



TECHNICAL MEMORANDUM #4 - DRAFT

Date: March 27, 2018 Project #: 21289
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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 based on existing and projected transit-dependent 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).

IN THIS MEMO

- ▶ Existing and Forecast Population and Demographics
- ▶ Fixed-Route and Demand-Response Forecast Demand

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

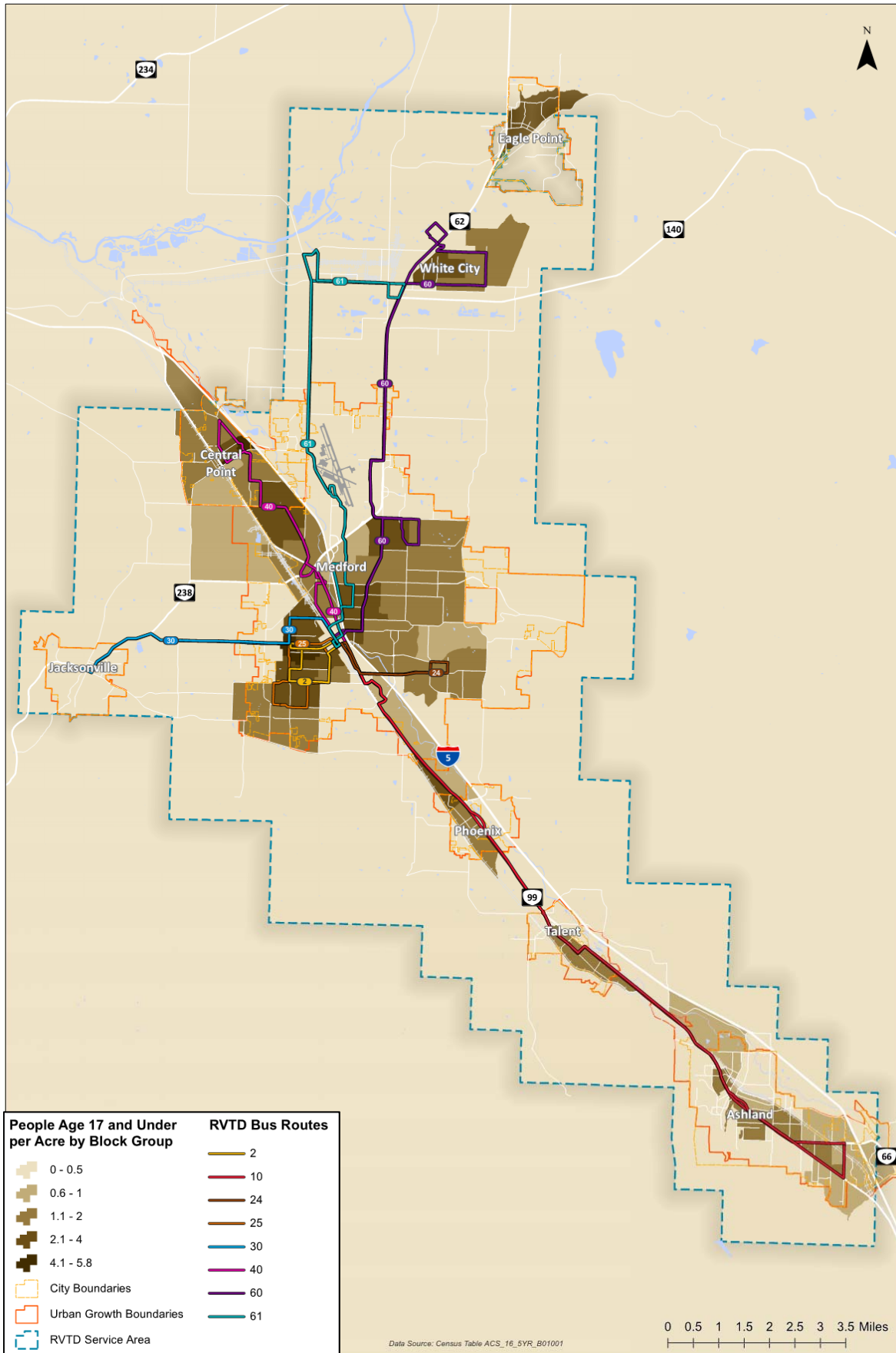


Figure 2: Jackson County Population and Transit Service – Millennials

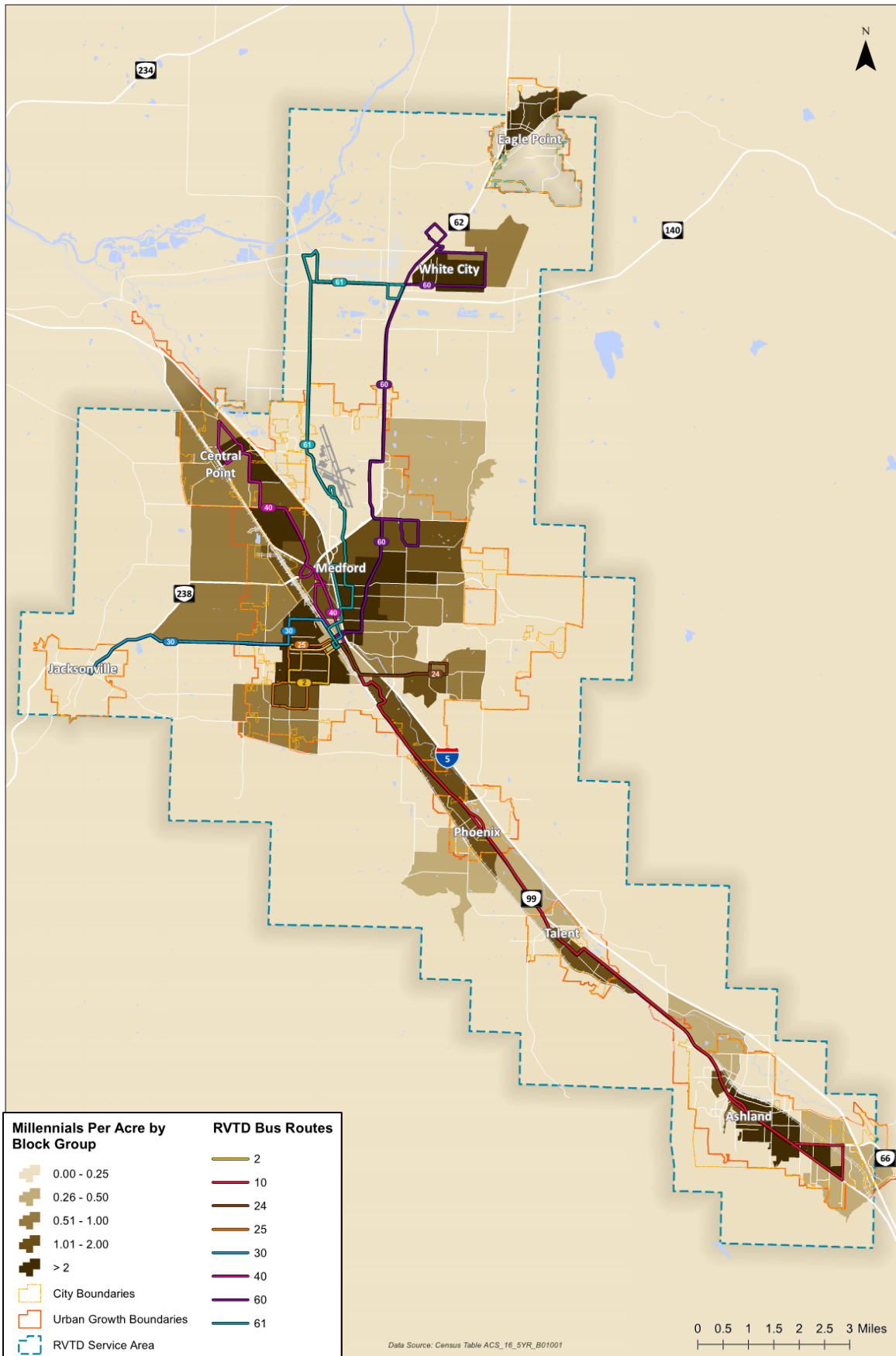


Figure 3: Jackson County Population and Transit Service – Generation X

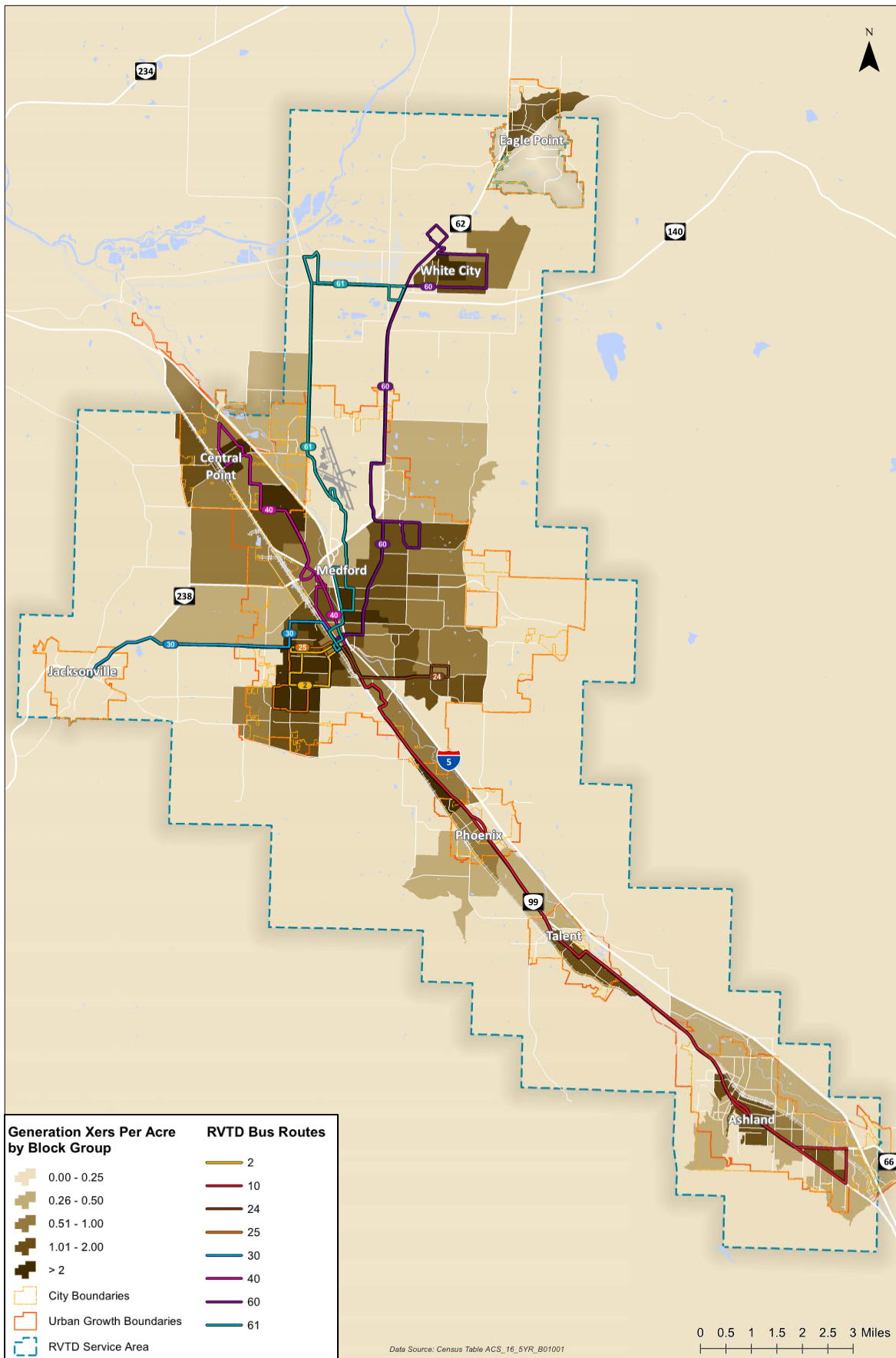


Figure 4: Jackson County Population and Transit Service – Baby Boomers

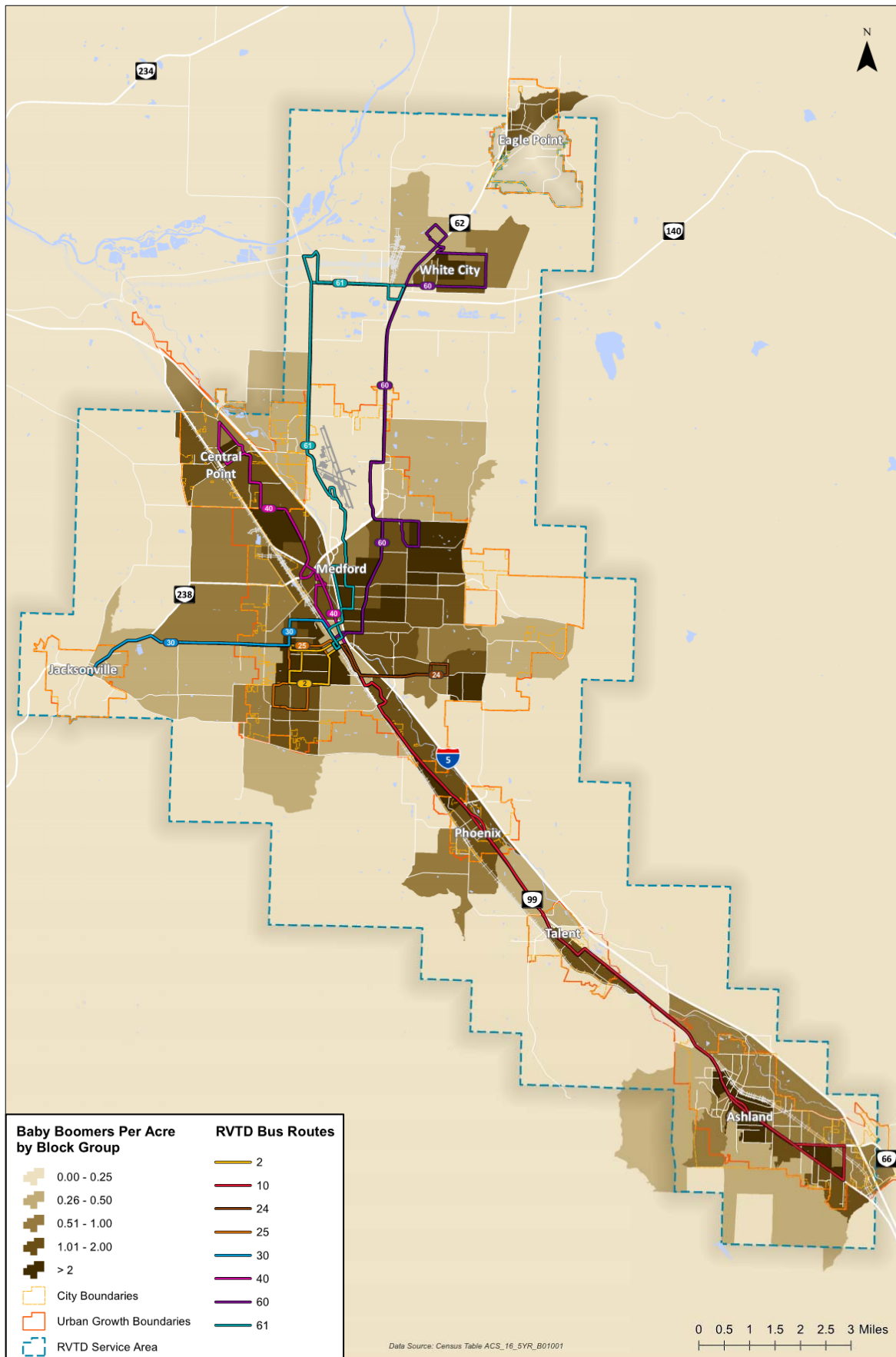
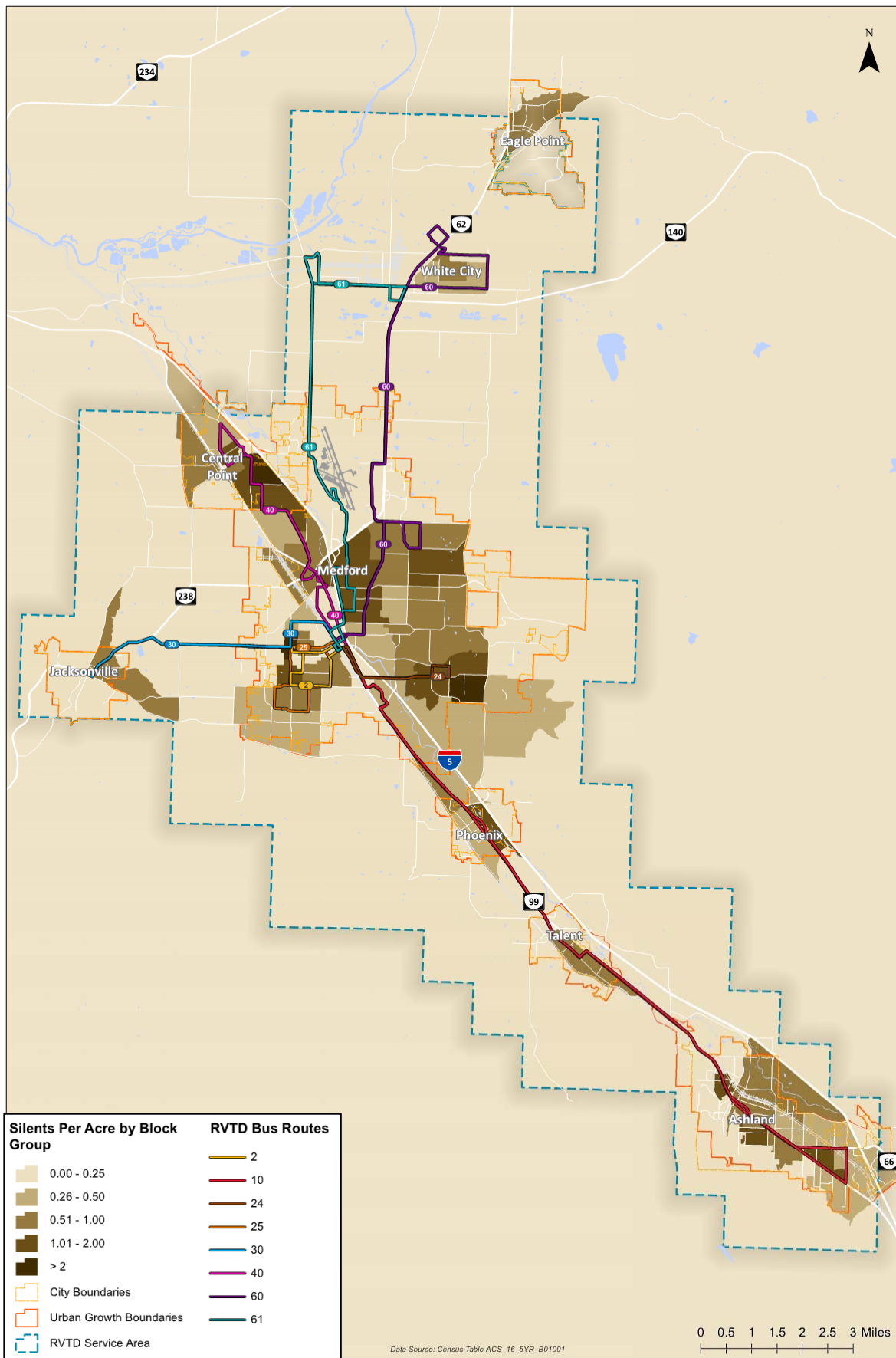


