2040 TRANSIT MASTER PLAN

## TECHNICAL MEMORANDUM \#4 - DRAFT

Date
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Subject: Population and Demographic Trends and Forecasts

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## INTRODUCTION

The purpose of this memorandum is to document existing and future demographics information and transit need in the Rogue Valley Transportation District (RVTD) service area. This memorandum reviews existing population densities, transit-dependent populations, and projected changes to these populations. RVTD fixed-route bus service demand was evaluated

## IN THIS MEMO

- Existing and Forecast Population and Demographics
- Fixed-Route and DemandResponse Forecast Demand based on existing and projected transitdependent populations. The Transit Cooperative Research Program (TCRP) Report 161 methodology was used to evaluate existing and projected rural commuter transit need and demand. Demand-response ridership was forecast based on populations age 60 and over and populations with a mobility limitation. This memorandum will be discussed and reviewed with the Technical Advisory Committee (TAC) and Citizens Advisory Committee (CAC).


## EXISTING POPULATION AND DEMOGRAPHICS

RVTD is wholly located within Jackson County in southern Oregon. The county covers 2,800 square miles and had a population of 216,900 in 2017 . The county seat is Medford, which has a population of nearly 80,000. Other cities in Jackson County with over 10,000 people are Ashland and Central Point. The region has the highest concentration of incorporated cities within an MPO in Oregon outside of the Portland metropolitan region.

## POPULATION

The following sections detail the generational distribution throughout Jackson County, demographics by city and unincorporated area, current employment centers, and commute patterns.

## GENERATIONAL TRENDS

The PEW Research Center defines generational cohorts by birth years, including "Generation Z", "Millennials", "Generation X", "Baby Boomers", and the "Silent Generation".

Figure 1 through Figure 5 show the population densities by generational cohort in relation to public transportation services within the county. Population is displayed in this manner to a) identify the relationship between existing transit ridership, location, and generational population densities, and b) use this information to help develop and provide support for the planning process for determining future transit needs. The five generational cohorts are:

1. "Silent Generation" - born before 1945
2. "Baby Boomers" - 1946-1964
3. "Generation X" - 1965-1980
4. "Millennials or Generation Y" 1981-1996
5. "Generation Z" - 1997-2017

Figure 1: Jackson County Population and Transit Service - Youth Population


Figure 2: Jackson County Population and Transit Service - Millennials


Figure 3: Jackson County Population and Transit Service - Generation X


Figure 4: Jackson County Population and Transit Service - Baby Boomers


Figure 5: Jackson County Population and Transit Service - Silent Generation


Demographic information about where the cohort populations live as shown on the previous maps indicate the following trends:

## "Generation Z" - 1997-2017 (ages 0-20)

This group almost exclusively lives with their parents or guardians, who are from Generation " $X$ " and Generation " $Y$ ", and their transportation needs are focused on going to school and typical children's activities. Youth from the ages of 16 to 18 years may need transport to work and social activities. The highest densities of people under the age of 18 are in centralized urban areas though the group is fairly distributed throughout the metropolitan region.

## "Millennials or Generation Y" 1981-1996 (ages 21-36)

The highest densities of Millennials are found in close-in sections of Medford, Central Point, White City, Eagle Point, and Ashland. This shows a relatively similar pattern to other urban areas around the United States, as Millennials have had a tendency to seek a more urban lifestyle than previous generations. This has led to tendencies to live in urban apartments, and to marry and have children later in life. Some of these generational differences are related to economic factors that have impacted many in the generation. It remains to be seen if their urban living patterns remain as they grow older, grow in their careers, marry, and have children.
"Generation X" - 1965-1980 (ages 37-52)
This is the smallest of the post-World War II generations, in terms of the number of individuals born during this period. The population is relatively spread out throughout the study area, as there are no obvious patterns between their selection of living in urban, suburban, or rural areas.
"Baby Boomers" - 1946-1964 (ages 53-71)
With nearly 10,000 "Boomers" turning 65 every day around the United States, many of them have retired or are nearing retirement, though the younger members of the generation may still be working. The children of the Baby Boom (Generation X and some Millennials) are for the most part living outside of their parents' houses, and the Baby Boom generation has generally had the chance to reconsider living arrangements based on their individual needs and not that of their children. Older members of the generation may have moved to retirement communities or more structured long-term care facilities. Overall, transit is very important for this group because it represents a large population of (potential) riders. This represents the fastest growing population of 65+ individuals in the history of the United States. Additionally, this group has a diverse variety of needs and therefore trip destinations.

## "Silent Generation" - born before 1945 (age 72 and older)

The youngest members of this group are almost 75 years old and this generation represents the people in the rapidly growing 85+ year old demographic within the planning timeframe of the RVTD Transit Master Plan. This is a group that relies heavily on transit today and likely makes residential living choices in part based on access to transit and the ability to live close to services and similarly aged people.

## CITY POPULATIONS

The populations of the three largest cities (Medford, Ashland, and Central Point) represent approximately 54 percent of the total County population. The population of all cities within the RVTD service district total approximately 61 percent of the total County population. Approximately 85 percent of the County population lies within the RVTD service district boundary. As shown in Table 1 all areas within the County except for Butte Falls have experienced a population increase since 2000. Jackson County's urbanized population is growing at twice the rate of the unincorporated areas, which supports the provision of transit services to higher-density locations.

Table 1: Jackson County Population 2000-2017

| Community | Population <br> $(2000)$ | Population <br> $(2010)$ | Population <br> $(2017)$ | Growth <br> $(2000$ <br> $2017)$ | (2000- <br> $2017)$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Medford | 63,150 | 74,910 | 79,590 | 16,440 | $26 \%$ |
| Ashland | 19,520 | 20,080 | 20,700 | 1,180 | $6 \%$ |
| Central Point | 12,490 | 17,170 | 17,700 | 5,210 | $42 \%$ |
| Eagle Point | 4,800 | 8,470 | 8,930 | 4,130 | $86 \%$ |
| White City | 5,470 | 7,980 | 8,710 | 3,240 | $59 \%$ |
| Talent | 5,590 | 6,070 | 6,330 | 740 | $13 \%$ |
| Phoenix | 4,060 | 4,540 | 4,610 | 550 | $14 \%$ |
| Shady Cove | 2,310 | 2,900 | 3,110 | 800 | $35 \%$ |
| Jacksonville | 2,240 | 2,790 | 2,950 | 710 | $32 \%$ |
| Rogue River | 1,850 | 2,130 | 2,220 | 370 | $20 \%$ |
| Gold Hill | 1,070 | 1,220 | 1,220 | 150 | $14 \%$ |
| Butte Falls | 440 | 420 | 430 | -10 | $-2 \%$ |
| Cities + White City | 117,520 | 140,700 | 147,790 | 30,270 | $26 \%$ |
| Other unincorporated | 63,750 | 62,510 | 69,110 | 5,360 | $8 \%$ |
| Jackson County (Total) | $\mathbf{1 8 1 , 2 7 0}$ | 203,210 | 216,900 | 35,630 | $20 \%$ |

Sources: United States Census Bureau. Census 2000 Gateway.
http://www.census.gov/main/www/cen2000.html. Accessed February 19, 2018. United States Census Bureau. 2010 Census Data. http://www.census.gov/2010census/data/. Accessed February 19, 2018.

