	2008	2037	Increase	Total Percent Increase	Average Yearly Percent Increase
Households	18,818	22,911	4,093	21.75%	0.68%
All Jobs	19,951	24,024	4,073	20.42%	0.64%
Agricultural/Industrial Jobs	2,371	2,388	17	0.72%	0.02%
Commercial/Service Jobs	11,940	14,708	2,768	23.18%	0.72%
Education/Government Jobs	3,286	4,258	972	29.58%	0.90%
Other Jobs	2,354	2,670	316	13.42%	0.44%

Employment Growth

As shown in Table 1, the Klamath Falls Urban Area Travel Demand Model assumes an increase of 4,073 jobs from 2008 to 2037. This level of employment increase is consistent with and complementary to the level of household growth projected.

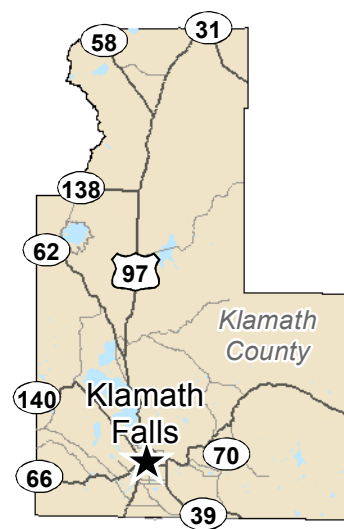
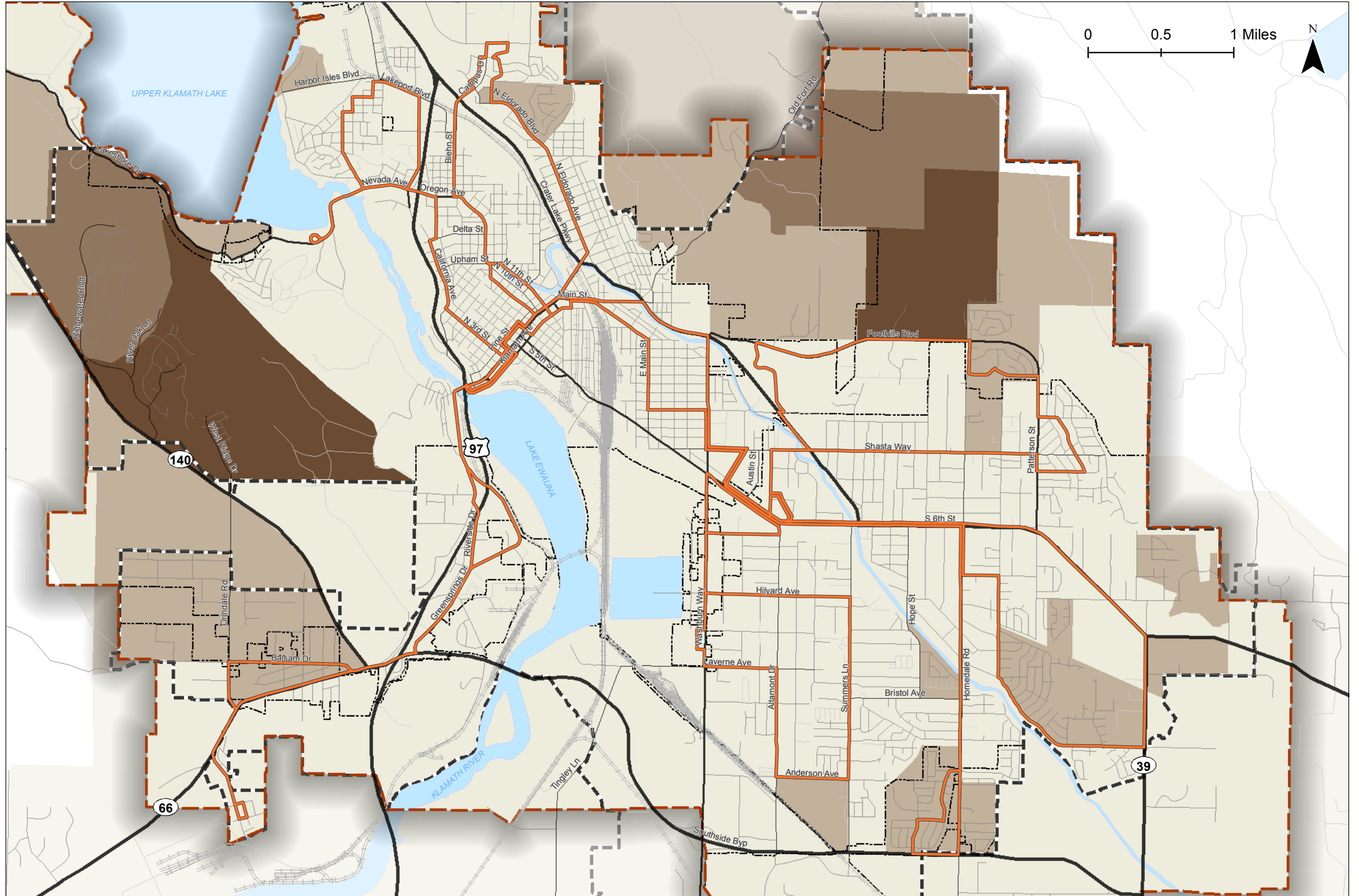
Figure 2 and Figure 3 depicts locations within ¼ mile of a bus route as well as the projected locations of the highest-density areas within Klamath Falls in 2035¹. The *Transit Capacity and Quality of Service Manual* defines “transit-supportive” areas as locations that can support at least hourly transit service;

¹ 2035 was the future year forecasted for the Klamath Falls Urban Area TSP based of the travel demand model and traffic counts collected. The future travel demand model year, however, is 2037. As such 2037 represents the future year land use scenario considered for this effort.



Households Increase Per Acre

- 0 - 20 Households
- 21 - 99 Households
- 100 - 249 Households
- 250 - 699 Households
- 700 - 1029 Households
- Basin Transit Routes
- BTS District
- Klamath Falls City Limits
- Urban Growth Boundary







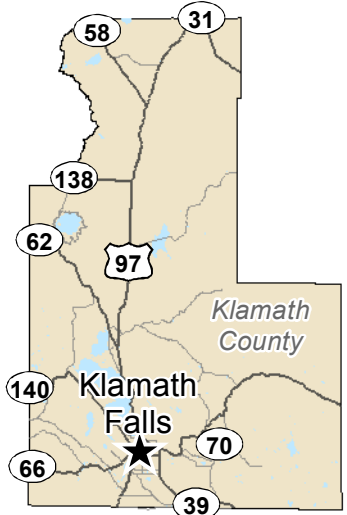
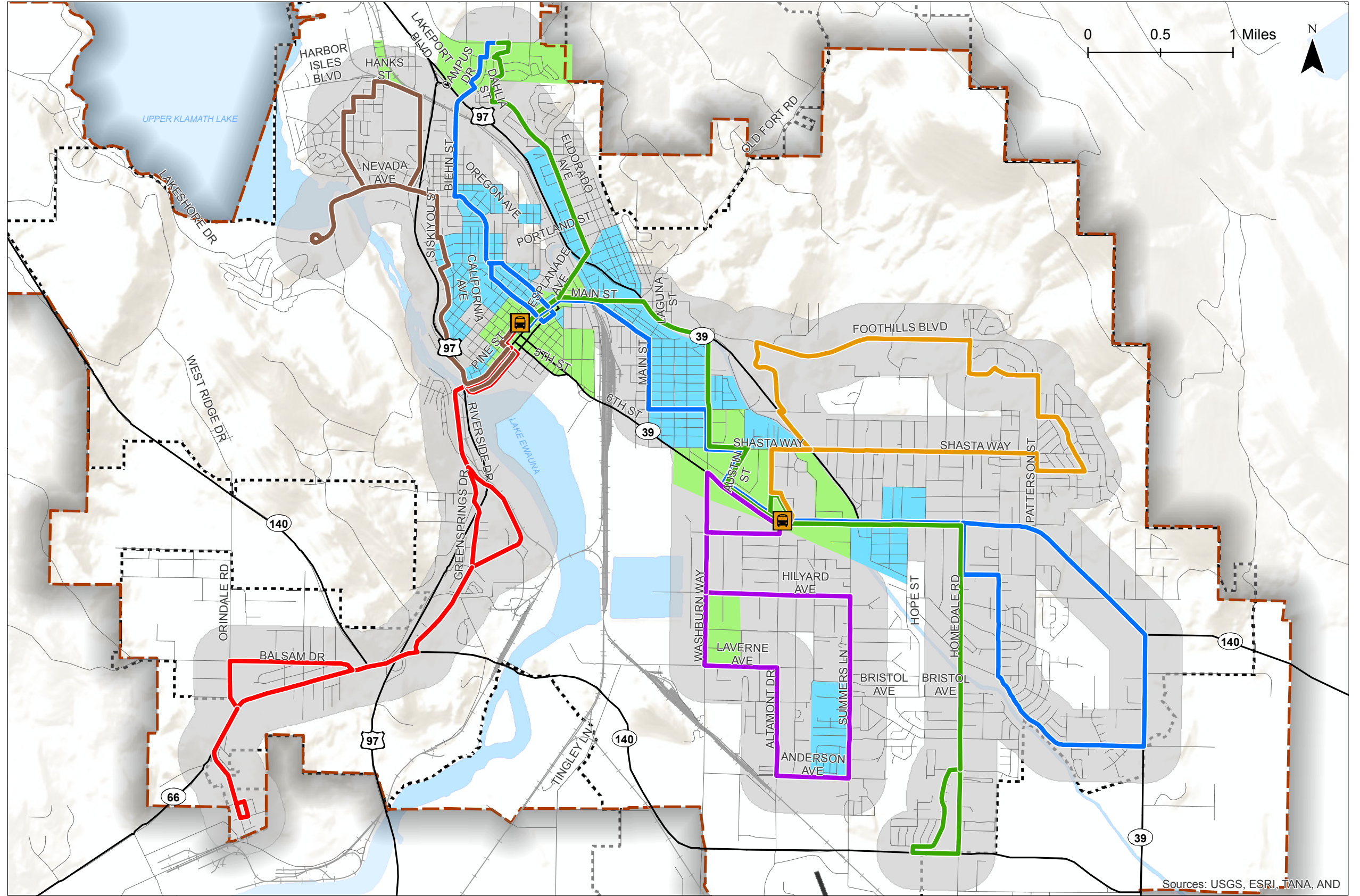
**Household Increase 2008-2037
Klamath Falls, Oregon**

**Figure
1**

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-  Transit Center
- Basin Transit**
- Route 1
- Route 2
- Route 3
- Route 4
- Route 5
- Route 6
-  BTS District
-  Transit Buffer
- Minimum of 4 Employees Per Acre
- Minimum of 3 Households Per Acre
-  Urban Growth Boundary