Figure 5: Jackson County Population and Transit Service – Silent Generation



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

“Generation Z” – 1997-2017

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 close-in urban areas though there the group is fairly distributed throughout the metropolitan region.

“Millennials or Generation Y” 1981-1996

The highest densities of Millennials are can be 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

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 more their selection of living in urban, suburban, or rural areas.

“Baby Boomers” – 1946-1964

With nearly 10,000 “Boomers” during 65 every day around the United States, many of them have or about to retire, 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’ house, 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. And who have a diverse variety of needs and therefore trip destinations.

“Silent Generation” – born before 1945

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 RVTB service district total approximately 61 percent of the total County population. Approximately 85 percent of the County population lies within the RVTB 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 (2000)	Population (2010)	Population (2017)	Growth (2000–2017)	% Growth (2000–2017)
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)	181,270	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	Elderly (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

¹Low 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.

²Disability status is a Census variable.

Key demographic findings are as follows:

- ▶ Elderly populations are concentrated in smaller cities within Jackson County, especially Rogue River, Jacksonville, Shady Cove, and Phoenix.
- ▶ 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 (34 percent), Phoenix (26 percent), Medford (21 percent), and Rogue River (21 percent).
- ▶ 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.

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 PERCENT

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

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.

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 Residents¹

Community	Population with Incomes <150% Poverty Level (2000) ²	Population with Incomes <150% Poverty Level (2016)	% Change (2000-2016)	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

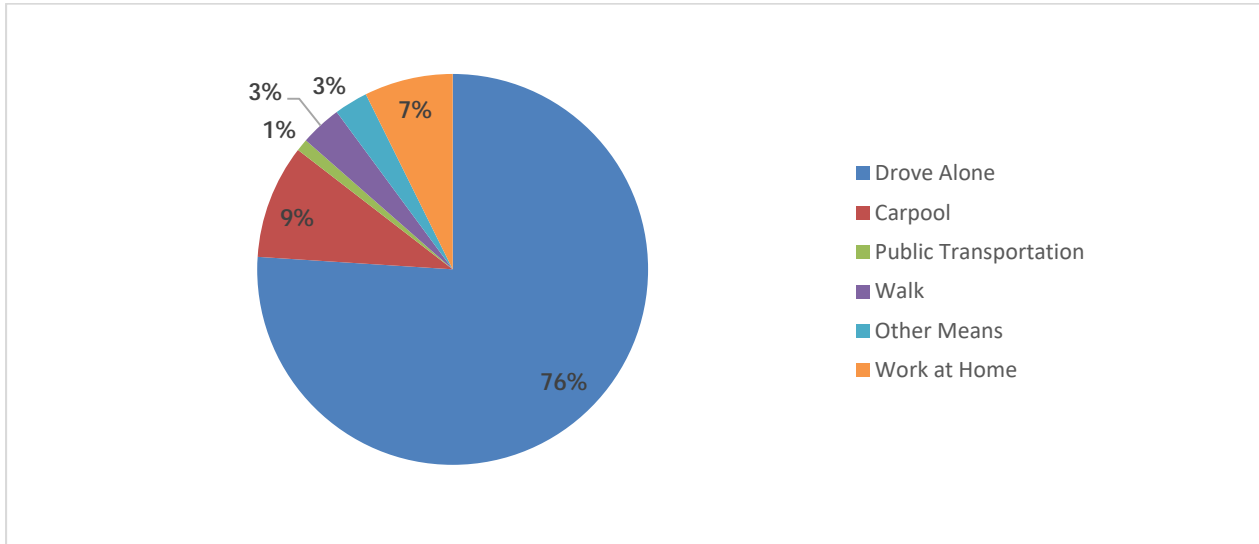
¹Data for persons of low income reflect only a portion of the population for which poverty status is determined. Income cannot be determined for children under the age of 15 not related by birth, marriage, or adoption to a reference person within the household; therefore, their poverty status cannot be determined.

²The 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 Total 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). 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.

Overview of Title VI Populations¹ 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 English Proficiency ¹	Elderly (Over 60 years old)	Children and Youth (Under 18 years old)	Minority	Hispanic/Latino (Any race)	Low-Income	Disabled
4%	28%	15%	18%	12%	18%	17%

Source: 2011-2015 ACS for Limited English Proficiency, 2012-2016 ACS for other topics

¹Limited English Proficiency ACS data was not provided for 2012-2016 in Jackson County. 2011-2015 data only provided two categories – Speak English “very well” and Speak English less than “very well”.

¹ Title VI populations include individuals who identify as minorities (both racial and ethnic), low-income, disabled, elderly (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>).

