



# CITY OF LEBANON

## Transit Development Plan – Final

August 2017



## **Acknowledgements**

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## Acronyms

Advanced Transportation Technology Center–ATTC  
Albany Transit System–ATS  
American Community Survey–ACS  
American with Disabilities Act–ADA  
Area Agency on Aging–AAA  
Automatic passenger counters–APC  
Automatic vehicle location–AVL  
Business Energy Tax Credit–BETC  
Computer-aided dispatch and scheduling–CADS  
Corvallis Albany Lebanon Model–CALM  
Department of Human Services–DHS  
Federal Transit Administration–FTA  
Fiscal year–FY  
Fixing America’s Surface Transportation–FAST  
Full time equivalent–FTE  
Geographic Information Systems–GIS  
Grantmakers in Aging–GIA  
Job Access Reverse Commute–JARC  
Limited English Proficiency–LEP  
Linn-Benton Community College–LBCC  
Longitudinal Employer-Household Dynamics–LEHD  
Lube-Oil-Filter-LOF

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National Volunteer Transportation Center–NVTC  
Oregon Cascades West Council of Governments–OCWCOG  
Oregon Department of Transportation–ODOT  
Project Management Team–PMT  
Special Transportation Fund–STF  
Tillamook County Transportation District–TCTD  
Transit Development Plan–TDP  
Transit Plan Advisory Committee–TPAC  
Transportation Analysis Zones–TAZs  
Transportation Planning Rule–TPR  
Transportation Planning Analysis Unit–TPAU  
Transportation Reaching People–TRP  
Transportation system plan–TSP  
Vehicle Information System–VIS  
Western University’s College of Osteopathic Medicine of the Pacific, Northwest–COMP-NW

# 1 EXECUTIVE SUMMARY

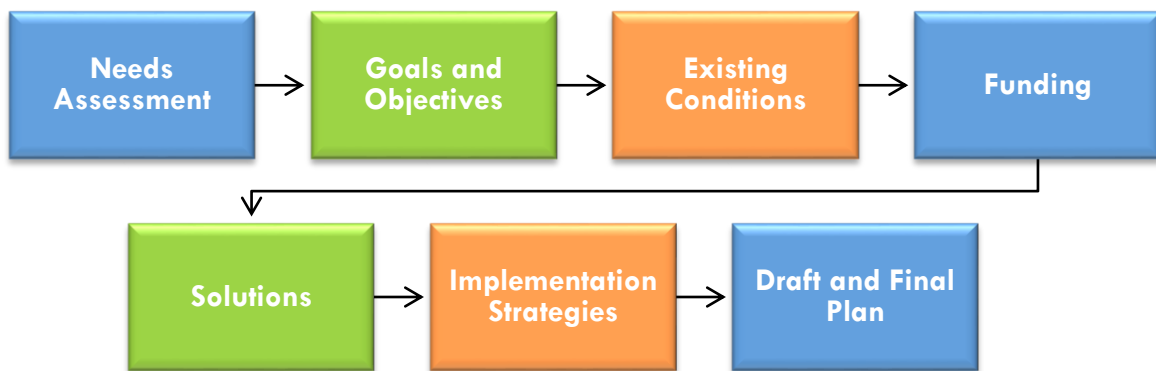
## INTRODUCTION

In conjunction with the update of the Lebanon Transportation System Plan (TSP), the City of Lebanon is also producing a Transit Development Plan (TDP). While the TSP is a long-term guide for City transportation investments and is required by the State of Oregon, the TDP will address transit needs in greater detail and provide a roadmap for the future for transit in Lebanon. With additional grant funding from the Oregon Department of Transportation (ODOT), the City of Lebanon will also use the TDP to help define and guide a trial conversion of Lebanon’s existing demand responsive transit service into a mix of demand responsive and deviated fixed-route transit service.

## PLAN DEVELOPMENT

The planning process has included a needs assessment, developing TDP goals and objectives, an existing conditions analysis, a review of funding sources and amounts, drafting a variety of solutions, and developing implementation strategies. A total of six technical memorandums were developed, one for each step in the process. Elements from Technical Memorandums #1 through #6 have been integrated into this comprehensive TDP for the City of Lebanon.

Figure 1 Lebanon TDP Planning Process



A Transit Plan Advisory Committee (TPAC) was assembled to provide technical and policy advice according to their expertise to the Project Management Team (PMT) at key milestones throughout the project. The TPAC was also responsible for reviewing and commenting on deliverables. Input provided by this committee helped inform the recommendations of the TDP. Members of this PMT and TPAC are listed in Figure 2.



**Figure 2 Lebanon TDP PMT and TPAC Members**

	Name	Affiliation
<b>PMT</b>	Kindra Oliver	City of Lebanon
	Valerie Grigg Devis	Oregon Department of Transportation
	Arla Miller	Oregon Department of Transportation
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	Ian Rollins	Samaritan Hospital
	Jeff Walpole	Linn County Developmental Disabilities Program
	Ken Bronson	Sweet Home Dial-a-Bus/Linn Shuttle
	Mark Volmert	Linn County
	Shelly Garrett	Lebanon Chamber of Commerce and Visitors Center
	Walt Wendolowski	City of Lebanon

## SERVICE RECOMMENDATIONS

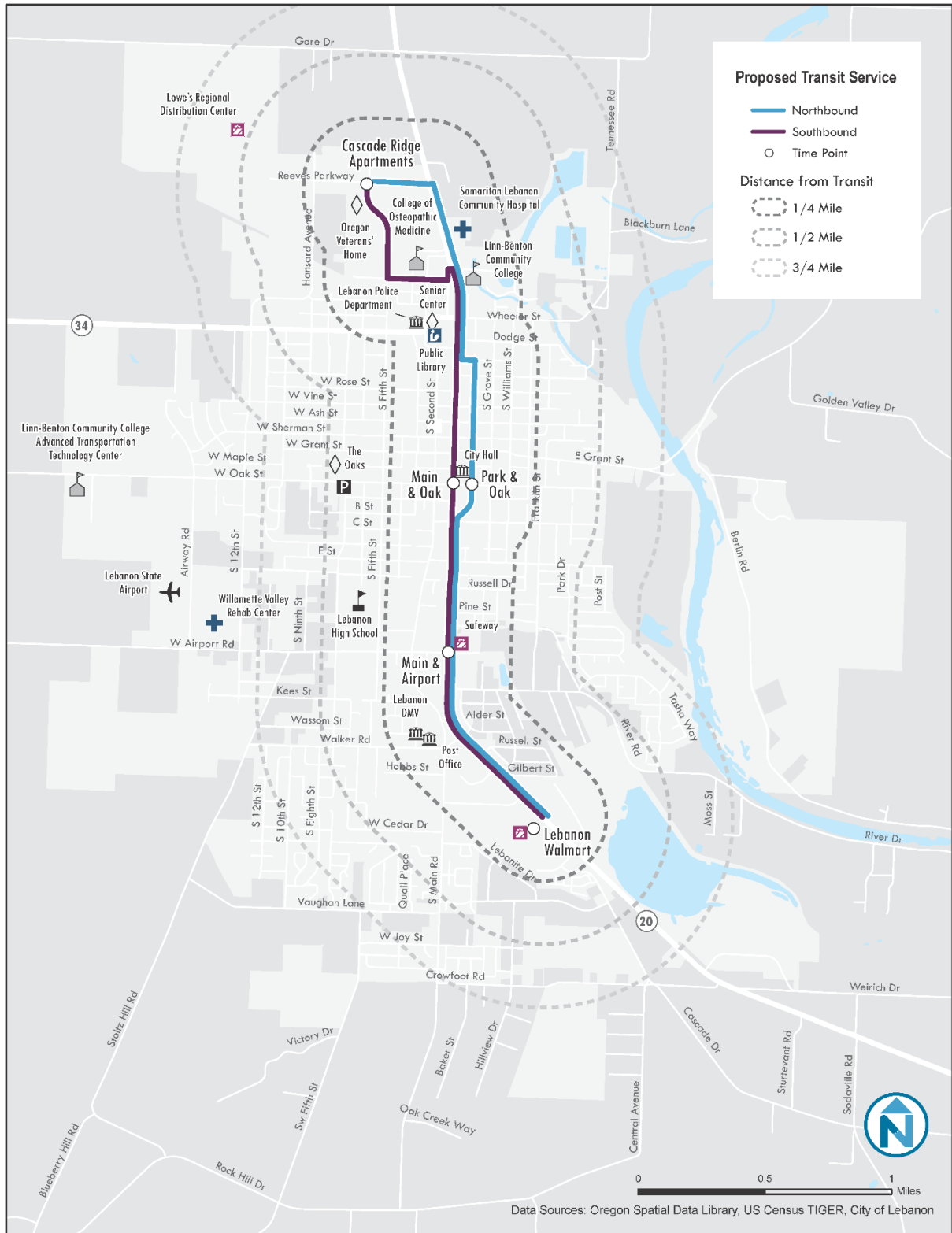
Three alternatives were considered for the new deviated fixed-route service (Appendix E). The preferred service alternative connects Cascade Ridge Apartments with Walmart and runs along Main Street. The southbound and northbound routes are illustrated in Figure 3. Recommended short-term strategies to implement (assuming funding is available) this new deviated fixed-route service include:

- Test the preferred deviated fixed-route to ensure it is functional for Lebanon Transit vehicles.
- Identify bus stops, time points, and a service schedule for the deviated fixed-route.
- Establish minimum bus stop amenities that would be installed at every bus stop.
- Explore vehicle maintenance and repair options with local partners.
- Consider options for revising the current fare structure.
- Explore a sustainable funding sources for meeting the growing transit needs.
- Ensure the City TSP includes public transportation infrastructure investments.
- Consider options for cross training City of Lebanon staff to help provide dispatcher coverage.
- Adopt design requirements for transit and transit-related amenities.
- Develop a unified brand for transit service in Lebanon.
- Create marketing materials that support the new brand and promote transit service.
- Develop a Performance Monitoring Plan.
- Consider implementing scheduling software.



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Figure 3 Preferred Service Alternative for the Proposed Deviated-Fixed Route



## REPORT ORGANIZATION

The TDP consists of six chapters and a series of appendices, which are summarized below.

- **Chapter 1, Executive Summary**, describes the planning process and final service recommendation for the Lebanon TDP.
- **Chapter 2, Needs Assessment**, summarizes the feedback gathered from public outreach and the identified transit needs for Lebanon.
- **Chapter 3, Goals and Objectives**, provides an overview of the plan and policy review and describes the project goals and objectives.
- **Chapter 4, Market Conditions**, evaluates socio-economic and demographic conditions within Lebanon to better understand transit demand and service gaps.
- **Chapter 5, Existing Services**, provides detailed profiles that describe service characteristics, ridership patterns, vehicle inventory, funding, technology, and staffing of the existing transit services in Lebanon.
- **Chapter 6, Transit Funding**, summarizes recent on-board survey results.
- **Chapter 7, Implementation Strategies**, describes 29 strategies for implementing the new deviated fixed-route service.
- **Appendix A** includes outreach materials used for surveys and interviews.
- **Appendix B** consists of detailed responses from public outreach,
- **Appendix C** includes a detailed plan and policy review that provided guidance for the project goals and objectives.
- **Appendix D** describes potential funding sources for transit in Lebanon.
- **Appendix E** includes illustrations and descriptions of the service alternatives considered for the new deviated fixed-route transit service in Lebanon.

## 2 NEEDS ASSESSMENT

### OUTREACH

A combination of outreach methods were used to inform the needs assessment, including an On-Board Survey, a Community Survey, and stakeholder interviews.

#### On-Board Survey

The On-Board Survey aimed to gather information about current riders' travel needs and preferences. A copy of the On-board Survey is included in Appendix A. Lebanon Dial-a-Bus staff rode along in transit vehicles to administer the survey on the following days:

- Tuesday, October 11, 2016
- Thursday, October 13, 2016
- Monday, October 17, 2016
- Wednesday, October 19, 2016
- Friday, October 21, 2016

A total of 46 responses were collected. Most respondents (77%) made their trip between 8 a.m. and 12 p.m. and started or ended their trip at home (89%). All respondents (100%) indicated they were making a round trip on Lebanon Dial-a-Bus. A detailed summary of the survey responses can be found in Appendix B.

#### Community Survey

The Community Survey aimed to gather information about the community's travel needs and preferences, for both survey takers and/or for those who would benefit from using public transportation in the City of Lebanon. A copy of the Community Survey is included in Appendix A.

Paper copies of the survey were available at the Lebanon Senior Center and were also distributed to organizations throughout the community that also receive the Senior Center Newsletter. Information about the survey was also included directly in the newsletter. An online version of the survey was also made available. Links to this survey were posted on the Lebanon TDP project website (<http://lebanontsp.org/tdp/>) and on Senior Center computers. Both paper and online survey responses were accepted from October 7 to October 24, 2016.

A total of 65 responses were collected: 56 online submittals and 9 paper surveys. The most common destinations for survey respondents included College of Osteopathic Medicine of the Pacific, Northwest (COMP-Northwest), Walmart, Safeway, and the City of Albany. A detailed summary of the survey responses can be found in Appendix B.

## Stakeholder Interviews

The City of Lebanon compiled a list of relevant community stakeholders to be interviewed for the TDP. These stakeholders represent various transit user groups throughout the community and provided input on the needs, constraints, and opportunities for existing public transportation services. Phone interviews were conducted with personnel from each of the stakeholder organizations listed in below. A list of the interviewees and a list of the discussion questions used to guide each interview are included in Appendix A. A detailed summary of the interview responses can be found in Appendix B.

- **College of Osteopathic Medicine of the Pacific Northwest (COMP NW)** is a medical school of Western University of Health Sciences (WesternU) in Lebanon, OR. The Lebanon campus has approximately 430 students.
- **Department of Human Services (DHS)** has a Self Sufficiency Office in Lebanon, OR that provides a variety of support services to low-income residents of east Linn County. Residents regularly come into the office to meet with their case manager or take classes, such as Parenting Skills, Life Skills class, or Employment Training courses. There about 25 staff at the Lebanon DHS office, which is located in the Lebanon Center building (the primary Linn Benton Community College building in Lebanon). This location offers Linn Shuttle bus passes, gas reimbursements, and bicycles to Lebanon residents participating in the jobs program.
- **Lebanon Chamber of Commerce & Visitors Center** hosts activities and events for member businesses in Lebanon and the surrounding area. The visitors center regularly provides information to local community members about transit services.
- **Linn Benton Community College (LBCC)** has a location in Lebanon, OR that serves approximately 650 students per quarter. LBCC facilities in Lebanon include the Lebanon Center—the primary building—and the Advanced Transportation Center. In fall 2017, a new Healthcare Occupations Center will open near Samaritan Hospital. LBCC contracts with the Linn Shuttle, the Linn Benton Loop, and the Albany Transit System to allow students, staff, and faculty to ride these services for free.
- **Linn County Department of Health Services** is based in Albany, OR. The Developmental Disabilities Program provides support services to persons with developmental disabilities within the county, including Lebanon. Persons eligible for this program can receive up to \$500 a month, which can be used for transportation.
- **The Oaks** is a senior living facility with 104 apartments for adults 62 years or older. Approximately half of the residents are independent retirees and the other half are in need of day-to-day care. The Oaks has one wheelchair equipped van that makes scheduled outings on Wednesdays and Fridays.
- **Oregon Cascades West Council of Governments (OCWCOG) Senior and Disability Services Department** serves as both the Area Agency on Aging (AAA), and the Medicaid long-term care agency for Benton, Lincoln, and Linn Counties. The primary office is located in Albany and the Lebanon Senior Center is a designated meal site.
- **The River Center** is a church in Lebanon that provides support services to homeless and impoverished. The organization is currently working on reinstating travel subsidies in the form of gas vouchers and Linn Shuttle bus passes.
- **Samaritan Lebanon Community Hospital** is a full-service hospital that serves east Linn County communities of Lebanon, Sweet Home, Brownsville and smaller neighboring

communities. The hospital provides emergency transport and patient clinics (a total of five locations) throughout the Lebanon.

- **Veterans' Home** is a state nursing home for Veterans in Lebanon. Currently, the facility has 154 residents, some of which are functionally impaired. The Veterans' Home has four wheelchair equipped vehicles (two buses and two vans) available for medical transport and organized recreational outings.
- **Walmart** has a retail location in Lebanon that employs approximately 235 employees.

## NEEDS ASSESSMENT SUMMARY

The following provides a summary of the transportation needs identified through the on-board survey, community survey, and stakeholder interviews. These key findings provided input into the goal setting process (Chapter 4) and the Existing Conditions analysis (Chapter 5).

**Many community members rely on Lebanon Dial-a-Bus for their transportation needs.** Twenty-four percent of On-board survey respondents indicated that if Lebanon Dial-a-Bus was not available for their trip, they would not have taken the trip. According to the Community Survey, 15% of respondents use Lebanon Dial-a-Bus for their primary mode of transportation. Without this transit service many people could not get to medical appointments, do their shopping, or engage in recreation/social activities, which could have consequences on health, economic development, and quality of life. For these individuals, alterations to the existing transit service might limit their ability to travel around the city.

**Later service hours for public transportation would be useful, particularly to accommodate work and class schedules.** On-board survey respondents rated "Service ends late enough" for the Lebanon Dial-a-Bus as "Good" but this transit service characteristic received the second lowest rating. Respondents from both the On-board and Community surveys indicated "Later service hours" as one of the top two enhancements that would encourage more people to ride public transportation. Twenty-six percent of Community survey respondents that did not select Lebanon Dial-a-Bus as their primary mode of transportation said that it is not a good option because it "Does not run at the times of day that [they] need it". Interviewed stakeholders particularly called out the benefits of later service hours for employee and student schedules.

**There is opportunity to expand marketing and outreach efforts to raise public awareness and clearly communicate how to use the service.** On-board survey respondents rated "Rider Information" for the Lebanon Dial-a-Bus as "Good" but this transit service characteristic received the lowest rating. Thirty-three percent of Community survey respondents that did not select Lebanon Dial-a-Bus as their primary mode of transportation said that it is not a good option because "[They] did not know about the service". Additionally, respondents who selected "Other" to this question stated "Didn't know it was available to the general public" and "Not sure how the service works (i.e. areas of operation, pick-up and drop-off points)". Some stakeholders also mentioned they were not aware the Lebanon Dial-a-Bus was available to the general public.

**Weekend service would enhance transit service and benefit community members who rely on Lebanon Dial-a-Bus for their transportation needs.** On-board survey respondents rated "Service runs on the days I need it" for the Lebanon Dial-a-Bus as "Good" but this transit service characteristic received the third lowest rating. Respondents from both the On-board and Community surveys indicated "Weekend service" as one of the top two enhancements that would encourage more people to ride public transportation. Stakeholders also described

weekend service as an opportunity to attract more riders to public transportation and particularly beneficial for people who depend solely on this service for their travel needs.

**Additional capacity is needed to accommodate current demand and anticipated future growth.** New development that has recently increased (or has potential to increase) residents and visitors to Lebanon (i.e. Convention Center, COMP-NW, LBCC Advanced Transportation Center, LBCC Healthcare Occupations Center, Lowe’s Regional Distribution Center, Samaritan Hospital, Veterans’ Home.) heightens the need for reliable public transportation options. Stakeholders indicated that passengers in need of a round trip on Lebanon Dial-a-Bus may end up waiting a while for their return trip, indicating the service could benefit from increased capacity. Increased capacity would also support a higher frequency of public transit service, another challenge highlighted by stakeholders.

**People praise the Lebanon Dial-a-Bus drivers but for some more assistance would be helpful.** Respondents of the On-board survey rated “Driver courtesy” and “Driver skill/safety” as “Very good”. Respondents for both the On-board and Community surveys also indicated “More courteous drivers” and “Improved driver skill/safety” were two of the lowest priority enhancements that would encourage more people to ride transit. Stakeholder interviews revealed that the community is very appreciative of the Lebanon Dial-a-Bus service but additional assistance from drivers (on and off the vehicle as well as into the building of their destination) would be useful for passengers with disabilities.

**Expanded service in the form of a volunteer driver program would be useful to residents living on the outskirts of the city and could capture more riders.** For any of these residents without a car, it is challenging to access social services in Lebanon as well as the existing transit services, especially in inclement weather or for residents with small children. Expanding transit service slightly outside of the city limits could potentially help increase ridership.

**Bus stop amenities could improve comfort for existing riders and raise public awareness of transit service.** Additional lighting, bus shelters, and benches would make existing transit users more comfortable at transit stops (or well-known pick-up and drop-off locations) and raise public awareness about the existing transit services to non-transit users.

**There are additional funding opportunities the City of Lebanon could pursue to help support transit investments.** The Lebanon Chamber of Commerce Tourism Committee may be able to support the installment of new bus stop amenities. LBCC may consider contracting with the city to provide free ridership for LBCC students, staff, and faculty if the City of Lebanon were to develop a fixed-route service. The Walmart Foundation also provides grants to non-profit organizations that could potentially be applied to transit investments.

## 3 GOALS & OBJECTIVES

### PLAN & POLICY REVIEW

A review of state, regional, and local plans was conducted to identify relevant community transit goals. Figure 4 details the list of reviewed plans, which included plans already reviewed by the TSP Project Team as well as plans relevant plans identified by the TDP Project Team and the City of Lebanon. Plans are organized by authority and then year completed. While most of these plans are published documents, some have yet to completed or adopted and are therefore considered ongoing planning efforts. A complete list of relevant goals, policies, and objectives that shaped the goals of the Lebanon TDP can be found in Appendix C.

**Figure 4 Reviewed Plans for Lebanon TDP**

Authority	Document	Year Complete
State	Oregon Transportation Plan	2006
	Oregon Public Transportation Plan	Ongoing
	Oregon Transportation Safety Action Plan	2015
	Oregon Transportation Options Plan	2015
	Oregon Bicycle and Pedestrian Plan	2016
County	Linn County Transportation System Plan	Ongoing
	Linn County Coordinated Plan	Ongoing
	Linn County Transportation Plan Code	2005
City	Lebanon Transportation System Plan	Ongoing
	Lebanon 2040 Vision and Community Strategic Action Plan	2015
	Lebanon Capital Improvement Plan	2014
	Lebanon Trails Strategic Plan	2009
	Lebanon Development Code	2008
	Lebanon Parks Master Plan	2006
	Lebanon Comprehensive Plan	2004
Neighborhood	Russell Drive Area Mixed Use Neighborhood Center Plan	2003
	Cheadle Lake Urban Renewal Area Plan	2008
	North Gateway Urban Renewal Area Plan	2008
	Northwest Lebanon Urban Renewal Area Plan	2012

Lebanon Trails Strategic Plan and Lebanon Parks Master Plan were reviewed but did not include applicable policies for the Lebanon TDP.



## LEBANON TDP GOALS & OBJECTIVES

The terms involved in a goals-based design and monitoring framework are often used interchangeably and their meaning is often confused in practice. For the purpose of this project, the following definitions were applied:

- **Goals** establish the overall policy direction and organizational philosophy. These are typically value statements. Goals are typically approved by local policy boards and stem from related plans or project-specific goal setting exercises.
- **Objectives** offer a means to meeting a goal. They are typically action-oriented strategy statements and should be understandable, specific, attainable, and measurable. Objectives can be met through a variety of actions. For example, an objective to reduce transit travel time can be achieved by eliminating route deviations, providing more direct service, traveling on higher speed roads, investing in traffic congestion relief solutions, and/or giving transit a priority at congested intersection.

As shown in Figure 5, four goals and 15 objectives were identified for the Lebanon TDP. These goals are derived from the plan and policy review (Appendix C) and outreach inputs (Appendix B).

**Figure 5 Lebanon TDP Goals and Objectives**

Goals	Objectives	Source	
		Plan Review	Outreach
A safe, equitable, and accessible transit system for all users.	Provide safe access to transit for all ages, abilities, and incomes.	X	
	Ensure that transit is accessible to transit dependent populations.	X	
A well-connected and efficient transit system.	Coordinate with other transit services to support regional connections.	X	
	Increase system capacity to ensure service reliability to meeting current demand and for a growing population.		X
	Explore the feasibility of a volunteer driver program to serve outlying areas.		X
	Consider new capital equipment needs, such as technological investments, to improve service efficiency.		X
Improved or high quality transit service and amenities to increase ridership.	Consider the implementation of a deviated fixed-route system. (Lebanon has committed to this with ODOT Discretionary Grant Funds.)		X
	Encourage multimodal connections to transit by providing sidewalk and bicycle connections, shelters, and benches.	X	
	Consider extending service hours on weekdays and provide weekend service to meet the needs of the community.		X
	Increase level of service during weekdays (e.g. frequency)	X	X
	Explore potential funding through community partnerships to support high quality transit service.		X

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Goals	Objectives	Source	
		Plan Review	Outreach
	Pursue sustainable funding source to support high quality transit service in the long-term.		X
	Provide service to rural areas outside of Lebanon through a volunteer driver program.		X
An easy to understand system for all users.	Educate both potential and existing users about the services available and how to use them.		X
	Install wayfinding signage directing cyclists and pedestrians to bus stops and destinations.	X	

# 4 MARKET CONDITIONS

## COMMUNITY CONTEXT

Lebanon is a city in northwestern Oregon, east of Corvallis, and 40 miles south of Salem. It covers 6.67 square miles of Linn County, and has a population of 16,435 people.<sup>1</sup> The major transportation arteries serving Lebanon are U.S. Route 20 (U.S. 20) and Oregon Route 34 (OR 34). Both connect Lebanon to Interstate 5 (I-5), six miles west of city. I-5 is the primary north-south highway in Oregon. U.S. 20 runs cross-state east to west, and OR 34 provides a direct route to Corvallis bypassing U.S. 20’s deviation north to Albany. Lebanon’s population density is approximately 2,400 people per square mile, which is less than Albany’s with a density of 2,900 people per square mile.

## POPULATION

Population growth rates and population density are important indicators for developing public transportation services. Growth rates help communities respond to transportation demands and trends. Population density can suggest which neighborhoods or destinations are important for public transportation routes to serve. Population in Oregon, Linn County, and Lebanon rose between 2000 and 2014, as shown in Figure 6. Total population in Lebanon increased dramatically between 2000 and 2010 by 20%—an annual growth rate of 2%. This was higher than both the county and state annual growth rates, which were both 1%. Population in the city, county, and state increased between 1 or 2% between 2010 and 2014. During this same period, the annual growth in Lebanon (0.4%) was faster than the county (0.3%) but slower than the state (0.5%). According to a more recent estimate provided by the City of Lebanon, total population in Lebanon reached 16,435 as of July 2016. Using this estimate, the Lebanon population increased by 6% from 2010 to 2016. Increases in population has contributed to a higher demand for ride from the Lebanon Dial-a-Bus.

**Figure 6** Population

	Population (2000)	Population (2010)	% Change (2000-2010)	Annual Growth Rate (2000-2010)	Population (2014)	% Change (2010-2014)	Annual Growth Rate (2010-2014)
Lebanon	12,950	15,518	20%	2%	15,761	2%	0.4%
Linn County	103,069	116,672	13%	1%	118,270	1%	0.3%
Oregon	3,421,399	3,831,074	12%	1%	3,900,343	2%	0.5%

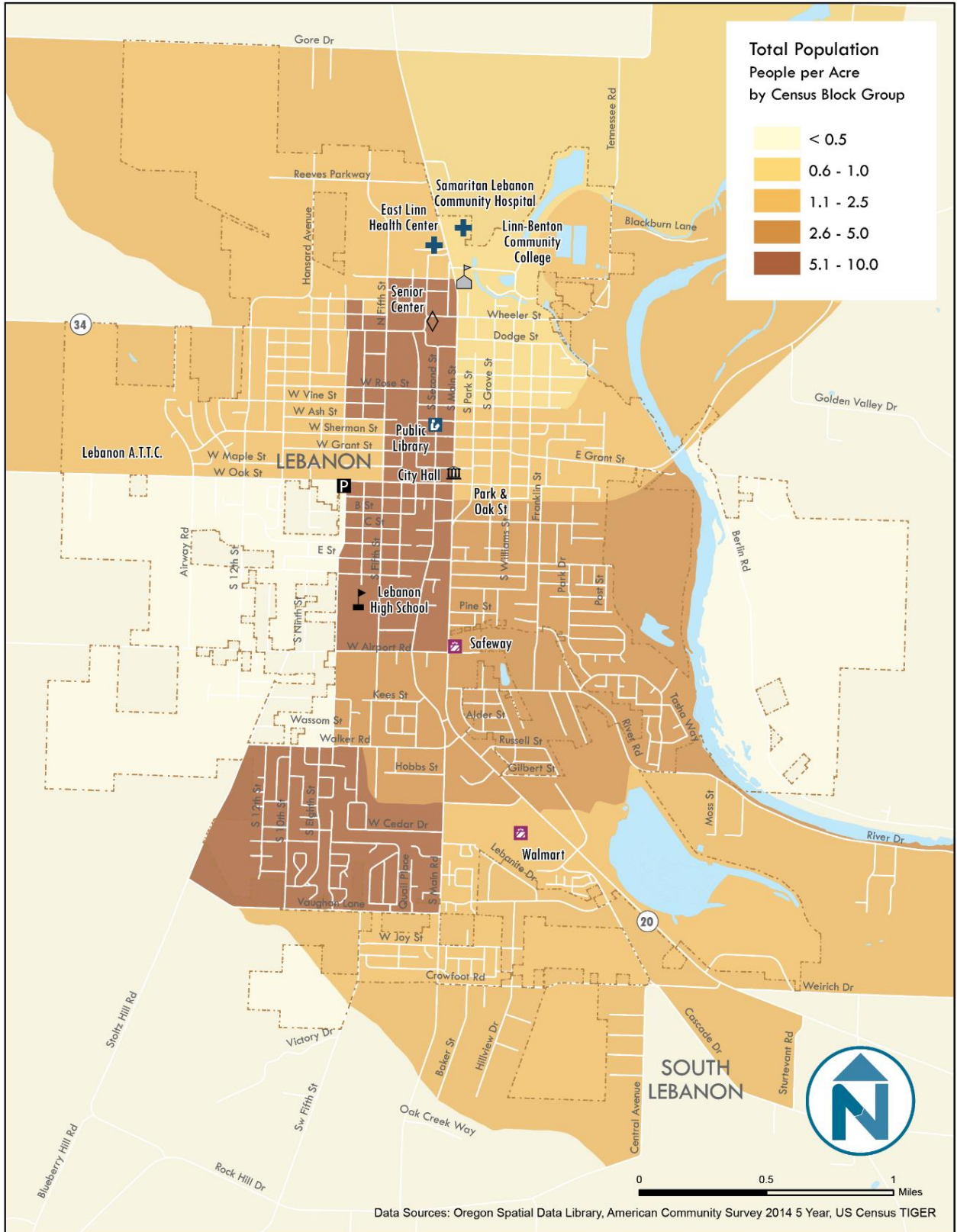
Source: U.S. Census 2000; U.S. Census 2010; American Community Survey 5-year Estimates 2014

<sup>1</sup> City of Lebanon, 2016.

Figure 7 shows that Lebanon's population density is highest in the central part of the city, especially between S Main Road/S 2<sup>nd</sup> Street and 7<sup>th</sup> Street. East of Lebanon High School, between A Street and Walker Road/River Road, represents the city's second densest neighborhoods. These two areas abut U.S. 20, which runs north and south through the middle of the city.

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Figure 7 Population Density



## Future Growth in Population

The Corvallis Albany Lebanon Model (CALM) is a travel demand model used to forecast travel patterns in a region, which includes the Corvallis and Albany Area MPOs and the City of Lebanon. Developed and maintained by Oregon Department of Transportation’s (ODOT) Transportation Planning Analysis Unit (TPAU), the model shows how travel and transportation system conditions are impacted due to changes in land use, population, employment, new transportation facilities, transit service, and public policy. Land use data within the model area is divided into transportation analysis zones (TAZs). Although these zones are larger than the City’s municipal boundaries, the model enables communities to explore the potential impacts of alternative transportation system investments and offers useful insight on regional travel demand.<sup>2</sup> Population data the 2010 base and 2040 future scenarios of the CALM model were used for this analysis.

The population of the Lebanon area will increase approximately 58% from a 2010 base, by 2040 (Figure 8). While actual population change within the City of Lebanon did in fact increase from 2010 to 2014 (Figure 6), the growth rate (0.4%) was lower than the one estimated for the next 25 years (2%). Figure 11 highlights where future population and employment growth is expected to take place. Much of the population growth is estimated to be on the east part of the city and in the neighborhood west of the high school.

**Figure 8 Estimated Population Growth**

	Population (2010)*	Population (2040)	% Change (2010-2040)	Annual Growth Rate (2010-2040)
Lebanon	18,348	28,938	58%	2%

Source: Corvallis Albany Lebanon Model (October 2016)

\* The 2010 population is from the CALM model and varies from the 2010 population in Figure 7. According to the U.S. Census, the 2010 population in Lebanon was 15,518.

## EMPLOYMENT

Lebanon’s top five employment sectors are health care and social assistance, retail trade, manufacturing, educational services, and transportation and warehousing.<sup>3</sup> The Samaritan Lebanon Community Hospital, East Linn Health Center, and COMP-Northwest campus are all significant health care employers. In addition to COMP-Northwest’s campus, LBCC and Lebanon Community Schools also contribute a significant amount to the city’s educational services jobs. LBCC opened an Advanced Transportation Technology Center (ATTC) in 2016, and in 2017 will open a Healthcare Occupations Center—both facilities will add to Lebanon’s educational services sector.

<sup>2</sup> Oregon Department of Transportation, Transportation Planning and Analysis Unit. Corvallis Albany Lebanon Model. August 2016. Retrieved from <http://www.ocwcog.org/wp-content/uploads/2016/09/CALM-Brochure-FINAL-Print-View.pdf>

<sup>3</sup> U.S. Census Bureau. Center for Economic Studies. “2014 Work Area Comparison Report by Places: Lebanon city, OR”. December 2016. Retrieved from <https://onthemap.ces.census.gov/>

The Lowes Regional Distribution Center is the largest single employer in the city.<sup>4</sup> Its workforce currently comprises the whole of the city’s transportation and warehousing sector, and accounts for more than 10% of the city’s total employment.

Figure 9 shows employment change in the five year period from 2010 through 2014. As with population, Lebanon, Linn County, and Oregon are all on the rise. However Lebanon’s 16% employment increase (nearly 900 jobs) is twice that of the Statewide percentage increase in the same time period.

**Figure 9 Employment**

	Employment (2010)	Employment (2014)	% Change (2010-2014)	Annual Growth Rate (2010-2014)
Lebanon	5,168	6,002	16%	4%
Linn County	38,627	40,840	6%	1%
Oregon	1,584,605	1,706,081	8%	2%

Source: Longitudinal Employer-Household Dynamics (LEHD)

## Future Growth in Employment

Similar to population forecasts, employment data the 2010 base and 2040 future scenarios of the CALM model were used for this analysis. According to the projections in Figure 10, employment in the Lebanon area will increase approximately 106% from a 2010 base, by 2040. As shown in Figure 4, actual employment growth within the City of Lebanon between 2010 and 2014 (4%) matches the annual growth that would achieve the CALM projections (4%). This continued employment growth heightens the need for public transit that accommodates employee work schedules. Figure 11 highlights where future population and employment growth is expected to take place. Job growth is expected throughout the city.

**Figure 10 Estimated Employment Growth**

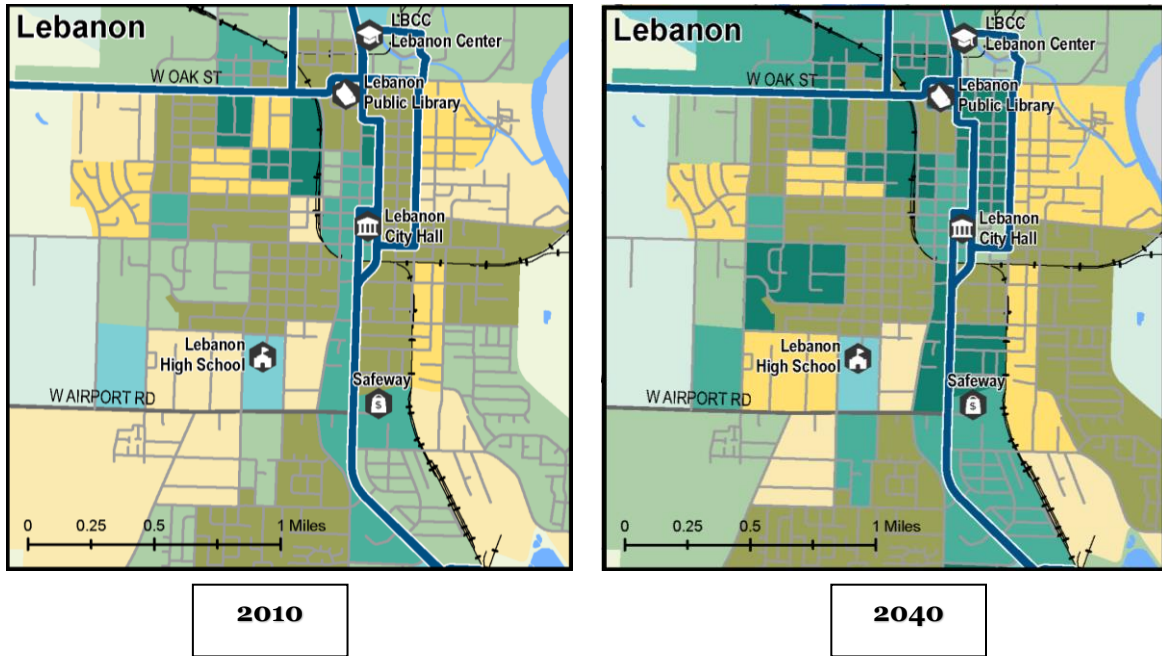
	Employment (2010)	Employment (2040)	% Change (2010-2040)	Annual Growth Rate (2010-2040)
Lebanon Area	5,711	11,783	106%	4%

Source: Corvallis Albany Lebanon Model (October 2016)

<sup>4</sup> City of Lebanon. Fact Sheet. January 2016. Retrieved from: [http://www.ci.lebanon.or.us/sites/default/files/fileattachments/economic\\_development/page/318/fact\\_sheetjan2016.pdf](http://www.ci.lebanon.or.us/sites/default/files/fileattachments/economic_development/page/318/fact_sheetjan2016.pdf)



Figure 11 Population Density and Employment Density 2010 vs. 2040



**Activity Centers**

- Airport
- Civic
- College/University
- Hospital
- Library
- Major Employer
- Park-and-Ride
- School
- Shopping Center
- Transit Center

Albany Area MPO

**Population/Employment Density, 2010 by TAZ**



No Data  
Source: CALM Model

Albany Area Transit Routes  
 Corvallis Transit System Routes

## TRANSIT-SUPPORTIVE DEMOGRAPHICS

In addition to population and employment densities, other demographic indicators can demonstrate the likely demand for transit, including older adult population (over 65 years old), people with disabilities, youth population (under 18 years old) and low income households (less than 150% poverty level). People over the age of 65 or with disabilities are often unable to drive a car on their own. Youth under the age of 18 may or may not have a license to drive or may not be able to afford their own car. People who earn an income that is less than 150% of the federal poverty level may not be able to afford their own car. In all cases, public transit can help people maintain independence and mobility by getting them where they need to go affordably and safely.