Sources: USGS, ESRI, FIANA, AND

**Transit Analysis Base Year 2010 Land Use
Klamath Falls, Oregon**

**Figure
2**

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Transit Center

Basin Transit

Route 1

Route 2

Route 3

Route 4

Route 5

Route 6

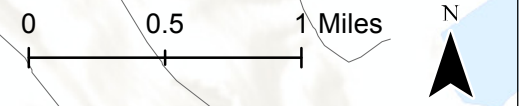
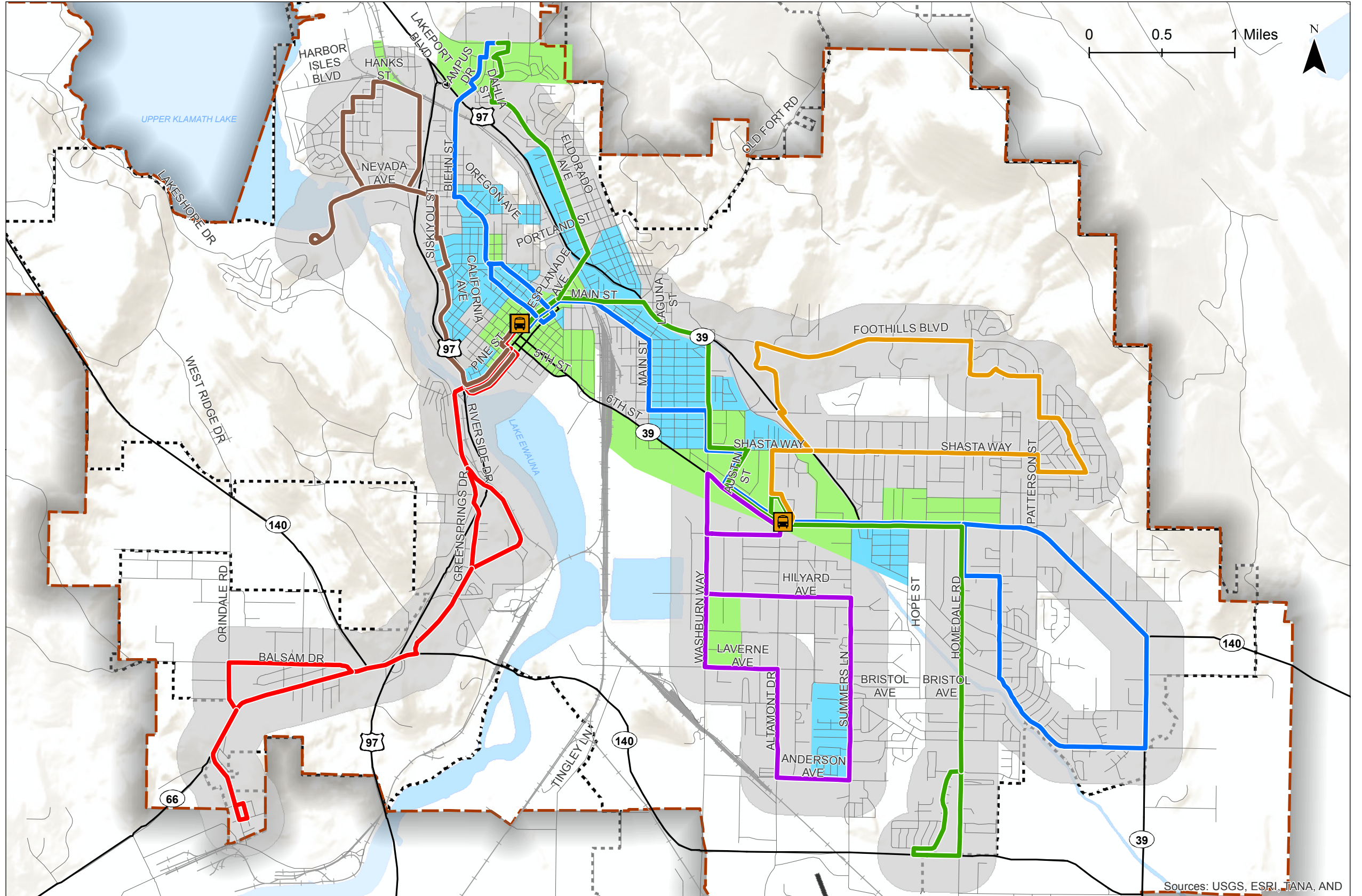
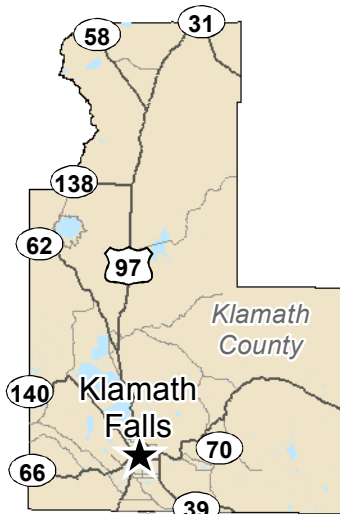
BTS District

Transit Buffer

Minimum of 4 Employees Per Acre

Minimum of 3 Households Per Acre

Urban Growth Boundary



Sources: USGS, ESRI, TANA, AND

**Transit Analysis Future Year 2037 Land Use
Klamath Falls, Oregon**

**Figure
3**

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these have a minimum of 3 households per gross acre or 4 jobs per gross acre. Although residential and job density are by no means the only indicators of potential areas of transit ridership (income, car ownership, and locations of major institutions also play a role), they are good tools for indicating where—all other things being equal—concentrations of potential customers are located. Figure 3 shows the locations of transit-supportive areas anticipated to develop by the year 2035. Future transit-supportive areas not currently served by transit consist of portions of South 6th Street between downtown and Washburn Way (surrounding the future East Main Extension), and an area north of Dan O'Brien Way (near NEW Corporation). The area southeast of downtown is also shown to be supportive of transit but not within ¼ mile walking distance of transit. This is also true under existing conditions.

BTS has utilized ¼ mile buffer from transit routes to determine areas served. Based on this designation, nearly the entire Klamath Falls urban area is served by an existing route. As such, the ¼ mile buffers shown should be used to define areas where transit service could be enhanced.

Transit Ridership Growth

Transit ridership within the Klamath Falls Urban Area is documented daily, monthly, and annually by BTS. Correlating this information to the total number of households provides one approach for estimating future transit ridership. Table 2 provides estimates of future transit ridership based on the existing rides per household rate and projected growth in households.

Table 2 Existing and Estimated Future Transit Ridership Based on Household Growth

Year	Households ¹	Transit Ridership		
		Fixed Route (FR)	Dial-A-Ride (DAR)	Total
2008	18,818	371,544	19,378	390,922
2023	20,935	413,343	21,558	434,901
2037 ²	22,911	452,356	23,593	475,949
<i>Estimated Growth:</i>	4,093	80,813	4,215	85,027

Note: ¹Household estimates based on estimates included in the Klamath Falls Urban Area Travel Demand Model
²2037 transit ridership estimates based on projecting a consistent transit ridership of 20.77 rides/household

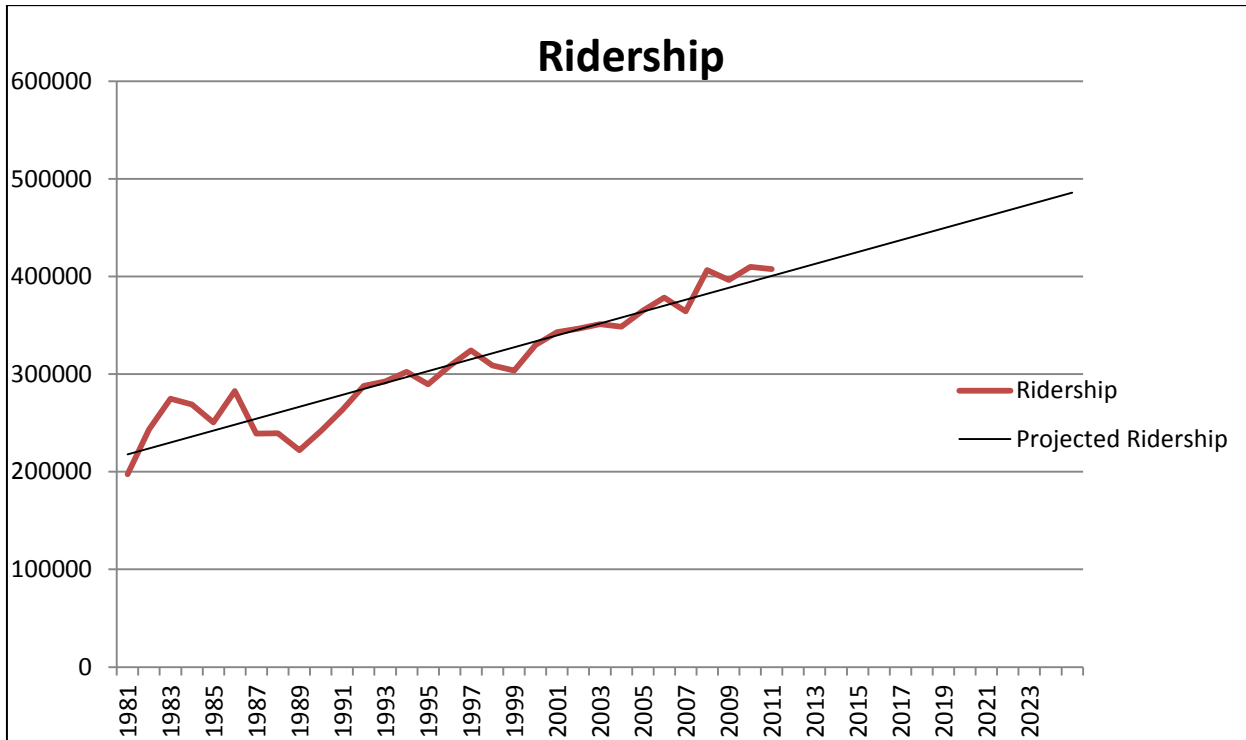
As shown, transit ridership is expected to increase by approximately 85,000 rides through the horizon year based on household growth. The bulk of this growth is expected to occur within the fixed route service area. This represents approximately 22% growth over 29 years, an annual rate of 0.75%.

It should be noted that the estimates shown in Table 2 assume that current trends (ridership percentage, fixed route/dial-a-ride split, etc.) continue into the future. In reality, these trends might change as the Klamath Falls Urban Area grows.

Future ridership projections were also compared to historic ridership rates and growth. Exhibit 1 shows annual rides from 1981 to 2011 and includes a projection out to 2023 based on the historic trend. As shown in Exhibit 1, historic growth rates would indicate future ridership to be approximately 476,000 in 2023 and 553,000 in 2037. This represents an annual growth rate of approximately 2.8% per year and is

significantly higher than the projected population growth rate and would indicate an increased use of the system per household. The difference between these two projection methods is a difference of approximately 40,000 rides per year in the ten year horizon of 2023.

Exhibit 1 Historic and Projected Ridership



External Populations

Areas outside the BTS service area were evaluated to estimate their potential service population and potential property tax revenue. Table 3 provides population, estimated households, median house value, estimated property tax base, and potential tax revenue based on BTS’ existing millage rate for the towns of Merrill, Malin, Midland, Keno, and Chiloquin. As shown in Table 3, estimated tax revenue for the towns surrounding the Klamath Falls urban area range from approximately \$7,000 to \$135,000 per year. These values are based on the reported median house value which could be higher than the average assessed values for these areas. The area of Keno has the most potential to be able to support transit service through their potential tax revenues (see page 15 for more information).

Table 3 Estimated Tax Revenue for Surrounding Towns

Town	Population ¹	Households ²	Median House Value ¹	Estimated Property Tax Base	Potential Tax Revenue (\$0.4822/\$1,000)
Merrill	843	351	\$105,498	\$37,030,000	\$17,900
Malin	804	335	\$97,004	\$32,496,000	\$15,700
Midland	212	88	\$162,933	\$14,338,000	\$6,900
Keno	3,423	1,426	\$196,660	\$280,437,000	\$135,200

Chiloquin	733	305	\$68,584	\$20,918,000	\$10,100
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Note: ¹ Source: www.city-data.com

² Assumes an average of 2.4 people per household

Other nearby communities that could be served by BTS include the following:

- Henley
- Falcon Heights
- Running Y
- Shield Crest (Pine Grove/Vale Road)

Detailed population and household estimates could not be located for these areas. As such, potential tax revenue estimates have not been calculated.

Summary

- Future transit-supportive areas not currently served by transit consist of portions of South 6th Street between downtown and Washburn Way (surrounding the future East Main Extension), and an area north of Dan O'Brien Way (near NEW Corporation). The area southeast of downtown is also shown to be supportive of transit but not within ¼ mile walking distance of transit.
- Household growth is projected at just less than 1% per year for the next 20 years. Historical transit ridership growth has been approximately 3% over the past 30 years. Ridership increases are likely to be between these two growth rates.
- The area of Keno has the most potential to be able to support transit service through their potential tax revenues.

FUNDING ANALYSIS

BTS provides transit service with a relatively small operating budget compared to larger, more robust transit systems. The bulk of expenditures for BTS are related to employee wages and benefits. In terms of revenue, over half of what BTS receives comes from property taxes. The current tax rate is \$0.4822 per thousand dollars of assessed value for houses within the transit district. By comparison, farebox user fees represent a relatively small portion of revenue (farebox recovery for fixed route service has ranged from 13-17 percent over the last five years). As such, BTS is heavily reliant on property taxes to support service. In addition, roughly one quarter of revenue comes from state and federal operating grants.

Because BTS is heavily reliant on tax revenue, estimates of how tax revenue could change over time are critical to determining future service alternatives. To estimate how future tax revenue might grow, estimates were generated based on growth in assessed value of existing homes, growth from increases in the millage rate (BTS property tax rate per thousand dollars of assessed home value), and growth from new construction. Also considered were revenue increases from additional farebox revenue and

increases (tied to inflation) in state and federal grants. The future revenue estimated for the next 10 years is shown in Table 4 and Exhibit 2. Calculation estimates are included in Appendix A.