Table 2 shows demographic details for each jurisdiction within Jackson County.
Table 2: Jackson County Demographic Details by Jurisdiction

| Community | Older Adults (Over 60 years old) | Children and Youth (Under 18 years old) | Low Income ${ }^{1}$ | Disabled ${ }^{2}$ |
| :---: | :---: | :---: | :---: | :---: |
| Medford | 23\% | 17\%* | 21\%* | 16\% |
| Ashland | 31\%* | 14\% | 19\%* | 12\% |
| Central Point | 23\% | 20\%* | 12\% | 17\% |
| Eagle Point | 23\% | 18\%* | 17\% | 17\% |
| White City | 13\% | 27\%* | 14\% | 17\% |
| Talent | 25\% | 17\%* | 20\%* | 16\% |
| Phoenix | 35\%* | 13\% | 26\%* | 24\%* |
| Shady Cove | 42\%* | $3 \%$ | 21\%* | 19\%* |
| Jacksonville | 55\%* | 11\% | 5\% | 27\%* |
| Rogue River | 33\%* | 13\% | 21\%* | 26\%* |
| Gold Hill | 22\% | 18\%* | 14\% | 20\%* |
| Butte Falls | 25\% | 19\%* | 34\%* | 31\%* |
| Cities + White City | 25\% | 16\% | 19\% | 17\% |
| Other unincorporated | 33\% | 13\% | 15\% | 18\% |
| Jackson County (Total) | 28\% | 15\% | 18\% | 17\% |

Sources: 2012-2016 ACS, *Above county average
'Low income is based on the Census poverty status, which refers to any household that has been below the poverty level for the last 12 months.
${ }^{2}$ Disability status is a Census variable.
Key demographic findings are as follows:

- Older adult populations are concentrated in smaller cities within Jackson County, especially Rogue River, Jacksonville, Shady Cove, and Phoenix, however Ashland also has a higher than average older adult population.
- Youth populations are concentrated in larger cities within Jackson County, including Medford, Central Point, and Eagle Point.
- Low-income populations are concentrated within Butte Falls, Phoenix, Medford, and Rogue River.
- Populations with disabilities are concentrated in the smallest cities within Jackson County, including Phoenix, Shady Cove, Jacksonville, Rogue River, Gold Hill, and Butte Falls.
- Ashland has a large population of people over the age of 60, a smaller population of people under 18, and a large student population that attends Southern Oregon University.
- Phoenix, Shady Cove, and Rogue River all have a population with higher than county-average older adults, low-income, and people with disabilities.


## AGE

Approximately 43 percent of the total County population is either under 18 years of age or over the age of 60 , representing approximately 90,900 people. The 60 and over population in Jackson County represents a larger proportion of the total population (approximately 28 percent) than the Oregon statewide average of 14 percent. These two population groups are notable with respect to transit markets because they are more likely to be transit dependent. The senior population in Jackson County has grown in recent decades, due primarily to the aging of the Baby Boomers. Future forecasts project that by 2050, the senior population will increase to 34 percent of the total County population, with that segment of the population expected to exceed 100,000 persons.

## HOUSEHOLD INCOME

Table 3 below shows the share of households by income ranges. As shown, over one-quarter of

Future forecasts project that by 2050, the senior population will increase to 34 percent of the łotal County population, with that segment of the population expected to exceed 100,000 persons. households earns less than \$25,000 annually. The US Census also defines a Poverty Status Index, which is based on income and household size. Approximately 26 percent of Jackson County residents live below this Census-defined index and are thus defined as living in poverty. The Oregon state average is 16 percent.

Table 3: Share of Households by Income Range

| Income Range | Percent of Total Households |
| :---: | :---: |
| Less than $\$ 10,000$ | $8.0 \%$ |
| $\$ 10,000$ to $\$ 14,999$ | $6.3 \%$ |
| $\$ 15,000$ to $\$ 24,999$ | $11.7 \%$ |
| $\$ 25,000$ to $\$ 34,999$ | $12.0 \%$ |
| $\$ 35,000$ to $\$ 49,999$ | $15.5 \%$ |
| $\$ 50,000$ to $\$ 74,999$ | $19.0 \%$ |
| $\$ 75,000$ to $\$ 99,999$ | $11.0 \%$ |
| $\$ 100,000$ to $\$ 149,999$ | $10.9 \%$ |
| $\$ 150,000$ to $\$ 199,999$ | $2.8 \%$ |
| $\$ 200,000$ or more | $2.6 \%$ |

Source: 2012-2016 ACS
As shown in Table 4, Central Point and Eagle Point had the highest percent change in low-income population from 2000 to 2016, while Butte Falls had the highest percent of residents identified as low-income.

Table 4: Low-Income Distribution of Jackson County Residents ${ }^{1}$

| Community | Population with Incomes < $150 \%$ <br> Poverty Level $(2000)^{2}$ | Population with Incomes <150\% Poverty Level (2016) | $\begin{aligned} & \text { \% Change } \\ & \text { (2000- } \\ & \text { 2016) } \end{aligned}$ | Proportion of Population with Incomes <150\% Poverty Level (2016) |
| :---: | :---: | :---: | :---: | :---: |
| Medford | 3,344 | 6,311 | 89\% | 8.1\% |
| Ashland | 1,851 | 2,052 | 11\% | 10.1\% |
| Central Point | 137 | 744 | 443\% | 4.2\% |
| Eagle Point | 149 | 789 | 430\% | 9.0\% |
| White City | 1,085 | 1,706 | 57\% | 19.6\% |
| Talent | 272 | 476 | 75\% | 7.5\% |
| Phoenix | 301 | 541 | 80\% | 11.9\% |
| Shady Cove | 123 | 245 | 99\% | 8.2\% |
| Jacksonville | 70 | 92 | 31\% | 3.2\% |
| Rogue River | 73 | 98 | 34\% | 4.0\% |
| Gold Hill | 60 | 89 | 48\% | 6.9\% |
| Butte Falls | 47 | 92 | 96\% | 24.1\% |
| Cities + White City | 6,427 | 11,529 | 79\% | 8.0\% |
| Other unincorporated | 2,569 | 3,760 | 46\% | 5.9\% |
| Jackson County (Total) | 8,996 | 15,289 | 70\% | 7.3\% |

Source: US Census 2000, 2012-2016 ACS
${ }^{1}$ Data for persons of low income reflect only a portion of the population for which poverty status is determined. Income cannot be determined for children under the age of 15 not related by birth, marriage, or adoption to a reference person within the household; therefore, their poverty status cannot be determined.
${ }^{2}$ The data for 2000 were collected through US Census Summary File 4 (SF4). SF4 data is compiled from a sample of the total population (about 1 in 6 households) that received the Census 2000 long-form questionnaire.

## MODE SPLIT

In Jackson County, personal automobiles are the primary mode of travel for commute trips. Figure 6 shows the commute mode split for Jackson County residents. As shown, public transit is used for about one percent of commute trips in Jackson County, while bicycles are not represented.

Figure 6: Means of Transportation to Work


Source: 2012-2016 ACS
Table 5 shows households by the number of vehicles available. Nearly seven percent of Jackson County households do not own a vehicle and thus are transit-dependent.

Table 5: Vehicles per Household

| Vehicles Available | Percent of Tofal Households |
| :---: | :---: |
| No vehicle | $6.7 \%$ |
| 1 vehicle | $32.3 \%$ |
| 2 vehicles | $38.0 \%$ |
| 3 vehicles | $16.2 \%$ |
| $4+$ vehicles | $6.9 \%$ |
| Total | $100 \%$ |

Source: ACS, 2012-2016.
The 2012 Oregon Household Activity Survey for Rogue Valley conducted surveys throughout the Rogue Valley with similar mode choice and vehicle ownership results. In addition, the surveys found the following regarding the RVMPO region:

- Households had an average of 0.61 students per household and an average age of 40.
- Households owned on average 2 vehicles.
- 74 percent of the population is employed but 32 percent of households have no working member.
- 22 percent of household members walk or bike commute to work/school at least once per week.
- 12 percent of households use transit at least once per week.
- 86 percent of employers provided parking and 4 percent provided transit passes.


## title VI OVERVIEW

Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d-1) states that "no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." In combination with subsequent federal nondiscrimination statutes, agencies receiving federal financial aid are prohibited from discriminating based on race, color, national origin, age, economic status, disability, or sex (gender). Other relevant federal statutes include the Federal-Aid Highway Act, the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, the Civil Rights Restoration Act of 1987, the Americans with Disabilities Act of 1990 (ADA), Executive Order 12898 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, and Executive Order 13166 Improving Access to Services for Persons with Limited English Proficiency.

RVTD receives funding from the Federal Transit Administration (FTA) and uses other types of funds from federal sources. In 2012, FTA issued new guidance (FTA C 4702.1B) to help clarify civil rights requirements for recipients of FTA grant funding. The guidance specifically relates to complying with Department of Transportation (DOT) Title VI regulations, which require impact evaluation of proposed service and fare changes on minority and limited English proficiency (LEP) riders.

RVTD also received funding from the State of Oregon Transportation Growth Management Program, which is funded in part by monies from the Federal Highway Administration that flow through ODOT. As a result, RVTD is also required to comply with ODOT's Title VI guidance.

RVTD's Title VI Program states its primary objectives as follows:
> "Ensure that the level and quality of transportation service is provided without regard to race, color, national origin, gender, age or disability; Identify and address, as appropriate, disproportionately high and adverse human health and environmental effects, including social and economic effects of plans, projects and activities on minority populations and lowincome populations;

> Promote the full and fair participation of all affected populations in transportation decision making;

> Prevent the denial, reduction, or delay in benefits related to programs and activities that benefit minority population or low-income populations; and

> Ensure meaningful access to program and activities by persons with Limited English Proficiency (LEP)."