Figure 12 summarizes demographic indicators in Lebanon, Linn County, and Oregon. The percent of Lebanon’s population for each demographic group is on par with the county and state averages. As discussed in the remainder of this section, all of these transit dependent populations have recently grown in Lebanon. Future transit development should consider these populations and ensure that they have access to public transit service.

**Figure 12 Transit-Supportive Demographics\* (2014)**

	Total Population	Older Adult Population	Youth Population	Low-Income Population	Population with Disabilities
<b>Lebanon</b>	15,761	17%	10%	37%	18%
<b>Linn County</b>	118,270	16%	11%	30%	17%*
<b>Oregon</b>	3,900,343	15%	10%	26%	15%*

Source: American Community Survey 5-year Estimates 2014

\* American Community Survey 1-year Estimates 2014

Demographics depicted in this table are not mutually exclusive, and do not add up to 100%

## Older Adults

As with total population, the number of older adults has steadily increased in Lebanon, Linn County, and Oregon. All three are close in growth and proportion size, but among the three Lebanon has the highest proportion of older adults (17%).

Figure 14 displays the density of older adults in Lebanon. The highest densities are in the middle of the city, similar to total population density. It is important to note that the highest densities of total population and older adults occupy a similar geography. Transit service planned with the intent of better serving older adults in Lebanon would similarly benefit the population as a whole.

**Figure 13 Older Adults (65+)**

	Population 65 and older (2000)	Population 65 and older (2010)	% Change (2000-2010)	Population 65 and older (2014)	% Change (2010-2014)	Proportion of Population 65 and Older (2014)
<b>Lebanon</b>	2,299	2,537	10%	2,739*	8%	17%
<b>Linn County</b>	14,954	17,991	20%	19,168	7%	16%
<b>Oregon</b>	438,177	533,533	22%	582,273	9%	15%

Source: U.S. Census 2000; U.S. Census 2010; American Community Survey 5-year Estimates 2014

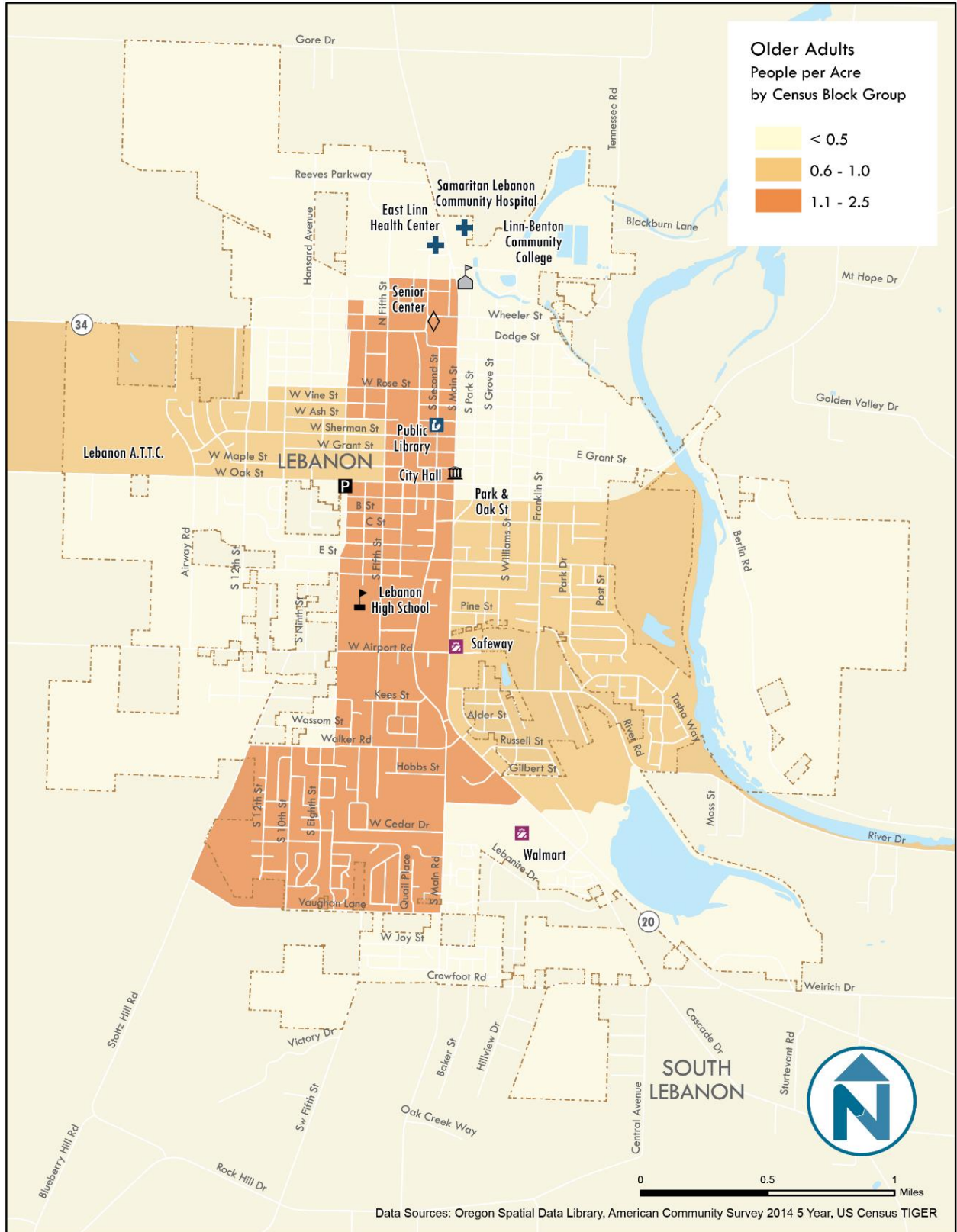
\* Margin of error is ±12% of stated value

All decennial census data contains a small amount of unquantified and inevitable non-sampling error resulting from nonresponse, human respondent and enumerator error, and processing errors.

American Community Survey (ACS) data is based on population samples, and thus contains a quantified and reported margin of error. All ACS data in this figure has a margin of error less than or equal to 5% unless otherwise noted.

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Figure 14 Density of Older Adults (65+)



## Youth

The population of youth has been on the rise in Lebanon and Linn County. Between 2010 and 2014, Lebanon’s youth population rose 10%, despite the state’s decrease in youth population. Figure 15 shows that the proportion of Lebanon’s population age 10-17 is on par with Linn County and the state overall.

**Figure 15 Youth (10-17)**

	Population Age 10-17 (2010)	Population Age 10-17 (2014)	% Change (2010-2014)	Proportion of Population Age 10-17 (2014)
<b>Lebanon</b>	1,391*	1,526*	10%	10%
<b>Linn County</b>	12,730	13180	4%	11%
<b>Oregon</b>	393,262	388501	-1%	10%

Source: American Community Survey 5-year Estimates 2010 and 2014

\* Margin of error is ±14% (2010) and ±13% (2014) of stated value

ACS data is based on population samples, and thus contains a quantified and reported margin of error. All ACS data in this figure has a margin of error less than or equal to 5% unless otherwise noted.

## Low-Income

For this analysis, poverty is determined as having an income below 150% of the federal poverty threshold.<sup>5</sup> In 2014, this included individuals with an annual income less than \$12,071.<sup>6,7</sup> The population of people with an income below 150% of the federal poverty level has increased in Lebanon, Linn County, and Oregon. However, with a 28% increase from 2010 to 2014, Linn County has experienced a 10% higher rise in this demographic than the state, with Lebanon not far behind. More than 1 in 3 people in Lebanon have an income less than 150% of the poverty level.

Figure 17 displays the density of people with an income less than 150% of the poverty level in Lebanon. The highest densities are located in the central northern and central southern parts of the city.

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<sup>5</sup> Poverty thresholds vary by the size of the family and age of the members. They do not vary geographically. The same thresholds are used throughout the United States. Thresholds are updated annually for inflation using the Consumer Price Index for All Urban Consumers (CPI-U).

<sup>6</sup> U.S. Census Bureau. Poverty Thresholds. 2014. Retrieved from <http://www.census.gov/data/tables/time-series/demo/income-poverty/historical-poverty-thresholds.html>

<sup>7</sup> The 2014 poverty threshold was reported since 2014 ACS data was used for this analysis.

**Figure 16      Population With Income Less Than 150% Poverty Level**

	Population with Income <150% Poverty Level (2010)	Population with Income <150% Poverty Level (2014)	% Change (2010-2014)	Proportion of Population with Income <150% Poverty Level (2014)
<b>Lebanon</b>	4,620*	5,791*	25%	37%
<b>Linn County</b>	27,994**	35,800**	28%	30%
<b>Oregon</b>	873,140	1,030,904	18%	26%

Source: American Community Survey 5-year Estimates 2010 and 2014

\* Margin of error is  $\pm 19\%$  (2010) and  $\pm 17\%$  (2014) of stated value

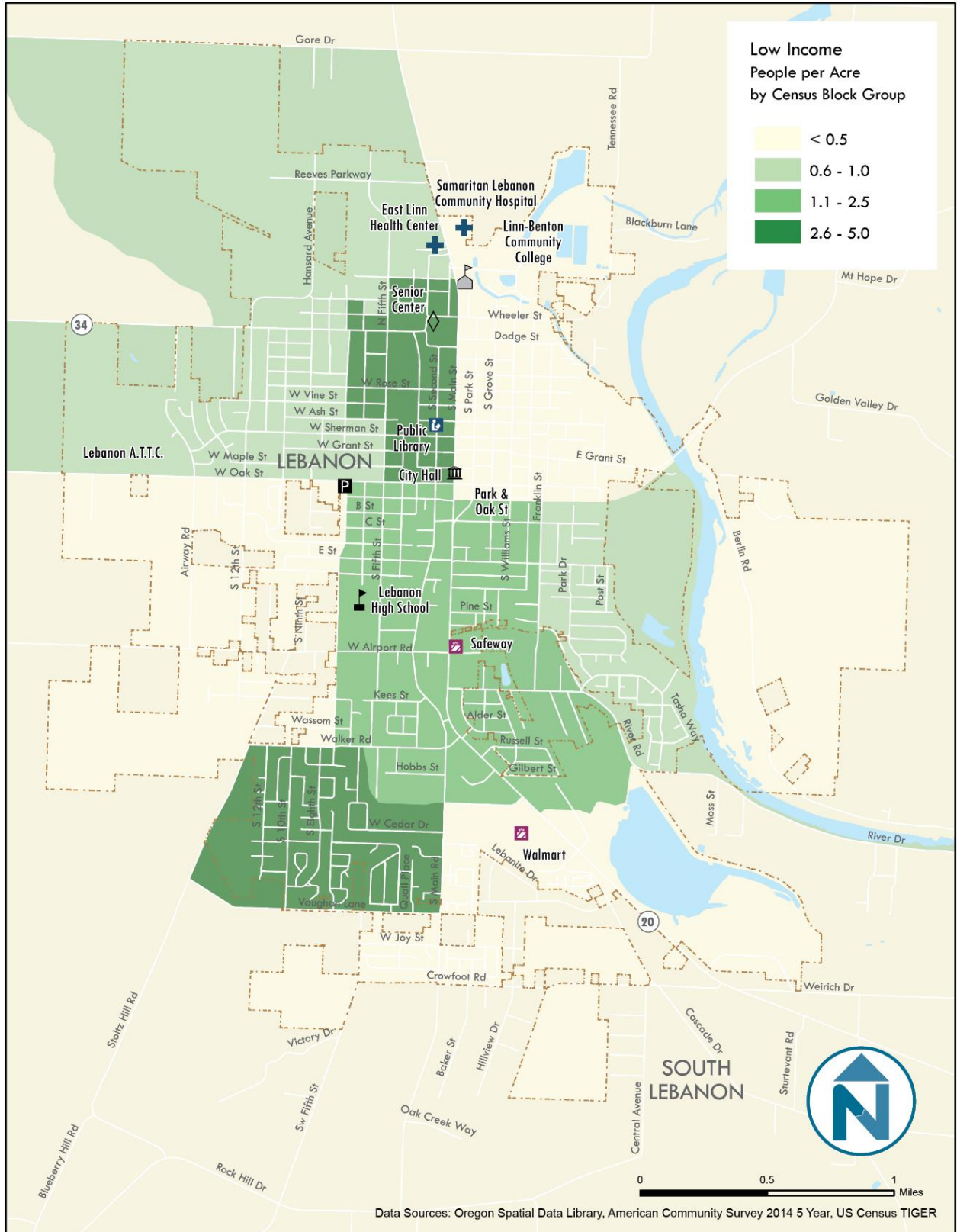
\*\* Margin of error is  $\pm 7\%$  of stated value

ACS data is based on population samples, and thus contains a quantified and reported margin of error. All ACS data in this figure has a margin of error less than or equal to 5% unless otherwise noted.



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Figure 17 Density of People Whose Income is Less Than 150% of the Poverty Level





## People with Disabilities

Due to differences in available census data, Figure 18 features data for 2012 and 2014, instead of the 2010 and 2014 pair in the previous demographic tables. The population of people with disabilities increased in Lebanon, the county, and the state. children under five and older adults The percent increase was higher statewide, than within Lebanon or Linn County. However, at 18% Lebanon has a higher proportion of people with disabilities than the county or state.

Data used for this analysis includes people of all ages. It is noteworthy that the proportions of populations who are people with disabilities are within one percentage point of the proportion of older adults in all three jurisdictions. These two demographics are not mutually exclusive, but it is important to understand that approximately similar numbers of people are represented by each.

**Figure 18      People With Disabilities**

	Population with a disability (2012)	Population with a disability (2014)	% Change (2012-2014)	Proportion of Population with a Disability (2014)
<b>Lebanon</b>	2,738*	2,885*	5%	18%
<b>Linn County</b>	18,982	19,751	4%	17%
<b>Oregon</b>	511,297	548,143	7%	14%

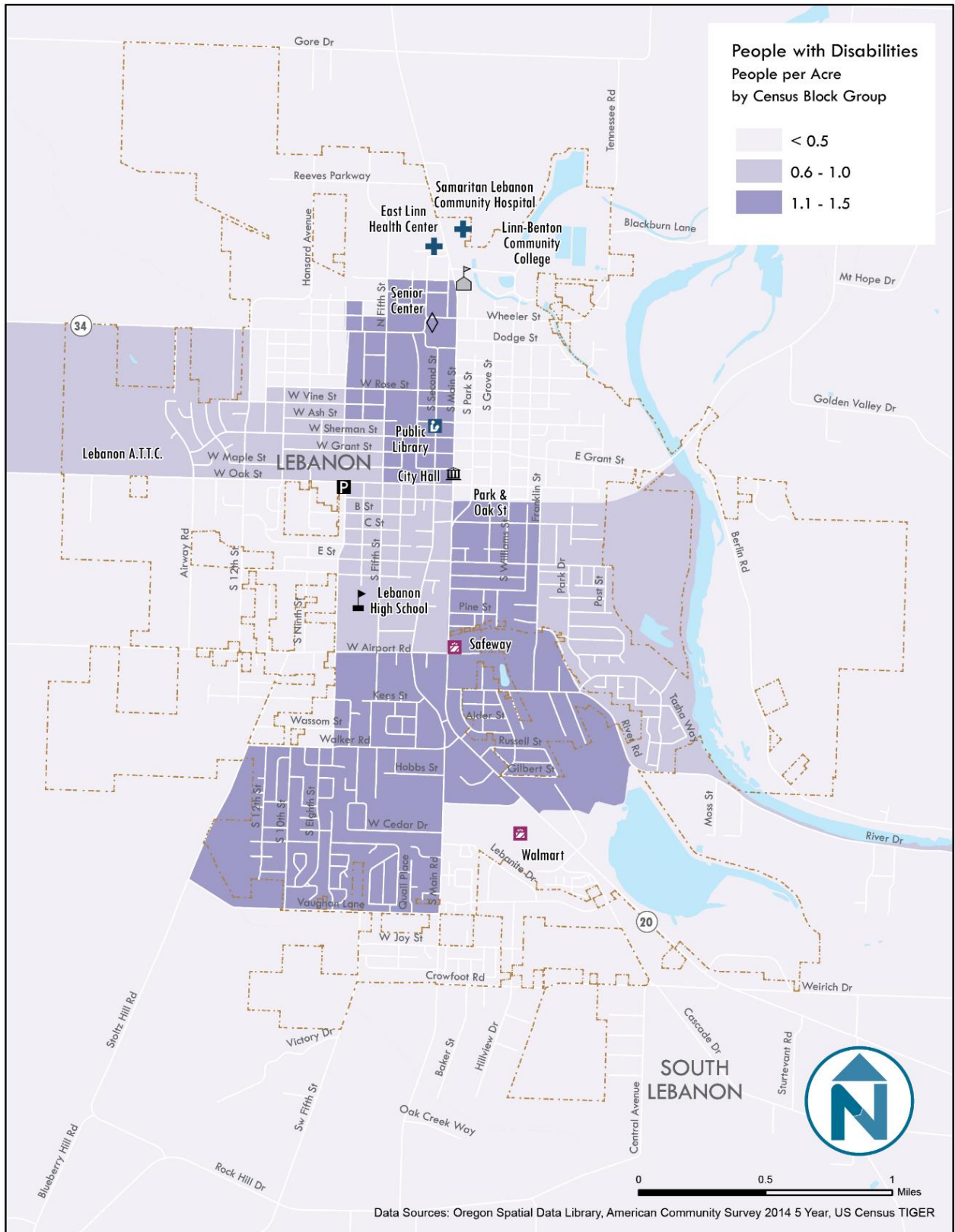
Source: American Community Survey 5-year Estimates 2012 and 2014

\* Margin of error is ±13% (2010) and ±12% (2014) of stated value

ACS data is based on population samples, and thus contains a quantified and reported margin of error. All ACS data in this figure has a margin of error less than or equal to 5% unless otherwise noted.

The highest densities of people with disabilities in Lebanon is more spread out than the previously described demographics. In Figure 19, it can be seen that the central northern and southern areas of the city, similar to those with the highest low income densities in Figure 17, also are among the highest density areas for people with disabilities. In addition, the central eastern part of the city, between Main Road and River Road and Franklin Street also has a higher density of people with disabilities.

Figure 19 Density of People With Disabilities



## Commute Flow

Approximately 6,000 workers were employed within the City of Lebanon in 2014, of which 23% also lived in Lebanon. As shown in Figure 20, 77% of Lebanon’s workforce travel in from surrounding cities.

The home locations of workers that both live and work in Lebanon are illustrated in Figure 21. Home locations are distributed relatively evenly through the city, but higher concentrations are generally north of Oak Street, east of U.S. 20, and south of Kees Street. Housing developments constructed in Lebanon after 2014—such as the multifamily housing development in northwest Lebanon—may alter the results of this map.

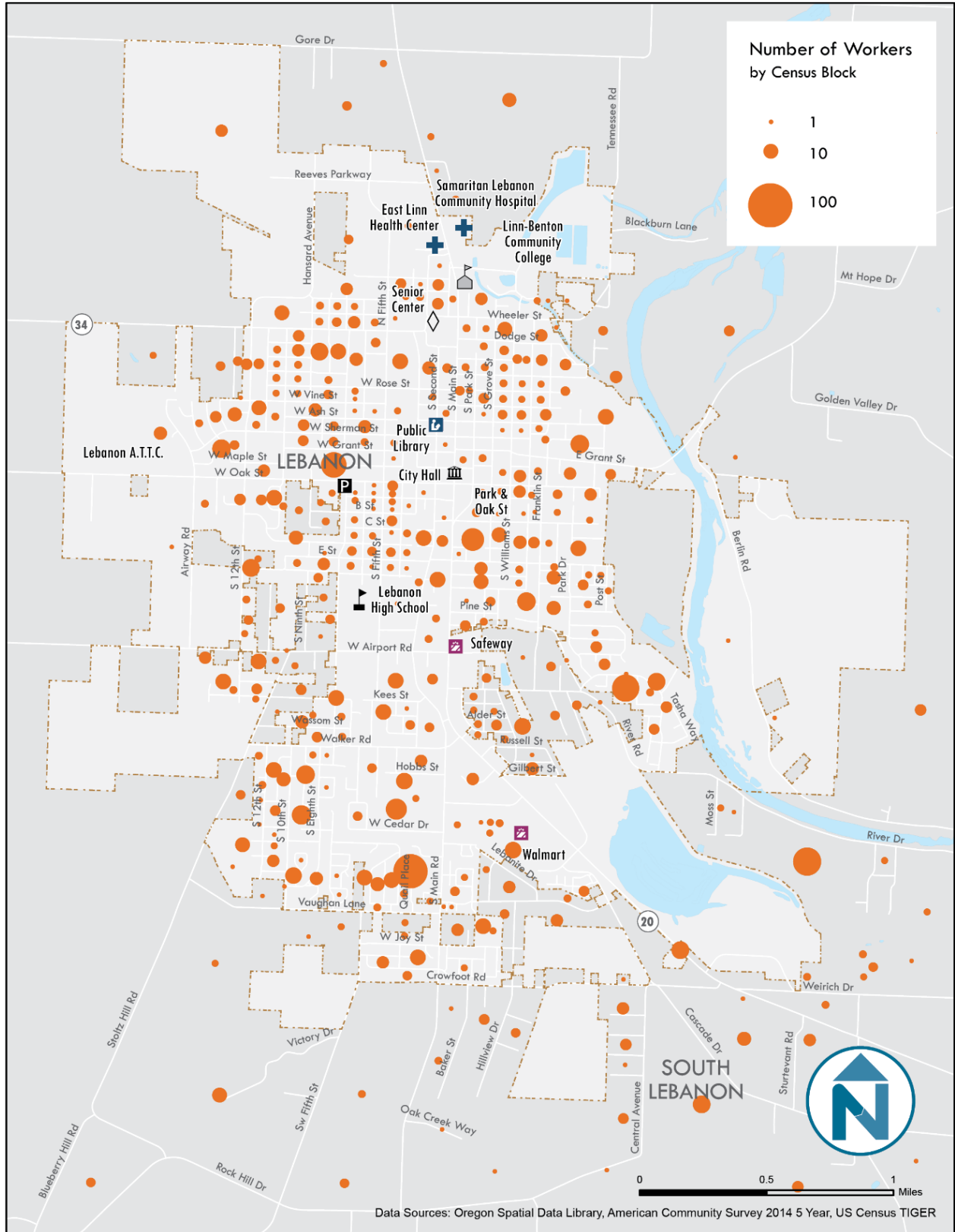
**Figure 20     Where Workers Live**

	Number of Employees	Percent of All Employees
Workers that work and live in Lebanon	1,409	23%
Workers that work in Lebanon and live outside Lebanon	4,593	77%
Albany, OR	572	10%
Sweet Home, OR	322	5%
Corvallis, OR	227	4%
Salem, OR	121	2%
Eugene, OR	117	2%
South Lebanon CDP, OR	116	2%
Portland, OR	71	1%
Bend, OR	48	1%
Brownsville, OR	46	1%
Other*	2,953	49%
<b>Total People Employed in Lebanon</b>	<b>6,002</b>	<b>100%</b>

Source: LEHD

\* LEHD data does not specify what locations are included in “Other”.

Figure 21 Where People Who Work in Lebanon Live



Approximately 6,300 people living in Lebanon were employed in 2014, of which 22% also worked in Lebanon. As shown in Figure 22, 78% of workers that live in Lebanon travel to surrounding cities for work.

Figure 23 illustrates work locations for employees living in the city are more concentrated than home locations in Lebanon. The higher concentrations of work locations are mostly in the central part of Lebanon, especially in and around the U.S. 20 corridor. The highest densities of work locations are north of Oak Street.

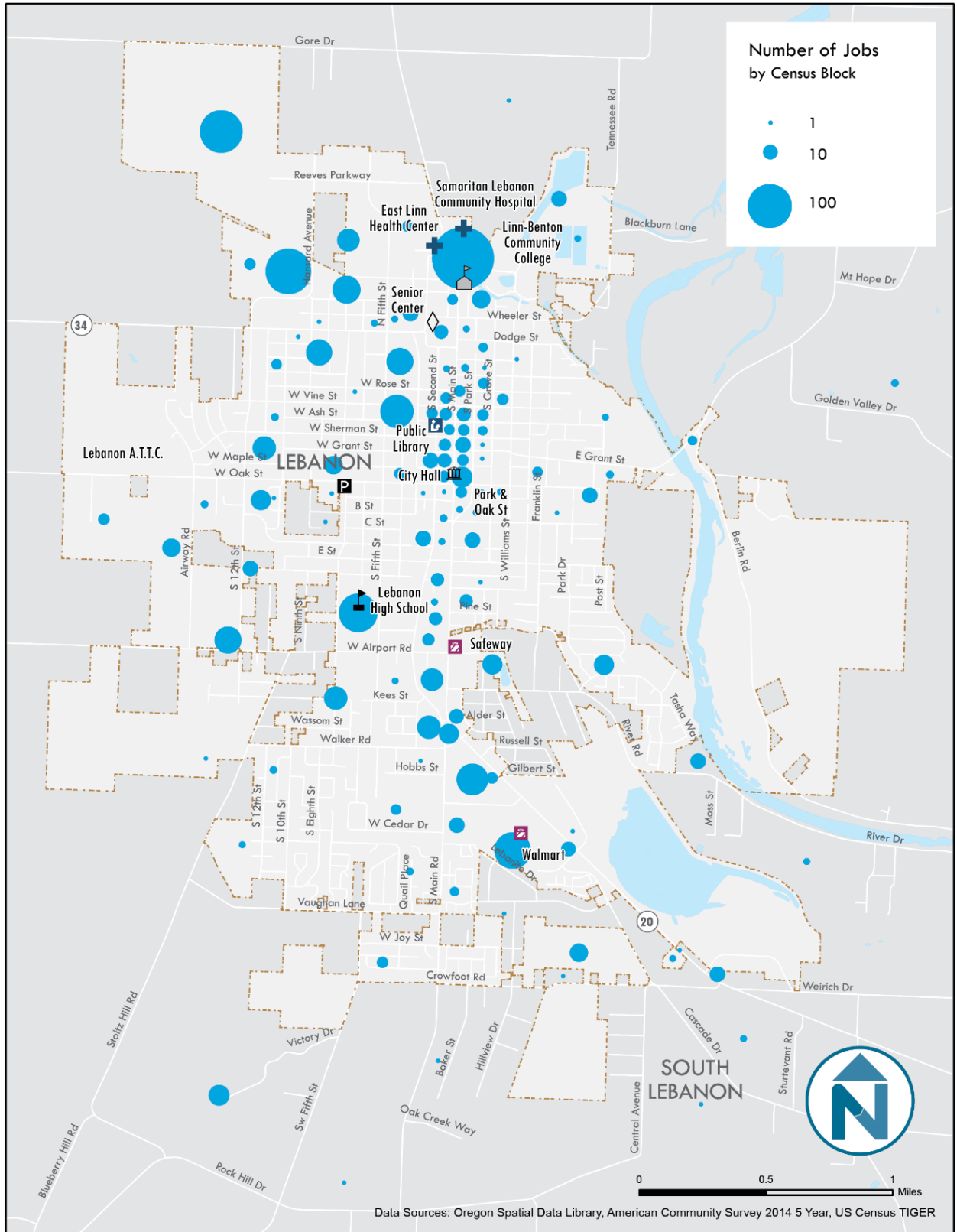
**Figure 22      Where Workers Work**

	Number of Employees	Percent of All Employees
Workers that live and work in Lebanon	1,409	22%
Workers that live in Lebanon and work outside Lebanon	4,885	78%
Albany, OR	909	14%
Corvallis, OR	581	9%
Salem, OR	379	6%
Portland, OR	271	4%
Eugene, OR	231	4%
Springfield, OR	135	2%
Sweet Home, OR	89	1%
Millersburg, OR	81	1%
Bend, OR	60	1%
Other*	2,149	34%
<b>Total People Employed in Lebanon</b>	<b>6,294</b>	<b>100%</b>

\* Note: LEHD data does not specify what locations are included in "Other".

Source: LEHD

Figure 23 Where People Who Live in Lebanon Work





## Limited English Proficiency

Transit providers regularly monitor the population of people with limited English proficiency (LEP) to ensure service information is available in the language of LEP population(s) of significant size. The size and language of LEP populations is different for every community. U.S. Department of Transportation requires public transit service providers receiving federal funding to take meaningful steps to ensure reasonable access to transit services for LEP populations.<sup>8</sup> According to Federal Transit Administration (FTA) Title VI Requirements and Guidelines, LEP includes people who reported to the U.S. Census that they speak English less than very well, not well, or not at all.<sup>9</sup> Data used for this analysis defines LEP as any person age 5 and older who reported speaking English less than “very well”.

In Figure 24, total LEP populations for Lebanon, Linn County, and Oregon are displayed for 2000, 2010, and 2014. LEP populations decreased by 43%–58% across Oregon, Linn county, and Lebanon from 2000 to 2010. This decline in LEP population continued through 2014 in both Lebanon and Linn County. The LEP population in Lebanon makes up 1% of the city’s total population, a notably smaller proportion than the 6% of statewide population.

**Figure 24 Limited English Proficiency Population**

	LEP Population (2000)	LEP Population (2010)	% Change (2000-2010)	LEP Population (2014)	% Change (2010-2014)	Proportion of Population Who Have Limited English Proficiency (2014)
<b>Lebanon</b>	583	248*	-58%	102*	-59%	1%
<b>Linn County</b>	5,622	2,879**	-49%	2,439**	-15%	2%
<b>Oregon</b>	388,669	222,247	-43%	223,781	1%	6%

Source: U.S. Census 2000; American Community Survey 5-year Estimates 2010 and 2014

\* Margin of error is ±72% (2010) and ±71% (2014) of stated value

\*\* Margin of error is ±15% (2010) and ±18% (2014) of stated value

All decennial census data contains a small amount of unquantified and inevitable nonsampling error resulting from nonresponse, human respondent and enumerator error, and processing errors.

ACS data is based on population samples, and thus contains a quantified and reported margin of error. All ACS data in this figure has a margin of error less than or equal to 5% unless otherwise noted.

## Veterans

In Lebanon, 8% of the population are veterans. As can be seen in Figure 25, this proportion is similar in both Linn County and Oregon. However, across the state, county, and Lebanon veteran populations are decreasing. At a 21% decrease, Lebanon’s rate of veteran population loss from 2010 to 2014 was more than double that of Oregon. This trend will likely change with the recent development of the Oregon Veterans’ Home in Lebanon; this data pre-dates full occupancy of this new Oregon Veterans’ Home location.

<sup>8</sup> U.S. Department of Justice. Federal Coordination and Compliance Section. January 2001. Title VI of the Civil Rights Act of 1964, 42 U.S.C. 2000d, et seq. Retrieved from <https://www.justice.gov/crt/federal-coordination-and-compliance-section-195>.

<sup>9</sup> FTA. Title VI Requirements and Guidelines for Federal Transit Administration Recipients. October 2012. Section.1.5.I. Retrieved from [https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA\\_Title\\_VI\\_FINAL.pdf](https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Title_VI_FINAL.pdf)



**Figure 25 Veteran Population**

	Veteran Population (2000)	Veteran Population (2010)	% Change (2000-2010)	Veteran Population (2014)	% Change (2010-2014)	Proportion of Population Who Are Veterans (2014)
<b>Lebanon</b>	1,630	1,615	-1%	1,279*	-21%	8%
<b>Linn County</b>	13,104	12,641	-4%	11,263	-11%	11%
<b>Oregon</b>	388,990	345,700	-11%	313,261	-9%	9%

Source: U.S. Census 2000; U.S. Census 2010; American Community Survey 5-year Estimates 2010 and 2014

\* Margin of error is ±18% of stated value

All decennial census data contains a small amount of unquantified and inevitable non-sampling error resulting from nonresponse, human respondent and enumerator error, and processing errors.

ACS data is based on population samples, and thus contains a quantified and reported margin of error. All ACS data in this figure has a margin of error less than or equal to 5% unless otherwise noted.

## MARKET CONDITIONS SUMMARY

Based on the most recent population and demographic data, the central north and south areas of Lebanon are the areas with the highest concentrations of likely transit riders. In order to serve people in both of these areas, as well as the areas of greatest population density in the city, the most continuous north/south corridors are likely transit corridors. U.S. 20 is the most continuous of these; 5<sup>th</sup> Street and the Main Road/Second Street corridor also provide direct connections between the north and south ends of Lebanon. These corridors also offer access to major grocery outlets, as well as public institutions such as City Hall and Lebanon Community Schools. By 2040, the Lebanon area’s population will increase approximately 58% and employment by 106%, from a 2010 base year. These growth rates are high relative to past trends but reflect the recent and planned development activity in Lebanon.

The market conditions analysis indicates some clear trends that will affect the current and future demand for public transportation in the City of Lebanon.

- **Increasing population and employment.** Recent and short-term developments in Lebanon (i.e. Convention Center, LBCC Advanced Transportation Center, LBCC Healthcare Occupations Center, Lowe’s Regional Distribution Center, Samaritan Hospital, Veterans’ Home) will have long-term impacts on population and employment within the city. Lebanon saw a 6% increase in the population from 2010 to 2016 and this trend is expected to continue in the future. Employment is expected to increase dramatically in the next 25 years. Alterations to transit service should consider the needs of employees and accommodate work schedules. Moving forward, the City of Lebanon should delegate resources to the development of a high quality transit service to accommodate growing population and employment and deter traffic congestion. Developing the framework for a high quality transit service now can help increase transit use in the future.
- **Growth in transit dependent populations.** Recent trends show increase in transit dependent populations (i.e. older adults, youth, low-income, persons with disabilities). Since 2010, the number of older adults and youth has steadily increased in Lebanon and the low-income population has risen at a faster rate than the state overall. Between 2012 and 2014, the number of persons with disabilities living in Lebanon has also increased.

The densities of these populations and travel needs will influence the potential routing of a fixed-deviated transit service in Lebanon.

- **Commute flow and regional connections.** A total 78% of Lebanon employees live outside of the city. Fourteen percent in Albany and 9% Corvallis. For public transit to be a viable option for these commuters, the city of Lebanon should continue to coordinate their transit schedule with regional transit services, such as the Linn Shuttle.

## 5 EXISTING SERVICES

Two public transportation services are available in the City of Lebanon: the Lebanon Dial-a-Bus and the Linn Shuttle.

### LEBANON DIAL-A-BUS

<b>Service Area Description</b>	Within Lebanon city limits
<b>Days and Hours of Operation</b>	7 a.m. to 4 p.m. weekdays, no weekend service
<b>Fare</b>	\$2.00 (general public), \$1.00 (older adults/persons with disabilities), free (children and care attendants) per one-way ride
<b>Connections to other services</b>	Linn Shuttle connects through Lebanon to Sweet Home and Albany

### Service Overview

Lebanon Dial-A-Bus provides curb-to-curb wheelchair accessible demand-responsive transportation service for older adults, people with disabilities, and the general public within the city limits of Lebanon. The Dial-A-Bus operates Monday through Friday from 7 a.m. to 4 p.m. The service is designed for transportation within Lebanon, but it can also be used to access the Linn Shuttle, making further connections to Albany and beyond. The cost of a one-way ride is \$2 for the general public (59 and younger), \$1 for older adults (60 or older) and persons with disabilities, and free for children and care attendants.

