



Albany Transit Development Plan

Approved May 2018

Executive Summary	4
1 Introduction.....	9
2 Service Area Profile.....	11
Planning Framework.....	11
Albany Area MPO	11
Transit Services in the Albany Area	12
Concurrent Planning Processes.....	12
Demographic Analysis.....	13
Population and Employment.....	13
Transit-Dependent Populations.....	15
Travel Patterns	17
Mode Split.....	17
Future Growth.....	18
Population and Employment.....	18
Regional Travel Patterns.....	21
Albany Area Travel Patterns.....	21
3 Transit Services Today	23

Service Inventory	23
Local Fixed-Route Transit Services.....	23
Local Paratransit Services.....	26
Regional Transit Services	26
Long-Haul Regional Services.....	31
Ridership.....	32
Funding.....	34
Capital.....	36
Fleet.....	36
Facilities.....	37
Inventory of Stops and Shelters	39
Technology	39
Fares.....	40
4 Community Outreach.....	42
Transit Surveys	42
On-Board Passenger Survey	42
Community Survey	44
Community Input.....	45
5 Operations Analysis.....	48
System Assessment and Historical Trends	48
Albany Transit System.....	48
Linn-Benton Loop.....	53
Albany Call-A-Ride	56
Linn Shuttle.....	58
Peer Review	60
Peer Fares.....	62
6 Needs Assessment.....	63
Key Findings.....	63
Future Needs	64
7 Goals, Performance Measures, and Standards.....	66
Performance Measures and Standards	67
Reporting Improvements	70

8 Future Transit System	71
Albany Transit System.....	71
Overview of Recommended Scenarios.....	71
System Impacts	82
Regional Services.....	85
1. Bi-directional Loop service all day between Albany Station and Corvallis.....	85
2. Facilitate transfers to regional service at Albany Station	88
3. Improve coordination of services along Pacific Boulevard, Heritage Plaza	89
4. Shared marketing and information.....	90
5. Coordinate fare policy and fare payment systems; Consider regional farecard	90
Capital and Assets Plan.....	91
Vehicles.....	91
Bus Stops and Amenities	92
ATS Local Financial Plan.....	96
9 Transit Policies and Programs	99
Public Information and Marketing.....	99
System Branding.....	99
System and Route Maps.....	100
Technology	101
Traveler information system hardware	102
Automatic passenger counter	103
Customer Information.....	103
Fares	103
10 Implementation Schedule.....	105

Executive Summary

The Albany area is growing due in part to good access to job centers in the Willamette Valley, an affordable housing market, and growing educational institutions. Albany acts as a regional hub; Albany Station is one of the busiest transit stations in Oregon. Yet the local fixed-route system is small for a city of Albany’s size, with just two buses running at a given time. Albany’s population as of 2016 is 53,000. With a more than 30% increase in residents and employees expected by the year 2040, a convenient and connected regional and local public transportation system will help transport future residents and employees using sustainable means.

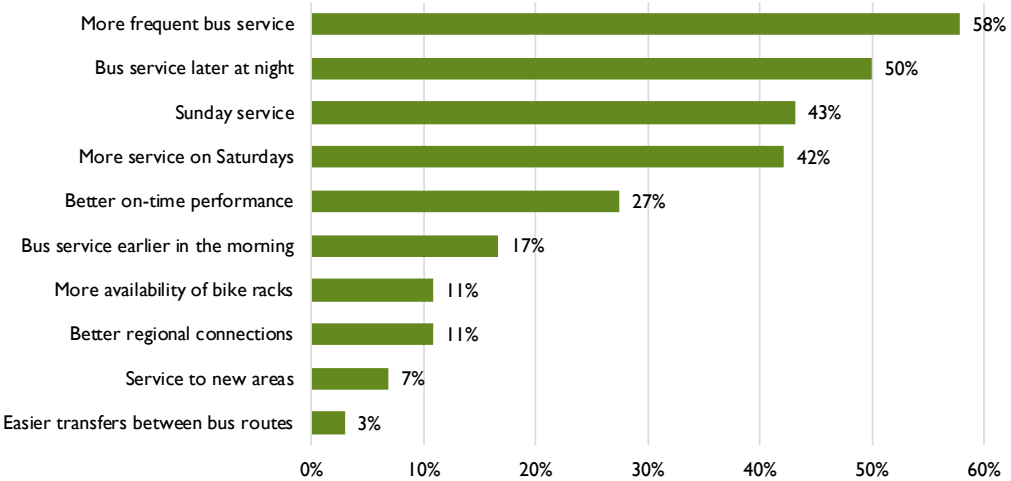


The Transit Development Plan is a guide for regional investment in public transportation. The Transit Development Plan focuses on public transportation services operated by the City of Albany: **Albany Transit System, Albany Call-A-Ride, and the Linn-Benton Loop.**

The strategies presented in this transit plan provide incremental improvements to make the local bus services faster; easier for riders and prospective riders to understand; and more convenient.

Outreach to community organizations, transit riders, and drivers revealed improvements needed to encourage people to take transit. This includes more frequent service, service at later times in the evenings, weekend service, and better on-time performance.

Requested service improvements, Fall 2014



Source: Fall 2014 On-Board Survey

Other key findings include:

- **Ridership is increasing on regional services, but not on ATS.** Local ridership has plateaued, while service on the Loop and Linn Shuttle continues increasing, showing the need for enhanced regional public transportation.
- **Fixed-route service in Albany struggles with on-time performance and serving riders all day.** In general, buses are running behind schedule. Service breaks in the morning disrupt travel patterns.
- **Fixed-route service in Albany is minimal.** For a community of its size, fixed-route service is small, with just two buses running during the weekday and no service on weekends.
- **Regional connections are important to the region.** The Linn-Benton Loop carries more passengers each day than all of Albany's local routes, combined. Additionally, there are many people who live in Albany but commute to work or school in Corvallis, and students who take classes in both cities.
- **Small communities in the region are looking for transit service.** Local fixed-route bus service is limited only to the City of Albany, with no services in Millersburg, Jefferson or Tangent. Service for older adults and people with disabilities is available in Albany and Millersburg through Albany Call-A-Ride.
- **Investments in technology are necessary but currently unfunded.** Today's transit customers expect easy access to information in online and mobile platforms. To properly monitor and evaluate service, technology systems are needed on ATS vehicles.

The Transit Development Plan offers three service scenarios to guide Albany area’s short- to long-range public transportation strategies. Each scenario offers incremental changes to keep pace with the City of Albany’s growing role as a hub for the mid-Willamette Valley.

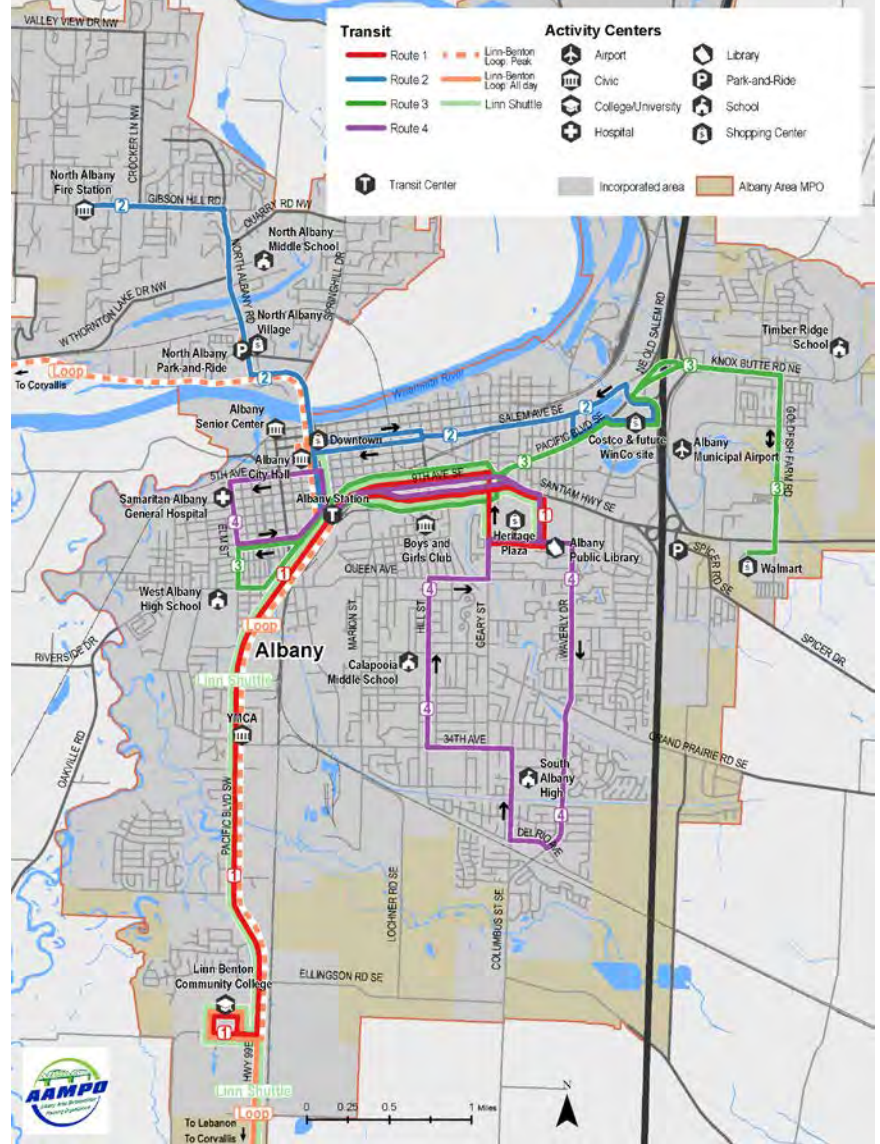
FUTURE TRANSIT SCENARIO HIGHLIGHTS

Short term	Medium Term	Long Term
<ul style="list-style-type: none"> ▪ Make system simple to understand and navigate with four routes running all-day ▪ Improve reliability while retaining coverage. Extend frequencies to every 90 minutes ▪ Update system maps, branding and marketing ▪ Improve connections with regional transit services at Albany Station and Linn-Benton Community College ▪ Add evening weekday service 	<ul style="list-style-type: none"> ▪ Improve frequencies with a 6-route system with buses every 60 minutes ▪ Install automatic vehicle locators and other on-board equipment to improve efficiency and customer information ▪ Develop a shared regional website for public transportation 	<ul style="list-style-type: none"> ▪ Increase service to 30-minute frequency on some routes ▪ Expand CAR service to Jefferson and Tangent ▪ Build a new maintenance facility accommodate a larger system ▪ Explore coordinated changes to increase efficiency and reach of the Linn-Benton Loop ▪ Coordinate schedules with Linn Shuttle to provide frequent service along Highway 99 from Linn-Benton Community College to Albany Station

Existing ATS Routes



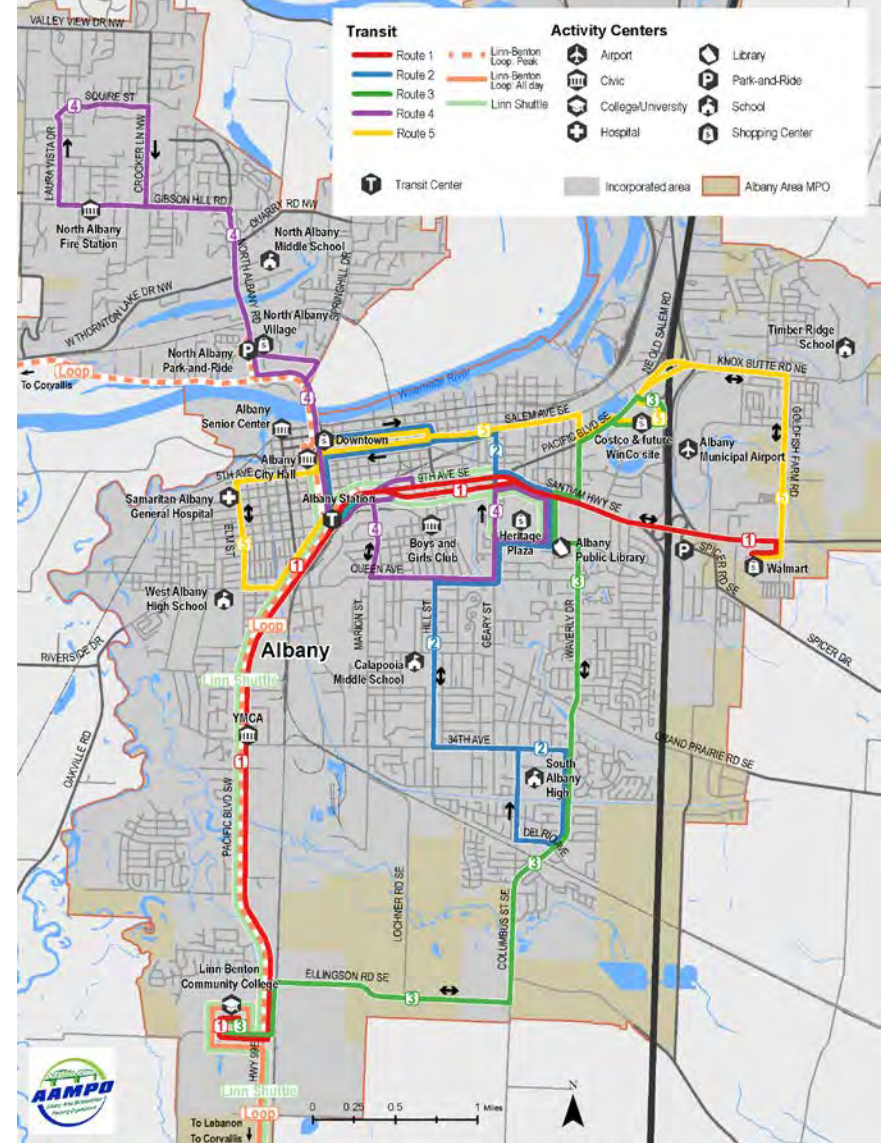
Short-Term Future Scenario



Medium-Term Future Scenarios



Long-Term Future Scenario



I Introduction

The Albany area is growing quickly; the city expanded at more than double the rate of neighboring Corvallis from 2000 to 2015. Albany’s proximity to job centers in Salem and Corvallis and its lower housing costs continues attracting new residents. This growth increases travel demand both regionally and locally. Transit service today is designed to serve a small portion of the community. In the future, expanded transit that draws new riders and better serves existing riders will help transport future residents and employees using sustainable means.

The Transit Development Plan (TDP) addresses regional transit needs and serves as a guide for regional investment in transit in the future. Throughout this document, the term “Albany area” is used to refer to the jurisdictions that comprise the AAMPO (Albany, Jefferson, Millersburg, and Tangent, and portions of Benton and Linn Counties). The TDP provides a long-range, 20-year vision for transit and short and medium-term steps that can be taken to achieve this vision. A focus of the TDP is making transit more convenient and reliable, by reducing travel times and providing better schedule adherence.

The Plan consists of 10 chapters:

1. **Introduction**
2. **Service Area Profile** provides an overview of Albany area communities, including an analysis of demographics and typical travel patterns.
3. **Transit Services Today** provides an overview of the transit services that operate within the Albany area, as well as services that connect the Albany area with other communities.
4. **Community Outreach** summarizes the results of various public engagement efforts that were used to determine the community’s needs and desires for transit service.
5. **Operations Analysis** provides detailed information on the routes and services that operate within the Albany area, with a focus on route performance and trends.
6. **Needs Assessment** summarizes the key takeaways from the first five chapters and identifies the key challenges and potential needs of the existing transit system.
7. **Goals, Performance Measures, and Standards** documents the framework for decision-making and lays out strategies to monitor system performance and improve service quality.
8. **Future Transit System** recommends transit scenarios for short, medium, and long-term time frames, including route alignment, schedule, and frequency.
9. **Transit Policies and Programs** provides recommendations for the non-service side of transit operations that include marketing, technology, fares, and bus stop amenities.
10. **Implementation Schedule** summarizes recommendations by phase and provides order of magnitude costs.

For the purposes of this document, the Plan focuses on fixed-route services and regional transit services. Although Albany Call-A-Ride is referenced in the Plan, it is not a focus of the

recommendations, which are primarily designed for application to the Albany Transit System (ATS) fixed-route services.

2 Service Area Profile

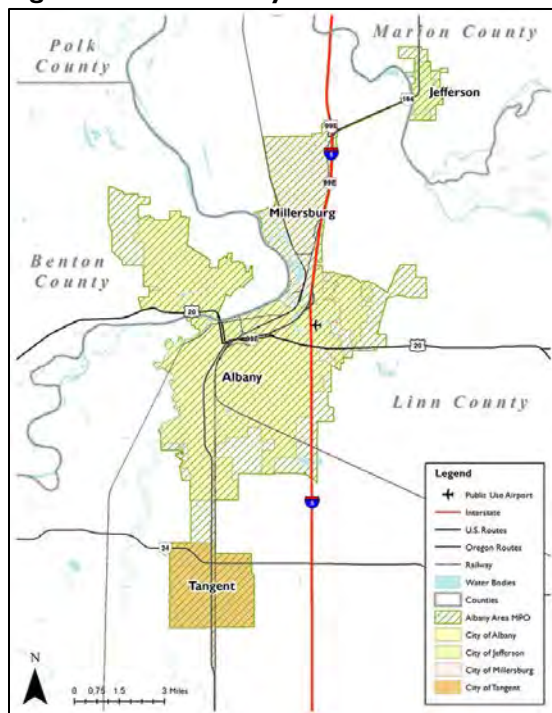
Public transportation services are shaped by the size, character, and type of community they are meant to serve. This chapter provides an overview of communities within AAMPO, including an overview of the MPO’s planning framework, an analysis of demographics, and maps of typical travel patterns. As communities grow and change, public transportation must also evolve. This chapter provides an overview of projected growth in population and employment and implications for transit.

Planning Framework

Albany Area MPO

AAMPO is the federally-required regional transportation planning organization for the Albany area. The MPO is fairly new; it was established in 2013 to facilitate distribution of federal transportation dollars and to coordinate local transportation planning. AAMPO covers the Cities of Albany, Jefferson, Millersburg, and Tangent, which cover portions of Linn, Benton, and Marion Counties (Figure 1). AAMPO is staffed by the Oregon Cascades West Council of Governments (OCWCOG), the intergovernmental entity responsible for a variety of community planning, transportation coordination, and services delivery tasks for Lincoln, Benton, and Linn Counties.

Figure 1 Albany Area MPO



Source: DKS Associates

Transit Services in the Albany Area

Numerous transit agencies serve the Albany area. The following terminology is used throughout the document to describe these services.

- **Local fixed-route** refers to service operated entirely within AAMPO communities. This service is operated by ATS. Service is centered around Albany Station, which is served by local and regional buses as well as Amtrak.
- **Local Paratransit** service is provided by Albany Call-A-Ride, and is available to residents of Albany who have a disability or are 60 years of age or older, and to residents of Millersburg who have a disability or are 60 years of age or older. ATS operates Albany Call-A-Ride.
- **Regional** services refers to service operated between AAMPO and neighboring communities. These include fixed routes like the Linn-Benton Loop (Loop) and the Linn Shuttle. ATS operates the Loop but it is funded by multiple agencies. Benton County paratransit (Dial-A-Bus and Corvallis-Albany Connection) also provides regional services that connect North Albany (which is part of the City of Albany but is located in Benton County) and Albany Station.
- **Long-Haul** services include public and private operators who serve Albany Station and travel with limited stop service to places like Lincoln City on the coast, Portland, and other farther-off destinations.

Concurrent Planning Processes

The TDP focuses on public transportation for the general public within AAMPO. Other planning efforts are currently underway that focus on services in neighboring jurisdictions and/or for special populations that have implications for the Albany area.

- **Linn County and Benton County Coordinated Human Services Public Transportation Plans** focus on services for people with low income, older adults and people with disabilities throughout each county. These services have dedicated funding sources and the plans seek strategies to reduce costs by coordinating between health, social service and transportation providers.
- **Linn County and Benton County TSPs** focus on transportation projects in the rural parts of each county including opportunities for addressing public transportation needs.
- **Millersburg TSP** focuses on transportation projects in the City of Millersburg.
- **Lebanon TDP** focuses on the administration and operation of bus service within Lebanon.
- **Corvallis TSP** focuses on transportation projects in the City of Corvallis, including automobile, freight, bicycle and pedestrian transportation investments.
- **Corvallis TDP** focuses on the administration and operation of bus service within Corvallis.

Demographic Analysis

This section reviews market and demographic information for AAMPO, focusing on population and employment distribution, and population groups that typically have the greatest demand for transit services.

Population and Employment

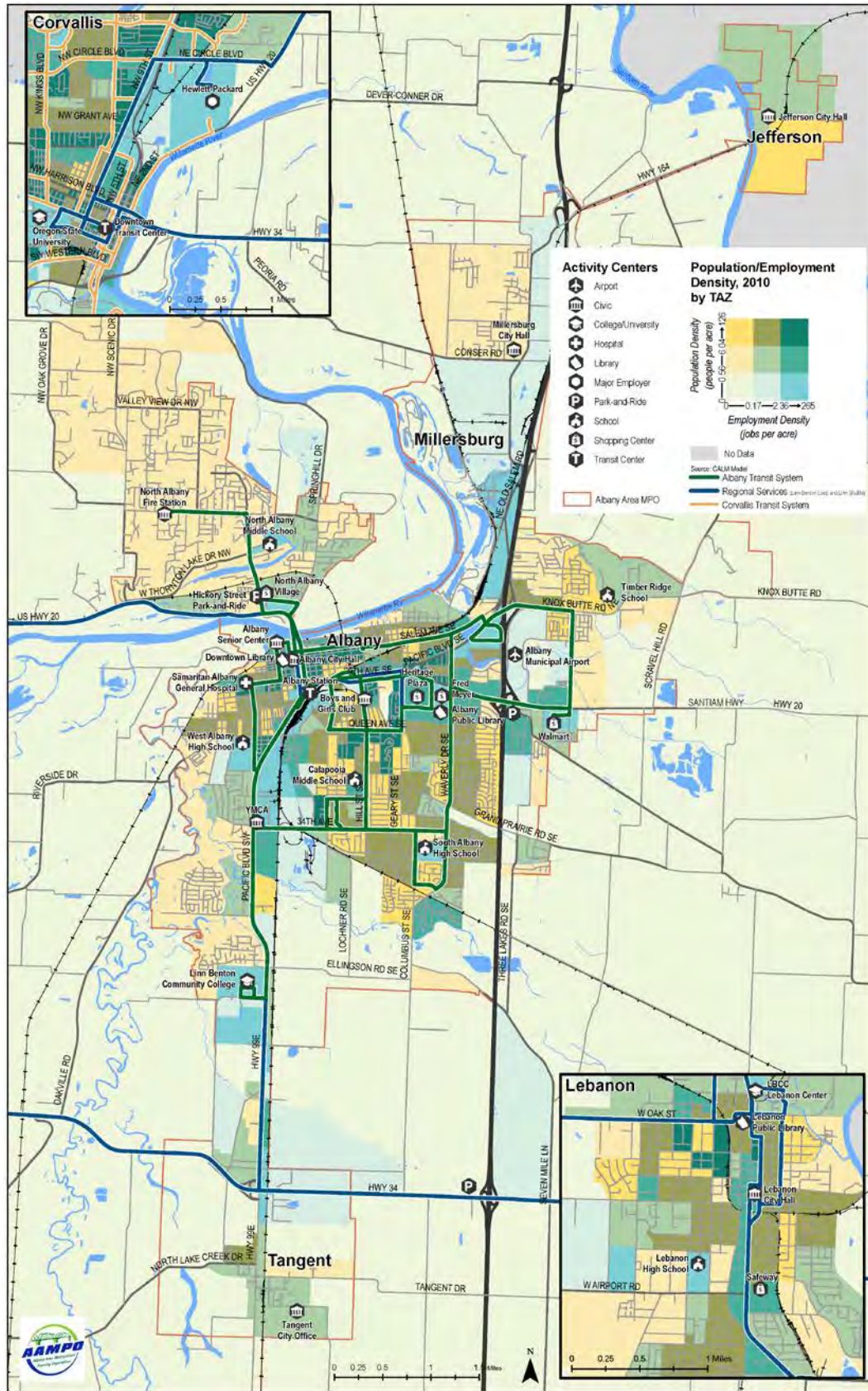
The density of people and jobs determines the types of transit a community can support. In high-density areas, service running on a fixed alignment and schedule (referred to as a fixed-route) can efficiently transport people between origins and destinations. In lower-density areas, curb-to-curb, advance schedule service (referred to as paratransit) may be more cost-effective. This section provides an analysis of population and employment, but ultimately the decision about what defines “cost-effective” – or what types of service to provide in the Albany area – is a local choice based upon funding availability and community preferences.

AAMPO is home to approximately 57,300 residents and supports 22,900 jobs, according to 2010 data from the Corvallis Albany Lebanon Model (CALM). The CALM model is a travel demand model that was developed and is maintained by the Oregon Department of Transportation’s (ODOT) Transportation Planning Analysis Unit (TPAU). It estimates vehicle traffic for the years 2010 and 2040 for a region that includes the Corvallis and Albany Area MPOs and Lebanon.

Population is primarily concentrated within the City of Albany. The highest population densities are between Waverly Drive and Marion Street, and between Queen Avenue and 34th Avenue. Other areas with high concentrations of people are the neighborhoods southwest of Downtown Albany along Salem Avenue, and near Knox Butte Road and Goldfish Farm Road. Most employment centers are located outside Albany, thus there are two-thirds fewer jobs in Albany than there are residents, and residential densities are higher than employment densities. Appendix A shows individual maps of the density of people and jobs.

A map of combined population and employment densities is shown in Figure 2. Darker colors indicate higher density of people and/or jobs. Green shading indicates a higher mix of population and employment, whereas yellow or blue shading indicates areas with more population or more employment respectively. Transit service flourishes in places with high population and employment densities, as people travel in all directions between destinations. Places that have high concentrations of jobs, for example, might support peak-only commuter-focused routes while areas with high concentrations of population might support park-and-ride or commuter service, depending on how dispersed peoples’ destinations are. The map shows that central Albany — from downtown to Heritage Plaza — has the highest densities. Low-density residential land uses in North Albany and along Knox Butte Road are apparent with their light yellow shading, and the higher employment concentrations in Millersburg, near Heritage Plaza, and along Pacific Highway between Linn Benton Community College (LBCC) and Tangent, show up with blue and light green shading.

Figure 2 Population/Employment Density, 2010



Source: CALM Model

Transit-Dependent Populations

In addition to population and employment density, specific demographic groups tend to rely more upon transit. Youth, older adults, people with low incomes, people with disabilities, and households without access to a vehicle have higher rates of transit use than the general public, and often make up a significant portion of transit ridership. The change in population and the growth or reduction in each of these groups directly affects transit demand.

Between 2000 and 2015, the City of Albany grew by 26% from approximately 41,000 residents to 52,000 residents. This is faster than the overall growth of either Linn County—15%—or Corvallis—11%. During this same time, the region experienced increases in youth, people who identify as Hispanic/Latino, people of color, people below the poverty line, and people with a disability. Table 1 shows the change in population and change for each of these demographic groups within the City of Albany between 2000, 2010, and 2015

Table I Demographic Changes (City of Albany)

Demographic Category	Number			Percent			Change (2000-2015)	
	2000	2010	2015	2000	2010	2015	Number	Percent
Total Population	40,852	50,158	51,511	100.0%	100.0%	100.0%	10,659	26.1%
Youth (persons aged 10-17)	4,653	5,428	5,625	11.4%	10.8%	10.9%	972	20.9%
Older Adults (persons aged 65+)	7,509	6,589	7,003	18.4%	13.1%	13.6%	-506	-6.7%
Hispanic/Latino	2,489	5,700	6,008	6.1%	11.4%	11.7%	3,519	141.4%
People of Color	4,491	8,567	9,351	10.9%	17.1%	18.2%	4,860	108.2%
Low-Income Population	4,684	8,291	10,050	11.6%	17.3%	19.8%	5,366	114.6%
Persons with a Disability	7,351	7,773	8,282	19.8%	15.6%	16.3%	931	12.7%
Households Without a Vehicle	1,465	1,415	1,384	9.1%	7.4%	7.0%	-81	-5.5%
Population Speaking English Less than "Well"	655	1,160	540	1.7%	2.6%	1.1%	-115	-17.6%

Notes: People of Color includes non-white persons of one race, persons of two or more races, and Hispanic/Latinos of any race. Low-income population are those earning below the federal poverty level. Disability is for the civilian non-institutionalized population aged 5 years or older. Population speaking English less than "well" is based on persons aged 5 years or older. For data sources, see Appendix A.

Travel Patterns

Transit riders need to travel between the same destinations as the general public. Thus by looking at overall travel patterns and existing transit services, gaps and opportunities can be assessed.

Based on U.S. Census Bureau 2014 Longitudinal Employer-Household Dynamics (LEHD) data, nearly one-third of Albany residents also work in Albany; the rest commute elsewhere. Top work locations outside of Albany include Corvallis and Salem. Several hundred Albany residents also commute to Millersburg (460) or Tangent (212). There is very little work travel happening between Millersburg/Jefferson and Tangent. Table 2 shows top commute flows for AAMPO jurisdictions.

Table 2 Commute Patterns for Albany Area Workers (2014)

Home Location	Work Location						
	Albany	Corvallis	Salem-Keizer	Portland	Millersburg	Tangent	Jefferson
Albany	6,861	3,551	2,188	857	460	212	33
Jefferson	157	49	363	81	16	11	34
Millersburg	168	73	77	0	28	3	4
Tangent	64	118	35	75	3	15	0
Total	7,250	3,791	2,663	1,013	507	241	71

Source: U.S. Census Bureau, LEHD.

Mode Split

Residents in the Albany area predominately commute to work by car. Approximately 80% of residents travel to work by driving alone, and fewer than 1% of residents commute by transit. Table 3 shows the mode split for each city within the Albany area, as well as the overall mode split for all four cities combined.

Table 3 Percent Mode Split

Mode	Albany	Millersburg	Jefferson	Tangent	Overall
Drive alone	79.2%	80.9%	83.8%	83.8%	79.5%
Carpool	10.0%	13.3%	3.5%	3.5%	9.9%
Transit	0.6%	0.1%	0.3%	0.3%	0.5%
Bicycle	0.8%	0.5%	0.0%	0.0%	0.8%
Walk	3.4%	0.0%	1.3%	1.3%	3.2%
Taxi, motorcycle or other)	1.7%	0.0%	3.3%	3.3%	1.7%
Work at home	4.3%	5.1%	8.0%	8.0%	4.4%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Source: U.S. Census Bureau, ACS 2011-2015 5-Year Estimates Table B08006

Future Growth

The CALM model projects population, jobs, and traffic to the year 2040. The estimates are based on future population and employment growth, changing development patterns, and future growth in traffic through the region.

Population and Employment

By 2040, the Corvallis-Albany area is forecast to grow by approximately 47,000 people, of which 20,000 new residents will be located in the existing AAMPO boundaries. This represents a growth rate of 34% in the Albany area compared to 2010. Employment is expected to increase at a faster pace; 10,000 new jobs are forecast in the Albany area, an increase of almost 50% from 2010.

The data shows that Albany’s share of population in the Corvallis-Albany area will increase slightly, while the employment share will decrease by a similar amount. This demonstrates a potential housing-job imbalance in which more jobs will continue to cluster in Corvallis while more housing will remain in Albany. The future transportation network will need to address this imbalance by providing convenient ways to connect residents with employment opportunities.

In total, by 2040 the Albany area may be home to 80,000 people and 34,000 jobs. Most of the residential growth will be concentrated within Albany. Jefferson and Millersburg will add a significant amount of employees (Table 4).