Overview of Title VI Populations ${ }^{1}$ in Jackson County
Table 6 summarizes the Title VI populations in Jackson County and Figure 7 through Figure 12 show Title VI population densities in Jackson County. Figure 1 shows youth populations.

Table 6: Title VI Populations in Jackson County

| Limited <br> English <br> Proficiency | Older <br> Adult <br> (Over 60 <br> years old) | Children and <br> Youth (Under <br> 18 years old) | Minorily | Hispanic/ <br> Latino <br> (Any race) | Low- <br> Income | Disabled |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $4 \%$ | $28 \%$ | $15 \%$ | $18 \%$ | $12 \%$ | $18 \%$ | $17 \%$ |

Source: 2011-2015 ACS for Limited English Proficiency, 2012-2016 ACS for other topics 'Limited English Proficiency ACS data was not provided for 2012-2016 in Jackson County. 20112015 data only provided two categories - Speak English "very well" and Speak English less than "very well".

[^0]Figure 7: Jackson County Limited English Proficiency Populations


Figure 8: Jackson County Older Adult Populations


Figure 9: Jackson County Minority Populations


Figure 10: Jackson County Hispanic/Latino Populations


Figure 11: Jackson County Low-Income Populations


Figure 12: Jackson County Disabled Populations


Title VI populations not currently served by RVTD fixed-route bus services are as follows:

- Individuals with limited English proficiency in west Central Point and west Medford.
- Older adult, youth, and minority populations in Eagle Point, west Central Point, and east Medford.
- Hispanic/Latino and low-income populations in Eagle Point, west Central Point, and northeast Medford.
- Populations with a disability in Eagle Point, west Central Point, east Medford, and northeast Ashland.

Title VI populations within the Rogue Valley area have been examined and identified for transportation services in the 2014 RVMPO Environmental Justice Title VI Plan and the 2017-2021 United We Ride Plan for the Rogue Valley. Key findings were as follows:

- The number of Jackson County residents who were low-income, disabled, or older adults increased 17\% (31,298 additional residents) between 2000 and 2015.
- The low-income population increased $91.6 \%$ and seniors with disabilities increased $150 \%$ between 2000 and 2015.
- In 2007-2011, the RVMPO area had an average poverty rate of $17.5 \%$, while Jackson County averages $15.8 \%$. The RVTD service district is wholly contained within the RVMPO area, suggesting the RVTD service district may also have an average poverty rate higher than that of the county.
- Medford's poverty hotspots, the three central area census tracts with poverty rates of $20 \%$ or more for two consecutive census years, contains the highest concentration of residents living in poverty in Oregon.
- Needs assessments identified a lack of public transit service as a key barrier to employment, education, and residential access, especially in western White City and portions of Eagle Point.


## JOBS AND EMPLOYMENT

In 2015, 75,572 people were employed in Jackson County. Of these, 60,707 lived in Jackson County, while 14,865 traveled into the county for employment. A total of 15,534 Jackson County residents traveled outside the county for employment ${ }^{2}$, with many of those working in Josephine or Lane counties. For those traveling into the county for employment, Josephine County is the primary home location, followed by Douglas and Klamath Counties.

As shown in Table 7, the largest employer in Jackson County is the Asante medical group with a location in Medford, as well as in Grants Pass in Josephine County. Other major employers include Lithia Motors, Harry \& David, Rogue Valley Medical Center, and Allegiant Air. ${ }^{3}$

[^1]
## Table 7: Top Employers in Jackson County and Nearest Transit Service

| Rank | Employer | Location | Transit Provider/Route(s) |
| :---: | :--- | :--- | :--- |
| 1 | Asante (overall) | Medford, Grants Pass | RVTD 24, Rogue Valley Commuter Line |
| 2 | Lithia Motors, Inc. | Medford, Grants Pass | RVTD 40, 60, and 61; Rogue Valley Commuter <br> Line |
| 3 | Harry \& David | Medford | RVTD 10 |
| 4 | Rogue Valley Medical <br> Center | Medford | RVTD 24, Rogue Valley Commuter Line |
| 5 | Allegiant Air | Medford | RVTD 61 |
| 6 | Providence Health <br> System in Southern OR | Medford, Central Point, <br> White City, Phoenix | RVTD 10, 24, 60, 61 |
| 7 | Medford School <br> District 549C | Medford | RVTD 2, 10, 24, 25, 30, 40, 60, 61; Rogue Valley <br> Commuter Line, Rogue Valley Connector |
| 8 | Jackson County | Medford, Central Point, <br> Phoenix | RVTD 2, 10, 24, 25, 30, 40, 60, 61; Rogue Valley <br> Commuter Line, Rogue Valley Connector |
| 9 | Wal-Mart Stores | Medford, Grants Pass, <br> Eagle Point | RVTD 10, 60; Rogue Valley Commuter Line, <br> Rogue Valley Connector |
| 10 | Boise Cascade | Medford, White City | RVTD 60, 61 |

Source: Chamber of Medford/Jackson County
Longitudinal Employer-Household Dynamics (LEHD) employment data are a product of the Census Bureau, which provides valuable information about where workers live and work. Queries can be made for many employment variables, including place of work, place of residence, work industry, and commute distance. One of the most helpful visualization tools available from the LEHD is the web-based On-The-Map feature. This tool provides a means to look at jobs based on home location or work location. This data set is based on administrative records; therefore some work locations may be over- or underrepresented. For example, if workers in Rogue River have their paychecks processed with an address in Grants Pass, their job site may be shown in Grants Pass instead of Rogue River, if there is not a local address shown in the administrative data.

## COMMUTING PATTERNS BY PLACE OF RESIDENCE

The majority of Jackson County residents commute within Jackson County (80\%). However, nearly $20 \%$ of Jackson County residents commute relatively long distances to work in other counties. Figure 13 shows where Jackson County residents that commute outside of the County travel to work, with the thick lines representing the greater density of workers commuting .

Figure 13. Work Location of Jackson County Residents


Source: 2015 LEHD On-The-Map Analysis
Table 8 provides greater detail to support Figure 13. As shown, approximately nine percent of employees work in Josephine, Lane, and Multnomah Counties, which amounts to approximately 7,070 total workers.

Table 8: Work Location of Jackson County Residents

| Work Location | Count | Share |
| :--- | :---: | :---: |
| Jackson County, OR | 60,707 | $80.3 \%$ |
| Josephine County, OR | 3,881 | $5.1 \%$ |
| Lane County, OR | 1,670 | $2.2 \%$ |
| Multnomah County, OR | 1,519 | $2.0 \%$ |
| Marion County, OR | 902 | $1.2 \%$ |
| Douglas County, OR | 873 | $1.2 \%$ |
| Washington County, OR | 869 | $1.1 \%$ |
| Klamath County, OR | 672 | $0.9 \%$ |
| Clackamas County, OR | 600 | $0.8 \%$ |
| Deschutes County, OR | 507 | $0.7 \%$ |
| All Other Locations | 3,372 | $4.5 \%$ |

Source: 2015 LEHD
Table 9 shows where Jackson County workers work within the county. The largest share work in Medford, approximately 29,800 workers or 51 percent of the workforce.

## Table 9: Work Location by City: Jackson County Jobs

|  | Work City | Jobs |
| :--- | :---: | :---: |
| Medford | 29,759 | Share |
| Central Point | 7,137 | $51.3 \%$ |
| Ashland | 7,096 | $12.3 \%$ |
| White City | 3,234 | $12.2 \%$ |
| Eagle Point | 3,024 | $5.6 \%$ |
| Talent | 2,238 | $5.2 \%$ |
| Phoenix | 1,742 | $3.9 \%$ |
| Jacksonville | 843 | $3.0 \%$ |
| Shady Cove | 786 | $1.5 \%$ |
| Rogue River | 634 | $1.4 \%$ |
| All Other Places | 1,555 | $1.1 \%$ |
| Source 2015 LeHD |  | $2.7 \%$ |

Source: 2015 LEHD
Table 10 shows the distance that Jackson County residents commute. Approximately 64 percent commute less than 10 miles, while 14 percent commute more than 50 miles. Medford, Central Point, and Ashland are hubs for residential and employment sites within Jackson County; as such, Jackson County residents either live and work within these cities or commute longer distances to reach employment further away.