Table 4 Projected BTS Revenue

Funding Source		Projected Year				
		2015	2017	2019	2021	2023
Property Tax Revenue	Growth from Increase in Assessed Value ¹	\$1,134,315	\$1,198,522	\$1,262,728	\$1,326,935	\$1,391,141
	Growth from Millage Rate Increase ²	\$69,080	\$150,425	\$245,035	\$353,986	\$478,436
	Growth from New Homes ³	\$18,044	\$40,453	\$67,824	\$100,818	\$140,166
	Total	\$1,221,439	\$1,389,400	\$1,575,588	\$1,781,739	\$2,009,744
Farebox Revenue ⁴		\$299,619	\$305,494	\$311,369	\$317,244	\$323,119
State & Federal Grants ⁵		\$415,158	\$438,658	\$462,157	\$485,657	\$509,156

Note: ¹Property tax revenue increases assume 3% straight line annual growth, which includes increases in assessed value but not increases in millage rate or population.

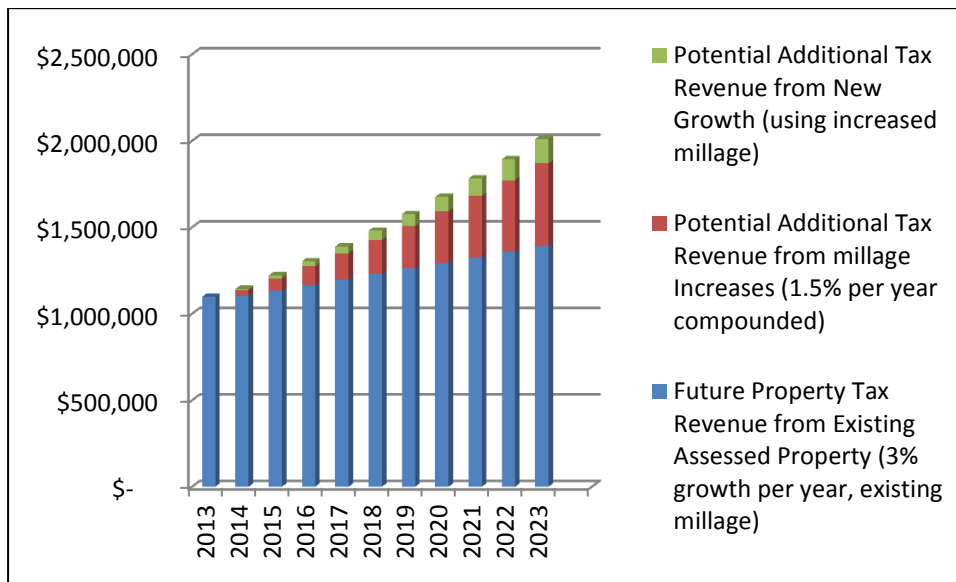
²Assumes annual increase of 3% compounded annually. A rate of 1.5% per year would result in \$223,000 in the year 2023 rather than \$478,436.

³Assumes an increase of 141 homes annually with a 2012 assessed value of \$118,000 with the value and millage rate increases annually per the above factors.

⁴Farebox revenue is assumed to increase relative to population increase (1% per year). This does not account for fare increases. Historical growth rates are closer to 3% per year.

⁵State and federal grants are assumed to increase at a rate consistent with historic inflation, or 3.5% per year

Exhibit 2 Projected Revenues



The information calculated in Table 4 was compared against future estimated increases in operating costs. This information is shown in Table 5.

Table 5 Projected Operating Costs and Property Tax Revenue

Projected Year	Fuel Costs ¹	Operating Cost (not including fuel costs) ²	Total Projected Operating Costs	Projected Property Tax Revenue	Projected Farebox Revenue	Projected State & Federal Grants	Projected Total Revenue
2015	\$276,220	\$2,096,422	\$2,372,642	\$1,221,439	\$299,619	\$415,158	\$1,936,216
2017	\$308,203	\$2,263,542	\$2,571,745	\$1,389,400	\$305,494	\$438,658	\$2,133,552
2019	\$340,186	\$2,430,662	\$2,770,848	\$1,575,588	\$311,369	\$462,157	\$2,349,114
2021	\$372,168	\$2,597,782	\$2,969,951	\$1,781,739	\$317,244	\$485,657	\$2,584,640
2023	\$404,151	\$2,764,903	\$3,169,054	\$2,009,744	\$323,119	\$509,156	\$2,842,019

Note: ¹Fuel costs assume a 7% annual increase based on historical data.
²Operating costs assume a 4.5% annual increase based on historical data

As shown, the total operating costs are expected to grow at a similar rate as total revenue; however this still results in projected deficits of \$400,000 to \$500,00 per year. These projections are based on the the lower ridership growth projection of 1 percent per year without fare increases. Steadily increasing fares based on inflation would generate approximately an additional \$100,000 per year by 2023. While these estimates should continue to be refined, the results reinforce the fact that growth in the tax base alone will not keep pace with increases in costs and not provide sufficient funding for increases in transit service. Annual increases in the millage rate and fares need to occur to keep pace with the inflation of costs.

If costs and revenues could be controlled such that tax revenue from new households could be put towards increasing transit rather than addressing increasing costs of the existing system, the following estimates the amount of additional service that could be funded by growth. This estimate is based largely on the assessed value of homes. For example, if homes are assessed at higher values, fewer

homes are needed to generate the necessary revenue to support a new bus. As such, two appraisal values are shown in Table 6 with the subsequent number of homes needed for comparison purposes.

Table 6 Number of New Home Necessary to Fund a Bus¹

Average Home Assessed Value ¹	Number of Homes
\$118,000	5,700
\$150,000	4,500

Note: ¹Assumes the cost of a bus is approximately \$326,000 per year (see below for additional details)

²\$112,036 was the average assessed value of a home during the 2007/2008 tax year. \$125,613 was the average assessed value of a home during the 2008/2009 tax year.

As shown, 4,500 – 5,700 new homes would need to be added to the tax district to fund one additional bus based on the existing costs per bus for the existing hours and days of operation. The addition of homes could come through the construction of new homes within the district or the annexation of homes outside the existing district. However, these projections are approximate to the total number of new households projected for Klamath Falls through 2037.

While actual future tax revenues are unknown and depend on a number of variables not explicitly accounted for by the estimates shown, the analysis provides an order-of-magnitude estimate about the potential for future service enhancements. For comparison purposes, additional revenue of \$400,000/year could support the following based on an estimated cost of \$326,000² to operate one bus for one year:

- One (1) new fixed route bus (two [2] 30 minute routes or one [1] 60 minute route) (cost estimate: \$326,000/year)
- Lengthen weekday service span by three (3) hours on all routes (cost estimate: \$385,000 year)
- Add six (6) hour Sunday service and extend weekday service by two (2) hours (cost estimate: \$411,000/year)

Summary

- Annual increases in the millage rate and fares need to occur to keep pace with the inflation of costs.
- Klamath Falls' 2037 household growth projections are roughly sufficient to fund one additional bus solely on property tax revenue.

² Estimate based estimated cost of \$86/hour to operate fixed route service today. Existing operating cost information was used to develop this estimate.

BTS SURVEY RESULTS

Surveys of the Basin Transit Staff, Project Advisory Committee (PAC), and users of the transit system were taken throughout the months of January and February 2013. The average rating of the system on a scale of 1 to 5 with 1 being poor and 5 being outstanding was approximately 4.

The following subsections describe the surveys conducted for each user group. The information provided by the respondents should inform the alternatives developed related to the future modification of the BTS system.

Basin Transit Staff

The survey of the Basin Transit staff involved 14 staff members including 11 drivers/supervisors and three maintenance staff. The staff interviewed had been working there an average of 12 and 8.7 years for the drivers/supervisors and maintenance staff, respectively. The average rating on a scale of 1 to 5 with 1 being poor and 5 being outstanding was 3.8 among the drivers/supervisors and 3.5 among the maintenance staff. When asked what could improve the score a variety of answers were given with some of the most common being new bus equipment (vehicles and lifts), bus stop improvements or additions, and reduced headways on existing routes. Recommendations to improve service were also requested. If additional funding was available, the majority of the staff said it should be spent on new buses and lift equipment. Other reoccurring responses were to reduce headways, reduce headways specifically for KCC, and expand the Mainline service areas. Most recommendations involved getting new, improving, or better maintenance of equipment and the service including more service throughout the day or varied depending on demand, more frequent stops, and run times being too short. For a full summary with all the responses received, see Appendix B.

Project Advisory Committee (PAC)

The survey of the PAC involved 6 members from a range of organizations including the City of Klamath Falls, Oregon Department of Transportation, Klamath Tribes, and other local organizations. Half of the interviewees do not use the system or haven't since childhood while the other half represented local organizations that provide services to people that use the transit system frequently for shopping, social, and medical needs trips. The average rating with the same 1 to 5 scale as mentioned previously was a 4.3 with all interviewees saying that the system ran well. If the system were to have additional funding the PAC suggestions included extending the service area or expanding routes, reducing headways, and extending service times. The PAC also had recommendations on additional areas to service. Some of the areas mentioned included the Running Y, Old Fort Road, Shield Crest, the airport and Amtrak Station, Falcon Heights, Henley area, as well as potentially a shuttle hook up to areas beyond. Other general comments and suggestions received included additional pass programs such as for the senior population, good bus service for the size of the community, and smaller, more economically vehicles. For a full summary of the surveys from the PAC, see Appendix C.

Transit Users

Surveys of the riders of the system were handed out and collected by drivers of the buses as well as online. The rider surveys were longer and had more of a variety of questions than the BTS staff and PAC surveys. There were three categories of questions: respondent demographics, trip characteristics, and BTS performance.

Riders between the age of 15 and 24 years old represented the greatest proportion of transit users. The other age ranges from 25 to 74 are each roughly proportionate ranging from 11 to 16 percent of the riders while riders under the age of 14 and above 75 each make up only 2% of riders. 91 percent of the riders had annual income of the less than \$30,000 per year. 63 percent earned less than \$15,000 annually.

The primary purpose of the survey respondents' trip on the day of the survey was asked. The responses were well distributed with no one trip purpose being the majority; however, shopping was the most common response followed by school and work.

The riders were asked to rate the transit system on the previously mentioned scale of 1 to 5. 74 percent of the riders rated BTS with a 4 or a 5 and only 6 percent rated it with a 2 or below. When asked how to improve the system, responses were equally split between:

- Customer Service
- Extend Route
- Fleet Maintenance
- Service Frequency
- Time Reliability
- Transfers
- ITS/Route Information
- Prices and Miscellaneous

Common answers included having the bus drivers be more polite, more bus stops, extend operating hours, buses need to be on time, new buses or better maintenance of buses, post schedules at terminals, better information about transfers, and lower ticket prices. For a full summary of the rider surveys, see Appendix D.

Summary

Respondents generally expressed positive feedback related to BTS and overall service performance. Feedback related to improvement areas followed the following themes:

- New buses or better maintenance as there are many breakdowns
- Request for more stops along routes
- Expanded service hours – daily and weekly
- Expanded service areas – within and outside of existing service area
- Better trained bus drivers on customer service

- Bus routes need to be on time
- More accessible bus route information

TRANSIT SERVICE ALTERNATIVES

Based on the analyses conducted, several future transit alternatives were developed. These alternatives are based on input from a variety of sources and provide a menu of options for how BTS could proceed in the future. A refined set of alternatives will be developed from the alternatives listed and/or other alternatives suggested by project stakeholders. The alternatives are discussed in the following subsections.

Expanded Service Area

Expanding the BTS service areas includes an expansion of the existing service within the current service boundary as well as an expansion of the transit service boundary itself. Both alternatives are discussed herein. It should be noted that expansion of service outside the existing service boundary needs to be coordinated with an expansion of the transit service boundary to collect property tax revenues from those areas based on BTS’ high reliance on property tax revenue.

Internal to existing service area

The developed land within the existing BTS service area is well served in the coverage area of fixed route service. However, as land develops in the future, additional transit supportive areas may be created. Based on current land use projections, Table 7 presents areas within the existing service area with the potential for additional transit service.