Figure 7: Jackson County Limited English Proficiency Populations

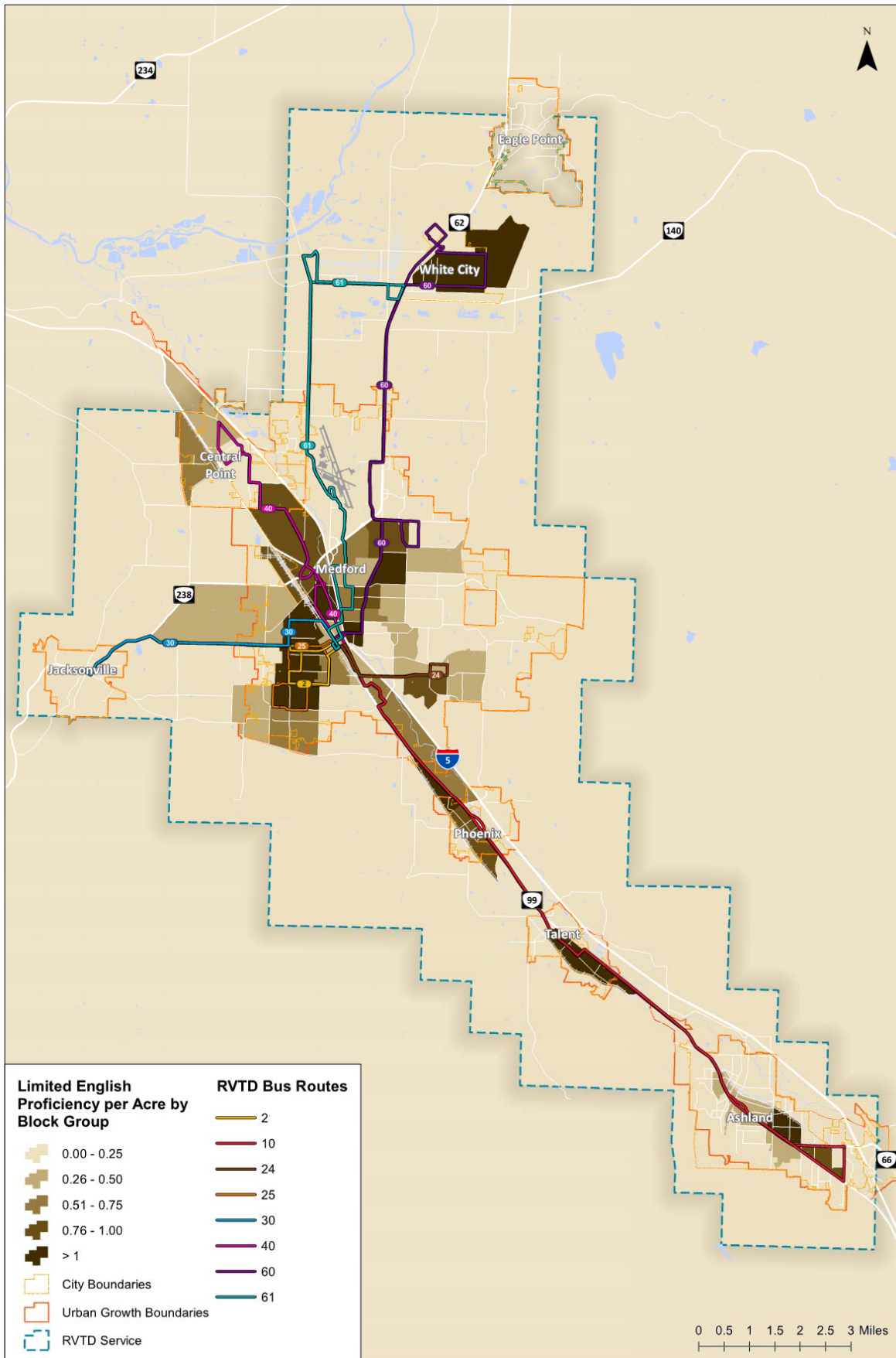


Figure 8: Jackson County Elderly Populations

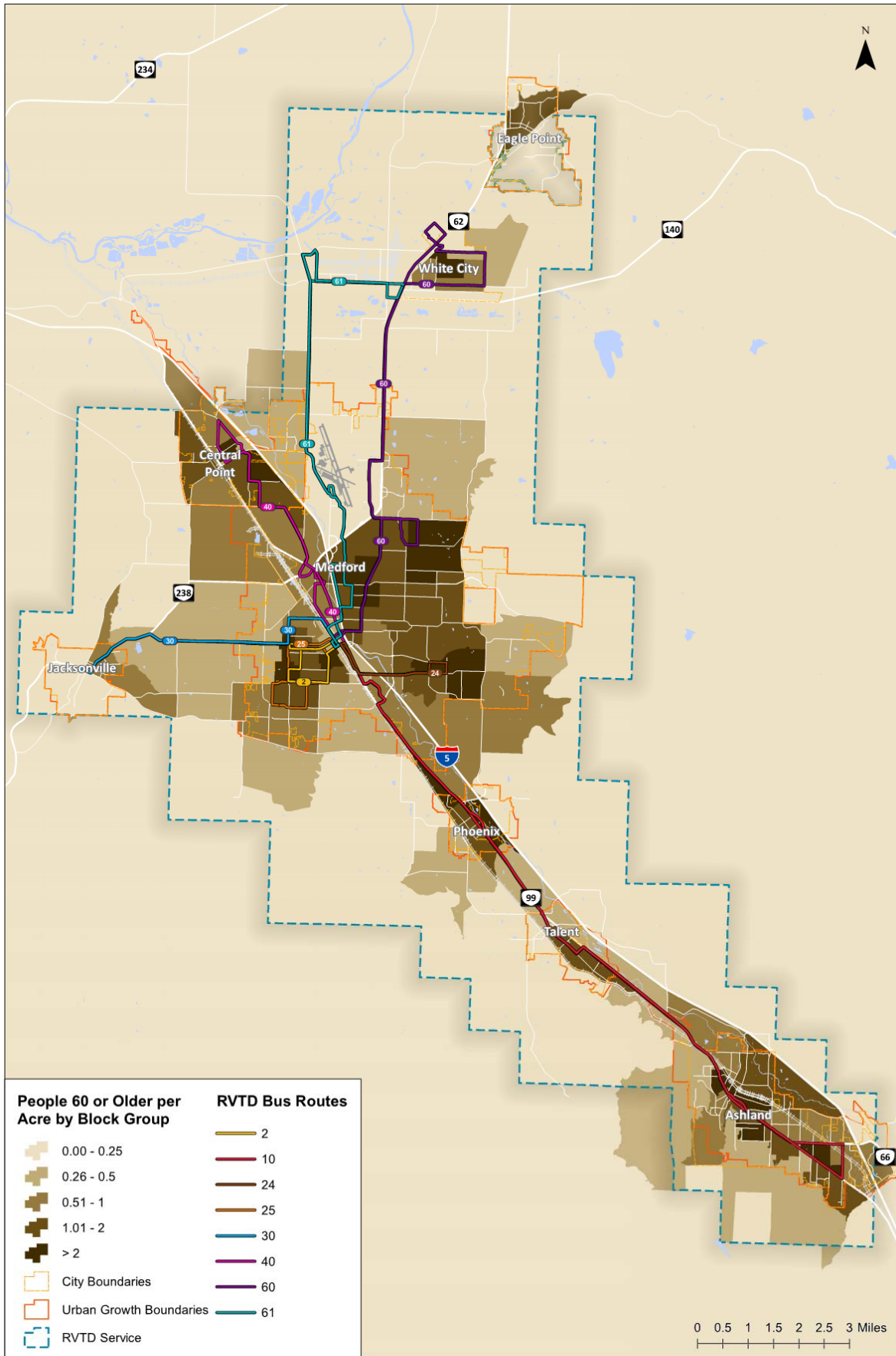


Figure 9: Jackson County Minority Populations