Table 10: Distance Home to Work

| Distance Home to Work | Count | Share |
| :--- | :---: | :---: |
| Less than 10 miles | 48,481 | $64.2 \%$ |
| 10 to 24 miles | 14,071 | $18.6 \%$ |
| 25 to 50 miles | 2,429 | $3.2 \%$ |
| Greater than 50 miles | 10,591 | $14.0 \%$ |
| Total All Jobs | $\mathbf{7 5 , 5 7 2}$ | $\mathbf{1 0 0 \%}$ |

Source: 2015 LEHD
Table 11 shows Jackson County residents' departure times for work. Approximately 49 percent of workers leave between 6:30 AM and 8:30 AM, which is consistent with regular business hours.

## Table 11: Departure Time to Work

| All Workers | Total | Share |
| :---: | :---: | :---: |
| 12:00 AM to 4:59 AM | 3,785 | 4.6\% |
| 5:00 AM to 5:29 AM | 2,697 | $3.3 \%$ |
| 5:30 AM to 5:59 AM | 3,744 | 4.6\% |
| 6:00 AM to 6:29 AM | 5,399 | 6.6\% |
| 6:30 AM to 6:59 AM | 7,783 | 9.6\% |
| 7:00 AM to 7:29 AM | 10,801 | 13.3\% |
| 7:30 AM to 7:59 AM | 13,047 | 16.0\% |
| 8:00 AM to 8:29 AM | 8,136 | 10.0\% |
| 8:30 AM to 8:59 AM | 3,837 | 4.7\% |
| 9:00 AM to 9:59 AM | 5,372 | 6.6\% |
| 10:00 AM to 10:59 AM | 2,979 | $3.7 \%$ |
| 11:00 AM to 11:59 AM | 1,302 | 1.6\% |
| 12:00 PM to 3:59 PM | 6,860 | 8.4\% |
| 4:00 PM to 11:59 PM | 5,729 | 7.0\% |

Source: 2012-2016 ACS.

## COMMUTING PATTERNS BY PLACE OF WORK

Figure 14 and Table 12 show where Jackson County workers live, summarized at a county level. As shown, approximately 80 percent of Jackson County workers also live within Jackson County. However, nearly 20 percent of Jackson County workers live outside of Jackson County. Figure 14 shows employees that commute from outside of the County, with the thick lines representing the greater density of workers commuting.

Figure 14: Home Location of Jackson County Workers


Source: 2015 LEHD On-The-Map Analysis

## Table 12: Home Location of Jackson County Workers

| Home Location | Count | Share |
| :--- | :---: | :---: |
| Jackson County, OR | 60,707 | $80.3 \%$ |
| Josephine County, OR | 4,920 | $6.5 \%$ |
| Douglas County, OR | 1,667 | $2.2 \%$ |
| Klamath County, OR | 1,027 | $1.4 \%$ |
| Lane County, OR | 781 | $1.0 \%$ |
| Coos County, OR | 663 | $0.9 \%$ |
| Deschutes County, OR | 615 | $0.8 \%$ |
| Multnomah County, OR | 557 | $0.7 \%$ |
| Washington County, OR | 457 | $0.6 \%$ |
| Marion County, OR | 437 | $0.6 \%$ |
| All Other Locations | 4,410 | $5.8 \%$ |

Source: 2015 LEHD

## POPULATION AND DEMOGRAPHIC FORECASTS

Future population and employment trends were examined to inform the process of identifying transit needs. The sections below describe the forecasted future demographics of Jackson County, based on the best current estimates of population and employment.

## POPULATION TRENDS

The State of Oregon's Department of Administrative Services, Office of Economic Analysis, develops and publishes county level population forecasts based on PSU Population Research Center estimates. These forecasts are based on historical trends and consider birth, death, and migration rates.

Jackson County has grown steadily for the past 30 years. Between 1980 and 2015, the population increased by approximately 63 percent, adding 84,000 people to reach today's population of approximately 217,000 people. This growth represents an average annual growth rate of 1.7 percent.

By 2050, the county is expected to grow by an additional 79,500 people, rising to a population of approximately 296,000 people. RVTD's Transit Master Plan has a planning horizon of 2042 and will incorporate population forecasts in its long-range planning project. This forecast assumes that Jackson County will slow in growth to a rate of 1.1 percent. Figure 15 shows how growth has occurred between 1980 and 2015, while Table 13 shows the future growth forecasted in the county from 2015 to 2050. The Regional Problem Solving (RPS) Plan from 2012 projected population growth to exceed 300,000 people by 2060. Future population growth is a key input in determining future demand for transit.

Figure 15: Jackson County Population 1980-2050


Table 13: Actual and Forecasted Jackson County Population, 2000-2050

|  | Year | Population | 5 Year Change | 5 Year \% Change | Annual Growth Rate |
| :---: | :---: | :---: | :---: | :---: | :---: |
| U.S. Census Bureau Estimate | $\underline{2015}$ | 210,015 | 6,675 | 3.3\% | 0.7\% |
| Forecast | $\underline{2020}$ | 223,458 | 13,443 | 6.4\% | 1.3\% |
|  | $\underline{2025}$ | 238,955 | 15,498 | 6.9\% | 1.4\% |
|  | $\underline{2030}$ | 253,274 | 14,318 | 6.0\% | 1.2\% |
|  | $\underline{2035}$ | 265,624 | 12,350 | 4.9\% | 1.0\% |
|  | $\underline{2040}$ | 276,551 | 10,928 | 4.1\% | 0.8\% |
|  | $\underline{2045}$ | 286,648 | 10,097 | 3.7\% | 0.7\% |
|  | $\underline{2050}$ | 296,388 | 9,740 | 3.4\% | 0.7\% |

Source: Office of Economic Analysis. March 28, 2013. Forecasts of Oregon's County Populations and Components of Change, 2010-2050. http://www.oregon.gov/das/OEA/Documents/County_forecast_March_2013.xls. Accessed February 19, 2018.

As shown previously in Table 1, population growth in Jackson County is occurring primarily within incorporated cities and the unincorporated community of White City. Most communities saw growth above the county average of 20 percent between 2000 and 2017. The cities of Eagle Point, Central Point, Shady Cove, Jacksonville, and Medford experienced the fastest growth of the urban areas. According to the RPS, the future population growth in Central Point, Eagle Point, and Medford will be the fastest growing when examining the combination of actual growth rates and total numbers. The city of Butte Falls saw a slight decrease in its population over the 17-year period from 2000 to 2017.

According to the RPS, the future population growth in Central Point, Eagle Point, and Medford will be the fastest growing of the urban areas when examining the combination of actual growth rates and total numbers.

Changes to population generations is anticipated to occur within Jackson County. The existing and forecast population by generation is shown in Table 14.

Table 14: 2016 and 2042 Generation Populations

| Start <br> Year | End <br> Year | Generation | 2016 <br> Population | 2016 Percent of <br> Total Population | 2042 <br> Population | 2042 Percent of <br> Total Population |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2018 | Future | Unnamed | - | - | 72,845 | $26 \%$ |
| 1997 | 2018 | Gen Z | 48,561 | $23 \%$ | 62,199 | $22 \%$ |
| 1981 | 1996 | Millennials | 41,007 | $19 \%$ | 71,201 | $25 \%$ |
| 1965 | 1980 | Gen X | 39,099 | $18 \%$ | 45,114 | $16 \%$ |
| 1946 | 1964 | Baby Boomer | 58,703 | $28 \%$ | 29,234 | $10 \%$ |
| 1928 | 1945 | Silent Generation | 25,333 |  | $12 \%$ | - |
|  |  | Total Population | 212,700 |  | $100 \%$ | 280,590 |

Source: 2012-2016 ACS. Office of Economic Analysis. March 28, 2013. Forecasts of Oregon's County Populations and Components of Change, 2010-2050.
http://www.oregon.gov/das/OEA/Documents/County forecast March 2013.xls. Accessed February 19, 2018.

As shown, most existing populations are projected to represent a smaller percentage of the total population in the future. Millennials are the exception, with the generation anticipated to increase from 19\% of the population to $25 \%$ in year 2042.

## EMPLOYMENT TRENDS

The Oregon Employment Department Workforce and Economic Research Division publishes employment forecasts by industry. The 10-year forecasts are defined by regions (as opposed to counties or cities) and organize employment forecasts by primary industry. The region that includes Jackson County also includes Josephine County. The region is forecasted to have annual employment growth rate of 0.9 percent, which is consistent with the growth seen from 2000 to 2017.