Table 7 Internal Service Areas

Internal Service Area	Future Service?
Dan O’Brien Way	Yes – The Dan O’Brien Way area is expected to have enough density in the future to support adequate levels of transit ridership.
Pelican City	No – Future expansion to service Pelican City more readily is likely not feasible due to the Quarry Road underpass and the close proximity of Route 5 to most areas within Pelican City.
Southview	Yes – Southview is already under development. The recent economy has slowed construction, but area is expected to have enough density in the future to support adequate levels of transit ridership.
Basin View	Yes – Basin View is expected to have enough density in the future to support adequate levels of transit ridership.

While these areas represent likely service expansion areas, others areas not currently considered may become viable options in the future, potentially ahead of the areas listed. The *Transit Capacity and Quality of Service Manual* defines “transit-supportive” areas as locations that can support at least hourly transit. Such areas have a minimum of:

- 3 households per gross acre or
- 4 jobs per gross acre.

As such, future development or densification areas that meet these thresholds should be considered for transit service.

One area of note inside the existing transit service area not currently served by fixed route service is the Klamath Falls airport. This facility has been served by fixed route service in the past, but minimal demand and increasingly infrequent airline service have made such a route infeasible under current conditions. If airline service to the airport increases in the future, or flight times change such that airport employees or passengers could be served during BTS hours, such a route could be reconsidered.

External to existing service area

Klamath County has a number of developments, areas, and unincorporated communities currently not served by BTS. The expansion of transit service to these areas has been discussed within the Klamath Falls community for some time, dating back at least to the 1995 BTS TDP update process. Specifically, the following areas are either not currently served by transit service or served by extended service:

- Henley
- Running Y
- Falcon Heights
- Shield Crest
- Merrill
- Malin
- Midland
- Keno
- Chiloquin

These areas should be considered related to the conditions previously outlined. Specifically:

- Is density high enough to support transit?
- Are enough households present to form a viable tax base?

Of the external areas considered, only Keno has the combination of density and total households to feasibly support transit in the future. The others areas are either too spread out or lack the population base to be viable transit options. In the case of Running Y, the users of the resort likely do not have the typical transit demands of a suburban development for commuting, school, or daily need purposes. For Running Y and the other outlying areas, private shuttles or other such services likely present more viable options.

It should be noted that Chiloquin has recently established an agreement for service to and from Klamath Falls.

Decrease Headways/Expand Service Times

BTS drivers and system users have requested that headways and/or service times be expanded to provide more reliable options for users. Under current conditions, funding is not available to provide either. However, as more funding becomes available in the future, expanding service to new areas should be evaluated against providing improved service to existing service areas.

The recently completed Klamath Falls Urban Area Transportation System Plan made recommendations related to frequency and service time improvements. These include:

- Increase frequency on the Mainline (Routes 1 & 2)
- Extend service hours of the Mainline (Routes 1 & 2)

These TSP recommendations should be considered for future improvements to the system, as needed. These improvements should also be weighed against increased demand on feeder lines, if such demand develops. Improvements to Mainline 1 & 2 would benefit OIT students, staff, and faculty. Improvements to Mainline 1 would also benefit KCC students.

Redesign Routes

The existing transit routes in the BTS service area currently provide reasonable coverage to urban area population through fixed route and dial-a-ride options. However, BTS service plans, particularly fixed route lines, should be flexible to meet future demand of its customer base.

- KCC is a popular destination within the BTS service area. Doubling service by removing the Homedale end of Route 2 and doubling up the end of Route 1 would provide half hourly service to KCC. Such a modification should be considered in conjunction with ramifications to the Glenwood area along Homedale Road.
- Alternatively, the end of Route 2 could be the Route 6 loop rather than extend to Homedale. Homedale could become Route 6. This would allow future frequency increases on Mainline #2 to benefit the Walmart/Altamont route which appears to be more used than the end of Mainline #2.
- Either Routes 1 or 2 could be changed to exit downtown using 7th to Elm Street to Market Street to serve the area east of downtown which is currently not being serviced by BTS. Route 1 or 2 should be anticipated to serve the future East Main Extension as well.
- Routes 1 and 2 could extend service hours by three hours to serve evening classes at OIT and KCC. This change would require adding DAR service during the same hours.
- Modify Route 5 to two-way service (+/- 45-minute each direction) from downtown to OIT via Lakeport Boulevard to OR 97 and back to Dan Obrien Way, serving the NEW Corporation area. The Route 3 bus could then serve a new 30 minute loop such as Southview or Basin

View or could be extended as full 60 minute route out to Running Y (This alternative requires an additional bus and driver).

Additional Routes

- New Routes 7 (to Running Y) and 8 (to Keno) could be added to the system on two hour headways on each route, one bus alternating between routes. With these additional routes, Route 3 could be eliminated as much of the route would be served hourly by Route 7 or 8.
- Future demand increases may warrant an express route service between KCC and the downtown area. Such a route could also provide service along the section of South 6th Street currently not served by a bus route.
- See Route 3 discussions above.

Route Timing Adjustment

Several survey responses received indicated that some customers have trouble with making bus transfers due to narrow transfer time windows and frequently late buses causing the transfers to be missed. Route timings should be revisited on an annual basis. Routes should be maintained as 30 and 60 minute loops but the time table and time transfers should be reviewed and consider increasing the buffer time for timed transfers. BTS has periodically evaluated route timings and found transfers are not an issue for the vast majority of users.

Expand BTS Facilities

As transit service in Klamath Falls grows, additional buses may be required, which, in turn, may require additional space for bus storage and/or maintenance. A review of the number of additional buses that could be accommodated at the existing BTS facility with regards to storage and maintenance should be reviewed and compared with the agreed potential for future buses at the conclusion of the alternatives analysis. Expansion of the existing BTS facilities should be considered and/or planned for as necessary. The exact date of such a need is difficult to predict due to the many factors that would determine the appropriate timing of such an expansion. However, the need for additional space or facilities should be considered in conjunction with an expansion of service.

Cost Savings

In the event of projected budget deficits, service cuts should be the last option sought to address budget gaps after all cost savings and feasible revenue increases are exhausted (such as utilizing the 3% annual increase in the millage rate, increasing fares on an annual basis, and increasing the costs of pass programs).

The following identifies potential service cuts that seek to maintain the integrity of the system as a whole to the extent possible.

- Eliminate or reduce Saturday service.
- Eliminate Route 3 and the Homedale segment of Route 2. When Route 5 gets to the downtown transit center it could cover the Eldorado segment of Route 2 to OIT and turn around. The impacts to Dial-a-Ride service costs from this type of major fixed route service cut are unknown.
- Eliminate service on Routes 3 and 5. The impacts to Dial-a-Ride service costs to this type of major fixed route service cut are unknown.

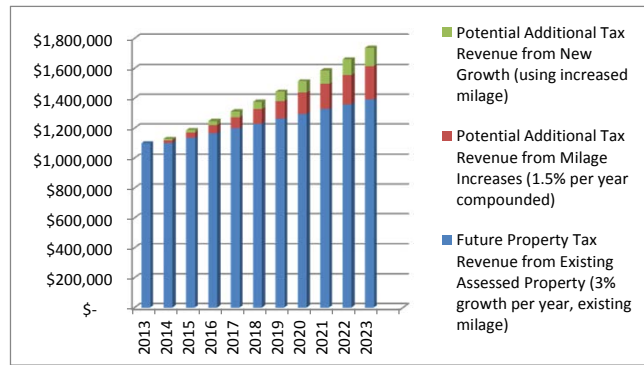
SUMMARY

All of the above alternatives for service enhancements and reductions will be discussed with the PMT, TAC, and PAC for feasibility and potential cost increases and potential savings for inclusion in the Transit Development Plan.

Appendix A
Tax Revenue Calculations

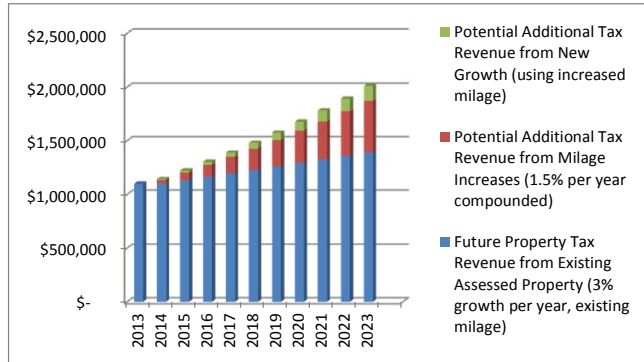
	2013
milage (1.5% per year increase - compounded)	0.4822
milage actual	0.4649
Tax Efficiency	96%
Total Assessed Value (3% per year straight line)	\$ 2,360,873,903.00
Future Property Tax Revenue from Existing Assessed Property	\$ 1,097,663.00

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Assessed Value (3% per year straight line)	\$ 2,360,873,903	\$ 2,431,700,120	\$ 2,502,526,337	\$ 2,573,352,554	\$ 2,644,178,771	\$ 2,715,004,988	\$ 2,785,831,206	\$ 2,856,657,423	\$ 2,927,483,640	\$ 2,998,309,857	\$ 3,069,136,074
Future Property Tax Revenue from Existing Assessed Property (3% growth per year, exis	\$ 1,097,663	\$ 1,102,212	\$ 1,134,315	\$ 1,166,418	\$ 1,198,522	\$ 1,230,625	\$ 1,262,728	\$ 1,294,831	\$ 1,326,935	\$ 1,359,038	\$ 1,391,141
Potential Milage Rate Increases (1.5% per year - compounded)	0.4822	0.4894	0.4968	0.5042	0.5118	0.5195	0.5273	0.5352	0.5432	0.5513	0.5596
Tax Efficiency	96%	94%	94%	94%	94%	94%	94%	94%	94%	94%	94%
Potential Additional Tax Revenue from Milage Increases (1.5% per year compounded)	\$ 16,533	\$ 34,285	\$ 53,280	\$ 73,546	\$ 95,108	\$ 117,993	\$ 142,231	\$ 167,847	\$ 194,872	\$ 223,335	\$ 263,854
New Homes (141 per year)	0	141	282	423	564	705	846	987	1128	1269	1410
New Assessed Value (3% increases per year - straight line)	\$ 118,000.00	\$ 121,540.00	\$ 125,080.00	\$ 128,620.00	\$ 132,160.00	\$ 135,700.00	\$ 139,240.00	\$ 142,780.00	\$ 146,320.00	\$ 149,860.00	\$ 153,400.00
Assessed Value from New Growth	\$ -	\$ 17,137,140.00	\$ 35,272,560.00	\$ 54,406,260.00	\$ 74,538,240.00	\$ 95,668,500.00	\$ 117,797,040.00	\$ 140,923,860.00	\$ 165,048,960.00	\$ 190,172,340.00	\$ 216,294,000.00
Potential Additional Tax Revenue from New Growth (using increased milage)	\$ -	\$ 8,387.48	\$ 17,522.51	\$ 27,433.06	\$ 38,147.89	\$ 49,696.57	\$ 62,109.47	\$ 75,417.83	\$ 89,653.72	\$ 104,850.12	\$ 121,040.89
TOTAL POTENTIAL PROPERTY TAX REVENUE	\$ 1,097,663	\$ 1,127,133	\$ 1,186,122	\$ 1,247,132	\$ 1,310,215	\$ 1,375,429	\$ 1,442,831	\$ 1,512,480	\$ 1,584,436	\$ 1,658,760	\$ 1,735,517



	2013
milage	0.4822
milage actual	0.4649
Tax Efficiency	96%
Total Assessed Value (3% per year straight line)	\$ 2,360,873,903.00
Future Property Tax Revenue from Existing Assessed Property	\$ 1,097,663.00