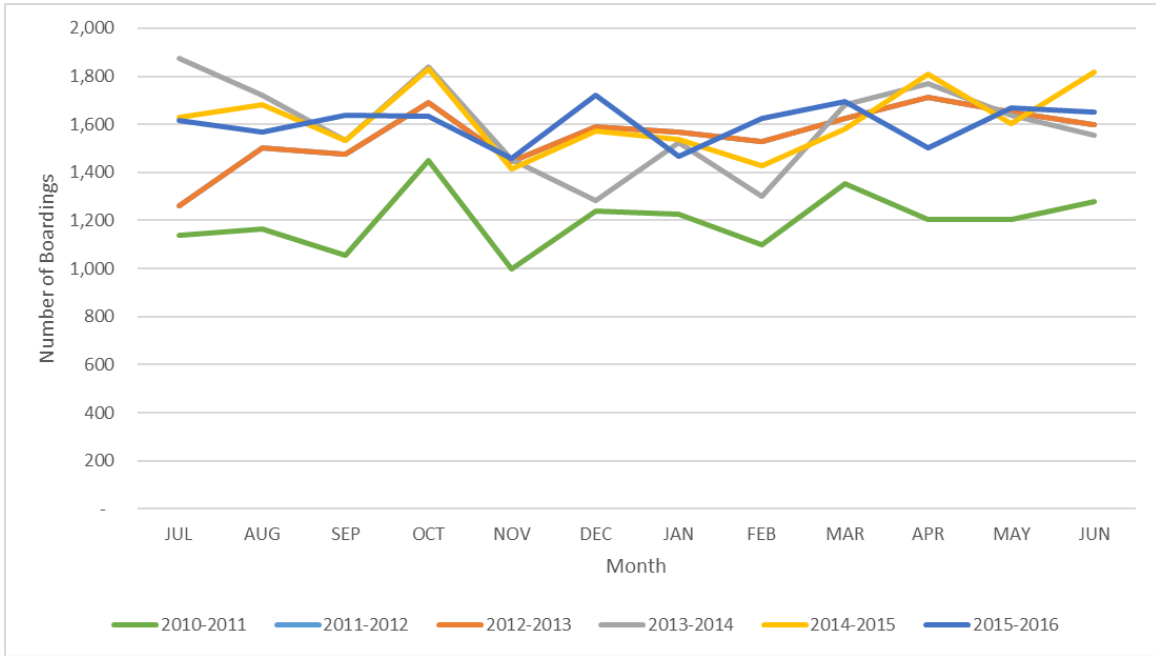
### Ridership

As shown in Figure 26, total ridership increased by 29% from fiscal year (FY) 10/11 to FY 11/12. Ridership remained fairly steady from fiscal year (FY) 11/12 to FY 15/16 with a slight increase of 3%. Figure 27 shows total ridership by month. In FY 15/16, the month of December has the highest ridership while in previous years, October and April has the highest ridership. Figure 28 shows that the percent of general public riders and riders with disabilities has decreased while older adult riders has increased. Lebanon Dial-a-Bus rider pick-up locations are illustrated in Figure 29. Rider manifest data provided by the City of Lebanon was used to produce this map, which shows the pick-up locations for all completed trips. The most popular origins included Willamette Valley Rehab Center (53 pick-ups), Brookdale Senior Living (24 pick-ups), Walmart (20 pick-ups), Senior Center (19 pick-ups), Samaritan Lebanon Community Hospital (17 pick-ups), and The Oaks Retirement and Assisted Living (15 pick-ups), and Mega Foods (12 pick-ups).

**Figure 26 Lebanon Dial-a-Bus Ridership, FY 10/11 to FY 15/16**

Fiscal Year	Total Ridership	% Change from Previous FY	General Public (59 & younger)		Riders with Disabilities (59 & younger)		Older Adults (60+)	
			#	%	#	%	#	%
2010-11	14,412	N/A	439	3%	7,927	55%	6,046	42%
2011-12	18,655	29%	1,440	8%	8,846	47%	8,369	45%
2012-13	19,567	5%	1,085	6%	10,513	54%	7,969	41%
2013-14	19,178	-2%	998	5%	10,546	55%	7,634	40%
2014-15	19,441	1%	1,103	6%	9,457	49%	8,881	46%
2015-16	19,247	-1%	1,107	6%	8,169	42%	9,971	52%

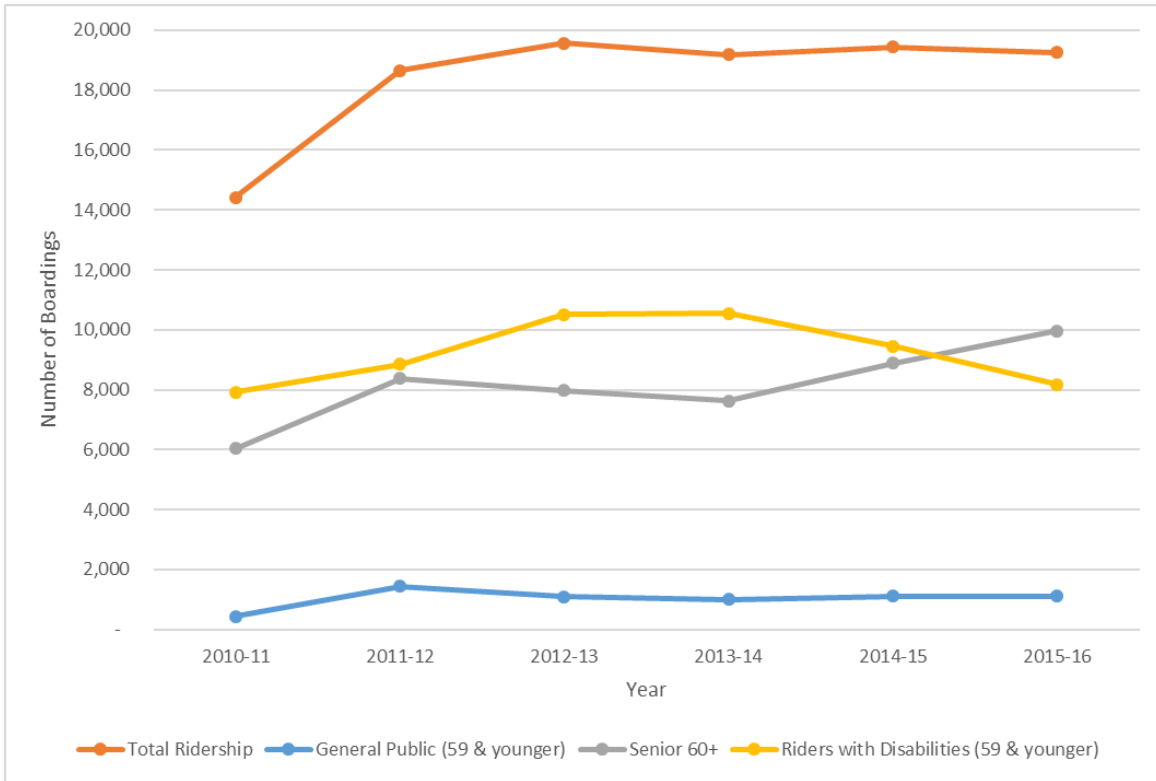
**Figure 27 Lebanon Dial-a-Bus Total Ridership FY 10/11 to FY 15/16**



Source: Lebanon Dial-a-Bus

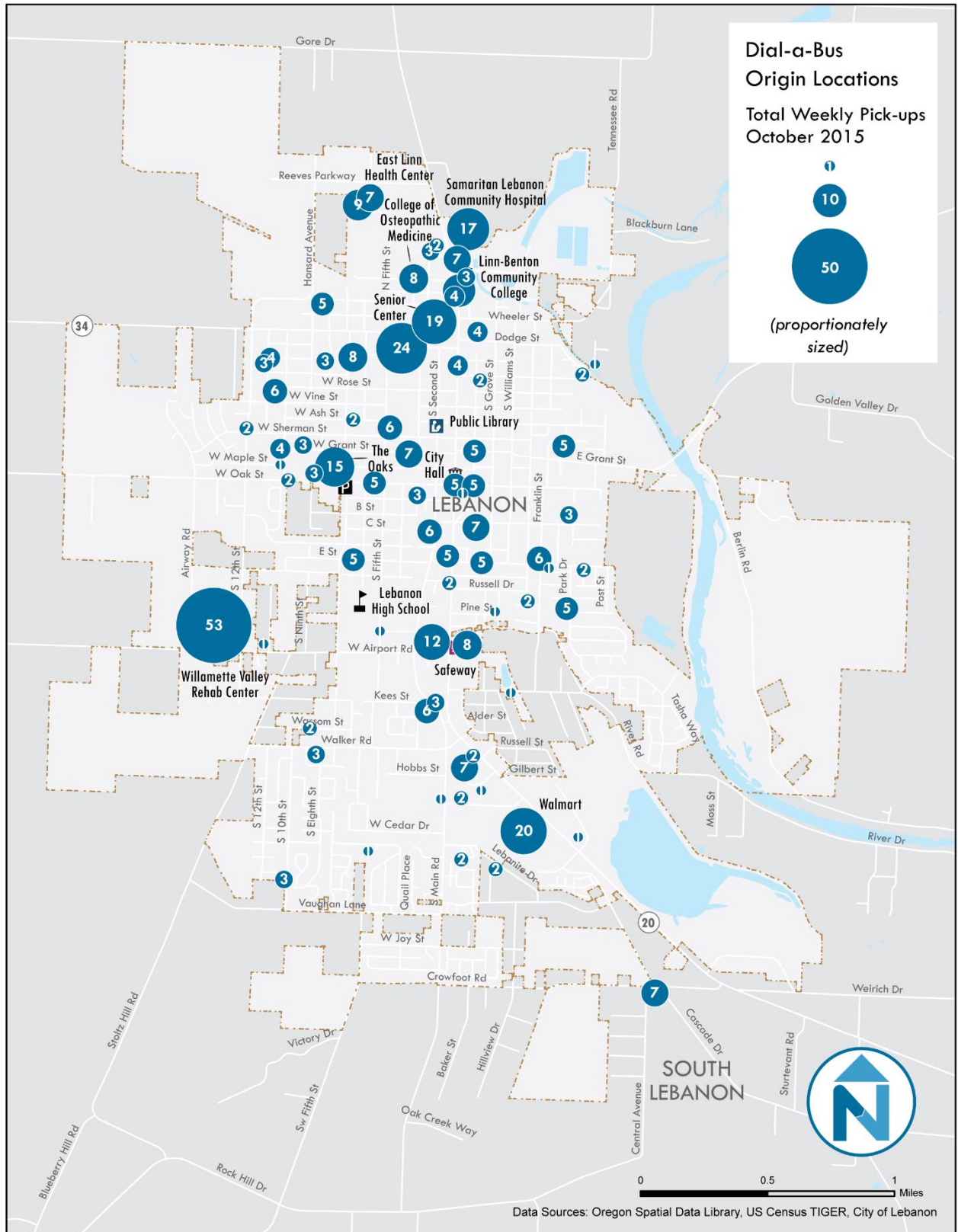
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Figure 28 Lebanon Dial-a-Bus Ridership FY 10/11 to FY 15/16



Source: Lebanon Dial-a-Bus

Figure 29 Lebanon Dial-a-Bus Origin Locations, October 2015



## Vehicle Inventory

Lebanon Dial-a-Bus has a total of four vehicles, all of which can accommodate a wheelchair. Vehicles are stored at the Justice Center, which is located south of the Lebanon Senior Center. Vehicles are equipped with radios to communicate with dispatch at the Senior Center. GPS and cameras are installed on three vehicles (#12, #14, and #16).

**Figure 30 Lebanon Dial-a-Bus Vehicle Inventory**

Vehicle #	Year	Type	Mileage	# Pass	# WC	Condition Rating*	Useful Life Minimum
7	2009	Ford E350 Super Duty Cargo Van	4,344	7	1	Excellent	4 years or 100,000 miles
12	2002	Ford E450 Eldorado Aerotech 220 Bus	98,843	12	1	Adequate	5 years or 150,000 miles
14	2009	Ford E450 Startrans Senator	106,507	12	2	Good	5 years or 150,000 miles
16	2009	Ford E450 Supreme Startrans Senator	125,105	16	2	Good	5 years or 150,000 miles

Source: Lebanon Dial-a-Bus and [ODOT Vehicle Contract Crosswalk](#)

\*Condition rating is based on the vehicles age, condition, performance, and level of maintenance. Condition rating ranges from 0 to 5—0 is non-operable, 1.0 to 1.9 is poor, 2.0 to 2.9 is marginal, 3.0 to 3.9 is adequate, 4.0 to 4.7 is good, and 4.8 to 5.0 is excellent. A score above 2.5 is considered to be in a state of good repair.

## Funding

Administrative expenses for Lebanon Dial-a-Bus are paid by the City of Lebanon. County, state. Federal grants and fares contribute towards operational expenses. Detailed funding information for transit service in Lebanon can be found in Chapter 6, Transit Funding. **Technology**

Lebanon Dial-a-Bus currently uses Microsoft Excel for scheduling rides but is interested in transitioning to using a scheduling software program if funding is available. As previously mentioned, technology on vehicles includes video cameras and two-way radios. Information about the Lebanon Dial-a-Bus is available online at <http://www.ci.lebanon.or.us/seniorservices/page/transportation>.

## Staffing

The Lebanon Dial-a-Bus has one full-time driver, four part-time drivers to run two to three buses five days a week, and one dispatcher four days a week. The Senior Services Director, Senior Center Activities Coordinator, or one of the part-time drivers currently fill in for dispatching/scheduling one day a week and for vacation/sick time.

## Service Evaluation

Lebanon Dial-a-Bus service was evaluated by the following performance measures:

- **Operating Cost/Revenue Hour:** annual operating costs divided by annual revenue hours



- **Operating Cost/Trip:** annual operating costs divided by total number of rides provided
- **Trips/Revenue Hour:** total number of rides provided divided by annual revenue hours

Since FY 11/12, Lebanon Dial-a-Bus has performed best during FY 14/15. This resulted from an increase in annual ridership and a slight decrease in both annual revenue hours and expenses. Productivity (i.e. Trips/Revenue Hour) decreased between FY 14/15 and FY 15/16 due to a slight decrease in ridership and an increase in revenue hours. The system's relatively high productivity reflects the high demand put on Lebanon Dial-a-Bus and the capacity constraints often seen by staff.

**Figure 31 Lebanon Dial-a-Bus Service Evaluation**

Performance Measure	Industry Standard	Lebanon Dial-a-Bus				
		FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16
<b>Operating Cost/Revenue Hour</b>	Varies based on local labor, insurance, fuel etc. costs	\$56	\$66	\$63	\$65	\$57
<b>Operating Cost/Trip</b>	Varies based on local labor, insurance, fuel etc. costs	\$11	\$13	\$13	\$12	\$12
<b>Trips/Revenue Hour</b>	Between 1.8 and 3.8 for small urban systems <sup>10</sup>	5.0	5.0	5.0	5.3	4.6

## LINN SHUTTLE

<b>Service Area Description</b>	Connects Sweet Home, Lebanon, and Albany
<b>Days and Hours of Operation</b>	Monday-Friday, 6:25 a.m. to 7:30 p.m.
<b>Fare</b>	Free for LBCC staff and students, \$1.00 for all other users
<b>Connections to other services</b>	Connections to Linn-Benton Loop, Sweet Home Shopper, ATS routes, Amtrak, CTS, Coast to Valley Express, Cascades POINT, Pacific Crest Bus Lines, and Valley Retriever

## Service Overview

Operated by the Sweet Home Senior Center, the Linn Shuttle provides transportation services between Lebanon, Sweet Home, and Albany. The Shuttle operates seven round trips per day, starting in Sweet Home to Lebanon to Albany then back to Lebanon, and Sweet Home. The Lebanon portion of this route, including three key stops on U.S. 20, is illustrated in Figure 32. Additionally, three morning and three afternoon LBCC Express trips are made from Lebanon to Albany, terminating in Sweet Home). The Lebanon portion of the express route is illustrated in Figure 33. The Linn Shuttle operates Monday through Friday, 6:25 a.m. to 7:30 p.m. Service is offered free for staff and students of LBCC; all other one-way fares are \$1 with multi-ride tickets that offer a ten ride punch card costing \$10.

In Albany, transfers are available to Corvallis through Linn-Benton Loop. Transfer opportunities are also available to the Albany Transit System (ATS) and to Amtrak at Albany Station. In Sweet Home, transfers are available to the Sweet Home Shopper, but the schedules are not optimized for this transfer.

The Senior Citizens of Sweet Home also operates a transportation program for people with intellectual/developmental disabilities, linking their residences with two workshop centers: Sunshine Industries in Sweet Home and Co-Opportunity in Albany. These provide a morning pick-up and afternoon drop-off for registered clients, Monday through Friday.

<sup>10</sup> TCRP Report 124, 53

## Ridership

As shown in Figure 34, total ridership significantly increased from FY 09/10 to FY 11/12. More recently, ridership decreased between FY 14/15 and FY 15/16 by approximately 16% in response to an improved economy and the Shuttle's focus on LBCC students. Ridership for FY 2015/2016 totaled to 56,800. Of these riders, 7% were elderly or a person with a disability and 37% were LBCC students. Figure 35 shows total ridership by month. Peaks in ridership reoccurred during the months of October, January, and April.

Ridership by stop<sup>11</sup> for the Linn Shuttle in Lebanon is illustrated in Figure 36. Total ons and offs are indicated by the number in the middle of the circle at each stop. There are four scheduled Linn Shuttle stops in Lebanon. The most passengers are picked-up and dropped-off at the Walmart stop location. Unlike the Walmart and Park and Oak stops, more drop-offs than pick-ups occur at the LBCC stop. Total ons and offs at the Samaritan Lebanon Community Hospital stop is much lower than other stops since this stop is only made on express routes.

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<sup>11</sup> Ridership by stop was collected in Fall 2014 for the *Regional CALM Model On-Board Transit Data Collection*.

Figure 32 Linn Shuttle Route

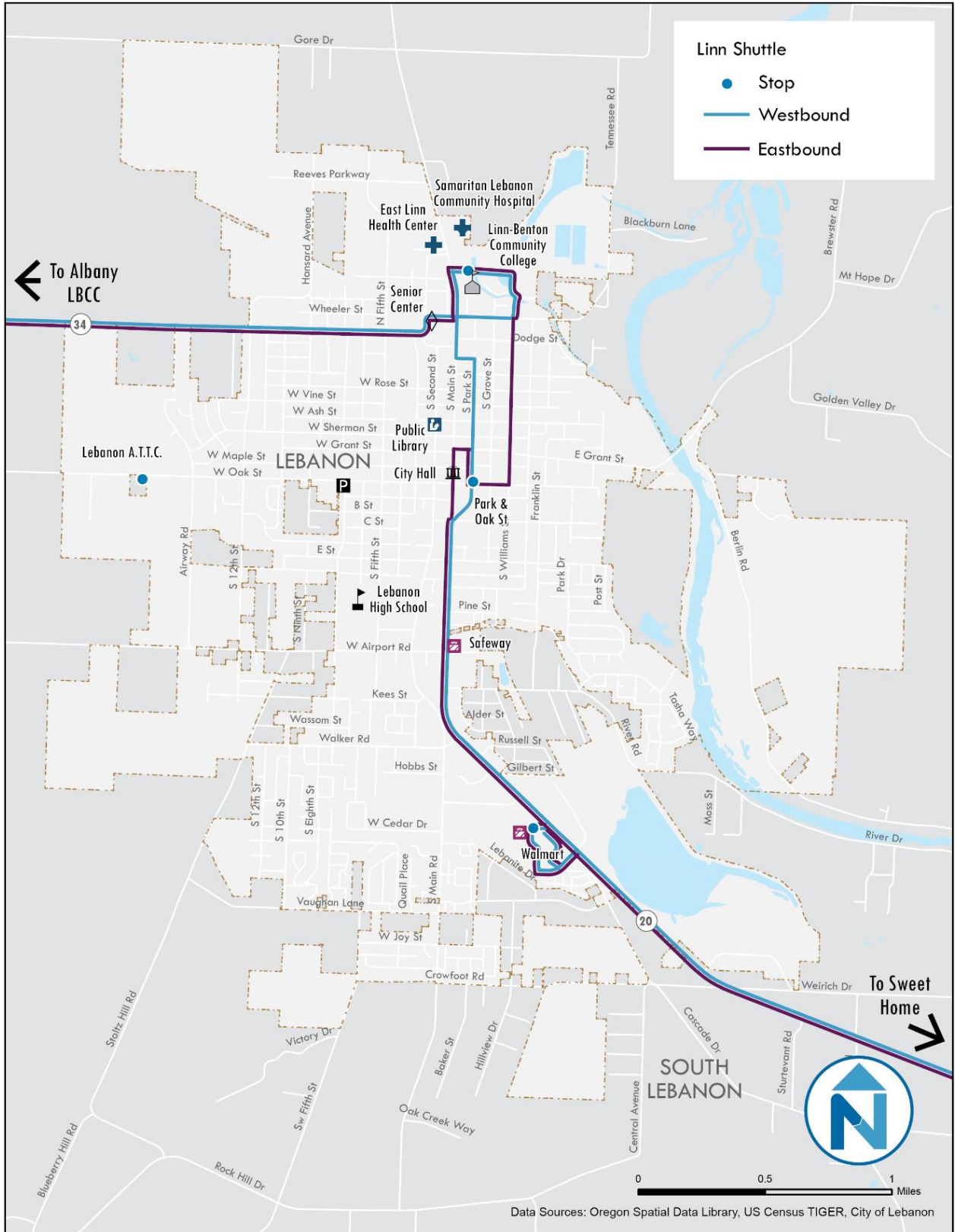
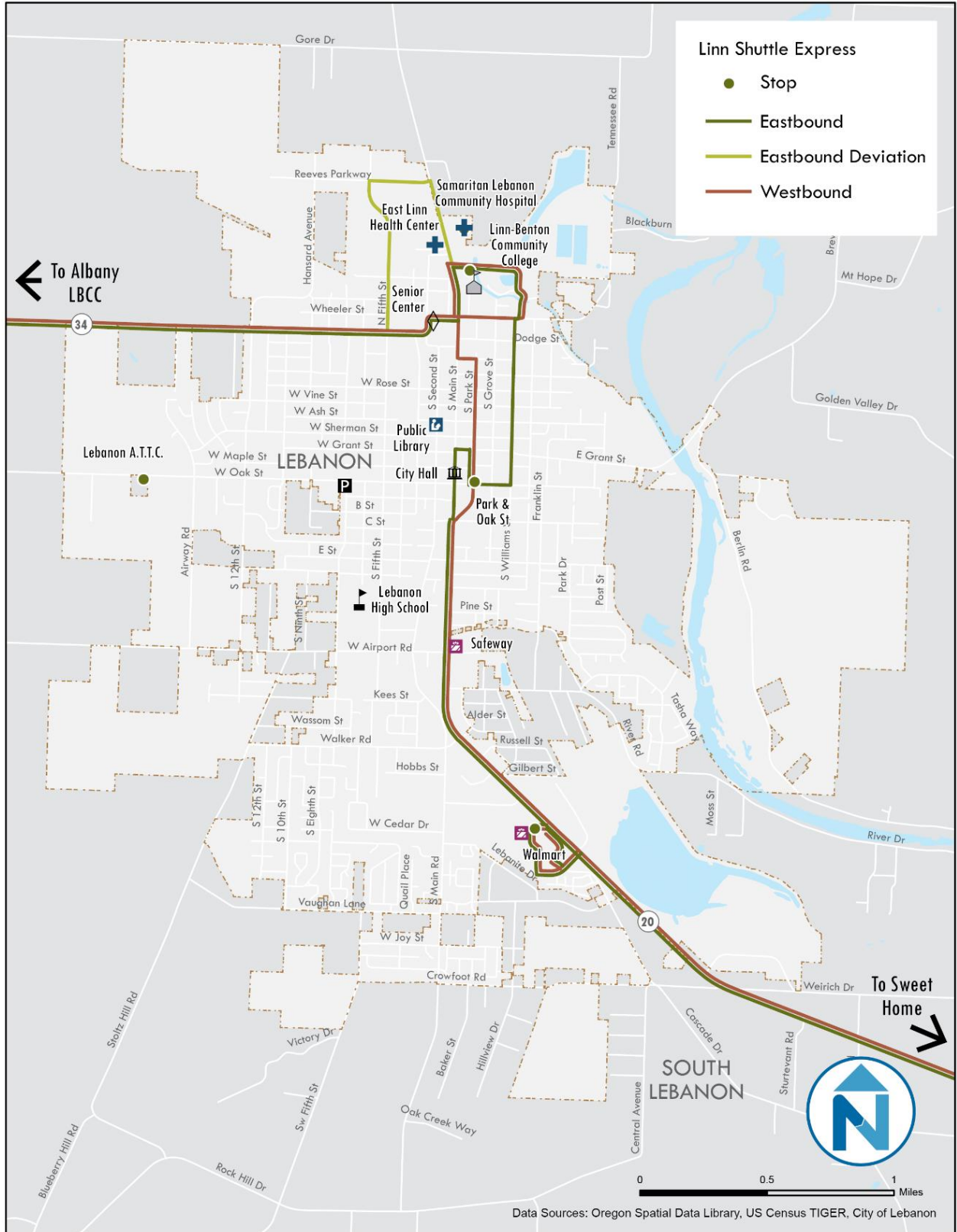


Figure 33 Linn Shuttle Express Route

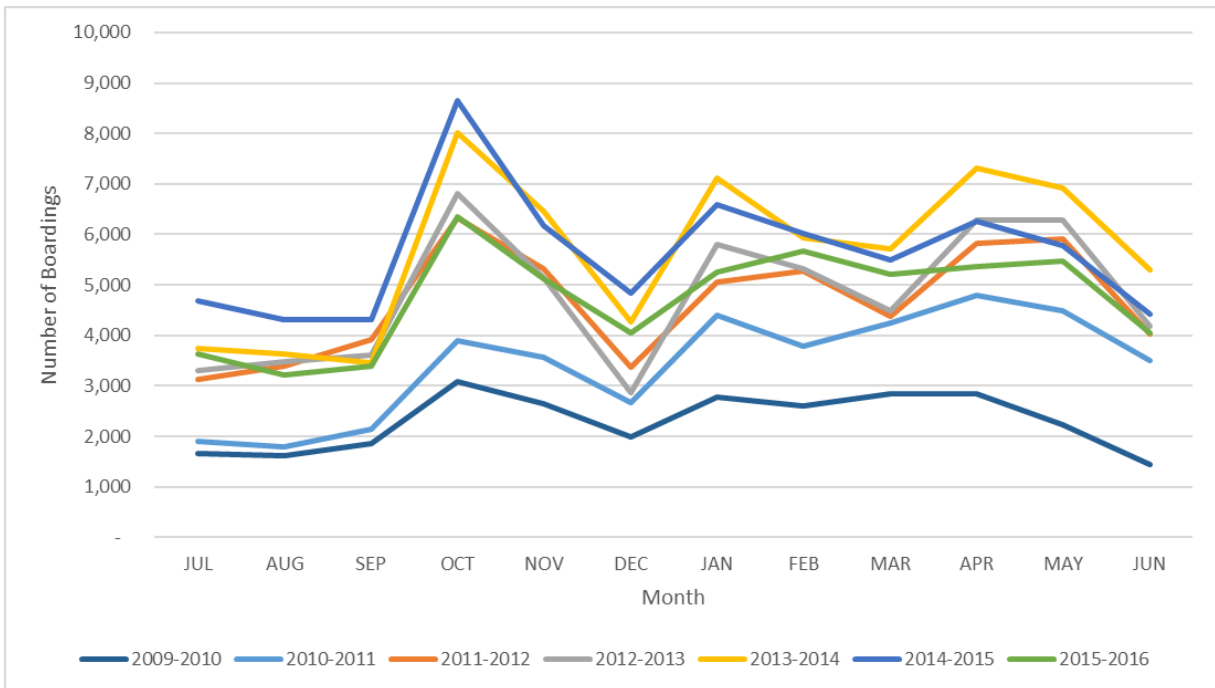


**Figure 34 Linn Shuttle Ridership FY 09/10 to FY 15/16**

Fiscal Year	Total Ridership	% Change from Previous FY	Elderly and Riders with Disabilities		Student Riders	
			#	%	#	%
2009-10	27,590	N/A	N/A	N/A	N/A	47%
2010-11	41,223	49%	N/A	N/A	N/A	N/A
2011-12	55,912	36%	3,774	7%	N/A	N/A
2012-13	57,561	3%	1,914	3%	24,155	42%
2013-14	67,865	18%	1,912	3%	29,070	43%
2014-15	67,565	-0.4%	4,125	6%	27,104	40%
2015-16	56,809	-16%	3,879	7%	21,275	37%

Source: Linn Shuttle

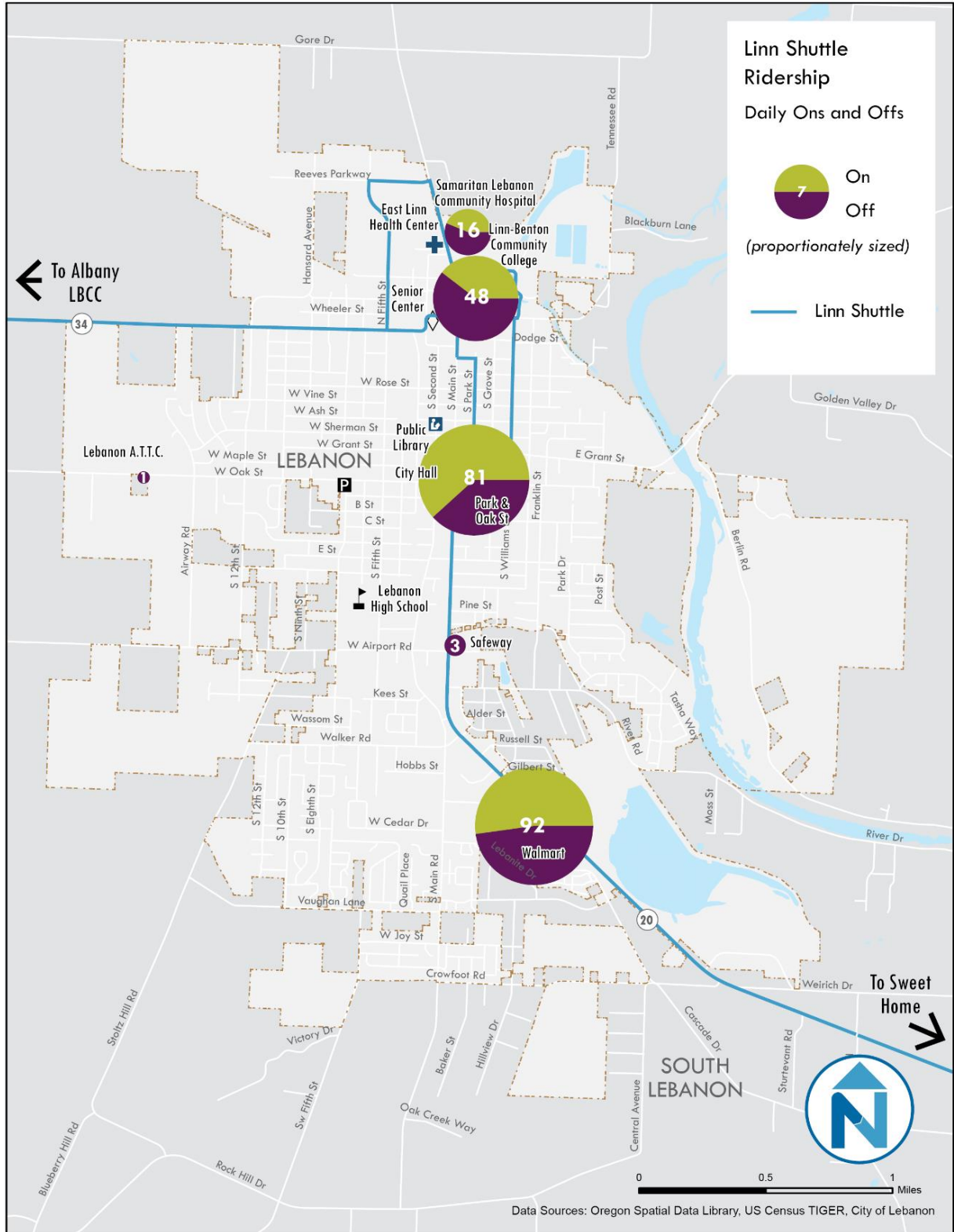
**Figure 35 Linn Shuttle Ridership Trends FY 09/10 to FY 15/16**



Source: Linn Shuttle



Figure 36 Linn Shuttle Ridership by Stop





## Vehicle Inventory

The Linn Shuttle, Sweet Home Shuttle, Sweet Home Dial-a-Bus, and shuttle for people with developmental disabilities share vehicle fleet of 15 vehicles. Seven of those vehicles are used for the Linn Shuttle. All Linn Shuttle vehicles are equipped with video cameras, wheelchair lifts or ramps, two on-board securement spaces, and bike racks. Linn Shuttle, Sweet Home Dial-A-Bus, and Sweet Home Shopper have a combined fleet of 14 vehicles, seven of which are dedicated to the Linn Shuttle and listed in Figure 37. This includes one 26 passenger bus, one 28 passenger bus, one 30 passenger bus, and two 37 passenger buses. An additional two 37 passenger buses are on order but not yet in operation.

**Figure 37 Linn Shuttle Vehicle Inventory**

Year	Type	Mileage	# Pass	# WC	Useful Life Minimum
2006	Ford E540 Champion	231,960	16	2	7 years or 200,000 miles
<b>2007</b>	<b>Chevy C5500 Champion</b>	<b>322,167</b>	<b>28</b>	<b>2</b>	<b>10 years or 350,000 miles</b>
2008	Ford E450 Elkhart	159,610	16	2	7 years or 200,000 miles
<b>2009</b>	<b>Chevy Startrans Senator HD</b>	<b>309,518</b>	<b>26</b>	<b>2</b>	<b>10 years or 350,000 miles</b>
2009	Chevy Startrans Senator HD	273,294	16	2	7 years or 200,000 miles
2011	Dodge Grand Caravan	141,937	5	1	4 years or 100,000 miles
<b>2011</b>	<b>Champion/International</b>	<b>158,692</b>	<b>30</b>	<b>2</b>	<b>10 years or 350,000 miles</b>
<b>2014</b>	<b>Champion/Freightliner</b>	<b>222,229</b>	<b>37</b>	<b>2</b>	<b>12 years or 500,000 miles</b>
<b>2014</b>	<b>Champion/Freightliner</b>	<b>156,862</b>	<b>37</b>	<b>2</b>	<b>12 years or 500,000 miles</b>
2016	Ford Transit 350 Wagon	22,245	6	1	4 years or 100,000 miles
2016	Blue Bird Vision	64,808	24	2	7 years or 200,000 miles
<b>2017</b>	<b>Blue Bird Vision</b>	<b>2,958</b>	<b>37</b>	<b>2</b>	<b>12 years or 500,000 miles</b>
<b>2018</b>	<b>Blue Bird Vision</b>	<b>2,890</b>	<b>37</b>	<b>2</b>	<b>12 years or 500,000 miles</b>

Source: Linn Shuttle

Vehicles in bold are used for the Linn Shuttle.

## Funding

Figure 38 details the funding sources for Linn Shuttle in FY 15/16 and FY 16/17. The service is funded through federal grants, the STF Program, Linn County general fund, Linn Benton Community College contract, and rider fares. Total revenue for FY 16/17 increased by almost \$100,000 from increased FTA and STF funds. In addition to the revenues shown in Figure 38, Linn Shuttle had \$327,600 of capital funding.

**Figure 38 Linn Shuttle Financials FY 15/16 to FY 16/15**

Funding Source	FY 15/16	FY 16/17
Federal Grant Funds (FTA Section 5310)	\$62,000	\$88,500
Federal Grant Funds (FTA Section 5311)	\$100,100	\$124,500
Special Transportation Fund (STF)	\$58,600	\$101,000
Linn County General Fund	\$8,000	\$8,000
Linn Benton Community College Contract	\$50,000	\$50,000
City of Lebanon General Fund	\$7,200	\$7,200
Bus Fares	\$34,000	\$32,000
<b>Total Revenue</b>	<b>\$319,900</b>	<b>\$411,200</b>

Source: Linn Shuttle

## Technology

Linn Shuttle currently does not use any software for scheduling. As previously mentioned, technology on vehicles includes video cameras. Information about the Linn Shuttle is available online at <http://www.linnshuttle.com/>.

## Service Evaluation

Linn Shuttle was evaluated by the following performance measures:

- **Passengers/Revenue Hour:** total number of passengers divided by annual revenue hours

Between FY 10/11 and FY 14/15, Linn Shuttle has had steady productivity (passengers/revenue hour) around 10 passengers per revenue hour. A decrease in productivity occurred in FY 15/16 due to a decrease in ridership and an increase in revenue hours.

**Figure 39 Linn Shuttle Service Evaluation**

Performance Measure	Industry Standard	Linn Shuttle					
		FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16
<b>Passengers/Revenue Hour</b>	<ul style="list-style-type: none"> <li>▪ 12 – 35 Peak periods</li> <li>▪ 10 – 30 Off-peak periods</li> <li>▪ 8 – 20 Nights</li> </ul>	9.8	10.1	9.8	9.8	9.6	7.0

## EXISTING SERVICES SUMMARY

The inventory of existing transit services in Lebanon highlighted the following barriers and opportunities:

- **Staff capacity.** Additional city staff will be needed to accommodate any expansion in transit service.
- **Limited service hours.** Transit service hours and limited frequencies are currently not able to accommodate traditional work schedules.