It is expected that the largest employment increases will occur in the private educational and health services ( 1.5 percent), construction (1.2 percent), professional business services industries (1.2 percent), leisure and hospitality ( 1.2 percent), and manufacturing (1.1 percent) sectors. An understanding of where faster growing trade sectors and businesses are located (or could locate) allows for the design of transit routes that can efficiently serve workers and employers. All industry forecasts are shown in Table 15.

Table 15: 2014-2024 Industry Employment Forecast (Jackson and Josephine Counties)

| Industry | 2014 | 2024 | Change | \% Change | Annual Growth Rate |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Total payroll employment | 105,440 | 114,590 | 9,150 | 8.7\% | 0.9\% |
| Natural resources and mining | 2,940 | 3,180 | 240 | 8.2\% | 0.8\% |
| Mining and logging | 540 | 580 | 40 | 7.4\% | 0.7\% |
| Construction | 4,060 | 4,540 | 480 | 11.8\% | 1.2\% |
| Manufacturing | 10,090 | 11,170 | 1,080 | 10.7\% | 1.1\% |
| Durable goods | 6,860 | 7,430 | 570 | 8.3\% | 0.8\% |
| Wood product manufacturing | 2,500 | 2,700 | 200 | 8.0\% | 0.8\% |
| Trade, transportation, and utilities | 22,940 | 24,430 | 1,490 | 6.5\% | 0.6\% |
| Wholesale trade | 3,210 | 3,410 | 200 | 6.2\% | 0.6\% |
| Retail trade | 16,380 | 17,420 | 1,040 | 6.3\% | 0.6\% |
| Transportation, warehousing, and utilities | 3,350 | 3,590 | 240 | 7.2\% | 0.7\% |
| Information | 1,600 | 1,450 | -150 | -9.4\% | -0.9\% |
| Financial activities | 4,830 | 5,020 | 190 | 3.9\% | 0.4\% |
| Professional and business services | 8,780 | 9,800 | 1,020 | 11.6\% | 1.2\% |
| Private educational and health services | 18,410 | 21,170 | 2,760 | 15.0\% | 1.5\% |
| Private educational services | 900 | 990 | 90 | 10.0\% | 1.0\% |
| Health care and social assistance | 17,510 | 20,180 | 2,670 | 15.2\% | 1.5\% |
| Health care | 15,330 | 17,500 | 2,170 | 14.2\% | 1.4\% |
| Leisure and hospitality | 12,660 | 14,130 | 1,470 | 11.6\% | 1.2\% |
| Accommodation and food services | 10,930 | 12,220 | 1,290 | 11.8\% | 1.2\% |
| Other services and private households | 4,190 | 4,490 | 300 | 7.2\% | 0.7\% |
| Natural resources and mining | 2,940 | 3,180 | 240 | 8.2\% | 0.8\% |
| Mining and logging | 540 | 580 | 40 | 7.4\% | 0.7\% |
| Construction | 4,060 | 4,540 | 480 | 11.8\% | 1.2\% |
| Government | 14,940 | 15,210 | 270 | 1.8\% | 0.2\% |
| Federal government | 1,970 | 1,960 | -10 | -0.5\% | -0.1\% |
| State government | 3,280 | 3,270 | -10 | -0.3\% | 0.0\% |
| State education | 810 | 790 | -20 | -2.5\% | -0.2\% |
| Local government | 9,690 | 9,980 | 290 | 3.0\% | 0.3\% |
| Local education | 5,690 | 5,800 | 110 | 1.9\% | 0.2\% |
| Self-employment | 6,130 | 6,670 | 540 | 8.8\% | 0.9\% |

Source: Employment Projections by Industry and Occupation 2014-2024 Rogue Valley (Jackson and Josephine Counties).
https://www.qualityinfo.org/documents/10182/92203/Rogue+Valley+Industry+Employment+Projections+201 4-2024? version=1.4. Accessed February 19, 2018.

The Oregon Employment Department publishes current employment trends specific to Jackson County. Jobs have returned to the county after the recession of 2007-2009 and have exceeded pre-recession employment levels. Employment totals and net changes by industry are shown in Figure 16 and Figure 17, respectively.

Figure 16: Jackson County Seasonally Adjusted Non-Farm Employment 2008-2017


Figure 17: Jackson County Employment Changes by Industry 2008-2017


If employment continues to grow at 0.9 percent per year, Jackson County's existing 87,000 jobs would increase by approximately 19,000 jobs by the year 2040, for a total employment of 106,000 throughout the county. According to forecasts from the RPS Plan, the fastest employment growth is expected to be in the retail and services industries. A good portion of the retail and entry-level service sectors are lower wage jobs, and many retail and entry-level service employees rely on transit to commute to work. In addition, much of the forecasted land demand for new employment is expected to be in Medford, Central Point, Eagle Point, and Phoenix, which may need to increase transit service to accommodate an increase in employment.
Unincorporated Jackson County is also expected to see an increase in retail and service jobs, and those areas are currently not as well-served by transit as urbanized section of the Rogue Valley.

## LAND USE TRENDS

The RPS Plan identified several regionally significant Transit-Oriented Development (TOD) strategies, policies, and overall promotion in established cities and between urban reserve areas. The policies align with the Nodal Development land use modeling scenario in the RPS Plan, which places TOD mixed-use centers in urban reserve areas. The "Committed Densities" strategy from the RPS is expected to help produce a land use pattern in all seven participating jurisdictions that will have transit supported residential densities of seven dwelling units per gross acre by the year 2035. Based on
these forecasts results, the RPS concluded that, "considerable improvements could be obtained by a significant investment in infrastructure capacity as well as a much more robust transit system."

In addition, some communities are actively planning for TOD as follows:

## MEDFORD

- The Downtown TOD which continues to undergo revitalization.
- The adopted Southeast Area Village Center, which exists as a portion of Medford's comprehensively planned Southeast Area. The Southeast Village Center consists of 175 acres of planned high-density residential development surrounding a commercial and mixed-use core.
- The West Main TOD, a large primarily developed area for which the TOD plan is currently being drafted. The TOD plan for this area will incorporate high-density residential development into an existing underdeveloped strip commercial area.
- The Delta Waters Road area TOD, has not yet been completed.
- The Stewart Meadows project is a planned private development that has several TOD features including senior and high-density housing, retail, and health services.


## CENTRAL POINT

- Twin Creeks TOD exists in northwest Central Point and comprises over 200 acres. It has nearly built out its residential components. Commercial and health care developments are in-progress.
- White Hawk TOD is an adopted master plan for 18 acres of northeast Central Point, at the corner of Gebhard Road and Beebe Road.

ASHLAND

- Croman Mill Site features a large employment component, high-density residential, and includes a transit platform for future BRT or passenger rail.
- Transit Triangle, the area between Tolman Acreek Rd, Siskiyou Blvd and Highway 66, is now in development. The City is considering code amendments in this area to allow for transit-oriented development.

The RPS Plan concluded that future transit planning should be in included in all new and updated Conceptual Transportation Plans for the region and in each Urban Reserve Area. RVTD has been involved with the conceptual plans and requested bus stops along major corridors.

## TRANSIT-DEPENDENT DEMOGRAPHIC TRENDS

Senior populations, populations with disabilities, and low-income populations tend to depend on transit. These populations were examined and forecasted to understand potential transit-dependent populations in 2042.

## SENIOR POPULATION

The Office of Economic Analysis forecasts age trends throughout Oregon. For Jackson County, more than half of the growth ( 41,800 people) between 2015 and 2050 is forecasted to be among people 60 years and older, creating potential higher demand for transit from this demographic group. Figure 18 shows Jackson County's existing distribution and forecasted distribution of ages by percent of total population, reflecting the shifting ages in the county.

More than half of the growth
( 41,800 people) between 2015 and 2050 will be people 60 years and older.

Figure 18: Jackson County Age Distribution Forecast


Source: Employment Projections by Industry and Occupation 2014-2024 Rogue Valley (Jackson and Josephine Counties).
https://www.qualityinfo.org/documents/10182/92203/Rogue+Valley+Industry+Employment+Projections+201 4-2024? version=1.4. Accessed February 19, 2018.

## POPULATION WITH DISABILITIES

Mobility limitations are closely associated with an aging population. Estimates of the potential future population with disabilities was developed through the process shown in Figure 19 and the results are shown in Table 16.