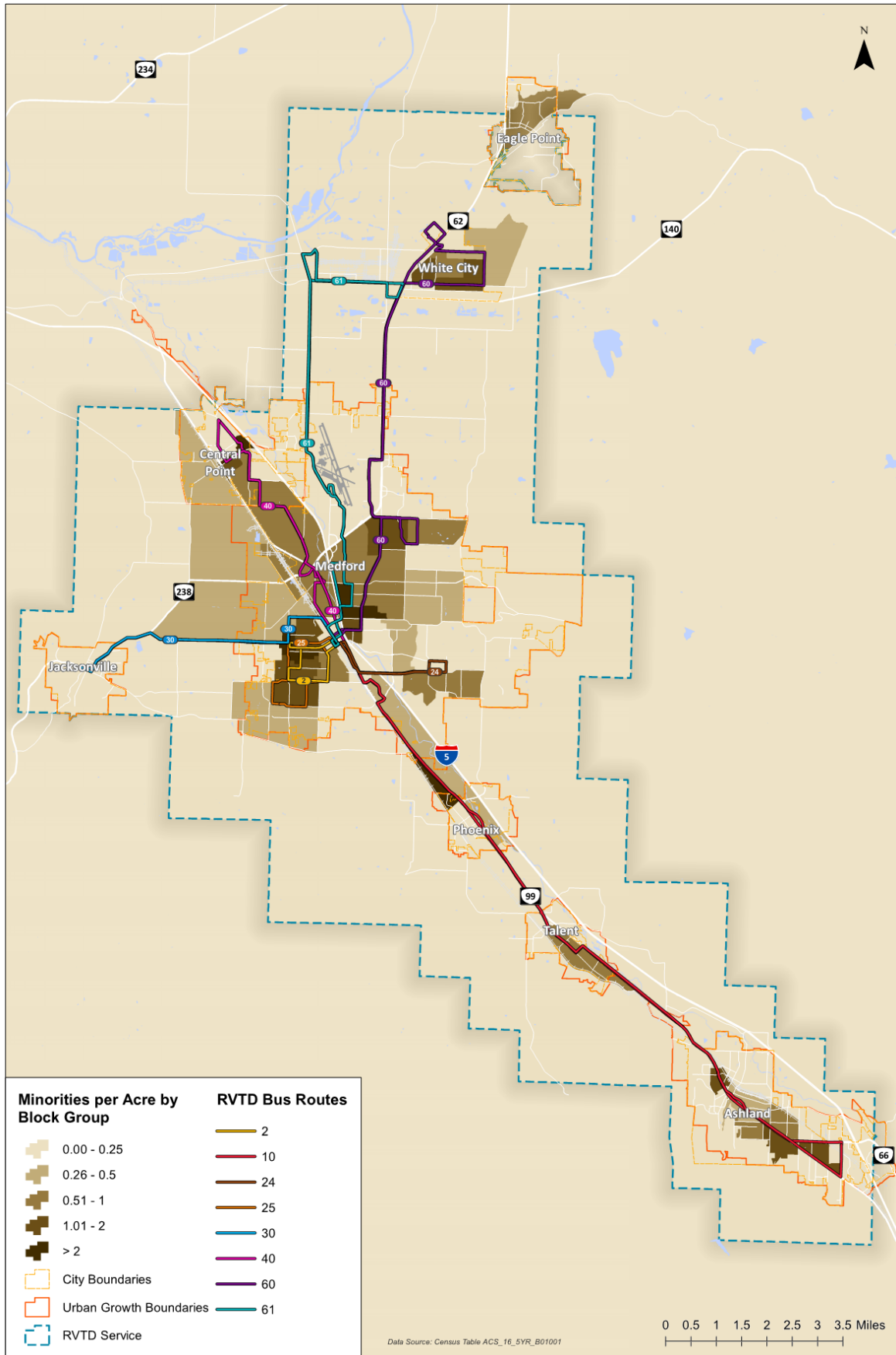


Figure 10: Jackson County Hispanic/Latino Populations

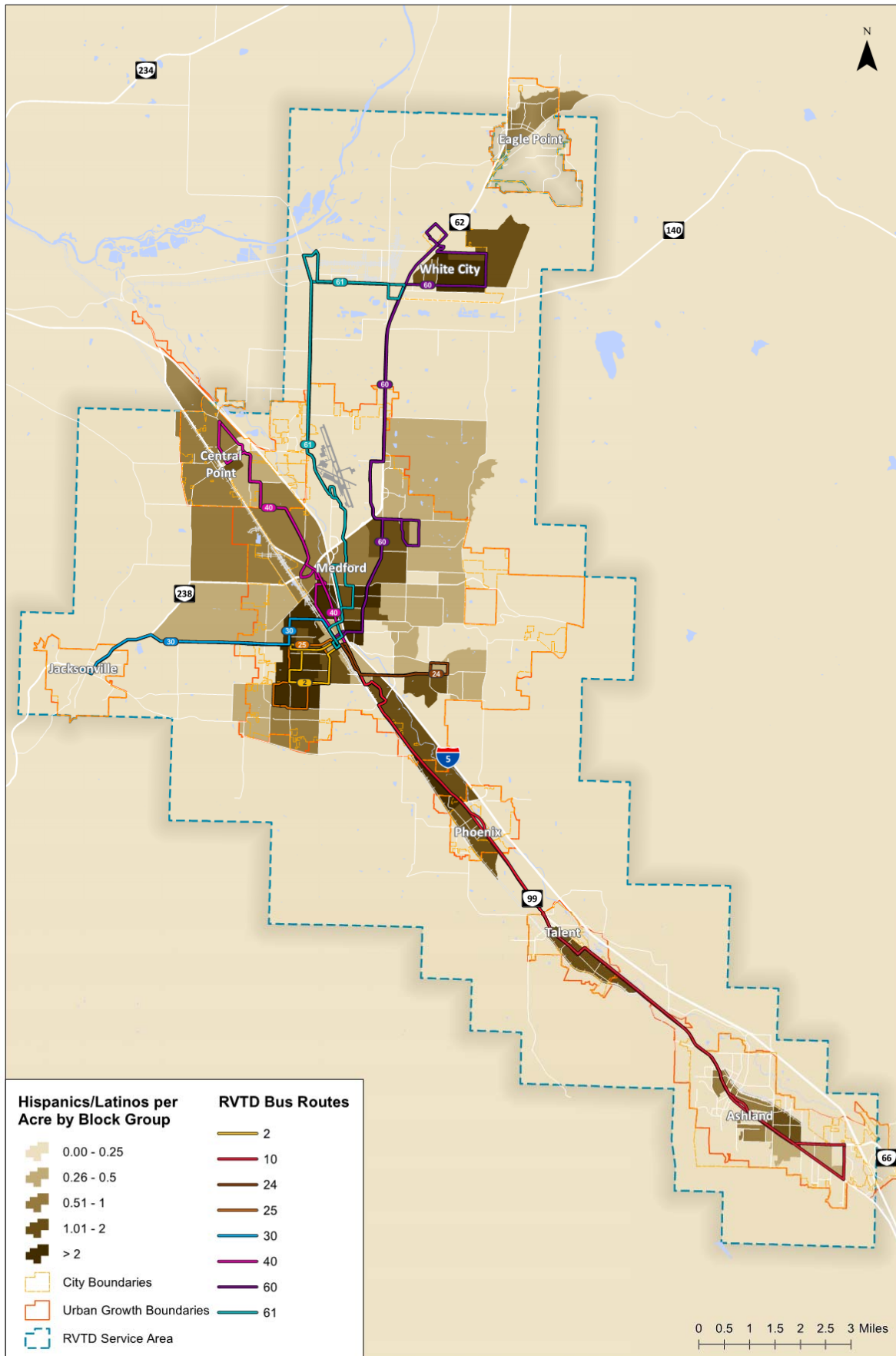


Figure 11: Jackson County Low-Income Populations

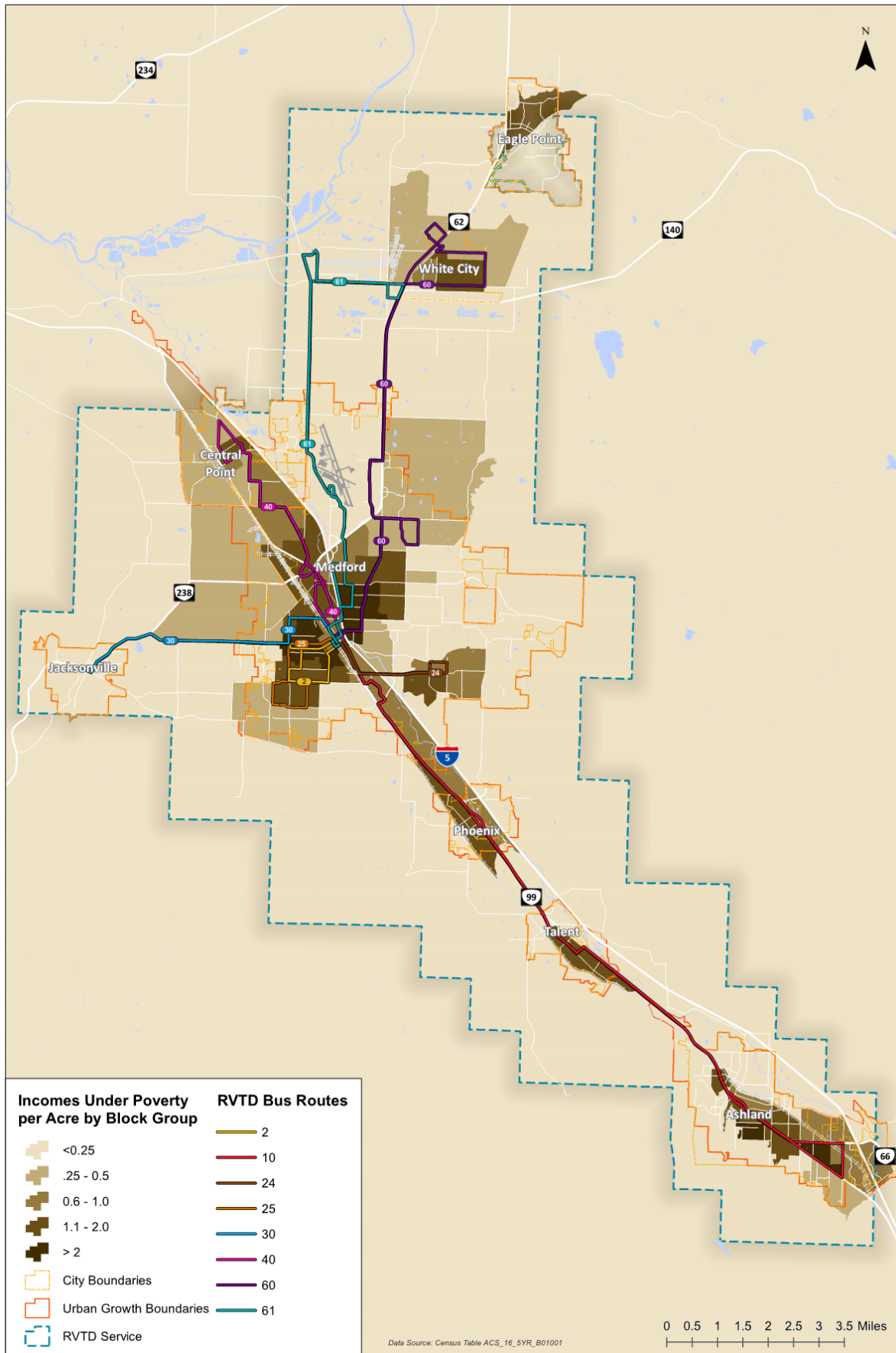
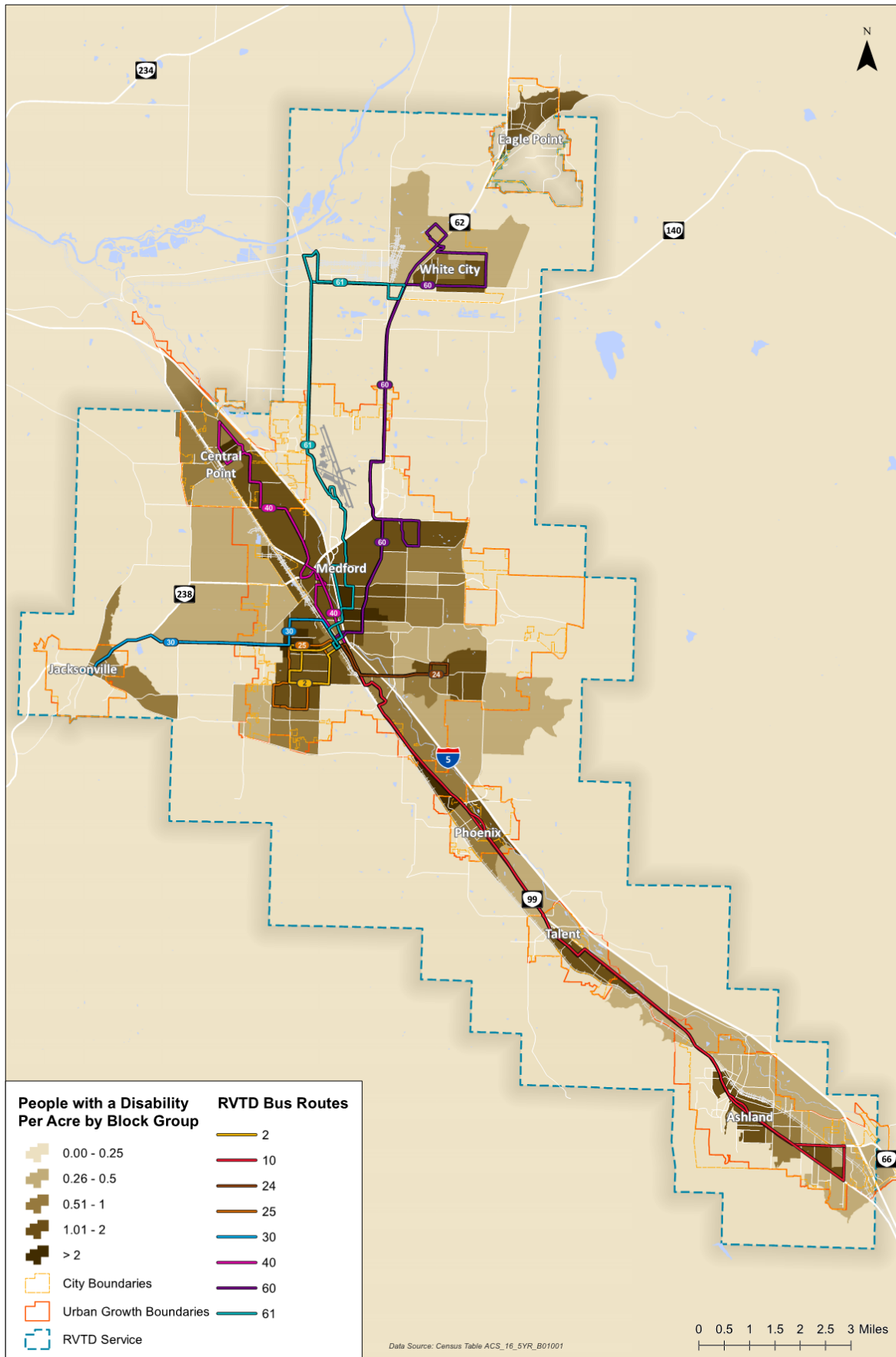