- **Efficiency improvements.** Many of the Lebanon Dial-a-Bus rides originate or terminate at a few key locations and along the U.S. 20 corridor. Scheduled bus service to these locations provides the opportunity to increase service productivity and address existing capacity constraints.
- **Potential transit stops.** Population density is highest in the central part of the city, especially between S Main Road/S 2<sup>nd</sup> Street and 7<sup>th</sup> Street. East of Lebanon High School, between A Street and Walker Road/River Road, holds the city's second densest neighborhoods. Central north and south areas of Lebanon are the areas with the highest concentrations of likely transit riders. Primary connections to be considered for a fixed-deviated route include U.S. 20 and 5<sup>th</sup> Street and the Main Road/Second Street corridor. These corridors also offer access to major grocery outlets, as well as public institutions such as City Hall and Lebanon Community Schools. Additionally, current Linn Shuttle stops are already established as key transit stop locations. The City of Lebanon should consider locating stops at or nearby these locations to enhance regional connections.
- **Local circulation.** Only 22% of Lebanon employees also live in Lebanon but public transit is not a popular commute choice. Developing a fixed-route deviated service could make public transit a more attractive commute option for these employees.
- **Funding.** Current funding levels allow Lebanon to sustain Dial-a-Bus service. If a fixed-route deviated service is established, operating cost per trip should decrease but it is likely that additional funding sources will be needed. More information on current and future funding levels is available in Chapter 6 and 7 of this Plan.
- **Vehicle storage and maintenance.** Additional storage for vehicles may be needed for Lebanon Dial-a-Bus if more transit vehicles are purchased in the future. The city can also explore opportunities to work with local partners, such as the LBCC Advanced Transportation Technology Center or Lebanon Community School District for vehicle maintenance and repairs.
- **Technology.** Scheduling software can help improve Lebanon Dial-a-Bus productivity and support expansion to deviated fixed-route service. The City of Lebanon may want to consider RouteMatch (used by ATS) or Mobilitat (used by Benton County Demand Response Service and Corvallis-Albany Connection). Real-time arrival information should also be considered as it can improve customer convenience and help increase ridership.

## 6 TRANSIT FUNDING

Lebanon Dial-a-Bus is funded through a variety of federal, state, and local sources. Funding revenue, expenses, and surplus/deficit for FY 11/12 through FY 16/17 are shown in Figure 41. Funding sources for Lebanon Dial-a-Bus are described in Figure 40. Future assumptions about these funding sources is discussed in the Financials section of Chapter 7, Implementation Strategies. A list of potential new funding sources for Lebanon are included in Appendix D.

**Figure 40 Lebanon Dial-a-Bus Funding Sources**

Funding Source	Description
<b>FTA 5310</b>	Funding for capital costs to transit agencies providing transportation to older adults and persons with disabilities. ODOT allocates these funds to Linn County by formula every two years, and the County works with local stakeholders to allocate the funds locally.
<b>FTA 5311</b>	Funding for both capital and operational costs of public transit in rural communities. This program supplemented Job Access Reverse Commute (JARC) funding. This is the Lebanon Dial-a-Bus largest funding source.
<b>FTA 5339</b>	Funding to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities. Lebanon Dial-a-Bus received funding for this program in FY 16/17 for the replacement of a bus.
<b>ODOT STF Formula</b>	Funding for transportation services to older adults and persons with disabilities. ODOT allocates these funds to Linn County by formula every two years, and the County works with local stakeholders to allocate the funds locally.
<b>ODOT STF Discretionary</b>	The state offers a discretionary STF program when funds are available.
<b>Oregon Department of Human Services (Title XIX)</b>	Medicaid funding to be used for medical and non-medical transportation for Medicaid-eligible individuals. Lebanon Dial-a-Bus receives these funds for providing transit service to persons with developmental disabilities (DD 53) and for providing transit service to older adults and persons with disabilities (S&D). The County may discontinue the DD 53 program in the future which would reduce DHS and STF funds.
<b>Oregon Business Energy Tax Credit (BETC) Program</b>	Funding for public transit service as well as alternative fuel vehicle fleets and infrastructure. This program was phased out in 2012. Lebanon Dial-a-Bus relied on this funding source to cover the budget deficit in FY 12/13, FY 13/14, and FY 14/15. Although the program no longer exists after FY 15/16, Lebanon received BETC funds in 2012 that were used in later fiscal years.
<b>Lebanon General Funds</b>	Funding appropriated by the City of Lebanon to Lebanon Dial-a-Bus to cover administrative costs.
<b>Lebanon Dial-a-Bus Fares</b>	Revenue generated from Lebanon Dial-a-Bus ridership fares.
<b>Miscellaneous</b>	Funding generated from advertising and miscellaneous donations.

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**Figure 41 Budgeted Lebanon Dial-a-Bus Revenues and Expenses (FY 11/12 – FY 16/17)**

	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
<b>Total Revenue</b>	<b>\$303,200</b>	<b>\$307,470</b>	<b>\$306,920</b>	<b>\$293,850</b>	<b>\$318,520</b>	<b>\$542,240</b>
<i>FTA 5310</i>	\$7,520	\$7,410	\$8,100	\$3,900	\$7,340	\$8,800
<i>FTA 5311</i>	\$107,660	\$119,140	\$107,180	\$104,400	\$100,220	\$100,220
<i>FTA 5339</i>	\$0	\$0	\$0	\$0	\$0	\$66,300
<i>ODOT STF Formula</i>	\$50,420	\$42,740	\$33,220	\$47,650	\$71,530	\$59,770
<i>ODOT STF Discretionary</i>	\$0	\$0	\$0	\$0	\$0	\$176,800
<i>Oregon Department of Human Services</i>	\$30,530	\$32,460	\$24,910	\$27,110	\$27,550	\$34,600
<i>Oregon Business Energy Tax Credit</i>	\$26,380	\$30,960	\$17,200	\$0	\$16,680	\$0
<i>City General Fund</i>	\$67,280	\$50,330	\$66,070	\$54,830	\$68,890	\$71,750
<i>Bus Fares</i>	\$12,430	\$16,660	\$15,600	\$16,750	\$16,220	\$14,000
<i>Miscellaneous</i>	\$980	\$490	\$840	\$1,500	\$10,090	\$10,000
<i>Reserves Applied</i>	\$0	\$7,280	\$33,800	\$37,710	\$0	\$0
<b>Total Expenses</b>	<b>\$273,520</b>	<b>\$307,470</b>	<b>\$306,910</b>	<b>\$293,850</b>	<b>\$300,560</b>	<b>\$370,300</b>
<i>Administrative</i>	\$67,280	\$50,330	\$66,070	\$54,830	\$68,890	\$71,750
<i>Operations</i>	\$206,240	\$257,140	\$240,850	\$239,020	\$217,190	\$220,550
<i>Capital</i>	\$0	\$0	\$0	\$0	\$14,480	\$78,000
<b>Surplus/Deficit</b>	<b>\$29,690</b>	<b>\$0</b>	<b>\$0</b>	<b>-\$0</b>	<b>\$17,980</b>	<b>\$171,940</b>

Source: City of Lebanon and ODOT

Notes:

**FTA 5339:** City of Lebanon received \$66,300 from the FTA Section 5339 program to support a vehicle purchase in City fiscal years 2016-2018. None of the \$66,300 has been expended.

**ODOT STF Discretionary for FY 16/17:** The City of Lebanon received \$176,800 from the State Special Transportation Fund Discretionary program to support transit operations and capital purchases for City fiscal years 2016-2019. None of the \$176,800 has been expended.

**Oregon Business Energy Tax Credit:** The Oregon Business Energy Tax Credit program ended July 1, 2014.

## 7 IMPLEMENTATION STRATEGIES

### TRANSIT SERVICE

#### Short-Term

Three alternatives were considered for the new deviated-fixed route service (Appendix E). The preferred service alternative for the new connects Cascade Ridge Apartments with Walmart and runs along Main Street. The southbound and northbound routes are illustrated in Figure 42.

The southbound route runs south from Cascade Ridge Apartments along 5<sup>th</sup> Street to Mary Street where the route turns east, towards Main Street. The route continues south along Main Street and continues onto Santiam Highway before arriving at Walmart. The northbound route runs north from Walmart along Santiam Highway, continues onto Main Street until reaching Elmore Street, diverts onto Park Street, and then returns to Main Street to Cascade Ridge Apartments.

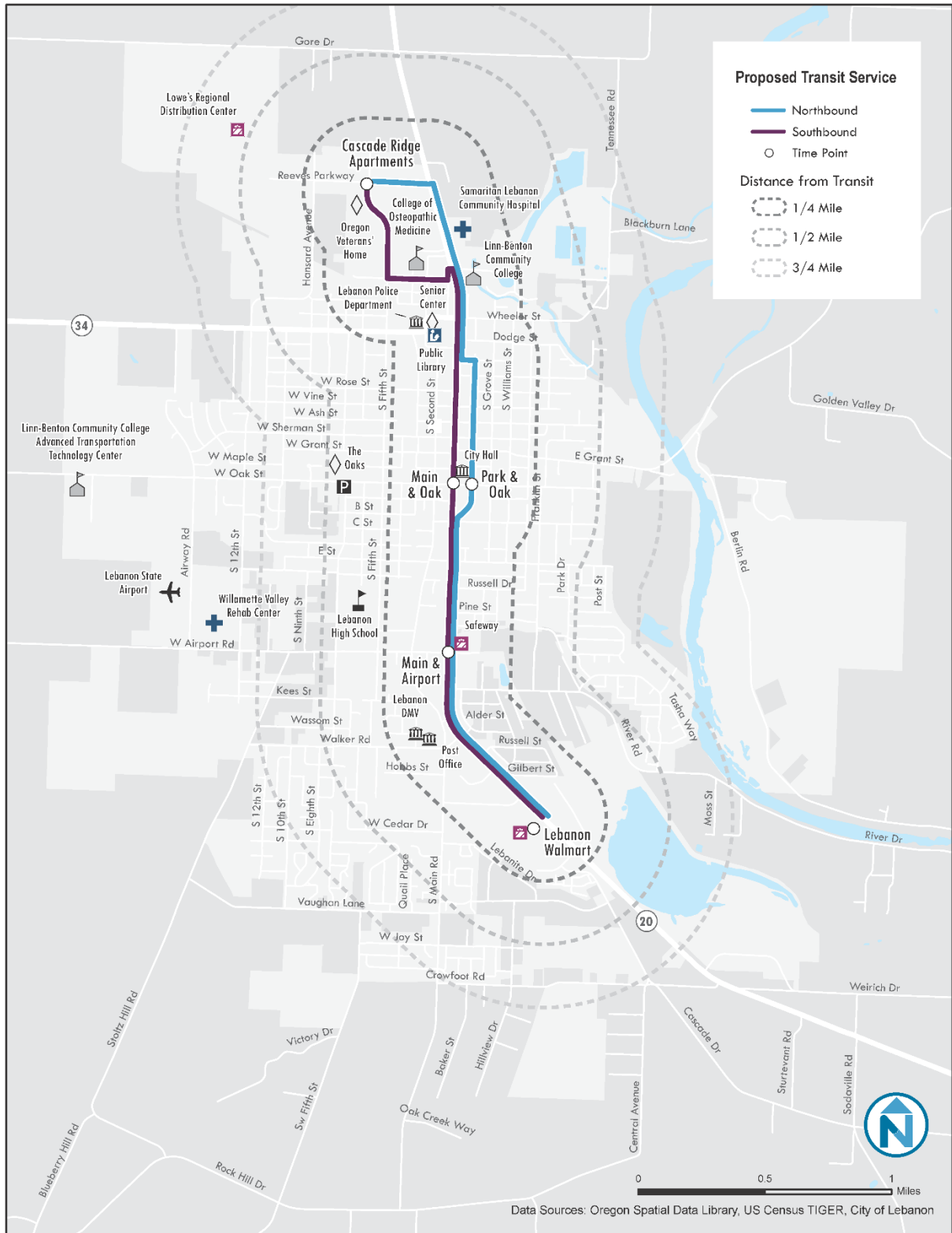
Recommended southbound time points include Cascade Ridge Apartments, Main and Oak, Main and Airport, and Walmart. Recommended time points along the northbound route include Walmart, Main and Airport, Park and Oak, and Cascade Ridge Apartments. Riders on this route could directly transfer to the Linn Shuttle at Walmart, and Park and Oak.

The FTA and by extension the Oregon Department of Transportation require fixed route bus services be complemented by demand response service to places within three-quarters of a mile of the fixed route. The intent of this requirement, known as Americans with Disabilities Act (ADA) complementary paratransit, is to provide people who are unable to access fixed route service with equivalent public transportation access. The FTA, and the ADA, provide regulations on service such as eligibility requirements and fares. Transit providers create ADA Paratransit Plans to document how they meet the requirements.

The deviated fixed-route proposed in this plan allows customers to schedule pick-ups and drop-offs within up to one-half of a mile of the route using the same vehicle. The City plans to continue offering Dial-A-Ride services across the city. The FTA and ODOT recognize deviated fixed-routes such as the one proposed here, combined with dial-a-ride services, can meet the intent of the ADA paratransit requirement without needing a full ADA paratransit program. Therefore, the City will be fully compliant with regulations by offering deviated fixed-route to the general public, supported by equitably accessible information about the service.

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Figure 42 Preferred Service Alternative for the Proposed Deviated-Fixed Route





## Medium Term

Lebanon may consider implementing a shopper shuttle along with a deviated fixed-route service. A typical shopper shuttle picks up passengers at a few designated residential locations and stops at major shopping destinations. Shopper shuttles typically run one or two days a week and make one to three round trips per day. This type of service could offer a more cost effective solution for existing demand for Lebanon's Dial-a-Bus.

Many major shopping destinations are accessible by the proposed short-term route. However, a shopper shuttle model could offer reduced fares and/or support services (like help with packages) to provide incentives for riders using Dial-a-Bus and unlikely to use the deviated fixed-route service. Existing examples include of successful shopper shuttle include:

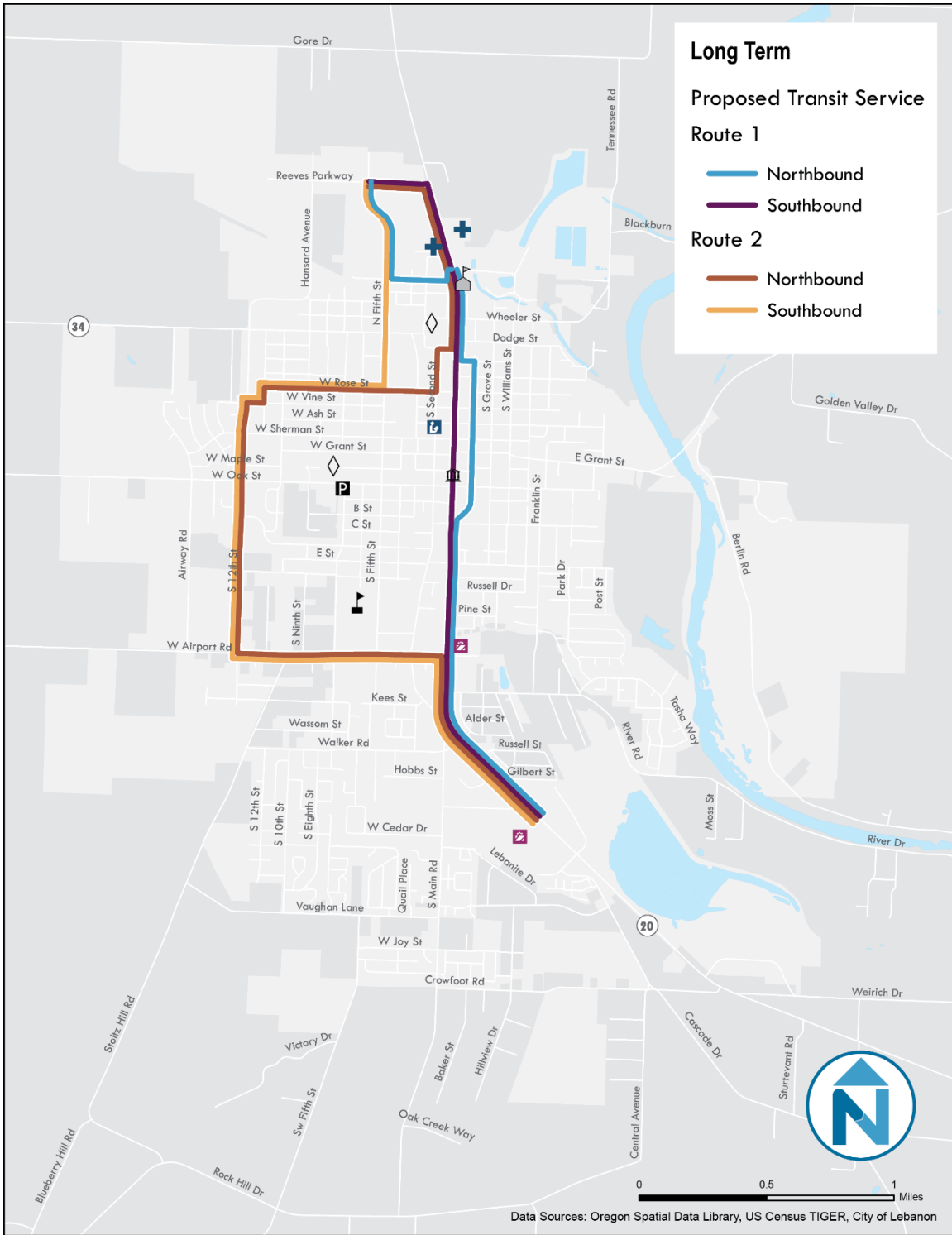
- **Sweet Home Shopper** operates Monday, Wednesday & Friday from 9 a.m. to 4 p.m. There are four trips that provide connections between the senior center, apartment complexes and living facilities, and retail. The cost is \$1.00 round trip. Children 12 and under ride for free accompanied by a parent or guardian.
- **Albany Transit System Senior Medical-Shopper Shuttle** operates Tuesday, Wednesday & Thursday from 8 a.m. to 4:30 p.m. There are six trips that provide connections between the senior center, apartment complexes and living facilities, and retail. The cost is \$1.00 for each one-way trip.

## Long-Term

Stakeholder feedback and existing demand suggest Lebanon would be well served by multiple fixed-routes, as illustrated in Figure 43. The proposed Route 1 connects Cascade Ridge Apartments with Walmart primarily running along Main Street. The proposed Route 2 connects Cascade Ridge Apartments with Walmart but primarily runs along 5<sup>th</sup> Street and 12<sup>th</sup> Street. The project team recommended 60-minute frequencies for each route. Bus stops along the overlapping sections in north Lebanon and on Santiam Highway would result in a bus arriving every 30 minutes. This recommendation assumes the City will offer a separate complementary ADA required paratransit service within three quarter miles of the routes. This differs from the short-term solution, in which the route deviations allow the City to fully meet equivalent ADA paratransit requirements.

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Figure 43 Long-Term Scenario



## Short-term Service Change Access

Figure 44 compares the operation of the Lebanon Dial-a-Bus and the operational assumptions of the new deviated fixed-route service. The existing Lebanon Dial-a-Bus is a demand-response service, therefore, some operational elements are not applicable to this service (i.e. frequency, run time, and number of stops).

**Figure 44 Comparison of Operations: Lebanon Dial-a-Bus versus New Deviated Fixed-Route Service**

Service	Frequency (minutes)	Run Time (minutes)	Vehicle Requirements	Days of Service	Hours of Service	# of Stops
Existing DAB service	N/A	N/A	2	M–F	8 a.m. to 4 p.m.	N/A
New deviated-fixed route service	60	24	1	M–F	8 a.m. to 5 p.m.	8 (4 SB, 4 NB)

Note: Lebanon Dial-a-Bus currently uses two vehicles, sometimes three depending on the number of rides requested.

The proposed deviated fixed-route service could make approximately six deviations per segment (between consecutive time points) within a quarter-mile buffer and approximately three deviations per segment within a half-mile buffer. This deviated fixed-route service has potential to capture approximately 240 existing Dial-a-Bus trips within a quarter-mile deviation area and approximately 310 existing Dial-a-Bus trips within a half-mile deviation area.

**Figure 45 Deviation Options**

Deviation Distance	Deviation Time (minutes)	# of Deviations	Residents Served	Jobs Served	Estimated DAB Trips covered
¼ mile	Per segment: 6	Per segment: 6	1,790	1,430	240
	Total: 36	Total: 36			
½ mile	Per segment: 6	Per segment: 3	6,010	3,760	310
	Total: 36	Total: 18			

Note: Total deviation time available for is 36 minutes. Population and jobs served are within a quarter-mile/half-mile of time points.

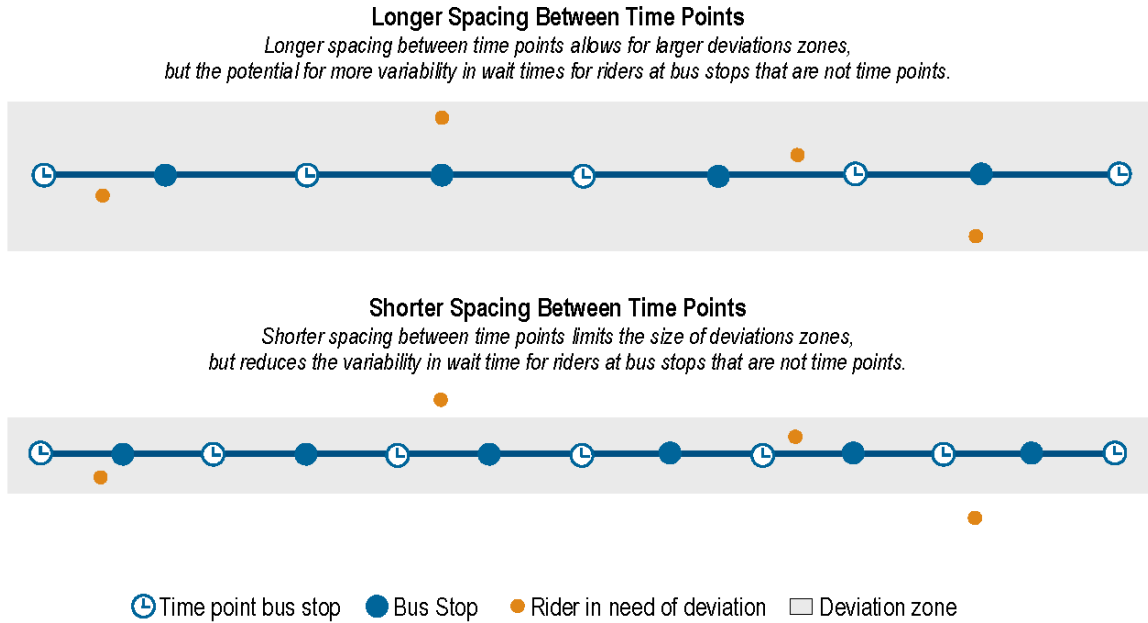
## Stop Design and Placement Policies

Deviated fixed-routes are fixed to the most major stops, which are used as time-points guiding the driver and riders. A deviated fixed-route service offers a schedule of departure times at the time points. Bus arrival times at non-time point stops will be dependent on how many deviations are made prior to reaching the stop. Drivers will wait at a time point if they are ahead of schedule. Riders can board a deviated fixed-route bus at any stop (whether a time point or not) without having made a prior reservation.

An important consideration for a deviated fixed-route service is the number of time points along the route and the distance between time points. A longer distance between time points can allow for a larger deviation area. However, riders waiting at non-time points stops may experience a greater variability in wait times. Shortening the distance between time points can reduce the variability in wait times for riders waiting at bus stops that are not designated time points but this can limit the size of the deviation area. These trade-offs, illustrated in Figure 46, are important to consider when finalizing bus stop locations.

Existing Linn Shuttle bus stops at Walmart, Park and Oak, LBCC, and Lebanon Medical College, should be top considerations for deviated fixed-route stop locations as they are already equipped with bus stop amenities. This would also help facilitate regional transit connections.

Figure 46 Spacing Between Time Points Trade Offs



## Conceptual Schedules

Conceptual schedules for the deviated fixed-route service are shown in Figure 47 and Figure 48. These schedules are based on the proposed time points illustrated in Figure 42 and are subject to change as the City refines bus stop locations and time points during implementation. With conceptual schedule 1 (Figure 47), service would operate every hour from 8 a.m. to 5 p.m. for a total of nine trips. With conceptual schedule 2 (Figure 48), service would operate every hour with the exception of an hour mid-morning and mid-afternoon. This would allow for service to operate from 7 a.m. to 6 p.m. for a total of nine trips. Should Lebanon choose to move forward with a schedule like this, breaks and service could be adjusted to be any time of day. Service schedules will also impact staffing needs as a dispatcher needs to be available during all hours of operation.

**Transit Development Plan | Final**  
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**Figure 47 Conceptual Schedule 1 for Lebanon Deviated Fixed-Route**

	Cascade Ridge Apts	Main & Oak	Main & Airport	Lebanon Walmart	Main & Airport	Park & Oak	Cascade Ridge Apts
<b>Trip 1</b>	8:00	8:12	8:20	8:29	8:38	8:47	8:59
<b>Trip 2</b>	9:00	9:12	9:20	9:29	9:38	9:47	9:59
<b>Trip 3</b>	10:00	10:12	10:20	10:29	10:38	10:47	10:59
<b>Trip 4</b>	11:00	11:12	11:20	11:29	11:38	11:47	11:59
<b>Trip 5</b>	12:00	12:12	12:20	12:29	12:38	12:47	12:59
<b>Trip 6</b>	1:00	1:12	1:20	1:29	1:38	1:47	1:59
<b>Trip 7</b>	2:00	2:12	2:20	2:29	2:38	2:47	2:59
<b>Trip 8</b>	3:00	3:12	3:20	3:29	3:38	3:47	3:59
<b>Trip 9</b>	4:00	4:12	4:20	4:29	4:38	4:47	4:59

Note: All times listed are departure times. Times highlighted in yellow are PM. City may adjust times to coordinate with the Linn Shuttle.

**Figure 48 Conceptual Schedule 2 for Lebanon Deviated Fixed-Route**

	Cascade Ridge Apts	Main & Oak	Main & Airport	Lebanon Walmart	Main & Airport	Park & Oak	Cascade Ridge Apts
<b>Trip 1</b>	8:00	8:12	8:20	8:29	8:38	8:47	8:59
<b>Trip 2</b>	9:00	9:12	9:20	9:29	9:38	9:47	9:59
<b>Trip 3</b>	10:00	10:12	10:20	10:29	10:38	10:47	10:59
<b>Trip 4</b>	11:00	11:12	11:20	11:29	11:38	11:47	11:59
<b>BREAK</b>							
<b>Trip 5</b>	1:00	1:12	1:20	1:29	1:38	1:47	1:59
<b>Trip 6</b>	2:00	2:12	2:20	2:29	2:38	2:47	2:59
<b>Trip 7</b>	3:00	3:12	3:20	3:29	3:38	3:47	3:59
<b>Trip 8</b>	4:00	4:12	4:20	4:29	4:38	4:47	4:59
<b>Trip 9</b>	5:00	5:12	5:20	5:29	5:38	5:47	5:59

Note: All times listed are departure times. Times highlighted in yellow are PM. City may adjust times to coordinate with the Linn Shuttle.

## Strategies

Implementation strategies related to transit service are listed in Figure 49.

**Figure 49 Transit Service Recommended Strategies**

Strategy	Description	Timeframe
<b>Route testing</b>	Test the preferred deviated fixed-route to ensure it is functional for Lebanon Transit vehicles.	Short-term
<b>Bus stops &amp; time points</b>	Based on route testing, identify and select bus stops and time points for the deviated fixed-route. Linn Shuttle bus stop locations should be prioritized.	Short-term
<b>Service schedule</b>	Track arrival and departure times during route testing to finalize the service schedule.	Short-term
<b>Purchase bus</b>	Purchase a replacement bus to ensure passenger comfort, manageable maintenance costs, and adequate capacity.	Short-term
<b>Shopper shuttle</b>	Consider piloting a shopper shuttle service to further reduce demand for Lebanon Dial-a-Bus and capture some existing ridership.	Medium-term
<b>System expansion</b>	Based on the performance of the deviated fixed-route service, consider opportunities to expand the transit system and transition from deviated fixed-route service to fixed-route service commensurate with funding.	Long-term
<b>Purchase bus(es)</b>	If Lebanon should continue to expand its transit system and/or pursue the long-term scenario, additional transit vehicles will likely be needed to accommodate the expanding system.	Long-term

## CAPITAL

### Vehicles

Lebanon Dial-a-Bus currently a total of four vehicles, all of which can accommodate a wheelchair. Vehicles are equipped with radios to communicate with dispatch at the Senior Center. GPS and cameras are installed on three vehicles (#12, #14, and #16). Lebanon’s buses are in good condition.

In the short-term, it is likely that vehicle number 12—which is operationally safe and in good condition—will need to be replaced. Replacing this vehicle with another 12 or 16-passenger vehicle would cost between \$47,000 and \$115,000 total, with the City “match” share for most capital funding programs costing 10.27% of that amount. The total cost will depend on vehicle mechanical features and interior design. Lebanon has already purchased a new 14-passenger vehicle that can accommodate up to four wheelchairs.

In the long-term, Lebanon will likely be in need of at least four additional transit vehicles to accommodate the expanding system—two new buses for service, one for ADA paratransit, and one as a backup. Total costs for these new vehicles could range from \$188,000 to \$460,000, assuming these are all 12 or 16-passenger vehicles. Again, the City share is typically 10.27% of the total vehicle cost for most capital grant programs.

**Figure 50 Lebanon Dial-a-Bus Vehicle Inventory**

Vehicle #	Year	Type	Mileage	# Pass	# WC	Condition Rating*	Useful Life Minimum
7	2009	Ford E350 Super Duty Cargo Van	4,344	7	1	Adequate	4 years or 100,000 miles
12	2002	Ford E450 Eldorado Aerotech 220 Bus	98,843	12	1	Marginal	5 years or 150,000 miles
14	2009	Ford E450 Startrans Senator	106,507	12	2	Adequate	5 years or 150,000 miles
16	2009	Ford E450 Supreme Startrans Senator	125,105	16	2	Adequate	5 years or 150,000 miles

Source: Lebanon Dial-a-Bus and [ODOT Vehicle Contract Crosswalk](#)

\*Condition rating is based on the vehicles age, condition, performance, and level of maintenance. Condition rating ranges from 0 to 5—0 is non-operable, 1.0 to 1.9 is poor, 2.0 to 2.9 is marginal, 3.0 to 3.9 is adequate, 4.0 to 4.7 is good, and 4.8 to 5.0 is excellent. A score above 2.5 is considered to be in a state of good repair.

## Bus Stops and Amenities

To accommodate the new deviated fixed-route/loop service, Lebanon should consider investing in bus stop signage and amenities. Each bus stop should have a concrete pad as well as signage that indicates what transit service is available from the stop, the name of the stop, and the schedule. Additional amenities to include at stops may include benches, bus shelters, trash receptacles, informational maps, and pedestrian wayfinding signage.

Cities have found cost-effective ways to implement these bus stop features by combining construction with pedestrian, bike and roadway capital projects. The City transit infrastructure can be eligible for the greatest number of multimodal funding programs by relating transit infrastructure projects to roadway and pedestrian projects in their Transportation System Plan. Bus stop improvement plans can help communicate needs with local organizations that may also assist with relatively small improvements.

Figure 51 shows cost estimates for bus stops and amenities for the deviated-fixed route service. This assumes that there will eight stops, one per time point, and that each stop will have a concrete pad, a bus stop pole and sign, a bench, and a shelter.

**Figure 51 Bus Stop and Amenities Cost Estimates for the Deviated-Fixed Route**

Cost Estimates per Amenity	Total per stop	Cost of Stop and Amenities
Concrete Pad (16' x 8'): \$1,000 Bus stop pole and sign: \$120 Bench: \$430 – \$630 Shelter: \$4,000 – \$6,000	\$5,550 – \$7,650	\$44,400 – \$61,200

Source: Oregon Corrections Enterprises, 2017. [Piedmont Authority for Regional Transportation Transit Amenity Guidelines](#), 2016.

## Maintenance Facilities/Storage

Currently, Lebanon Dial-a-Bus vehicles are stored at the Lebanon Justice Center, directly south of the Senior Center. This space is able to accommodate two 12-passenger buses, one 16-passenger



bus, and one van. A vehicle within the existing fleet will provide the new deviated fixed-route service, therefore, no additional storage space for vehicles is needed in the short-term. Lebanon will likely need additional storage space for vehicles in the long-term—either at the Justice Center or at a new location—assuming transit demand remains high and the system continues to expand.

In the short-term we recommend Lebanon consider partnering with the LBCC Advanced Transportation Center for standard vehicle maintenance such as Lube-Oil-Filter (LOF) service. The Center may also provide information about innovative or new vehicle technology opportunities.

## Strategies

Implementation strategies related to capital are listed in Figure 52.

**Figure 52 Capital Recommended Strategies**

Strategy	Description	Timeframe
<b>Installation of minimum amenities</b>	Establish minimum bus stop amenities that would be installed at every bus stop.	Short-term
<b>Vehicle maintenance and repair</b>	Explore vehicle maintenance and repair options with local partners, such as the Advanced Transportation Technology Center (ATTC) and the Lebanon Community School District.	Short-term
<b>Asset inventory</b>	Develop an Asset Inventory to help track the maintenance and condition of vehicles and bus stop amenities. ODOT will likely expect local agencies to have this information as part of the Statewide Transit Asset Management Plan.	Med-term (In progress)
<b>Vehicle storage</b>	Explore alternative vehicle storage options to accommodate future system expansion.	Med-term
<b>Transit center</b>	Identify potential sites for a potential future transit center that could serve as a multimodal hub, providing direct connections between transit services and bicycle facilities.	Long-term
<b>Vehicle fleet</b>	Maintain the existing fleet in a state of good repair. According to ODOT condition ratings, a score above 2.5 is considered to be in a state of good repair.	Ongoing

## FARES

Current fares for the Lebanon Dial-a-Bus range from \$2 for the general public (59 and younger) to \$1 for older adults (60 or older) and persons with disabilities. Children and care attendants can ride for free. Lebanon Dial-a-Bus fares are similar to many other nearby transit services (see Figure 53) but with the new deviated fixed-route service, Lebanon has the opportunity to redirect demand through fares. For example, making the fare for the deviated fixed-route service lower than the Dial-a-Bus fare could attract more riders to the less expensive service, the deviated fixed-route. Lebanon could raise fares for the Dial-a-Bus service to a similar cost as the Benton County Dial-a-Bus and charge riders \$1 to ride the new deviated fixed-route service.

Lebanon should be sure to consider the fares of peer transit providers in the region. This can enhance the experience for transit riders that are making connections between systems throughout the region and also put transit providers in the region in a position to consider a

regional transit pass program. Establishing this kind of program amongst agencies that already have a similar fare structure could simplify this process.

**Figure 53 Fare Comparison Amongst Nearby Peers**

Transit Service	Fare
<b>Lebanon Dial-A-Bus</b>	\$1.00 one way for older adults (60+) and persons with disabilities \$2.00 one way for the general public (59 & younger)
<b>Linn Shuttle</b>	\$1.00 one-way
<b>Sweet Home Shopper Shuttle</b>	\$1.00 round trip
<b>Sweet Home Dial-a-Bus</b>	\$1.00 one-way \$2.00 rides 5 miles or more outside of the city limits
<b>Albany Transit System</b>	\$1.00 one-way
<b>Albany Call-a-Ride*</b>	\$2.00 one-way
<b>Albany Call-a-Ride Medical-Shopper Shuttle</b>	\$1.00 one-way
<b>Linn-Benton Loop</b>	\$1.50 for adults \$0.75 for Senior/Disabled/Youth
<b>Corvallis Transit System</b>	Fareless
<b>Benton County Dial-a-Bus*</b>	\$2.50 to \$5.25 depending on origin and destination

\* Service is only available to individuals who qualify.

Lebanon also has the opportunity to consider establishing pass programs with local employers or public institutions. With the implementation of the deviated fixed-route service, employers in the area may consider providing employees with a subsidized transit pass. Public institutions within the city, such as COMP-NW or LBCC, may also want to consider providing subsidized transit passes to staff, students, and faculty.

## Strategies

Implementation strategies related to fares are listed in Figure 54. These strategies will complement the transit system by providing consistent, accessible rider access.

**Figure 54 Fares Recommended Strategies**

Strategy	Description	Timeframe
<b>Fare structure</b>	Consider options for revising the current fare structure in order to shift demand from Lebanon Dial-a-Bus to the deviated fixed-route service.	Short-term
<b>Pass programs</b>	Coordinate with local employers and public institutions to establish a fare pass program.	Short/Med-term
<b>Regional coordination</b>	Consider the fares of peer agencies when revising the fare structure to enhance the customer experience and support the potential for a regional pass program.	Med-term

## FINANCIALS

### Future Transit Revenue

Future funding levels are difficult to predict with any certainty. To maintain current service levels, future revenues will need to keep pace with likely increases in expenses. Additional resources may be required to support any expansion of service. Fixing America’s Surface Transportation (FAST) Act authorizes federal transportation expenditures for five years, through September 30, 2020. Congress appropriates these funds annually and the actual allocations to the Lebanon Transportation Program will need to be determined. For TDP planning purposes, the federal funding of the City of Lebanon should be considered stable, with marginal increases year to year but only to the level to address inflation in expenses.