Table 4 Future Population and Employment (2040)

Data	Albany	Millersburg	Jefferson	Tangent	AAMPO
Population	65,122	1,848	6,352	1,585	77,638
Households	26,586	680	2,180	558	31,143
Employees	27,787	3,937	581	1,165	33,974

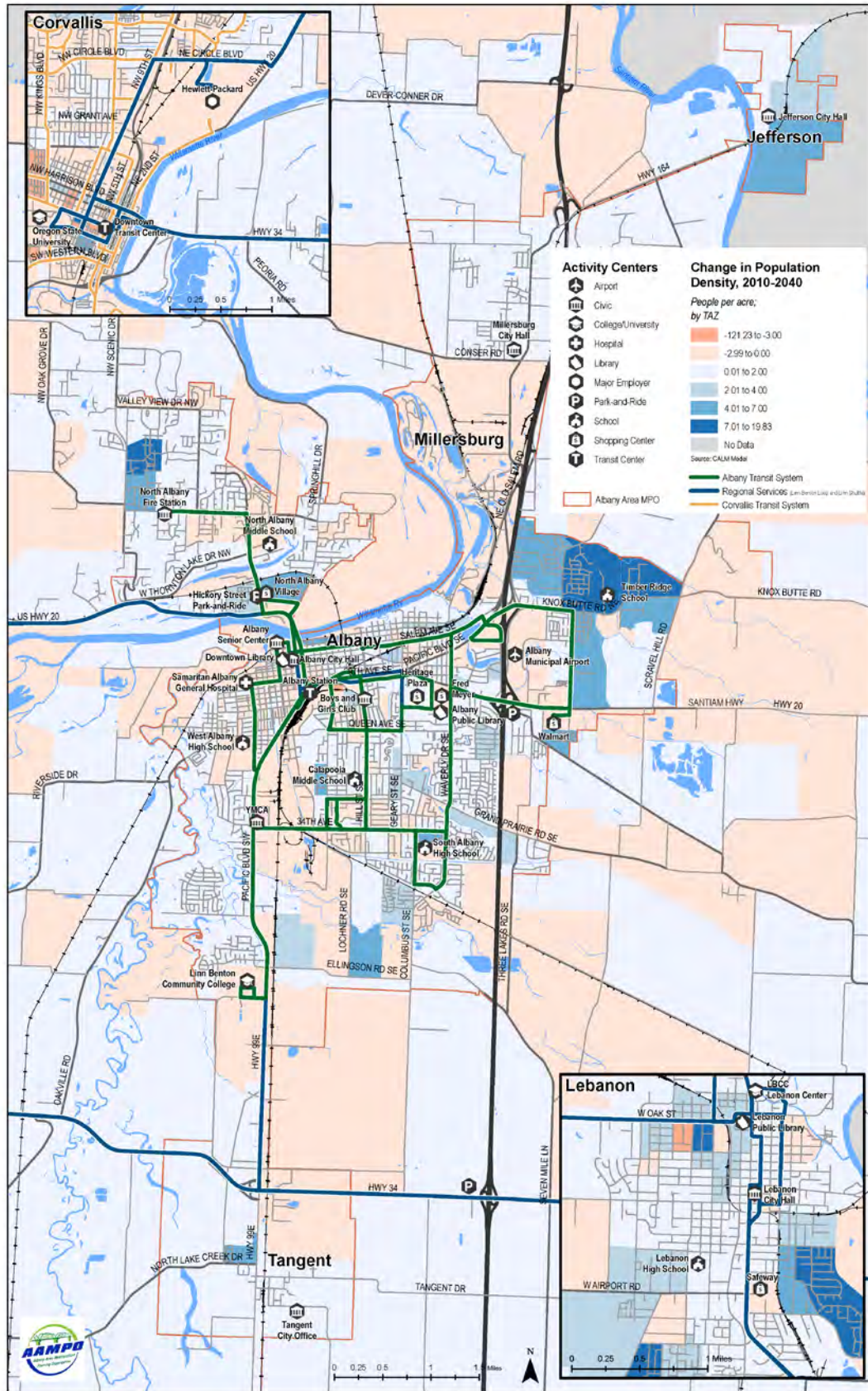
Source: CALM Model

Note: AAMPO values include unincorporated parts of the Albany Area.

Projected growth will be spread fairly evenly throughout the region. The areas in AAMPO with the largest increase in residents per acre are expected to be located on the eastern edge of Albany (near the Timber Ridge School north of Knox Butte Road), south of Albany (near Lochner Road and Ellingson Road), in parts of North Albany, and in the southern half of Jefferson. Areas with the greatest increase in employment density are located in Downtown Albany and south of 9th Avenue between Hill Street and Geary Street. In general, most of these areas are not currently well-served by transit, and should be considered for future transit expansion.

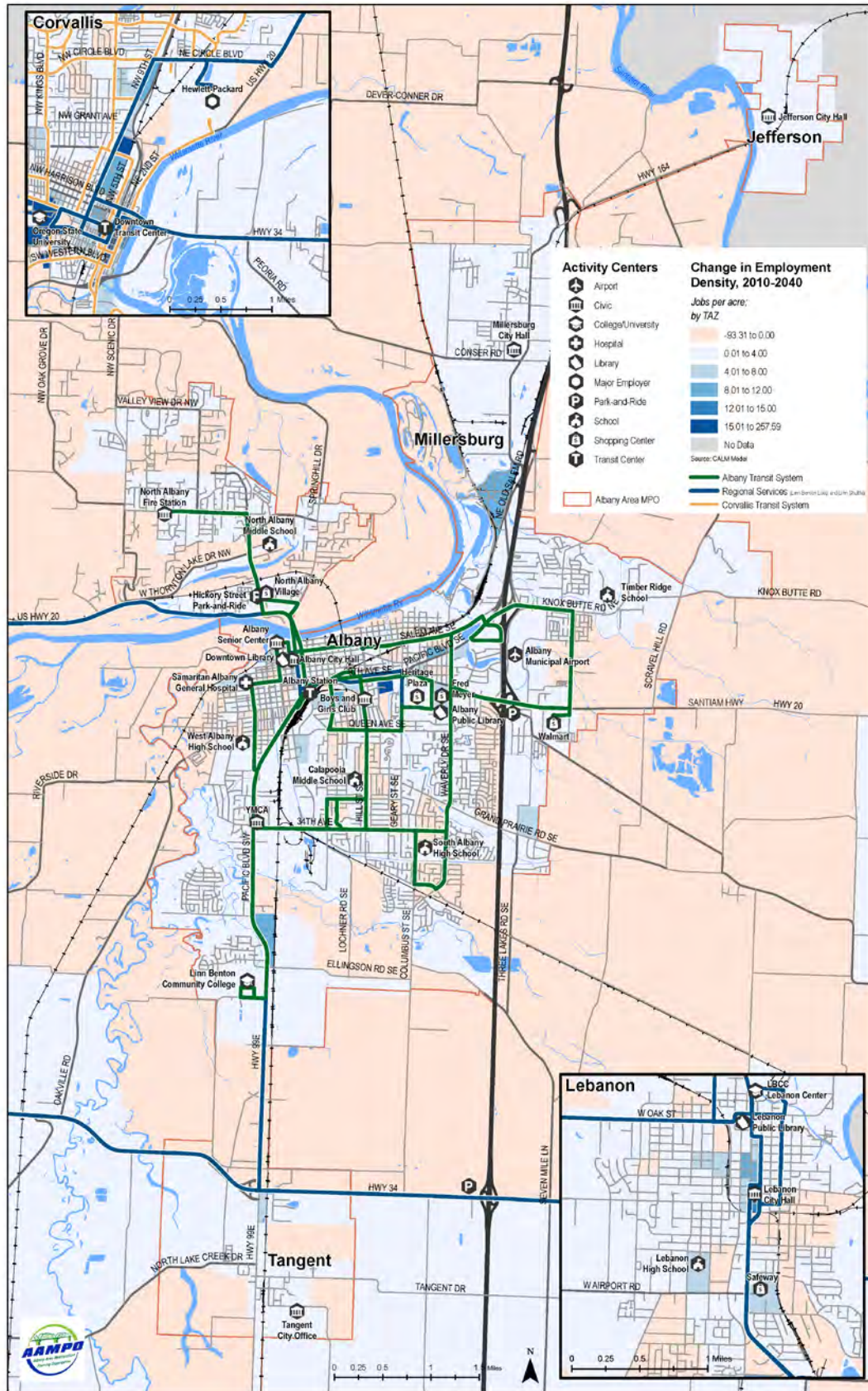
Figure 3 shows the projected change in population density between 2010 and 2040, and Figure 4 shows the projected change in employment density between 2010 and 2040.

Figure 3 Change in Population Density, 2010 to 2040 (Projected)



Source: CALM Model

Figure 4 Change in Employment Density, 2010 to 2040 (Projected)



Source: CALM Model

Regional Travel Patterns

The CALM model estimates 40,000 vehicle trips during the PM peak hour in 2010, of which nearly half (18,450) had a destination or origin in the Albany area. Most travel was within the City of Albany, with 17,480 trips or 95% of trips starting and ending in the city boundaries. In 2040, these values are projected to increase to 57,322 vehicle trips in the CALM model area, 26,540 trips to/from/within AAMPO, and 24,570 trips to/from/within Albany.

Table 5 shows that the total increase in trips in the CALM model will be spread fairly evenly throughout the region. Trips will increase by large percentages in Jefferson and Millersburg, but these communities had a low number of trips as the 2010 base.

Table 5 Vehicle Trip Distribution (PM Peak Hour)

	2010	2040	Change	% Change
CALM Model Trips				
Total CALM Model Trips	40,055	57,322	17,267	43%
AAMPO Trips	18,451	26,544	8,093	44%
Albany Trips	17,480	24,569	7,089	41%
Jefferson Trips	529	1,641	1,112	210%
Millersburg Trips	717	1,312	594	83%
Tangent Trips	686	880	194	28%
Share of Trips				
AAMPO share of CALM	46%	46%	0%	-

Source: CALM Model

Note: Trips refer to any trips that start or end in a geography. The sum of two or more rows of data may result in double-counting of trips.

Albany Area Travel Patterns

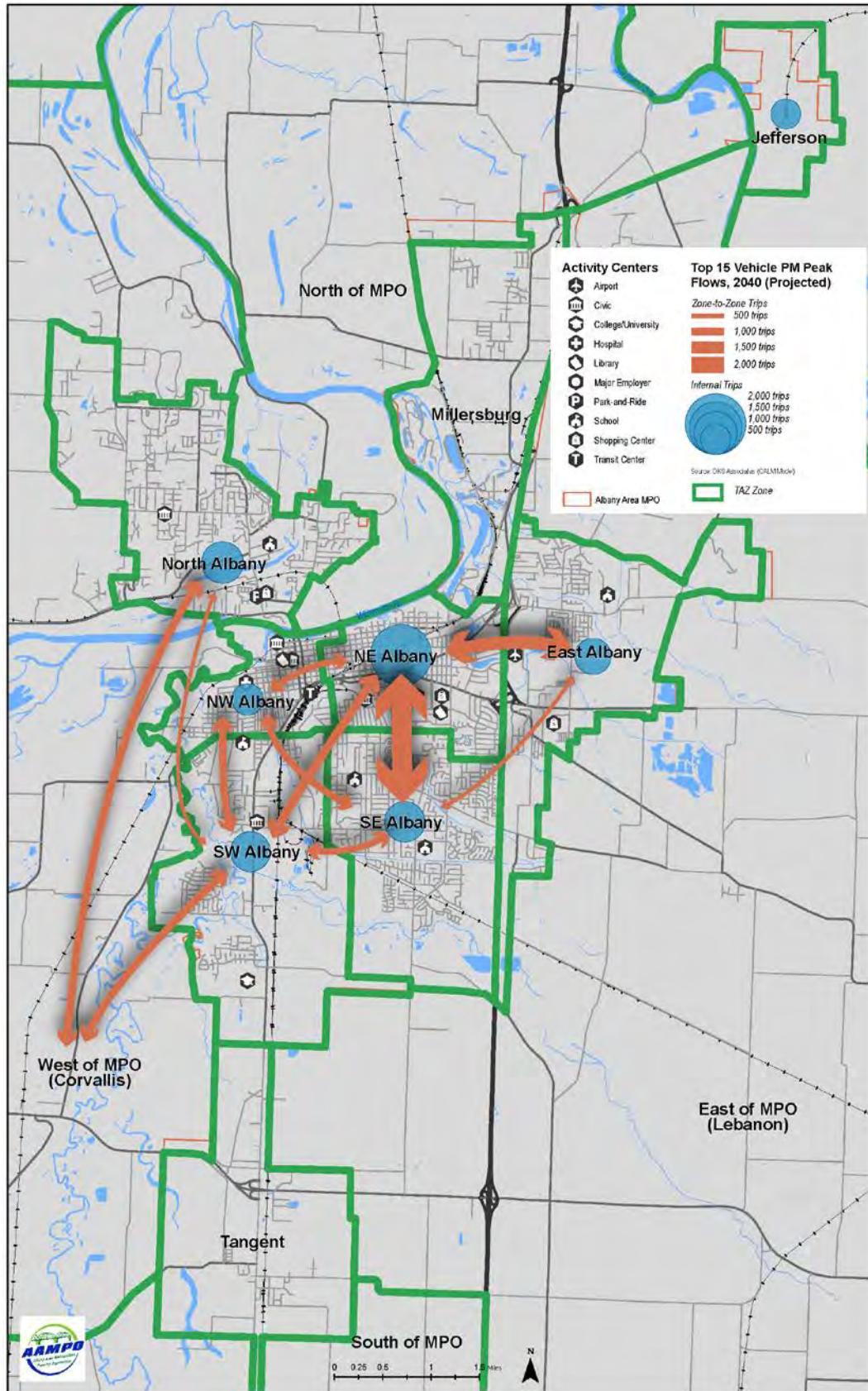
The region is categorized into five primary origin and destination zones¹, with the Albany area MPO zone broken down into nine more detailed zones². Figure 5 shows the top 15 travel flows within the Albany area and between the Albany area and other zones in the CALM area. It excludes any trip pair or flow to/from areas outside the CALM model (i.e. Salem, Portland).

The largest flows within the Albany Area MPO are between NE Albany and SE Albany, within NE Albany, between East and NE Albany, and between NE and SW Albany. These patterns are very similar to the 2010 travel pattern estimates; however, there is expected to be significant growth in travel within Millersburg, Jefferson, and East Albany. While total travel to/from Millersburg, Jefferson, and Tangent will not be among the highest in the Albany area, they will be part of the fastest growing travel flows. For example, travel between Millersburg and Jefferson is projected to grow 449% from 2010 to 2040, from 21 trips to 114 trips per day.

¹ Albany Area MPO, North of MPO, East of MPO (includes Lebanon), South of MPO, and West of MPO (includes Corvallis).

² North Albany, East Albany, NW Albany, NE Albany, SW Albany, SE Albany, Jefferson, Millersburg and Tangent. See Appendix A for more details on these Albany Area sub-area zones.

Figure 5 Top 15 Albany Area Daily Travel Flows, 2040 (Projected)



Source: CALM Model

3 Transit Services Today

Numerous transit providers serve the AAMPO region. Services center around Albany Station, which is the second-busiest transit hub in Oregon. This chapter provides an inventory of available services, which have been divided into four categories:

- Local Fixed-Route – Routes running on a set timetable and alignment, operated by ATS.
- Local Paratransit – Service operating curb-to-curb for older adults and people with disabilities through advance scheduling, operated by ATS.
- Regional – Fixed-route service linking areas in the CALM region, including the Loop and the Linn Shuttle, as well as paratransit service between Albany and Corvallis.
- Long-Haul Service – Fixed-route service operating with limited stops from Albany Station to farther-off destinations like Portland and the coast.

After the service inventory, this chapter provides an organizational and performance assessment of the local fixed-route, local paratransit, and regional categories.

Service Inventory

Local Fixed-Route Transit Services

ATS is the local fixed-route service in Albany. ATS operates three routes, Monday through Friday, between 6:30 a.m. and 6:15 p.m. (Table 6).

Table 6 Summary of Primary Albany Area Fixed Routes

Route	Major Destinations	Service Span	Frequency
ATS Route 1 – Early Morning	<ul style="list-style-type: none"> • Albany Station • LBCC • Samaritan Albany General Hospital 	6:30 a.m. – 8:30 a.m.	60 min
ATS Route 2 – Regular East	<ul style="list-style-type: none"> • Albany Station • Downtown Albany • Samaritan Albany General Hospital • West Albany High School • LBCC 	9:00 a.m. – 6:15 p.m.	60 min
ATS Route 3 – Regular West	<ul style="list-style-type: none"> • Albany Station • Walmart • South Albany High School • Heritage Plaza 	9:00 a.m. – 6:15 p.m.	60 min

Route 1 operates in the morning peak from 6:30 a.m. until 8:30 a.m., and serves most of the city, including North Albany, Salem Avenue, Waverly Drive, Hill Street, Downtown Albany, Elm Street, Pacific Boulevard, and LBCC.

Routes 2 and 3 operate for the remainder of the day from 9 a.m. until 6:15 p.m. Route 2 serves the eastern half of Albany, including Salem Avenue, Killdeer Avenue, Knox Butte Road, Goldfish Farm Road, Walmart, Waverly Drive, South Albany High School, Hill Street, Heritage Plaza, and Queen Avenue. Route 3 serves the western half of Albany, including North Albany, Downtown Albany, Elm Street, Pacific Boulevard, and LBCC. The schedules are designed to provide timed transfers at the start and end (Albany Station), and middle (Jackson Street) of the routes. Route 3 is timed to meet the Loop at LBCC.

Figure 6 Passengers on ATS



Source: Nelson\Nygaard

The routes operate in large, one-way loops, with portions of the routes providing bi-directional service (see Figure 7). These routes provide high coverage throughout most of the city, especially where demand for transit services are highest—such as LBCC, Heritage Plaza, and Walmart. Travel times can be long, due to the looping nature of the routes. During most of the day, ATS operates two buses. Due to the good coverage of the system, this means service only runs hourly.

Local Paratransit Services

Albany Call-A-Ride

The City of Albany provides curb-to-curb ADA paratransit and demand-response service for Albany residents who are at least 60 years old, Millersburg residents who are at least 60 years old, and Albany or Millersburg residents who have a disability. The Albany Call-A-Ride program is staffed primarily by volunteer drivers and dispatchers.

Albany Call-A-Ride operates Monday through Friday, from 6:30 a.m. to 6:30 p.m., and on Saturdays from 8:00 a.m. to 6:00 p.m. Dispatch is available from 9:00 a.m. to 4:00 p.m., Monday through Friday. The service provides trips within Albany, the City of Millersburg, and within $\frac{3}{4}$ -miles of Albany city limits.

Connections are possible through proper scheduling. The Albany Call-A-Ride service can connect riders to the Corvallis-Albany Connection, the Loop, and the Linn Shuttle. Requesting a ride to Albany Station allows access to Amtrak and other intercity transit services.

Senior Medical-Shopper Shuttle

The City of Albany provides a special services deviated fixed-route shuttle. It operates between senior housing locations, retail stores, grocery stores, and medical facilities. The service is open to the general public with no age restrictions, although it is designed around the needs of seniors.

The service operates on Tuesday and Thursday from 8 a.m. to 4:15 p.m., with service approximately every 75 minutes. The shuttle stops at 10 locations within Albany, operating as a large loop. The route allows deviations of up to five minutes off the route. Free transfer slips to ATS are also provided.

Regional Transit Services

A variety of services also operate in Albany. The Loop, Linn Shuttle, and Corvallis to Amtrak Connection provide regional service on fixed routes and schedules. Other services, such as Benton County Dial-A-Bus and Corvallis to Albany Connection provide paratransit connections between Albany and Corvallis. Figure 9 provides an overview of these services.

Regional Fixed Routes

Linn-Benton Loop

The Loop is an intercity service connecting Albany with Corvallis. Service operates Monday through Friday from 6:25 a.m. until 7:00 p.m., and on Saturday from 8:00 a.m. until 6:00 p.m. A one-way fare costs \$1.50. Students of LBCC and OSU, and employees of Hewlett-Packard and Samaritan Hospital ride free.

The Loop has multiple variants:

- AM peak (6:25 – 10:00 a.m.): Service runs counterclockwise from Albany Station to Corvallis via Highway 20. The route serves the North Albany Park-and-Ride, Hewlett-

Packard, Oregon State University (OSU), and the Corvallis Downtown Transit Center (DTC). The route then travels back to Albany via Highway 34 and serves LBCC and Albany Station.

- AM and PM express (6:40 a.m. – 8:45 a.m. and 3:00 p.m. – 5:00 p.m.): Service runs express just between DTC and LBCC via Highway 34. It does not serve OSU or any flag stops along Highway 34.
- Midday (10:00 a.m. – 3:00 p.m.): The Loop travels between OSU/DTC and LBCC via Highway 34.
- PM peak (3:00 p.m. – 7:00 p.m.): Service runs identical to the AM peak, but in the opposite (clockwise) direction.
- Saturday (8 a.m. – 6 p.m.): Service runs counterclockwise from Albany Station to Corvallis via Highway 20. The route serves the North Albany Park-and-Ride, 9th Street in Corvallis, and the DTC. The route does not serve Hewlett-Packard or OSU. The route travels back to Albany via Highway 34 and serves LBCC, Albany Station, and Heritage Plaza, before continuing to North Albany Park-and-Ride. Since ATS does not run on weekends, the Loop is the only fixed-route service available to Albany residents on Saturdays.

ATS operates the Loop through a service agreement with the Linn Benton Loop Board. The Board is organized under an intergovernmental agreement³ between three primary funding partners including AAMPO, Corvallis Area MPO, and LBCC. OSU is a primary funding partner, but did not join the Board. Each organization appoints a representative to the Loop Board, which has the authority to oversee the Loop budget, operating plans, and other activities. The Board is guided by a Technical Advisory Committee (TAC) that includes representatives from additional local and state partners.

³ See Oregon Revised Statute 190 for information on intergovernmental agreement authority.

Figure 8 Loop at LBCC



Source: Nelson\Nygaard

Linn Shuttle

The Linn Shuttle provides service between Sweet Home, Lebanon, and Albany, with four stops at LBCC, Albany Station, Heritage Plaza and Downtown Albany. The Linn Shuttle operates seven roundtrips trips per day between Sweet Home and Albany, and two LBCC Express trips between Lebanon and LBCC that operate when LBCC is in session. The Linn Shuttle operates on a scheduled route except for pre-approved unscheduled stops. It provides service Monday through Friday, 6:25 a.m. to 7:30 p.m. The Linn Shuttle costs \$1 per trip.

Corvallis to Amtrak Connector

In August 2017, Benton County—in partnership with ODOT, Benton County Dial-A-Bus, and Amtrak Cascades—began piloting a new regional service called the Corvallis to Amtrak Connector. The one-year pilot provides service between Corvallis and Albany Station. The Corvallis to Amtrak Connector is specifically timed to meet Amtrak bus and train service in both north and southbound directions Thursday through Monday and on holidays. The Connector operates five round trips per day, and has five stops in Corvallis in addition to Albany Station. The service costs \$5 per trip. The service differs from the Loop in that it operates on weekends, serves Albany Station on each trip, and charges a fare for OSU and LBCC students (unlike the Loop and Linn Shuttle which are fareless for these students).

Regional Curb-to-Curb Services

Benton County Dial-A-Bus

Benton County Dial-A-Bus is a demand-response paratransit service available to residents of Benton County who are 60 years of age or older, or are residents with a documented disability.

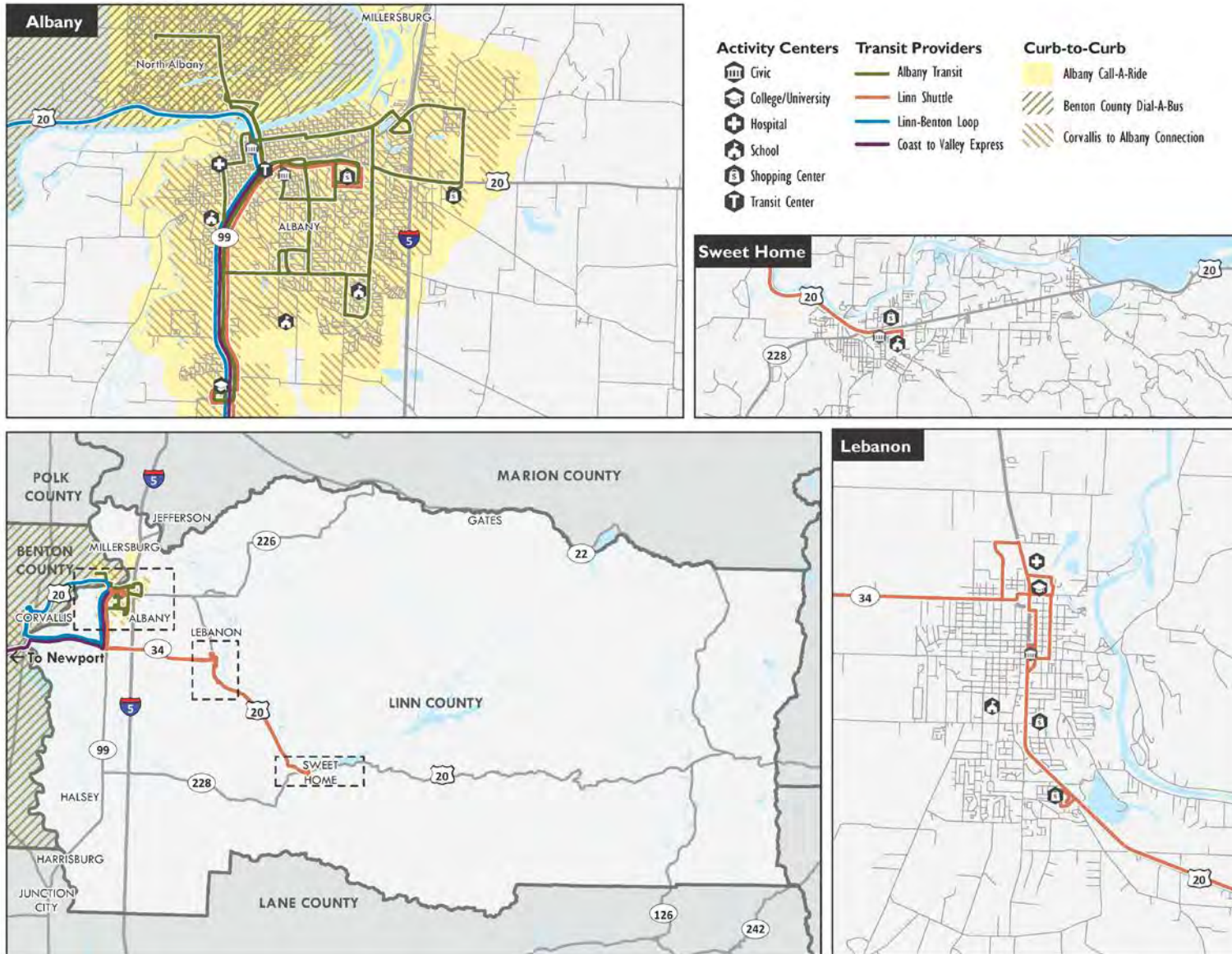
North Albany is the only part of the Albany area that is within Benton County, therefore, residents of North Albany who meet this criteria are eligible to access Benton County Dial-A-Bus.

Benton County Dial-A-Bus is available seven days a week: 8:00 a.m. to 7:00 p.m. on weekdays, 8:30 a.m. to 6:00 p.m. on Saturdays, and 8:30 a.m. to 2:30 p.m. on Sundays. The service is only available for trips within Benton County (passengers can travel from Corvallis to North Albany, and within North Albany, but not from North Albany to other parts of the Albany area). The service costs \$4 per ride for trips in North Albany, or to Corvallis. Costs increase to \$5.25 for service from North Albany to outlying areas of southern Benton County.

Corvallis to Albany Connection

The Corvallis to Albany Connection provides curb-to-curb service between Corvallis city limits and Albany city limits for people 60 years of age or older and people with a disability who cannot access fixed-route transportation. The service operates three days per week (Monday, Wednesday, and Friday), with five roundtrip runs per day on a set schedule between 7:30 a.m. and 6 p.m. Unlike the Benton County Dial-A-Bus, this service can be used for paratransit service between any location in Corvallis and any location in Albany. For passengers traveling between Corvallis and Millersburg, they would need to transfer to the Albany Call-A-Ride. No paratransit service is available to/from Tangent, Jefferson, or other non-incorporated areas of the Albany area within Linn County. The service costs \$4 per ride.

Figure 9 Regional Services in the Albany Area



Long-Haul Regional Services

Albany Station is a major transportation hub for the mid-Willamette Valley. In addition to providing regional connections throughout Linn and Benton Counties, Albany Station is served by long-distance intercity rail and bus services. Amtrak, Cascades POINT, Bolt Bus, and the Coast to Valley Express all serve Albany Station and provide connections to other communities in the Willamette Valley and other locations along the West Coast.

Amtrak

Amtrak provides rail service on two lines: Amtrak Cascades and Coast Starlight. The Amtrak Cascades is a service between Seattle and Eugene, with stops in Tacoma, Olympia, Portland, Salem, and Albany. It operates two daily southbound trips to Eugene (the morning trip originates in Portland, and the afternoon trip originates in Seattle), and two daily northbound trips to Seattle (both originating in Eugene).

The Coast Starlight provides daily service between Seattle and Los Angeles, with stops in Tacoma, Olympia, Portland, Salem, Albany, Eugene, Klamath Falls, Redding, Sacramento, Oakland, San Jose, Santa Barbara, and Burbank, among other stops serving smaller communities.

Cascades POINT

Cascades POINT is a bus service that supplements Amtrak Cascades rail service by providing additional trips between Eugene and Portland. Cascades POINT operates six trips in each direction through Albany Station, seven days a week. Cascades POINT is the designated Amtrak Thruway service for the Willamette Valley.

Bolt Bus

Bolt Bus provides service seven days a week between Seattle, Portland, Albany, and Eugene. Bolt Bus operates one roundtrip between Seattle and Eugene each day, with an additional roundtrip between Portland and Eugene on Tuesday and Wednesday, and an additional three roundtrips between Portland and Eugene Thursday through Monday. Passengers can connect with other Bolt Buses in Portland for more frequent Bolt service to Portland, Bellingham, or Vancouver.

Coast to Valley Express

The Coast to Valley Express is an inter-city service operated by both Benton and Lincoln Counties. The route operates between Albany and Newport along Highway 20 with stops in Corvallis, Philomath, Eddyville, and Toledo. The service operates seven days per week from 6:20 a.m. to 7:30 p.m. with four roundtrips per day, two of which serve the Albany area. In addition to the Corvallis to Amtrak Connector, the Coast to Valley Express is the only service between Corvallis and Albany that operates on Sunday. Trips between Corvallis and Albany cost \$2 per trip.

Figure 10 Coast to Valley Express at Corvallis Downtown Transit Center

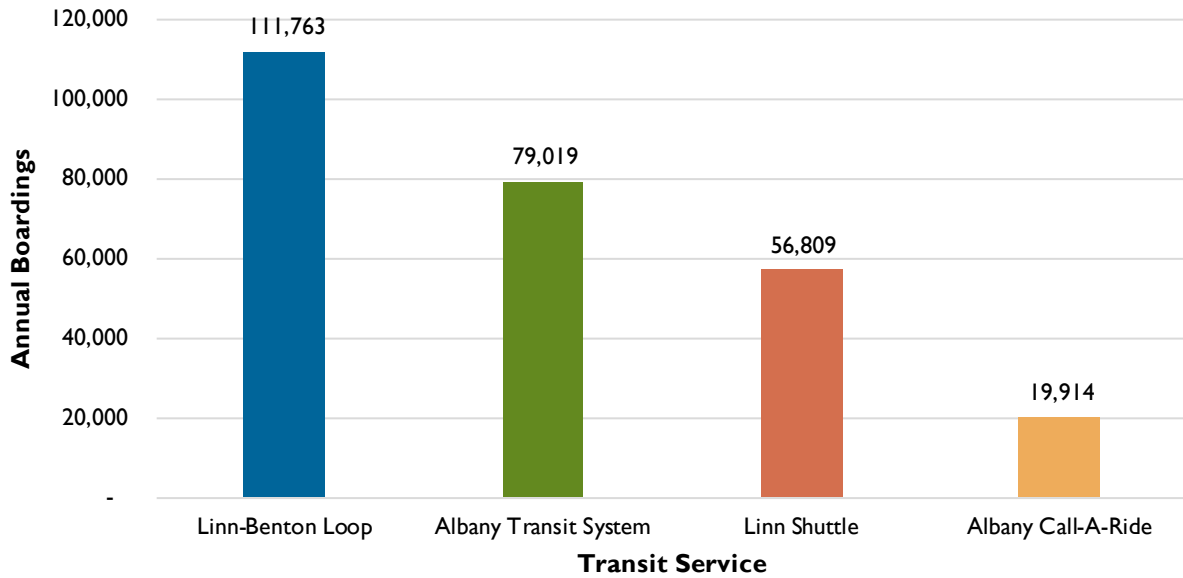


Source: Nelson\Nygaard

Ridership

Four services are most relevant to AAMPO: ATS fixed route, Albany Call-A-Ride, the Linn Shuttle, and the Loop. Of these four services, the Loop carried the most riders with more than 110,000 passengers in Fiscal Year (FY) 2015-2016. This was more than any of the other services. ATS carried the second most number of passengers, approximately 80,000. The Linn Shuttle carried fewer, approximately 57,000. The Albany Call-A-Ride carried the least passengers—approximately 17,000, or almost one-fifth of ATS’ ridership, which is to be expected given its paratransit design. See Figure 11.