Figure 19: Jackson County Population with Mobility Limitation Projections


Table 16: Existing and Forecasted Jackson County Population with a Mobility Limitation

| Factor | 2016 <br> Population | Percent of 2016 <br> Population | Percent of 2042 <br> Population | Percent <br> Change | 2042 <br> Population |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Population | 212,700 | - | - | $+32 \%$ | 280,590 |
| Population age 60+ | 60,523 | $28.5 \%$ | $32.5 \%$ |  | 91,127 |
| Population age $18+$ with <br> a mobility limitation | 36,054 | $17.0 \%$ | $19.3 \%$ | $+14.1 \%$ | 54,285 |

Source: 2012-2016 ACS. Office of Economic Analysis. March 28, 2013. Forecasts of Oregon's County Populations and Components of Change, 2010-2050.
http://www.oregon.gov/das/OEA/Documents/County forecast March 2013.xls. Accessed February 19, 2018.

As shown, the population age 18 and over with a mobility limitation is anticipated to increase to 19.3 percent of the population, a total of 54,285 people, by 2042.

## LOW-INCOME POPULATIONS

Low-income populations are anticipated to change with the availability of employment compared to the working age population. Table 17 shows existing and projected low-income populations in Jackson County.

Table 17: Existing and Forecasted Jackson County Low-Income Populations

|  | 2016 |  |  |
| :--- | :---: | :---: | :---: |
| Population | Percent Change | 2042 <br> Population |  |
| Working-age population (20-64) | 119,632 | - | 147,232 |
| Employment | 86,980 | - | 105,866 |
| Jobs per working-age person | 0.73 | $-1 \%$ | 0.72 |
| Percent population below poverty level | $17.7 \%$ | $+1 \%$ | $17.9 \%$ |
| Population below poverty level | 37,595 |  | 50,141 |

Source: 2012-2016 ACS. Office of Economic Analysis. March 28, 2013. Forecasts of Oregon's County Populations and Components of Change, 2010-2050.
http://www.oregon.gov/das/OEA/Documents/County forecast March 2013.xls. Accessed February 19, 2018.

Available employment within Jackson County, compared to working-age population, is anticipated to decrease one percent. Assuming the population below poverty level is impacted proportionally, the percent of the population below the poverty level is anticipated to increase one percent. Thus, population below poverty level would be 17.9 percent, or 50,141 individuals in 2042. Working opportunities in adjacent regions and reliable transportation to those locations would benefit Jackson County residents and could be provided via

The population below the poverty level could be 17.9 percent, or 50,141 individuals in 2042. commuter transit services.

## TRANSIT NEED AND DEMAND FORECASTS

The following provides high-level estimates of transit need and demand forecast based on demographics. It is important to note that the demand reported by this analysis is only a rough estimate based on the demographic makeup of Jackson County and the current service. It is a very broad-brush analysis based on typical demographic factors that would indicate a propensity to use transit. It doesn't contain any specific land use variables.

## RVTD FIXED-ROUTE BUS TRANSIT DEMAND

RVTD currently provides 1,144,500 annual one-way passenger trips on its fixed-route bus service (FY 2016-2017). With an existing population of 212,700 , the fixed-route bus system operates at approximately 5.38 annual rides per capita (Jackson County population). Table 18 shows projected ridership if rides per capita remain constant.

Table 18: Existing and Future Annual Ridership Based on Total Population

|  | 2016 | 2042 | Change |
| :---: | :---: | :---: | :---: |
| Jackson County Population | 212,700 | 280,593 | $(67,893$ people) 32\% |
| Rides per Capita | 5.38 |  | NA |
| Total Rides | $1,144,500$ | $1,509,820$ | (365,320 rides) $32 \%$ |

Given these inputs, future transit ridership to maintain existing service levels (rides per capita) is estimated to be approximately 1,510,000 annual one-way passenger-trips (RVTD currently provided just under 1,145,000 one-way passenger-trips per year in FY 2016-2017), or approximately 5,300 daily one-way passenger-trips. RVTD may need to provide an additional 800 daily one-way passenger-trips to maintain existing service levels in 2042.

Fixed-route ridership was also compared to transit-dependent populations in Jackson County. Transit-dependent populations are anticipated to grow at a faster pace than general population growth and are likely to use transit more than the general population. Table 19 shows estimated per-capita ridership for these populations and projected system ridership, assuming ridership patterns are consistent with transitdependent population growth.

Table 19: Existing and Future Annual Ridership Based on Transit-Dependent Populations

| Transit Dependency Facłor | 2016 <br> County Pop. | 2016 <br> Tołal <br> Rides | Rides per Capita | $2042$ <br> County Pop. | $2042$ <br> Forecast Ridership By Factor | Average 2042 Ridership by TransiłDependent Population |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Population with Disabilities | 36,054 | 1,144,500 | 31.7 | 54,285 | 1,723,226 | 1,620,700 |
| Population Age 60+ | 60,523 |  | 18.9 | 91,127 | 1,723,227 |  |
| Persons below Poverty Level | 37,595 |  | 30.4 | 50,141 | 1,526,436 |  |
| Population Owning No Vehicles | 8,132 |  | 140.7 | 10,728 | 1,509,862 |  |

As shown, the 2042 ridership estimate (based on transit dependent population growth) to maintain existing service levels is $1,620,700$ annual one-way passenger trips, approximately 120,000 more than the total population per-capita estimate and 476,000 more than the 2016 ridership.

Figure 20 compares the existing, total population forecast, and transit-dependent population forecast for annual one-way passenger-trips. These estimates will be further examined and refined upon processing of the 2018 Passenger Survey results, which includes information on ridership demographics.

Figure 20: Existing and Forecast Annual Ridership


## TCRP 161 DEMAND - RURAL COMMUTER TO URBAN AREAS

In 2012, the Transportation Research Board (TRB) published a methodology to estimate rural transit demand through Transit Cooperative Research Program (TCRP) Report 161. This report is a workbook providing step-by-step procedures for quantifying the need for passenger transportation services and the demand that is likely to be generated given the service hours provided.

The methods for estimating demand address four specific markets: (1) general public rural passenger transportation, (2) passenger transportation specifically related to social service or other programs, (3) travel on fixed-route services in small cities (less than 50,000 population and less than 70 vehicle hours of service per day), and (4) travel on commuter services from rural counties to urban areas. Of these, only the second and fourth markets are directly applicable to RVTD.

The methods were developed using data from the Rural National Transit Database (2006, 2009, and 2010), the National Household Transportation Survey (2001 and 2009), the American Community Survey (various years) and the Longitudinal EmploymentHousehold Dynamics dataset, among others. Since these methods were published relatively recently (2013), they have not yet been widely applied. Tests by the researchers indicated the methods provide reasonable first estimates of transit need (i.e., the methods account for approximately 40 to 70 percent of the variance in the demand estimate), but other factors not included in the models can still result in substantial differences between the methods' estimates and actual ridership.

Inputs used to estimate transit need include:

- Distance from rural areas to the urban center (Medford)
- Workers commuting from rural areas to an urban center (Medford)

This information is used to generate an expected number of commuter transit trip demand.

The commuter demand needs assessment was completed for Grants Pass, Rogue River, Gold Hill, Douglas County, and Klamath County. The inputs and results of this analysis are shown in Table 20.

Table 20: Existing TCRP 161 Rural Commuter to Urban Area Demand

| Home Location | Commuters to <br> Medford | Distance to Medford <br> (miles) | Estimated Annual <br> One-Way Transit Trip <br> Demand |
| :--- | :---: | :---: | :---: |
| Grants Pass | 1,513 | 30 | 18,400 |
| Eagle Point | 1,271 | 12 | 17,900 |
| Gold Hill | 149 | 14 | 1,500 |
| Rogue River | 156 | 22 | 1,500 |
| Klamath County | 672 | 80 | 1,500 |
| Douglas County ${ }^{2}$ | 873 | 97 | 300 |

Source: 2015 LEHD On-The-Map Analysis
${ }^{1}$ Assumes the City of Klamath Falls as the point of origin
${ }^{2}$ Assumes Roseburg as the point of origin
Commuter service for Grants Pass, Rogue River, and Gold Hill is provided via the RV Commuter Line service. The TCRP 161 results suggest existing RV Commuter Line demand to be near 21,400 annual one-way passenger trips. Though transportation services such as SouthWest POINT and Greyhound provide connection to Klamath County and Douglas County, no service is available during typical commute hours. TCRP 161 suggests commuter demand to be near 1,500 and 300 annual one-way trips for Klamath County and Douglas County, respectively. The Klamath County and Douglas County demand is relatively low compared to RV Commuter Line demand. Appendix " $A$ " includes the detailed analysis per TCRP Report 161 methodology.