Existing City transit funding was used to constrain transit planning recommendations of the new deviated fixed-route service. Figure 55 illustrates the resulting level of funding that will likely be available given the stable grant funding and other sources.

**Figure 55 Future Transit Funding (FY17/18 dollars)**

Funding Source	Estimated Annual Amount	Notes
FTA 5310	\$8,500	Final signed agreement to be provided by June 2017 for the 2017-2019 State biennium. The STF amount is assumes the total grant of \$165,100 would be evenly distributed across a four-year period.
FTA 5311	\$100,220	
ODOT STF Formula	\$57,850	
ODOT STF Discretionary	\$41,300	
Oregon Department of Human Services	\$34,600	Actual dollar amounts depend on the number of rides given in FY 17/18.
City General Fund	\$78,000*	Estimate provided by the city.
Bus Fares	\$18,000	
Miscellaneous (Advertising, & donations)	\$14,000	
<b>Total</b>	<b>\$343,970</b>	

\* Only a portion of the \$78,000 General Funds is dedicated to Lebanon Dial-a-Bus operations.

Source: City of Lebanon

### Operating Costs

In FY 15/16, Lebanon Dial-a-Bus had a total of 4,185 revenue hours and \$286,000 in expenses—\$68,900 of administrative expenses and \$217,100 of operational expenses—resulting in \$52 of operational costs per revenue hour. Assuming administrative expenses remain steady, this operational cost per revenue hour was applied to the new deviated fixed-route service shown in Figure 56. The operational costs for the deviated fixed-route service would only require a portion of the existing operational costs, leaving resources available for the Dial-a-Bus to still operate.

Lebanon Dial-a-Bus received Oregon STF Discretionary grant in 2016 to fund the Lebanon fixed route system for up to three years. The grant totaled \$176,800, for which \$11,700 was used to provide matching funds for a new bus, and \$165,100 will be used for operations. Of the \$165,100,

the City expects to spend \$6,300 for capital equipment, \$136,800 on maintenance and operations, \$10,000 for technology, and \$12,000 will be held for contingency.

Assuming that \$165,100 for the trial of a deviated fixed-route service is split across four years to the City will have \$41,300 per year. To increase funding in the short-term, Lebanon may choose to spend this grant over a shorter duration (e.g. two years instead of four).

**Figure 56 Operating Costs for Short-term and Long-term Scenarios**

Route	Hours of Service	Days of Service	Annual Revenue Hours	Annual Operational Cost
Dial-a-Bus	8 a.m. – 4 p.m.	M–F	4,185	\$217,000 or less
Deviated Fixed-Route	8 a.m. – 5 p.m.	M–F	2,295	\$117,000

Note: Annual revenue hours assumes 250 weekdays and 55 Saturdays in one year.

As previously mentioned, Dial-a-Bus service would still be available along with the deviated fixed-route. The fixed route will most likely reduce demand on dial-a-ride, assuming the City service design refinements and customer service help bring people to the new route. A decrease in demand for Dial-a-Bus service could reduce operational costs for this service. These funds can then cover deviated fixed-route service costs.

Each of the short-term alternatives can be considered as costing a “bus day”—the cost to operate one bus over the span of service on a weekday. Today the City operates using 2.5 bus days. The grant will cover about a quarter bus day, so the Dial-a-Bus will be left with 1.75 bus days to serve those riders not using the deviated fixed-route.

Assuming a shopper shuttle operates for four hours, once a week, this would cost about \$13,600 per year and take about 0.1 bus day when averaged over a week. In the medium and long-term, Lebanon could also pursue some of the potential new funding sources described in Appendix D.

## Strategies

Implementation strategies related to financials are listed in Figure 57.

**Figure 57 Financials Recommended Strategies**

Strategy	Description	Timeframe
<b>Sustainable funding</b>	Explore and establish a sustainable funding source for transit to replace the ODOT discretionary grant funds currently earmarked for the deviated fixed-route service. Consider the potential new sources listed in Appendix D.	Short/Med-term
<b>Transportation System Plan coordination</b>	Ensure the City TSP includes public transportation infrastructure investments to identify partner projects within other modal projects.	Ongoing

## STAFFING & TRAINING

Lebanon previously employed a full-time dispatcher for the Lebanon Dial-a-Bus. With the recent retirement of this employee, Lebanon is currently in the process of hiring a new dispatcher. This role is critical for the scheduling rides on the Lebanon Dial-a-Bus as well as deviations for the new deviated fixed-route. This new employee will be a 0.8 full time equivalent (FTE) employee, not a full-time employee. Training other city staff to fulfil the remaining gap (0.2 FTE) will be essential. In the medium and long-term, Lebanon may need to hire additional staff to manage the expanding transit system.

### Strategies

Implementation strategies related to organization and governance are listed in Figure 58.

**Figure 58      Organization and Governance Recommended Strategies**

Strategy	Description	Timeframe
Staffing	Hire a new dispatcher.	Short-term (Completed)
Training	Look into options for cross training other City of Lebanon staff to help provide dispatcher coverage on an as-needed basis.	Short-term

## LAND USE

The best transportation plan is a land use plan. Transit cannot succeed without a concentration of residents, jobs and/or customers, and how population moves itself is based entirely on land use. The location of homes, jobs, grocery stores, shopping malls, and other destinations determines how easily a person can access places, the length of the trip, and the directness of the route. Destinations far from main roads, and low-density zoning all inhibit transit’s success. Recent and short-term developments in Lebanon (i.e. Convention Center, LBCC ATTC, LBCC Healthcare Occupations Center, Lowe’s Regional Distribution Center, Samaritan Hospital, Veterans’ Home) will have long-term impacts on land use develop within the city. Figure 59 shows what level of transit service best serves varying levels of density. Linking land use and transportation requires folding transit considerations into business as usual – development review, zoning update, and comprehensive plan policies.

Figure 59 Density and Level of Transit Service Supported



The Lebanon TSP update included an evaluation of the Lebanon Development Code against the Statewide Transportation Planning Rule (TPR). Relevant transit related TPR requirements from the analysis are include in Figure 60.

Figure 60 Transportation Planning Rule and Lebanon Development Code Evaluation

TPR Requirement	City of Lebanon Development Code
To support transit in urban areas containing a population greater than 25,000, where the area is already served by a public transit system or where determination has been made that a public transit system is feasible, local governments shall adopt land use and subdivisions.	Lebanon's population is not currently large enough to trigger this TPR requirement. However, the City's proximity to larger employment districts (Albany and Corvallis) as well as the TDP suggests that considering development requirements related to providing transit facilities or promoting transit ridership may be timely.
Transit routes and transit facilities shall be designed to support transit use through provision of bus stops, pullouts and shelters, optimum road geometrics, on-road parking restrictions and similar facilities, as appropriate.	Lebanon's development code does not currently include specific standards for supporting transit routes and transit facilities.
New retail, office and institutional buildings at or near major transit stops shall provide for convenient pedestrian access to transit through the measures listed in (A) and (B) below.	Although access standards do not specifically include transit facilities, the Section 16.12.050 of the development code includes Pedestrian Access and Management Standards. Standards require continuous pathways, extending throughout

TPR Requirement	City of Lebanon Development Code
<p>(A) Walkways shall be provided connecting building entrances and streets adjoining the site;</p> <p>(B) Pedestrian connections to adjoining properties shall be provided except where such a connection is impracticable. Pedestrian connections shall connect the on site circulation system to existing or proposed streets, walkways, and driveways about the property. Where adjacent properties are undeveloped or have potential for redevelopment, streets, accessways and walkways on site shall be laid out or stubbed to allow for extension to the adjoining property;</p>	<p>the site and connecting with all future phases and adjacent spaces whenever possible. In addition, developments which are subject to site design review are required to have pathways connect to all building entrances parking areas, and adjacent developments.</p>
<p>Existing development shall be allowed to redevelop a portion of existing parking areas for transit-oriented uses, including bus stops and pullouts, bus shelters, park and ride stations, transit-oriented developments, and similar facilities, where appropriate</p>	<p>The development code currently does not include regulations or standards, which allow portions of existing parking areas to be redeveloped for transit-oriented uses.</p>
<p>Road systems for new development shall be provided that can be adequately served by transit, including provision of pedestrian access to existing and identified future transit routes. This shall include, where appropriate, separate accessways to minimize travel distances.</p>	<p>The development currently does not include regulations or standards specific to transit compatible road systems.</p>

## Strategies

Implementation strategies related to land use are listed in Figure 61.

**Figure 61 Land Use Recommended Strategies**

Strategy	Description	Timeframe
<b>Transit-related design requirements</b>	Adopt design requirements for transit and transit-related amenities that support transit and may encourage ridership.	Short-term
<b>Transit-related development requirements</b>	Amend Chapter 16.12 to require new developments to provide pedestrian access to existing and planned transit routes.	Short-term
<b>Redevelop parking areas</b>	Amend Chapter 16.14 to allow the redevelopment of existing parking areas for transit-oriented uses.	Med/Long-term



## SUPPORT PROGRAMS

### Marketing & Branding

In Lebanon, there is opportunity to establish an effective branding and expand marketing efforts for transit service to raise public awareness and clearly communicate how to use the system. Branding relates to a name or logo that identifies the transit services offered in the community. If transit were treated like a commodity, effective branding ensures that the community not only recognizes what the brand represents, but that individuals have positive and memorable experiences with that brand. Marketing then refers to reinforcing the brand and ensuring that information on how to use transit is readily accessible, understandable, and easy to remember.

Marketing and branding is only one feature of a successful transit system. However, good information and strong system legibility is critical for people who may be learning how to use transit for the first time, as well as for long-time users. Many people in the Lebanon may have never used transit, therefore, the branding and marketing of the system might be the only impression they have of transit services available.

The current transit service in Lebanon is clearly branded as the Lebanon Dial-a-Bus but integrating a new service raises questions about whether to brand these services as one unified system or individually. While Dial-a-Bus and the deviated fixed-route service will operate different types of service, a unified brand for both services can simplify marketing efforts and strengthen the impact of the brand. A unified brand for transit in Lebanon (e.g. Lebanon Transit) will also set the stage for an expanding system. New transit services can be included under this overarching brand rather than creating more and more brands for transit service. Lebanon should consider the following to promote these transit services:

- Branded vehicles and bus stop signage with the Lebanon logo and color scheme
- A branded brochure that includes maps, schedules, and general service information
- An updated [transportation webpage](#) that includes maps, schedules, and general service information and is not located under “Senior Services”

### Volunteer Programs

#### Benefits of a Volunteer Program

A volunteer driver program is any transportation service program in which the vehicles are operated by volunteers. This can include programs that do not pay drivers, and those that provide mileage reimbursement for drivers. Additionally, some programs involve drivers that provide their own vehicle, and others provide vehicles for drivers to operate. According to the National Volunteer Transportation Center (NVTC), there are over 700 volunteer driver programs operated in the country. A listing of some of the costs and benefits associated with a volunteer driver program are listed in Figure 62. Not all of these costs and benefits will apply to every program, as these will vary dependent upon factors such as whether volunteers provide their own vehicles or not, how many vehicles are in operation, or how many trips are served.

**Figure 62 Costs and Benefits of Volunteer Driver Program**

Costs	Benefits
<ul style="list-style-type: none"> <li>▪ Any paid staff</li> <li>▪ Office and/or vehicle space</li> <li>▪ Vehicle procurement and maintenance</li> <li>▪ Insurance</li> <li>▪ Volunteer background and/or drug screenings</li> <li>▪ Dispatch, planning, and/or asset management software</li> <li>▪ Marketing</li> <li>▪ Mileage reimbursement to volunteers</li> <li>▪ ADA-accessible equipment for vehicles</li> <li>▪ Foregone marketing of service when volunteers providing their own vehicles</li> </ul>	<ul style="list-style-type: none"> <li>▪ Foregone driver salaries</li> <li>▪ Foregone driver benefits packages</li> <li>▪ Vehicles provided by volunteers</li> <li>▪ Minimalized driver training, if volunteers operating their own vehicles</li> <li>▪ Larger prospective driver pool for trips serviced with vehicles not requiring a commercial driver's license to operate</li> <li>▪ Minimalized communication equipment costs, if volunteers can provide their own mobile device(s)</li> </ul>

Source: A Solutions Package for Adult Day Services Transportation Programs,<sup>12</sup> Volunteer Driver Program Review: The Transportation Family Volunteer Driver Programs Facts and Practices

### How a Volunteer Program Works

A common set of parts that make up a volunteer driver program are listed in Figure 63.<sup>13</sup> Program structure is widely varied, often dependent upon who the service operating organization is, where operating funds come from, and what types of rides are the focus of the service. A common anticipation is that a volunteer driver program will be inexpensive to operate. Some factors that can contribute to high operations costs relative to a system's size include: high rental costs for administrative offices, organization membership or software fees, and a large number of paid staff.

**Figure 63 Common Characteristics of a Volunteer Driver Program**

Characteristic	Description
<b>Drivers</b>	Paid or volunteer, or paid & volunteer
<b>Vehicles</b>	Owned or volunteer, or owned & volunteer
<b>Staff</b>	Paid and/or volunteer
<b>Ride Scheduling</b>	Staff and/or driver
<b>Organization</b>	Menu or free standing
<b>Data Management</b>	High tech, low tech, or no tech
<b>Insurance</b>	Some, incomplete, or no coverage
<b>Service Area</b>	Defined or flexible

Source: Volunteer Driver Program Review: The Transportation Family Volunteer Driver Programs Facts and Practices

<sup>12</sup> Easter Seals. *A Solutions Package for Adult Day Services Transportation Programs*. es.easterseals.com/site/DocServer/ADS\_SoI\_Pkg\_Web.pdf

<sup>13</sup> National Volunteer Transportation Center. *Volunteer Driver Program Review: The Transportation Family Volunteer Driver Programs Facts and Practices*. 2015. web1.ctaa.org/webmodules/webarticles/articlefiles/Fact\_Sheet\_Vol\_Driver\_Program\_Review.pdf

One of the greatest challenges to establishing a successful volunteer program is recruiting and retaining drivers. There are many ways to recruit volunteer drivers (Figure 64), however the optimal method will vary from community to community.<sup>14</sup> Current volunteer drivers are often great ambassadors for recruiting new volunteers because that can share their experiences, provide ride-along opportunities, express satisfaction in their own volunteering, and attract the attention of like-minded friends. Retired school bus drivers are also a good market to target. Additionally, current drivers can serve as trainers of new volunteers.

**Figure 64 Volunteer Driver Recruitment Methods**

Methods	
Website	Recruit through current riders
Medical brochures	Information booths at fairs/events
Newspapers	Presentations to church groups
Cable show on senior issues	Ask senior groups to drive a neighbor
Radio spots/interviews	Information to municipalities
Articles in newsletters	Free advertising and PSAs
Mailings to AARP members	Organize a recruitment meeting
Word-of-mouth	Presentations to schools
Presentations to church councils	Presentations to service organizations
Presentations to community groups	Blurbs in non-profit newsletters

Source: Volunteer Driver Recruitment: An Idea Book for Action

Insurance that protects both the volunteer and the passenger is a necessity for volunteer program. Knowledge of this protection can improve a service’s image in the community, thus attracting both more volunteers and more drivers. Insurance that protects your organization’s liability limits can also prevent an underinsured or uninsured claim against it.<sup>15</sup> The National Aging and Disability Transportation Center has a free 3-part webinar series that is useful resource on the basics of risk and insurance for a volunteer driver program.<sup>16</sup>

Financing the operations and purchase of vehicles or other equipment is most sustainable when it can be sourced from multiple sources. The FTA offers its Enhanced Mobility of Seniors and Individuals with Disabilities (Section 5310) for private nonprofit groups to provide transportation service for older adults and people with disabilities.<sup>17</sup> A list of project types that qualify for 5310 funding, including volunteer driver programs, are listed in Figure 65. Local organizations such as Area Agencies on Aging, healthcare institutions, philanthropic organizations, and community service organizations are common providers of local funding for operations, vehicles, or other equipment. According to Grantmakers in Aging (GIA), some foundations known to have funded

<sup>14</sup> The Beverly Foundation. *Volunteer Driver Recruitment: An Idea Book for Action*. 2006. [beverlyfoundation.org/wp-content/uploads/idea-book.pdf](http://beverlyfoundation.org/wp-content/uploads/idea-book.pdf)

<sup>15</sup> National Volunteer Transportation Center. *Business Operations*. [web1.ctaa.org/webmodules/webarticles/anviewer.asp?a=3852&z=132](http://web1.ctaa.org/webmodules/webarticles/anviewer.asp?a=3852&z=132)

<sup>16</sup> National Aging and Disability Transportation Center. *Volunteer Driver Programs, Parts 1-3*. [www.nadtc.org/resources-publications/volunteer-driver-programs-national-center-on-senior-transportation/](http://www.nadtc.org/resources-publications/volunteer-driver-programs-national-center-on-senior-transportation/)

<sup>17</sup> Federal Transit Administration. *Enhanced Mobility of Seniors & Individuals with Disabilities - Section 5310: Overview*. <http://www.transit.dot.gov/funding/grants/enhanced-mobility-seniors-individuals-disabilities-section-5310>

volunteer driver programs include the Harry and Jeanette Weinberg Foundation, Helen Andrus Benedict Foundation, Retirement Research Foundation, Winter Park Health Foundation, and Archstone Foundation.<sup>18</sup> Donations from the public and charging a fare per ride are additional ways that a program can supplement larger sources of funding.<sup>19</sup>

**Figure 65     Activities or Capital Eligible for Section 5310 Funding**

Eligible Activities	
Vehicles	Mobility management programs
Wheelchair lifts, ramps, and securement devices	Acquisition of transportation services under a contract, lease, or other arrangement
Purchasing vehicles to support new accessible taxi, rides sharing and/or vanpooling programs	Transit-related information technology systems, including scheduling/routing/one-call systems
Mobility management programs	Volunteer driver programs
Improving signage, or way-finding technology	Incremental cost of providing same day service or door-to-door service
Building an accessible path to a bus stop, including curbs-cuts, sidewalks, accessible pedestrian signals or other accessible features	Travel training

Source: Enhanced Mobility of Seniors & Individuals with Disabilities - Section 5310: Overview

### **Peer Volunteer Driver Programs**

The following six volunteer driver programs are operated by local peers in Oregon.

#### **Benton County Dial-A-Bus**

Dial-A-Bus is a demand response service available for riders of any age with a disability or who are over the age of 60, within Benton County. Dial-A-Bus has disability eligibility requirements similar to those of Corvallis Transit System’s paratransit service. Service hours vary based on whether a rider is an ADA-certified rider or not. Regular service hours are weekdays 8:00 a.m. to 7:00 p.m., Saturdays 8:30 a.m. to 6:00 p.m., and Sundays 8:30 a.m. to 2:30 p.m. Service hours for ADA-certified riders are weekdays 6:15 a.m. to 9:15 p.m., and Saturdays 7:15 a.m. to 8:15 p.m. Dial-A-Bus’s service area in Benton County is divided up into four zones to determine fare prices, which range from \$2.50 to \$5.25. It is a non-profit organization that accepts donations to support operations, outside of trip fares. There are four paid staff, and an open call for volunteer drivers on their website. Dial-A-Bus owns both sedans and wheelchair accessible vehicles used for service.

#### **Albany Call-A-Ride**

The City of Albany provides a demand response transit service with volunteer drivers, known as Call-A-Ride. It is available for residents of Albany of all ages with disabilities, or who are over 60 years of age regardless of disability status, weekdays from 6:30 a.m. through 6:30 p.m., and

<sup>18</sup> Kerschner, Helen. *Volunteer Driver Programs*. Grantmakers in Aging. [www.giaging.org/issues/volunteer-driver-programs](http://www.giaging.org/issues/volunteer-driver-programs)

<sup>19</sup> National Volunteer Transportation Center. *Volunteer Transportation Programs and Their Promising Practices*. 2015. [http://web1.ctaa.org/webmodules/webarticles/articlefiles/Promising\\_Practices\\_January\\_2015.pdf](http://web1.ctaa.org/webmodules/webarticles/articlefiles/Promising_Practices_January_2015.pdf)

Saturdays from 8:00 a.m. through 6:00 p.m. Riders must complete a registration form before riding to demonstrate proof of eligibility. Call-A-Ride provides rides for any ride purpose, and charges a \$2.00 fare per one-way trip.<sup>20</sup> The City has an open call for volunteer drivers posted on its website.<sup>21</sup>

### **Volunteer Caregivers**

Volunteer Caregivers operates a volunteer driver program giving rides to individuals over 55 years of age who live within the Greater Albany Public School District. Trips to and from medical appointments are the primary type of rides provided by Volunteer Caregivers. An open call for volunteer drivers with a good driving record is posted to their website. Volunteer Caregivers has two sedans and one wheelchair accessible van available for drivers to use, or volunteers use their own vehicle. No fare is charged per trip, but Volunteer Caregivers does accept private donations. No set service hours are publically posted for rides, but office hours are weekdays, 9:00 a.m. through 1:00 p.m.<sup>22</sup>

### **Clackamas County: Transportation Reaching People (TRP) and Vets Driving Vets**

Transportation Reaching People (TRP) is a volunteer driver program operated by Clackamas County, available to riders with disabilities or seniors who are unable to access other public transit services. TRP does not charge a ride fare.<sup>23</sup> TRP operates on weekdays, between 8:30 a.m. and 4:30 p.m. Volunteers provide their own vehicles and are reimbursed for trip miles by Clackamas County. Medical appointments take priority over other trip types, but other trip types will be served if a driver is available. Riders are asked to limit trip requests to no more than twice per month. TRP's service area is the tri-county area of Clackamas County, Multnomah County, and Washington County.<sup>24</sup>

Additionally, Clackamas County also facilitates Vets Driving Vets, as parallel volunteer driving program available specifically for volunteer veterans to drive fellow veterans. There is no fee for rides. Volunteer drivers provide their own vehicles and are offered mileage reimbursement. Rides are available weekdays from 8:00 a.m. until 5:00 p.m.<sup>23</sup>

### **Tillamook County Transportation District Volunteer Drivers**

Tillamook County Transportation District (TCTD) uses volunteer drivers to operate North (Manzanita, Nehalem, Wheeler, Rockaway, Garibaldi) and South (Pacific City, Beaver, Hebo, Cloverdale, Neskowin, Tierra del Mar) County vans for their Dial-a-Ride program. Volunteer drivers help extend TCTD Central County (Tillamook, Bay City, Netarts, Oceanside) hours of service. Dial-a-Ride is available to everyone for \$3 per one-way trip. Riders must call TCTD to schedule their trip (at least two hours prior to their trip) Monday through Friday between 8 a.m. to 5 p.m.

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<sup>20</sup> City of Albany. *Call-A-Ride Service*. 2016. [www.cityofalbany.net/departments/public-works/transportation/call-a-ride-service](http://www.cityofalbany.net/departments/public-works/transportation/call-a-ride-service)

<sup>21</sup> City of Albany. *Volunteer Opportunities*. 2016. [www.cityofalbany.net/apply/volunteer-opportunities](http://www.cityofalbany.net/apply/volunteer-opportunities)

<sup>22</sup> Volunteer Caregivers. *Our Services*. [www.volunteercaregivers.org/index.php?option=com\\_content&view=article&id=85&Itemid=156](http://www.volunteercaregivers.org/index.php?option=com_content&view=article&id=85&Itemid=156)

<sup>23</sup> Clackamas County. *Transportation Programs*. [www.clackamas.us/socialservices/transportation.html](http://www.clackamas.us/socialservices/transportation.html)

<sup>24</sup> Canby Adult Center. *Canby Adult Center TRP Riders' Guidelines*. 2012. [www.canbyadultcenter.org/TRP/TRP2012.pdf](http://www.canbyadultcenter.org/TRP/TRP2012.pdf)

## Performance Monitoring

Performance measures are quantifiable characteristics of transit service, such as productivity, that provide a reference for comparison over time. Performance standards are target values for these measures and allow transit providers to determine acceptable thresholds for transit performance.

In many cases, separate standards need to be set based on service type (e.g. core routes vs. loop routes), day of week (e.g. weekday or weekend), time of day (e.g. day, evening or night). The City should consider these breakdowns when expanding service in the mid- or long-term planning horizon. Although the universe of potential measures is large<sup>25</sup>, the recommend set offers a manageable suite of tools for evaluating performance. Recommended performance measures and standards for Lebanon’s new deviated fixed-route service and Dial-a-Bus are listed in Figure 66. Recommended standards are based on current performance level of Lebanon Dial-a-Bus and industry standards.

**Figure 66 Recommended Performance Measures and Standards**

Performance Measure	Description	Recommended Standard
<b>Fixed-Route Service</b>		
Passengers / Revenue Hour	Measures shows how effective each route is in terms of passengers carried relative to its cost in terms of hours served.	15 – 20 Peak periods 10 – 15 Off-peak periods
Farebox Revenue / Operating Costs	Indicates the level to which a route is being subsidized by non-fare revenue sources.	10 to 15%
On-Time Performance	Ratio of on-time timepoints relative to the total number of timepoints recorded. Indicates how reliably a route maintains its scheduled running time.	80% to 95%
Passenger Load Factor	Measure of peak passenger loading along a route and calculated as the number of passenger per available seat.	1.0
Operating Cost / Revenue Hour	Often used for system-wide evaluations as the cost component is primarily a function of fuel, labor, and insurance expenses. Normalizing to revenue hours minimizes route-to route-variations. Defined as annual operating costs divided by annual vehicle service hours.	\$80 to \$160 based on regional labor agreements and costs
<b>Demand Response Service</b>		
Operating Cost / Revenue Hour	Defined as annual operating costs divided by annual vehicle service hours. Typically higher for demand response services than fixed-route services.	Between \$45 and \$55
Operating Cost/ Trip	Annual operating costs divided by the number of trips provided.	Between \$10 and \$17
Trips / Revenue Hour	Annual boardings (again including attendants and companions) divided by annual vehicle service hours.	Between 1.8 and 3.8
On-Time Performance	Percent of all trips where the passenger is picked up within the allotted appointment time window.	Between 92% and 96%

<sup>25</sup> TCRP Report 88: *A Guidebook for Developing a Transit Performance-Measurement System* identifies over 400 performance measures.

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Performance Measure	Description	Recommended Standard
No-Show/Late Cancellation Rate	Percent of scheduled trips where the passenger is a no-show or failed to provide adequate notice that they cannot complete their trip.	Less than 5%
Trip Denials	Tracked to show that an agency has the capacity to provide requested rides and does not have a continued pattern of denying trip requests.	0.1%; No pattern of denied service
In-Vehicle Passenger Travel Time	Sampling of individual trips is often used to make sure a customer does not spend an excessive amount of time in a vehicle (especially compared to the equivalent trip time for a fixed-route trip).	Comparable to fixed-route trip time
Reservation Call Hold Time	Percent of calls answered with a maximum allowable hold time when waiting for a reservationist.	91% of calls answered within 3 minutes

A fully implemented performance monitoring program should include additional measures that evaluate operations from a non-service design perspective. These include:

- **Safety:** Preventable accidents per 100,000 revenue miles
- **Maintenance:** Road calls per 100,000 revenue miles, percent of fleet available for pull-outs, or mean time between vehicle failures
- **Customer Complaints:** Complaints per 100,000 boardings

Performance standards for these measures should be set based upon City of Lebanon current performance and the City’s expectations for appropriate safety, equipment reliability and customer satisfaction levels.

## Strategies

Implementation strategies related to support programs are listed in Figure 67.

**Figure 67 Support Program Recommended Strategies**

Strategy	Description	Timeframe
<b>Branding</b>	Develop a unified brand for transit service in Lebanon, including branded vehicles and bus stop signage	
<b>Marketing</b>	Create marketing materials that support the new brand and promote transit service, including an updated brochure and website.	Short-term
<b>Performance monitoring plan</b>	Develop a Performance Monitoring Plan that consistently tracks specified performance measures for all transit services and is updated annually at a minimum.	Short-term
<b>Volunteer driver program</b>	Consider implementing a volunteer driver program.	Med-term



## TECHNOLOGY

### Scheduling Software

Computer-aided dispatch and scheduling (CADS) software incorporates transit routes, origins, destinations, schedules, trip orders and vehicle assignments into one computer application through which dispatchers can assign trips, know where their transit vehicles are, and respond to service needs.<sup>26</sup>

There are many reasons to switch from manual service scheduling to CADS (Figure 68). Common reasons include accommodating riding service demand, managing larger bodies of rider and service data, improving the efficiency of the scheduling process, and improving the riders’ experience. Two of the most quantifiable reasons to use CADS are to increase service productivity and efficiency. Depending upon the number vehicles in your system and the amount of customers you serve, increasing the amount of trips you can provide in an hour could result in significant reductions in per capita operations costs.<sup>27</sup>

**Figure 68 Common Benefits and Costs of CADS Software**

Benefits	Costs
<ul style="list-style-type: none"> <li>▪ Schedule adherence—maximum on-time performance</li> <li>▪ Text messaging can improve dispatch efficiency</li> <li>▪ Single point for operator log in</li> <li>▪ Advanced Vehicle Location (AVL) can provide real-time, next-bus predictions</li> </ul>	<ul style="list-style-type: none"> <li>▪ Software</li> <li>▪ Hardware platform (server, displays, printers)</li> <li>▪ Voice and data communications with drivers/vehicles and with operations support personnel</li> <li>▪ Geographic Information Systems (GIS) / mapping</li> <li>▪ Operations and Maintenance Costs</li> <li>▪ Staff training</li> </ul>

Note: Not all benefits and costs listed apply to every CADS software system.

A good approach to determining what new software (and possibly hardware) your agency needs is to assess what your system needs to meet service demands anticipated over the coming years.<sup>28</sup>

- Is the current system meeting all expectations? This involves looking at software, hardware and procedures.
- Is demand for paratransit trips growing?
- Will the current system be able to meet our needs over the next two/three years?
- Is turnover high for scheduling/dispatching personnel?
- Is the system operation adequate with respect to on-time performance and productivity?
- Are we meeting our customers’ travel needs?
- How does the operation of our system compare with similar systems in other areas?

<sup>26</sup> USDOT. *Computer Aided Dispatch & Scheduling Fact Sheet: Transit Overview*. [www.pcb.its.dot.gov/factsheets/cad/cad\\_overview.aspx#page=tech](http://www.pcb.its.dot.gov/factsheets/cad/cad_overview.aspx#page=tech)

<sup>27</sup> Transportation Research Board. *TCRP Synthesis 57: Computer-Aided Scheduling and Dispatch in Demand-Responsive Transit Services: A Synthesis of Transit Practice*. 2004.

<sup>28</sup> PennTRAIN. *Guide for Acquiring Demand Responsive Transit Software and Technology*. [penntain.net/pdf/SoftwareGuide.PDF](http://penntain.net/pdf/SoftwareGuide.PDF)

The answer to these questions will help guide your agency through deciding what software functions and capacity are most useful for the service you provide. Other transit providers in the region use scheduling software.

Albany Transit System (ATS) purchased RouteMatch approximately seven years ago for \$50,000, which include five years of support and upgrades. ATS currently pays \$5,000 per year for support and upgrades.<sup>29</sup>

Benton County Dial-a-Bus uses the scheduling software Mobilitat. While Benton County uses a server based version of Mobilitat, Lebanon would acquire a web-based version if they choose to move forward with this vendor. Expenses for this software would include one-time software costs (\$25,000–\$50,000), which may vary depending on vehicle fleet size and amount of consulting assistance needed. Additional costs include an annual licensing fee (\$5,000–\$8,000) and hardware costs (\$30,000–\$40,000), which may include a new dispatching system, computers equipped for monitoring, and tablets for driver manifests.<sup>30</sup>

While the above costs estimates provide a general range of costs for Lebanon to reference, Lebanon should reach out to individual software providers for accurate and current costs for scheduling software.

## Strategies

Implementation strategies related to technology are listed in Figure 69.

**Figure 69 Technology Recommended Strategies**

Strategy	Description	Timeframe
<b>Scheduling software</b>	Consider implementing a scheduling software for Dial-a-Bus and deviations for the new deviated fixed-route service.	Short-term
<b>Other technologies</b>	Consider other technologies that could support the expanding system, such as a Vehicle Information System (VIS) that includes automatic passenger counters (APCs), automated voice announcements, and automatic vehicle location (AVL) technology or real-time arrival information for transit riders.	Long-term

<sup>29</sup> Barry Hoffman and Ted Frazier. Albany Transit System. Email correspondence June 26, 2017.

<sup>30</sup> Roberto Ponce and Lee Lazaro. Benton County Dial-a-Bus. Email correspondence June 26, 2017.

## SUMMARY OF IMPLEMENTATION STRATEGIES

Figure 70 provides a summary of strategies factors for the short, medium, and long-term implementation of a deviated fixed-route service in Lebanon.

**Figure 70 Summary of Implementation Strategies**

Category	Strategy	Description	Timeframe
<b>Transit Service</b>	Route testing	Test the preferred deviated fixed-route to ensure it is functional for Lebanon Transit vehicles.	Short-term
	Bus stops & time points	Based on route testing, identify bus stops and time points for the deviated fixed-route. Linn Shuttle bus stop locations should be prioritized.	Short-term
	Service schedule	Track arrival and departure times during route testing to finalize the service schedule.	Short-term
	Purchase bus	Purchase a replacement bus to ensure passenger comfort, manageable maintenance costs, and adequate capacity.	Short-term
	Shopper shuttle	Consider piloting a shopper shuttle service to further reduce demand for Lebanon Dial-a-Bus and capture some existing ridership.	Medium-term
	System expansion	Based on the performance of the deviated fixed-route service, consider opportunities to expand the transit system and transition from deviated fixed-route service to fixed-route service commensurate with funding.	Long-term
	Purchase bus(es)	If Lebanon should continue to expand its transit system and/or pursue the long-term scenario, additional transit vehicles will likely be needed to accommodate the expanding system.	Long-term
<b>Capital</b>	Installation of minimum amenities	Establish minimum bus stop amenities that would be installed at every bus stop.	Short-term
	Vehicle maintenance and repair	Explore vehicle maintenance and repair options with local partners, such as the Advanced Transportation Technology Center (ATTC) and the Lebanon Community School District.	Short-term
	Asset inventory	Develop an Asset Inventory to help track the maintenance and condition of vehicles and bus stop amenities. ODOT will likely expect local agencies to have this information as part of the Statewide Transit Asset Management Plan.	Med-term (In progress)
	Vehicle storage	Explore alternative vehicle storage options to accommodate future system expansion.	Med-term
	Transit center	Identify potential sites for a potential future transit center that could serve as a multimodal hub, providing direct connections between transit services and bicycle facilities.	Long-term
	Vehicle fleet	Maintain the existing fleet in a state of good repair. According to ODOT condition ratings, a score above 2.5 is considered to be in a state of good repair.	Ongoing

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Category	Strategy	Description	Timeframe
<b>Fares</b>	Fare structure	Consider options for revising the current fare structure in order to shift demand from Lebanon Dial-a-Bus to the deviated fixed-route service.	Short-term
	Pass programs	Coordinate with local employers and public institutions to establish a fare pass program.	Short/Med-term
	Regional coordination	Consider the fares of peer agencies when revising the fare structure to enhance the customer experience and support the potential for a regional pass program.	Med-term
<b>Financials</b>	Sustainable funding	Explore and establish a sustainable funding source for transit to replace the ODOT discretionary grant funds currently earmarked for the deviated fixed-route service. Consider the potential new sources listed in Appendix F.	Short/Med-term
	Transportation System Plan coordination	Ensure the City TSP includes public transportation infrastructure investments to identify partner projects within other modal projects.	Ongoing
<b>Staffing &amp; Training</b>	Staffing	Hire a new dispatcher.	Short-term (Completed)
	Training	Look into options for cross training other City of Lebanon staff to help provide dispatcher coverage on an as-needed basis.	Short-term
<b>Land Use</b>	Transit-related design requirements	Adopt design requirements for transit and transit-related amenities that support transit and may encourage ridership.	Short-term
	Transit-related development requirements	Amend Chapter 16.12 to require new developments to provide pedestrian access to existing and planned transit routes.	Short-term
	Redevelop parking areas	Amend Chapter 16.14 to allow the redevelopment of existing parking areas for transit-oriented uses.	Med/Long-term
<b>Support Programs</b>	Branding	Develop a unified brand for transit service in Lebanon, including branded vehicles and bus stop signage	Short-term
	Marketing	Create marketing materials that support the new brand and promote transit service, including an updated brochure and website.	Short-term
	Performance monitoring plan	Develop a Performance Monitoring Plan that consistently tracks specified performance measures for all transit services and is updated annually at a minimum.	Short-term
	Volunteer driver program	Consider implementing a volunteer driver program.	Med-term
<b>Technology</b>	Scheduling software	Consider implementing a scheduling software for Dial-a-Bus and deviations for the new deviated fixed-route service.	Short-term
	Other technologies	Consider other technologies that could support the expanding system, such as a Vehicle Information System (VIS) that includes automatic passenger counters (APCs), automated voice announcements, and automatic vehicle location (AVL) technology or real-time arrival information for transit riders.	Long-term

# Appendix A Outreach Materials

## ON-BOARD SURVEY

### Lebanon Transit Development Plan On-Board Survey

The City of Lebanon is working on a Transit Development Plan (TDP) to

- analyze existing transit service
- identify any service gaps and needs; and
- develop strategies to address those needs.

Currently, the city provides a demand-response service, the Lebanon Dial-a-Bus. The TDP will specifically focus on looking at and developing fixed-route transit options for Lebanon.