Figure 11 Annual Boardings (FY 2015-2016)



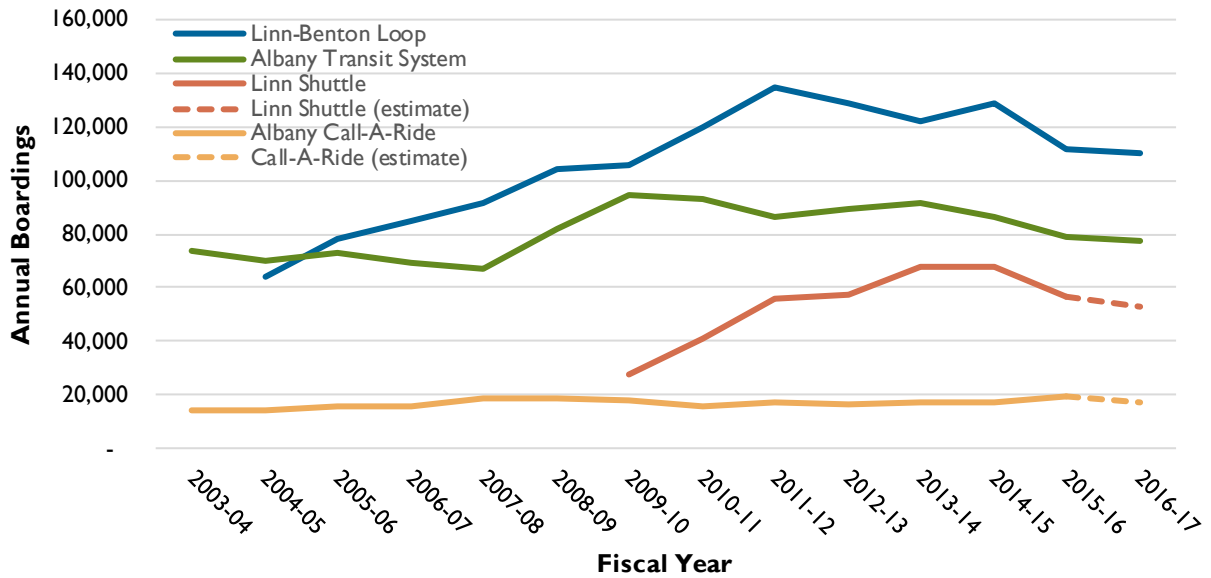
Source: City of Albany; Sweet Home Senior Center.

Note: Albany Call-A-Ride data for FY 2014-2015 includes Medical Shopper Shuttle.

Since FY 2010, the Loop ridership has grown considerably while ATS' ridership has decreased marginally. Figure 12 shows the ridership trends for these services between FY 2004 and FY 2017.

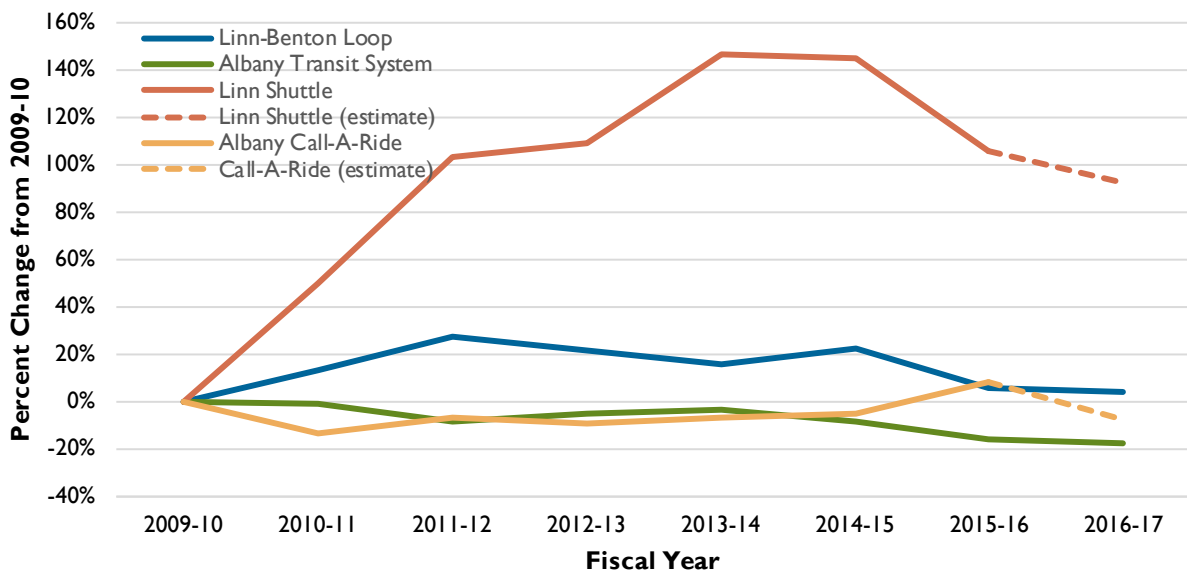
The Linn Shuttle has also experienced notable ridership increases during the past few years, growing from less than 30,000 annual boardings in FY 2010, to more than 60,000 in FY 2015, approaching the ridership of ATS. In the past few years, growth on the Linn Shuttle has outpaced growth on the other three services combined. Figure 13 shows the percent change in boardings from a base of FY 2010.

Figure 12 Annual Boardings by Fiscal Year



Source: City of Albany; Sweet Home Senior Center

Figure 13 Percent Change in Boardings from FY 2010



Source: City of Albany; Sweet Home Senior Center

Funding

The City of Albany Transit Fund provides funding for ATS, Albany Call-A-Ride, and the Loop. Between FY 2006-07 and FY 2015-16 the fund grew by more than \$1 million. The FY 2014-15 budget included more than \$800,000 for capital investments (Table 7).

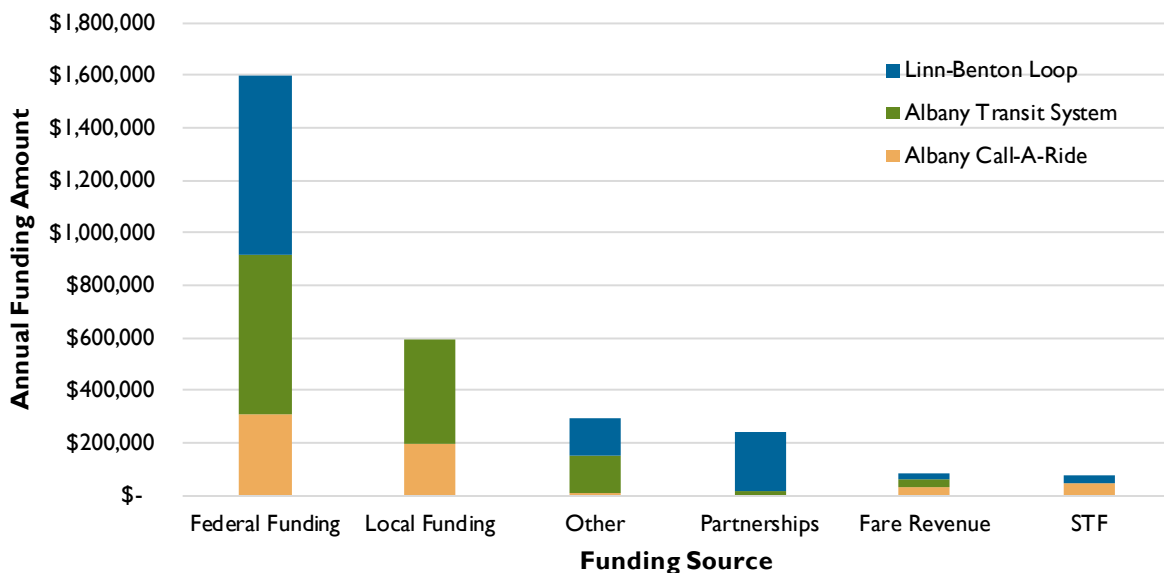
Table 7 City of Albany Public Transit Fund

Fiscal Year	Total Budget
2006-07	\$933,377
2007-08	\$970,287
2008-09	\$1,034,952
2009-10	\$1,370,965
2010-11	\$1,286,075
2011-12	\$1,672,568
2012-13	\$1,657,786
2013-14	\$1,827,555
2014-15	\$2,679,900
2015-16	\$2,010,200

Source: City of Albany adopted budget for Fiscal Year 2015/2016

In FY 2016-17, the City’s General Fund accounted for approximately one-fifth of the transit fund with federal funds contributing approximately 55%. Federal Transit Administration (FTA) Section 5307, 5309, 5310 are the primary federal resources.⁴ Figure 14 highlights the nature and level of funding for each of the services operated by the City of Albany in FY 2016-17. Of particular note is the “partnerships” category. LBCC and OSU both have partnerships and pass programs with the City of Albany. Their contributions provide \$223,400 in funding for the Loop, and \$18,000 in funding for ATS.⁵ These funds offset the operations cost to the City of Albany, and allow students, faculty, and staff at LBCC and OSU to ride for free.

Figure 14 City of Albany Transit Funding, by Source and Service Type, FY 16-17



Source: City of Albany Budget FY 2016-17

Note: Partnerships are pre-paid fare revenue for OSU and LBCC students.

⁴ Funding sources include: FTA 5307 (urbanized area); FTA 5310 (elderly and those with a disability); Oregon Special Transportation Fund (STF for elderly, low-income and those with a disability).

⁵ In FY 2016-17, ATS received \$3,000 from OSU and \$15,000 from LBCC. The Loop received \$111,700 each from OSU and LBCC.

Capital

Fleet

Albany’s transit fleet consists of 13 vehicles. Six vehicles are used for ATS and the Loop. They are 35- and 40-foot buses that range in age between two and 14 years old. Seven vehicles are used for Albany Call-A-Ride service. These vehicles include minibuses and minivans ranging from two to nine years old. Table 8 lists the vehicle inventory, and Figure 15 shows one of the Loop vehicles at LBCC. The vehicle replacement schedule is located in Appendix B. The 2003 Gillig – which is ATS’ oldest vehicle – will be replaced with a new vehicle in late 2017 (433-17). Once this vehicle is replaced, the highest priority vehicle for replacement will be the 2005 Gillig, as it will become the oldest vehicle in the fleet.

Table 8 Vehicle Inventory

Vehicle Number	Year	Make	Model	Length
ATS				
455-05	2005	Gillig	Low Floor	35 ft
480-10	2010	EIDorado	EZ Ride II	35 ft
481-15	2015	Gillig	Low Floor	35 ft
The Loop				
428-03	2003	Gillig	Low Floor	40 ft
431-10	2010	EIDorado	EZ Ride II	35 ft
432-15	2014	Gillig	Low Floor	40 ft
Albany Call-A-Ride Vehicles				
830-10	2008	Dodge	G. Caravan	<20 ft.
825-11	2009	Dodge	G. Caravan	<20 ft.
831-14	2010	Ford	Cutaway	25 ft.
823-09	2011	Ford	Cutaway E-450	20 ft.
826-11	2011	Dodge	G. Caravan	<20 ft.
827-08	2011	Chevy	Uplander	<20 ft.
820-11	2015	Dodge	G. Caravan	<20 ft.

Source: Albany Transit System

Figure 15 Loop Vehicle at LBCC



Source; Nelson\Nygaard

Facilities

The primary transit facility in Albany is Albany Station (shown in Figure 16). It not only serves as the transit center for Albany, but also as a major transportation hub for the mid-Willamette Valley, providing connections for regional and intercity services. For ATS, Albany Station is where passengers transfer between routes, where bus routes start and end, and where operators take their break.

Figure 16 Albany Station



Source; Nelson\Nygaard

Park-and-Rides

Three park-and-ride facilities are located in the Albany area. These are recognized in the ODOT Transportation Options inventory and include:

- The North Albany Park-and-Ride—located on Hickory Street west of North Albany Road—has 30 spaces. The park-and-ride is served by Routes 1, 3, and the Loop.
- The Spicer Road Park-and-Ride—is located at the Phoenix Inn near Santiam Highway and I-5—is served by the Hut Airport Shuttle.
- The South Albany Park-and-Ride is composed of two lots just west of Highway 34 and I-5. It primarily serves carpools and vanpools.

In 2017, OCWCOG initiated a Regional Park-and-Ride Plan, in partnership with ODOT, which will provide greater detail on the condition and use of these facilities, as well as potential amenities for existing and future Park and Ride sites, and suggested priority locations for future site development.

Vehicle Maintenance Facility

Buses are currently stored at a facility located at the Fire Station on 34th Avenue near Marion Street. ATS has identified the need to build a transit-specific maintenance facility as the present location lacks capacity for fleet expansion. The City of Albany is currently investigating options for building a new maintenance facility. Two sites have been selected and the City has begun saving funds to purchase a property.

Inventory of Stops and Shelters

As of July 2017, ATS served 83 stops in Albany. Of these stops, 17 had both shelters and benches. A stop assessment conducted in January 2013 showed that all bus stops, except for three, are in good condition. The three benches and shelters in poor condition were installed in 1999 and are located along 34th Avenue. See Appendix B for an inventory of bus stop amenities and the results from the 2013 stop assessment.

Bus stops not only serve as the point where passengers board or alight vehicles; they provide service information for passengers. In Albany, all bus stop signs indicate the routes that serve that stop, but only stops located at a timepoint have additional schedule information for each route. Figure 17 presents examples of a stop without a bench or shelter (left), and a stop with a bench, shelter, and schedule information (right).

Figure 17 **ATS Bus Stops**



Source: Nelson\Nygaard

Technology

ATS currently employs several technologies in its operations. ATS has an onboard security video system on new vehicles. ATS uses RouteMatch computer-aided scheduling and dispatch software to schedule and track paratransit trips. ODOT maintains the ATS General Transit Feed Specification (GTFS) data at no local cost to support online trip planning.

Fares

Each of the transit services in the Albany area use a different fare structure (Table 9).

Table 9 Fares for Albany Area Transit Services

Fare Type	Single-Ride Ticket	10-Ride Card	20-Coupon Book	Monthly Pass
ATS (Routes 1, 2 and 3)				
Adult (18–59 years)	\$1.00	-	\$17.00	\$30.00
Senior/Youth/Disabled	\$0.50	-	\$8.50	\$15.00
Children (5 and younger)	Free	-	-	-
LBCC / OSU ID	Free	-	-	-
Loop				
Adult	\$1.50	-	\$25.50	\$45.00
Senior/Youth/Disabled	\$0.75	-	\$12.75	\$22.50
LBCC / OSU / HP / Samaritan Hospital ID	Free	-	-	-
Albany Call-A-Ride				
All passengers	\$2.00	-	-	-
Linn Shuttle				
Standard	\$1.00	\$10.00	-	-
LBCC ID	Free	-	-	-

Note: Seniors are classified as people aged 60 or above. Youth are aged 6 through 17.

The single-ride fare on ATS is \$1.00 for adults aged 18–59, and \$0.50 for seniors (60 and older), youth (6–17) or disabled individuals. Children 5 and younger ride free. Coupon Books are also available for passengers who want to purchase 20 single-ride tickets in bulk. Passengers may also purchase a monthly pass that is valid for unlimited rides in one month. A monthly pass costs the same as 30 single trips.

Passengers who travel on the Loop pay \$1.50 (or \$0.75 for reduced fares) to travel between Albany and Corvallis. Passengers who travel on the Loop during midday service can use the Loop fare to transfer for free to Route 3 at LBCC if their final destination is Albany Station. Passengers who start at Albany Station and transfer to the Loop at LBCC only have to pay an additional \$0.50 (\$0.25 for reduced fares) to continue to Corvallis. Passengers who transfer to/from the Loop but do not start or end their trip at Albany Station are not entitled the free transfer and are required to pay the additional fare.

Albany Call-A-Ride and the Linn Shuttle fare structures are simpler than ATS and the Loop. Each Albany Call-A-Ride ride is \$2.00, and each Linn Shuttle ride is \$1.00. The Linn Shuttle provides 10-ride cards, but this costs the same as 10 single-ride tickets.

Passengers with an ID card from LBCC can ride for free on ATS, the Loop and the Linn Shuttle⁶. Passengers with OSU IDs can ride for free on ATS and the Loop. Passengers with a Samaritan Health Services or Hewlett-Packard ID card, ride for free on the Loop only.

⁶ Passengers showing a LBCC ID card must have a valid term sticker to board for free.

4 Community Outreach

Community Outreach in the Albany area included an on-board passenger survey, a community survey, and discussions with community groups and bus operators. The sections provide key findings from these efforts.

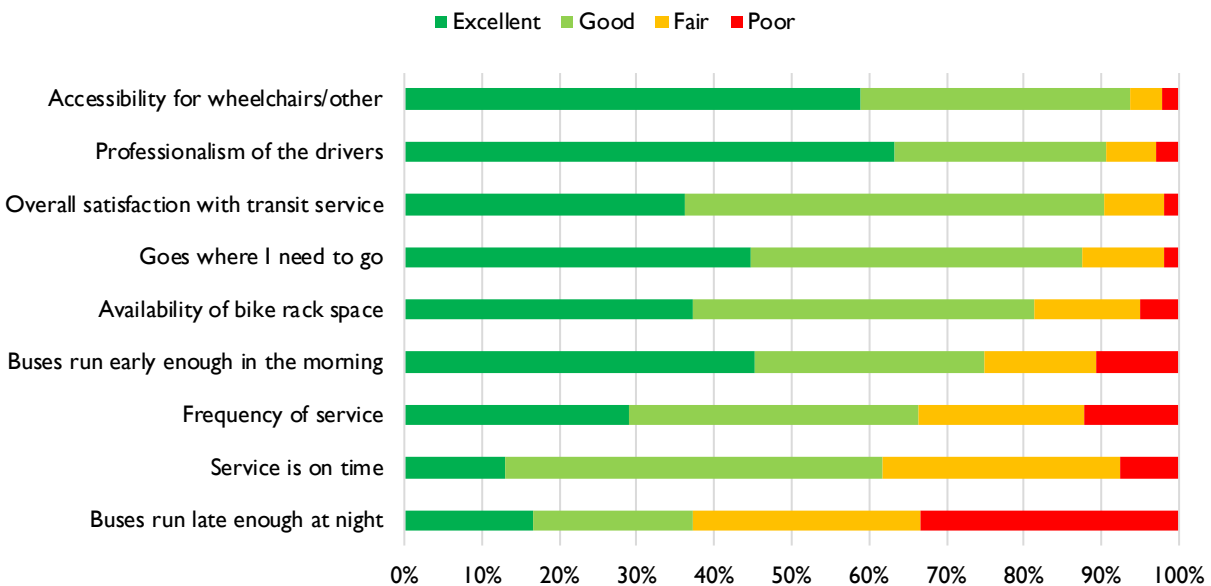
Transit Surveys

On-Board Passenger Survey

The passenger survey was conducted in fall 2014, and was available for passengers as a self-administered survey on all ATS routes, the Loop, and the Linn Shuttle. Passengers were asked to complete the questionnaire while on board the bus. The survey was conducted over a period of four days. Based on ridership data collected on those same days, it is estimated a survey was completed for approximately 29% of boardings.

The responses for ATS passengers (see Figure 18) found that people are generally satisfied with many aspects of ATS, including accessibility, coverage, and bike rack availability. At least a quarter of respondents rated morning start time, frequency of service, and on-time performance as fair or poor. The area of most dissatisfaction for passengers was service at night, with 63% of respondents believing service was not late enough.

Figure 18 Rating of Service (ATS)

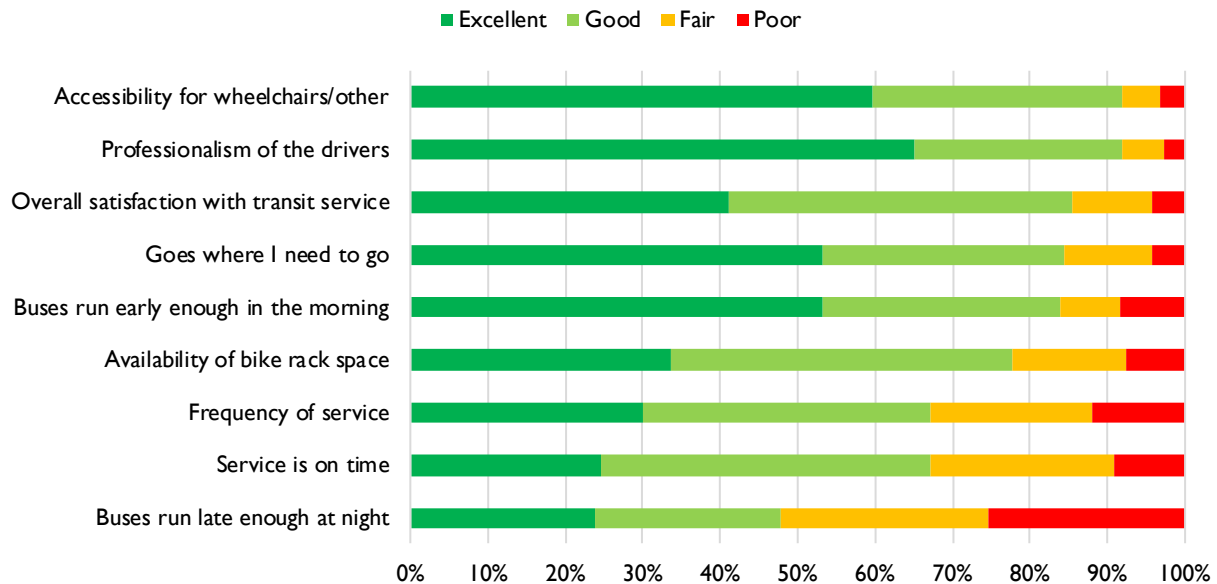


Source: Fall 2014 On-Board Survey; 107 responses

Linn-Benton Loop passengers has similar levels of satisfaction with the service (see Figure 19). However, passengers on the Linn-Benton Loop tended to rate service marginally better than ATS

passengers. This difference is minimal and overall there were no major differences between the two services.

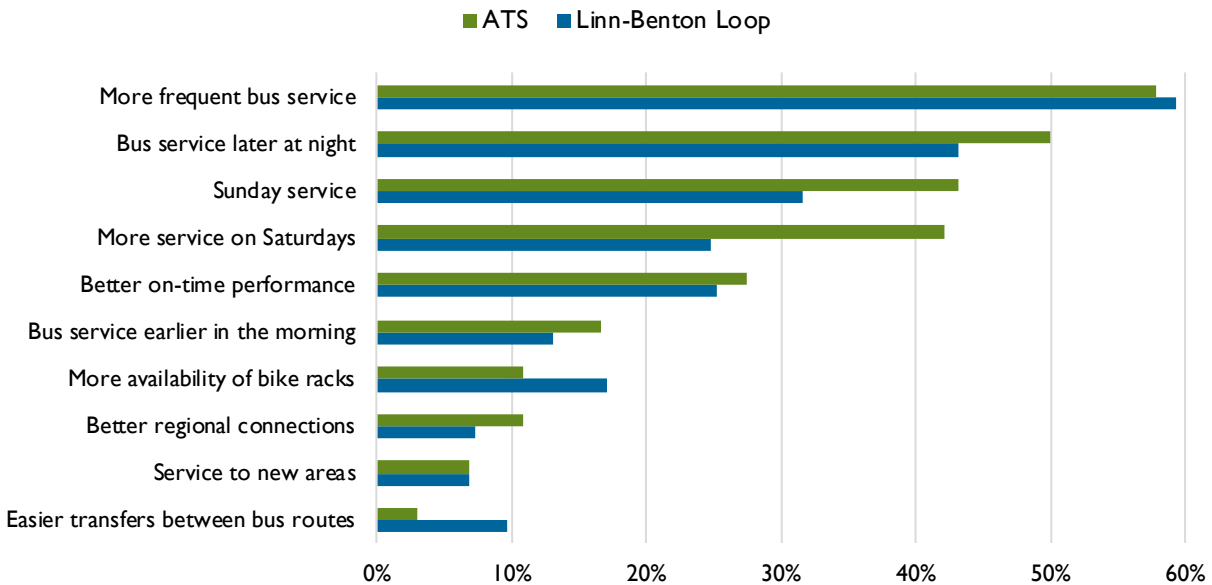
Figure 19 Rating of Service (Linn-Benton Loop)



Source; Fall 2014 On-Board Survey; 221 responses

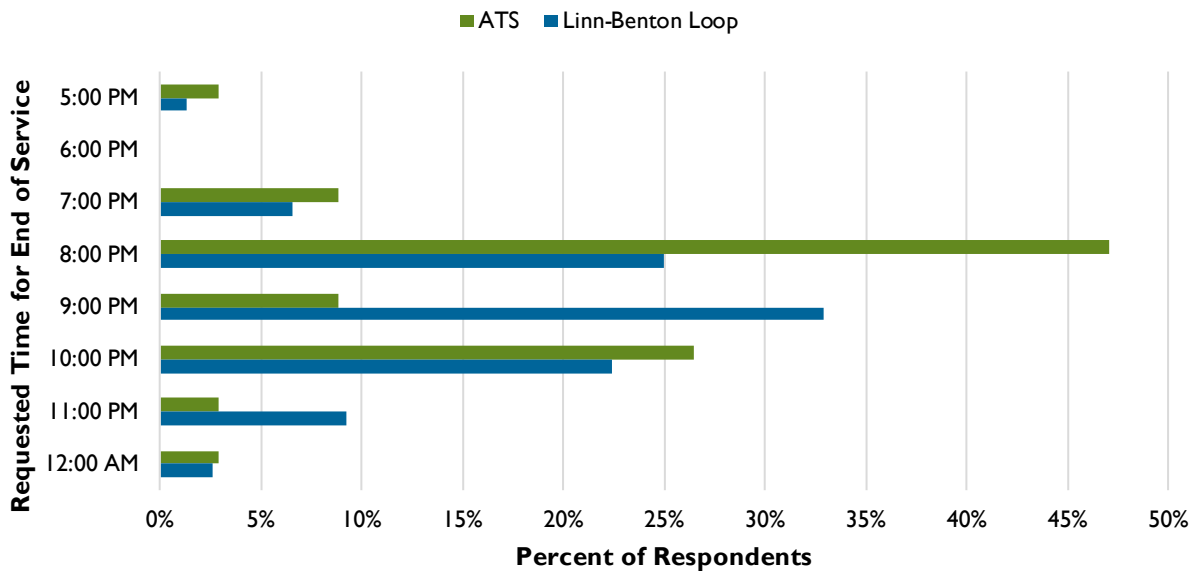
An additional question on the survey asked respondents to select their top three service improvements out of a list of 10 (see Figure 20). The top improvements identified by ATS and Linn-Benton Loop passengers were more frequent service, service operating later in the day, service on weekends, and improved on-time performance. Of the passengers who said they wanted service later at night, the majority indicated they wanted service to end between 7 p.m. and 10 p.m., with the most respondents indicating 8 p.m. for ATS service, and 9 p.m. for Linn-Benton Loop (see Figure 21).

Figure 20 Top Service Improvements (ATS and Linn-Benton Loop)



Source: Fall 2014 On-Board Survey; 102 ATS responses and 206 Loop responses

Figure 21 Requested Time for End of Service (ATS)



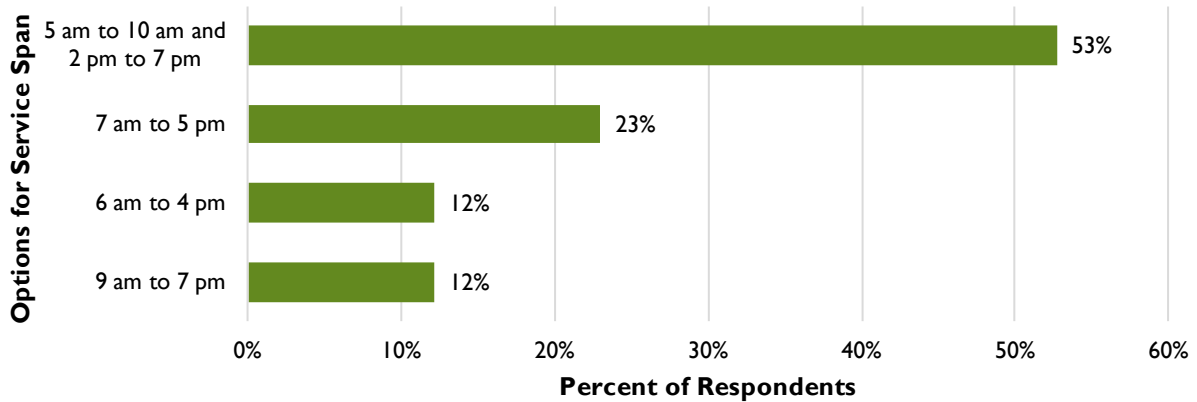
Source: Fall 2014 On-Board Survey; 34 ATS responses and 76 Loop responses

Community Survey

In June 2017, an additional passenger survey was conducted at Albany Station, on-board buses, and with community groups in rural communities. The survey asked about various topics, including some specifically regarding transit services. The survey was intended to give direction to ATS about specific operational considerations, such as span of service.

Figure 22 shows the responses to a question regarding the desired span of service with a limitation of only 10 hours per day. More than half of respondents wanted to see service begin earlier and operate later with a service gap midday. Few respondents wanted service to end by 4 p.m. or begin after 9 a.m.

Figure 22 Preferred Span of Service



Source: June 2017 Albany Outreach Survey; 74 responses

Community Input

In addition to surveys with passengers and the public, the project team met with bus operators, Albany area transportation stakeholders, and conducted focus groups. Each of these groups provided their thoughts on what methods and strategies would improve service, and what the community’s existing and future needs are.

Figure 23 ATS Operator



Source: Nelson\Nygaard

- **Low frequency and limited span of service are primary limitations of the system.** A major concern with the existing system is that headways are too long, service does not operate on the weekends, and service starts too late in the morning and ends too early in the evenings. There was an understanding that these issues are a major factor that limits transit's usefulness to more people, and limits potential for ridership growth.
- **Traffic delay and congestion were noted as primary concerns.** Particularly, railroad crossings were identified as causing the most delay. All bus routes in Albany cross major railroad crossings and can wait between 10 and 20 minutes when a train passes. Because the routes cycle in 60 minutes, this can cause delays for a few trips before operators can get back on schedule. On Salem Road, a bus is delayed two or three times each month, while the crossing on 34th Street occurs about once every couple of months.
- **Fares can be complicated and difficult to understand.** Bus operators noted that many passengers are confused by the fare structure. As Albany grows and the transit service expands, the operators suggested a new or modified fare structure should be implemented to simplify the payment process.
- **A housing-jobs imbalance in the Corvallis-Albany area is resulting in longer commutes and more population growth in Albany.** A combination of development

regulations and housing costs has pushed people from Corvallis into Albany to live, despite their employment remaining in Corvallis. This results in longer commutes and trip destination pairs that cannot be served conveniently by transit. Over the next 25 years, the transit system will need to address this and change accordingly.

- **Pedestrian access and safety are important factors that need to be addressed to ensure adequate access to transit, and improve the overall transportation network.** Many stakeholders noted that multimodal solutions are needed for Albany to address its future congestion issues. Some predicted that as congestion increases, automobile drivers may seek unsanctioned routes through neighborhoods to bypass the congestion. This may hinder safety and comfort for people who travel by foot or bicycle (many of whom also use transit for their mobility). Therefore, the stakeholders indicated a need for improved crosswalks and sidewalk connectivity to increase roadway safety, make more areas of the city accessible to the population, and to enhance the walkability of commercial districts. Despite these needs, many questioned the sustainability of financing for these investments. A secure source of funding is necessary to repair, maintain, and construct the transportation network that many desire.
- **Smaller regional communities depend upon services in Albany for health care, education, shopping, and other personal needs.** Albany is a popular destination for basic shopping needs with the Heritage Mall, Fred Meyer, Costco, and Walmart. The new Albany WinCo is expected to increase regional travel demand into Albany. Additionally, many people travel into Albany for medical appointments, general health care needs, and educational opportunities at LBCC.
- **Some members of the community have limited English proficiency and may need information presented in another language.** Stakeholders identified multi-lingual bus operators, signage, and information provided in more than one language and displaying information with universal imagery as a way of providing improved access to people with limited English proficiency.

5 Operations Analysis

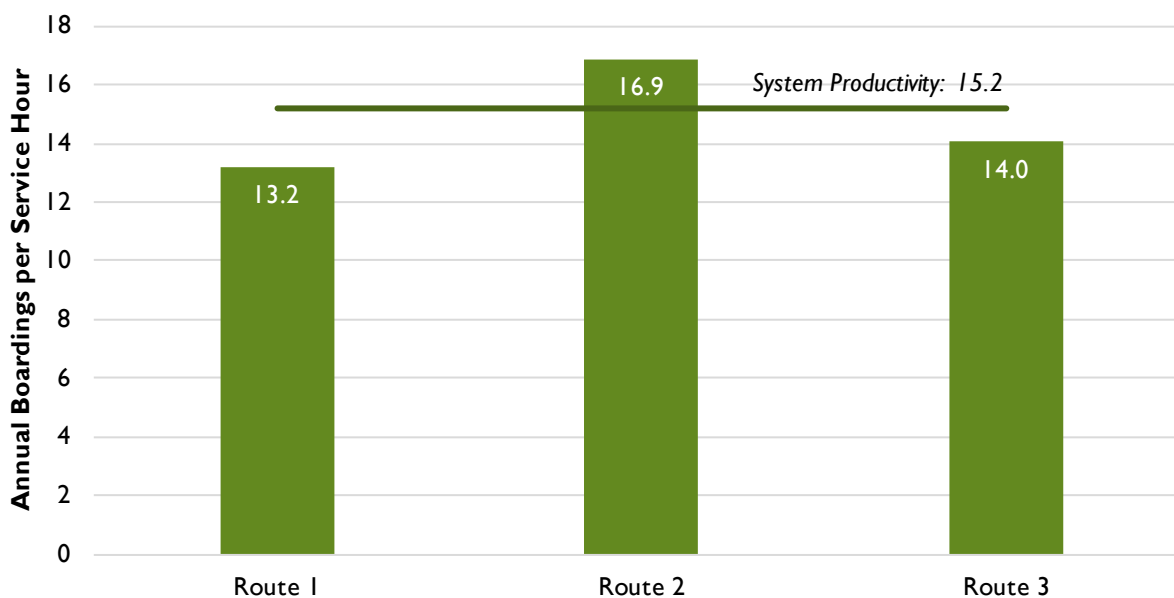
This chapter provides an in-depth review of ATS, the Loop, Albany Call-A-Ride, and the Linn Shuttle. Additional detailed data on each route are provided in Appendix C.