Figure 12: Jackson County Disabled Populations



Key findings are as follows:

- ▶ Individuals with limited English proficiency are underserved in west Central Point and west Medford.
- ▶ Elderly, youth, and minority populations are underserved in Eagle Point, west Central Point, and east Medford.
- ▶ Hispanic/Latino and low-income populations are underserved in Eagle Point, west Central Point, and northeast Medford.
- ▶ Populations with a disability are underserved 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 hotspot 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.

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 low-income 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).”*

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 employment², 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

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 Line
3	Harry & David	Medford	RVTD 10
4	Rogue Valley Medical Center	Medford	RVTD 24, Rogue Valley Commuter Line
5	Allegiant Air	Medford	RVTD 61
6	Providence Health System in Southern OR	Medford, Central Point, White City, Phoenix	RVTD 10, 24, 60, 61
7	Medford School District 549C	Medford	RVTD 2, 10, 24, 25, 30, 40, 60, 61; Rogue Valley Commuter Line, Rogue Valley Connector
8	Jackson County	Medford, Central Point, Phoenix	RVTD 2, 10, 24, 25, 30, 40, 60, 61; Rogue Valley Commuter Line, Rogue Valley Connector
9	Wal-Mart Stores	Medford, Grants Pass, Eagle Point	RVTD 10, 60; Rogue Valley Commuter Line, 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.

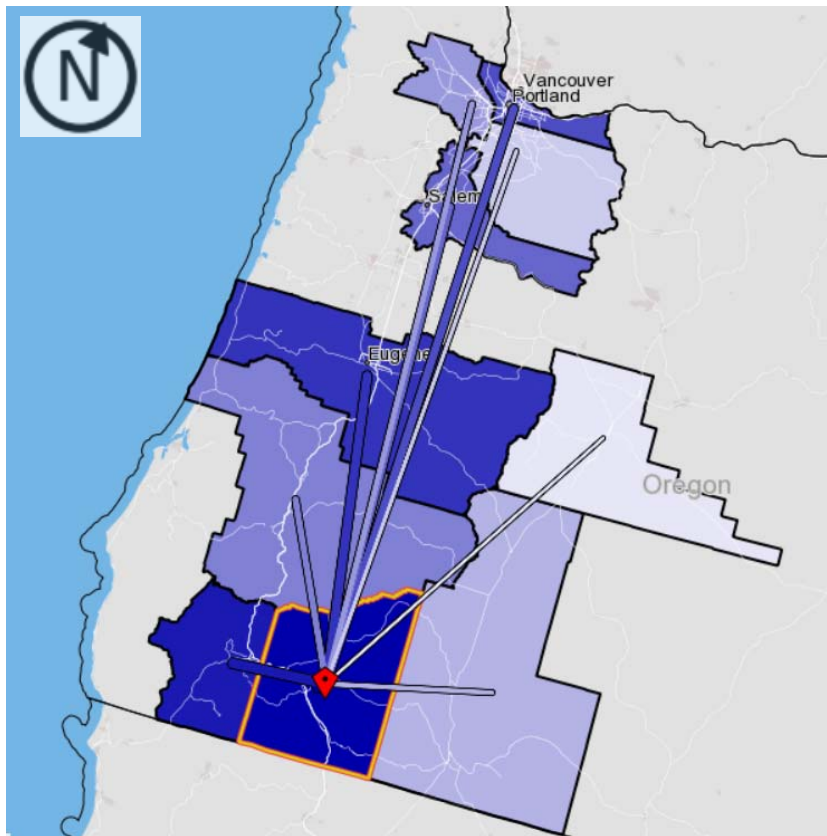
² US Census Bureau, LEHD On the Map, Inflow/Outflow Analysis. Accessed online: <http://onthemap.ces.census.gov/>

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

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	Share
Medford	29,759	51.3%
Central Point	7,137	12.3%
Ashland	7,096	12.2%
White City	3,234	5.6%
Eagle Point	3,024	5.2%
Talent	2,238	3.9%
Phoenix	1,742	3.0%
Jacksonville	843	1.5%
Shady Cove	786	1.4%
Rogue River	634	1.1%
All Other Places	1,555	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	75,572	100%

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

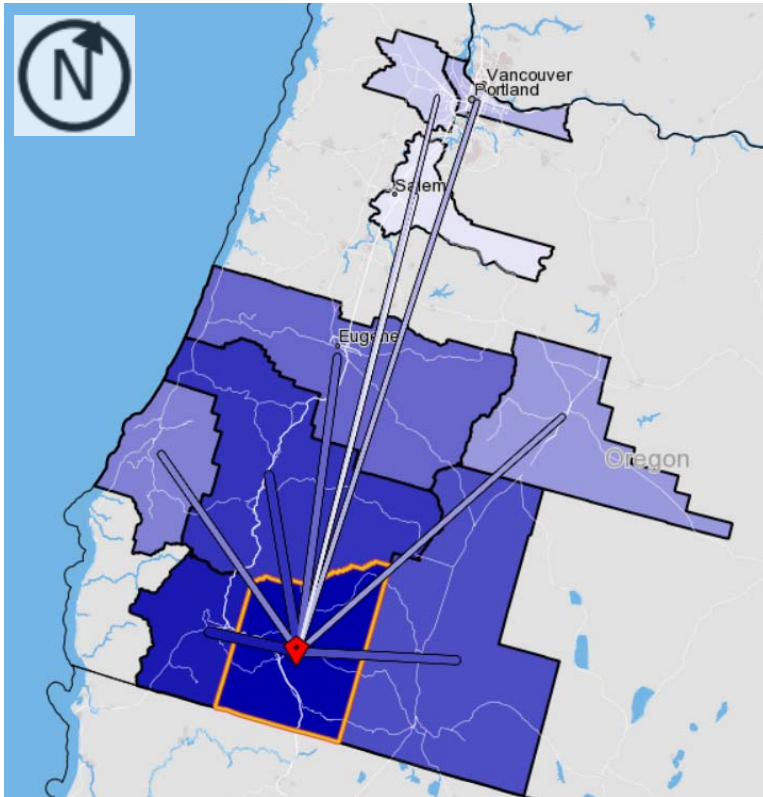
All Workers	Total	Share
12:00 AM to 4:59 AM	3,785	4.6%
5:00 AM to 5:29 AM	2,697	3.3%
5:30 AM to 5:59 AM	3,744	4.6%
6:00 AM to 6:29 AM	5,399	6.6%
6:30 AM to 6:59 AM	7,783	9.6%
7:00 AM to 7:29 AM	10,801	13.3%
7:30 AM to 7:59 AM	13,047	16.0%
8:00 AM to 8:29 AM	8,136	10.0%
8:30 AM to 8:59 AM	3,837	4.7%
9:00 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. 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