The purpose of this survey is to gather information about current riders travel needs and preferences. Your opinions are critical to making this project a success. Input collected from this survey will be compiled into a needs assessment memo and help shape the recommendations of the final plan. All responses to this survey will be kept confidential.

Please only fill out this survey only once.

#### **Suggestions for surveyors:**

- Question 1 and 2: If riders are uncomfortable providing an address, encourage them to respond with cross streets. Reiterate that this survey is confidential.



**Starting Point**

**1. Where did you start your trip?**  
(address or closest cross streets)

\_\_\_\_\_

**Ending Point**

**2. Where will you end your trip?**  
(address or closest cross streets)

\_\_\_\_\_

- 3. At what time did you get on the bus? \_\_\_\_:\_\_\_\_**
- 4. Does this trip start or end at your home location?**  
<sup>1</sup> Yes                      <sup>2</sup> No
- 5. What is the purpose of your trip?**
- |   |   |
|---|---|
| <input type="checkbox"/> <sup>1</sup> Work              | <input type="checkbox"/> <sup>5</sup> Medical           |
| <input type="checkbox"/> <sup>2</sup> Recreation/Social | <input type="checkbox"/> <sup>6</sup> Personal Business |
| <input type="checkbox"/> <sup>3</sup> Shopping          | <input type="checkbox"/> <sup>7</sup> Other             |
| <input type="checkbox"/> <sup>4</sup> School            | _____   |
- 6. Is Lebanon Dial-A-Bus taking you to your final destination?**  
<sup>1</sup> Yes                      <sup>2</sup> No
- 7. If NO to question 4, what mode are you using to complete your trip?**
- |   |   |
|---|---|
| <input type="checkbox"/> <sup>1</sup> Linn Shuttle          | <input type="checkbox"/> <sup>5</sup> Bike  |
| <input type="checkbox"/> <sup>2</sup> Driving alone         | <input type="checkbox"/> <sup>6</sup> Walk  |
| <input type="checkbox"/> <sup>3</sup> Someone is driving me | <input type="checkbox"/> <sup>7</sup> Other |
| <input type="checkbox"/> <sup>4</sup> Taxi                  | _____                                       |
- 8. Are you making a round trip on Lebanon Dial-A-Bus?**  
<sup>1</sup> Yes                      <sup>2</sup> No
- 9. How often do you ride Lebanon Dial-A-Bus?**
- |  |   |
|--|---|
| <input type="checkbox"/> <sup>1</sup> 5 days per week      | <input type="checkbox"/> <sup>4</sup> 1-4 days per month        |
| <input type="checkbox"/> <sup>2</sup> 2 to 4 days per week | <input type="checkbox"/> <sup>5</sup> Less than 1 day per month |
| <input type="checkbox"/> <sup>3</sup> 1 day per week       | <input type="checkbox"/> <sup>6</sup> A few times per year      |
- 10. How long have you been riding Lebanon Dial-A-Bus?**
- |   |   |
|---|---|
| <input type="checkbox"/> <sup>1</sup> More than 3 years | <input type="checkbox"/> <sup>4</sup> 1 month–6 months  |
| <input type="checkbox"/> <sup>2</sup> 1 year–3 years    | <input type="checkbox"/> <sup>5</sup> Less than 1 month |
| <input type="checkbox"/> <sup>3</sup> 6 months–1 year   |   |

**11. Did you have access to a car available to you for this trip?**

- <sup>1</sup> Yes    <sup>2</sup> No    <sup>3</sup> Yes, but at an inconvenience to others

**12. If Lebanon Dial-a-Bus was not available, how would you have made this trip? Check all that apply.**

- |  |   |
|--|---|
| <input type="checkbox"/> <sup>1</sup> Linn Shuttle           | <input type="checkbox"/> <sup>6</sup> Bike                      |
| <input type="checkbox"/> <sup>2</sup> Drive alone            | <input type="checkbox"/> <sup>7</sup> Walk                      |
| <input type="checkbox"/> <sup>3</sup> Someone would drive me | <input type="checkbox"/> <sup>8</sup> I would not make the trip |
| <input type="checkbox"/> <sup>4</sup> Carpool or vanpool     | <input type="checkbox"/> <sup>9</sup> Other                     |
| <input type="checkbox"/> <sup>5</sup> Taxi                   | _____   |

**13. What enhancements would encourage more people to ride public transportation more often? Please choose six and rank them 1 through 6, 1 being the highest priority, 6 being the lowest priority.**

- \_\_\_ <sup>1</sup> Improved reliability (Better on-time performance)
- \_\_\_ <sup>2</sup> Designated bus stops on a scheduled bus route
- \_\_\_ <sup>3</sup> Shelters and benches at bus stops (scheduled bus service only)
- \_\_\_ <sup>4</sup> Earlier service hours
- \_\_\_ <sup>5</sup> Later service hours
- \_\_\_ <sup>6</sup> Weekend service
- \_\_\_ <sup>7</sup> Greater service area (Please indicate where service is needed: \_\_\_\_\_)
- \_\_\_ <sup>8</sup> Shorter travel times on the bus
- \_\_\_ <sup>9</sup> Increased capacity (more vehicles/drivers to provide more trips)
- \_\_\_ <sup>10</sup> Longer window of time (more than 24-hours) for scheduling reservations (Dial-a-Bus only)
- \_\_\_ <sup>11</sup> Shorter window of time (less than 24-hours) for scheduling reservations (Dial-a-Bus only)
- \_\_\_ <sup>12</sup> More marketing and outreach
- \_\_\_ <sup>13</sup> Lower fare/cost
- \_\_\_ <sup>14</sup> Cleaner vehicles
- \_\_\_ <sup>15</sup> More courteous drivers
- \_\_\_ <sup>16</sup> Improved driver skill/safety
- \_\_\_ <sup>17</sup> Technological investments (Arrival notifications via text, Transit app, etc.)
- \_\_\_ <sup>18</sup> Nothing would encourage more people to ride public transportation
- \_\_\_ <sup>19</sup> Other (please specify): \_\_\_\_\_

**14. Please rate the following items about Lebanon Dial-a-Bus.**

	Very Poor <sup>1</sup>	Poor <sup>2</sup>	Fair <sup>3</sup>	Good <sup>4</sup>	Very Good <sup>5</sup>
Bus picks me up on time					
Bus drops me off on time					
Service starts early enough					
Service ends late enough					
Service runs on the days I need it					
Service to destinations I need					
Amount of time needed to schedule my trip (current <b>recommended</b> reservation window is 24 hours in advance)					
Accommodates my requested pick up and drop off times					
Rider information					
Fare/Cost					
Cleanliness of vehicles					
Driver courtesy					
Driver skill/safety					

**15. Do you have any additional comments about transportation (existing service or thoughts about enhancing service) in Lebanon?**

**16. What is your age?**

- <sub>1</sub> 17 and under      <sub>4</sub> 45–64 years  
<sub>2</sub> 18–24 years      <sub>5</sub> 65–74 years  
<sub>3</sub> 25–44 years      <sub>6</sub> 75 years and over

**17. Are you... (Check all that apply)**

- <sub>1</sub> Full-time worker      <sub>6</sub> College Faculty/staff  
<sub>2</sub> Part-time worker      <sub>7</sub> Middle/High school student  
<sub>3</sub> Unemployed, seeking work      <sub>8</sub> Retired  
<sub>4</sub> Unemployed, not seeking work      <sub>9</sub> Visitor  
<sub>5</sub> College student      <sub>10</sub> Other \_\_\_\_\_

**18. What is your ethnicity?**

- <sub>1</sub> American Indian or Alaska Native      <sub>5</sub> Native Hawaiian or Pacific Islander  
<sub>2</sub> Asian      <sub>6</sub> White/Caucasian  
<sub>3</sub> Black/African-American      <sub>7</sub> Other \_\_\_\_\_  
<sub>4</sub> Hispanic/Latino/Spanish \_\_\_\_\_

**19. What is your total household income?**

- <sub>1</sub> Less than \$10,000      <sub>5</sub> \$35,000–49,999  
<sub>2</sub> \$10,000–14,999      <sub>6</sub> \$50,000–74,999  
<sub>3</sub> \$15,000–24,999      <sub>7</sub> \$75,000–99,999  
<sub>4</sub> \$25,000–34,999      <sub>8</sub> \$100,000 or more



## COMMUNITY SURVEY

### Lebanon Transit Development Plan Community Survey

#### Help us shape the future of transit in the City of Lebanon!

The City of Lebanon is working on a Transit Development Plan (TDP) to analyze existing transit service, identify any service gaps and needs, and develop strategies to address those needs. Currently, the city provides a demand-response service, the Lebanon Dial-a-Bus. The TDP will specifically focus on fixed-route transit options for Lebanon.

The purpose of this survey is to gather information about the community's travel needs and preferences, for yourself and/or for those who would benefit from using public transportation in the City of Lebanon. Your opinions are critical to making this project a success. Input collected from this survey will be compiled into a needs assessment memo and help shape the recommendations of the final plan. All responses to this survey will be kept confidential.

Please only fill out this survey once and return completed surveys by **4p.m. on Monday, October 24, 2016** to the Lebanon Senior Center: 80 Tangent St, open Monday—Friday 8 a.m. to 4 p.m.

If it's easier for you to take the survey from the comfort of your own home or you are unable to drop off your completed survey, you can take the survey online at your convenience. Visit [lebanontsp.org/tdp](http://lebanontsp.org/tdp), and check the "Public Involvement" or "What's Happening Now?" sections.

**1. What city/ zip code do you live in?**

City: \_\_\_\_\_

Zip Code: \_\_\_\_\_

**2. What are the closest cross streets to your home?**

Street 1: \_\_\_\_\_

Street 2: \_\_\_\_\_

**Travel Habits – List your TOP 2 destinations that you travel to frequently.**

<b>Destination 1 (List the name &amp; cross streets):</b> _____		
<p><b>3. Why do you go there?</b></p> <p><input type="checkbox"/><sup>1</sup> Work</p> <p><input type="checkbox"/><sup>2</sup> Recreation/Social</p> <p><input type="checkbox"/><sup>3</sup> Shopping</p> <p><input type="checkbox"/><sup>4</sup> School</p> <p><input type="checkbox"/><sup>5</sup> Medical</p> <p><input type="checkbox"/><sup>6</sup> Personal Business</p> <p><input type="checkbox"/><sup>7</sup> Other _____</p>	<p><b>4. How often do you go there?</b></p> <p><input type="checkbox"/><sup>1</sup> 5 or more days per week</p> <p><input type="checkbox"/><sup>2</sup> 2–4 days per week</p> <p><input type="checkbox"/><sup>3</sup> 1 day per week</p> <p><input type="checkbox"/><sup>4</sup> 1–4 days per month</p> <p><input type="checkbox"/><sup>5</sup> Less than 1 day per month</p> <p><input type="checkbox"/><sup>6</sup> A few times a year</p>	<p><b>5. How do you usually get there?</b></p> <p><input type="checkbox"/><sup>1</sup> Public transit</p> <p><input type="checkbox"/><sup>2</sup> Drive alone</p> <p><input type="checkbox"/><sup>3</sup> Someone drives me</p> <p><input type="checkbox"/><sup>4</sup> Carpool or vanpool</p> <p><input type="checkbox"/><sup>5</sup> Taxi</p> <p><input type="checkbox"/><sup>6</sup> Bike</p> <p><input type="checkbox"/><sup>7</sup> Walk</p> <p><input type="checkbox"/><sup>8</sup> Other _____</p>
<b>Destination 2 (List the name &amp; cross streets):</b> _____		
<p><b>6. Why do you go there?</b></p> <p><input type="checkbox"/><sup>1</sup> Work</p> <p><input type="checkbox"/><sup>2</sup> Recreation/Social</p> <p><input type="checkbox"/><sup>3</sup> Shopping</p> <p><input type="checkbox"/><sup>4</sup> School</p> <p><input type="checkbox"/><sup>5</sup> Medical</p> <p><input type="checkbox"/><sup>6</sup> Personal Business</p> <p><input type="checkbox"/><sup>7</sup> Other _____</p>	<p><b>7. How often do you go there?</b></p> <p><input type="checkbox"/><sup>1</sup> 5 or more days per week</p> <p><input type="checkbox"/><sup>2</sup> 2–4 days per week</p> <p><input type="checkbox"/><sup>3</sup> 1 day per week</p> <p><input type="checkbox"/><sup>4</sup> 1–4 days per month</p> <p><input type="checkbox"/><sup>5</sup> Less than 1 day per month</p> <p><input type="checkbox"/><sup>6</sup> A few times a year</p>	<p><b>8. How do you usually get there?</b></p> <p><input type="checkbox"/><sup>1</sup> Public transit</p> <p><input type="checkbox"/><sup>2</sup> Drive alone</p> <p><input type="checkbox"/><sup>3</sup> Someone drives me</p> <p><input type="checkbox"/><sup>4</sup> Carpool or vanpool</p> <p><input type="checkbox"/><sup>5</sup> Taxi</p> <p><input type="checkbox"/><sup>6</sup> Bike</p> <p><input type="checkbox"/><sup>7</sup> Walk</p> <p><input type="checkbox"/><sup>8</sup> Other _____</p>

**9. Is Lebanon Dial-A-Bus your primary mode of transportation?**

- <sup>1</sup> Yes                      <sup>2</sup> No

**10. If YES to question 9, how long have you been riding Lebanon Dial-A-Bus?**

- <sup>1</sup> More than 3 years    <sup>4</sup> 1 month–6 months
- <sup>2</sup> 1 year–3 years        <sup>5</sup> Less than 1 month
- <sup>3</sup> 6 months–1 year

**11. If YES to question 9, how often do you ride Lebanon Dial-A-Bus?**

- <sup>1</sup> 5 days per week        <sup>4</sup> 1-4 days per month
- <sup>2</sup> 2 to 4 days per week    <sup>5</sup> Less than 1 day per month
- <sup>3</sup> 1 day per week        <sup>6</sup> A few times per year

**12. If NO to question 9, what is your primary mode of transportation?**

- <sup>1</sup> Linn Shuttle              <sup>5</sup> Bike
- <sup>2</sup> Drive alone                <sup>6</sup> Walk
- <sup>3</sup> Someone drives me    <sup>7</sup> Other \_\_\_\_\_
- <sup>4</sup> Taxi

**13. If NO to question 9, why isn't Lebanon Dial-a-Bus a good option for you? (check all that apply)**

- <sup>1</sup> Bus is not reliable
- <sup>2</sup> Does not run at the times of day that I need it
- <sup>3</sup> Does not run during the days of week that I need it
- <sup>4</sup> Does not go where I need it
- <sup>5</sup> Is not available near my home
- <sup>6</sup> Takes too long
- <sup>7</sup> Fare is too expensive
- <sup>8</sup> Feel uncomfortable
- <sup>9</sup> Feel unsafe on the bus
- <sup>10</sup> Feel unsafe getting to the bus
- <sup>11</sup> My pick-up and drop-off times cannot be accommodated
- <sup>12</sup> It seems too complicated
- <sup>13</sup> I did not know about the service
- <sup>14</sup> I don't want to use public transportation
- <sup>15</sup> Other(please specify): \_\_\_\_\_

**14. Do you have access to an automobile?**

- <sup>1</sup> Yes    <sup>2</sup> No    <sup>3</sup> Yes, but at an inconvenience to others

**15. What enhancements would encourage more people to ride public transportation more often? Please choose six and rank them 1 through 6, 1 being the highest priority, 6 being the lowest priority.**

- \_\_\_ <sup>1</sup> Improved reliability (Better on-time performance)
- \_\_\_ <sup>2</sup> Designated bus stops on a scheduled bus route
- \_\_\_ <sup>3</sup> Shelters and benches at bus stops (scheduled bus service only)
- \_\_\_ <sup>4</sup> Earlier service hours
- \_\_\_ <sup>5</sup> Later service hours
- \_\_\_ <sup>6</sup> Weekend service
- \_\_\_ <sup>7</sup> Greater service area (Please indicate where service is needed: \_\_\_\_\_)
- \_\_\_ <sup>8</sup> Shorter travel times on the bus
- \_\_\_ <sup>9</sup> Increased capacity (more vehicles/drivers to provide more trips)
- \_\_\_ <sup>10</sup> Longer window of time (more than 24-hours) for scheduling reservations (Dial-a-Bus only)
- \_\_\_ <sup>11</sup> Shorter window of time (less than 24-hours) for scheduling reservations (Dial-a-Bus only)
- \_\_\_ <sup>12</sup> More marketing and outreach
- \_\_\_ <sup>13</sup> Lower fare/cost
- \_\_\_ <sup>14</sup> Cleaner vehicles
- \_\_\_ <sup>15</sup> More courteous drivers
- \_\_\_ <sup>16</sup> Improved driver skill/safety
- \_\_\_ <sup>17</sup> Technological investments (Arrival notifications via text, Transit app, etc.)
- \_\_\_ <sup>18</sup> Nothing would encourage more people to ride public transportation

**16. Do you have any additional comments about transportation (existing service or thoughts about enhancing service) in Lebanon?**

**17. What is your age?**

- <sup>1</sup> 17 and under    <sup>4</sup> 45–64 years  
<sup>2</sup> 18–24 years    <sup>5</sup> 65–74 years  
<sup>3</sup> 25–44 years    <sup>6</sup> 75 years and over

**18. What is your ethnicity?**

- <sup>1</sup> American Indian or Alaska Native    <sup>5</sup> Native Hawaiian or Pacific Islander  
<sup>2</sup> Asian    <sup>6</sup> White/Caucasian  
<sup>3</sup> Black/African-American    <sup>7</sup> Other  
<sup>4</sup> Hispanic/Latino/Spanish    \_\_\_\_\_

**19. Are you... (Check all that apply)**

- <sup>1</sup> Full-time worker    <sup>6</sup> College Faculty/staff  
<sup>2</sup> Part-time worker    <sup>7</sup> Middle/High school student  
<sup>3</sup> Unemployed, seeking work    <sup>8</sup> Retired  
<sup>4</sup> Unemployed, not seeking work    <sup>9</sup> Visitor  
<sup>5</sup> College student    <sup>10</sup> Other  
\_\_\_\_\_

**20. What is your total household income?**

- <sup>1</sup> Less than \$10,000    <sup>5</sup> \$35,000–49,999  
<sup>2</sup> \$10,000–14,999    <sup>6</sup> \$50,000–74,999  
<sup>3</sup> \$15,000–24,999    <sup>7</sup> \$75,000–99,999  
<sup>4</sup> \$25,000–34,999    <sup>8</sup> \$100,000 or more

## STAKEHOLDER INTERVIEWEES

Agency / Organization Name	Interviewee(s)	Interview Date
College of Osteopathic Medicine of the Pacific, Northwest (COMP NW)	Michelle Steinhebel, Public Affairs Rep	10/20/16
Department of Human Services	Tammi Martin, Branch Manager Eileen Guyette, Branch Manager	10/25/16
Lebanon Chamber of Commerce & Visitors Center	Shelly Garrett, Executive Director Mary Garner, Office Manager Kim Calsadillas, Customer Service Rep	10/13/16
Linn Benton Community College (LBCC)	Bruce Clemetsen, Vice President for student affairs	10/21/16
Linn County Developmental Disabilities Program	Jeff Walpole, Licensor Natalie O'Connor, Adult Case Manager	10/17/16
The Oaks	Angie Kutsch, Executive Director	10/12/16
Oregon Cascades West Council of Governments (OCWCOG)	Dave Toler, Director of Senior Disability Services	10/14/16
The River Center	Dennis Stoneman, Office Manager	10/14/16
Samaritan Lebanon Community Hospital	Carrie West, Ian Rollins, Kathy Cowger	11/18/16
Veterans' Home	Billy, Transportation Coordinator Lenora, Social Worker	10/24/16
Walmart	Lisa Fassler, Store Manager	10/19/16

## STAKEHOLDER INTERVIEW GUIDE DISCUSSION QUESTIONS

1. Name:
2. Organization – what agency, organization, company or interest group do you represent?
3. What “services” does your organization provide and do you directly serve clients/customers?
4. Do you directly provide any transportation services? If yes,
  - a. Who is eligible for your transportation services?
  - b. What type of vehicles do you use and how many do you have?
  - c. How many rides do you provide on an annual basis?
5. Do you fund transportation services from other providers (i.e. buy tickets or passes, subsidize their operations etc)?
6. How do clients/ customers/ workers typically access your location?
  - a. At what times?
  - b. Days of week?
7. What is working well with existing services?
  - a. Destinations served
  - b. Trip types completed
  - c. Time of travel offered
  - d. Other
8. What is not working well with existing services? Are there gaps (please identify) in:
  - a. Destinations served
  - b. Trip types completed
  - c. Time of travel offered
  - d. Other
9. Are there barriers to using existing services?
  - a. Fares too high
  - b. Capacity limitations
  - c. Cultural barriers?

10. Any opportunities currently being considered to address these barrier?
  
11. Do you see any future trends in the community that might alter transit demand? E.g. major hospitals or service centers re-location to/from the region, large employers moving into or out of the area, major senior residential developments, other growth in senior populations etc.
  
12. What might attract more riders?
  - a. Fixed-route/scheduled service?
  - b. More frequent service?
  - c. Service at different times of day?
  - d. Service on different days of week?
  - e. Service to new destinations/communities?
  - f. Reduced fares?
  - g. Better information on how to ride transit
  - h. Better security?
  
13. Any other comments, questions or concerns?

# Appendix B Detailed Outreach Responses

## ON-BOARD SURVEY

The most common starting points for survey respondents included three living facilities: The Oaks, Brookdale, and Willamette Manor. The most common ending points for survey respondents included Lebanon Community Hospital, Walmart and the Senior Center. Lebanon Dial-a-Bus rider pick-up locations are illustrated in Figure 71. Rider manifest data provided by the City of Lebanon was used to produce this map, which shows the pick-up locations for all scheduled trips, not completed. Although this map does not reflect survey data, the primary destinations called out by survey respondents are already highlighted as an origin location on this map.

The majority of respondents were “75 years or over” (53%). There were no respondents under the age of 25 (0%). Most of the respondents identified as being “Retired” (66%) or “Other” (22%). Some of the respondents who chose “other” specified that they were a person with a disability. Survey respondents overwhelmingly identified as “White/Caucasian” (88%). The second largest ethnicity represented was “American Indian or Alaska Native” (5%). Total household income for survey respondents was primarily in the three lowest income brackets: \$15,000–24,999 (35%), \$10,000–14,999 (23%), and Less than \$10,000 (23%).



Figure 71 Lebanon Dial-a-Bus Pick-up Locations

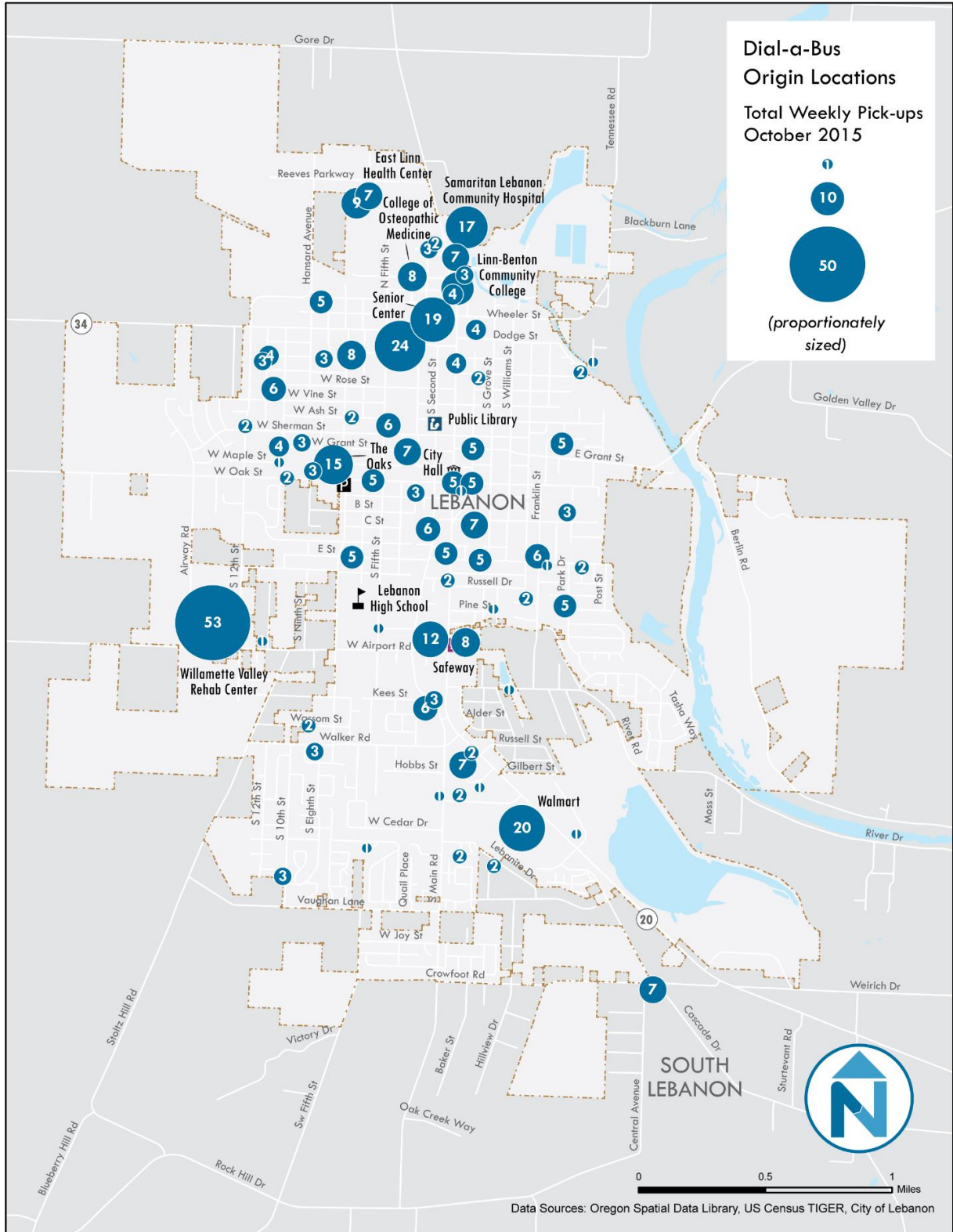
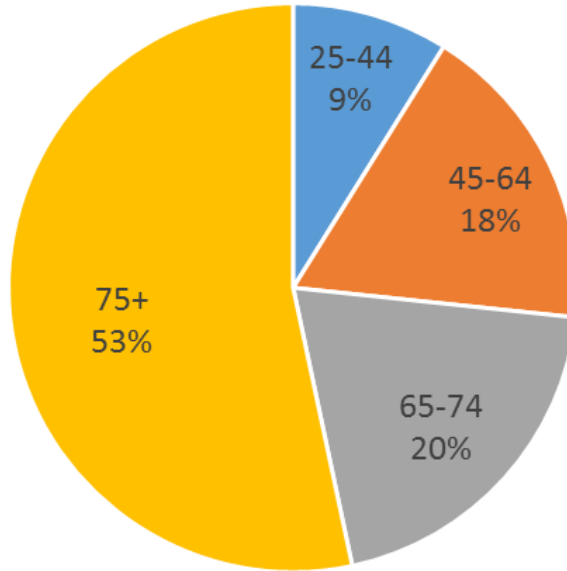
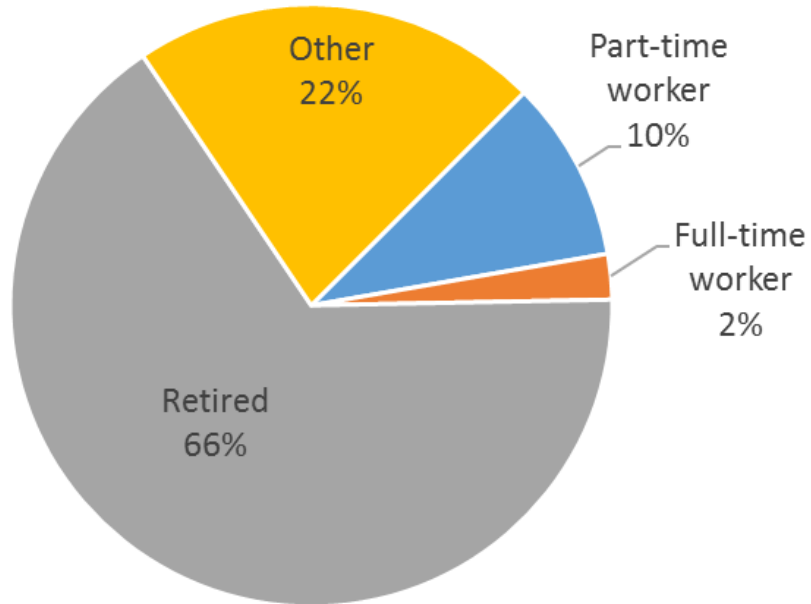


Figure 72 On-board Survey Responses: What is your age?



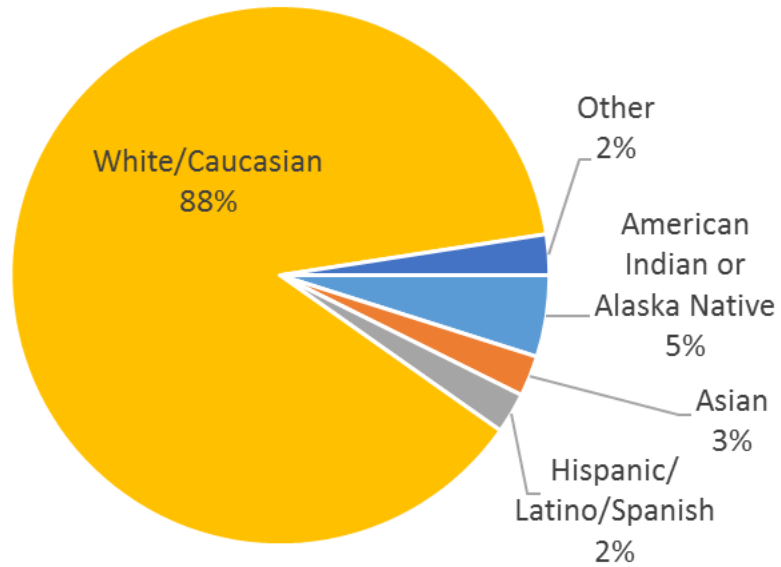
N= 45

Figure 73 On-board Survey Responses: Are you...



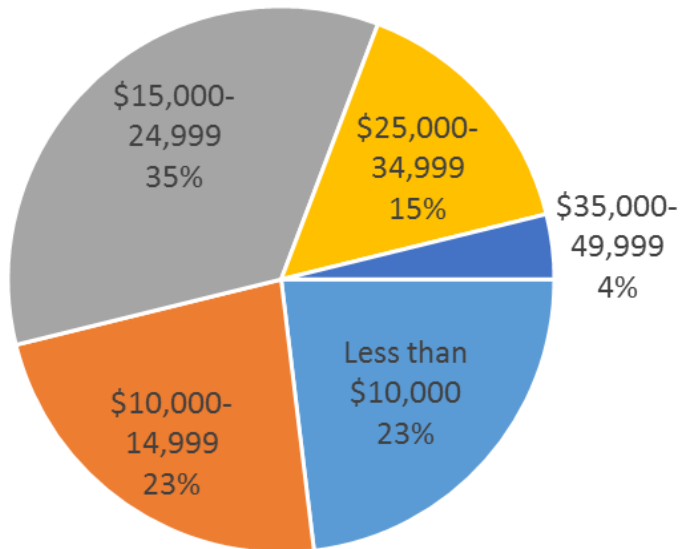
N= 41

Figure 74 On-board Survey Responses: What is your ethnicity?



N= 41

Figure 75 On-board Survey Responses: What is your total household income?



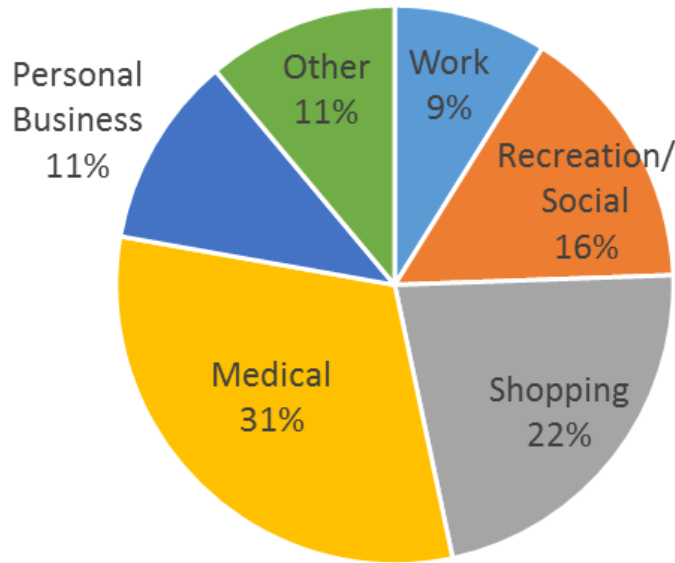
N= 26

The majority of the passengers surveyed on Lebanon Dial-a-Bus were traveling for a “Medical” purpose (31%). Shopping (22%) and Recreation/Social (16%) were the second and third most common trip purposes.

Most respondents claimed they ride Lebanon Dial-a-Bus 2 to 4 days per week (44%). Some respondents ride Lebanon Dial-a-Bus Monday through Friday (5 days per week, 9%). These responses indicate Lebanon Dial-a-Bus has a large group of regular riders.

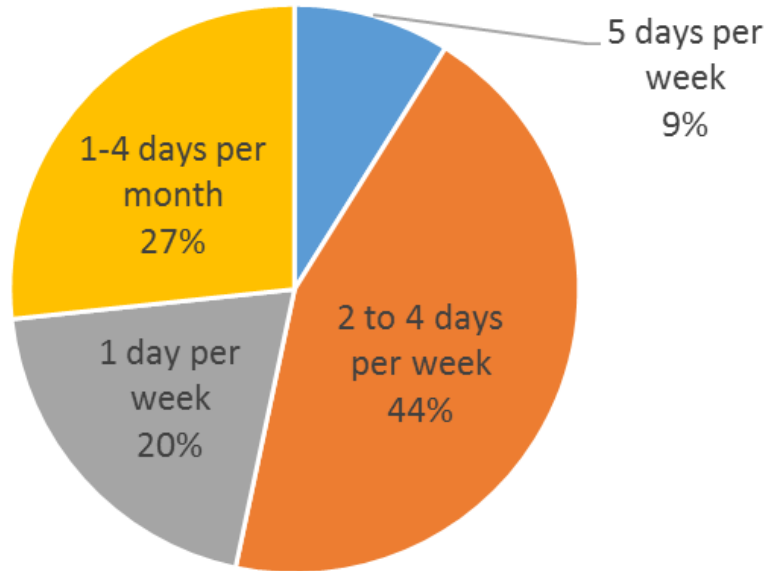
Of the passengers who responded to this survey, almost half are long-term riders who have been riding Lebanon Dial-a-Bus for “More than 3 years” (44%).

Figure 76 On-board Survey Responses: What is the purpose of your trip?



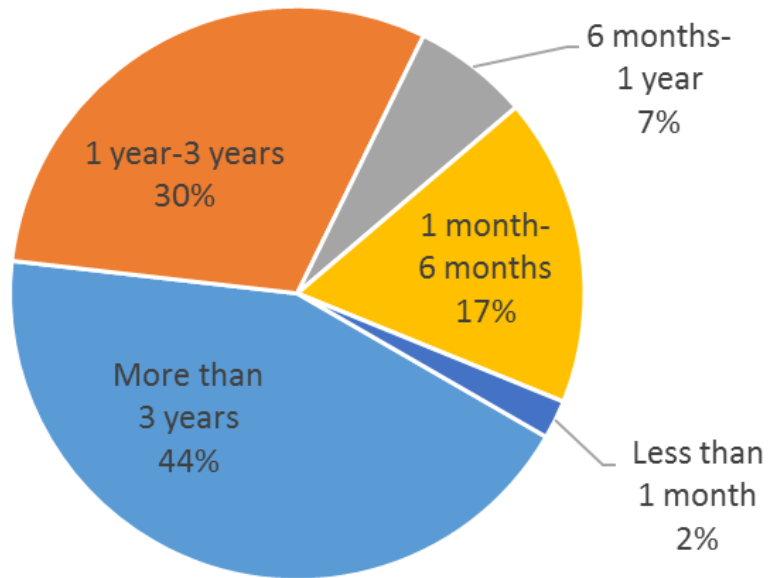
N= 45

Figure 77 On-board Survey Responses: How often do you ride Lebanon Dial-a-Bus?



N= 45

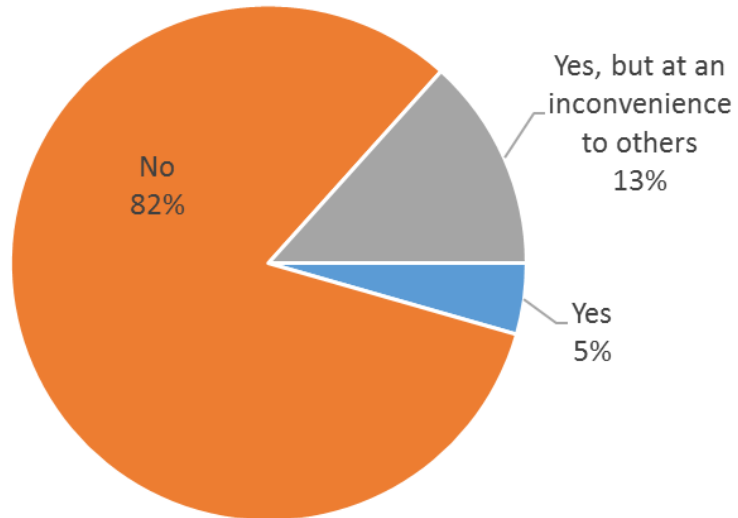
Figure 78 On-board Survey Responses: How long have you been riding Lebanon Dial-a-Bus?