## FUTURE TCRP 161 DEMAND - RURAL COMMUTER TO URBAN AREAS

If the number of commuters from rural areas to urban areas increase, demand for services such as the RV Commuter Line would be expected to increase. Table 21 shows the sensitivity of demand compared to workers commuting from Grants Pass to Medford.

Table 21: Potential TCRP 161 Rural Commuter to Urban Area Demand

| Home Location | Workers Commuting to <br> Medford | Estimated <br> Distance to <br> Medford | Estimated <br> Annual One- <br> Way Transit <br> Trip Demand | Transit Trips per <br> Commuter |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Grants Pass | 1,513 |  | 18,400 | 12.2 |
|  | 2,000 |  | 27,000 | 13.5 |
|  |  | 37,500 | 15.0 |  |

As shown, if the number of commuters were to double from approximately 1,500 to 3,000, annual one-way projected demand would more than double from 18,400 trips to 49,200 trips. The transit trips per commuter would increase from 12.2 to 16.4 . This suggests a need for increased RV Commuter Line service. Commute patterns across the Rogue Valley should be monitored for to identify potential commuter transit needs. Appendix "B" includes the detailed analysis per TCRP Report 161 methodology.

## DEMAND-RESPONSE RIDERSHIP FORECASTS

Valley Lift and TransLink ridership were forecasted based on existing and projected populations with a mobility limitation. The Valley Lift Riders Guide defines eligibility policies and categories for Valley Lift riders. Eligibility categories are as follows:

Temporary Eligibility You may qualify for temporary eligibility if you have a short-term injury or illness which prevents you from using the fixed-route bus service for a limited period, usually from one to 12 months. If you qualify for temporary eligibility, your eligibility letter will indicate the date your eligibility will expire and your eligibility category.

Conditional Eligibility (ADA Category 3) You may be conditionally eligible if your disability prevents you from using the fixed-route bus service under certain conditions. If you are conditionally eligible, you will be expected to use the fixed-route bus service for all rides that are manageable, based on your situation. If you qualify for conditional eligibility, your eligibility letter will indicate under what conditions you may use Valley Lift and when you are expected to use fixed-route bus service.

Full Eligibility (ADA Category 1) You may be fully eligible if your disability prevents you from using the fixed-route bus service under any condition. Applicants who qualify for full eligibility will not be expected to use fixed-route bus service under any conditions.

Per these definitions, only those with a disability that prevents fixed-route bus service usage are eligible to use the Valley Lift service. TransLink maintains eligibility criteria based on medical need and mobility limitations. Forecasts for populations with a mobility limitation were developed in Table 16. Table 22 shows the year 2016 and forecast year 2042 demographics and ridership forecasts.

Table 22: Valley Lift and TransLink Existing and Forecast Ridership

| Factor | Existing 2016 | Ridership / MobilityLimited Population | Forec ast 2042 |
| :---: | :---: | :---: | :---: |
| Valley Lift Ridership |  |  |  |
| Population Age 18+ with a Mobility Limitation | 36,054 | 1.52 | 54,285 |
| Demand-Response Ridership | 51,028 |  | 82,500 |
| TransLink Ridership |  |  |  |
| Population Age 18+ with a Mobility Limitation | 36,054 | 7.89 | 54,285 |
| Demand-Response Ridership | 284,544 |  | 428,400 |

Source: 2012-2016 ACS. Office of Economic Analysis. March 28, 2013. Forecasts of Oregon's County Populations and Components of Change, 2010-2050.
http://www.oregon.gov/das/OEA/Documents/County_forecast_March_2013.xls. Accessed February 19, 2018.

In order to maintain the existing service level, Valley Lift demand-response need is forecasted to increase by approximately 31,500 rides per year to a total of 82,500 rides per year in Year 2042. For TransLink, demand-response need is forecasted to increase by approximately 143,900 rides per year to a total ridership of 428,400 rides per year in Year 2042.

Appendix A Existing TCRP 161 Results

## RURAL TRANSIT NEED/DEMAND ESTIMATION - OUTPUT TABLE

| Service Area: | RVTD |
| ---: | :--- |
| Analysis Description: | Existing Transit Need and Demand - Grants Pass |
| Additional Description: |  |


| Estimation of Transit Need |  |
| :---: | :---: |
| Total need for passenger transportation service: | Persons |
| Total households without access to a vehicle: | Households |
| State Mobility Gap: | Daily 1-Way Psgr.-Trips per Household |
| Total need based on mobility gap: | Daily 1-Way Passenger-Trips |
|  | Annual 1-Way Passenger-Trips |

General Public Rural Non-Program Demand
Estimate of demand for general public rural transportation
Rural transit trips: $\quad \square$ Annual 1-Way Passenger-Trips

| General Public Rural Passenger Transportation |  |
| :--- | :--- |
| Estimate of demand for rural transportation | $\square$ Annual 1-Way Passenger-Trips |
| Total Rural Non-Program Demand |  |


| Small City Fixed Route |  |
| :--- | :--- |
| Annual Ridership: |  |


| Demand - Commuter by Transit to an Urban Center |  |
| :--- | :---: |
| Proportion of Commuters using Transit: | $2 \%$ |
| Commuter trips by transit between counties: | 70 |
|  | Daily 1-Way Passenger Trips |
|  | Annual 1-Way Passenger-Trips |


| Rural Program Demand |  |
| :---: | :---: |
| Annual Program Trip Estimation |  |
|  | Annual 1-Way Passenger-Trips |
|  | Annual 1-Way Passenger-Trips |
|  | Annual 1-Way Passenger-Trips |
|  | Annual 1-Way Passenger-Trips |
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|  | Annual 1-Way Passenger-Trips |
|  | Annual 1-Way Passenger-Trips |
| Total Rural Program Demand | Annual 1-Way Passenger-Trips |

## RURAL TRANSIT NEED/DEMAND ESTIMATION - OUTPUT TABLE

| Service Area: | RVTD |
| ---: | :--- |
| Analysis Description: | Existing Transit Need and Demand - Gold Hill |
| Additional Description: |  |


| Estimation of Transit Need |  |
| :---: | :---: |
| Total need for passenger transportation service: | Persons |
| Total households without access to a vehicle: | Households |
| State Mobility Gap: | Daily 1-Way Psgr.-Trips per Household |
| Total need based on mobility gap: | Daily 1-Way Passenger-Trips |
|  | Annual 1-Way Passenger-Trips |

General Public Rural Non-Program Demand
Estimate of demand for general public rural transportation
Rural transit trips: $\quad \square$ Annual 1-Way Passenger-Trips

| General Public Rural Passenger Transportation |
| :--- |
| Estimate of demand for rural transportation |
| Total Rural Non-Program Demand |


| Small City Fixed Route |  |
| :--- | :--- | :--- |
| Annual Ridership: |  |


| Demand - Commuter by Transit to an Urban Center |  | Daily 1-Way Passenger TripsAnnual 1-Way Passenger-Trips |
| :---: | :---: | :---: |
| Proportion of Commuters using Transit: | 2\% |  |
| Commuter trips by transit between counties: | 10 |  |
|  | 1,500 |  |



## RURAL TRANSIT NEED/DEMAND ESTIMATION - OUTPUT TABLE

| Service Area: | RVTD |
| ---: | :--- |
| Analysis Description: | Existing Transit Need and Demand - Rogue River |
| Additional Description: |  |


| Estimation of Transit Need |  |
| :---: | :---: |
| Total need for passenger transportation service: | Persons |
| Total households without access to a vehicle: | Households |
| State Mobility Gap: | Daily 1-Way Psgr.-Trips per Household |
| Total need based on mobility gap: | Daily 1-Way Passenger-Trips |
|  | Annual 1-Way Passenger-Trips |

General Public Rural Non-Program Demand
Estimate of demand for general public rural transportation
Rural transit trips: $\quad \square$ Annual 1-Way Passenger-Trips

| General Public Rural Passenger Transportation |
| :--- |
| Estimate of demand for rural transportation |
| Total Rural Non-Program Demand |


| Small City Fixed Route |  |
| :--- | :--- | :--- |
| Annual Ridership: |  |


| Demand - Commuter by Transit to an Urban Center |  | Daily 1-Way Passenger TripsAnnual 1-Way Passenger-Trips |
| :---: | :---: | :---: |
| Proportion of Commuters using Transit: | 2\% |  |
| Commuter trips by transit between counties: | 10 |  |
|  | 1,500 |  |