System Assessment and Historical Trends

Albany Transit System

With approximately 80,000 annual boardings, and 5,100 annual service hours, ATS' productivity is approximately 15 boardings per hour. Route 2 is the most productive route, with approximately 17 boardings per hour. Route 1 is the least productive, at approximately 13 boardings per hour. Figure 24 shows productivity by route, with the system productivity overlaid on top for comparison.

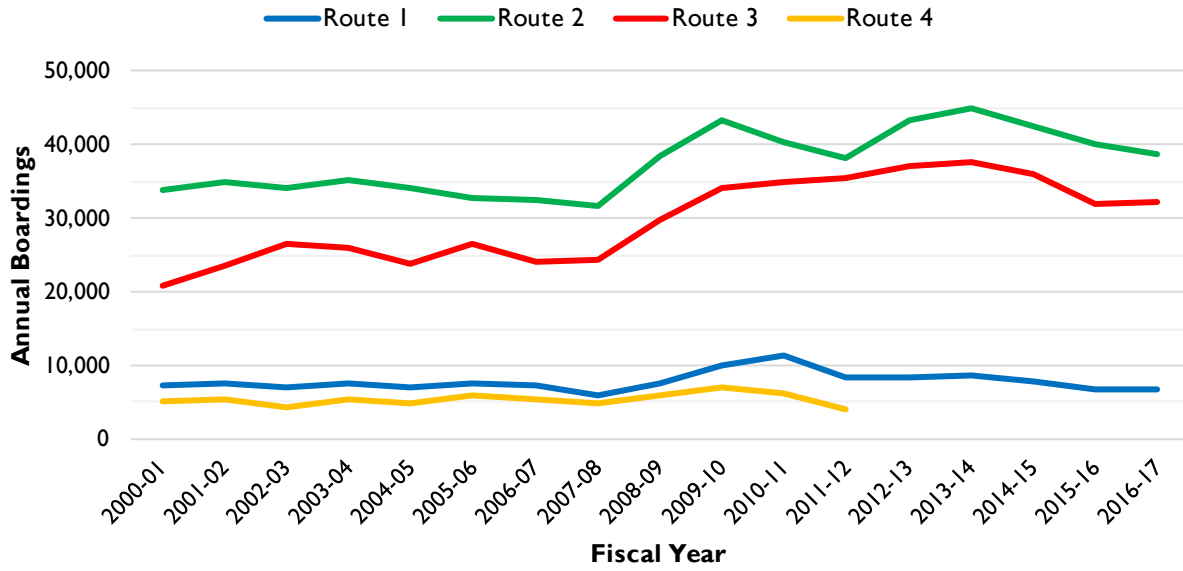
Figure 24 Annual ATS Productivity (Boardings per Service Hour), by Route



Source: City of Albany; based on FY 2016-17 data

As the system-level ridership trends from Chapter 3 show, ridership on ATS has grown over the past decade, but has slowed in recent years. Figure 25 shows the ridership on all ATS routes from FY 2000–2001 through 2016–17. Route 4, which operated as the late afternoon/early evening route was discontinued in March 2012 and replaced with a longer span of service on Routes 2 and 3.

Figure 25 Annual ATS Ridership, by Route



Source: City of Albany

Figure 26, Figure 27 and Figure 28 show the ridership by stop for Routes 1, 2, and 3.

Figure 26 Route 1 Ridership by Stop (Fall 2014)

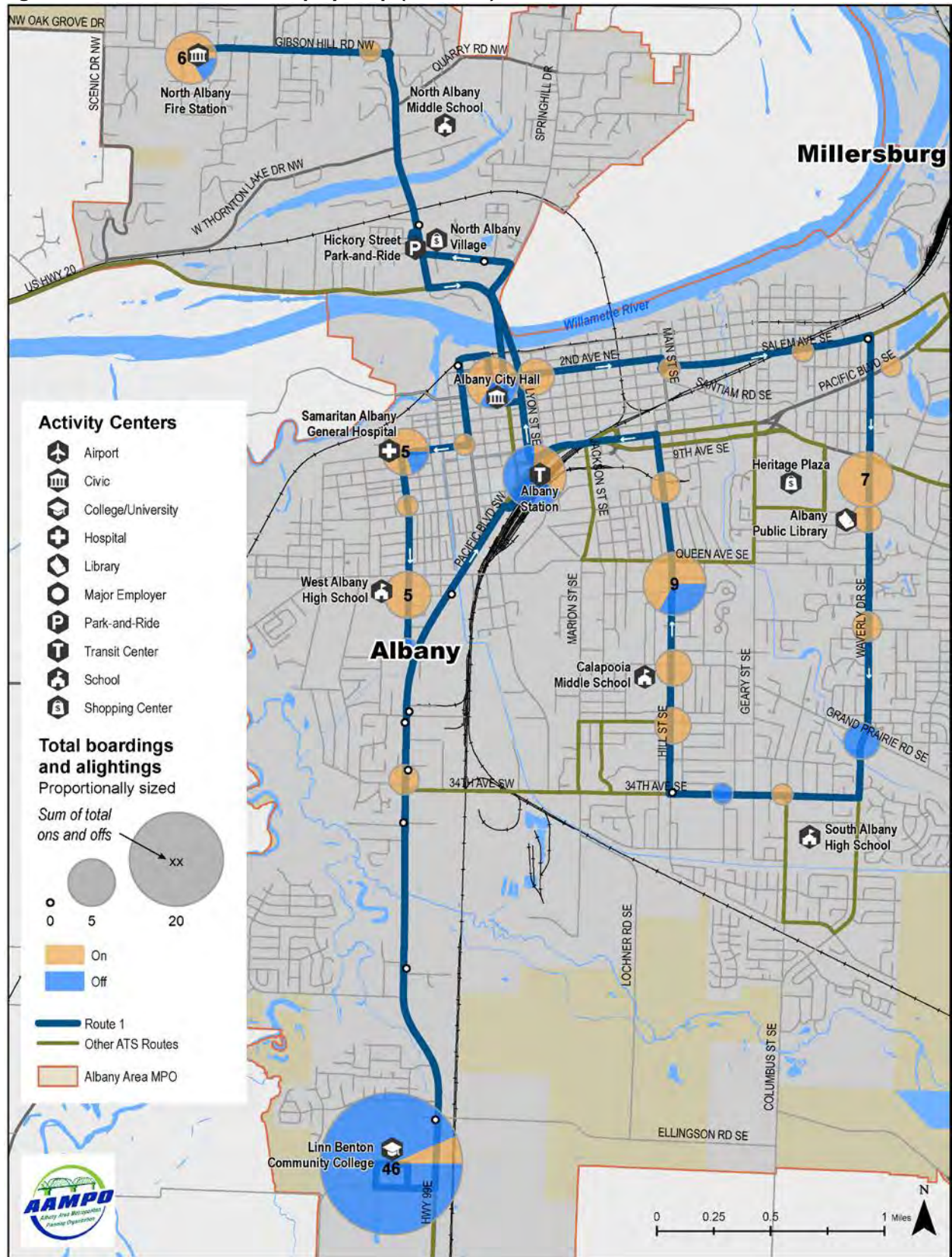


Figure 27 Route 2 Ridership by Stop (Fall 2014)

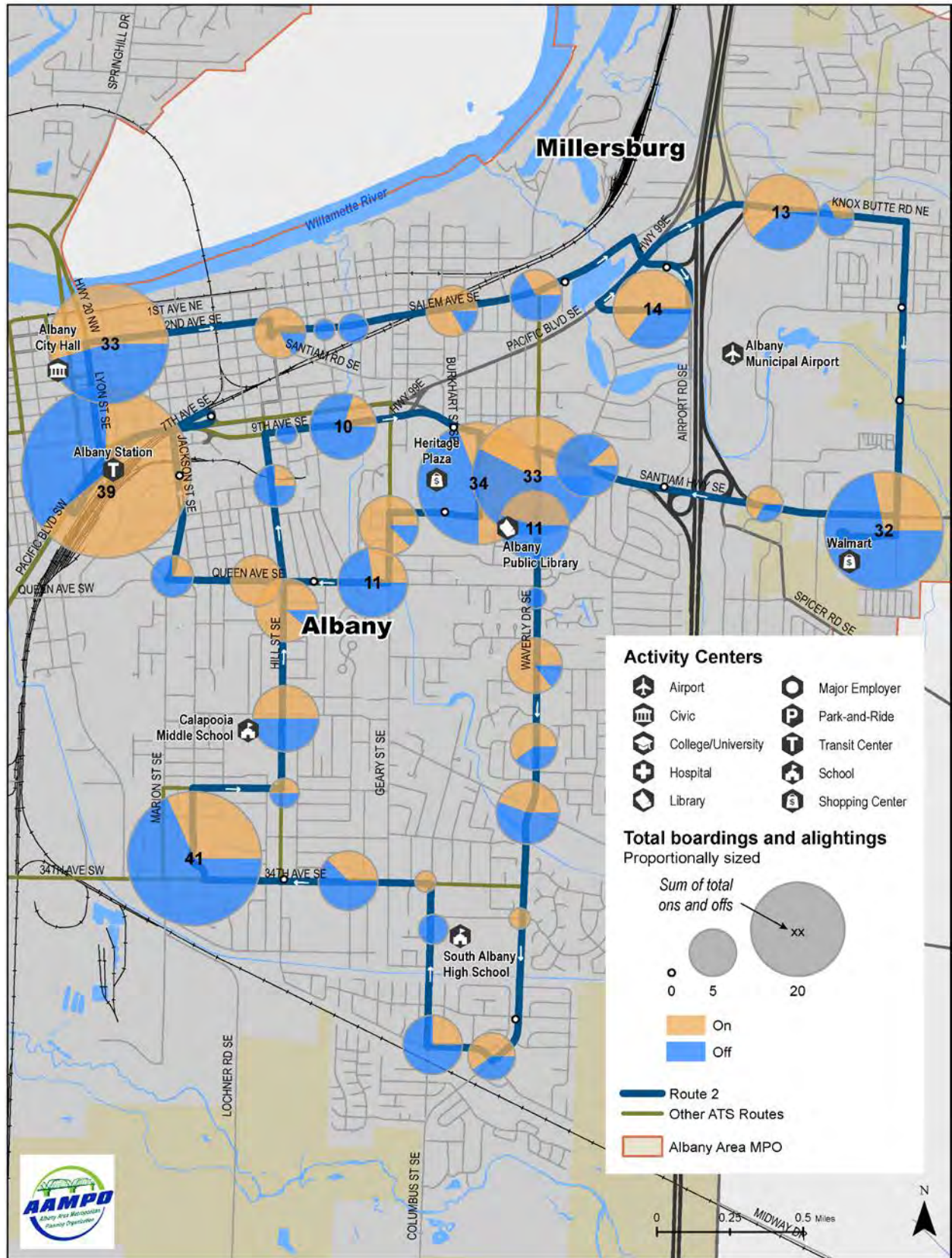
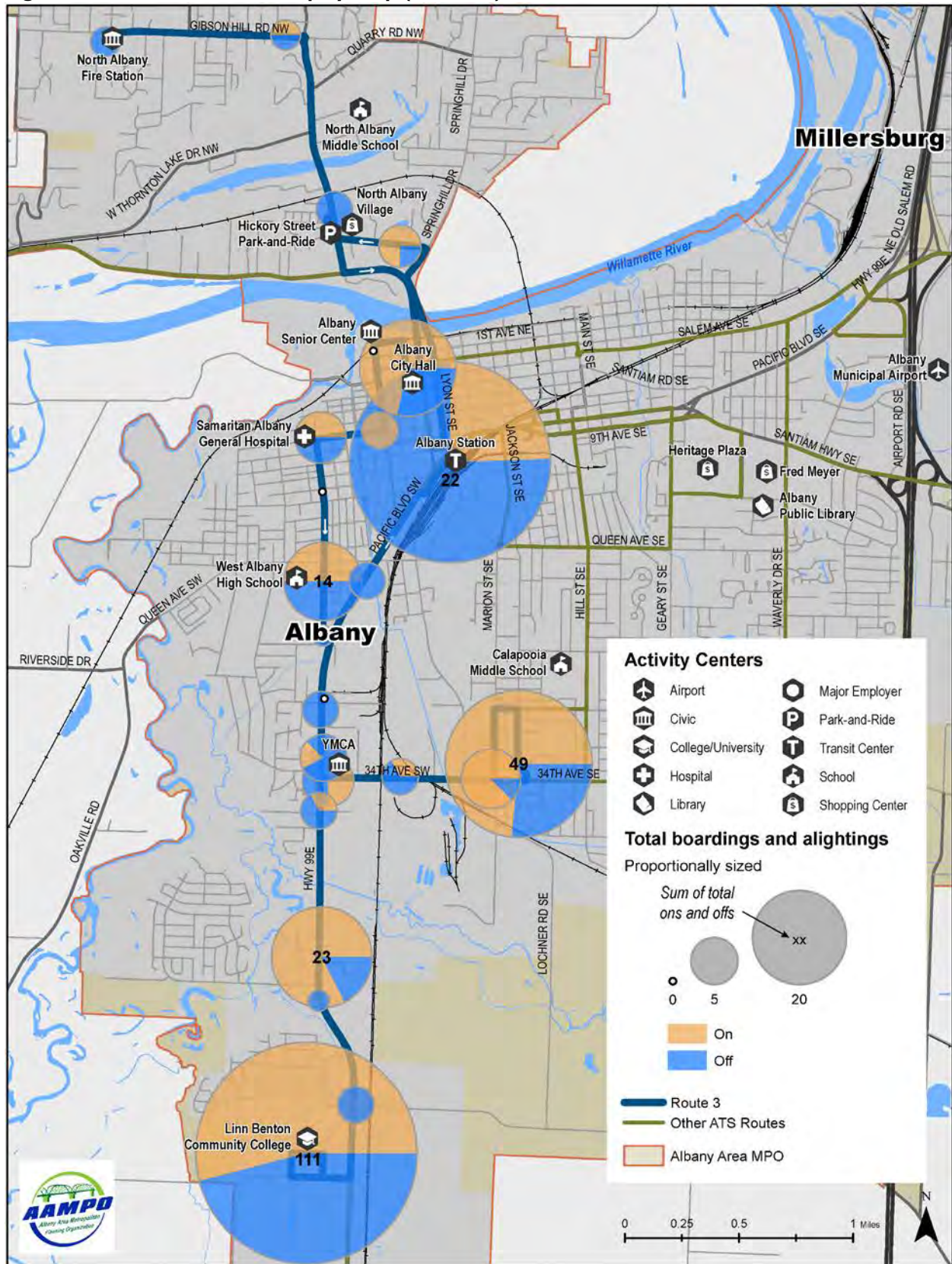


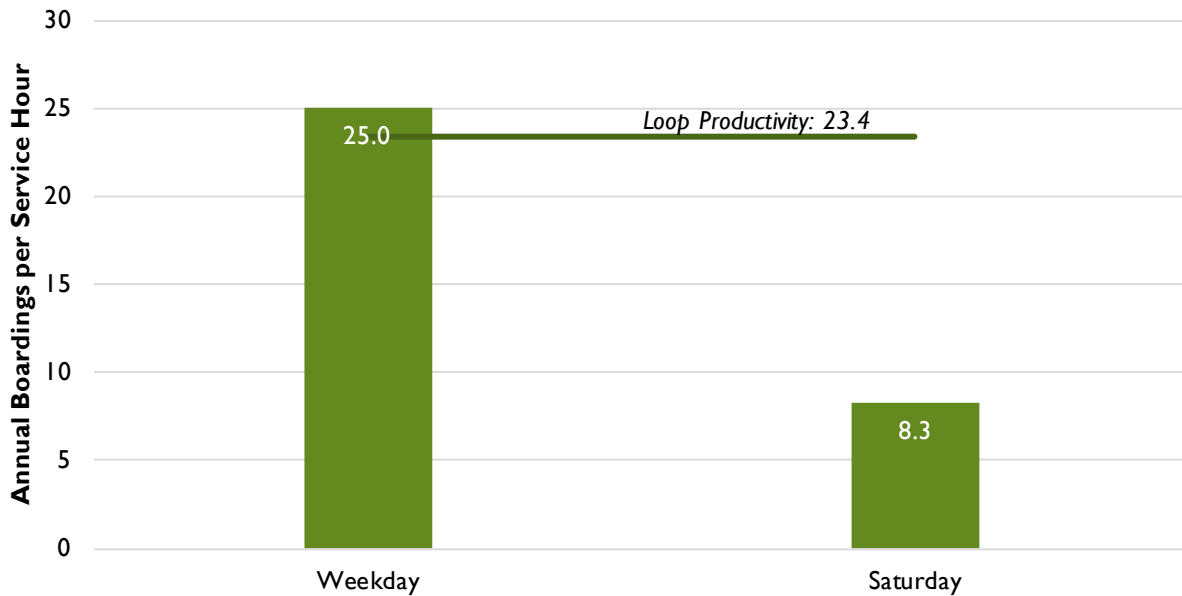
Figure 28 Route 3 Ridership by Stop (Fall 2014)



Linn-Benton Loop

The Loop's productivity is the highest of Albany area transit services. The Loop carries 110,000 annual boardings over 4,700 annual service hours. Average productivity is 23 boardings per hour, but the vast majority of passengers ride during the weekdays (see Figure 29).

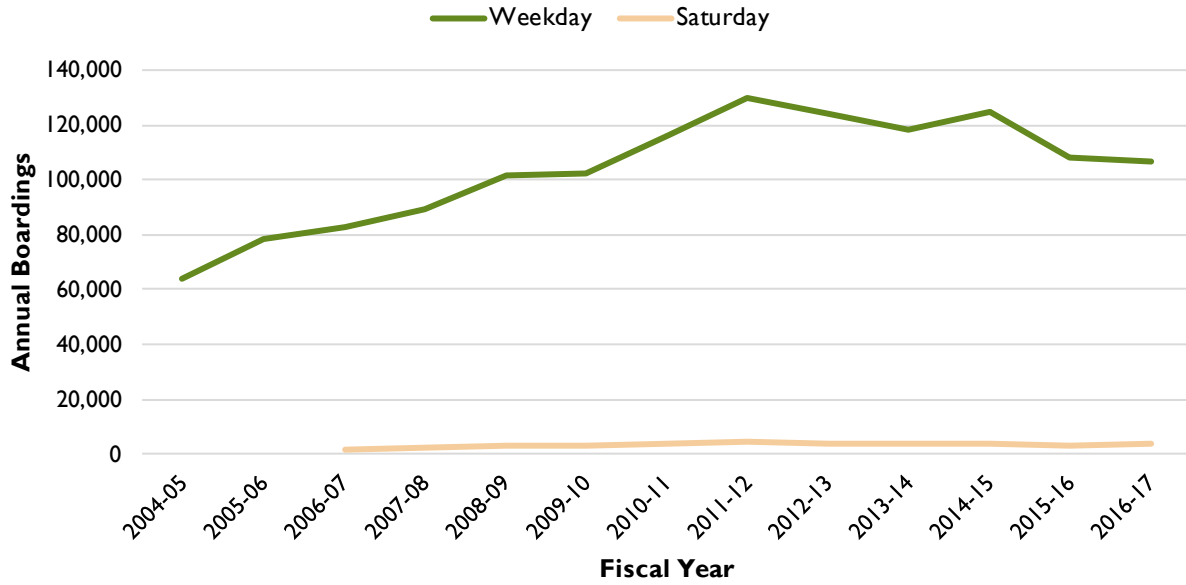
Figure 29 Annual Loop Productivity (Boardings per Service Hour), by Day



Source: City of Albany; based on FY 2016-17 data

The Loop's ridership has grown during the past decade, largely driven by growth during the weekday (see Figure 30). Service on Saturdays has carried approximately the same number of passengers each year, between 2,000 and 4,000 passengers. This is approximately one-sixth of the number of passengers carried by the Loop on an average weekday.

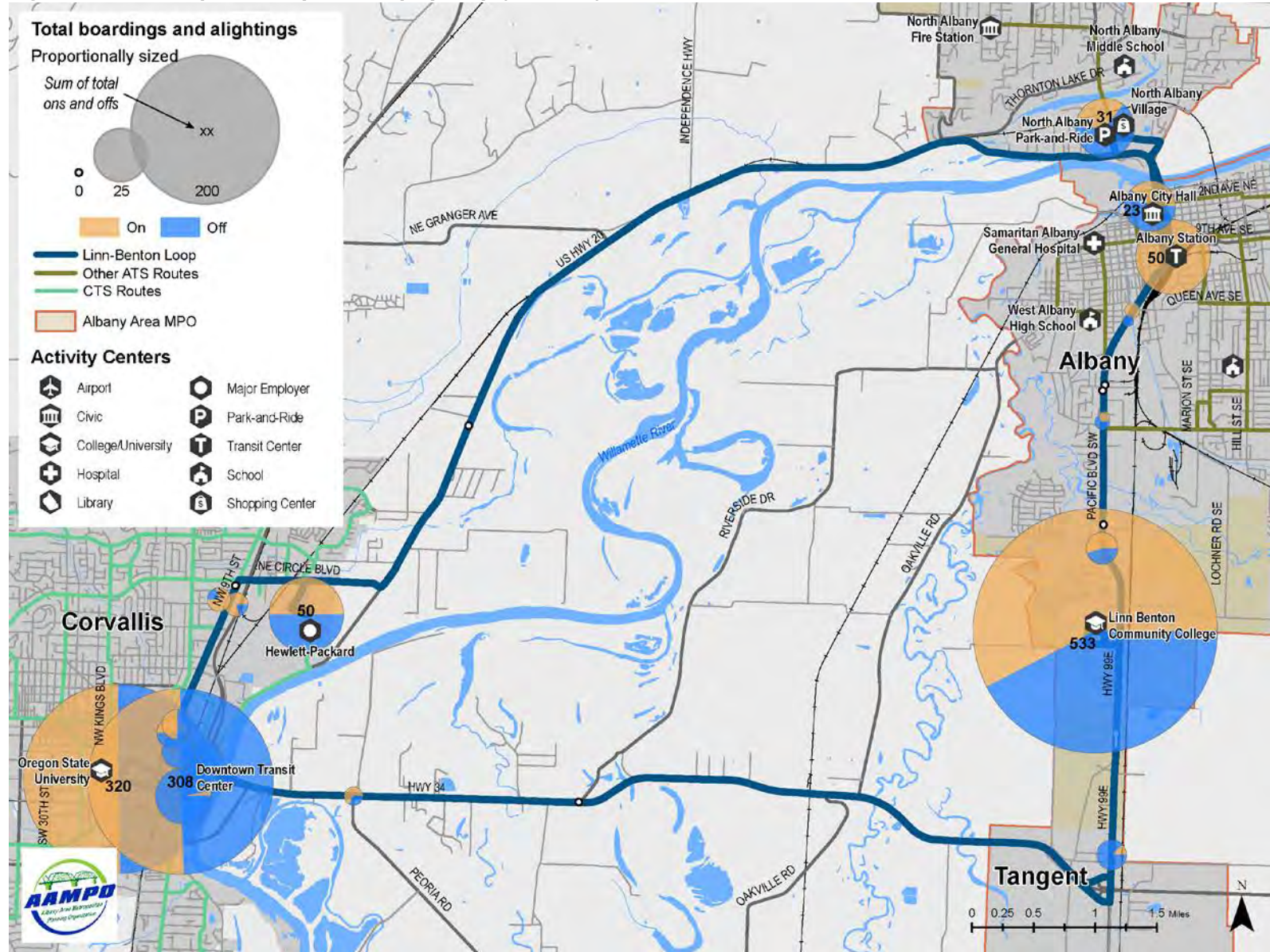
Figure 30 Annual Loop Ridership, by Service Day



Source: City of Albany

Figure 31 shows the weekday ridership by stop on the Loop.

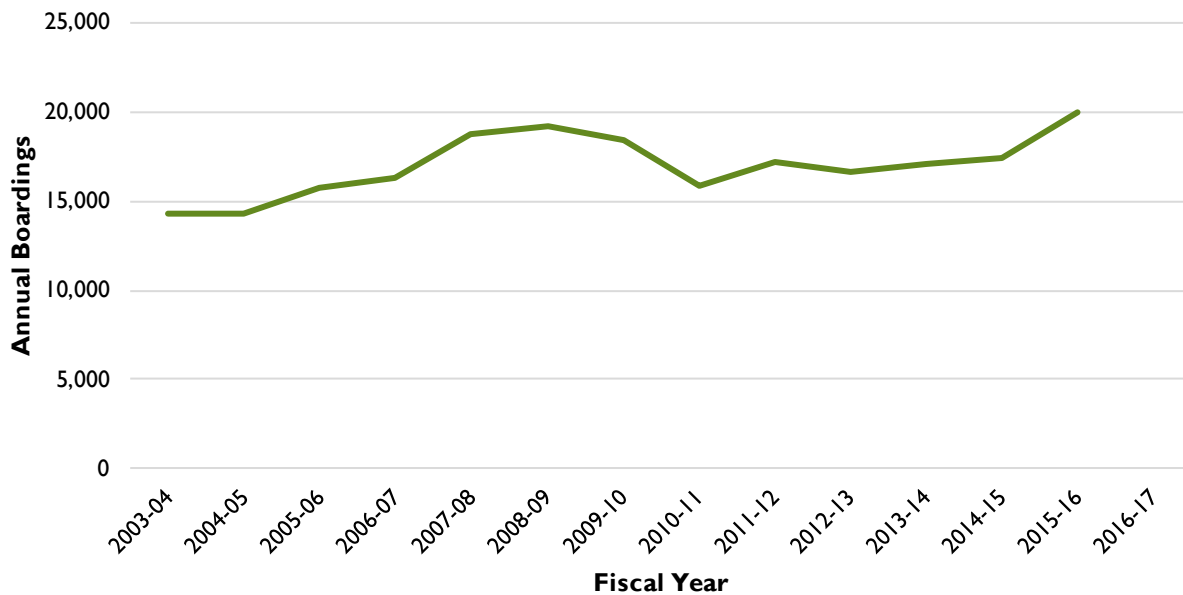
Figure 31 Loop Weekday Ridership by Stop (Fall 2014)



Albany Call-A-Ride

Albany Call-A-Ride carries between 15,000 and 20,000 passengers annually during the past decade (Figure 32). With approximately 6,000 annual service hours, Albany Call-A-Ride has a productivity of 2.8 boardings per hour, which is typical for paratransit services. The Albany Call-A-Ride has seen minimal ridership growth during the past ten years. Ridership increased during the recession, but dropped to pre-recession levels by 2011.

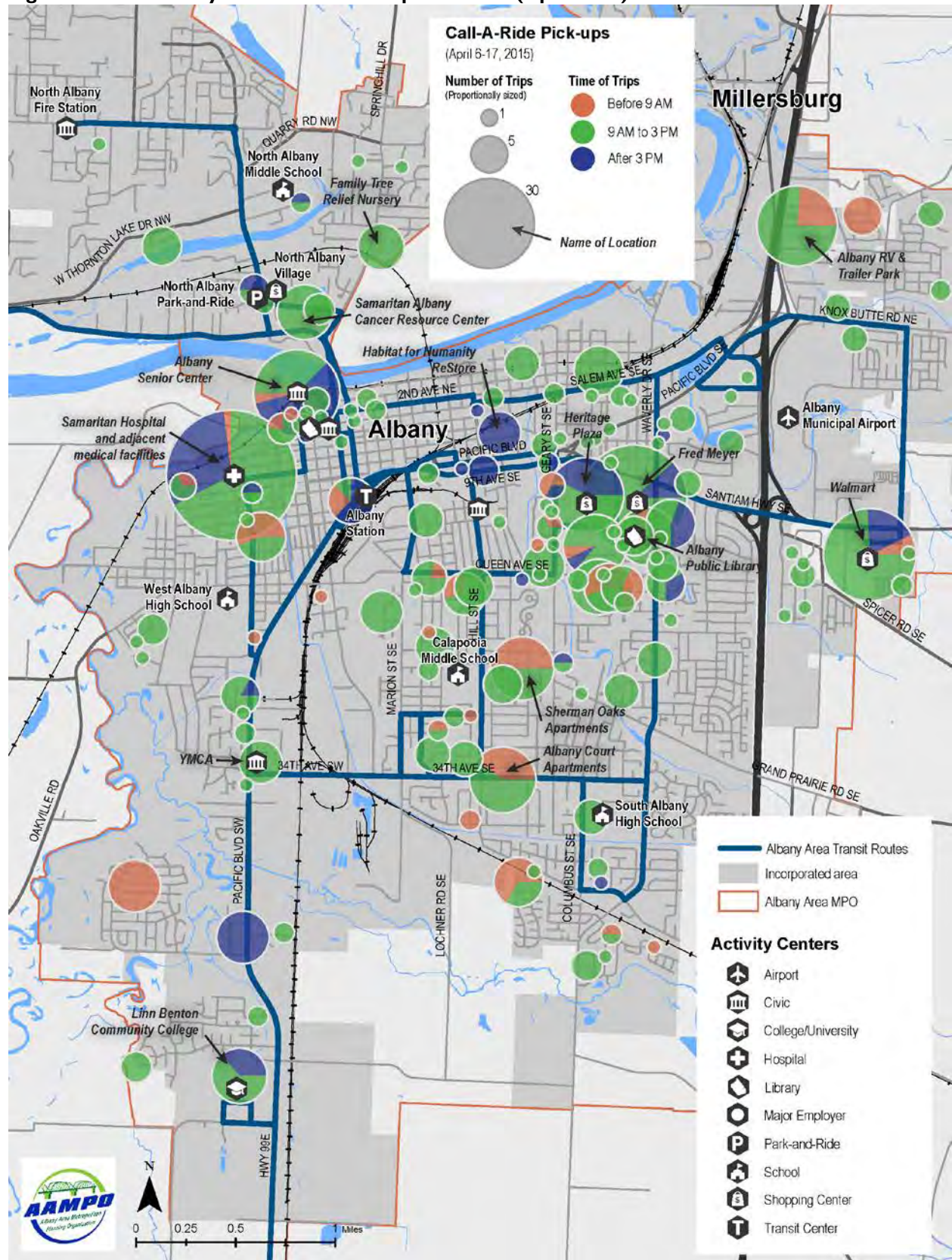
Figure 32 Annual Albany Call-A-Ride Ridership



Source: City of Albany

Figure 33 shows Albany Call-A-Ride pick-ups locations coded by time period during a two-week period in April 2015. The areas with the highest demand for trips are surrounding Heritage Plaza, senior housing complexes, and medical facilities. Most trips occur between 9 a.m. and 3 p.m. Pick-up locations in residential areas tend to have higher rates of pick-ups before 9 a.m., and commercial areas tend to have more pick-ups after 3 p.m.