N= 46

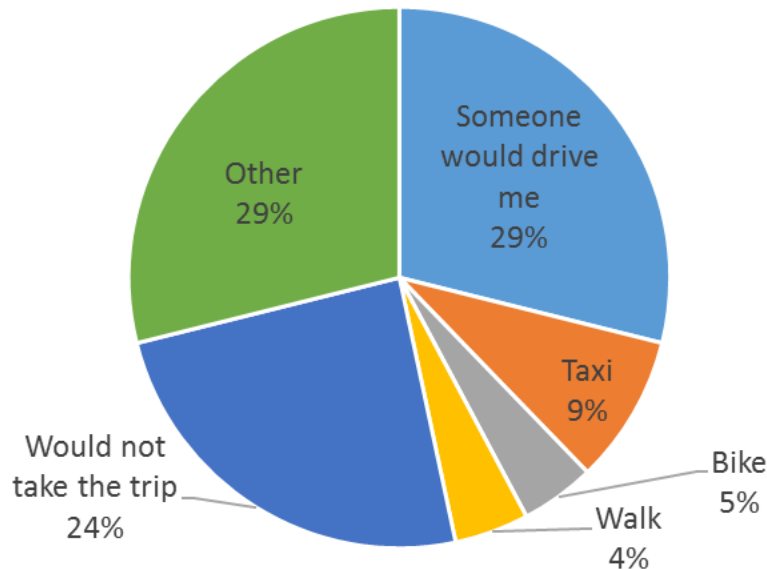
Most of the survey respondents indicated that they did not have access to a car available for this trip (82%). Twenty-nine percent of respondents indicated they would have someone else drive them if Lebanon Dial-a-Bus was not available for this trip. Many of them are dependent on the Lebanon Dial-a-Bus as indicated that they would decide not to take the trip altogether (24%). Without this transit service many people could not get to medical appointments, do their shopping, or engage in recreation/social activities, which could have consequences on health, economic development, and quality of life. Twenty-nine percent of respondents answered “Other”, which included medical transport, facility bus, and power chair.

Figure 79 On-board Survey Responses: Did you have access to a car available for this trip?



N= 45

Figure 80 On-board Survey Responses: If Lebanon Dial-a-Bus was not available, how would you have made this trip?



N= 45

Survey respondents were asked to rate transit service characteristics on a scale of “Very Poor” to “Very Good”. For the purpose of this analysis, each rating was assigned a point value:

- Very Poor = 1 point
- Poor = 2 points
- Fair = 3 points
- Good = 4 points
- Very good = 5 points

Based on the responses provided, a total point score was calculated for each transit service characteristic and categorized into an overall ranking based on their point score.

- Very Poor = 46 points or lower
- Poor = 92–46 points
- Fair = 138–92 points
- Good = 184–138 points
- Very good = 230–184 points

Overall, survey respondents primarily ranked all aspects of the Lebanon Dial-a-Bus as doing “Good” or “Very Good”. “Driver courtesy”, “Driver skill/safety”, and “Service to destinations I need” had the highest point scores. Service characteristics that received some “Very Poor”, “Poor”, or “Fair” ratings ended up with a lower point score but still received an overall rating of “Good”. These service characteristics included “Service runs on the days I need it”, “Service ends late enough”, and “Rider Information”.

**Figure 81 On-board Survey Responses: Please rate the following about Lebanon Dial-a-Bus**

Transit Service Characteristic	Point Total	Overall Rating	Rank
Driver courtesy	206	Very good	1
Driver skill/safety	201	Very good	2
Service to destinations I need	201	Very good	2
Bus drops me off on time	197	Very good	4
Fare/Cost	195	Very good	5
Cleanliness of vehicles	195	Very good	5
Accommodates my requested pick-up and drop-off times	194	Very good	7
Bus picks me up on time	193	Very good	8
Service starts early enough	189	Very good	9
Amount of time needed to schedule my trip	189	Very good	9
Service runs on the days I need it	175	Good	11
Service ends late enough	164	Good	12
Rider Information	156	Good	13



Survey respondents were asked about what service enhancements would encourage more people to ride public transportation more often. Respondents selected up to six service enhancements and ranked them on a scale of 1 to 6, 1 being the highest priority, 6 being the lowest priority. For the purpose of this analysis, each ranking was assigned a point value:

- 1 = 6 points;
- 2 = 5 points
- 3 = 4 points
- 4 = 3 points
- 5 = 2 points
- 6 = 1 point

Based on the responses provided, a total point score was calculated for each transit service enhancement and ranked. The top three service enhancements for increasing ridership were identified as “Later service hours”, “Weekend service”, and “Increased capacity”.

**Figure 82 On-board Survey Responses: What enhancements would encourage more people to ride public transportation more often?**

Transit Service Enhancement	Point Total	Rank
Later service hours	110	1
Weekend service	109	2
Increased capacity (more vehicles/drivers to provide more trips)	94	3
Improved reliability (Better on-time performance)	84	4
Designated bus stops on a scheduled bus route	61	5
Shorter window of time (less than 24-hours) for scheduling reservations (Dial-a-Bus only)	58	6
More marketing and outreach	54	7
Earlier service hours	45	8
Shelters and benches at bus stops (scheduled bus service only)	39	9
Nothing would encourage more people to ride public transportation	19	10
Other(1)	11	11
Shorter travel times on the bus	8	12
Lower fare/cost	8	12
Greater service area(2)	7	14
Longer window of time (more than 24-hours) for scheduling reservations (Dial-a-Bus only)	7	14
Cleaner vehicles	0	16
More courteous drivers	0	16
Improved driver skill/safety	0	16
Technological investments (Arrival notifications via text, Transit app, etc.)	0	16

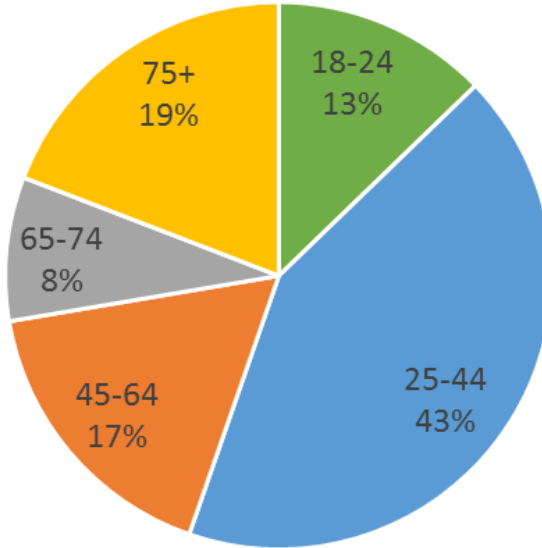
<sup>1</sup>Other included “More 1-on-1 assistance”, “Need to know more about how bus works”, “Dressed appropriately and clean.”

<sup>2</sup> Areas for greater service area included Corvallis and Albany.

## COMMUNITY SURVEY

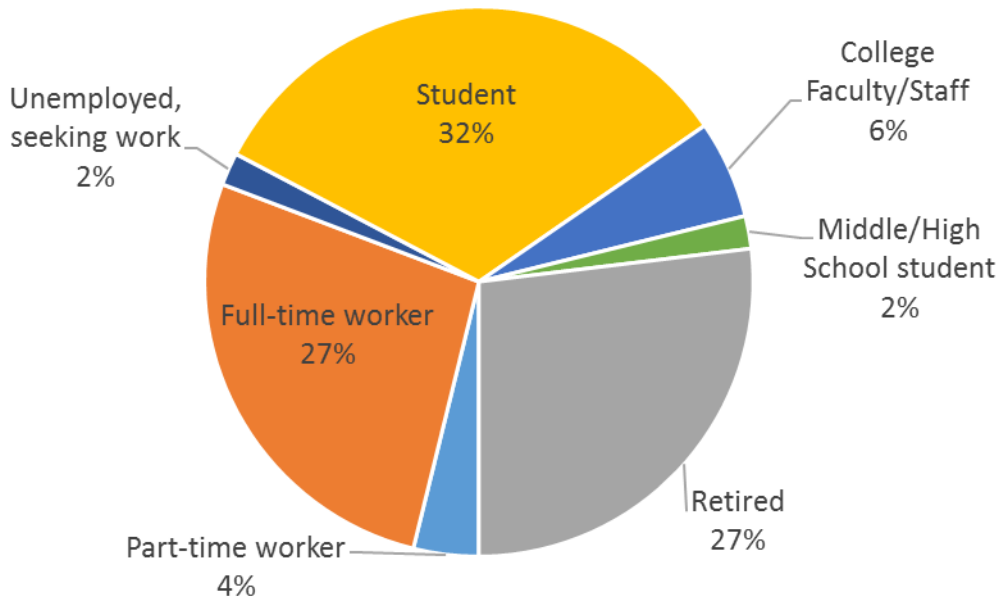
The majority of respondents were “25–44 years old” (43%). Most of the respondents identified as being a “Student” (32%). The second and third largest groups represented were “Retired” (27%) and “Full-time worker” (27%). Survey respondents overwhelmingly identified as “White/Caucasian” (85%). The second largest ethnicity represented was “Asian” (11%). Total household income for survey respondents was primarily in the three lowest income brackets: \$15,000–24,999 (35%), Less than \$10,000 (32%), and \$10,000–14,999 (18%).

Figure 83 Community Survey Responses: What is your age?



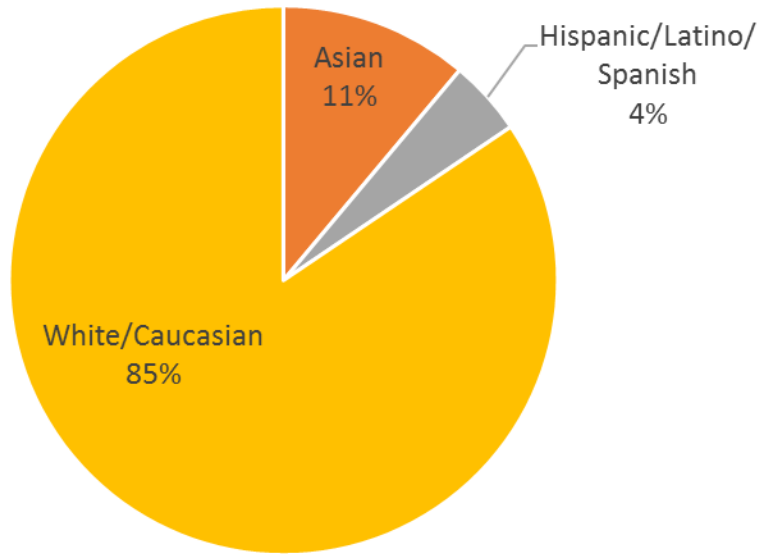
N= 47

Figure 84 Community Survey Responses: Are you...



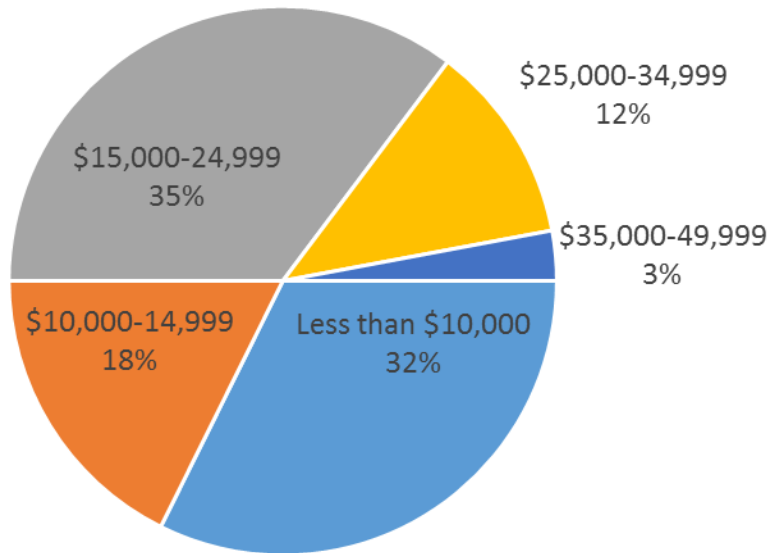
N= 45

Figure 85 Community Survey Responses: What is your ethnicity?



N= 49

Figure 86 Community Survey Responses: What is your total household income?

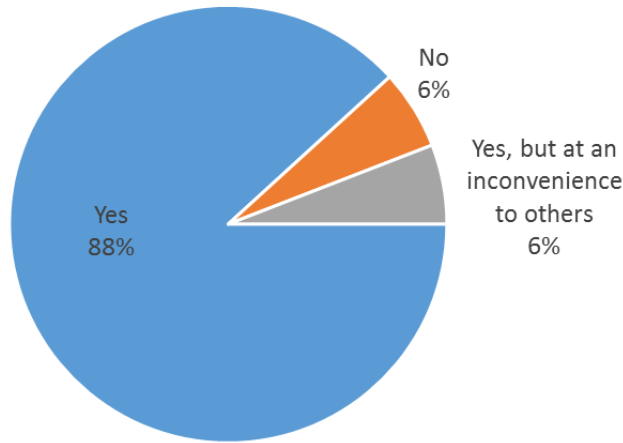


N= 45

Most of the survey respondents indicated that they do have access to a car (88%). Survey respondents were asked if Lebanon Dial-a-Bus was their primary mode of transportation and if not, what was their primary mode of transportation. “Drive alone” was the most common response (75%). Fifteen percent of respondents indicated Lebanon Dial-a-Bus as their primary mode of transportation.

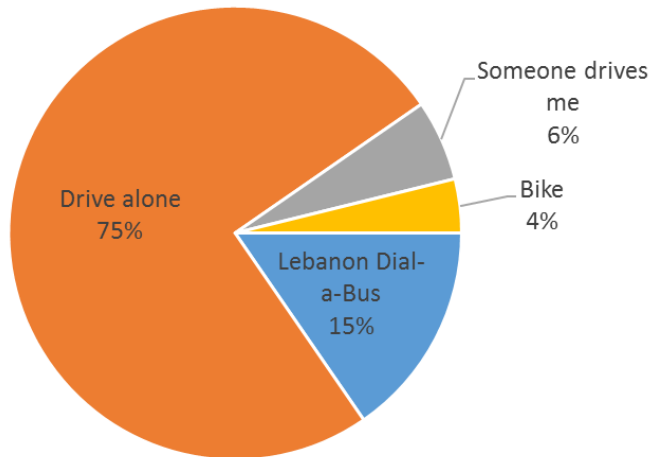
Respondents that did not select Lebanon Dial-a-Bus as their primary mode of transportation were asked why Lebanon Dial-a-Bus was not a good option for them. The top three responses included “I did not know about the service” (33%), “Does not run at the times of day that I need it” (26%), and “Other” (26%). Respondents who selected “Other” specified “Didn’t know it was available to the general public”, “Not sure how the service works (i.e. areas of operation, pick-up and drop-off points)”, “Previously had difficulty using the service”, and “I value the convenience of driving and biking”.

Figure 87 Community Survey Responses: Do you have access to an automobile?



N= 51

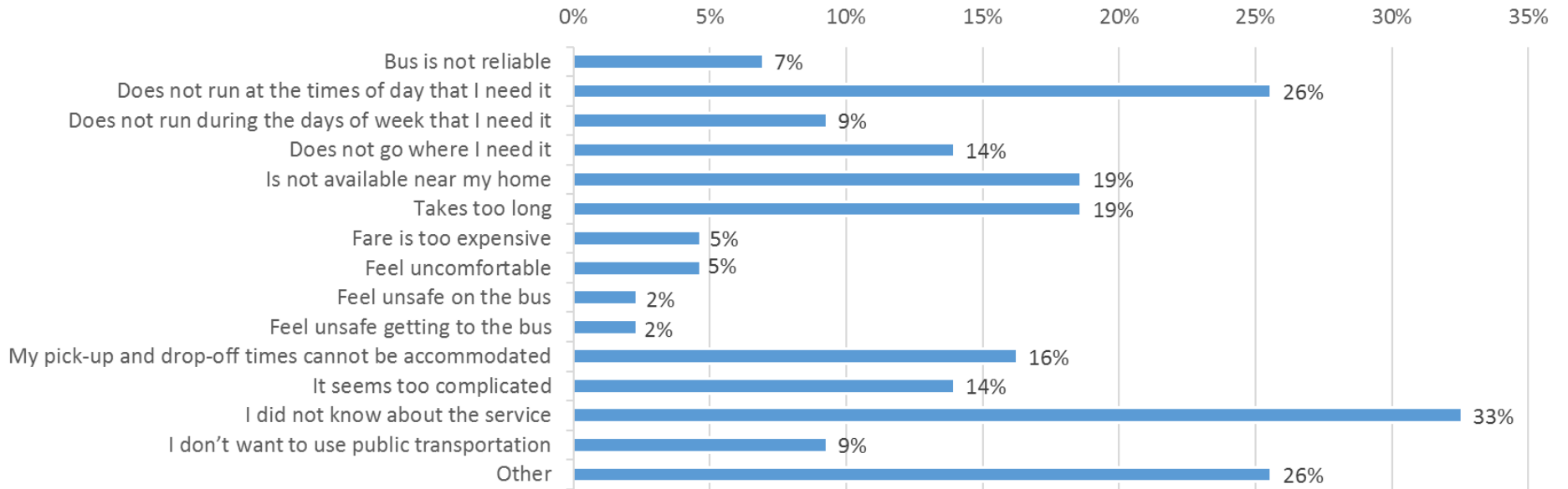
Figure 88 Community Survey Responses: What is your primary mode of transportation?



Note: Linn Shuttle, Taxi, Walk, and Other were included as a potential answer to this question but no respondents selected those options as their primary mode of transportation.

N= 52

Figure 89 Community Survey Responses: Why isn't Lebanon Dial-a-Bus a good option for you?



N= 43

Survey respondents were asked about what service enhancements would encourage more people to ride public transportation more often. Respondents selected up to six service enhancements and ranked them on a scale of 1 to 6, 1 being the highest priority, 6 being the lowest priority. For the purpose of this analysis, each ranking was assigned a point value:

- 1 = 6 points
- 2 = 5 points
- 3 = 4 points
- 4 = 3 points
- 5 = 2 points
- 6 = 1 point

Based on the responses provided, a total point score was calculated for each transit service enhancement and ranked. The top three service enhancements for increasing ridership were identified as “Weekend service”, “Later service hours”, and “Designated bus stops on a scheduled bus route”. This question was open to all survey respondents. Of the 44 respondents who answered this question, 37 indicated Lebanon Dial-a-Bus was not their primary mode of transportation.

**Figure 90 Community Survey Responses: What enhancements would encourage more people to ride public transportation more often?**

Transit Service Enhancement	Point Total	Rank
Weekend service	102	1
Later service hours	98	2
Designated bus stops on a scheduled bus route	89	3
Shelters and benches at bus stops (scheduled bus service only)	73	4
Greater service area	64	5
Improved reliability (Better on-time performance)	62	6
Earlier service hours	60	7
More marketing and outreach	43	8
Technological investments (Arrival notifications via text, Transit app, etc.)	39	9
Increased capacity (more vehicles/drivers to provide more trips)	38	10
Shorter travel times on the bus	35	11
Lower fare/cost	32	12
Shorter window of time (less than 24-hours) for scheduling reservations (Dial-a-Bus only)	26	13
Longer window of time (more than 24-hours) for scheduling reservations (Dial-a-Bus only)	21	14
Nothing would encourage more people to ride public transportation	13	15
Cleaner vehicles	12	16
More courteous drivers	7	17
Improved driver skill/safety	6	18
Other	0	19

## STAKEHOLDER INTERVIEWS

### Challenges & Opportunities

Stakeholders mentioned that the existing transit services serving Lebanon (Lebanon Dial-a-Bus and Linn Shuttle) were a great asset to the community. Each stakeholder provided input on current challenges and opportunities for improvement, which focused around the following topic areas.

#### System Capacity

The Lebanon Dial-a-Bus is operating at capacity and cannot always accommodate requested pick-up and drop-off times. Passengers are sometimes left waiting for a longer period than desired at their destination for their return trip home. Wheelchair and stroller capacity on-board transit vehicles were also described as challenges for the Linn Shuttle and Lebanon Dial-a-Bus.

Existing transit services may experience more demand as Lebanon continues to grow and develop. New development that has recently increased (or has potential to increase) residents and visitors includes the Convention Center, the LBCC Advanced Transportation Center, the LBCC Healthcare Occupations Center, Lowe's Regional Distribution Center, Samaritan Hospital, and the Veterans' Home.

#### Service Area

A lot of homes are located on the outskirts of Lebanon in more rural environments (e.g. along Rock Hill Drive and River Drive, Sodaville, Waterloo). For any of these residents without a car, it is challenging to access social services in Lebanon as well as the existing transit services. Even more difficult in inclement weather or for residents with small children.

“Sodaville and Waterloo are in the same zip code and should be considered a part of Lebanon—there's an opportunity to encompass these areas and provide transit service here.”

Expanding transit services would be particularly helpful for persons with developmental disabilities who's travel needs may be shifting from the Employment First Initiative, which has potential to employ persons with developmental disabilities at a wider range of locations.

Stakeholders suggested that a fixed-route shuttle with one origin and one destination might be useful if there is an identified group of people with the same travel needs. One stakeholder mentioned fixed-route service that Lebanon previously had was useful because it was more predictable than the existing transit services.

“Lebanon had a fixed-route service years ago, and it was great! We knew at certain times of day the service would stop at our location and pick people up.”



## Marketing and Outreach

Stakeholders described that people are not aware that the Lebanon Dial-a-Bus is open to the general public. Lebanon Dial-a-Bus provides information to Lebanon Greeter and the local DHS office for distribution to community members but there is some opportunity to expand marketing and

outreach efforts by regularly coordinating with local social services to ensure they have marketing materials for distribution to their constituents.

“Promote public transit as an option that can decrease traffic but the service has to be reliable and efficient (e.g. doesn’t take a long time to get to your destination.”

Additionally, marketing messages could be more targeted towards the general public. For example, public transit services could also be promoted as an option to decrease traffic but convenience and travel time need to be more competitive with driving.

## Service Hours

Stakeholders mentioned the need for later service hours as well as service on weekends. Later service hours would help accommodate both employee and student schedules. For residents who depend solely on public transportation, service on weekends would be useful.

“For the student population, having predictability about where you can access transit, knowing that connections can be made to other services, knowing that you can get to a facility when you need to, doing it quickly, doing it close to class times—all these things are useful for students.”

## Bus Stop Amenities

Linn Shuttle is currently the only transit service in Lebanon that has traditional bus stops. Additional pedestrian scaled lighting at these stops was suggested to improve safety.

Stakeholders also recommended bus shelters and benches to improve comfortability and increase public awareness about the available transit services. Although the Lebanon Dial-a-Bus does not have bus stops, well-known locations for pick-ups and drop-offs could have some of these additional amenities.

## Funding

Some stakeholders discussed potential for non-government funding opportunities for transit services. The Lebanon Chamber of Commerce explained that the Senior Center previously submitted a grant request to the Tourism Committee to fund the installment of a bench at a popular Lebanon Dial-a-Bus location. This could potentially be done again in the future for new bus stop amenities.

The Walmart Foundation provides grants to non-profit organizations that could potentially be applied to transit investments. The City of Lebanon would be eligible for the Community Grant Program.

LBCC currently contracts with the Linn Shuttle, the Linn Benton Loop, and the Albany Transit System to provide LBCC students, staff, and faculty free ridership on these services. If the City of Lebanon were to develop a fixed-route service, LBCC may consider developing a similar partnership with the city. Some of the factors that are considered include potential

student/staff/faculty ridership, cost of the annual payment, alignment with class schedules, and connections to other transit services.

**Frequency of Service**

Stakeholders highlighted that riding transit can be time consuming, particularly with the existing frequency of the Linn Shuttle. Increasing the frequency of transit service was identified as an opportunity to attract more riders to public transit.

**Driver Passenger Assistance**

Additional assistance from Lebanon Dial-a-Bus drivers was identified as a need for passengers with disabilities.

# Appendix C Plan & Policy Review

## STATE PLANS AND POLICIES

### Oregon Transportation Plan

The Oregon Transportation Planning Rule (TPR) requires the state develop a statewide TSP, known as the [Oregon Transportation Plan](#) (OTP). The OTP serves as the guiding document for local TSPs and addresses the core challenges and opportunities facing transportation in Oregon. Relevant goals, policies, and strategies from the OTP include:

- **Policy 1.2 Equity, Efficiency and Travel Choices:** Promote a transportation system with multiple travel choices that are easy to use, reliable, cost-effective and accessible to all potential users, including the transportation disadvantaged.
- **Strategy 1.2.1:** Develop and promote inter and intra-city public transportation.
- **Strategy 1.2.2:** Better integrate, locate, and design passenger and freight multimodal transportation facilities and connections to expedite travel and provide travel options. Locate and design transportation facilities to connect with other modes.
- **Policy 2.1 Capacity and Operational Efficiency:** Manage the transportation system to improve its capacity and operational efficiency for the long term benefit of people and goods movement.
- **Strategy 4.3.5:** Reduce transportation barriers to daily activities for those who rely on walking, biking, rideshare, car-sharing and public transportation by providing access to public transportation and the knowledge of how to use it and facility designs that consider the needs of the mobility-challenged including seniors, people with disabilities, children and non-English speaking populations.
- **Policy 7.1 A Coordinated Transportation System:** Collaboratively with other jurisdictions and agencies with the objective of removing barriers so the transportation system can function as one system.

#### *What are the key takeaways for the Lebanon TDP?*

- Ensure the transit system is easy use, reliable, cost-effective, and accessible
- Consider new facilities and connections that support an efficient transportation system and meet the needs of the growing community
- Remove barriers between jurisdictions and agencies so transit functions as a cohesive system

### Oregon Public Transportation Plan

The [Oregon Public Transportation Plan](#) (OPTP) provides a planning and policy framework to guide local decision-making and investments regarding public transportation but does not make service decisions for communities. The OPTP is currently being updated and is expected to be completed in 2018. The draft goals<sup>31</sup> for OPTP include:

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<sup>31</sup> Oregon Public Transportation Plan: DRAFT Opportunities, Challenges, and Trends Memo. Retrieved from [https://www.oregon.gov/ODOT/TD/TP/docs/OPTP/OPTP\\_201608\\_PACMemo.pdf](https://www.oregon.gov/ODOT/TD/TP/docs/OPTP/OPTP_201608_PACMemo.pdf)

- **Goal 1 Transit User Experience:** People of all ages, abilities, and income levels can travel reliably between destinations with relative ease using a seamless, affordable, convenient, well-coordinated public transportation system. People in Oregon routinely use public transportation options to meet their travel needs.
- **Goal 2 System Connections and Links:** The public transportation system is linked and well-connected, with connections between public and private providers, user-friendly links between travel modes, and connections to urban, suburban, rural, regional and interstate destinations.
- **Goal 3 Community, Livability, and Economic Vitality:** Public and private interests collaboratively work to promote community livability and economic vitality, including economic expansion and diversification, through public transportation that efficiently and effectively moves people of all ages to and from homes, jobs, businesses, schools and colleges, and other destinations in urban, suburban, and rural areas.
- **Goal 4 Equity:** Public transportation is an essential tool for enhancing equity and opportunities for all Oregonians. Public transportation options improve lives by providing affordable, safe, and welcoming access to services and opportunities and eliminating barriers that prevent access to homes, jobs, and other destinations.
- **Goal 5 Health:** Public transportation fosters improved health of Oregonians by giving people opportunities to integrate physical activity into everyday life through walking and biking, supporting community vitality by enhancing connections between people, promoting cleaner air, and ensuring access to medical services, healthy groceries, and recreation.
- **Goal 6: Safety and Security:** Public transportation feels safe and is safe for all riders. Public transportation contributes to emergency response and the ability of Oregon communities to cope with natural or human-caused disasters
- **Goal 7 Environmental Sustainability:** Public transportation contributes environmental and health benefits by lessening the need for additional vehicle travel while reducing greenhouse gas emissions by providing efficient and sustainable travel options.
- **Goal 8 Land Use:** Public transportation is a tool that contributes to Oregon’s state and local land use goals and policy. Agencies collaborate to ensure public transportation helps shape Oregon communities and preserves farm and forest land by providing efficient and effective travel options in urban, suburban, and rural areas.
- **Goal 9 Strategic Investment:** Sustainable and reliable funding meets the demand for public transportation service operations and infrastructure. Strategic investments in public transportation support the overall transportation system and the quality of life and economy of Oregon.
- **Goal 10 Communication, Collaboration, and Coordination:** Public and private transportation providers and all levels of government within the state and across state boundaries work collaboratively and foster partnerships that make public transportation seamless regardless of jurisdiction.

*What are the key takeaways for the Lebanon TDP?*

- Transit should be accessible and feel safe for all ages, abilities, and income levels
- Well-balanced transit system that provide health, environmental, and economic benefits
- Make strategic investments with reliable and sustainable funding that complements land use development patterns in the community

## Oregon Transportation Safety Action Plan

The [Oregon Transportation Safety Action Plan](#) (TSAP) provides long-term goals, policies and strategies in an effort to achieve no deaths or life changing injuries on Oregon’s transportation system by 2035. As one of seven plans under the Oregon Transportation Plan (OTP), the TSAP helps facilitate an integrated and interconnected transportation system to meet the diverse and changing needs of Oregonians. The plan identifies four emphasis areas that—similar to the Lebanon TDP—have a near-term focus. These emphasis areas include:

- **Risky Behaviors:** Deter unsafe or risky behaviors made by drivers and other transportation users to minimize impaired driving, unbelted, speeding, and distracted driving crashes.
- **Infrastructure:** Construct or retrofit multimodal transportation assets to minimize intersection and roadway departure crashes.
- **Vulnerable Users:** Protect vulnerable road users—pedestrians, bicyclists, motorcyclists, older drivers—to minimize pedestrian, bicycle, motorcycle, and older road user crashes.
- **Improved Systems:** Continually improve data, train, and educate transportation and safety staff, support law enforcement and emergency responders, and minimize commercial vehicle crashes.

### *What are the key takeaways for the Lebanon TDP?*

- Develop a transit system that prioritizes safety and limits roadway conflicts to support Oregon’s long-term vision of zero deaths or life changing injuries by 2035

## Oregon Transportation Options Plan

Goals, strategies, and policies in the [Oregon Transportation Options Plan](#) promote the efficient use of existing transportation system investments, reduced reliance on the single-occupancy vehicles, and the use of walking, biking, transit, rideshare, and telecommuting. This plan is part of a suite of plans under the Oregon Transportation Plan (OTP), that support an integrated and interconnected transportation system. Support for transportation options in Lebanon is provided by the designated Regional Network Administrator (RNA) Cascades West Rideshare, which is housed within the Cascades West Council of Governments’ Community and Economic Development Department. Strategies that are applicable to the Lebanon TDP include the following:

- **Strategy 2.i:** Facilitate cost sharing between local jurisdictions, healthcare organizations, and higher education institutions for transportation options coordinators and/or maintenance of bicycle, pedestrian, and transit facilities on campuses.
- **Strategy 3.b:** Develop guidance for transportation options programs suitable for all regions and communities of various sizes. For example, all communities with transit or rideshare services should also consider Guaranteed Ride Home programs.
- **Strategy 4.a:** Promote, encourage, and incentivize biking, walking, and taking transit, and carpool/vanpool (rideshare) program participation to help spread demand across modes and to more efficiently utilize existing modal capacity.
- **Strategy 4.k:** Foster the identification and development of mobility hubs through financial, policy, or technological support or coordination, with an initial focus on locations with an existing user base such as park-and-ride lots, transit stops or stations, universities, or institutional campuses.

- **Strategy 7.c:** Pair mixed-use development with expansion of transit, walking, and bicycle networks to facilitate availability of transportation options.
- **Strategy 8.i:** Encourage private and public development of transit and shuttle access or bicycle and pedestrian infrastructure that links to travel destinations.

*What are the key takeaways for the Lebanon TDP?*

- Develop a transit system that supports multimodal connections
- Encourage employers and educational institutions to adopt travel options programs that support transit use (e.g. transit subsidies, Guaranteed Ride Home Programs)

## Oregon Bicycle and Pedestrian Plan

[Oregon's Bicycle and Pedestrian Plan](#) is one of seven plans under the Oregon Transportation Plan (OTP), that facilitate an integrated and interconnected transportation system to meet the diverse and changing needs of system users. Regional and local plans must be consistent with the Oregon Bicycle and Pedestrian Plan policies and strategies. Relevant policies and strategies for the Lebanon TDP include:

- **Policy 2.4:** Improve access to multimodal connections for bicyclists and pedestrians through planning, design, prioritization, and coordination.
- **Strategy 2.4B:** When designing, extending, or improving pedestrian and bicycle networks, coordinate with transit agencies to ensure that existing and planned transit service is considered in facility design and identify opportunities to remove physical barriers in access to transit.
- **Strategy 2.4C:** Build and maintain partnerships with transit agencies to facilitate network connections with travelers walking or biking and to support first and last mile connections to transit.

*What are the key takeaways for the Lebanon TDP?*

- Coordinate with other city departments to ensure transit facility design integrates planned pedestrian and bicycle investments and supports pedestrian and bicycle connections

## COUNTY PLANS AND POLICIES

### Linn County Transportation System Plan

Similar to the Lebanon TSP, the [Linn County Transportation System Plan](#) (TSP) also serves as a long-term guide for transportation investments but at the county level. The Linn County TSP is currently being updated. Initial goals and policies relevant to the Lebanon TDP include:

- **Goal 3:** Provide transit service and amenities that encourage a higher level of ridership.
- **Objective 3a:** Identify locations for designated park-and-ride lots.
- **Objective 3b:** Locate transit stops in locations that are safe and convenient for users.
- **Objective 3c:** Identify areas that support additional transit services, and coordinate with transit providers to improve the coverage, quality and frequency of services

- **Objective 3d:** Identify improvements (e.g., sidewalk and bicycle connections, shelters, benches) that complement transit facilities such as bus stops and that encourage higher usage of transit.
- **Objective 3e:** Coordinate countywide transit services, facilities, and improvements with local jurisdictions.
- **Objective 3f:** Encourage and support carpooling, vanpooling, shared mobility, telecommuting and staggered work shifts as alternatives for reducing congestion.
- **Objective 3g:** Support statewide and regional transit opportunities, including high-speed rail and passenger rail.

*What are the key takeaways for the Lebanon TDP?*

- Expand transit service and amenities to increase ridership

## Linn County Coordinated Plan

The Linn County Coordinated Plan engages public transportation and human health service providers to collaboratively identify and respond to the public transportation needs of special needs populations, specifically older adults, persons with disabilities, low-income persons, veterans, and minority populations. Relevant strategies from the draft Coordinated Plan include:

- **Strategy 1:** Seek funding to sustain existing levels of public transit services within the County as the highest priority, with expansion of service as additional funding becomes available and demand justifies.
- **Strategy 2:** As funding permits and as demand is demonstrated, expand access to and convenience of public transportation through expansion of and/or improvements to existing services.
- **Strategy 3:** Improve freedom of movement and quality of life for transit dependent populations and assure transportation access to jobs, health care, education and other basic services.
- **Strategy 4:** Support and increase the volunteer pool.
- **Strategy 5:** Continue to pursue opportunities for regional collaboration and expansion of the regional public transportation system.
- **Strategy 6:** Expand efforts to inform the public of available public transportation services, including seniors, low income persons and non-English speaking populations.

*What are the key takeaways for the Lebanon TDP?*

- Pursue funding to expand transit service while ensuring that transit dependent populations maintain access to public transportation services
- Support regional collaboration to ensure regional connections are available
- Expand marketing and outreach efforts to inform the community—particularly transit dependent populations—about available transit services

## Linn County Transportation Plan Code

Chapter 907 of the Linn County Comprehensive Plan and Development Code—the [Transportation Plan Code](#)—provides goals, policies, and procedures to address transportation needs during the



20-year planning period, which extends to 2020. According to the following policy statements, Linn County supports:

- A transportation system that:
  - furnishes efficient movement for Linn County residents, businesses and other users;
  - facilitates the flow of goods and services so as to strengthen the local and regional economy;
  - adequately serves the needs of agricultural and forest enterprises;
  - and maintains and supports multimodal transportation opportunities. (907.100, B1)
- Reduced auto reliance through providing a road network that can accommodate public transit, bicycling and walking facilities. (907.100, B2d)
- Cooperation with appropriate agencies, organizations and jurisdictions in locating multimodal transfer points, especially public transit and bicycle facilities. (907.100, B4)
- Identifying the needs of the transportation disadvantaged and attempt to fill those needs through a combination of public and paratransit services. (907.600, B1)
- The expansion and maintenance of the transit and paratransit systems in the County. (907.600, B2)
- Expanded coordination and cooperation between service providers to the transportation disadvantaged. (907.600, B3)
- Endorses continued support of the Linn Shuttle. (907.610, B1)
- Expanded transit service in the County but adequate funding mechanisms need to be developed that will equitably distribute the costs of the system. (907.610, B2)
- A feasibility study on creation of a smart-bus system to serve the public transportation needs of the unincorporated areas of the County. (907.610, B2)

*What are the key takeaways for the Lebanon TDP?*

- Reduce auto reliance with provision of public transit
- Identify and address needs of transportation disadvantaged with provision of public transit
- Identify and secure adequate funding for public transportation
- Develop innovative transit solutions to meet community needs

## CITY PLANS AND POLICIES

### Lebanon Transportation System Plan

The [Lebanon Transportation System Plan](#) (TSP) provides a long-term guide for city transportation investments by incorporating the vision of the community into an equitable and efficient transportation system. The TSP is currently in the process of being updated and will balance the needs of walking, bicycling, driving, transit and freight into an equitable and efficient transportation system. Relevant goals and objectives from the TSP include:

- **Goal 1:** An equitable, balanced and well-connected multi-modal transportation system.
- **Objective 1a:** Ensure that the transportation system provides equitable access to underserved and vulnerable populations, and is friendly and accommodating to travelers of all ages.
- **Goal 2:** Convenient facilities for pedestrians and bicyclists.