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Assessed Value (3% per year straight line)	\$ 2,360,873,903	\$ 2,431,700,120	\$ 2,502,526,337	\$ 2,573,352,554	\$ 2,644,178,771	\$ 2,715,004,988	\$ 2,785,831,206	\$ 2,856,657,423	\$ 2,927,483,640	\$ 2,998,309,857	\$ 3,069,136,074
Future Property Tax Revenue from Existing Assessed Property (3% growth per year, exis	\$ 1,097,663	\$ 1,102,212	\$ 1,134,315	\$ 1,166,418	\$ 1,198,522	\$ 1,230,625	\$ 1,262,728	\$ 1,294,831	\$ 1,326,935	\$ 1,359,038	\$ 1,391,141
Potential Milage Rate Increases (3% per year - compounded)	0.4822	0.4967	0.5116	0.5269	0.5427	0.5590	0.5758	0.5930	0.6108	0.6292	0.6480
Tax Efficiency	96%	94%	94%	94%	94%	94%	94%	94%	94%	94%	94%
Potential Additional Tax Revenue from Milage Increases (1.5% per year compounded)	\$ 33,066	\$ 69,080	\$ 108,158	\$ 150,425	\$ 196,007	\$ 245,035	\$ 297,648	\$ 353,986	\$ 414,198	\$ 478,436	\$ 549,811
New Homes (141 per year)	0	141	282	423	564	705	846	987	1128	1269	1410
New Assessed Value (3% increases per year - straight line)	\$ 118,000.00	\$ 121,540.00	\$ 125,080.00	\$ 128,620.00	\$ 132,160.00	\$ 135,700.00	\$ 139,240.00	\$ 142,780.00	\$ 146,320.00	\$ 149,860.00	\$ 153,400.00
Assessed Value from New Growth	\$ -	\$ 17,137,140.00	\$ 35,272,560.00	\$ 54,406,260.00	\$ 74,538,240.00	\$ 95,668,500.00	\$ 117,797,040.00	\$ 140,923,860.00	\$ 165,048,960.00	\$ 190,172,340.00	\$ 216,294,000.00
Potential Additional Tax Revenue from New Growth (using increased milage)	\$ -	\$ 8,511.43	\$ 18,044.24	\$ 28,667.36	\$ 40,453.42	\$ 53,478.88	\$ 67,824.24	\$ 83,574.22	\$ 100,817.93	\$ 119,649.14	\$ 140,166.40
TOTAL POTENTIAL PROPERTY TAX REVENUE	\$ 1,097,663	\$ 1,143,790	\$ 1,221,439	\$ 1,303,244	\$ 1,389,400	\$ 1,480,110	\$ 1,575,588	\$ 1,676,054	\$ 1,781,739	\$ 1,892,885	\$ 2,009,744



Appendix B
BTS Driver Survey



MEMORANDUM

Date: January 16, 2013 Project #: 12799
To: Project Advisory Committee
From: Susan Wright, PE, Robert Kniefel, PE
Project: Basin Transit Service TDP
Subject: Staff Survey

Following is a summary of a survey taken on January 9, 2012. The survey involved 14 staff from Basin Transit Service including 11 Drivers/Supervisors and 3 maintenance staff. These responses will inform the development of the TDP.

1. How many years have you been an employee of Basin Transit Service?

The average driver interviewed had been with the system for 12 years and the average maintenance person for 8.7 years.

2. Are you a full time or part time employee?

All but one employee interviewed was a full time employee.

3. What is your overall impression of the Basin Transit Service (1 to 5, with 1 being poor and 5 outstanding)?

The average rating from the drivers/supervisors was 3.8 with the maintenance staff slightly less at 3.5.

4. If your overall rating in question 2 was less than outstanding, what does BTS need to do to improve your evaluation?

The comments focused on a few different areas including the following:

- a. New bus equipment (vehicles and lifts) was mentioned by most of the respondents
- b. Bus stop improvements or additions
- c. Reduced headways on existing routes
- d. Expand service area
- e. Parts Inventory system
- f. Improved Maintenance Equipment
- g. Improved communications between all staff members (drivers, supervisors, maintenance, and admin.)
- h. Stickers for OIT and KCC too small to read

5. If additional funding was made available should the focus be on adding new service areas, reducing the times between buses, improving the bus/bus stop facilities or other items?

There was variety of responses. They are listed below in frequency order:

- a. New buses and lift equipment – 8 responses
- b. Reduce headways – 3 responses
- c. Reduce headways for KCC – 2 responses
- d. Expand mainline service areas – 2 responses
- e. Individual responses
 - i. Expand Feeder route service areas
 - ii. Improve Bus stops
 - iii. Review route schedules
 - iv. Add more bus stops
 - v. Provide a downtown driver restroom

6. Do you have any recommendations dealing with the vehicles, transit centers, bus stop amenities or service policies that would help improve the service?

- a. Run times are too tight - 2
- b. Good job of making money work
- c. expand shop to include inspection pit
- d. Policies are good
- e. Detroit Diesel 40 engines are bad
- f. Good relationships with other agencies
- g. More service during the day
- h. More efficient ways to serve need
- i. Expand Feeder Routes
- j. Overall good management and drivers
- k. Yield signs on all buses to help buses get back into traffic
- l. Improved wheel chair lifts
- m. Bus name signs on exterior of buses with more route information
- n. Do not pull into hospital lot, too many problems
- o. Stronger police effort to deal with cars parked in bus stops
- p. More frequent stops
- q. Better maintenance
- r. Longer bus bay at Downtown Transfer center (blocks driveways)
- s. Policy on how to handle strollers (very lax)
- t. Enforce priority lower seating areas for H/C and Seniors

- u. More cup holders on buses
- v. Need new equipment to have good service
- w. 96% of connections made
- x. Route times same all day but maybe should vary according to traffic or weather conditions
- y. Need bigger sander or have the local government do priority sanding and snow plowing
- z. Consider using an automated bus ticket sales machine

Appendix C
PAC Member Surveys



MEMORANDUM

Date: February 27, 2013 Project #: 12799
To: Project Advisory Committee
From: Susan Wright, PE, Robert Kniefel, PE, Jenny Miner
Project: Basin Transit Service TDP
Subject: PAC Survey

Following is a summary of a survey taken in January and February 2013. The survey involved 6 members of the Project Advisory Committee (PAC) from a range of organizations including the City of Klamath Falls, ODOT, Klamath Tribes, and other local organizations. These responses will inform the development of the TDP.

1. For reference, do you or any of your family/organization members use Basin Transit System? How often and for what type of trip (work, shopping, medical, other)?

Half do not use the system or haven't since they were younger. The other half were involved with the local organizations and the transit system is used frequently for shopping, social, and medical needs.

2. What is your overall impression of the Basin County Transit System (1 to 5, with 1 being poor and 5 outstanding)? For this rating please consider people served, the areas served, the bus schedules, the value of the transit system to the community, the cost of the system, the transit facilities, the bus stops, the transit vehicles, the system staff, the availability of system information, etc.

The average score was four with two fives.

3. If your overall rating in question 2 was less than outstanding, what does BTS need to do to improve your evaluation?

The comments focused on a few different areas including the following:

- a. Think strategically for the upcoming biennium; ways to plan for future funding
- b. Large headways make the system hard to use
- c. Lack of incentive to ride as there are no parking fees

4. If additional funding was made available should the focus be on adding new service areas, reducing the times between buses, improving the bus/bus stop facilities or other items?

There was variety of responses. They are listed below in frequency order:

- a. Extend service area/expanding routes – 4 responses

-
- b. Reduce headway – 3 responses
 - c. Extend service times; 7 days a week, more hours per day – 1 response
5. Are there specific areas of the county that aren't being served but would benefit from transit, and why should these areas be considered?
- a. Running Y
 - b. Old Fort Road
 - c. Shieldcrest
 - d. Airport
 - e. Amtrak Station
 - f. Falcon Heights
 - g. Henly area
 - h. Shuttle hook up with BTS for:
 - i. Keno
 - ii. Merrill
 - iii. Malin
 - iv. Bonanza
 - v. Dairy
 - vi. Chemult
6. Please provide us with any other comments or suggestions that you feel should be considered as we work to improve the transit system.
- a. Many buses don't appear very full; smaller, more economical vehicles may be appropriate.
 - b. Annual passes for OIT and KCC help to maintain consciousness on the part of the younger people of the value of public transit.
 - c. Addition pass programs; possibly for the senior population, etc.
 - d. District expenses for the past two years have exceeded the district's revenue. Long term planning should recommend service adjustments that are within projected revenues. Recommendations for how the district might acquire new revenues that can be sustained over the long term should be explored.
 - e. Stable funding from local taxes really helps.
 - f. Great partner for ODOT.
 - g. Pretty good bus service for the size of the community.

Appendix D
BTS Rider Surveys



MEMORANDUM

Date: February 28, 2013

Project #: 12799

To: Project Advisory Committee

From: Susan Wright, PE, Anais Malinge

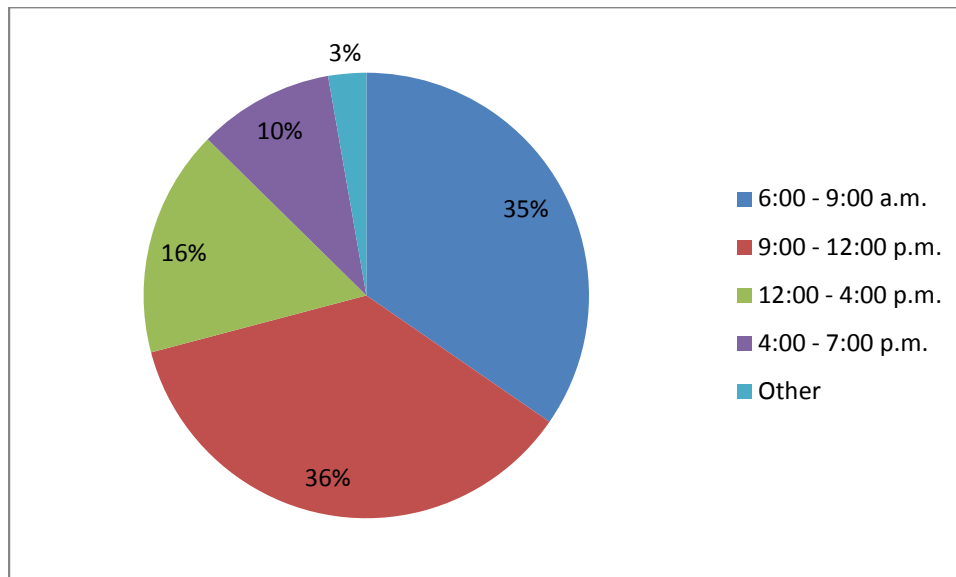
Project: Basin Transit Services TDP

Subject: Rider Survey

The following memorandum summarizes and analyzes the rider survey responses regarding the Basin Transit Service. Surveys were handed out and collected by drivers on the buses from January 28th to February 10th, 2013. A total of 217 usable responses were received. Attachment "A" includes copies of the surveys distributed on each bus route.

As shown in Exhibit 1, the surveys were primarily completed between 6:00 a.m. and 12:00 p.m. This is not a reflection of the daily ridership trend; rather, the surveys were more available in the mornings. The survey responses are therefore more representative of people's first bus trip of the day rather than a return trip.

Exhibit 1: Time of Survey Collection

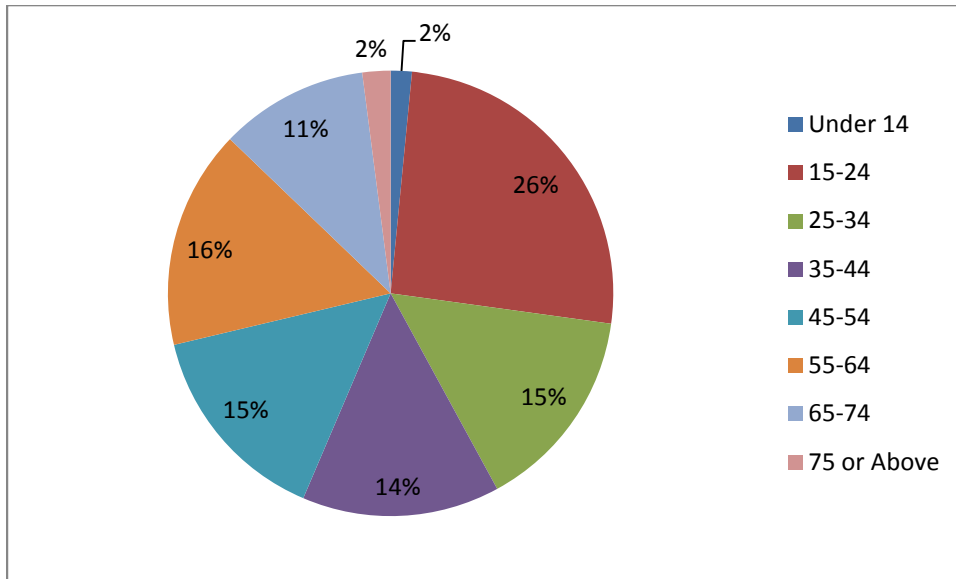


The rest of the survey results are summarized in three sections; Respondent Demographics, Trip Characteristics, and BTS Performance.