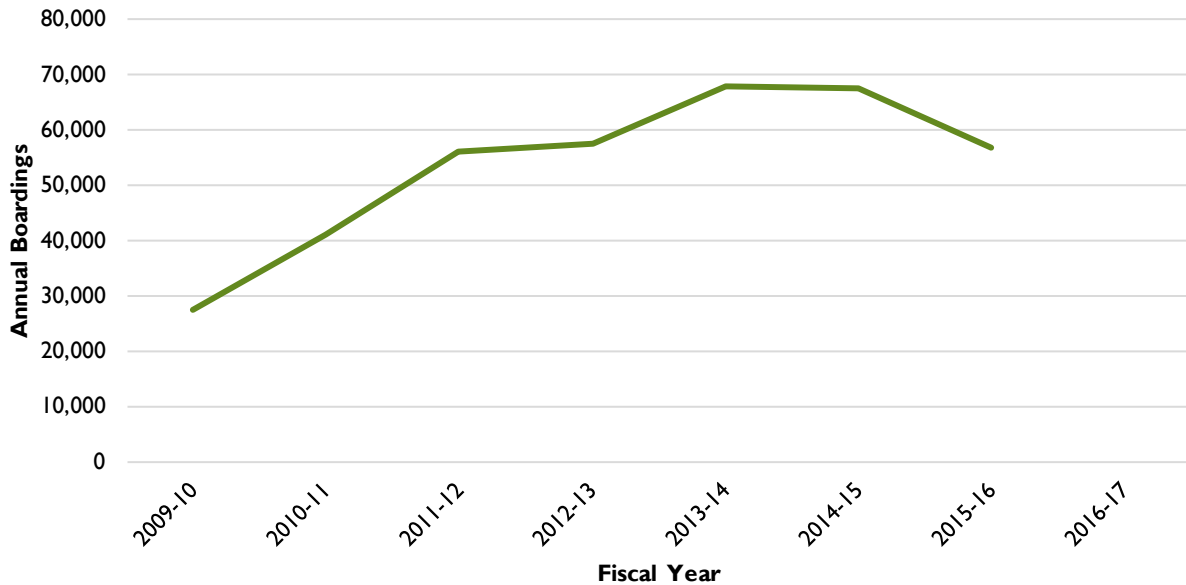
Figure 33 Albany Call-A-Ride Pick-Up Locations (April 2015)



Linn Shuttle

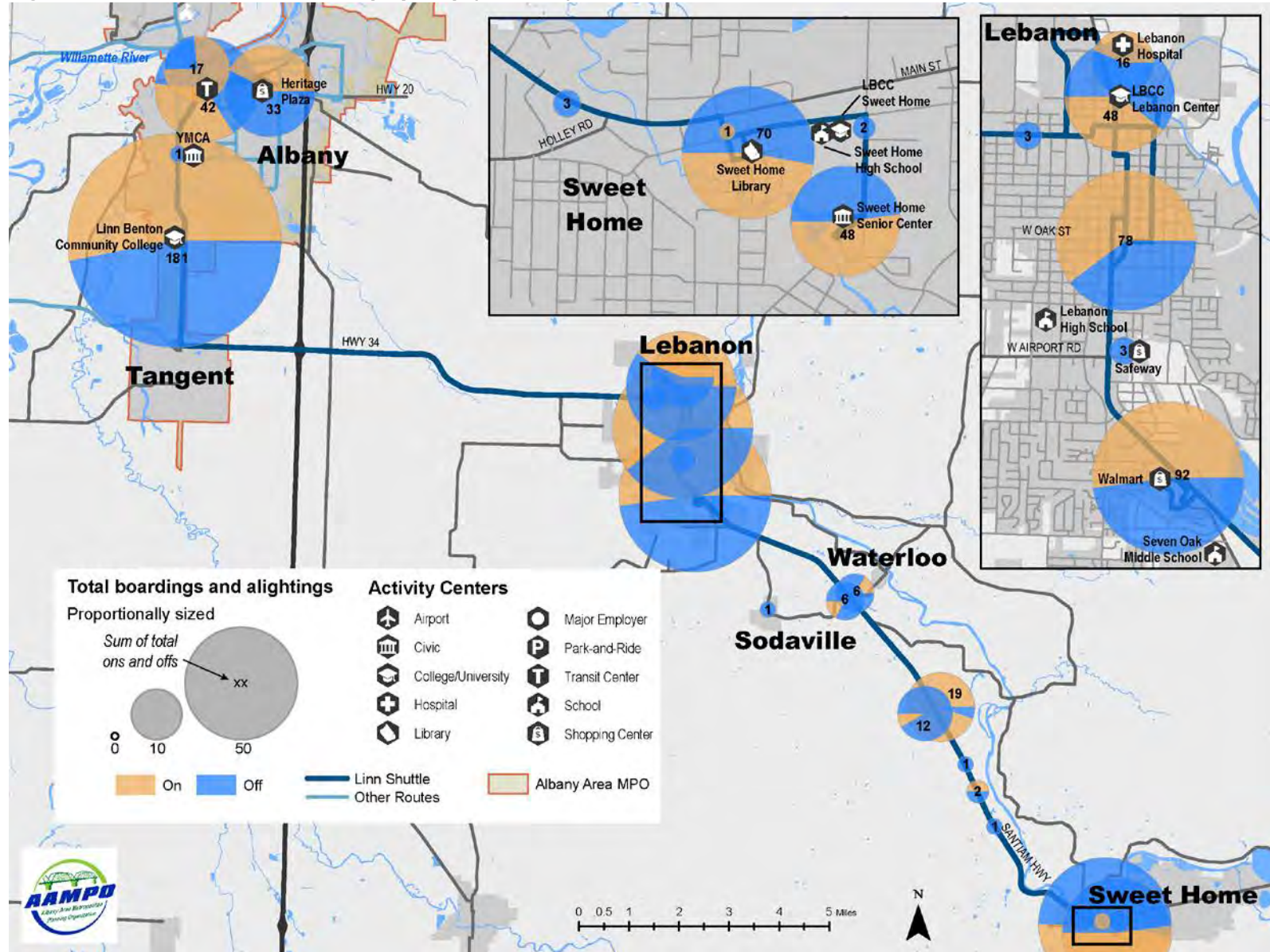
The Linn Shuttle's ridership has grown significantly over between 2009 and 2014, from less than 30,000 to 70,000. With approximately 5,270 annual service hours, the Linn Shuttle operates with a productivity of approximately 10.8 boardings per hour. Figure 34 shows the annual ridership on the Linn Shuttle, and Figure 35 shows the ridership by stop.

Figure 34 Annual Linn Shuttle Ridership



Source: Sweet Home Senior Center

Figure 35 Linn Shuttle Ridership by Stop (Fall 2014)



Peer Review

Additional performance metrics for ATS compared to a set of five peers are provided in Table 10 and Table 11 (for fixed-route and paratransit services, respectively). The values are based on data reported to the FTA by each agency and available through the National Transit Database (NTD). Fixed-route data for Albany in the NTD combines data for ATS and the Loop.

Compared with the five peers, ATS (fixed-route plus Loop) is fairly productive. At approximately 22 passengers per hour, it exceeds the average of its peers of 14 passengers per hour. However, ATS provides far less service than all five peers. According to NTD, ATS operated approximately 10,000 hours of service, approximately half of the peer average of 20,500 hours. Additionally, the cost per hour to operate the service—approximately \$94 per hour—is 22% higher than the peer average of \$77 per hour.

Although it seems like costs would go up as service hours increase, that is not always the case. Transit agencies achieve certain economies of scale in terms of administration and dispatch, and as more hours are put onto the street, the service becomes more convenient. Thus adding service hours does increase cost (mainly due to fuel and labor) but ridership may increase at a faster rate. This is how a system like Petaluma, for example, can have 88% more service hours than ATS but just 46% higher costs, while still achieving good productivity.

For demand-response paratransit services, Albany Call-A-Ride is less productive than its peers (2.2 passengers per hour, compared to 2.9 for its peers). However, this difference is not significant and falls within a normal range for paratransit services. In terms of the cost per hour of service, Albany Call-A-Ride is more cost efficient. For each hour of demand-response service, Albany Call-A-Ride costs \$57, compared to a peer average of \$79 per hour. Albany Call-A-Ride recovers approximately 7% of its operating cost from fares, compared to 5% for the peer systems.

Table 10 Comparison of Peer Fixed Route Systems, 2015

Peer City	Agency	Revenue Hours	Operating Cost	Passengers	Fare Revenue	Passengers per Hour	Operating Cost per Passenger	Operating Cost per Revenue Hour	Farebox Recovery Ratio
Albany	ATS & The Loop	9,925	\$932,067	214,865	\$56,140	21.65	\$4.34	\$93.91	6%
Grants Pass, OR	Josephine Community Transit	18,239	\$1,119,517	206,653	\$124,581	11.33	\$5.42	\$61.38	11%
Carson, NV	Jump Around Carson	15,345	\$812,740	197,041	\$70,976	12.84	\$4.12	\$52.96	9%
Petaluma, CA	Petaluma Transit	18,620	\$1,369,079	373,949	\$224,011	20.08	\$3.66	\$73.53	16%
Lodi, CA	Grape Line	22,378	\$1,728,424	249,004	\$149,251	11.13	\$6.94	\$77.24	9%
Longview-Kelso, WA	RiverCities Transit	27,968	\$2,892,246	428,238	\$133,339	15.31	\$6.75	\$103.41	5%
Peer Average		20,510	\$1,584,401	290,977	\$140,432	14.19	\$5.45	\$77.25	9%

Source: National Transit Database, 2015

Note: Values only include fixed-route and commuter services. Albany values include ATS and the Loop. Fare revenue only accounts for fares collected at the farebox and does not include funding partnerships with other agencies, particularly colleges and universities.

Table 11 Comparison of Peer Demand Response Systems, 2015

Peer City	Agency	Revenue Hours	Operating Cost	Passengers	Fare Revenue	Passengers per Hour	Operating Cost per Passenger	Operating Cost per Revenue Hour	Farebox Recovery Ratio
Albany	Albany Call-A-Ride	7,760	\$438,447	17,035	\$30,000	2.20	\$25.74	\$56.50	7%
Grants Pass, OR	Josephine Community Transit	5,820	\$451,766	17,937	\$29,020	3.08	\$25.19	\$77.62	6%
Carson, NV	Jump Around Carson	8,553	\$374,610	20,372	\$31,288	2.38	\$18.39	\$43.80	8%
Petaluma, CA	Petaluma Transit	8,878	\$881,335	26,457	\$58,966	2.98	\$33.31	\$99.27	7%
Lodi, CA	Grape Line	12,131	\$1,195,980	32,421	\$60,074	2.67	\$36.89	\$98.59	5%
Longview-Kelso, WA	RiverCities Transit	18,429	\$1,354,034	56,756	\$14,948	3.08	\$23.86	\$73.47	1%
Peer Average		10,762	\$851,545	30,789	\$38,859	2.86	\$27.66	\$79.12	5%

Source: National Transit Database, 2015

Note: Values only include demand-response and paratransit.

Peer Fares

A comparison of peer fares shows standard and reduced cost of using ATS is in-line with the costs of its peers. Figure 36 shows the cost for reduced and standard fares with cash for a one-way trip is the same in Albany as in three of its peers. Only Petaluma Transit and Grape Line, serving Petaluma and Lodi, California, respectively, have a higher cost for one-way cash fares. These higher costs may be attributable to the higher cost-of-living in those cities or to the state requirement that transit agencies achieve certain farebox recovery ratios.

Figure 36 One-Way Cash Fare On-Board Bus



Source: City of Albany; Josephine County; Carson City; City of Petaluma; City of Lodi; RiverCities Transit

ATS passengers have a relative benefit with 20-ride booklets. On a per-ride basis, these booklets cost \$0.85 for a standard fare and \$0.43 for a reduced fare. Peers that provide similar discounted bulk passes have an average cost per ride of \$1.03 for a standard fare and \$0.50 for a reduced fare.

The lowest relative cost for ATS riders is the monthly pass, which cost \$30 for a standard pass and \$15 for a reduced pass.⁷ These monthly costs are equivalent to the average and median cost of monthly passes for Albany’s peers. A detailed comparison of the peer average and median values for different pass types are listed in Appendix C, along with additional charts.

⁷ If a passenger uses transit twice a day for 20 days each month, the average cost per boarding is approximately \$0.75—three-fourths the cost of a one-way cash fare and approximately 88% of the cost of the 20-ride booklet.

6 Needs Assessment

This chapter summarizes the key findings resulting from the analysis of transit services in the Albany area, community outreach, and performance evaluation.

Key Findings

ATS is a small system comprised of large, one-way loops that connect most of Albany. Many passengers can reach their destinations with a single-seat ride, though timed transfers between routes allow for easy movement from one side of Albany to the other.

Overall, the system does well in serving most parts of the city and a variety of market types: medical facilities, educational institutions, commercial districts, and job centers. Even though these destinations are served by transit, the limited frequency and long travel times make current service ineffective for a wide variety of demographic groups. Improving service would make transit valuable for more people and for a wider range of trip purposes.

The following are additional key findings for the existing service.

- **Limited frequency of service.** With hourly service on most of the ATS routes, it can be difficult for many passengers to run timely errands. The on-board survey and operator comments demonstrate a desire for increased frequency of service.
- **Ridership in Albany has increased considerably in recent years.** While this trend has slowed, high demand for transit service exists in the community and may require increased services to meet the demand.
- **Regional connections are important.** The Loop carries more passengers each day than all of Albany's local routes, combined. Additionally, there are many people who live in Albany but commute to work or school in Corvallis, and students who take classes in both cities. This demonstrates an important need to maintain and improve regional connections.
- **The busiest stops indicate the important needs of passengers.** The busiest stops on all routes demonstrate the importance of access to colleges and universities, shopping centers and grocery stores, and transfer locations between routes. The on-board survey found 49% of passengers in Albany are affiliated with OSU or LBCC. Additionally, stop-level boarding data show a high concentration of ridership activity in the Heritage Plaza area. This demonstrates how important transit service is to people who rely upon ATS for daily errands.
- **Passengers utilize the transfers between routes to connect themselves to the region.** Passengers value the timed transfers between Routes 2 and 3 to travel regionally.

Additionally, many passengers who travel between Corvallis and Albany during the midday depend upon transfers to connect them to their final destination. Despite its importance and simplicity, the process of transferring, and the fare associated with the transfer are not well understood or easy to find for new transit users.

- **Lack of services in smaller communities.** Local bus service is limited to the City of Albany and Call-A-Ride service only operates in Albany and Millersburg. As noted above, residents of smaller communities depend upon health care, shopping and other services in Albany; however, there is no direct transit service from these communities into Albany.
- **Fixed-route service in Albany needs to better serve locations frequented by seniors and those with a disability.** The current route design and schedules, along with barriers limiting access transit, result in overreliance on the Call-A-Ride and medical/shopper shuttle services.

Future Needs

As the Albany area grows over the next few decades, additional transit investments will be required to serve current and future markets. This expansion will be based on multiple needs:

- **Expanding existing services** – The existing service only operates Monday through Friday and for limited hours during the day. There is desire from the public for Saturday service, increased frequency, and longer service hours.
- **Capital needs** – As the Albany transit fleet ages, and as service expands to address latent and future demands, additional vehicles will need to be acquired. A new bus maintenance facility will also be required to accommodate the larger fleet size.
- **Sidewalk connectivity** – All transit trips start or end with a walk, requiring a robust network of safe and connected sidewalks and crosswalks to connect ridership markets with the service. Coordination between transit providers and local jurisdictions will be necessary for this network to be established in time for expanded or new service.
- **Riders not covered by special programs** – Albany is a key destination for low-income workers from Jefferson, Millersburg, and Tangent. The key gap in the current public transportation system is service for younger individuals with disabilities and lower income individuals in smaller communities who are not eligible for Medicaid or other special programs. These individuals may not have a vehicle, physical capacity, money, or family/friends that are available to assist with transportation.
- **Expected growth** – The Albany area is expected to add 20,000 new people and 10,000 new jobs over the next few decades. To maintain existing per capita and per employee service levels in the City of Albany, transit service hours will need to increase between 30 and 70%.

- **Travel pattern changes** – Residential growth in East Albany and Jefferson, and employment growth in Millersburg will increase travel demand to those areas at a rate greater than the overall Albany area travel increase. These locations may require additional transit service to meet their specific needs.
- **Needs in Tangent** – A need was identified for ‘last mile’ connectivity to/from the existing Loop service for school and work commuters. For those in need of life-line transportation, a demand-responsive service similar to the arrangement in Millersburg may work.
- **Needs in Jefferson** – At the Albany Area MPO Policy Board, the City of Jefferson has expressed a need for demand-response service to provide its residents with mobility options. Commuter and medical trips represent the greatest unmet need. Residents tend to travel to both Salem and Albany for work and shopping, and university students tend to travel to Albany (LBCC) or Corvallis (OSU). Anecdotally, residents are seen walking, hitchhiking, or bicycling to work in Albany, indicating a need for improved commuter connections.
- **Needs in Millersburg** – The draft Millersburg TSP has a strong emphasis on improving the bicycle and pedestrian network and less emphasis on public transportation. An aging population may point to a need for improved non-driving options in the future, however, in the short-term, existing Albany Call-A-Ride services can be advertised on the City’s website.

7 Goals, Performance Measures, and Standards

Goals shape desired outcomes, performance measures create transparency and accountability, and standards provide benchmarks for progress. The TDP is guided by the same ten goals used in the AAMPO RTP and the Regional Transportation System Plan (RTSP)⁸. The goals reflect the transportation priorities of the MPO jurisdictions, the State of Oregon Transportation Plan, and guidelines set by the Federal Government. The goals describe principles that guide AAMPO and ATS in creating investment strategies reflecting the community's values.

The goals include:

Goal 1: Provide for a balanced and multi-modal regional transportation system that meets existing and future needs.

Goal 2: Enhance regional and intermodal connectivity for all modes.

Goal 3: Increase the safety and security for all travel modes on the regional system.

Goal 4: Protect the natural and built environment by judicious use of capacity enhancements and reduction in single-auto trip dependence.

Goal 5: Preserve the mobility of existing freight routes to ensure the efficient movement of goods throughout the region.

Goal 6: Demonstrate responsible stewardship of funds and resources.

Goal 7: Coordinate transportation and land use decision-making to foster development patterns, which increase transportation options, encourage physical activity, and decrease reliance on the automobile.

Goal 8: Provide for a transportation system with positive health impacts.

Goal 9: Provide for a diversified transportation system that ensures mobility for all.

Goal 10: Provide an open and balanced process for planning and developing the transportation system.

⁸ The Federal Highway Administration requires the RTP, while the State of Oregon requires the TSP; AAMPO prepared these plans and the TDP concurrently.

Performance Measures and Standards

Evaluating transit service and implementing changes requires moving from overarching principles to performance measures providing clear, consistent assessments. Monitoring system performance and designing the “right” mix of transit service ensures effective management, evaluation, and planning of public transit services. Effective measures communicate service needs to the public and elected officials. Successful performance measures also minimize data collection and provide meaningful information, as summarized in Table 12.

Table 12 Qualities of Good Performance Measures

Characteristic	Description
Consistent	Comparable data should be collected year after year. Data needs to be collected and reported the same way each time on the same geography.
Readily Available	Data should be drawn from existing data sets whenever possible.
Useful	Data should meaningfully reflect how policies are performing and what adjustments are prudent to make.
Timely	Data should be available for collection on a regular basis.
Reported	Data and findings must be recorded and transmitted to agency partners and the public.

Source: Nelson\Nygaard, 2017

Performance measures can be applied both in the service design as well as evaluation stages. These standards are based on AAMPO and ATS transportation goals, peer agencies reviewed as part of the TDP, and industry best practices. Table 13 summarizes the service design standards and associated benchmark values.

Table 13 ATS Service Design Standards

Performance Measure	Definition	Measure Purpose	Fixed-Route Standard	Call-A-Ride Standard
Total vehicle hours to revenue hours ratio	Number of total hours (deadhead + revenue service) divided by revenue hours	A high ratio shows that a large number of vehicle hours are spent in non-revenue service.	1.3	1.5
Service coverage	Percent of jobs and households within one-quarter mile of a transit stop	This measures the area within walking distance of transit service	75%	NA
Hours of service (span)	The number of hours during the day when transit service is provided	Weekday average		
		Local	16 hours	16 hours
		Commuter (peak)	6 hours	NA
		Weekend average		
		All	12 hours	12 hours

Performance Measure	Definition	Measure Purpose	Fixed-Route Standard	Call-A-Ride Standard
Service frequency	The average bus headways systemwide	Weekday and weekends Local Commuter	60 minutes 60 minutes	NA
Vehicle load ratio	The number of on-board passengers divided by the number of seats on the bus	To assess vehicle crowding, an indicator of passenger convenience and comfort	<u>Peak</u> 1.3 local 1.2 regional <u>Off-Peak</u> 1.0 local 0.7 regional	0.2 paratransit 0.8 Call-A-Ride

ATS already evaluates itself based on some of the above metrics; the table provides additional measures commonly associated with transit agencies. Note that there are no service standards defining a successful public transportation route or system, but standards provide general guidelines to help planners pinpoint areas for improvement. Table 14 shows recommended ATS performance measures and service standards.

Table 14 Recommended Performance Measures and Service Standards

Performance Measure	Definition	Measure Purpose	Fixed-Route Existing	TDP Fixed-Route Target	Call-A-Ride Existing	TDP Call-A-Ride Target
Operating cost per passenger	Ratio of total operating expenditures to ridership	Efficiency measure defined as the cost to provide a specific trip, allocating operating cost on a per-passenger basis	\$4.30	\$4.25	\$26	\$24
Operating cost per mile	Ratio of total expenditures to revenue miles	Efficiency measure reported at system level as it is influenced by fuel, labor, insurance, and other system-wide costs	\$5	\$5	\$4.20	\$4.20
Operating cost per hour	Ratio of total expenditures to revenue hours	Efficiency metric reported at system level as it is influenced by fuel, labor, insurance, and other costs	\$123	\$100	\$56	\$56
On time performance	Percent of trips arriving on-time	Service efficiency measure used to indicate route performance	56% (<5 minutes late)	85%	NA	85%
Passengers per revenue hour	Ratio of total ridership to revenue hours, weekday and weekend average	Service efficiency measure to indicate transit service use	17 ATS 28 Loop (22 avg)	17 ATS 28 Loop	2.5	2.9
Service hours per capita	Ratio of revenue hours to City or service area population	This measure shows how much service is provided to the community	0.2	0.3	0.2	0.2
Passenger trips per capita	Ratio of ridership to service area population	This measure shows how much service is consumed by the community	4.0	4.1	0.3	0.4
Farebox recovery ratio	Fares revenue divided by total operations expenses	This ratio indicates the share of costs borne by transit riders	12%	15%	7%	15%

Source: Nelson\Nygaard, Albany Transit System, National Transit Database.

Note: Existing conditions figures rounded for clarity.

Reporting Improvements

Data collection and reporting supports operations managers' efforts to improve the transit system. The performance data and measures are also used to update decision-makers, federal and state funding partners, and the general public.

ATS, via the City of Albany Public Works Department, provides regular performance updates to the Albany City Council, the Linn-Benton Loop Board, ODOT, and the FTA. These reporting cycles are summarized below.

- The City of Albany City Council reviews ATS, Loop and Albany Call-A-Ride performance reports as needed. The City Council reviews performance measures with information provided for the City's annual budget cycle.
- The Linn-Benton Loop Board and TAC review the Loop performance measures once every three months. The performance measures today have focused on ridership by month and budget.
- ATS reports quarterly to ODOT. As a small urban system, ATS must report vehicle conditions at a minimum; service information is optional. This reporting requirement is likely to increase for State Transportation Improvement Fund recipients starting in the year 2020. ODOT uses reported data to develop funding programs and allocate funds.
- ATS reports annually to the FTA via the National Transit Database, an online data collection and reporting tool. This is ATS' most extensive reporting requirement, including revenues by source and use, expenditures by type, service provided by type, vehicle use and condition, and facilities condition. The NTD annual data is publicly available, including performance measure calculations.

ATS can best manage the data analysis, reporting and corrective action systems to reduce the administrative burden by aligning the evaluation and reporting processes. The following steps provide a framework for maintaining efficient internal procedures.

1. Maintain all data in one record keeping system. One data set can provide all performance measures and summarize data for various report types. The specific software or technology may vary, but one software source for all data will improve accuracy and staff efficiency.
2. Invest in automatic, cloud-based data collection and reporting systems (mobile terminals, GPS, software, cellular plans, and installation). Equipment and software can be included as part of vehicle purchases or separate equipment projects that are eligible for FTA's 20% local match rate.
3. Use one performance measure and budget format (e.g., as presented in the TDP) for the Albany City Council and Linn-Benton Loop Board. Keep a regular quarterly schedule for each group.

8 Future Transit System

This chapter outlines the recommended transit program for the Albany area, providing details on three scenarios that create a vision for transit over the short, medium, and long-term time frames.

Albany Transit System

Three scenarios for future transit service were developed for ATS. In the short-term and medium-term, services will continue to be focused on the City of Albany, which has the strongest market for transit. During the long-term, service will be expanded to the communities of Millersburg, Jefferson, and Tangent. Although the Loop and Linn Shuttle are not under the direct control of AAMPO, recommendations to these services that would optimize ATS routes are included.

Overview of Recommended Scenarios

The scenarios include:

- **Short-Term (1–5 years):** This scenario continues covering nearly all areas served today but reduces frequency to every 90 minutes. The longer frequencies address low on-time performance by adding running time to each route. Toward the end of this 5-year period, service hours would extend to 8 pm as resources are available.
- **Medium-Term (5–10 years):** This scenario assumes one additional vehicle, and an 80% increase in service hours. There would be six routes covering much of the same service area as today, at 60-minute headways.
- **Long-Term (15–25 years):** The unconstrained scenario lays out a vision for a frequent and connected system. This scenario offers two routes with 30-minute headways, three at 60 minutes, plus an expansion of Call-A-Ride to Jefferson and Tangent

Table 15 summarizes the scenarios, with the existing service included for comparison. Conceptual schedules for each scenario are included in Appendix D.

Table 15 Summary of Proposed Service Scenarios

Scenario	Service Frequency	Service Start	Service End	Vehicles	Daily Service Hours	Annual Service Hours	Annual Cost (Fixed-Route)	Increase over Existing	Annual Cost (Call-A-Ride)
Existing	60	6:30 AM	6:15 PM	2	20	5,100	\$628,330	-	\$582,000
Short-Term Phase 1	90	6:30 AM	6:30 PM	2	21	5,355	\$659,736	5%	\$582,000
Short-Term Phase 2	90	6:30 AM	8:00 PM	2	27	6,885	\$848,232	35%	\$654,750
Medium-Term	60	6:30 AM	8:00 PM	3	40.5	10,328	\$1,272,348	150%	\$654,750
Long-Term	30-60	6:00 AM	8:00 PM	8 ⁹	98	24,990	\$3,078,768	390%	\$700,678

Note: Costs estimate based on ATS historical operating costs of \$123.20 per service hour.

⁹ Includes seven 40-foot vehicles for fixed-route services, and one additional paratransit vehicle for expanded Call-A-Ride service.

The increase in fixed-route operating cost was calculated by multiplying the estimated annual service hours by the existing operating cost of \$123.20 per service hour. Call-A-Ride service costs will remain the same as Existing in Short-Term Phase 1. However, due to an increase in fixed-route service span until 8 p.m. in Short-Term Phase 2, Call-A-Ride is required to extend service to match those hours.

The operating cost per hour for Call-A-Ride was not available. To estimate the annual cost increase, it was assumed the annual Call-A-Ride operating cost in Short-Term Phase 2 would increase at the same rate as the increase in daily service hours on Call-A-Ride in Short-Term Phase 2. Call-A-Ride service would increase by 12.5%, from 12 daily hours to 13.5 daily hours. The annual cost would therefore increase by 12.5% as well, from \$582,000 to \$654,750.

The cost for Call-A-Ride would increase again in the Long-Term, when its service area would expand into Jefferson and Tangent. To estimate long-term annual operating costs, it was assumed the existing level of consumption per capita (i.e. annual passenger trips for each resident of Albany and Millersburg) would remain constant in the expanded service area – approximately 0.33 trips per person. The population of Jefferson and Tangent is approximately 4,200 people. Assuming 0.33 trips per person, this population would result in an increase of 1,375 trips per year. With an existing cost of \$33.39 per passenger, the expansion into Jefferson and Tangent would likely increase annual costs by approximately \$45,930. In addition to the increase resulting from the longer span of service in the Short-Term, Call-A-Ride in the Long-Term Scenario would cost approximately \$700,680 per year.

Short-Term Scenario

In the next five years, ATS may receive some additional resources through HB 2017 (funds will be disbursed starting July 2019). Given that, the Short-Term Scenario includes two phases: one phase that can be implemented with existing resources and a second that would require a level of additional resources that could be covered with HB 2017 funds.

Short-Term Phase I

In the next 1-3 years, ATS can tackle its on-time performance issues and create a network of four routes that offer more direct routing. This reduces service frequency to every 90 minutes, but preserves coverage to nearly all places that have service today. Buses running behind schedule was identified as a problem by current riders. This scenario increases reliability by adding enough cycle and recovery time to ensure that the bus stays on schedule.

Route 1 serves Pacific Boulevard to LBCC, returns to Albany Station, and then serves Heritage Plaza before returning to Albany Station. Route 2 serves Downtown Albany, travels via Salem Avenue to WinCo, returns to Downtown Albany, then serves North Albany before returning to Albany Station. Route 3 travels via Pacific Boulevard to WinCo, then travels along Knox Butte Road and turns around at Walmart for the return trip. After stopping at Albany Station Route 3 travels to West Albany High School. Route 4 serves Heritage Plaza, Waverly Drive, South

Albany High School, Hill Street, goes back to Heritage Plaza, then goes to Albany Station. This route then circulates to City Hall and Samaritan Hospital.

Note that Routes 1, 3, and 4 would serve Albany Station mid-route, allowing passengers more opportunities to transfer and connect between routes.

The span of service in this scenario remains nearly the same as existing (service extends 15 minutes to 6:30 p.m.); however, today ATS only operates one vehicle from 6:30 a.m. – 8:30 a.m. Operating all four proposed routes all day requires additional service hours. A small increase in operating expenses is feasible in the short-term. To minimize cost increases, a midday break of one and a half hours (11:45 a.m. to 1:15 p.m.) is included to limit additional operating hours to one hour per day. Current ridership is low during this part of the day.

Table 16 summarizes the frequency, run times¹⁰, vehicle requirements, and annual hours for each route. Figure 37 is a map of the recommended service.

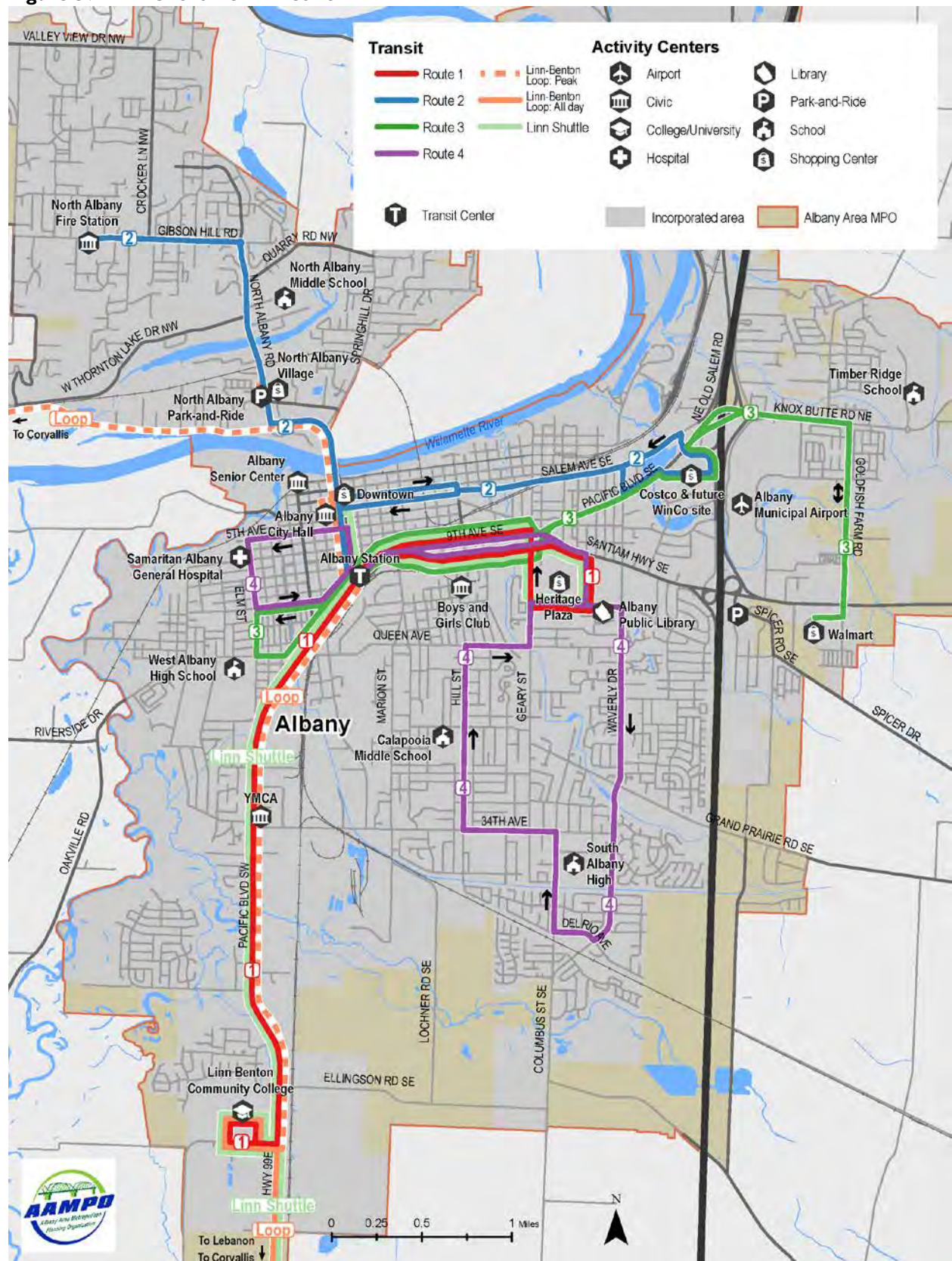
Table 16 Summary of Short-Term Scenario Phase I

Route	Frequency (minutes)	Run Time (minutes)	Vehicles	Interlined with Route	Daily Service Hours	Annual Service Hours	Annual Cost
1	90	39	0.5	2	5.25	1,338.75	\$164,934
2	90	38	0.5	1	5.25	1,338.75	\$164,934
3	90	34	0.5	4	5.25	1,338.75	\$164,934
4	90	38	0.5	3	5.25	1,338.75	\$164,934
TOTAL	90	-	2.0	-	21.0	5,355.0	\$659,736

Note: Annual costs are based on \$123.20 per service hours.