## RURAL TRANSIT NEED/DEMAND ESTIMATION - OUTPUT TABLE

| Service Area: | RVTD |
| ---: | :--- |
| Analysis Description: | Existing Transit Need and Demand - Douglas County |
| Additional Description: |  |


| Estimation of Transit Need |  |
| :--- | :--- |
| Total need for passenger transportation service: |  |
| Total households without access to a vehicle: | Households |
| State Mobility Gap: | Daily 1 -Way Psgr.-Trips per Household |
| Total need based on mobility gap: | Annual 1-Way Passenger-Trips |

General Public Rural Non-Program Demand
Estimate of demand for general public rural transportation
Rural transit trips: $\quad \square$ Annual 1-Way Passenger-Trips

| General Public Rural Passenger Transportation |
| :--- |
| Estimate of demand for rural transportation |
| Total Rural Non-Program Demand |


| Small City Fixed Route |  |
| :--- | :--- | :--- |
| Annual Ridership: |  |


| Demand - Commuter by Transit to an Urban Center |  | Daily 1-Way Passenger TripsAnnual 1-Way Passenger-Trips |
| :---: | :---: | :---: |
| Proportion of Commuters using Transit: | 0\% |  |
| Commuter trips by transit between counties: | 0 |  |
|  | 300 |  |



## RURAL TRANSIT NEED/DEMAND ESTIMATION - OUTPUT TABLE

| Service Area: | RVTD |
| ---: | :--- |
| Analysis Description: | Existing Transit Need and Demand - Klamath County |
| Additional Description: |  |


| Estimation of Transit Need |  |
| :---: | :---: |
| Total need for passenger transportation service: | Persons |
| Total households without access to a vehicle: | Households |
| State Mobility Gap: | Daily 1-Way Psgr.-Trips per Household |
| Total need based on mobility gap: | Daily 1-Way Passenger-Trips |
|  | Annual 1-Way Passenger-Trips |

General Public Rural Non-Program Demand
Estimate of demand for general public rural transportation
Rural transit trips: $\quad \square$ Annual 1-Way Passenger-Trips

| General Public Rural Passenger Transportation |
| :--- |
| Estimate of demand for rural transportation |
| Total Rural Non-Program Demand |


| Small City Fixed Route |  |
| :--- | :--- | :--- |
| Annual Ridership: |  |


| Demand - Commuter by Transit to an Urban Center |  | Daily 1-Way Passenger TripsAnnual 1-Way Passenger-Trips |
| :---: | :---: | :---: |
| Proportion of Commuters using Transit: | 0\% |  |
| Commuter trips by transit between counties: | 10 |  |
|  | 1,500 |  |



## Appendix B <br> Forecast TCRP 161 Results

## RURAL TRANSIT NEED/DEMAND ESTIMATION - OUTPUT TABLE

| Service Area: | RVTD |
| ---: | :--- |
| Analysis Description: | Future Transit Need and Demand - Grants Pass 2000 Commuters |
| Additional Description: |  |


| Estimation of Transit Need |  |
| :---: | :---: |
| Total need for passenger transportation service: | Persons |
| Total households without access to a vehicle: | Households |
| State Mobility Gap: | Daily 1-Way Psgr.-Trips per Household |
| Total need based on mobility gap: | Daily 1-Way Passenger-Trips |
|  | Annual 1-Way Passenger-Trips |

General Public Rural Non-Program Demand
Estimate of demand for general public rural transportation
Rural transit trips: $\quad \square$ Annual 1-Way Passenger-Trips

| General Public Rural Passenger Transportation |  |
| :--- | :--- |
| Estimate of demand for rural transportation | $\square$ Annual 1-Way Passenger-Trips |
| Total Rural Non-Program Demand |  |


| Small City Fixed Route |  |
| :--- | :--- |
| Annual Ridership: |  |

## Demand - Commuter by Transit to an Urban Center

Proportion of Commuters using Transit:
Commuter trips by transit between counties:
Daily 1-Way Passenger Trips Annual 1-Way Passenger-Trips


## RURAL TRANSIT NEED/DEMAND ESTIMATION - OUTPUT TABLE

| Service Area: | RVTD |
| ---: | :--- |
| Analysis Description: | Future Transit Need and Demand - Grants Pass 2500 Commuters |
| Additional Description: |  |


| Estimation of Transit Need |  |
| :---: | :---: |
| Total need for passenger transportation service: | Persons |
| Total households without access to a vehicle: | Households |
| State Mobility Gap: | Daily 1-Way Psgr.-Trips per Household |
| Total need based on mobility gap: | Daily 1-Way Passenger-Trips |
|  | Annual 1-Way Passenger-Trips |

General Public Rural Non-Program Demand
Estimate of demand for general public rural transportation
Rural transit trips: $\quad \square$ Annual 1-Way Passenger-Trips

| General Public Rural Passenger Transportation |  |
| :--- | :--- |
| Estimate of demand for rural transportation | $\square$ Annual 1-Way Passenger-Trips |
| Total Rural Non-Program Demand |  |


| Small City Fixed Route |  |
| :--- | :--- |
| Annual Ridership: |  |


| Demand - Commuter by Transit to an Urban Center |  |
| :--- | :---: |
| Proportion of Commuters using Transit: | $3 \%$ |
| Commuter trips by transit between counties: | 150 |
|  | Daily 1-Way Passenger Trips |
|  | Annual 1-Way Passenger-Trips |


| Rural Program Demand |  |
| :---: | :---: |
| Annual Program Trip Estimation |  |
|  | Annual 1-Way Passenger-Trips |
|  | Annual 1-Way Passenger-Trips |
|  | Annual 1-Way Passenger-Trips |
|  | Annual 1-Way Passenger-Trips |
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|  | Annual 1-Way Passenger-Trips |
|  | Annual 1-Way Passenger-Trips |
|  | Annual 1-Way Passenger-Trips |
| Total Rural Program Demand | Annual 1-Way Passenger-Trips |

## RURAL TRANSIT NEED/DEMAND ESTIMATION - OUTPUT TABLE

| Service Area: | RVTD |
| ---: | :--- |
| Analysis Description: | Future Transit Need and Demand - Grants Pass 3000 Commuters |
| Additional Description: |  |


| Estimation of Transit Need |  |
| :---: | :---: |
| Total need for passenger transportation service: | Persons |
| Total households without access to a vehicle: | Households |
| State Mobility Gap: | Daily 1-Way Psgr.-Trips per Household |
| Total need based on mobility gap: | Daily 1-Way Passenger-Trips |
|  | Annual 1-Way Passenger-Trips |

General Public Rural Non-Program Demand
Estimate of demand for general public rural transportation
Rural transit trips: $\quad \square$ Annual 1-Way Passenger-Trips

| General Public Rural Passenger Transportation |  |
| :--- | :--- |
| Estimate of demand for rural transportation | $\square$ Annual 1-Way Passenger-Trips |
| Total Rural Non-Program Demand |  |


| Small City Fixed Route |  |
| :--- | :--- |
| Annual Ridership: |  |


| Demand - Commuter by Transit to an Urban Center |  |
| :--- | :---: |
| Proportion of Commuters using Transit: | $3 \%$ |
| Commuter trips by transit between counties: | 190 |
|  | Daily 1-Way Passenger Trips |
|  | Annual 1-Way Passenger-Trips |


| Rural Program Demand |  |
| :---: | :---: |
| Annual Program Trip Estimation |  |
|  | Annual 1-Way Passenger-Trips |
|  | Annual 1-Way Passenger-Trips |
|  | Annual 1-Way Passenger-Trips |
|  | Annual 1-Way Passenger-Trips |
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|  | Annual 1-Way Passenger-Trips |
|  | Annual 1-Way Passenger-Trips |
| Total Rural Program Demand | Annual 1-Way Passenger-Trips |


[^0]:    ${ }^{1}$ Title VI populations include individuals who identify as minorities (both racial and ethnic), low-income, disabled, older adult ( $65+$ ), youth/children (under 18), veterans, and LEP (primary language is not English) (FTA. 2015. Title VI of the Civil Rights Act of 1964, available at http://www.fta.dot.gov/civilrights/12328.html).

[^1]:    ${ }^{2}$ US Census Bureau, LEHD On the Map, Inflow/Outflow Analysis. Accessed online: http://onthemap.ces.census.gov/
    ${ }^{3}$ Employment rankings provided by the Chamber of Medford/Jackson County's "Largest Employers" webpage, accessed online: http://web.medfordchamber.com/cwt/external/wcpages/business_services/largest_employers.aspx