RESPONDENT DEMOGRAPHICS

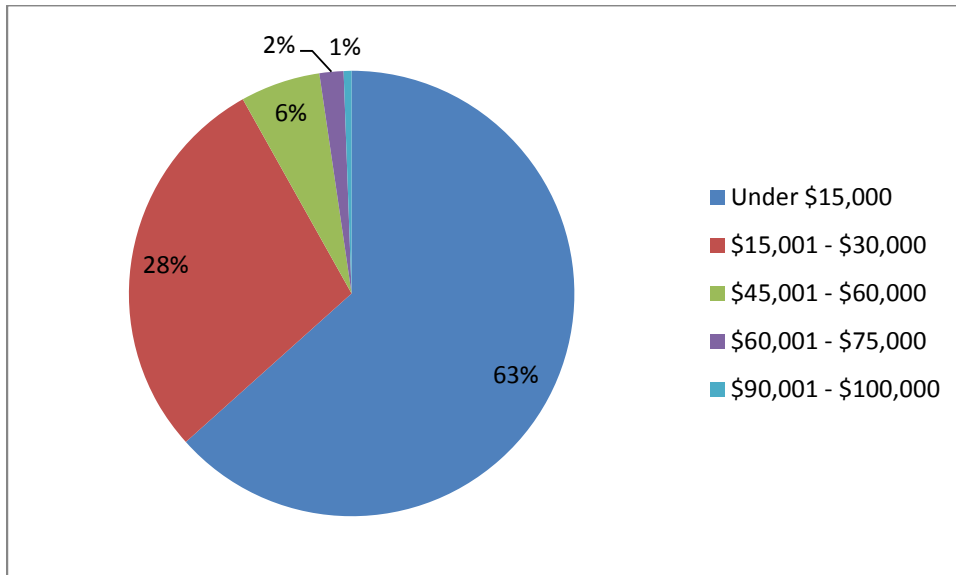
Bus riders between the age of 15 and 25 years old make up the greatest proportion of riders (26%), relative to other age ranges. As shown in Exhibit 2, riders in the other age ranges from 25 and 74 are each roughly proportionate ranging from 11 to 16 percent. Riders under the age of 14 and 75 and above each make up only 2% of riders, respectively.

Exhibit 2: Rider Age



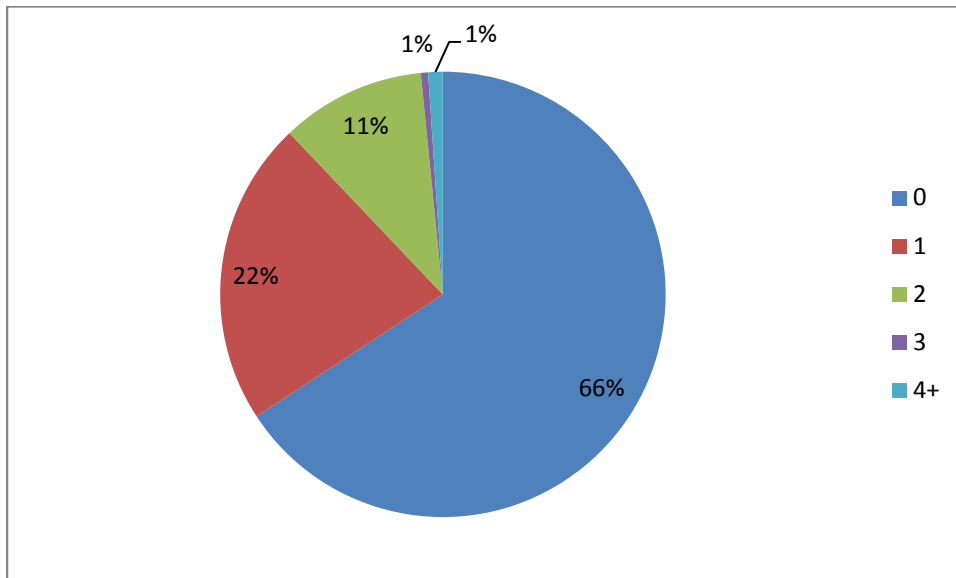
As shown in Exhibit 3, 63% of survey respondents earn less than \$15,000 annually, and 91% earn less than \$30,000 annually.

Exhibit 3: Annual Income



As shown in Exhibit 4, 66% of survey respondents do not own a motor vehicle.

Exhibit 4: Vehicle Ownership



TRIP CHARACTERISTICS

Exhibit 5 shows the survey response distribution by route. As shown, 37% of survey respondents were on Mainline 1 (North and South), 16% on Mainline 2 (North and South). 22% of the responses came from Feeder Route 3 – 5 and 20% came from Feeder Route 4 -6. These numbers reflect that surveys were well distributed among each route and do not directly correlate to ridership on each route.

Exhibit 5: Route Use

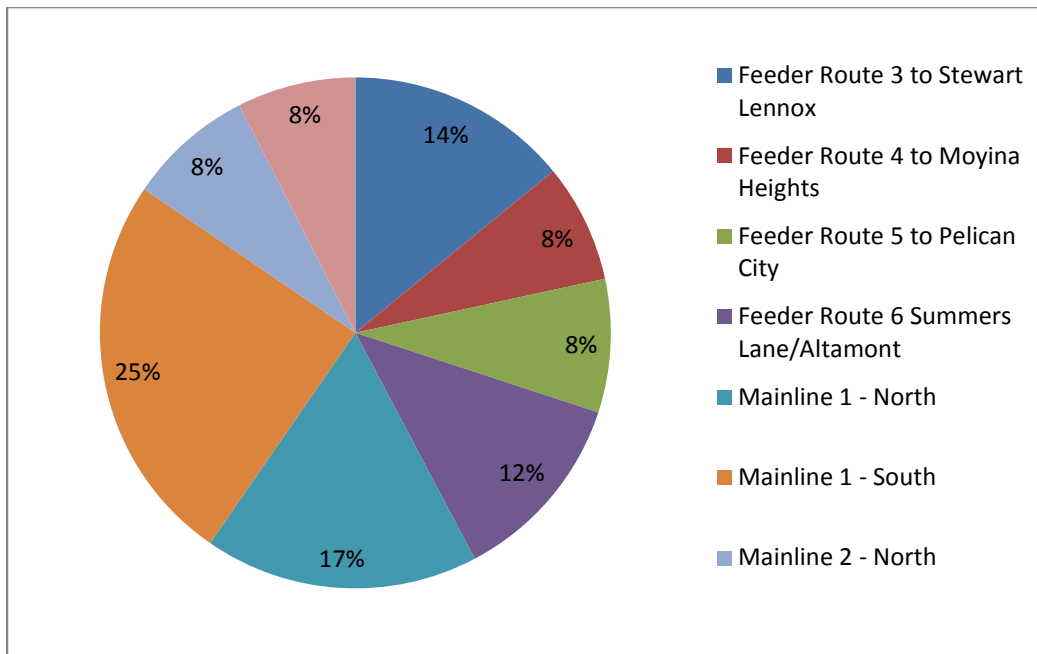


Exhibit 6 summarizes the average trip length for each survey respondent. 73% of trips were reported to be less than 30 minutes with only 3% reported as greater than an hour.

Exhibit 6: Trip Length

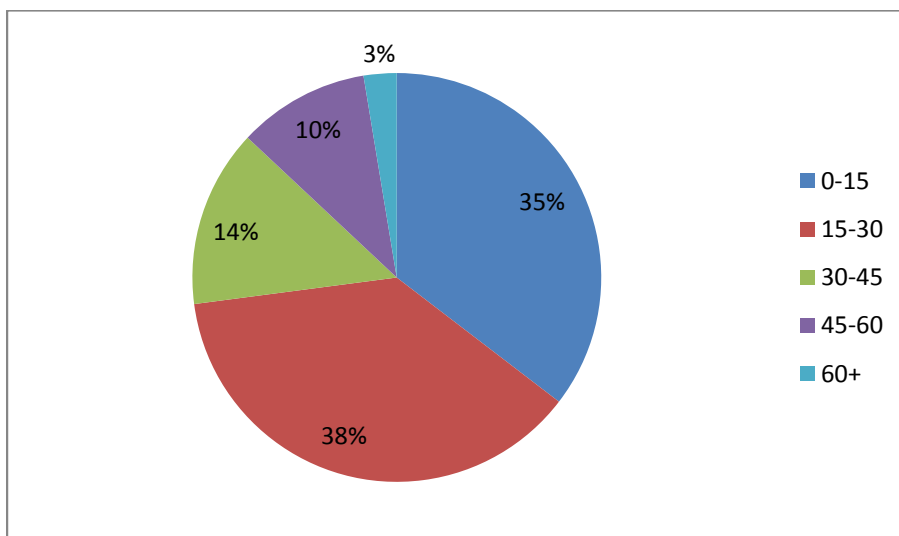


Exhibit 7 summarizes the number of bus trips per week each survey respondent reported. Only 26% use the bus for less than 3 trips per week. A bus trip to and from work each day would be two trips. 22% of riders appear to ride the bus two directions five days per week with 73% riding the bus at least 2-3 times per week round trip.

Exhibit 7: Trip Frequency (Reported Bus Trips per Week)

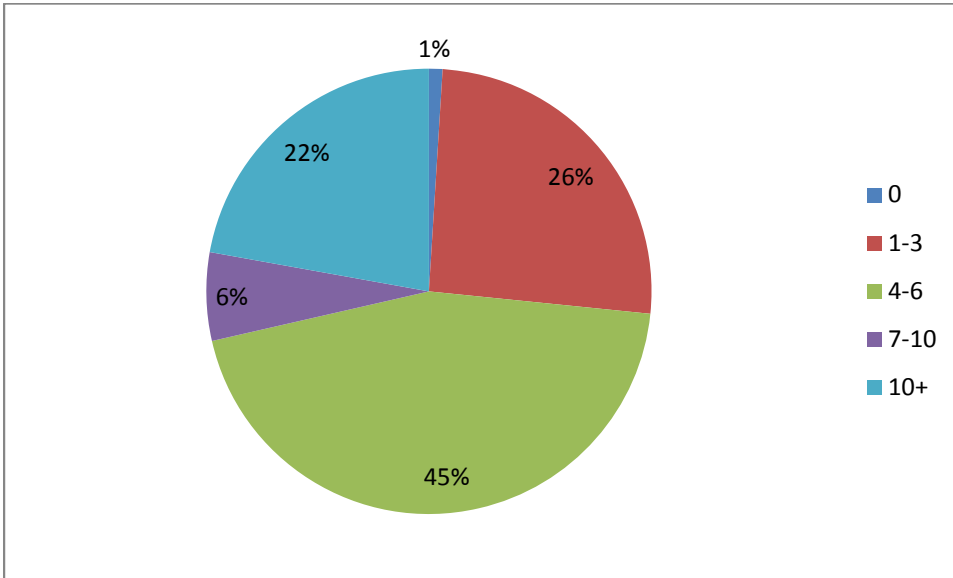
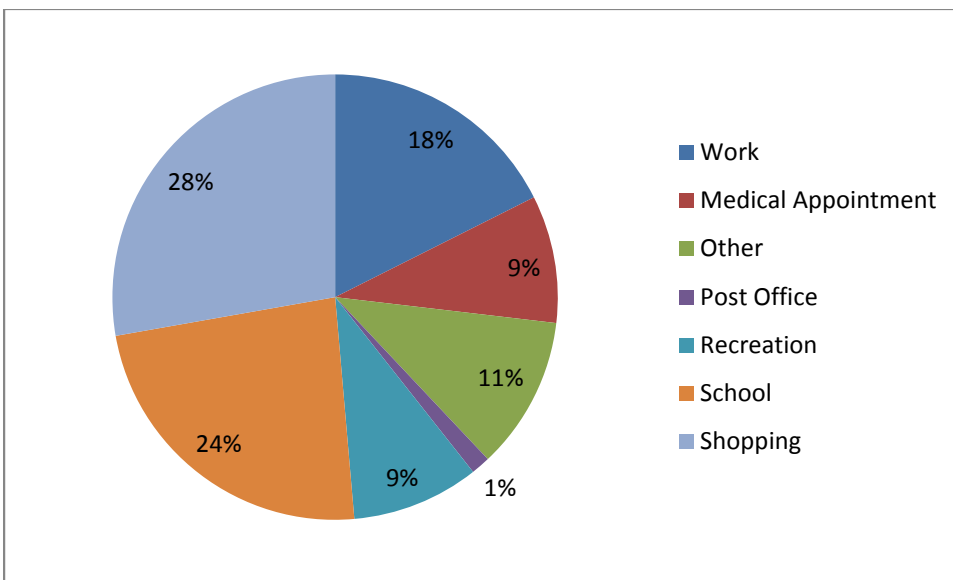