- **Objective 2c:** Enhance way finding signage for those walking and biking, directing them to bus stops, and key routes and destinations.
- **Goal 3:** Transit service and amenities that encourage a higher level of ridership.
- **Objective 3a:** Locate transit stops where safe and convenient for users.
- **Objective 3b:** Encourage additional transit services and coordinate with transit providers to improve the coverage, quality and frequency of services, where needed.
- **Objective 3c:** Provide for transit user needs beyond basic provision of service (e.g., by providing sidewalk and bicycle connections, shelters, benches) to encourage higher levels of use.
- **Objective 3d:** Identify locations for designated Park-and-Ride lots.
- **Goal 6:** A sustainable transportation system.
- **Objective 6f:** Improve travel reliability and safety with system management solutions.
- **Goal 8:** Coordinate with local and state agencies and transportation plans.
- **Objective 8a:** Work with the Cascades West Area Commission on Transportation and the South Valley / Mid Coast Regional Solutions Center to promote projects that improve regional linkages.

*What are the key takeaways for the Lebanon TDP?*

- An equitable and connected transit system that is accessible for all users
- Additional service and amenities to encourage ridership

## Lebanon 2040 Vision and Community Strategic Action Plan

The [2040 Lebanon Vision and Community Strategic Action Plan](#) describes the long-term vision for the Lebanon in 2040. The overall vision of the plan describes Lebanon as a friendly and thriving community and is supported by seven focus areas. The focus areas relevant to the Lebanon TDP include:

- **Downtown as the Heart of the Community:** Downtown is recognized as the center of Lebanon where people gather to celebrate and connect.
- **Healthy Lifestyles:** Healthy choices and recreation opportunities in Lebanon enable healthy and active citizens.
- **Managed Growth:** Lebanon welcomes growth that reinforces its plans for the future.
- **Infrastructure:** Lebanon sustains an infrastructure system (transportation, telecommunications, power, water and sewer) that supports future growth plans.

*What are the key takeaways for the Lebanon TDP?*

- Provide transit service to major destinations, such as downtown
- Ensure transit service accommodates future growth

## Lebanon Capital Improvement Plan

The [Capital Improvement Plan](#) (CIP) is a five-year plan identifying capital improvement expenditures throughout the community for transportation, parks, wastewater, drainage, and water infrastructure improvements. CIP projects are prioritized based on current needs and the

expected city growth. Funds for transit service highlighted in this plan include federal grant funds provided through the Surface Transportation Program (STP). The City annually allocates STP funds to a transportation project identified in the CIP.

*What are the key takeaways for the Lebanon TDP?*

- Recommendations from the TDP that are agreed upon for implementation and are eligible for STP funds should be documented in this plan

## Lebanon Trails Strategic Plan

The [Lebanon Trails Strategic Plan](#) provides a conceptual framework for the development of an interconnected, multi-use, trail system. The trail system proposed in this plan has opportunity to increase transportation choices, connecting residential areas with major destinations and motorized and transit routes.

*What are the key takeaways for the Lebanon TDP?*

- Service alternatives should consider trails as a potential connection to nearby transit service

## Lebanon Development Code

Title 16 of the Lebanon Municipal Code contains the City's Development Code (LDC), which implements the Transportation System Plan through development requirements.

[Chapter 16.12](#), Transportation Access, Access Management and Circulation, does not specifically call out design standards for transit service but does include bicycle and pedestrian access requirements, which may impact transit service design.

[Chapter 16.13](#), Transportation Improvements and Design Standards for Streets, Alleys and Pathways, lists changes in the frequency and intensity of transit, rail, and airport services as an outright permitted use, unless otherwise specifically regulated by the code.

*What are the key takeaways for the Lebanon TDP?*

- Consider bicycle and pedestrian design regulations that might impact transit service design
- Increased frequency of transit service could be an outcome of the TDP

## Lebanon Parks Master Plan

The [Lebanon Parks Master Plan](#) provides a long-term vision and plan of action for the city's park system. According to the plan, transit design elements common to all parks include:

- Non-motorized transit access: bike racks, pedestrian and trail access, and public transit access
- Benches, especially near transit access/play/activity areas and spaced evenly along paths.

*What are the key takeaways for the Lebanon TDP?*

- Service alternatives should consider access to parks throughout the community

## Lebanon Comprehensive Plan

The [Lebanon Comprehensive Plan](#) promotes the public health, safety, and general welfare of community residents in the context of land use planning. [Chapter 8](#) of the Lebanon Comprehensive Plan, Transportation, provides the policy framework for the development and maintenance of the City's streets, transit, bicycle and pedestrian ways, utility transmission corridors, railroads, and air transportation facilities.

As identified in the plan, future potential transit improvements could include an intercity transit system and expanded use of paratransit for special needs services. Suggested improvements to transit service include:

- Commuter services to surrounding communities including Albany, Corvallis and Salem (consider improvements as commuting patterns warrant)
- Increased need for transit services to the mobility challenged including the elderly and physically impaired as the population ages
- Enhanced public transportation services including the identification of future locations for park-and-ride lots, multimodal centers, and transit supporting facilities such as sidewalks, shelters and other amenities

Relevant transit policies identified in chapter 8 of the plan include:

- **P-29:** The City shall promote connectivity and efficient multi-modal access within and between developments and neighborhoods.
- **P-63:** The City shall work with the Lebanon School District when evaluating new subdivision and multi-family development proposals to identify the optimal location and design of transit facilities to serve student busing.
- **P-64:** Park-and-ride lots on the periphery of the City shall be investigated by the City as an alternative solution to parking and congestion problems.
- **P-65:** The City shall continue to support any available inter-city or intra-city bus service as necessary and needed transportation alternatives, especially for elderly and handicapped citizens.

### *What are the key takeaways for the Lebanon TDP?*

- Consider transit improvements that support regional connections, enhance access for vulnerable populations, and support multimodal connections
- Ensure that transit service accommodates new development

## NEIGHBORHOOD PLANS AND POLICIES

### Russell Drive Area Mixed Use Neighborhood Center Plan

The [Russell Drive Area Mixed Use Neighborhood Center Plan](#) provides recommendations for the future development and redevelopment of the Russell Drive area—approximately 52 acres located south of downtown Lebanon, west of the Burlington Northern railroad tracks and east of the Santiam Highway 20. Transit related objectives highlighted in this plan include:

- Coordinate effectively with the ongoing City Transportation System Plan process.
- Create a local street network that reduces local traffic reliance on Highway 20.

- Evaluate opportunities for future multi-modal transportation facilities, such as a passenger rail transit station in the area (complementing the Downtown Depot facility) that could also serve as a hub for other transit services (e.g., buses).

## Cheadle Lake Urban Renewal Area Plan

The [Cheadle Lake Urban Renewal Plan](#) was prepared to encourage rehabilitation and redevelopment in the area east of Santiam Highway 20, south of the Lebanon-Santiam Canal, and west of the Burlington Northern railroad tracks, a total of 230 acres. Goals related to transit include:

- Improve access/egress to the commercial and residential areas south of Airport Road
- Reduce traffic congestion on Highway 20 by developing a new frontage road east of the highway

## North Gateway Urban Renewal Area Plan

The [North Gateway Urban Renewal Plan](#) contains goals, objectives and projects for the development of the North Gateway Urban Renewal Area—approximately 144 acres of land located west of the North Santiam Highway 20 from Gore Drive south to Academy Street. The ongoing partnership between Samaritan Health Services and the Western University of Health Sciences is the primary driver in the adoption of this plan. Relevant goals related to transit include:

- **Goal 3 Traffic and Transportation:** Implement transportation improvements that will increase access to the Area and mitigate traffic impacts.

## Northwest Lebanon Urban Renewal Area Plan

The [Northwest Lebanon Urban Renewal Area Plan](#) encourages strategic development and improvements in the area to spur local job creation and enhance the community. The plan highlights infrastructural improvements, including transportation systems, as key elements to successful implementation. Objectives related to transit include:

- Encourage the development of commercial, office, and residential use by providing needed infrastructure and transportation improvements.

### *What are the key takeaways from the neighborhood plans and policies for the Lebanon TDP?*

- TDP service alternatives should consider potential impacts to these areas of Lebanon
- Consider use of multimodal/transit hubs in planning areas

## Appendix D Potential New Funding Sources

Various federal, state, and local sources are available to support public transit service. While federal (and some state) formula-based funding is more prescriptive based on service area population and/or level of service, a combination of local sources (e.g. taxes, assessments, and charges) can serve as a strong funding source for public transit.

Lebanon has additional financial support from the ODOT Discretionary grant of \$165,100 to support the trial conversion of Lebanon's existing demand responsive transit service to include a deviated fixed-route service, however, this source is not guaranteed to continue. Lebanon is likely to need additional sources of funding to maintain the short-term service scenario and provide further service enhancements in the long-term.

### ADDITIONAL SOURCES OF OPERATING FUNDING

The local matches for operating assistance and toward capital investments can come from a variety of sources, such as city general funds, bus fares, or local taxes. Potential local sources to fund the transit operation include the following.

#### Partnerships

Local organizations, such as large employers of public institutions, may have a large number of constituents that use the local transit service and therefore want to receive a discounted fare. These organizations can establish a contract with the local transit provider to receive a discounted fare for their constituents in exchange for revenue to the transit agency. Some organizations in Lebanon—such as Linn Benton Community College (LBCC) and Comp Western University's College of Osteopathic Medicine of the Pacific, Northwest (COMP Northwest), or Lowe's Distribution Center—may be interested in this partnership should a fixed-route service be implemented.

The Walmart Foundation—provides grants to non-profit organizations—could also be a potential funding partner for Lebanon Dial-a-Bus. The City of Lebanon would be eligible for the [Community Grant Program](#).

#### Payroll Tax

A payroll tax is a tax imposed directly on employers and cannot be collected from employees. The tax is figured only on the amount of gross payroll for services performed within the transit provider's service area. This includes traveling sales representatives and employees working from home. This tax applies to covered employees and self-employed workers. Some government employers are exempt from payroll taxes requiring the transit agency to seek in-lieu of tax contributions from the exempt employers. Examples of the use of payroll tax to fund transit in Oregon include:

- TriMet: 0.74%
- LTD: 0.72%
- Wilsonville's SMART: 0.5%

- Canby Area Transit's and Sandy Transit: 0.6%

## **Dedicated Property Tax**

Property taxes generate revenues based on property value assessments. General fund monies used for transit operations often come from local property taxes, but property tax levies are also potential sources for dedicated transit revenues. An independent transportation district with taxing authority and a policy board focused on providing transit is likely required to administer a dedicated levy for transit operations.

## **Transportation Fees**

Rather than using city general funds or property tax revenue, some cities have successfully established a transportation utility fee, City of Corvallis has used a fee to replace the city's general fund as the primary source of local transit funding. Previously, Corvallis' primary source of local transit funds was property tax revenue through the City's general fund. In February 2011, the city established a local funding source from the City's Transit Operations Fee (TOF), which now represents the city's second largest source of transit funding. The TOF is charged monthly to utility customers to generate revenue for Corvallis Transit System (CTS) operations and no other purpose. The establishment of an alternative source of dedicated transit funding through the TOF freed up the property tax funding allocated to transit for other city services such as police, fire, library, parks and recreation, and community planning. The TOF provided a stable source of local funding to be used as match for state and federal funds and allowed Corvallis to eliminate fares on all CTS routes.

## **Advertising**

Transit systems can raise revenues by selling advertising to businesses and non-profit organizations. Opportunities for advertising include ads inside the bus, ads on the outside of buses, and ads in stations or at stops. Successful advertising campaigns are usually facilitated by a third-party advertising vendor. Advertising typically generates a small portion of total revenue but can be used for operations, administration, and/or capital expenses. Rather than an exchange of funds, corporations could also sponsor components of the service in return for brand visibility. Transit agencies should be cautious of potential issues such as controlling the advertising content and interference with the agency's overall branding.

## **Sponsorships or Naming Rights**

Similar to advertising, sponsors can be solicited to provide funding in return for naming rights of transit properties. Historically, the selling of naming rights to people or organizations that make a donation for a capital improvement was most common for large organizations, such as universities or hospitals. Selling naming rights has become more common among smaller organizations and some transit agencies sell naming rights to vehicles, stations, or transit corridors.



## ADDITIONAL SOURCES OF CAPITAL FUNDING

### Debt Financing

Debt financing is an option for major construction projects (e.g. multimodal centers, rail projects). This option can be used to mitigate the immediate impacts of significant capital improvement projects and spread costs over the useful life of a project. Though interest costs are incurred, the use of debt financing can serve not only as a practical means of funding major improvements, but is also viewed as an equitable funding strategy, spreading the burden of repayment over existing and future customers who will benefit from the projects. The obvious caution in relying on debt service is that a funding source must still be identified to fulfill annual repayment obligations.

The Oregon Transportation Infrastructure Bank (OTIB) is a potential source for cities to borrow funds for transportation improvement projects. The OTIB is a statewide revolving loan fund. Projects eligible to receive funding include roadway improvements, bicycle and pedestrian access, and transit capital projects. As of 2017 the OTIB had a funds set aside specifically for transit capital projects with low interest rates to encourage participation. Potential projects are rated by OTIB staff along with a regional advisory committee and require approval from the Oregon Transportation Commission<sup>32</sup>.

### Public-Private Partnerships and Joint Development

A public-private partnership is a mutually beneficial agreement between both entities that seeks to increase revenues or improve the value of an asset. Public-private partnerships include private entities that rent space for concessions, shared right-of-way with organizations such as a utility, shared fueling facilities for alternative fuel vehicles, and other opportunities. Transit funding from public-private partnerships are most likely to be for capital projects such as a mixed-use development that constructed a transit station or center.

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<sup>32</sup> Oregon Transportation Infrastructure Bank, <http://www.oregon.gov/ODOT/cs/fs/Pages/otib.aspx>

## Appendix E Transit Solutions

The solutions identified in the short-term scenario include three potential alternatives for a deviated fixed-route service that are constrained by financial and capital investments. The following alternatives are not the final design of the deviated fixed-route for Lebanon—they are proposed alternatives. Lebanon may select one of the following alternatives as the preferred alternative or may choose to incorporate elements from multiple alternatives to create the preferred alternative. Routes and time points of each alternative may also be altered to create the preferred alternative. This following describes the tradeoffs of each alternative to inform the selection of the preferred alternative.

**Figure 91 Summary of Short-Term Scenario Alternatives**

<b>Alternative 1</b>	<p><b>Primary Corridor(s):</b> 5<sup>th</sup> Street</p> <p><b>Provides access to:</b> Western University’s College of Osteopathic Medicine of the Pacific, Northwest (COMP Northwest), Veteran’s Home, Linn Shuttle Stops, Lebanon High School Senior Center, Walmart, Safeway, Megafoods, Lebanon Community Hospital, and Linn Benton Community College (LBCC)</p>
<b>Alternative 2</b>	<p><b>Primary Corridor(s):</b> Main Street</p> <p><b>Provides access to:</b> COMP Northwest, Veteran’s Home, Linn Shuttle Stops, Walmart, Safeway, Megafoods, Lebanon Community Hospital, and LBCC</p>
<b>Alternative 3</b>	<p><b>Primary Corridor(s):</b> 5<sup>th</sup> Street and Main Street</p> <p><b>Provides access to:</b> COMP Northwest, Veteran’s Home, Linn Shuttle Stops, Lebanon High School Senior Center, Safeway, Megafoods, Lebanon Community Hospital, and LBCC</p>

## Alternative 1

Alternative 1 connects Cascade Ridge Apartments with Walmart. The southbound and northbound routes are illustrated in Figure 94. The southbound route runs south from Cascade Ridge Apartments along 5<sup>th</sup> Street to Airport Road where the route turns east, then south onto Santiam Highway before arriving at Walmart. The northbound route runs north from Walmart, turns west on Airport Road, then north on 5<sup>th</sup> Street. At the intersection of 5<sup>th</sup> Street and Tangent Street, the route turns west before heading north on Main Street and concluding at Cascade Ridge Apartments. Time points along these routes include Cascade Ridge Apartments, 5<sup>th</sup> and Oak, Main and Airport, and Walmart. Riders on this route could directly transfer to the Linn Shuttle at Walmart, or by walking the short distance between the two services at the remaining Linn Shuttle stops (i.e. Linn Benton Community College, Park & Oak, Lebanon Medical College).

Based on the operational assumptions described in Figure 92, this alternative could make approximately five deviations per segment (between consecutive time points) within a quarter-mile buffer and approximately two deviations per segment within a half-mile buffer. Running along 5<sup>th</sup> Street, this alternative has potential to capture approximately 250 existing Dial-a-Bus trips within the quarter-mile buffer, reducing the need for a half-mile deviation area.

**Figure 92 Alternative 1 Route Assumptions**

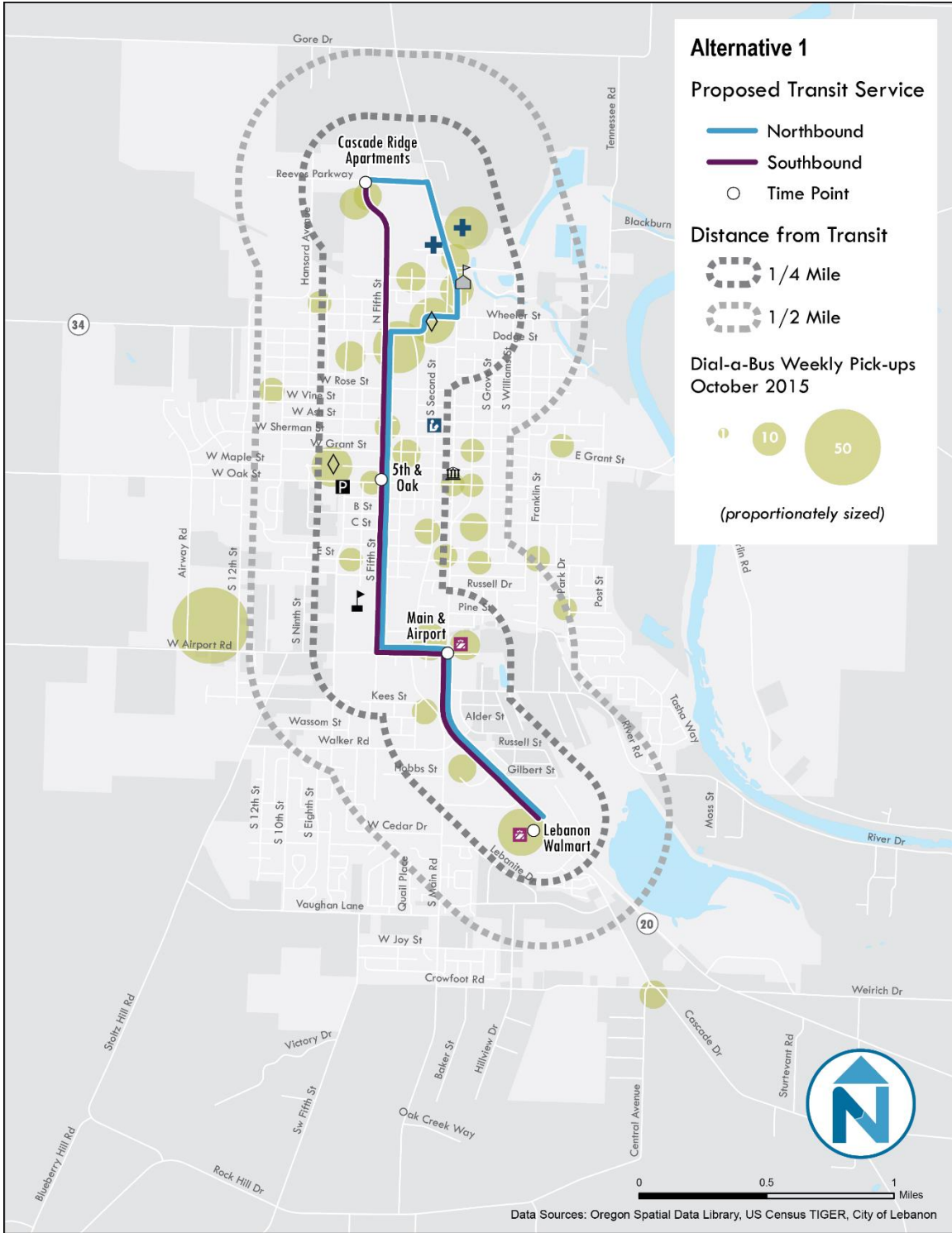
Frequency (minutes)	Run Time (minutes)	Vehicle Requirements	Days of Service	Hours of Service	# Stops
60	25.5	1	M-F	8 a.m. – 5 p.m.	8 (4 SB, 4 NB)

**Figure 93 Alternative 1 Deviation Options**

Deviation Distance	Deviation Time (minutes)	# of Deviations	Residents Served	Jobs Served
¼ mile	Per segment: 5.5	Per segment: 5	1,700	1,170
	Total: 33	Total:30		
½ mile	Per segment: 5 to 6	Per segment: 2 to 3	5,890	3,840
	Total: 33	Total: 15		

Note: Total deviation time available for Alternative 1 is 35 minutes. Population and jobs served are within a quarter-mile/half-mile of time points.

Figure 94 Short-Term Scenario: Alternative 1



## Alternative 2

Similar to Alternative 1, Alternative 2 also connects Cascade Ridge Apartments with Walmart. However, this alternative primarily runs along Main Street rather than 5<sup>th</sup> Street—better serving the main commercial corridor. However, Main Street is east of many current Dial-a-Bus pick-up locations. The southbound and northbound routes of Alternative 2 are illustrated in Figure 97. The southbound route runs south from Cascade Ridge Apartments along 5<sup>th</sup> Street to Mary Street where the route turns east, towards Main Street. The route continues south along Main Street and continues onto Santiam Highway before arriving at Walmart. The northbound route runs north from Walmart along Santiam Highway and continues onto Main Street until reaching Elmore Street where the route diverts onto Park Street before returning to Main Street and concluding at Cascade Ridge Apartments. Time points along the southbound route include Cascade Ridge Apartments, Main and Oak, Main and Airport, and Walmart. Time points along the northbound route include Walmart, Main and Airport, Park and Oak, and Cascade Ridge Apartments. Riders on this route could directly transfer to the Linn Shuttle at multiple points along the route (i.e. Walmart and Park and Oak).

Based on the operational assumptions described in Figure 44, this alternative could make approximately six deviations per segment (between consecutive time points) within a quarter-mile buffer and approximately three deviations per segment within a half-mile buffer. This alternative has potential to capture approximately 240 existing Dial-a-Bus trips within the half-mile buffer. Unlike Alternative 1, Alternative 2 fails to capture some of the current riders west of 5<sup>th</sup> Street within the quarter-mile buffer.

**Figure 95 Alternative 2 Route Assumptions**

Frequency (minutes)	Run Time (minutes)	Vehicle Requirements	Days of Service	Hours of Service	# Stops
60	24	1	M–F	8 a.m. – 5 p.m.	8 (4 SB, 4 NB)

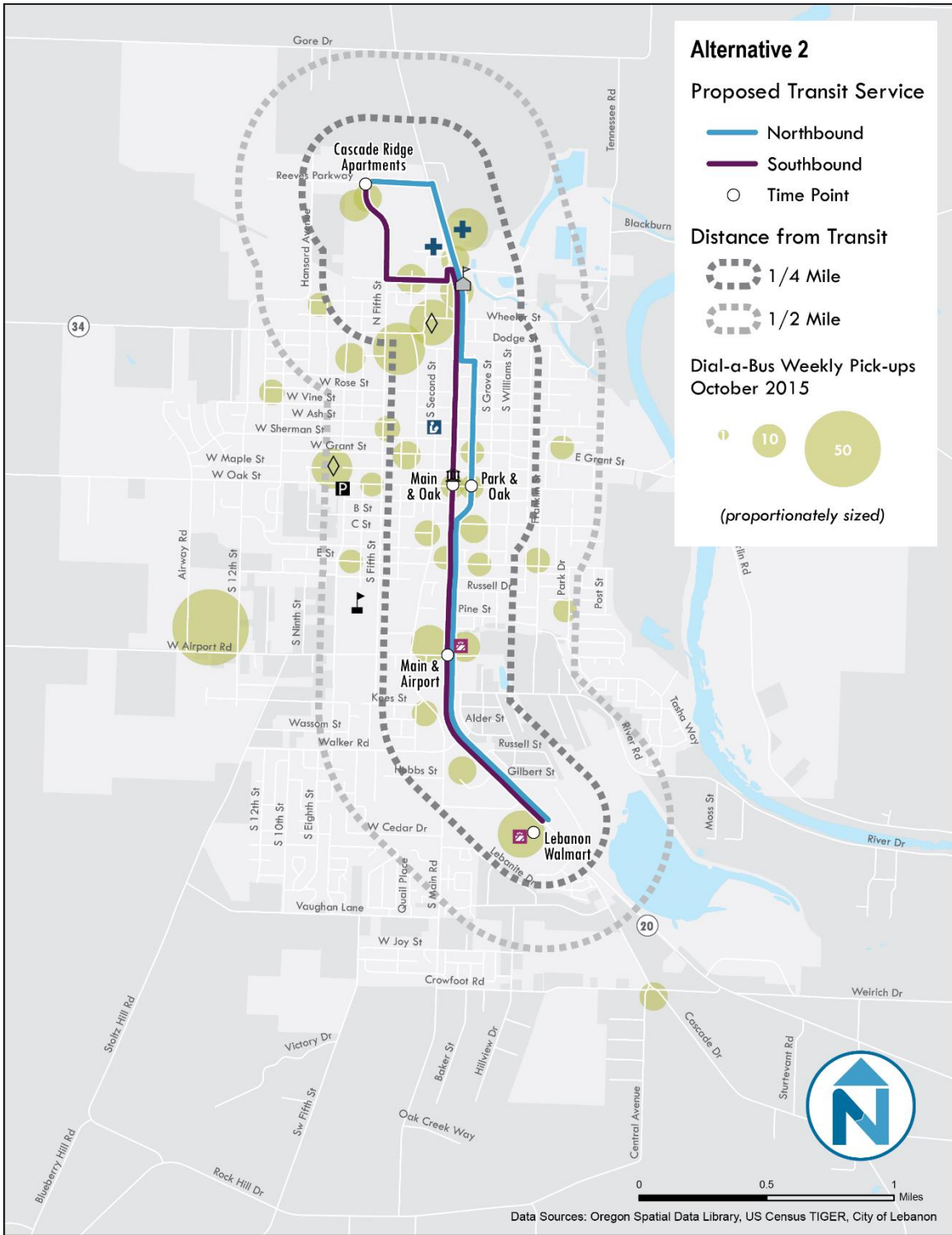
**Figure 96 Alternative 2 Deviation Options**

Deviation Distance	Deviation Time (minutes)	# of Deviations	Residents Served	Jobs Served
¼ mile	Per segment: 6	Per segment: 6	1,790	1,430
	Total: 36	Total: 36		
½ mile	Per segment: 6	Per segment: 3	6,010	3,760
	Total: 36	Total: 18		

Note: Total deviation time available for Alternative 2 is 36 minutes. Population and jobs served are within a quarter-mile/half-mile of time points.

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Figure 97 Short-Term Scenario: Alternative 2



### Alternative 3

Alternative 3 is a shorter route than Alternatives 1 and 2, looping around the central core of the city. The alternative highlights a tradeoff between the convenience and coverage of the fixed-route component versus the capacity to make deviations. The southbound and northbound routes of Alternative 3 are illustrated in Figure 100. The southbound route runs south from Lebanon Medical College—known as COMP Northwest—along 2<sup>nd</sup> Street to Mary Street where the route turns west, towards 5<sup>th</sup> Street. The route continues south along 5<sup>th</sup> Street to Airport Road then turn east toward Main Street. The northbound route runs north from the intersection of Airport Road and Main Street until reaching Elmore Street where the route diverts onto Park Street before returning to Main Street and concluding at Lebanon Medical College. Time points along this route include Lebanon Medical College, 5<sup>th</sup> and Oak, Main and Airport, and Park and Oak. Riders on this route could directly transfer to the Linn Shuttle, which also stops at Park and Oak.

Based on the operational assumptions described in Figure 98, this alternative could make approximately 10 deviations per segment (between consecutive time points) within a quarter-mile buffer and approximately five deviations per segment within a half-mile buffer. In the quarter-mile deviation area, this alternative has potential to capture approximately 230 of current Dial-a-Bus trips within the quarter-mile buffer. Unlike Alternative 1 and Alternative 2, some popular points of origin in north and south Lebanon are not covered within the quarter-mile (e.g. Cascade Ridge Apartments) or the half-mile (e.g. Walmart) deviation areas.

**Figure 98 Alternative 3 Route Assumptions**

Frequency (minutes)	Run Time (minutes)	Vehicle Requirements	Days of Service	Hours of Service	# Stops
60	16	1	M–F	8 a.m. – 5 p.m.	6 (3 SB, 3 NB)

**Figure 99 Alternative 3 Deviation Options**

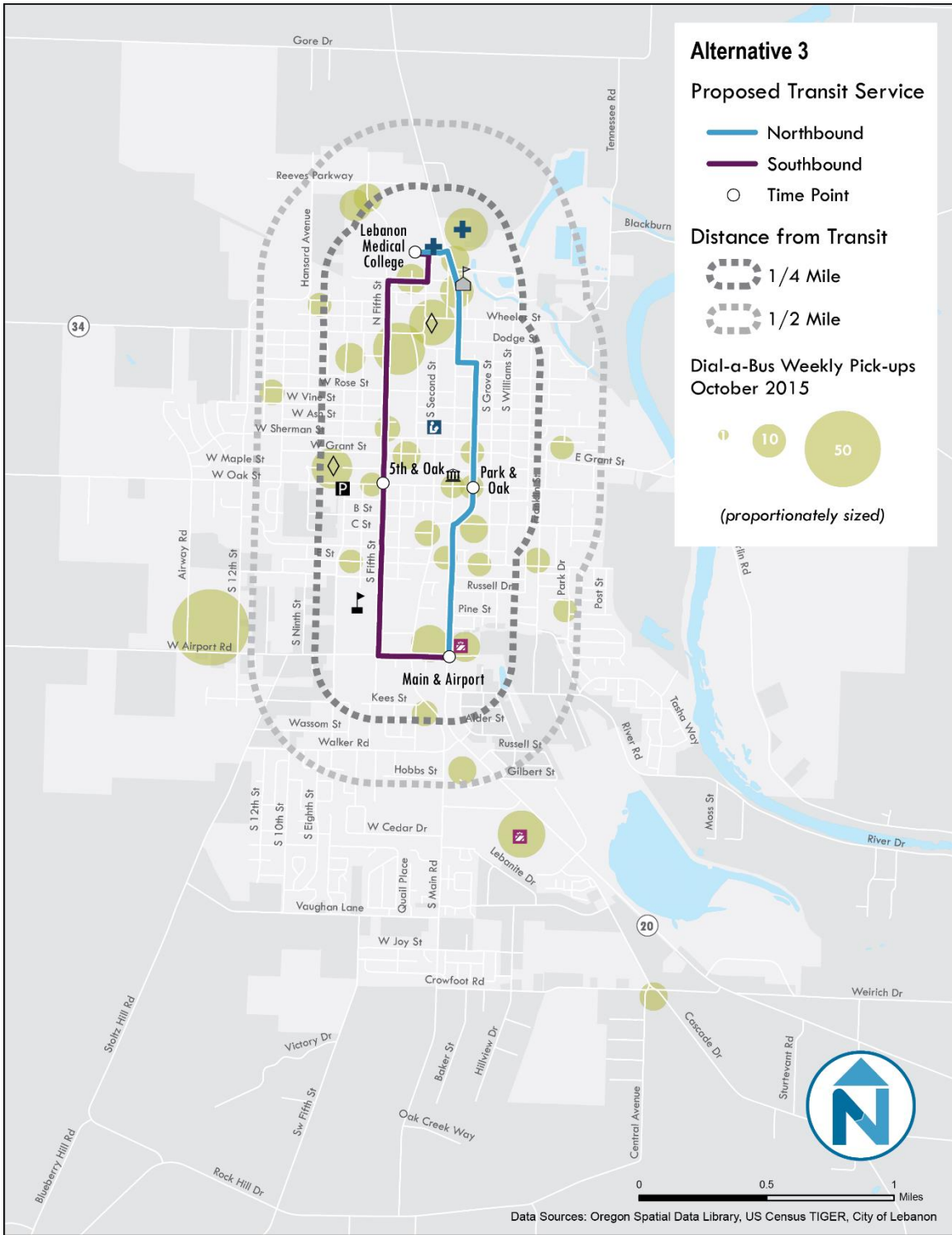
Deviation Distance	Deviation Time (minutes)	# of Deviations	Residents Served	Jobs Served
¼ mile	Per segment: 10	Per segment: 10	1,850	1,800
	Total: 40	Total: 40		
½ mile	Per segment: 10	Per segment: 5	5,360	3,710
	Total: 40	Total: 20		

Note: Total deviation time available for Alternative 3 is 44 minutes. Population and jobs served are within a quarter-mile/half-mile of time points.



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Figure 100 Short-Term Scenario: Alternative 3





## SCENARIO EVALUATION

Figure 101 provides a summary of the factors for consideration in selecting a preferred alternative. This summary compares the:

- Number of stops;
- Primary corridors the route serves;
- Deviation distance;
- Deviation time;
- Number of deviations;
- Residents served;
- Jobs served;
- Estimated Dial-a-Bus trips covered;
- Number of direct connections to regional transit service (i.e. Linn Shuttle); and
- Popular points of origin.

Popular points of origin considered for this comparison include Brookdale Senior Living, LBCC, Mega Foods, The Oaks Retirement and Assisted Living, Safeway, Samaritan Hospital, the Senior Center, Oregon Veterans' Home and Walmart.

Although the Willamette Valley Rehabilitation Center is the most popular pick-up location for the Lebanon Dial-a-Bus, it is too far off of a primary corridor to be served with the deviated fixed-route. The use of subscription trips on Dial-a-Bus will continue to efficiently serve the location as long as it remains a popular location.

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**Figure 101 Summary of Short-term Scenarios**

Route	# of Stops	Primary Corridor(s)	Deviation Distance	Total Deviation Time (minutes)	Total # of Deviations	Residents Served	Jobs Served	Estimated DAB Trips covered	# of Direct Connections to Regional Transit Service	Popular Points of Origin Served by this Route
ALT 1	8 (4 SB, 4 NB)	5 <sup>th</sup> Street, Santiam Highway	¼ mile	33	30	1,700	1,170	250	1 – Walmart	<ul style="list-style-type: none"> <li>▪ Brookdale</li> <li>▪ LBCC</li> <li>▪ Mega Foods</li> <li>▪ The Oaks</li> <li>▪ Safeway</li> <li>▪ Samaritan Hospital</li> <li>▪ Senior Center</li> <li>▪ Veteran’s Home</li> <li>▪ Walmart</li> </ul>
			½ mile		12	5,890	3,840	300		
ALT 2	8 (4 SB, 4 NB)	Main Street, Santiam Highway	¼ mile	36	36	1,790	1,430	240	2 – Walmart, Park and Oak	<ul style="list-style-type: none"> <li>▪ Brookdale</li> <li>▪ LBCC</li> <li>▪ Mega Foods</li> <li>▪ The Oaks*</li> <li>▪ Safeway</li> <li>▪ Samaritan Hospital</li> <li>▪ Senior Center</li> <li>▪ Veteran’s Home</li> <li>▪ Walmart</li> </ul>
			½ mile		18	6,010	3,760	310		
ALT 3	6 (3 SB, 3 NB)	5 <sup>th</sup> Street and Main Street	¼ mile	40	40	1,850	1,800	230	1 – Park and Oak	<ul style="list-style-type: none"> <li>▪ Brookdale</li> <li>▪ LBCC</li> <li>▪ Mega Foods</li> <li>▪ The Oaks</li> <li>▪ Safeway</li> <li>▪ Samaritan Hospital</li> <li>▪ Senior Center</li> <li>▪ Veteran’s Home*</li> </ul>
			½ mile		20	5,360	3,710	310		

Note: Total deviation time available for Alternative 1 is 35 minutes. Total deviation time available for Alternative 2 is 36 minutes. Total deviation time available for Alternative 3 is 44 minutes. Population and jobs served are within a quarter-mile/half-mile of time points. An asterisk (\*) indicates a point of origin that is only accessible within the half deviation area.