¹⁰ Running times were verified through a test run completed by ATS.

Figure 37 Short-Term Network



Short-Term Phase 2

As transit resources increase in the future, there may be opportunities to further improve service and provide meaningful transit options for Albany residents. Frequency was a top passenger service priority, followed by evening service (Figure 20). The top request for a service end time was 8 p.m. (Figure 21). In the 3-5-year range, Albany may be able to provide service during the midday break and expand service hours until 8 p.m. to respond to the public’s request for more service later in the day. Table 17 summarizes the annual service hours and cost by route.

Table 17 Summary of Short-Term Scenario Phase 2

Route	Frequency (minutes)	Run Time (minutes)	Vehicles	Interlined with Route	Daily Service Hours	Annual Service Hours	Annual Cost
1	90	39	0.5	2	6.75	1,721.25	\$212,058
2	90	38	0.5	1	6.75	1,721.25	\$212,058
3	90	34	0.5	4	6.75	1,721.25	\$212,058
4	90	38	0.5	3	6.75	1,721.25	\$212,058
TOTAL	90	-	2.0	-	27.0	6,885.00	\$848,232

Note: Annual costs are based on \$123.20 per service hours.

The increase in service span will require Call-A-Ride service to also expand service hours until 8 p.m. as well. The increased span will require an additional \$72,750 per year, for a total of approximately \$654,750 per year.

Medium-Term Scenario

Medium-Term includes six routes operated on three vehicles. All routes operate hourly and cycle in 30 minutes. This scenario maintains coverage to most locations that are served today, but reduces travel times as a result of more direct routes and the additional vehicle. The Medium-Term Scenario establishes a second transfer location at Heritage Plaza, which exhibits very high ridership today.

Route 1 travels between Albany Station and Walmart along Pacific Boulevard/Santiam Highway. Route 2 provides service between Heritage Plaza, neighborhoods along Waverly Drive, South Albany High School, and Hill Street. Route 3 serves Pacific Boulevard between Albany Station and LBCC. Route 4 serves North Albany, with direct service through Downtown Albany along Ellsworth and Lyon Street, serving North Albany Park-and-Ride and turning around at the North Albany Fire Station. Route 5 serves Heritage Plaza, WinCo, and Knox Butte Road. Route 6 serves Downtown Albany and destinations along Salem Avenue.

At Albany Station Routes 1 and 3 and Routes 4 and 6 would interline. Routes 2 and 5 would interline at Heritage Plaza and use one bus.

Unlike the Short-Term scenario, the Medium-Term scenario would not require a midday service break. Service would operate from 6:30 a.m. to 8:00 p.m. Table 18 summarizes the frequency, run times,¹¹ vehicle requirements, and annual hours for each route. Figure 38 is a map of the recommended service.

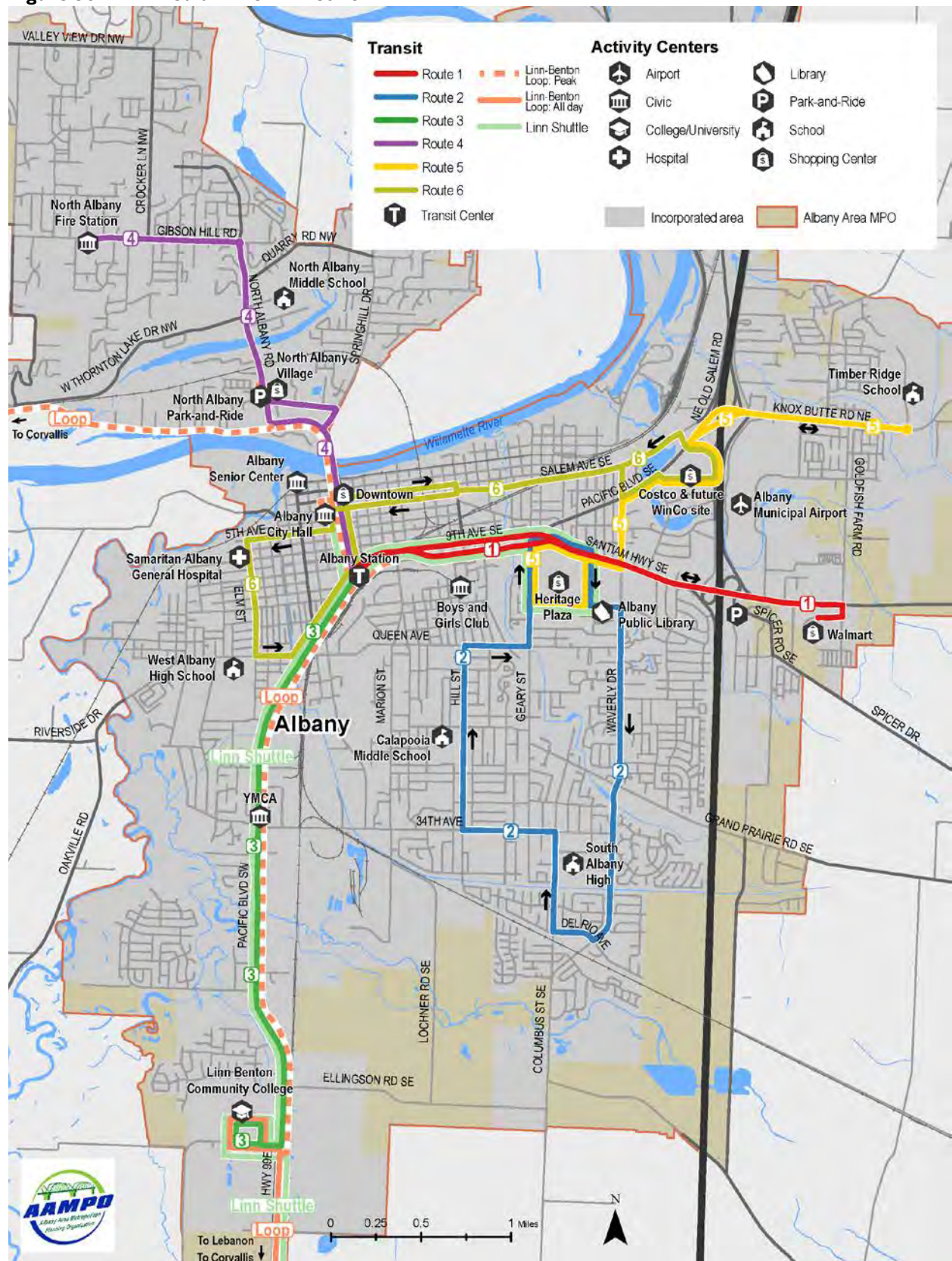
Table 18 Summary of Medium-Term

Route	Frequency (minutes)	Run Time (minutes)	Vehicles	Interlined with Route	Daily Service Hours	Annual Service Hours	Annual Cost
1	60	24	0.5	3	6.75	1,721.25	\$212,058
2	60	22	0.5	5	6.75	1,721.25	\$212,058
3	60	28	0.5	1	6.75	1,721.25	\$212,058
4	60	24	0.5	6	6.75	1,721.25	\$212,058
5	60	25	0.5	2	6.75	1,721.25	\$212,058
6	60	27	0.5	4	6.75	1,721.25	\$212,058
TOTAL	60	-	3.0	-	40.50	10,327,50	\$1,272,348

Note Annual costs are based on \$123.20 per service hours.

¹¹ Running times were verified through a test run completed by ATS.

Figure 38 Medium-Term Network



Long-Term Scenario

The long-term scenario is aspirational, assuming reasonably unconstrained funding. This option includes five local routes and an expansion of Call-A-Ride.

The Long-Term Scenario includes three main service enhancements. The first is an expansion of coverage in North Albany north of Gibson Hill Road in response to expected population growth. The second is a new connection between WinCo and LBCC via Waverly Drive and Ellingson Road. This provides a second service option for crosstown connections between LBCC, Heritage Plaza, and Costco/WinCo. The third is the addition of Call-A-Ride service into Jefferson and Tangent.

Route 1 connects LBCC and Walmart along Pacific Boulevard and Santiam Highway. Route 2 provides service through Downtown Albany, along Salem Avenue, turn south on Geary Street to serve Heritage Plaza, and continue south to provide service along Hill Street and turn around at South Albany High School before returning to Albany Station. Route 3 runs from Costco/WinCo to Heritage Plaza, serves Waverly Drive, Ellingson Road, and terminates at LBCC before returning to Costco/WinCo. Route 4 provides crosstown service from North Albany, through Downtown Albany, serving Queen Avenue and Heritage Plaza. Route 5 serves Albany Station along Elm Street, through Downtown Albany along 5th Avenue, serving Salem Avenue, Costco/WinCo, Knox Butte Road and Goldfish Farm Road, to Walmart. Commuter service stops at the locations listed in Appendix D.

Table 19 summarizes the frequency, run times, vehicle requirements, and annual hours for each route. Figure 39 is a map of the proposed service. The full Albany area is shown in .

Table 19 Summary of Long-Term

Route	Frequency (minutes)	Run Time (minutes)	Vehicles	Interlined with Route	Daily Service Hours	Annual Service Hours	Annual Cost
1	30	50	2	-	28.0	7,140	\$879,648
2	60	44	1	-	14.0	3,570	\$439,824
3	60	50	1	-	14.0	3,570	\$439,824
4	60	53	1	-	14.0	3,570	\$439,824
5	30	52	2	-	28.0	7,140	\$879,648
TOTAL			7		98.0	24,990	\$3,078,768

Annual costs are based on \$123.20 per service hours.

Expansion of Call-A-Ride

An expansion of Call-A-Ride service to Jefferson and Tangent would provide reliable transit options for older adults and people with disabilities.

Call-A-Ride service would operate throughout the entire day and allow passengers to travel to any location in the Albany area. Regional Albany Call-A-Ride service would only be available

for people with disabilities or older adults, unlike the fixed-route services which are open to the general public.

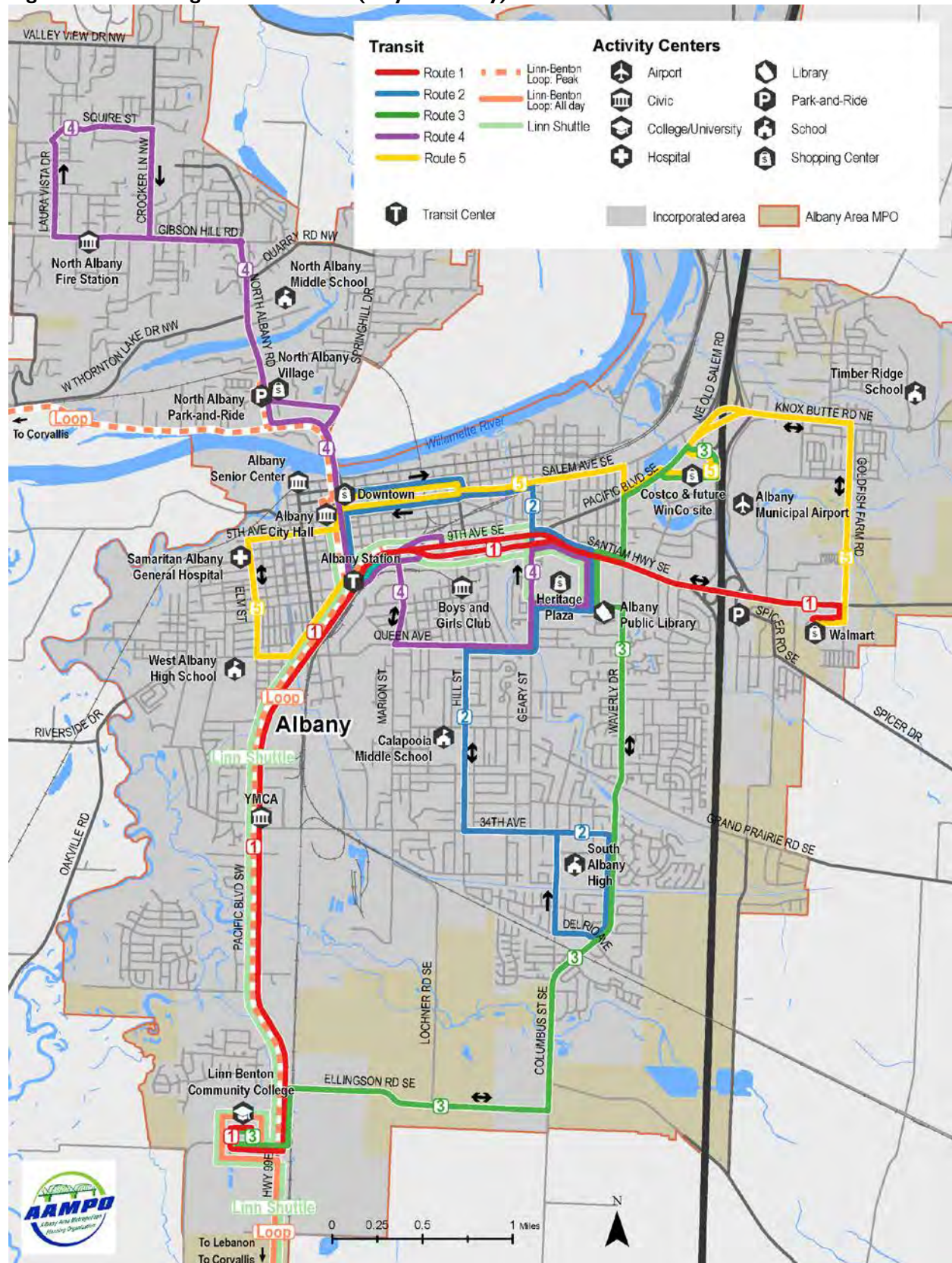
Based on the existing operating cost per passenger on Albany Call-A-Ride (approximately \$33), and the existing per capita annual trip rate (0.33 for both Albany and Millersburg), an expansion of Albany Call-A-Ride service to Tangent and Jefferson is likely to serve an additional 1,400 passengers and cost the Albany area an additional \$46,000 each year.¹² This cost is likely a conservative estimate because trips to or from Jefferson or Tangent are likely to be longer than existing trips, which could increase the operating cost per passenger. Table 20 compares the existing and estimated values for annual passengers and cost.

Table 20 Albany Call-A-Ride Expansion Estimates

Scenario	Annual Passengers	Service Area Population	Annual Cost
Existing	17,429	53,172	\$582,000
Long-Term Expansion (estimate)	18,804	57,368	\$700,678

¹² Values based on combined population of Jefferson and Tangent (4,196 according to U.S. Census ACS 2011-2015 5-Year Estimates). Cost per passenger x Trip Rate x Population = \$33.39 x 0.33 x 4,196 = \$45,928.

Figure 39 Long-Term Network (City of Albany)



System Impacts

Each of the scenarios is intended to increase ridership by getting riders to the most popular destinations quickly and reducing late trips to increase reliability. To assess and evaluate how well these scenarios achieve this goal, and to compare how conditions are likely to change from what passengers experience today, the project team developed various measures. Each of the scenarios are evaluated against measures that were vetted with the projects' Technical Advisory Committee Transit Subgroup. The measures are:

- **Percent of revenue hours meeting frequency of service goals** – This measures how much service provided in each scenario operates at least every 60 minutes.
- **Percent of revenue hours meeting span of service goals** – This measures how much service provided in each scenario operates for 16 hours per day on weekdays, and 12 hours per day on weekends.
- **Travel time between key destinations** – This measures the average roundtrip travel time between important origin-destination pairs. It measures how quickly passengers can get between destinations. It is also a proxy for measuring out-of-direction travel.
- **Ratio of in-service hours to vehicle hours** – The ratio of service hours to vehicle hours indicates likelihood of reliability, on-time performance, and efficiency. A reasonable ratio is between 80 and 90%. Values lower than 80% suggest inefficient service, whereas values higher than 90% suggest reduced reliability and on-time performance.
- **Percent of jobs within ¼ mile walk of transit stops** – This is a coverage measure that identifies what percent of jobs and employment opportunities are easily accessible from the stops along the transit network.
- **Percent of households within ¼ mile walk of transit stops** – This measure identifies the percent of households that are easily accessible from the stops along the transit network.
- **Percent of households below poverty line within ¼ mile walk of transit stops** – This measure identifies the percent of households that have incomes below the federal poverty level that are easily accessible from stops along the transit network.
- **Percent of households without a vehicle within ¼ mile walk of transit stops** – This measures the percent of households without vehicles that are easily accessible from stops along the transit network.
- **Percent of key destinations within ¼ mile walk of transit stops** – This measures the percent of important community destinations (including shopping centers, health facilities, employment centers and other high-demand locations) that are accessible from stops along the network.

Table 21 provides a summary and overview of each of the performance measures, using existing conditions as a benchmark. Overall, each of the scenarios performs the same as, or better than, the existing service in terms of service design and productivity. Coverage declines in the short-

term scenario. Additional details on the performance measures and potential impacts on ridership and fare revenue are identified in Appendix D.

Table 21 Summary of Performance Measures

Category	Measure	Existing	Short-Term	Medium-Term	Long-Term
Service Design	Percent of revenue hours meeting frequency of service goals	100%	○	◡	◡
	Percent of revenue hours meeting span of service goals	0%	◡	◡	◡
Productivity-Focused	Travel time between key destinations	70	●	●	●
	Ratio of in-service hours to vehicle hours	0%	●	●	●
Coverage-Focused	Percent of jobs within ¼ mile walk of all transit stops	77%	◡	◡	●
	Percent of households within ¼ mile walk of all transit stops	67%	◡	◡	●
	Percent of people below poverty line within ¼ mile walk of all transit stops	78%	○	○	●
	Percent of households without access to a vehicle within ¼ mile walk of all transit stops	83%	○	◡	●
	Percent of key destinations within ¼ mile walk of all transit stops	86%	◡	◡	●

Key of how well scenario supports measure:

- Does not support measure
- ◡ No change
- Supports measure / Improves

Regional Services

Regional public transportation services in the Albany area include long-haul services like Cascades POINT that only stop at Albany Station, and regional services like the Linn Shuttle and the Loop that serve multiple destinations in the region. Key issues for these services include:

- **Loop has high ridership**, more than ATS fixed routes combined, driven by high-demand service areas and free fares for students.
- **Albany Station and Corvallis Downtown Transit Center** are high-use Loop stops, in addition to OSU and LBCC, suggesting that the Loop serves a larger travel market beyond connections between universities.
- **Ridership on regional routes will grow**, driven by university enrollment, high housing costs in Corvallis, and increasing traffic congestion.
- **First- and last-mile connections** to interregional transit routes are an important ATS function.
- **Loop schedules can be difficult** for readers to understand, particularly for occasional users.
- **Service gaps and overlaps** hinder rider connections between regional transit routes, including the Loop, ATS, and Linn Shuttle.

The following preliminary recommendations address these findings. Full recommendations and an operating plan will require planning and action by the Linn Benton Loop Board.¹³ All scenarios must provide a similar level of transit service between OSU and Corvallis Downtown Transit Center, whether it be served by the Loop or CTS. The Sweet Home Senior Center, the City of Sweet Home, and Linn County are responsible for implementing any recommendations for the Linn Shuttle. Further information can be found in the TDP Technical Memorandum 16 that may support future service planning.

I. Bi-directional Loop service all day between Albany Station and Corvallis

The five Loop route variants are differentiated by three times of day (morning, mid-day, and afternoon) and can be confusing for passengers. In addition, ridership patterns show a clear demand for service between the cities of Albany and Corvallis, not just between OSU and LBCC. The following suggestions to Loop operations could better connect Albany residents to the larger region.

¹³ The Linn-Benton Loop Governing Board has agreed to pursue a service development plan to review ridership needs and service options related to increased funding

1a. Serve Albany Station all day. Albany station is one of the busiest transit hubs in Oregon and stakeholders indicated that riders would like greater schedule coordination between transit services in the Albany area. Eleven interregional buses stop at the station midday, however, including Amtrak, Oregon Cascades POINT, Bolt Bus and the Linn Shuttle.

Today only the morning and afternoon Loop runs stop at Albany Station. Mid-day service from LBCC to Albany Station would supplement the ATS runs along the Pacific Boulevard corridor, which exhibit very high ridership. The Loop travel time between LBCC and the Albany Station is about 10 minutes, including stops.

Benefits: Increases mobility and access with connections to interregional transit services. Simplifies route design and schedules.

Considerations: Additional travel time may require reducing run time in other parts of route, or additional operating costs.

1b. Streamline service. The Loop cannot achieve hourly operation with today's resources. One strategy to provide efficient hourly service is to minimize redundancy in locations that are served by other operators. For example, to reduce running time and serve Albany Station, the Loop could go directly from Hewlett-Packard to the Downtown Transit Center via Highway 99, rather than serving 9th Street or OSU to avoid traffic lights and duplication with CTS. In general, the Loop should seldom service local streets and instead serve regional corridors that provide the most direct travel between destinations.

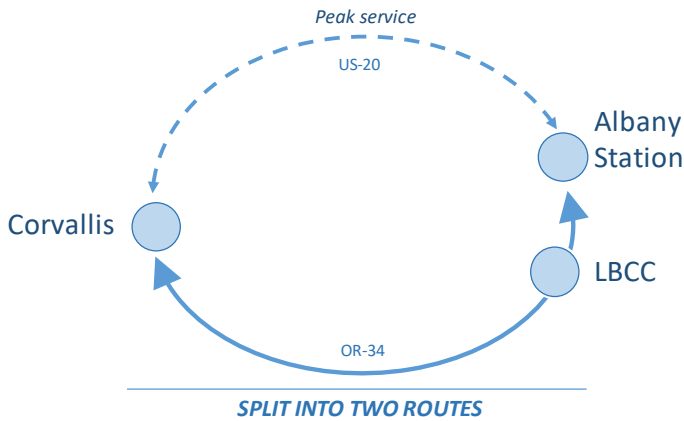
If the Loop does not directly serve OSU, it may open up opportunities for more frequent service between Corvallis Downtown Transit Center and Linn-Benton Community College. However, as noted above, all scenarios should maintain a similar level of service between the Downtown Transit Center and OSU as exists today.

Benefits: Streamlined service may allow the Loop to cycle hourly, and simplifies the route design. Corvallis Transit System provides frequent connections for OSU students.

Considerations: A large number of riders board and alight at the OSU stop, and a transfer or walk will inconvenience those riders.

1c. Split into two routes. Today the clockwise/counterclockwise Loop routes means that some riders must ride nearly all the way around the loop to get to their destination. The full loop versus the back-and-forth between LBCC and Corvallis variants are confusing. The route could be split into a peak-only route connecting Albany Station to Corvallis via US 20, and an all-day service connecting Corvallis, LBCC, and Albany Station via OR 34. The RTP TAC expressed an interest in this option at their October 2017 meeting.

Figure 40 Two Route Concept



Benefits: Easier to understand service; more direct for certain trip pairs.

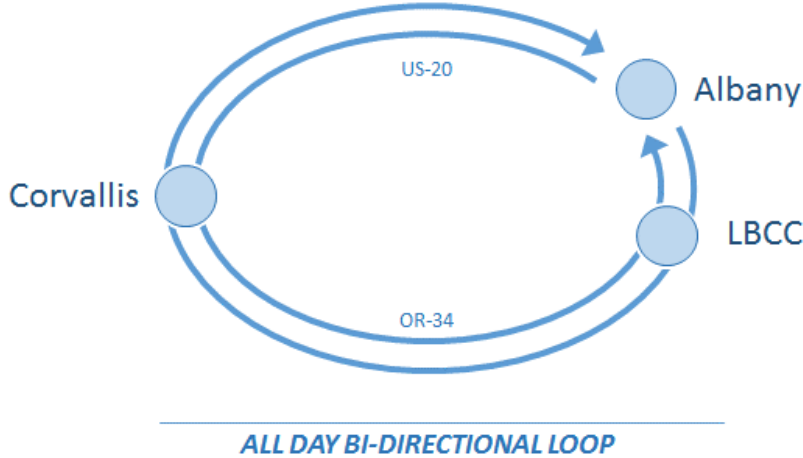
Considerations: Extending midday service to Albany Station requires additional operating funds.

1d. Operate in clockwise and counterclockwise direction all day. A variant on 1c. is to run service in both directions all day. Each route could be run around every 2 hours to achieve headways of around an hour, in both directions.

Benefits: More direct service for certain trip pairs.

Considerations: Would require additional operating funds.

Figure 41 Bi-Directional Loops Concept



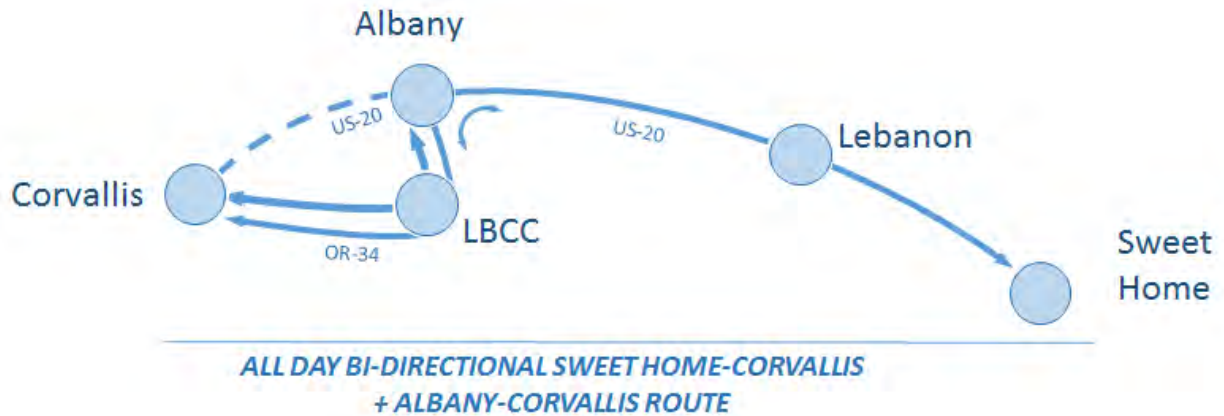
1e. Create a regional urban-to-rural intercity network between Corvallis and Sweet Home. The Loop has been ineligible for FTA Section 5311(f) funding in Oregon because it connects two urbanized areas without any rural service areas. Linking the Loop and Linn Shuttle would add a potential funding source and create benefits to bus riders in Linn and Benton Counties. A Sweet Home to Corvallis connection can integrate some runs of the Linn Shuttle and the Loop.

Peak or other additional service between Albany and Corvallis would maintain Loop frequencies offered today.

Benefits: Increased efficiency through schedule coordination and resource sharing (e.g. drivers, vehicles and planning). This could ultimately lead to increased public transportation service.

Considerations: Interagency agreements needed.

Figure 42 Sweet Home Connector Concept



2. Facilitate transfers to regional service at Albany Station

Seven regional public transportation providers serve Albany Station. Coordinating service between every bus is not possible, but further analysis can help prioritize connections and optimize the network. Figure 43 illustrates weekday departure times from Albany Station for the Loop, Cascades POINT, Linn Shuttle and Bolt Bus as an example. Passengers boarding regional service need time to make a connection. Thus, the Loop arrival time of 7:35 a.m. and Amtrak departure of 7:36 a.m. is too close for most passengers' comfort levels. AAMPO and ATS would need to determine which regional services are most desired by Albany residents, and modify Loop schedules to try and meet those services.

Benefits: Better regional connections.

Considerations: Loop is also timed for LBCC and OSU students, thus any changes to schedules must also consider student needs.

Figure 43 Selected Albany Train Station departure times, weekday

Period	Loop	Cascades POINT	Linn Shuttle	Bolt Bus	Amtrak
Morning	6:25 AM	-	-	-	6:13 AM (North)
	7:35 AM	8:10 AM (North)	7:40 AM	-	7:36 AM (South)
	8:45 AM	8:55 AM (South)	8:45 AM	8:30 AM (South)	
	-	9:35 AM (North)	-	-	
Mid-day	None	12:20 PM (South)	11:05 AM	10:45 AM (North)	
	LBCC - OSU only; ATS	12:30 PM (North)	-	-	
	Route 3 serves LBCC	1:00 PM (South)	1:05 PM	-	1:22 PM (North)
		2:05 PM (North)	2:45 PM	-	
		3:35 PM (North)	-	3:45 PM (South)	
Afternoon	4:05 PM	5:20 PM (South)	4:15 PM	-	4:10 PM (South)
	5:40 PM	6:25 PM (North)	6:10 PM	6:00 PM (North)	4:43 PM (North)
	6:50 PM	8:40PM (South)	-	-	7:41 PM (South)
		11:59 PM (South)	-	-	

Source: Albany Transit System, Linn Shuttle, Bolt Bus, Amtrak

3. Improve coordination of services along Pacific Boulevard, Heritage Plaza

ATS, the Loop, and the Linn Shuttle all serve the Pacific Boulevard corridor from LBCC to Albany Station. Both ATS and the Linn Shuttle link Albany Station to Heritage Plaza. Table 22 illustrates the times that the various providers depart LBCC heading northbound to Albany Station. There is duplication of service at 7:25 a.m. and 8:35 a.m., and there are several other instances when service is just a few minutes apart. Yet while service is bunched up during some times of the day, there are long breaks during other key times such as 7:30 to 8:30 a.m. and 5:00 to 6:00 p.m. Working with other providers to modify timing, or modifying ATS route timing, can give passengers more evenly spaced options.

The high concentration of transit service along Pacific Boulevard and at LBCC provides many opportunities for passengers to make timed transfers between two or more services. However, many passengers or potential riders may not be aware of the time transfers. All schedule information is provided on each provider’s schedule, without any indication of how the schedules are coordinated with each other. Information on timed transfers should be included on each schedule to better inform the public about the ease of connecting to other services. *Benefits:* Spreads out transit resources more evenly throughout the day.

Considerations: May require working with other agencies to shift schedules.

Table 22 Departure times from LBCC to Albany Station

Morning		Afternoon	
Timepoint	Route	Timepoint	Route
7:25 AM	Loop	12:45 PM	ATS 3
7:25 AM	ATS 1	1:05 PM	Linn Shuttle
7:30 AM	Linn Shuttle	1:45 PM	ATS 3
8:30 AM	ATS 1	2:35 PM	Linn Shuttle
8:35 AM	Loop	2:45 PM	ATS 3
8:35 AM	Linn Shuttle	3:45 PM	ATS 3
9:45 AM	ATS 3	4:05 PM	Linn Shuttle
10:45 AM	ATS 3	5:05 PM	ATS 3
11:05 AM	Linn Shuttle	6:00 PM	Linn Shuttle
11:45 AM	ATS 3	6:05 PM	ATS 3

4. Shared marketing and information

The different public transportation services in the Albany area are a great resource. The diversity can create a challenge for riders to understand and remember information. The Loop, Linn Shuttle and ATS have opportunities to coordinate customer-facing information. Marketing and rider information strategies can include:

- Maintain consistent content requirements and information formats
- Provide connecting service information to customers in all providers’ vehicles and at stations
- Share or link to a shared website “hub” with route information and service alerts

Benefits: Rider information accessibility can increase ridership and satisfaction ratings. Economies of scale when sharing resources.

Considerations: Marketing material costs may increase if adding supplemental materials and distributing to other routes. Website design and maintenance is an ongoing cost.

5. Coordinate fare policy and fare payment systems; Consider regional farecard

As noted above, the Loop, ATS, and Linn Shuttle serve some of the same corridors with different fares, which can sometimes be an obstacle for users to use the bus. Creating a single fare along corridors with multiple providers is one strategy to remove the fare burden if someone boards the Loop versus ATS.

Given the amount of travel demand between Lebanon, Sweet Home, Corvallis, and Albany, a second option would be to create a regional farecard or pass. Electronic fare technology has

changed rapidly and become more affordable per unit; should this trend continue, the costs and complexity of coordinating a regional fare card may be within reach. The Northwest Connector along the Oregon coast has a regional pass system, for example.¹⁴

Benefits: Rider convenience; coordinated fares.

Considerations: Coordination and management time; technology costs for electronic fare collection methods.

Capital and Assets Plan

Vehicles

The increased service hours would require ATS to purchase at least one additional vehicle in the medium-term scenario, and six more vehicles to deliver the long-term scenario. See Table 23 for estimated number of new vehicles needed to deliver the proposed service scenarios.

Table 23 Estimated Vehicle Expansion Requirements

Scenario	Vehicles Required	New Vehicles from Existing	New Vehicles from Previous Scenario	New Vehicle Cost
Existing	2	-	-	-
Short-Term	2	-	-	-
Medium-Term	3	1	1	\$440,000 ^[1]
Long-Term	8	6	5	\$1.80 million ^[2]

Notes: [1] Assumes cost of one \$440,000 40-foot low floor bus. [2] Assumes four \$440,000 40-foot low floor buses and one \$40,000 ADA compliant mini-van.

The costs for vehicles to support the new services are in addition to ongoing replacement costs of existing fleet for vehicles aging beyond useful life. Based upon ATS' expected replacement schedule, ATS will purchase new 40-foot buses in fiscal years 2019, 2022, and 2027, each priced at approximately \$440,000 in 2017 dollars. A full list of vehicles and expected end of useful life dates is in the appendix.