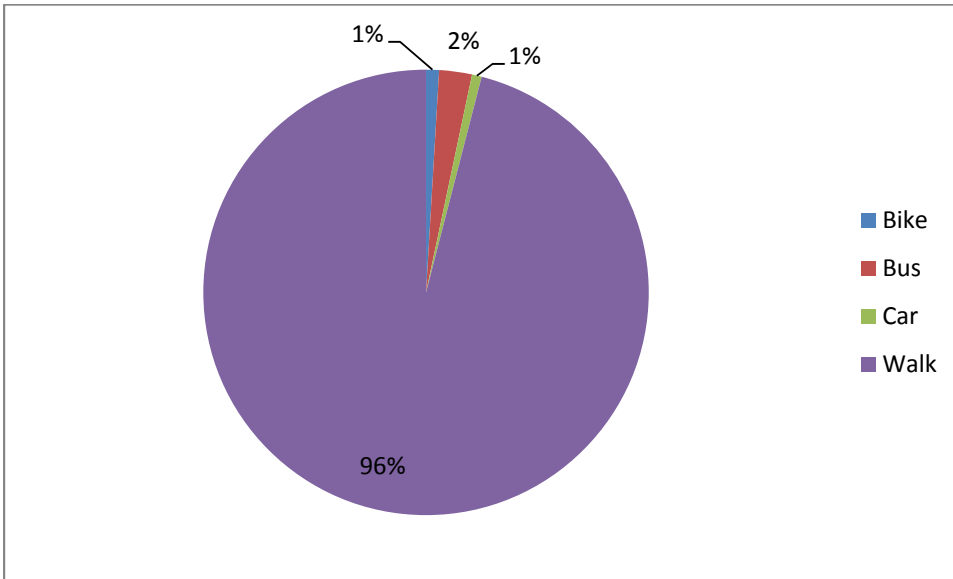
Exhibit 8 summarizes the primary purpose of the survey respondents' trip on the day of the survey. The responses were well distributed with no one trip purpose being the majority; however, shopping was the most common response followed by school and work.

Exhibit 8: Trip Purpose



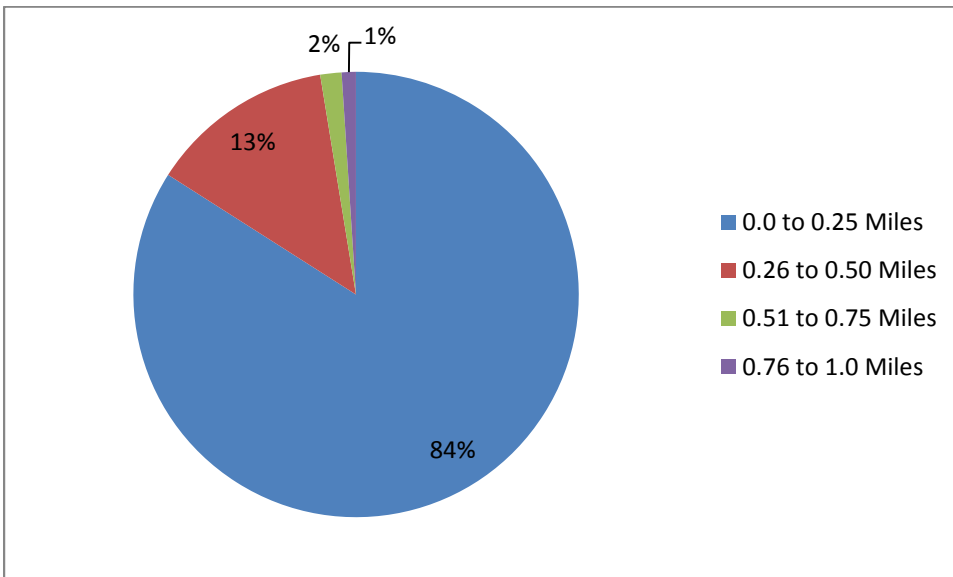
As shown in Exhibit 9, the gross majority of respondents access BTS bus stops by walking.

Exhibit 9: Mode to Access Bus Stop



As shown in Exhibit 10, 84% of riders walk less than ¼ mile to the nearest bus stop with 97% walking less than ½ mile.

Exhibit 10: Distance to Bus Stop by Walking

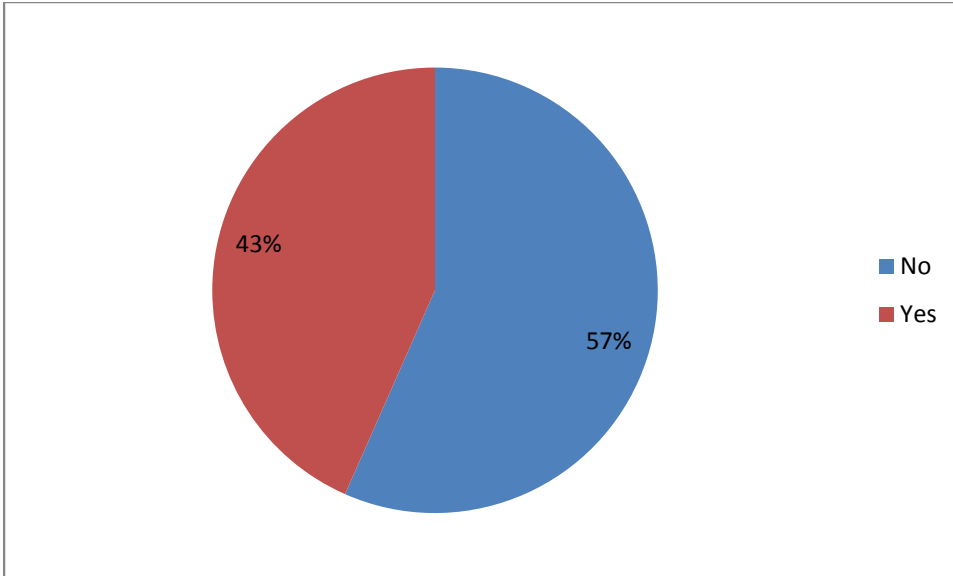


The specific start location for those respondents who reported walking between 0.26 and 0.50 miles and more than 0.50 miles, respectively, are provided below.

0.26 to 0.50 Miles	0.51 or More Miles
Avalon & South 6th	E. Main
Craterlake	Wantland Ave
Fred Meyer	Lakeport Drive
Walnut & S. 6th	
Walk/Summers	
Across from senior	
Walmart	
Kamath & Walnut	
Main & 8th	
Aurthur	
9th & Main	
By Double C	
Main/ Pine	
Cliffard and Upham	
Highway 97	
3rd & Lincoln	
Lavern Avenue & Altamont	
3rd & Lincoln	
3rd	
Balsome & Emerald	
1st St. & Main St.	
7th and Main	
Downtown transfer	
631 S 5th St	

As shown in Exhibit 11, 57% of survey respondents reported that they did not transfer buses to complete their trip. 43% of riders reported that they did need to transfer to complete their trip.

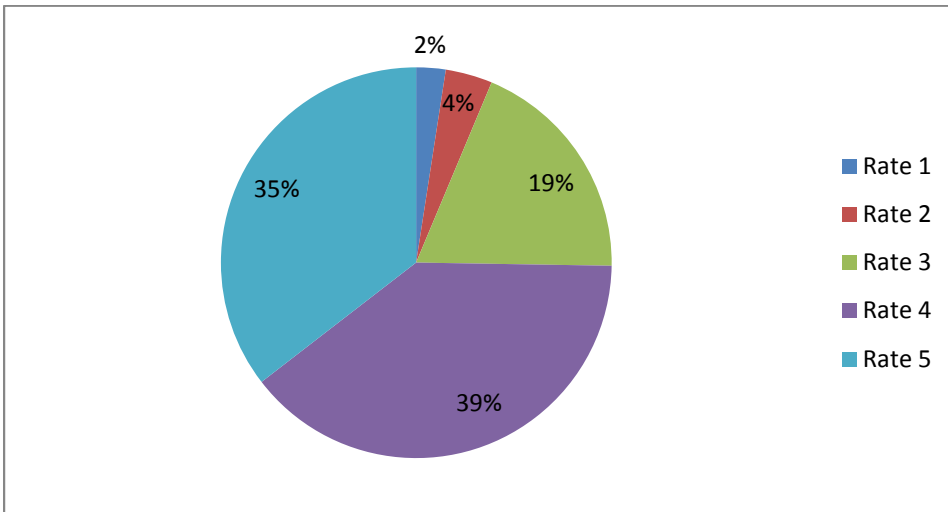
Exhibit 11: Bus Transfer



BTS PERFORMANCE

Survey respondents were asked to respond to the following questions: “What is your overall impression of the Basin Transit Service (1 to 5, with 1 being poor and 5 outstanding)? *Please consider the people and area served, bus schedules, value of the transit system to the community, cost of the system, facilities, bus stops, vehicles, and staff, and the availability of system information, etc.*” As shown in Exhibit 10, 74% of respondents rated the Basin Transit Service with a 4 or a 5, with 5 being the best rating. Only 6% rated it with a 2 or below.

Exhibit 10: Basin Transit Service Overall Rating



If survey respondents responded less than outstanding (less than 5) they were asked what BTS could do to improve. All responses are included below sorted by several themes.

Customer Service
Mean drivers
Be more courteous. Don't be so rude.
Bus drivers need to be more on time to bus stops and have happy attitudes and a smile on their face.
Bus drivers need to communicate better.
Fire <i>Driver A</i>
Get better and calmer drivers
Get better and calmer drivers
Get rid of <i>Driver A</i>
Having people give up their seats and also not block the isle.
Have older people that have worked here a long time drive.
I would just say that some of the staff is nicer than others.
Most drivers are friendly to riders but not all.
OIT students need 2 cards to ride; I feel 2 IDs is unnecessary.
One of the drivers had no sense of schedule, she makes her own. We cringe when we see her driving. At least 90% of the time we are transferring we will miss the transfer because we're always late.
Put Sr. age back to 60
<i>Driver A</i> needs to be nicer
Some bus driver suck, like <i>Driver A</i> , she's rude as hell!
Some drivers are indifferent to the obligations passengers have by running late, whatever route these drivers are on they consistently run behind. Because of their inconsiderate attitudes the passenger's suffer consequences that affect their lives. My suggestion to regularly update training to Senior Drivers the importance of "service" what and who is service.
Some drivers are mean. Cleaner smell.
Some EVENING drivers are short and somewhat rude about stops downtown.
Some of the bus drivers are really rude.
Some of the drivers get a little rude sometimes.
Sometimes the drivers are rude but not usually.
The ladies are pretty unfriendly except for the brown haired one
The niceness
Extend Route
A stop at the Open Door Clinic
Closer bus stop to my house on Alva to Walmart (have to walk with a cane)

Connecting Walmart bus with downtown bus
I just wish they made more stops
More access
Express routes
More bus stops on 3rd St. (Pelican City)
More routes out to KCC
More stops
Route going to New Pilot Station
Routes irregular stops, doesn't cover major intersections 6th/Wash. etc. Less duplication
Run Sundays
Second bus to KCC
Stops at places closer to the place that I'm going!
Sunday service
They need more routes
Would like a long stop closer to the side walk to Alva St. (hard for me to walk)
Fleet Maintenance
Fix buses so there are no breakdowns
The bus needs to be cleaned
Air condition. A place for the strollers.
Air conditioning
Better maintenance
Better maintenance on buses or new ones. People need to get to their destination on time so little or no breakdowns.
Better repairs and maintenance
Better repairs and maintenance
Bus repair. Move stops/routes. Evening hours. Lower fares.
Clean the buses
Equipment, Later schedule for KCC so we can work and go to night school, Short bus - running later per KCC students.
Fix the buses
Get new buses - breakdown and delays. More days, more time, come every 30 minutes instead of 1 hour.
Get new buses that handle better.
Getting new buses would be of great importance. Or getting better upkeep on them so that they don't break down. People have places they need to be on time.
Newer buses