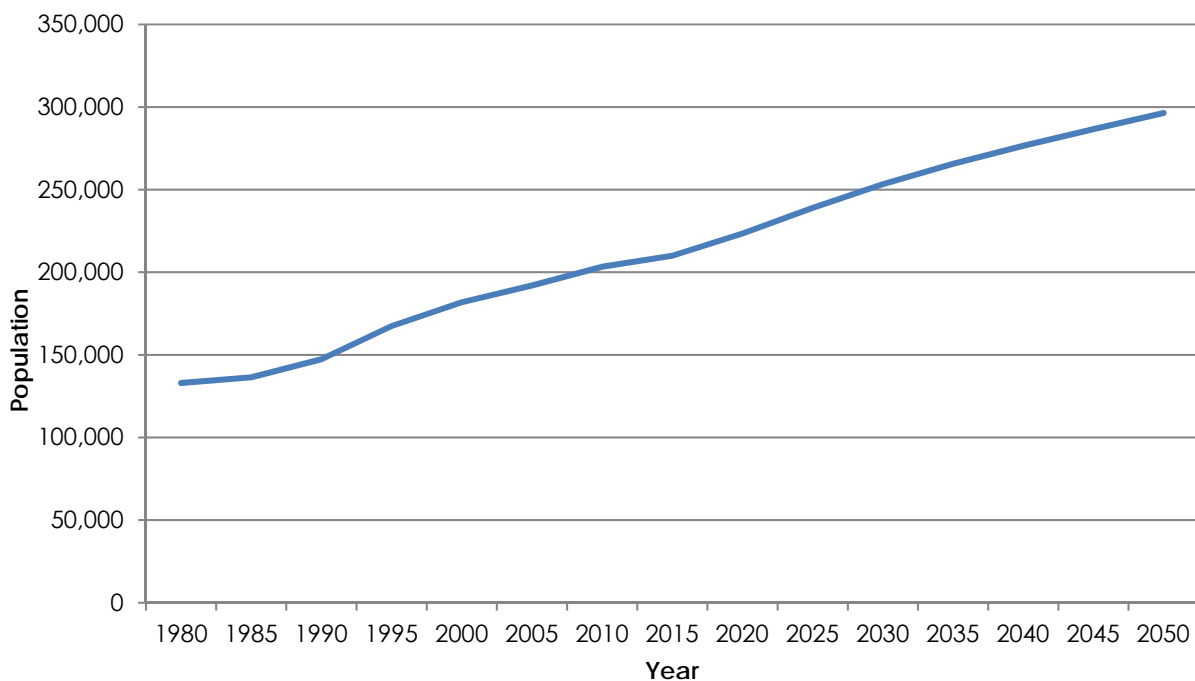


Table 13: Actual and Forecasted Jackson County Population, 2000 - 2050

	Year	Population	5 Year Change	5 Year % Change	Annual Growth Rate
U.S. Census Bureau Estimate	<u>2015</u>	210,015	6,675	3.3%	0.7%
	<u>2020</u>	223,458	13,443	6.4%	1.3%
Forecast	<u>2025</u>	238,955	15,498	6.9%	1.4%
	<u>2030</u>	253,274	14,318	6.0%	1.2%
	<u>2035</u>	265,624	12,350	4.9%	1.0%
	<u>2040</u>	276,551	10,928	4.1%	0.8%
	<u>2045</u>	286,648	10,097	3.7%	0.7%
	<u>2050</u>	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 in terms 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 Year	End Year	Generation	2016 Population	2016 Percent of Total Population	2042 Population	2042 Percent of 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	100%

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+2014-2024?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 2008–2009 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

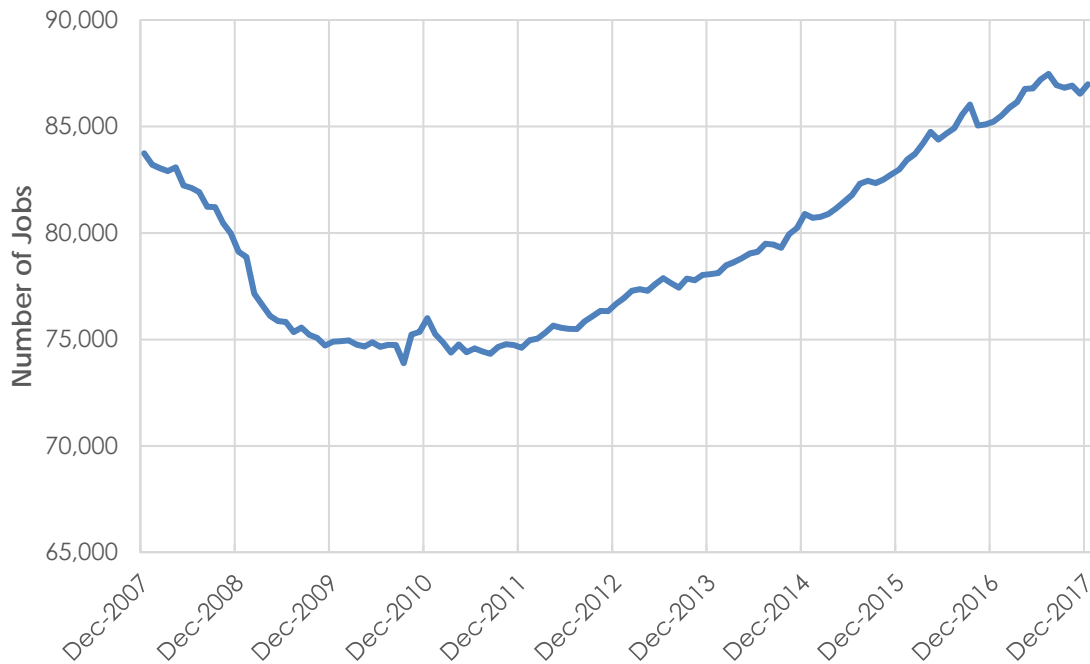
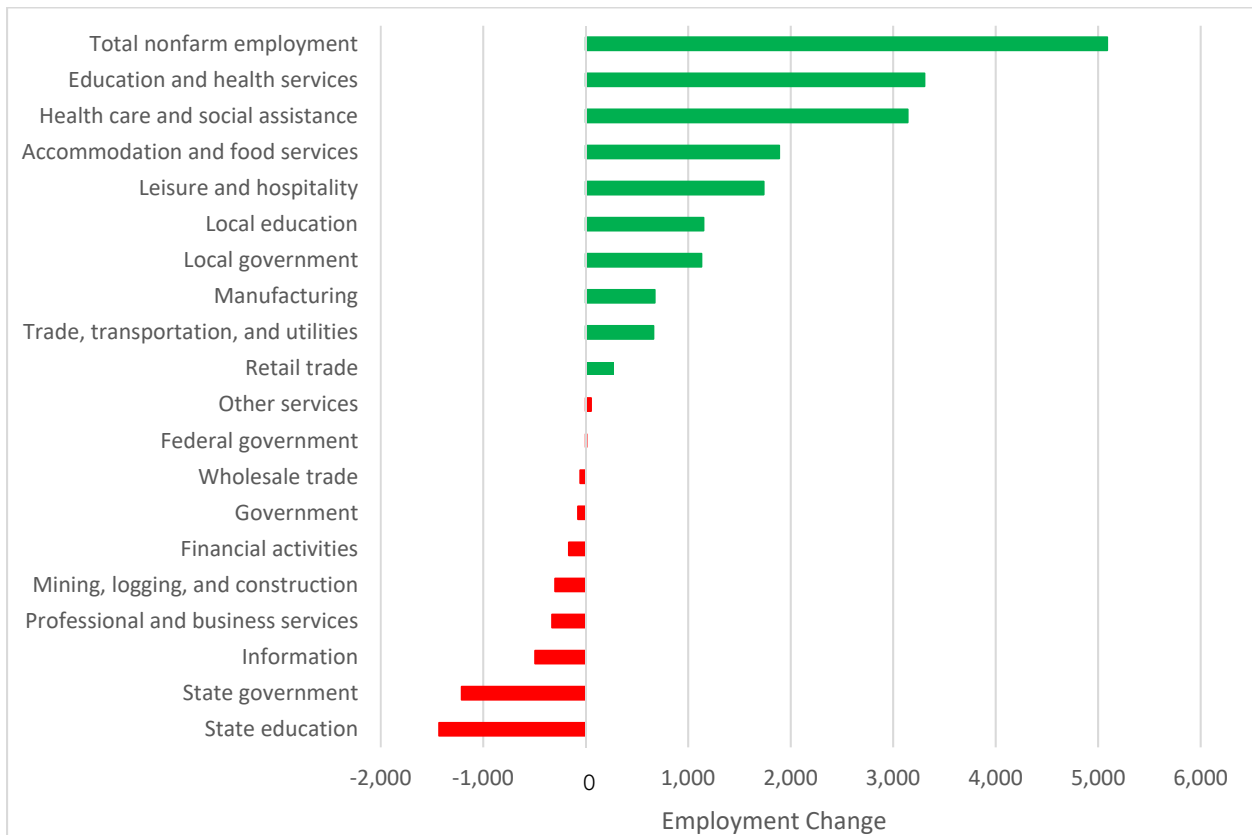


Figure 17: Jackson County Employment Changes by Industry 2008–2017



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 lane 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, Medford is actively planning for TOD as follows:

- ▶ 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 RPS Plan concluded that future transit planning should be included in all new and updated Conceptual Transportation Plans for the region and in each Urban Reserve Area.