¹⁴ <http://www.nworegontransit.org/passes/>

Bus Stops and Amenities

As of July 2017, ATS had 17 shelters and 17 benches among its 83 stops. A stop assessment conducted in January 2013 showed that all bus stops but three are in good condition. The three benches and shelters in poor condition were installed in 1999 and are located along 34th Avenue. Transit service is removed from this street in all scenarios.

Figure 44 **ATS Bus Stop with Bench and Shelter**



New bus stops and passenger amenities are needed in each scenario. New corridors include roadway segments, which have no service today, segments where service will operate in the opposite direction of transit service today, and locations where new route alignments and turns may require a stop to be moved. Corridors and segments requiring new stops are listed in Table 24.

Table 24 New Segments and Corridors Served

Scenario	New Segments and Corridors
Short-Term	<ul style="list-style-type: none"> • Goldfish Farm Road northbound • Knox Butte Road westbound • Salem Avenue westbound Waverly Drive and Main Street • 3rd Avenue between Main Street and Lyon Street • 12th Avenue between Elm Street and Pacific Boulevard • Queen Avenue eastbound between Elm Street and Pacific Boulevard • Geary Street northbound between Queen Avenue and 14th Avenue
Medium-Term	<ul style="list-style-type: none"> • Knox Butte Road westbound • Salem Avenue westbound Waverly Drive and Main Street • 3rd Avenue between Main Street and Lyon Street • Waverly Drive northbound between Santiam Highway and Salem Avenue • Pacific Boulevard westbound between Geary Street and Albany Station • Santiam Highway eastbound between Clay Street and Walmart • Geary Street northbound between Queen Avenue and 14th Avenue
Long-Term	<ul style="list-style-type: none"> • Waverly Drive/Columbus Street northbound between Ellingson Road and 14th Avenue • Waverly Drive/Columbus Street southbound between Del Rio Avenue and Ellingson Road • Hill Street southbound between Queen Avenue and 34th Avenue • Ellingson Road between Pacific Boulevard and Columbus Street • Laura Vista Drive northbound • Squire Street eastbound • Crocker Lane southbound

Bus stop amenities enhance system visibility and passenger comfort. Table 25 lists the cost for basic bus stop amenities based on previous City transit stop improvement projects.

Table 25 Assumptions for New Bus Stop Amenities

Amenity	Cost per Amenity
Concrete Pad	\$2,500
Bus Stop Pole and Sign	\$500
Bench	\$1,000
Shelter	\$7,500

Source: City of Albany

To estimate the number of new stops, stop locations were identified on each street segment, which received new service. Ideally all stops would have all the amenities; however, that is not likely to be financially possible. Table 26 lists a cost range for each scenario. A low level of

investment assumed all stops have concrete pads, and a bus stop signs. A high level of investment assumes all stops have a concrete pad, sign, bench, and shelter.

There may be economies of scale that reduce the project delivery costs estimated below. The capital costs in the Medium and Long-Term Scenarios identify the costs of new bus stops based on existing stops, and not based on the Short-Term Scenario. The actual cost for bus stop capital needs in the Medium and Long-Term Scenarios may depend on Short-Term Scenario investments.

Table 26 Capital Costs: Bus Stops and Amenities

Scenario	Term	Stops	Low Investment	High Investment
Existing	Today	69	\$172,500	\$759,000
Short-Term	Short (1–3 yrs)	37	\$111,000	\$425,500
Medium-Term	Medium (5–10 yrs)	36	\$108,000	\$414,000
Long-Term	Long (15–25 yrs)	75	\$225,000	\$862,500

Note: Existing scenario estimate based on existing signed stops without concrete pads, benches, or shelters.

Policy on Amenity Prioritization

As funds become available, a stop amenity policy for prioritization of new shelters or other infrastructure can help ATS determine where to channel resources. The most basic metric for amenity location uses ridership levels, with the goal of helping as many riders as possible. However, additional factors may be important for ATS to consider where to prioritize the location of bus stop amenities. For example, land use context, proximity to senior centers, or proximity to health clinics may increase the need for amenities.

Table 27 outlines the recommended tiers for bus stops and investment guidelines. Three tiers are recommended based on ridership, with the fewest investment occurring at stops with less than 20 combined boardings and alightings. Stops with 50 or more boardings and alightings have the greatest level of investment. Additional amenities are optional, and can be considered based on need and funding availability.

Table 27 Bus Stops Tiers and Investment Guidelines

		Tier 1 Basic Bus Stop	Tier 2 Enhanced Stop	Tier 3 Major Stop / Transfer Location
Description		Typical neighborhood stop	<ul style="list-style-type: none"> - Moderate to high use stops - Park-and-rides - Shopping areas 	<ul style="list-style-type: none"> - Highest ridership locations on the system - Transfer locations
Ridership Levels		Fewer than 20 boardings and alightings per day	20–49 boardings and alightings per day	50 or more boardings and alightings per day
Example Locations		<ul style="list-style-type: none"> - Salem Avenue - Waverly Drive - Hill Street 	<ul style="list-style-type: none"> - Walmart - Samaritan Hospital - Downtown Albany 	<ul style="list-style-type: none"> - Albany Station - Linn-Benton Community College - Heritage Plaza
Required Elements	Concrete pad	X	X	X
	Bus stop pole and sign with route information	X	X	X
	Lighting	X	X	X
	Bench	-	X	X
	Shelter	-	X	X
	Trash can	-	X	X
	System map	-	<i>Optional</i>	X
	Bicycle parking	-	<i>Optional</i>	X
	Bicycle storage (lockers or other secure facility)	-	-	<i>Optional</i>
	Restrooms	-	-	<i>Optional</i>
	Real-time arrival information	-	-	<i>Optional</i>
	Public art / place-making	-	-	<i>Optional</i>

ATS Local Financial Plan

This section presents a financial outlook for transit funding for ATS fixed-route and Call-A-Ride. Since the Loop is funded through multiple parties, it is excluded from the financial analysis.

Public transportation financial planning typically measures capital and operating costs separately. The following summary discusses expected operating costs only. Capital costs are spent as lump-sum and infrequent values, making dependable annual average revenues difficult if not impossible to predict. Capital funding grant programs are typically competitive and available only for one-time purchases or a limited duration of time, therefore these sources are relatively unpredictable.

Table 28 summarizes projected annual revenues for transit for the City of Albany in year-of-expenditure (i.e., nominal) dollars. These planning-level projections for FY 2017 to 2040 were based on the City of Albany's 2017-2018 budget to provide approximate annual financial resources by type for local transit service only. The amounts were then projected using growth assumptions by funding resource type. These assumptions do not guarantee the City to receive funding in the future. However, the projections do provide planning-level financial estimates from which stakeholders assigned priorities to guide future service planning. The assumptions include the following factors.

- State funds reflect potential revenues from the Statewide Transportation Improvement Fund¹⁵. This fund was part of House Bill 2017, also known as Keep Oregon Moving, which was passed by the Oregon Legislature in 2017. The fund is expected to provide over \$2.0 million dollars annually to Linn County to support public transportation services, starting in fiscal year 2019.¹⁶ The projection assumes for planning purposes only that Albany Transit System would be awarded \$240,000 annually from the fund by fiscal year 2020, or about 10% of total expected funding. AAMPO and the City of Albany fully understand this figure is for planning purposes only and that any fund distribution must be approved by the Linn County Board of Commissioners following rules to be determined by ODOT.
- Federal funds increase at 2% annually;
- All other funds increase at a 3.1% inflation rate. Figures are for planning purposes only and do not relate directly to the City's annual budgeting process. Fare and pass program revenues totaled about \$45,000 in FY 2016, resulting in a 6% farebox recovery ratio. This preliminary analysis assumes farebox recovery ratio will remain at existing levels as

¹⁵ Oregon Department of Transportation program website: <http://www.oregon.gov/ODOT/RPTD/Pages/STIF.aspx>; accessed October 2017.

¹⁶ House Bill 2017 Summary by Senate District, submitted by Senator Lee Byer on July 6, 2017: <https://olis.leg.state.or.us/liz/2017R1/Downloads/FloorLetter/2219>; accessed October 2017.

higher operating costs are offset by increased ridership. Ridership is expected to increase as Albany area population increases, and as service improvements draw more riders to use the system.

Table 28 Projected revenues, ATS Fixed-Route, Selected Fiscal Years 2017–2040

Fiscal Year Ending	Federal Funds	State	City of Albany	Directly Generated Revenues	Total
2017	\$227,000	\$0	\$419,000	\$47,000	\$693,000
2020	\$241,000	\$240,000	\$459,000	\$52,000	\$742,000
2025	\$266,000	\$280,000	\$535,000	\$60,000	\$833,000
2030	\$293,000	\$326,000	\$623,000	\$70,000	\$937,000
2035	\$324,000	\$379,000	\$726,000	\$81,000	\$1,056,000
2040	\$358,000	\$442,000	\$846,000	\$95,000	\$1,191,000

Source: AAMPO, ATS and Nelson\Nygaard.

Notes:

- Fiscal year end 2017 to fiscal year end 2040 (year of expenditure dollars). All values rounded to the nearest ten-thousands for clarity. Directly generated funds account for about 6.3% of annual ATS Local operating expenditures.
- State funds reflect estimated new revenues from the State Transportation Improvement Fund, available starting 2019; ODOT expects to distribute over \$2,0 million in formula funds to Linn County, which is the local coordinating agency. Any funding distribution from the fund requires approval by the Linn County Board of Commissioners; there is no guarantee that Albany Transit System will receive annual financial resources from the fund.
- Directly generated revenues includes fare, pass program, and advertising revenues.

The cost of the scenarios, identified above in Table 15, includes all ATS local fixed-route operating costs. The values are high, though up to one-half the operating costs can be covered by federal operating funds through FTA Section 5307 and other grants. The other half of the funds must come from non-federal transportation sources, such as state and local funds. This is called the “local match” to the federal grant.

Although the City of Albany provides most of the local match to operate the system, the expansion of Call-A-Ride into Jefferson and Tangent would require both cities to provide their own local match for Call-A-Ride expansion.

Table 29 compares the estimated annual operating cost of each scenario with the projected revenues listed above. Based on these estimates, there is expected to be sufficient funds in the short-term. However, the medium and long-term scenarios would need additional funding to operate as they are presented in this plan.

Table 29 Comparison of Scenario Costs and Available Funding

Scenario	Timeline	Fixed Route			Call-A-Ride		
		Annual Operating Cost	Estimated Available Funding	Shortfall	Annual Operating Cost	Estimated Available Funding	Shortfall
Existing	Present	\$628,000	\$628,000	-	\$582,000	\$582,000	-
Short-Term Phase 1	1-3 years	\$660,000	\$742,000	-	\$582,000	\$582,000	-
Short-Term Phase 2	3-5 years	\$848,000	\$833,000	- \$15,000	\$655,000	\$582,000	- \$73,000
Medium-Term	5-10 years	\$1,272,000	\$833,000	- \$439,000	\$655,000	\$582,000	- \$73,000
Long-Term	15-25 years	\$3,079,000	\$1,056,000	- \$2,023,000	\$701,000	\$582,000	- \$119,000

Note: Values rounded to nearest \$1,000.

9 Transit Policies and Programs

Successful transit systems provide balanced fare prices and pass programs, clear and relevant public information, and effective technology. These policies and programs help ensure that the system is accessible for people of all incomes, convenient, understandable, and efficient. The transit program elements apply in all future service scenarios.

Public Information and Marketing

If the public is not aware of how the system works, or how to board a bus, the public investment in the service will see few benefits. Marketing includes efforts to educate the public on where, when, and how to use transit. The following strategies elevate ATS' profile in the community.

1. **Advertise in multiple formats and channels.** Identify local community media outlets (local television stations, radio stations, newspapers, and newsletters) and other forms of social media to use to spread information and awareness about ATS. Some communities provide information on the transit service as a flyer or leaflet embedded within a city-distributed mailing that goes to all residences (such as a utility bill).
2. **Remove language barriers for Spanish-speaking riders.** Seven percent of the Albany region lives in Spanish-speaking households.¹⁷ Maps and schedules are already available in Spanish, but adding Spanish to signage was also identified by the public as a useful piece of the system to translate. Increase the amount of staff who speak Spanish by adding bilingual abilities to job postings and targeting recruitment in Spanish-speaking neighborhoods.
3. **Offer travel training.** Travel training is another option to support transit education. Travel training is the process in which a local resident is given curated information about their specific trip needs. This includes where to board the bus, where to get off, how to read a schedule, and how to make transfers. Travel trainers also travel with the person for a few trips to help them get comfortable with the bus service. After several trips, the passenger is able to navigate the system themselves.

System Branding

Maintaining a single brand for vehicles, bus stops and materials increase the visibility of the transit service, develops public recognition and acceptance of the service, and informs the public that all services and stops work together as a single system. This is especially important for ATS

¹⁷ Based on totals for cities of Albany, Jefferson, Millersburg, and Tangent. US Census American Community Survey 2011–2015 5-Year Estimates, Table S1601.

because it operates multiple transit service products (ATS local routes, the Loop, and Albany Call-A-Ride), and has transit service interacting closely with other transit services in the area.

ATS has indicated that it needs a refresh of their logo and branding. The best time for such a change is when there is a noticeable change in service, such as a route restructure or improvement in service frequency. ATS should consider implementing the Short-Term 60 Scenario or Medium-Term Scenario at the same time as a refresh of ATS' brand. It could help ATS to use the branding to distinguish between its service products to clarify the management, funding and operating conditions resulting in the different service and policy structures in each service.

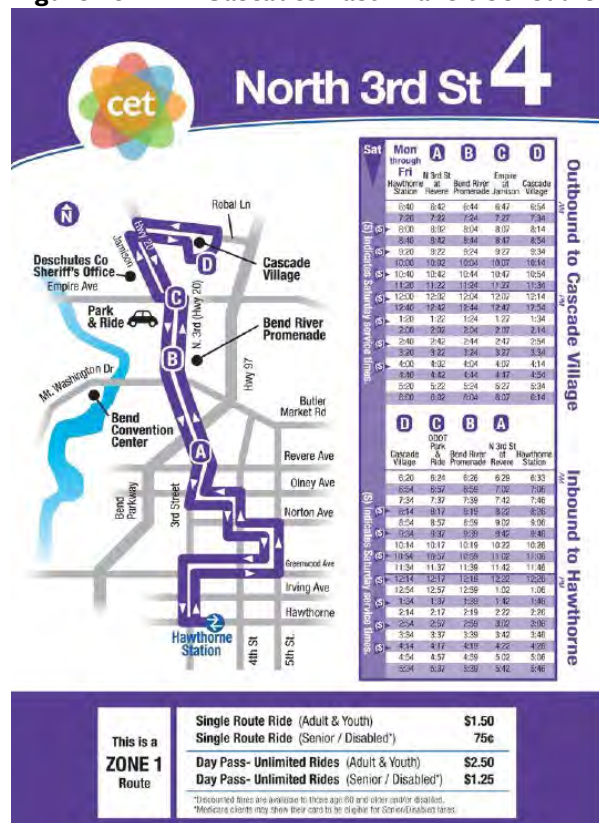
System and Route Maps

Maps and schedules are the primary tool people use to obtain information about ATS. The accessibility, legibility and simplicity of these maps and schedules enhance comprehension of the system. ATS' current map is good quality, showing all street names and indicating time points.

The following recommendation could improve the existing maps and access to information.

1. **Reduce number of timepoints to 10.** The current schedules have between 10 and 12 timepoints listed on different routes. Reducing the number of timepoints can allow an increase in font size to make the schedule more legible.
2. **Replace timepoint icons on map with numbers or letters to correspond with timepoint labels in the schedule.** Current maps show a "T" to indicate a timepoint, but do not correspond with the timepoints listed on the schedule. An example from Cascades East Transit in Bend is shown in Figure 45.

Figure 45 Cascades East Transit Schedule and Map



3. **Replace labels for points of interest with actual names of places.** Passengers consult transit maps to help them with trip planning. Identify specific destinations on the map with the actual name of the location or business (such as Fred Meyer, Walmart or Samaritan Hospital) instead of “Grocery” or “Hospital.”
4. **Add more major destinations to the map.** Some major destinations, such as West Albany High School, South Albany High School, Boys & Girls Club and Linn County Public Health are not identified on the map. Use stop-level ridership or public requests to identify additional destinations.
5. **Add the Loop, or show connections to the Loop, on the map.** Many ATS passengers use the Loop, and transfers between the two services can be facilitated by clearly identifying where these connections occur.
6. **Create route-specific maps to provide details on stop locations and key destinations along the route.** In addition to a system map, passengers often want more details about an individual route’s alignment, direction of travel, stop locations, and destinations. This is a lower priority recommendation.

Technology

Technology for public transportation and related travel options is changing rapidly and in ways that are difficult to predict over the long-term. ATS plans to implement some or all of the

strategies below, while maintaining a flexible approach to improving the transit system with new technologies as appropriate to the system. All new technology must be accessible and comply with the Americans with Disabilities Act (ADA). The following technology strategies will improve service delivery.

Traveler information system hardware

1. Add GPS transponders, mobile data terminals, cellular data service to traveler information system hardware. Automatic vehicle location information requires hardware, known as a global positioning system or GPS. The hardware may come included with buses and other vehicles, or be offered as an after-market product that can be installed in existing fleets. GPS equipment is also available in tablets and smartphones. The hardware emits vehicle locations constantly or at specific locations like bus stops. ATS will need cellular data service to transmit and receive data from the vehicles.
2. Add software and analytic services – in house or cloud-based – to support new vehicle location hardware systems, and configure to prepare operational and compliance-related reporting. Software allows transit agencies to receive and maintain trip data. Third-party vendors offer hardware and software packages (e.g. RouteMatch, Ecolane), or may offer modular, mix-and-match packages (e.g. Swiftly). Software typically includes trip analysis and reporting features to automate service and route evaluation functions, which can reduce administrative burdens. ATS uses RouteMatch software today to dispatch Albany Call-A-Ride trips, which has route planning and data reporting features. The data outputs and software are proprietary (i.e. not open-source) limiting integration with some hardware and neighboring transit providers.
3. Enhance website design, adding website hosting and maintenance services. A website is one public-facing software component of the information system. Websites are typically designed to be easily read on any device type (i.e. computer, tablet or smartphone) and offer adaptive user features such as spoken text and voice-enabled tools. Transit websites include specialized features such as trip planners, rider alerts and real-time bus information, and can be configured for several agencies.
4. Implement online fare payment for multi-ride tickets, explore regional online fare payment services. Public transportation providers have leveraged fare collection systems to increase customer convenience and reduce administrative and maintenance costs. There are two key fare collection technology options to consider:
 - Online fare payment lets customers purchase tickets online. Some agencies offer this for limited fare products or passes, and continue on-board fare collection. Tickets from online purchases may be printed and carried, or displayed on a smartphone.
 - Smartcards come in many different formats, generally allowing riders to store values on cards that are then used on board vehicles with electronic card readers. This can increase customer convenience, reduce boarding times, and allow for seamless regional transit fare payment.

Automatic passenger counter

5. Install automatic passenger counters. Automatic passenger counters (APC) are a technology that counts passengers who are both boarding and alighting transit vehicles through the use of electronic infrared beams or mechanical mats. This technology can reduce burdens on drivers. Boarding data can be sent in real time or downloaded at a transit center or garage.
6. Install yield signs on each fixed route vehicle. ATS drivers and riders noted slow pull-out times from bus stops in Albany due to other drivers not yielding right-of-way to the bus. Oregon law requires motorists to yield to a transit vehicle that is entering a traffic lane after stopping at a bus stop, when a yield sign is illuminated and the bus operator is signaling its intention to enter the traffic lane.¹⁸ Vehicle equipment exists to encourage other drivers to yield to a bus. One example is a “yield” bus icon or light installed on the rear of the bus. Some communities have supplemented this with advertisements on vehicles or elsewhere, informing them about the law and traffic safety benefits.
7. Program headsigns to list only major destinations or areas consistent with service maps and schedules. ATS will consider reducing the amount of text displayed on the headsign, to improve street-side legibility. Stop announcements support transit riders who may not be able to see the street signs or who are unfamiliar with stops and technology is available to automatically announce bus stops. The announcement system may be coordinated with vehicle location technology.

Customer Information

8. Install on-board security video cameras and related data storage equipment. ATS has purchased security cameras with new vehicles and will fully equip the fleet with cameras in the next five to ten years. Cameras provide security for riders and drivers inside and outside the vehicle, and records create a simple way to provide input to security and customer service issues. ATS also plans to maintain security video at the transit stations and add to major stops as appropriate.

Fares

The base fare for ATS is \$1 per trip. Transfers between Routes 2 and 3 at Albany Station or at the Jackson Street Transfer Stop are free. Fare-paying Loop passengers can also board Route 3 without any additional charge if they transfer from Loop at LBCC and travel to Albany Station.

Albany can implement a transfer system that allows passengers to transfer without any additional charge to another route within 90 minutes. This can be handled inexpensively with paper

¹⁸ See Oregon Revised Statute 811.167

transfers, or ATS could invest in magnetic swipe cards, mobile apps and other methods to enable transfers.

In terms of how much passengers pay to use ATS, the \$1.00 cost per trip is comparable to its peers. Only two agencies have one-way fares more than \$1.00, with the highest rate at \$1.50 per trip. Based on results from the Fall 2014 on-board passenger survey, most ATS passengers are low-income. Approximately 78% of ATS passengers had a total household income less than \$35,000, and with 46% of passengers with incomes less than \$10,000. Access to a personal vehicle is also a challenge for many passengers: 40% of respondents lived in households without a vehicle. A cost of \$1.00 per trip provides many people with low incomes or people who don't have access to personal transportation with a low-cost option to access services, amenities and employment opportunities in Albany.

Additionally, the survey indicated that 54% of ATS passengers use a free college pass to board. This suggests that an increase in the fare is unlikely to provide a significant increase in fare revenue, as it would impact less than half of all passengers.

Therefore, it is recommended that the fares remain unchanged for the short-term. ATS is an important service that many low-income and all-purpose riders depend upon. An increase to the cost of this service is likely to place an increased financial burden on passengers, especially those who do not have access to a free fare, and may reduce overall ridership.

I0 Implementation Schedule

The full suite of improvements outlined in this plan are intended to be implemented over 20 years, given the resources and coordination needed. In discrete steps, or phases, however, the Albany area’s public transportation vision can begin to take shape. The phases correspond with the project stakeholders’ input on service priorities and available resources. The highest priority changes are added to the short-term scenario, as are “quick win” strategies that requiring few resources to deliver good benefits. Figure 46 lists individual strategies described in Future Transit System, organized by phase and with order-of-magnitude costs or resources required noted using one to five “\$” symbols.

Figure 46 Strategy Implementation Phasing

Action No.	Recommended Action	Lead Partner	Scenario				Cost
			Short	Medium	Long	Ongoing	
Service-related							
S-1	Implement four-route citywide service with 90-minute frequency, providing maximum geographic coverage while improving on-time performance	ATS, AAMPO	x				\$
S-2	Provide continuous service from 6:30 a.m. to 6:30 p.m. on all routes	ATS, AAMPO		x	x		\$\$
S-3	Implement six-route citywide service at 60-minute service frequency, and add over 70% more service hours.	ATS, AAMPO		x			\$\$
S-4	Increase service to 30-minute frequencies on two routes, maintaining 60-minute headways on three routes	ATS, AAMPO			x		\$\$\$\$
S-5	Add peak-hour commuter route serving Albany, Jefferson, Millersburg, and Tangent; add new bus stop amenities at 11 stops serving the route.	ATS, AAMPO			x		\$\$\$\$
S-6	Expand Call-A-Ride to outlying AAMPO communities such as Tangent and Jefferson.	ATS, AAMPO			x		\$\$\$\$
S-7	Monitor public transportation operations performance and report to relevant stakeholders.	ATS, AAMPO				x	\$
S-8	Facilitate simple and convenient transfers between routes by implementing a 90-minute transfer window with paper or electronic transfer tickets.	ATS, AAMPO	x	x			\$

Action No.	Recommended Action	Lead Partner	Scenario				Cost
			Short	Medium	Long	Ongoing	
Vehicles, equipment and facilities							
C-1	Purchase replacement and enhancement buses. Explore leveraging local match funds to access unused FTA formula funds allocated	ATS, AAMPO	x				\$\$\$\$
C-2	Outfit entire fixed route and demand response fleet with security video camera and data system.	ATS, AAMPO	x				\$\$
C-3	Update vehicle headsigns to quickly indicate key destinations on short text cycles.	ATS, AAMPO	x				\$
C-4	Implement stop amenities policy to prioritize phased investments in bus stops.	ATS, City of Albany				x	\$\$\$
C-5	Install automatic vehicle locator or other GPS system on all vehicles, with related dispatch and data management software.	ATS, AAMPO		x			\$\$
C-6	Install automatic passenger counter equipment and related data management software to support ongoing performance monitoring.	ATS, AAMPO		x			\$\$
C-7	Develop shared regional website or other information-sharing location that is easily accessible to customers, potential customers and service providers.	ATS, AAMPO, CTS, Benton County		x			\$
C-8	Explore electronic fare collection systems and online ticket sales to augment existing on-board payment systems and integrate with Linn and Benton County transit providers.	ATS, AAMPO, CTS, Benton County			x		\$
C-9	Build new maintenance facility to support growing ATS fleet and maintain state-of-good-repair	ATS, AAMPO			x		\$\$\$\$\$
Public information and marketing							
M-1	Update ATS maps, schedules and other marketing material, including rebranding efforts	ATS, AAMPO	x				\$
M-2	Maintain all materials in Spanish; add other languages as need is reflected in Title VI plan	ATS, AAMPO	x				\$
M-3	Grow and maintain the travel training program to support new and special needs customers	CWCOG, ATS	x			x	\$

Action No.	Recommended Action	Lead Partner	Scenario				Cost
			Short	Medium	Long	Ongoing	
Regional Services							
R-1	Improve connections between regional transit services and ATS in the City of Albany.	ATS, AAMPO	x				\$
R-2	Loop: explore a two-route concept, with one bi-directional route on Highway 34, peak-hour service on Highway 20	Loop Board			x		\$\$
R-3	Loop: explore bi-directional loop concept, with clockwise and counter-clockwise loops running all day on highways 34 and 20	Loop Board			x		\$\$
R-4	Loop and Linn Shuttle: explore a Sweet Home to Corvallis connector concept by joining the Linn Shuttle and Loop into a seamless route, keeping existing service with an Albany-Corvallis route coordinated to offer greater frequency throughout the day.	Loop Board; Sweet Home Senior Center			x		\$\$
R-5	Explore improving transfer times to major regional bus and train service at Albany Station	AAMPO, ATS, ODOT, Loop Board			x		\$

Notes: Order-of-magnitude costs in the "Cost" column are represented by the "\$" symbols ranging from 1 (low) to 5 (high).

Appendix Table of Contents

Appendix Table of Contents 1

Appendix A – Service Area Profile 2

Appendix B – Transit Services Today 7

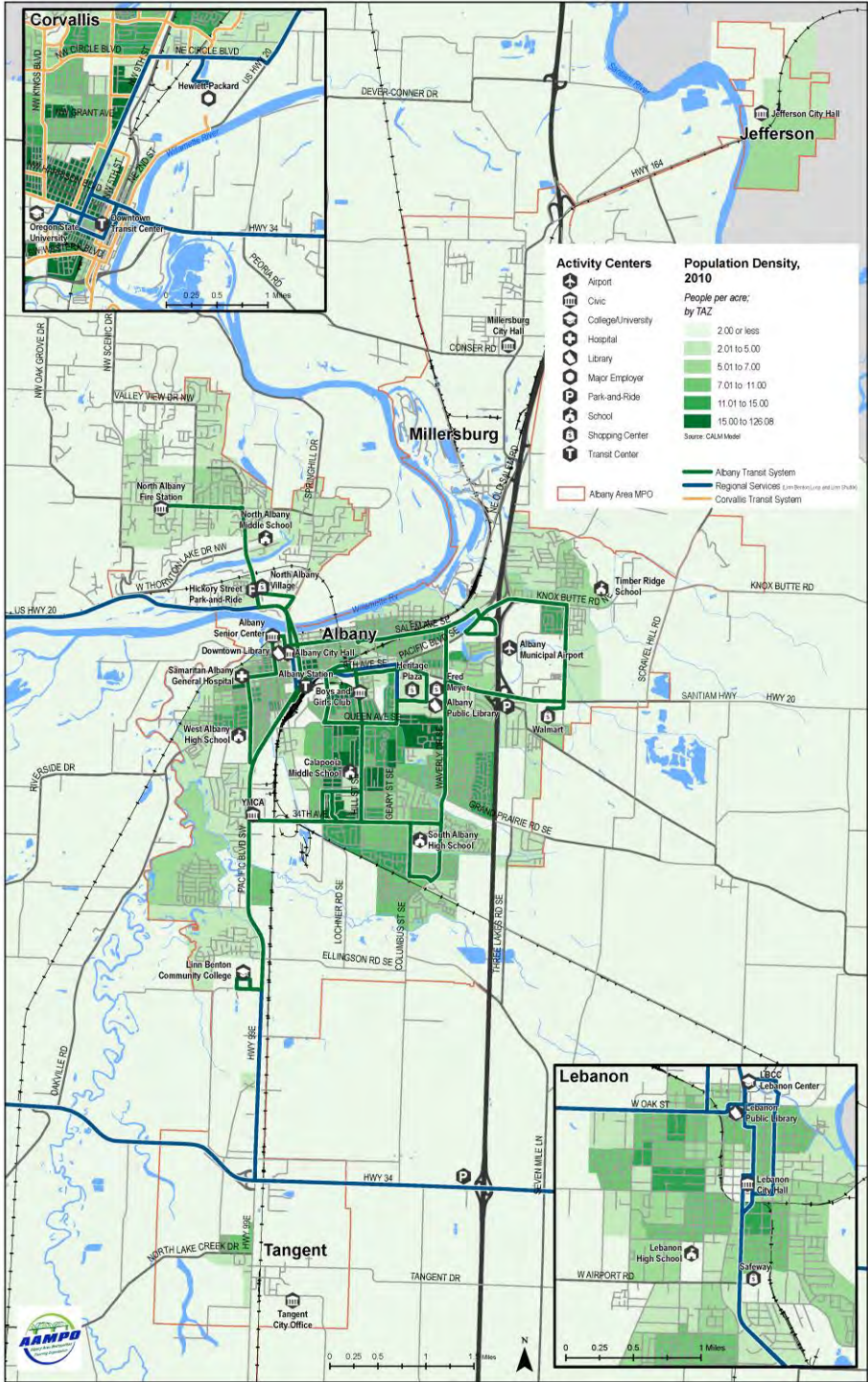
Appendix C – Operations Analysis..... 9

Appendix D – Future Transit System 41

Appendix A – Service Area Profile

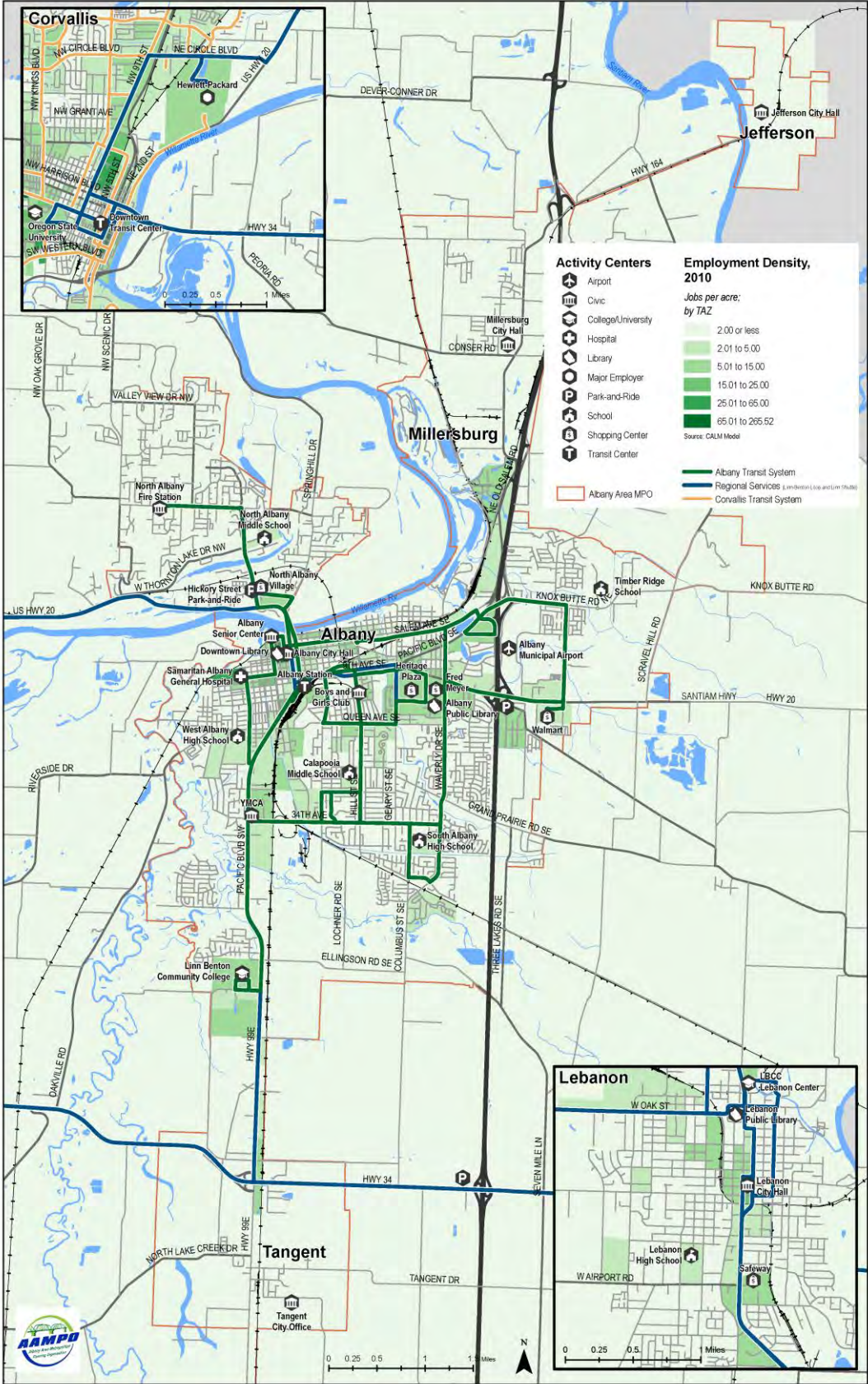
Population and Employment Density

Figure 1 Population Density, 2010



Source: CALM Model

Figure 2 Employment Density, 2010



Source: CALM Model

Demographic Trends Data Sources

Table I Source Files for Demographic Data

Demographic Category	2000	2010	2015
Total population	2000 US Census Table P001	2010 US Census Table P1	2011-2015 ACS 5-Yr Est Table B01003
Age (Youth and Older Adults)	2000 US Census Table P012	2010 US Census Table P12	2011-2015 ACS 5-Yr Est Table B01001
Hispanic/Latino	2000 US Census Table P4	2010 US Census Table P4	2011-2015 ACS 5-Yr Est Table B03003
People of Color	2000 US Census Table P4	2010 US Census Table P9	2011-2015 ACS 5-Yr Est Table B03002
Low-Income Population	2000 US Census Table P087	2006-2010 ACS 5-Yr Est Table B17001	2011-2015 ACS 5-Yr Est Table B17001
Persons with a Disability	2000 US Census Table P042	2008-2010 ACS 3-Yr Est Table B18101	2011-2015 ACS 5-Yr Est Table B18101
Households Without a Vehicle	2000 US Census Table H044	2006-2010 ACS 5-Yr Est Table B08201	2011-2015 ACS 5-Yr Est Table B08201
Population Speaking English less than "well"	2000 US Census Table P019	2006-2010 ACS 5-Yr Est Table B16004	2011-2015 ACS 5-Yr Est Table B16004

Top Commuting Destinations

Table 2 lists the top 10 home location of people who work in Albany and Table 3 lists the top 10 work locations of Albany residents.