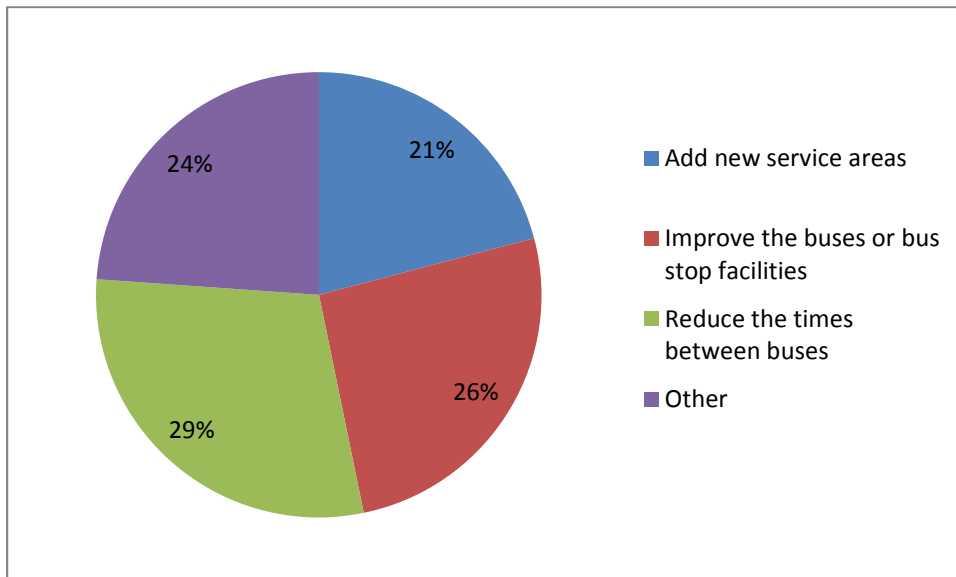
New buses or better maintenance on them
Replace both mainline buses
Seating
Vehicles need more TLC
Wash seats
Service Frequency
More times
Increase service on Saturday to 2pm
Add half day service on Sunday
Crowded
Everything is good except for the hour between times on 4/6 route
Getting to work on the weekends is annoying without the bus
Have different and more frequent stops, especially to Walmart.
Increase service Hours on Saturday. Add Sunday service
Less time between buses and to run later in the night.
Longer hours
Longer hours
more bus times; more bus service
More buses
More frequent stops for OIT students living off campus
More Saturday hours. Extend hours.
More stops, less time
Needs to run later
Obtain more money to get more buses to transport outside the mainline and KCC on the half hour. There may be other needs in areas not served too.
Reduce times between pickups and drop offs and run later. Easier access to disabled programs.
Run later hours
The only thing is more hours.
Time schedule. I need earlier bus schedule from 5 am to 6 am or early 6am
Wait times
Reliability
Less waiting at stops.
It is sometimes not on time.
Be on schedule
Be on time.

Better time - not being 10 minutes late.
Buses don't run on time. Sunday is consistently late and we miss transfers.
It's just late
Try to stay on schedule; I was late to KCC 2 of 3 times a week.
On time buses
Wait time
Staying on Schedule.
They are almost always late.
Time consistency
Time occasionally
Timeliness in winter
Times; buses are always late. The feeder 3/5 breaks down frequently and I get held up too long.
Timing
Wait time for feeders length of service available
Transfers
Change time to make sure connections are made for example KCC's; 4S either more frequently or more buses
Feeders need to be able to meet mainlines on time.
Feeders need to be able to meet mainlines so one can arrive at destination on time.
Have buses WAIT for feeder
Have the main line wait for the feeder route
Missing connections from downtown makes me late to work
Longer wait at downtown route to falcon heights
Schedule buses to where if the transit leaves without the mainline there, there is still time to walk to Walmart and make it on the hour. This is a repeated issue!
Transfer usable at other locations. Route should run more in the morning and in the evening.
ITS/ Route Info
Better indicators as to when the bus arrives/departs at stops or ITS/ Route Info route
Better information about transfers
Better understanding of which bus and what route is best.
I need help taking the right route. You could put the route inside the bus.
Post schedule at downtown terminal
Post schedule at downtown/fairgrounds transit
Put schedules at terminals
Prices

It would also be nice if the passes were a little cheaper.
Just the prices
Lower cost
Lower the cost to get on.
Cheaper fair
Pricing
Run later. Price
The cost is high and I often cannot ride the bus when I need to.
The price is too high and Saturday times.
Miscellaneous
More time for shopping
Public bathrooms

Survey respondents were then asked, “If BTS had additional money, what should they do first?” As with the responses above on ways to improve service, Exhibit 11 shows the responses to this question were split fairly evenly between adding new service, improving buses or facilities, reducing the times between buses (i.e. increasing frequency), and “other”.

Exhibit 11: If Basin Transit Service had additional money, what should they do first?



The following summarizes the responses of those that answered “other”.

If Answered Other
30 minute pick up instead of 60
4 way stop at downtown bus station so people don't get hurt anymore.
Add an express route down 6th
Add more locations for bus stops
Add new service and lower the prices like the good ol' days.
All of the above and 2 buses on Sunday.
All of the above and buses should operate later (10pm). Students often work late and need to be able to get home!
All of the above and more stops.
Bench at all stops
Buy new buses
Change bus TIMES not routes
Clean the seats
Do repairs on them when they actually break down
Do repairs on them when they break down
Extra set hours. All the above, stagger feeders so people can make their transfer, Sunday service. Feeders to meet mainlines
Fix the buses and get new ones
Get better drivers!
Get new buses
Give you slip
Less money and kids free
Let the board decide what is needed
Longer hours
Lower costs
Lower price of fares
Lower prices and/or free rides for kids under 18
Make 3/5 and 4/6 on the quarter after and quarter till
Maybe add a few more stops.
More pickup/dropoff locations
More routes
More stops
New bus
New buses

Not a thing
Operating more hours
Put larger no smoking signs in the terminals
Run on Sundays and early evenings
Run later
Run later
Run longer hours
Run more
Run on Sunday
Seats clean and repair
Seniors all day pass 1 or 2 dollars
Start earlier on Saturdays
Sunday bus
Tram system would be nice but unlikely
Try to lower bus pass cost
Twice an hour to KCC

Survey respondents were then provided one additional opportunity to provide feedback which is reported below.

Do you have any other comments or suggestions that you want us to consider as we work to improve the transit system?
New and easier map pamphlets. Currently hard to understand or read. - Trash cans at stops. - A shelter at Mia Pias business stop and others
1. Increase service on Saturday to 2pm 2. Add half day service on Sunday
30 minute routes to Walmart
Additional trash cans or shelters
Adjust times
All areas need improvement.
All bus drivers are very nice and friendly.
All the drivers I've seen are pretty pleasant for the most part and I appreciate them all.
At peak times add more buses
Bathrooms
Better ventilation. Too much exhaust smell on one of your buses.
Bike racks

Change 3-5 and 4-6 schedule. Less chance of not making connection
Cheaper fares
Drivers are excellent - professional and on time.
Earlier times/Later hours
Free for students. Having more than 1 commuting line running so if we miss a transfer we can get on the next one.
Friendlier and more knowledgeable drivers
Given the cost of dial a ride decreasing distance between stops will assist many who find it difficult to walk at time or all the time.
Have more stops so we don't have to walk so far. For example, have a stop at Open Door.
Hire friendly drives. A few are unfriendly.
Honestly <i>Driver A</i> is not very nice like other drivers. She never smiles and has a negative disposition. Bus drivers need to have smiles.
I suggest having more stops and more buses.
I think it is a pretty good system overall
If you are disabled and under 65 and not wheelchair you don't get discount while on fixed income.
Improve buses
Improve buses and stop facilities
Improve the buses and bus facilities
It is a good thing to have buses here in Klamath Falls and for many years to come in the near future
It needs to be on time.
It would be much easier to get on if the fare was a dollar.
Just be nice.
Just having routes that stop at the main stops every half an hour - like the 4/6 route
Larger front seating for disabled/baby stroller/etc
Let mainlines wait on feeders
Longer bus hours in the evening please! 7:30 pm is too short
Longer hours for all buses
Longer Saturday service
Lower rate
Make 4/6 and 3/5 separate routes
Make bus stops enclosed but transparent and have heaters in them that are only on in the winter.
Make sure drivers are first rate and care about the people safety and polite. Thanks.
Maybe a discount for lower income residents.
Maybe more helpful communication.

More bus stops. Cheaper rates.
More niceness and more time for the busser
More routes to KCC
More stops
More stops around town and out to KCC along 6th st.
Most are very friendly helpful drivers. Thanks!
MOST of the bus drivers are pleasant. Sometimes a driver punches the time wrong on the transfer slip and I have to pay to get back on. Happens occasionally.
Need new buses
Need second bus service to KCC
Need this bus everyday please
Need trash cans at certain places
New bus maps because people have a hard time understanding the current ones. More trash cans and shelters like at the Mia Pais stop.
New buses
One driver is very rude and others are good. 3 are great.
Overall I'm satisfied.
Please increase the number of buses in an hour
Reduce times between buses.
Require people to fold strollers or use small ones.
Run on Sundays.
Saturday service to 7pm. Add Sunday service (same as Saturday)
Separate smoking
Shelter, trash, and no smoking.
Shorter distance between stops, increase Saturday hours.
Should use traction device during the winter when needed. Need to take less time to get out to Walmart and back in 3 hrs. Round trip run longer hours on all routes.
Start earlier and run later (early work shifts)
Start time for the buses need to be earlier for the 4/6 feeder. Later time schedules on weekends and Friday evenings, especially to Walmart.
Tell drivers not to be so rude!
Thanks for discount students passes!
There are 3 drivers that are great! One man is very rude.
They need more working buses.
They need new buses
Time adjustments on the routes w/increasing riders.

Too many breakdowns. Improve on maintenance
Train staff more in awareness of disabled (mental and physical) patrons.
Transfers should be used at any stop in the same direction.
Why are you so nosy about my life beyond the bus?
Wish there was a stop at the summit of clover. Difficult walk uphill.
Without BTS I would not be able to go to KCC or regular shopping needs. Seats need to be cleaned and need cushions replaced.
You people rule.

SUMMARY

The following summarizes the findings of the BTS rider survey that was conducted over a several day period in late January/early February, 2013. The findings include information on rider demographics, trip characteristics, BTS performance, and areas for improvement. A total of 217 usable responses were received and include good representation from each fixed bus route. In general, BTS riders tend to be of all ages, fairly dependent upon transit, frequent riders that use the system for all types of trips, and generally satisfied with the service. A significant amount of feedback was received on areas to improve; however, this feedback was very well distributed among a variety of areas.

Demographics

- **Age** – The age profile of BTS riders is fairly well distributed in each age bracket from 15 to 74; however, the largest proportion (26%) is between the age of 15 and 24 years old. The ranges of 25-34, 35-44, 45-54, 55-64, and 65-74 each have 11 to 16 percent of the ridership. Riders under the age of 14 and above 75 each make up only 2% of riders, respectively.
- **Income** - 63% of survey respondents earn less than \$15,000 annually and 91% earn less than \$30,000 annually.
- **Vehicle Ownership** - 66% of survey respondents do not own a motor vehicle and is likely very dependent upon service from BTS.

Trip Characteristics

- **Length** - 73% of trips were reported to be less than 30 minutes with only 3% reported as greater than an hour.
- **Ridership** - An overwhelming majority of survey respondents (74%) reported riding the bus at least 2-3 times per week round trip with approximately 22% of riders riding the bus two directions five days per week.
- **Purpose** - The responses were well distributed with no one trip purpose being the majority; however, shopping was the most common response followed by school and work.

- **Transfers** - 57% of survey respondents reported that they did not transfer buses to complete their trip. 43% of riders reported that they did need to transfer to complete their trip.
- **Bus Stop Access** - The gross majority of respondents (98%) access BTS bus stops by walking. Only 2 percent of respondents cited biking or driving to a bus stop.
- **Walk Distance** - 84% of riders walk less than $\frac{1}{4}$ mile to the nearest bus stop with 97% walking less than $\frac{1}{2}$ mile.

BTS Performance

- **Performance Rating** - In response to the question: "What is your overall impression of the Basin Transit Service (1 to 5, with 1 being poor and 5 outstanding)?", 74% of respondents rated the Basin Transit Service with a 4 or a 5, with 5 being the best rating. Only 6% rated it with a 2 or below.
- **Areas for improvement** – Responses to areas for improvement were well distributed among the areas of customer service from drivers, route coverage, fleet maintenance, service frequency, reliability, rider information, and price.
- **Spending Priorities**– In response to the question: "If BTS had additional money, what should they do first?", responses were split fairly evenly between adding new service, improving buses or facilities, reducing the times between buses (i.e. increasing frequency), and "other".