TRANSIT-DEPENDENT DEMOGRAPHIC TRENDS

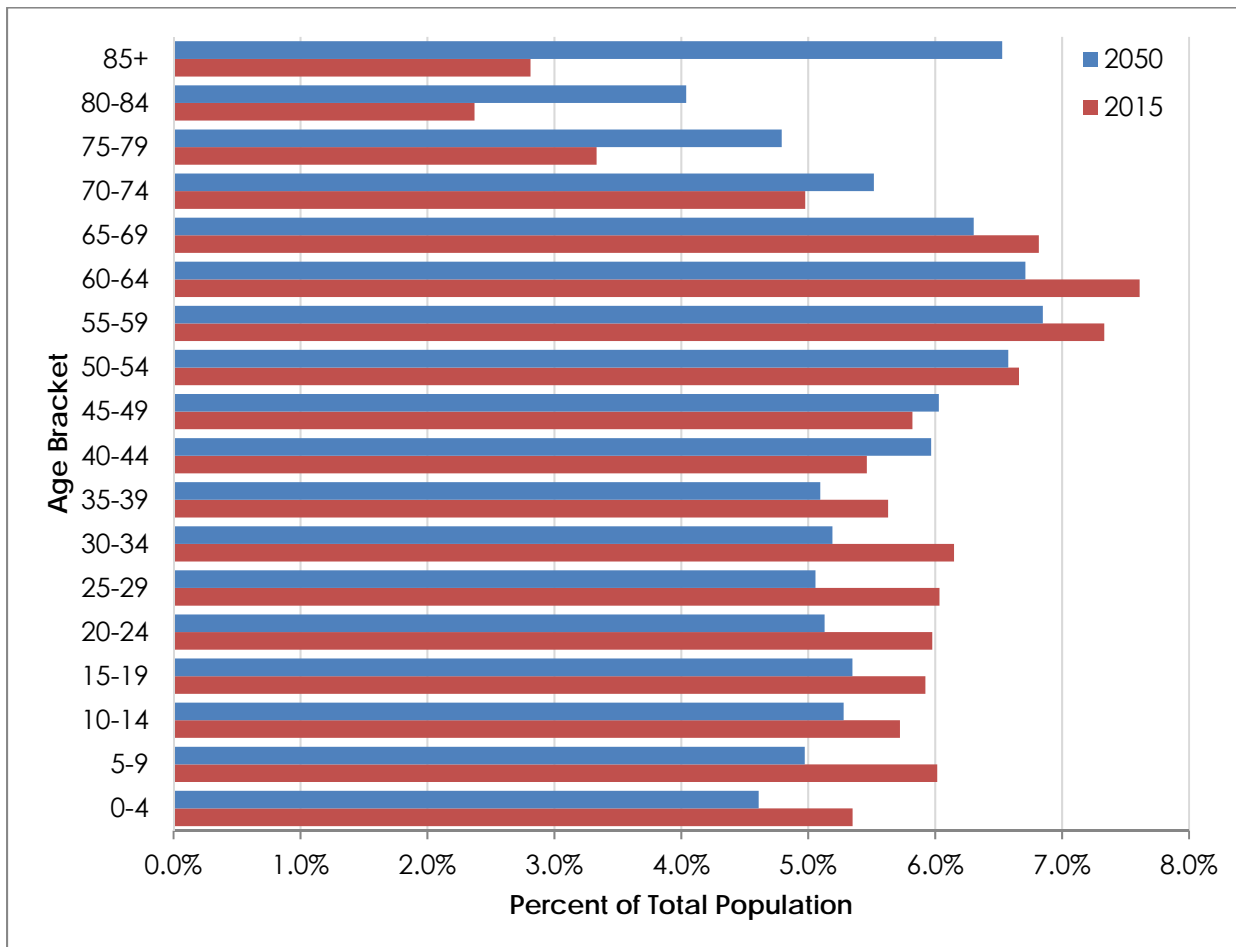
Senior populations, populations with disabilities, and low-income populations tend to depend on transit. These populations were examined and forecasted to understand potential transit-dependent populations in 2032.

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 new 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+2014-2024?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

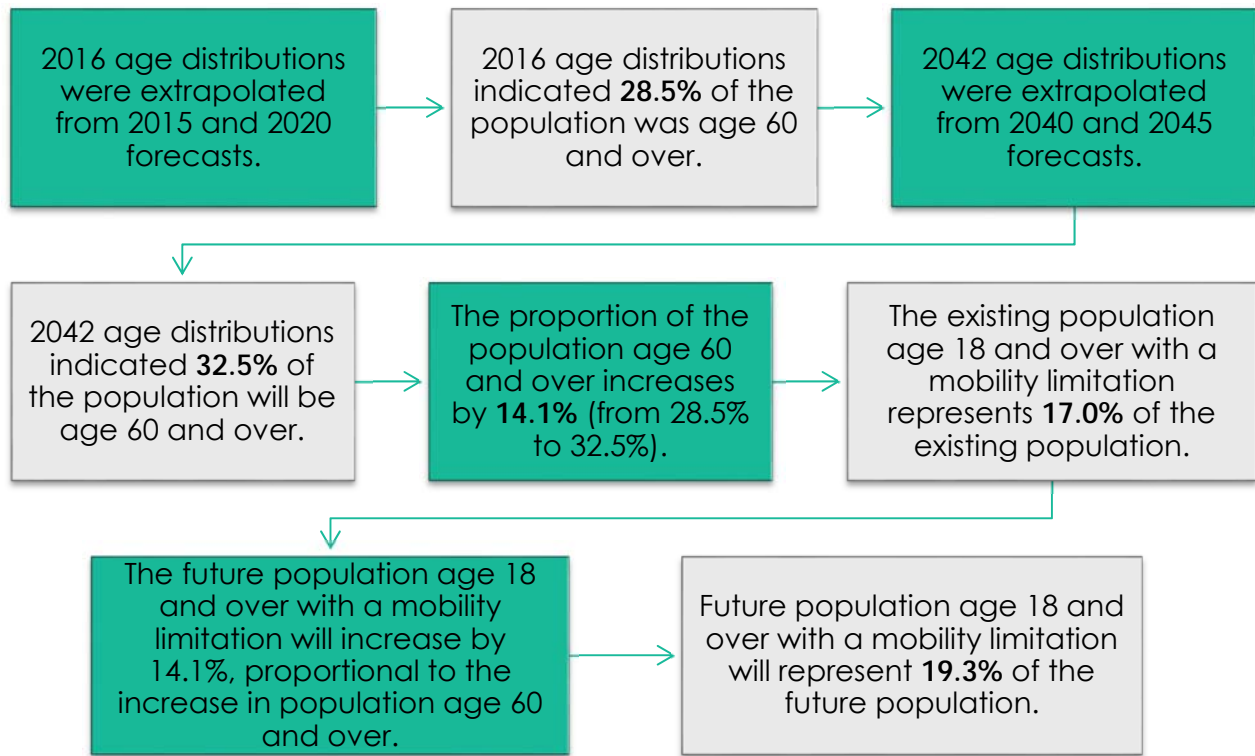


Table 16: Existing and Forecasted Jackson County Population with a Mobility Limitation

Factor	2016 Population	Percent of 2016 Population	Percent of 2042 Population	Percent Change	2042 Population
Population	212,700	—	—	+32%	280,590
Population age 60+	60,523	28.5%	32.5%		91,127
Population age 18+ with 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

Factor	2016 Population	Percent Change	2042 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 commuter transit services.

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

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 provides just under 1,145,000 one-way passenger-trips per year), 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 transit-dependent population growth.

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

Transit Dependency Factor	2016 County Pop.	2016 Total Rides	Rides per Capita	2042 County Pop.	2042 Forecast Ridership By Factor	Average 2042 Ridership by Transit-Dependent 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. These estimates will be further examined and refined upon processing of the 2018 Passenger Survey results, which includes information on ridership demographics.

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 Employment–Household 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 Medford	Distance to Medford (miles)	Estimated Annual One-Way Transit Trip Demand
Grants Pass	1,513	30	18,400
Gold Hill	149	14	1,500
Rogue River	156	22	1,500
Klamath County ¹	672	80	1,500
Douglas County ²	873	97	300

Source: 2015 LEHD On-The-Map Analysis

¹Assumes the City of Klamath Falls as the point of origin

²Assumes 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 Medford	Distance to Medford	Estimated Annual One-Way Transit Trip Demand	Estimated Transit Trips per Commuter
Grants Pass	1,513	30	18,400	12.2
	2,000		27,000	13.5
	2,500		37,500	15.0
	3,000		49,200	16.4

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 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 / Mobility-Limited Population	Forecast 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

Appendix B Forecast TCRP 161 Results