Table 2 Top Home Locations of Albany Employees (2014)

Home Location	Rank	Number	Percent
Albany	1	6,861	35.5%
Corvallis-Philomath	2	1,323	6.8%
Salem-Keizer	3	1,146	5.9%
Lebanon	4	993	5.1%
Portland metro area	5	897	4.6%
Eugene-Springfield	6	472	2.4%
Sweet Home	7	245	1.3%
Monmouth-Independence	8	200	1.0%
Millersburg	9	168	0.9%
Jefferson	10	157	0.8%
Tangent	16	94	0.5%
All other locations	-	6,790	35.1%
Total Albany Workers	-	19,346	100.0%

Source: US Census Bureau, LEHD

Table 3 Top Work Locations of Albany Residents (2014)

Work Location	Rank	Number	Percent
Albany	1	6,861	30.6%
Corvallis-Philomath	2	3,633	16.2%
Salem-Keizer	3	2,188	9.8%
Portland metro area	4	1,980	8.8%
Eugene-Springfield	5	1,201	5.4%
Lebanon	6	584	2.6%
Millersburg	7	460	2.1%
Tangent	8	212	0.9%
Bend	9	134	0.6%
Medford	10	128	0.6%
Jefferson	25	22	0.1%
All other locations	-	5,025	22.4%
Total Albany Working Residents	-	22,428	100.0%

Source: US Census Bureau, LEHD

Albany Area Travel Patterns

Table 4 Sub-Area Zones and Trip Generators

Sub- Area Zone	Description	Major Trip Generators
East Albany	Within Albany, east of I-5	Walmart, Albany Municipal Airport, Timber Ridge School
North Albany	Within Albany, north of Willamette River	North Albany Village, Park-and-Ride, North Albany Middle School
NW Albany	North of Queen Avenue, west of Jackson Street	Downtown, Samaritan Hospital, Senior Center, Albany Station
NE Albany	North of Queen Avenue, east of Jackson Street	Heritage Plaza, Fred Meyer, Albany Library,
SW Albany	South of Queen Avenue, west of Marion Street	West Albany High School, YMCA, Linn Benton Community College (LBCC)
SE Albany	South of Queen Avenue, east of Marion Street	South Albany High School, Calapooia Middle School, Jackson Street transfer point

Table 5 Flows with the Most Growth between 2010 and 2040

Rank	A	B	2010	2040	Change	% Change
1	Jefferson	Millersburg	21	114	93	449%
2	Millersburg	Millersburg	17	88	71	418%
3	Jefferson	Jefferson	94	484	390	415%
4	Jefferson	East Albany	20	81	61	300%
5	East Albany	East Albany	191	712	521	273%
6	Jefferson	SW Albany	26	87	62	242%
7	Jefferson	Tangent	3	10	7	187%
8	Jefferson	NW Albany	31	82	51	162%
9	Millersburg	East Albany	69	181	111	160%
10	East Albany	SW Albany	118	305	188	160%
11	Jefferson	North Albany	12	27	16	132%
12	Jefferson	SE Albany	31	71	39	126%
13	Jefferson	NE Albany	110	247	137	124%
14	SW Albany	SW Albany	390	864	473	121%
15	Tangent	East Albany	15	32	17	112%

Source: CALM Model

Appendix B – Transit Services Today

Vehicle Replacement Schedule

Table 6 Vehicle Replacement Schedule

Vehicle Number	Year	Make	Model	Length	Seating Capacity	Useful Life		Disposal Year		Estimated Replacement Cost
						Years	Miles	Eligible	Estimated	
Albany Transit System (ATS)										
455-05	2005	Gillig	Low-Floor	35 ft.	34	12	500,000	2017	2019	\$540,000
480-10	2010	EIDorado	EZ Ride II	35 ft.	36	12	500,000	2022	2022	\$540,000
481-15	2015	Gillig	Low Floor	35 ft.	34	12	500,000	2027	2027	\$540,000
Linn-Benton Loop (Loop)										
431-10	2010	EIDorado	EZ Ride II	35 ft.	36	12	500,000	2022	2022	\$540,000
432-15	2014	Gillig	Low Floor	40 ft.	36	12	500,000	2026	2026	\$540,000
Albany Call-A-Ride										
820-11	2015	Dodge	G. Caravan	<20 ft.	4	4	100,000	2015	2021	\$50,000
823-09	2011	Ford	Cutaway E-450	20 ft.	12	5	150,000	2014	2019	\$90,000
825-11	2009	Dodge	G. Caravan	<20 ft.	3	4	100,000	2015	2021	\$50,000
826-11	2011	Dodge	G. Caravan	<20 ft.	3	4	100,000	2015	2021	\$50,000
827-08	2011	Chevy	Uplander	<20 ft.	3	4	100,000	2012	2018	\$50,000
830-10	2008	Dodge	G. Caravan	<20 ft.	3	4	100,000	2014	2020	\$50,000
831-14	2010	Ford	Cutaway	25 ft.	20	7	200,000	2021	2021	\$150,000

Source: Albany Transit System. Values in 2017 dollars based on average vehicle costs in the Oregon State Price Agreement Vehicle Contract Crosswalk, 2017

Bus Stop Amenity Inventory

Table 7 Bus Stop Amenity Inventory

Location	Shelter Size	Bench Size	Year	Condition	Useful life
North Albany and Hickory	10 x 5	2 x 4	2011	Good	2031
2nd and Broadalbin	10 x 5	2 x 4	2011	Good	2031
2nd and Broadalbin	10 x 5	2 x 4	2009	Good	2029
11th and Elm	8 x 4	2 x 4	2011	Good	2031
36th and Pacific	8 x 4	2 x 4	2011	Good	2031
College Park and Pacific	10 x 5	2 x 4	2011	Good	2031
Pacific and 34th (on 34th)	8 x 4	built in	1999	Poor	2019
34th by Oromet	8 x 4	built in	1999	Poor	2019
34th and Marion	8 x 4	built in	1999	Poor	2019
Pacific @ YMCA	8 x 4	2 x 4	2011	Good	2031
Waverly at Fred Meyer	9 x 4	2 x 4	2011	Good	2031
34th and Oak	10 x 5	2 x 4	2011	Good	2031
32nd and Jackson	12 x 4	2 x 4	2011	Good	2031
Hill and 24th	10 x 5	2 x 4	2011	Good	2031
Hill St @ Boys and Girls Club	10 x 5	2 x 4	2011	Good	2031
Clay St at Heritage Mall	9 x 4	2 x 4	2011	Good	2031
Queen and Geary	10 x 5	2 x 4	2011	Good	2031

Source: Albany Transit System

Appendix C – Operations Analysis

Route Profiles

Route I – Early Morning

Figure 3 Route I Route Summary


Route 1 Weekday		Route Productivity Summary				Route Operations Summary					
		Activity		Service Hours	Productivity	On-Time Performance			On-Board Load		
		Boardings	Alightings	Service Hours	Boardings per Service Hour	% On-Time	% Early	% Late	Max Passengers On Board	Max Load Location	Direction
Total		61	61	2.0	30.5	40%	0%	60%	50	Pacific & 35th &	L
By Segment											
1	Albany Station to N. Albany Fire Station	4		0.3	12.0	50%		50%			
2	N. Albany Fire Station to Salem & Sherman	8	1	0.3	24.0	50%		50%			
3	Salem & Sherman to Waverly @ Fred Meyer	3		0.2	18.0	50%		50%			
4	Waverly @ Fred Meyer to Hill & 28th	12	4	0.2	72.0	50%		50%			
5	Hill & 28th to Hill & 12th (Boys & Girls) &	12	3	0.2	72.0	50%		50%			
6	Hill & 12th (Boys & Girls) & to 2nd & Broadalbin	2		0.2	12.0	50%		50%			
7	2nd & Broadalbin to Elm & 7th (Hospital)	5	2	0.2	30.0			50%			
8	Elm & 7th (Hospital) to LBCC	12	2	0.3	36.0	50%		50%			
9	LBCC to Albany Station	3	49	0.2	18.0			100%			
By Time Period											
AM		61	61	2.0	30.5				50	Pacific & 35th &	L

Figure 4 Route I Running Time by Trip

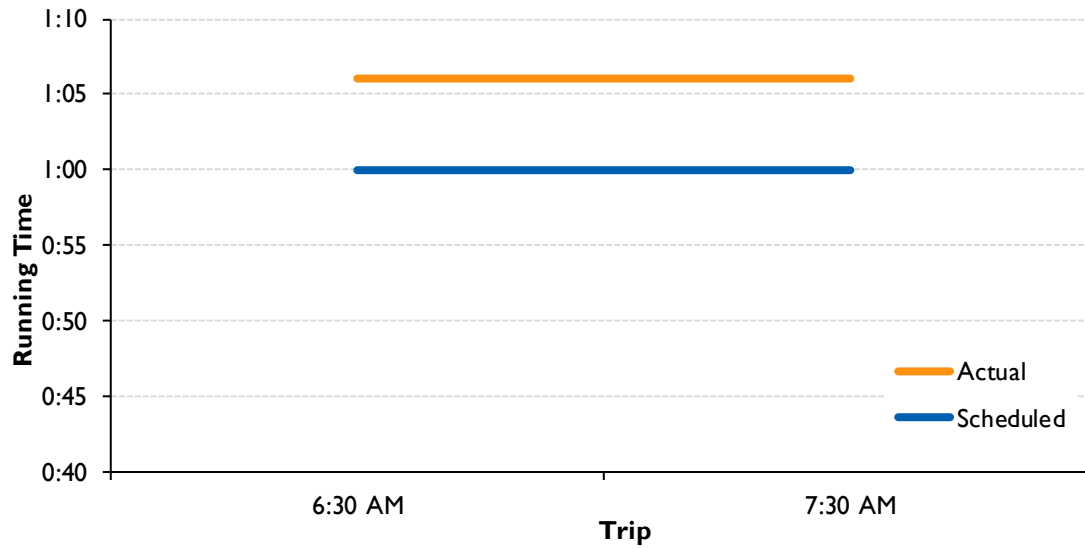


Figure 5 Route I Ridership by Trip

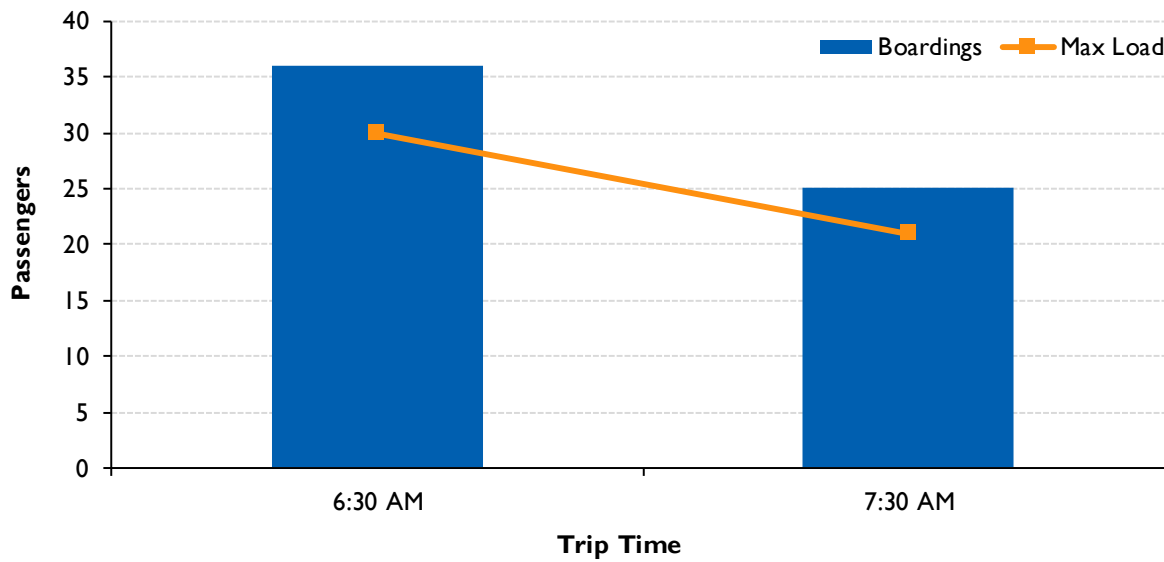


Figure 6 Route 1 On-Board Load by Stop

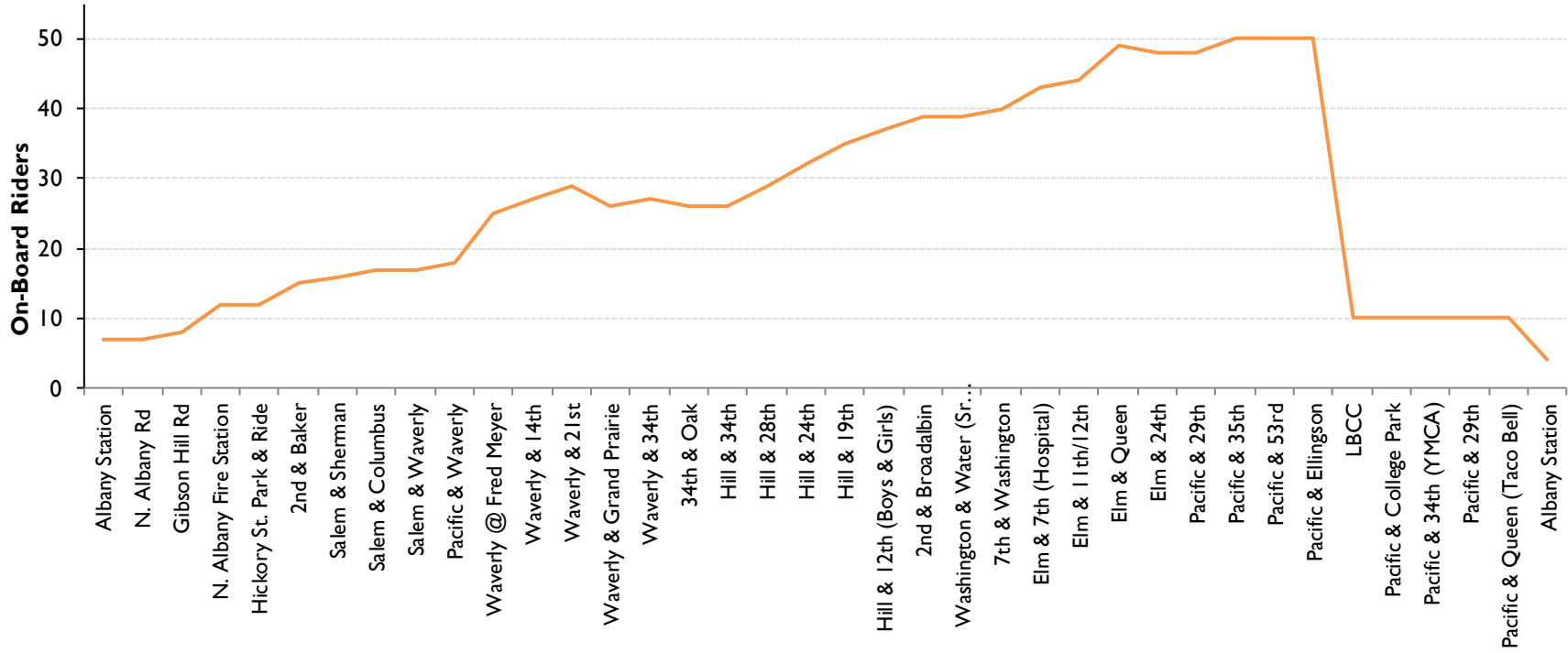
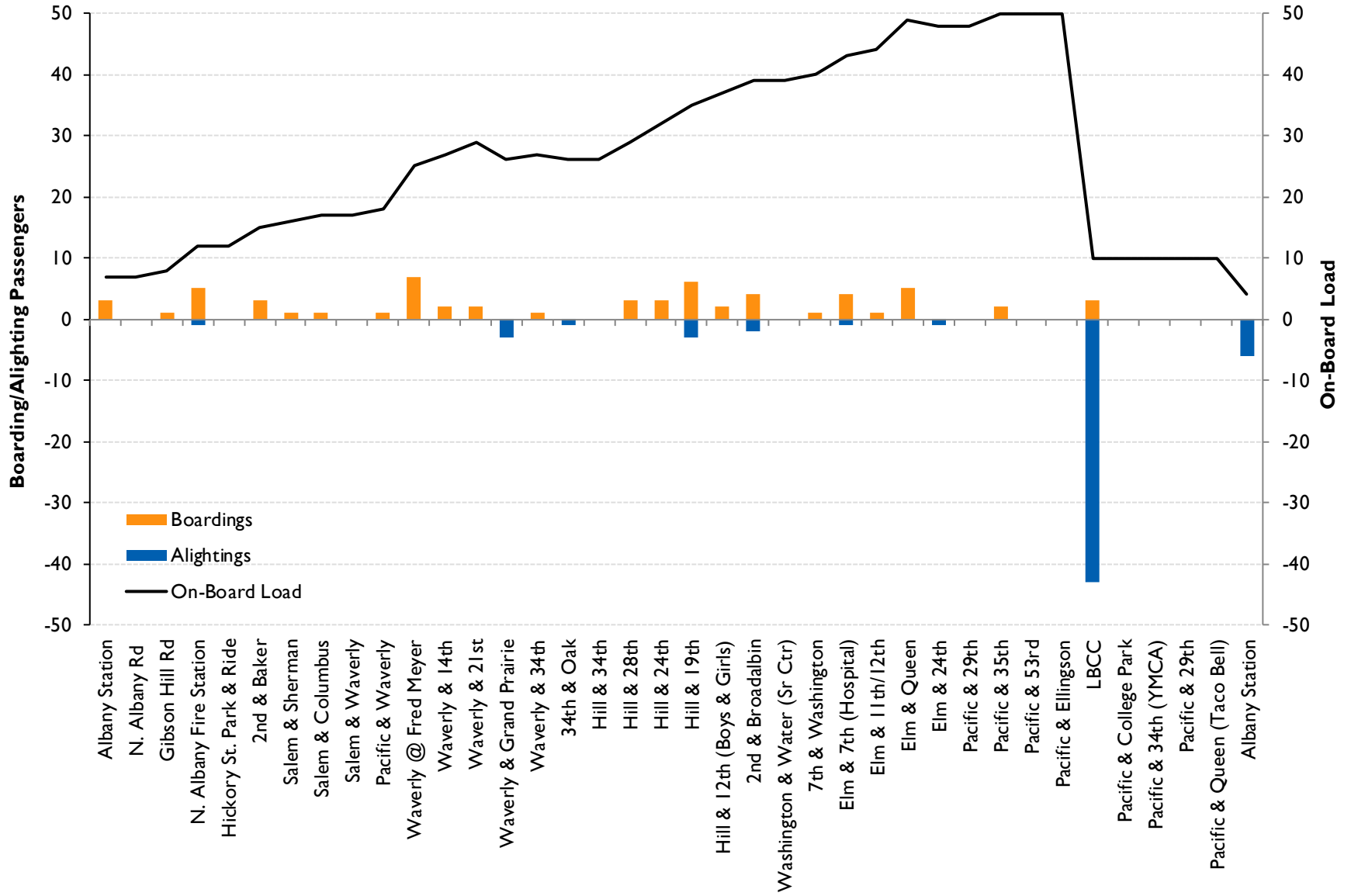


Figure 7 Route I Boardings and Alightings by Stop



Route 2 – Regular Service (East)

Figure 8 Route 2 Route Summary



Route 2 Weekday		Route Productivity Summary				Route Operations Summary					
		Activity		Service Hours	Productivity	On-Time Performance			On-Board Load		
 		Boardings	Alightings	Service Hours	Boardings per Service Hour	% On-Time	% Early	% Late	Max Passengers On Board	Max Load Location	Direction
Total		207	213	8.9	23.3	69%	6%	25%	96	Knox Butte/GFF &	L
By Segment											
1	Albany Station to Salem & Waverly	67	20	1.1	63.8	89%		11%			
2	Salem & Waverly to Wal-Mart	20	16	1.6	12.1	89%		11%			
3	Wal-Mart to Waverly @ Fred Meyer	12	32	0.7	16.0	78%		22%			
4	Waverly @ Fred Meyer to Jackson & 32nd (Transfer)	42	49	1.9	21.5	89%		11%			
5	Jackson & 32nd (Transfer) to Hill & 12th (Boys/Girls Club) &	27	35	0.6	45.0	67%		33%			
6	Hill & 12th (Boys/Girls Club) & to Clay @ Heritage Mall	3	12	0.8	4.0	67%		33%			
7	Clay @ Heritage Mall to Jackson & 11th (Linn Co. Jail)	36	27	0.8	48.0			75%			
8	Jackson & 11th (Linn Co. Jail) to Albany Station		22	1.4		44%	44%	11%			
By Time Period											
	Midday	145	150	6.0	24.2				74	Knox Butte/GFF &	L
	PM	62	63	2.9	21.5				29	2nd & Baker &	L

Figure 9 Route 2 Running Time by Trip

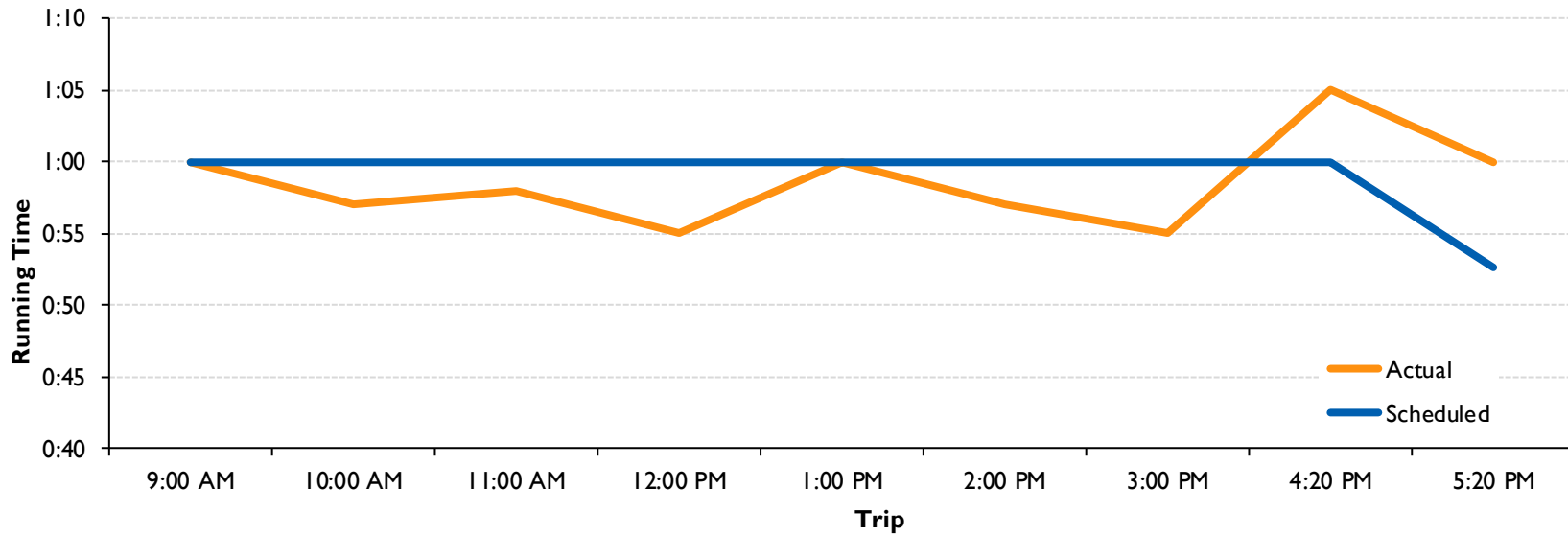


Figure 10 Route 2 Ridership by Trip

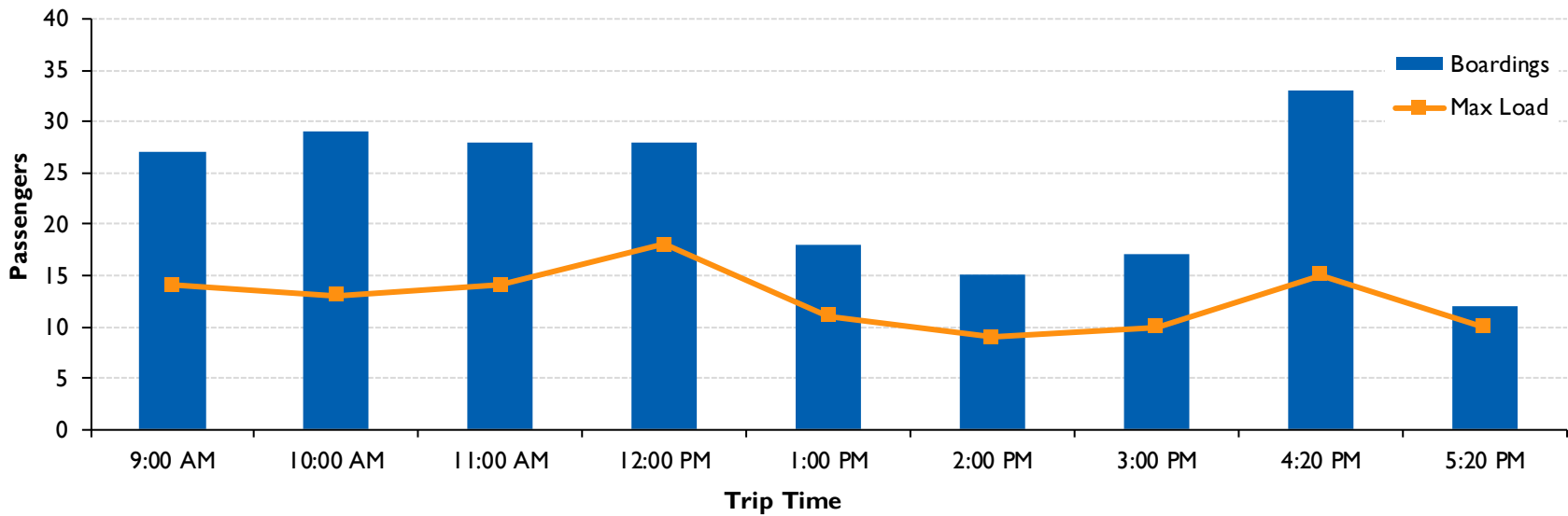


Figure 11 Route 2 On-Board Load by Stop and Time of Day

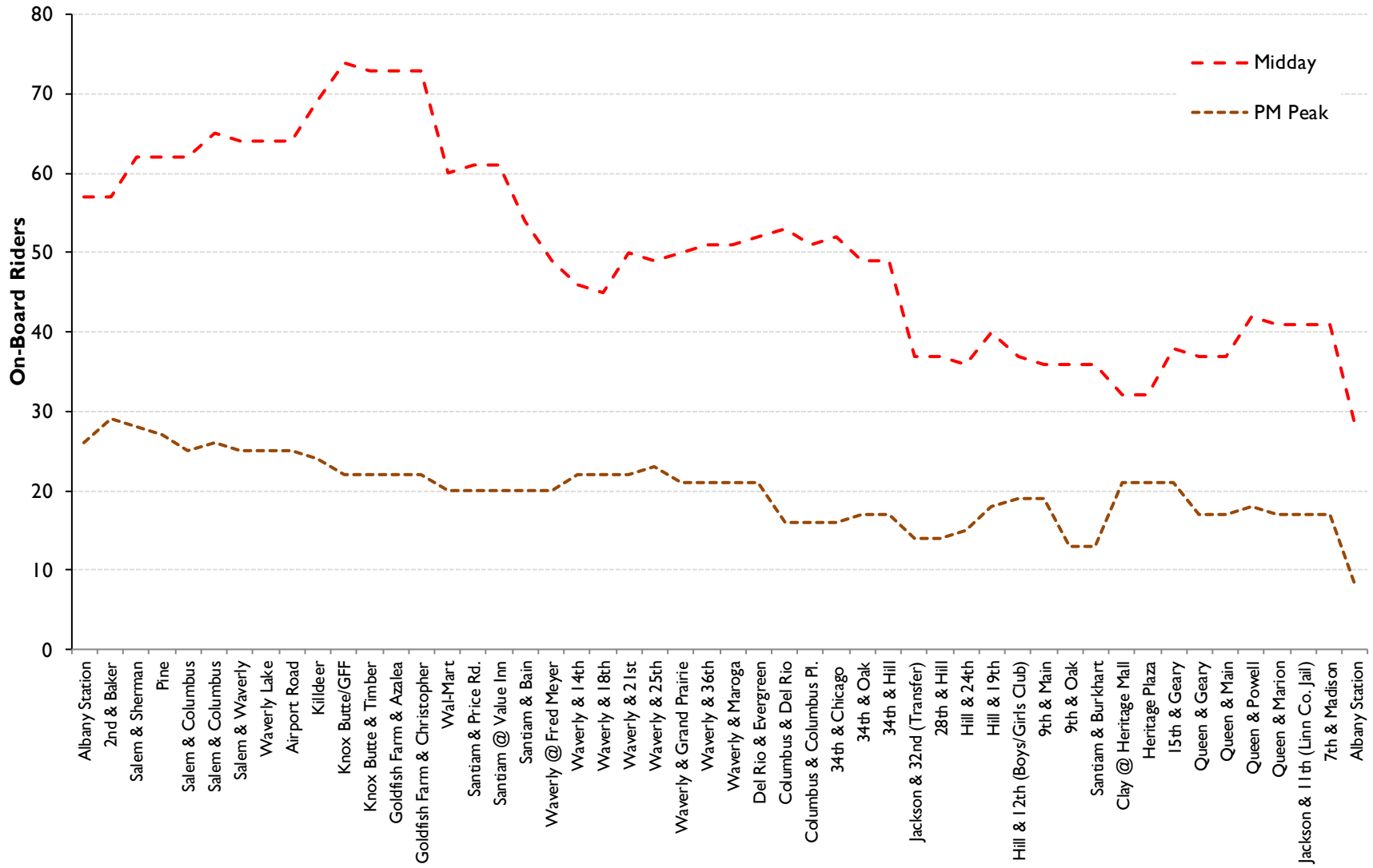
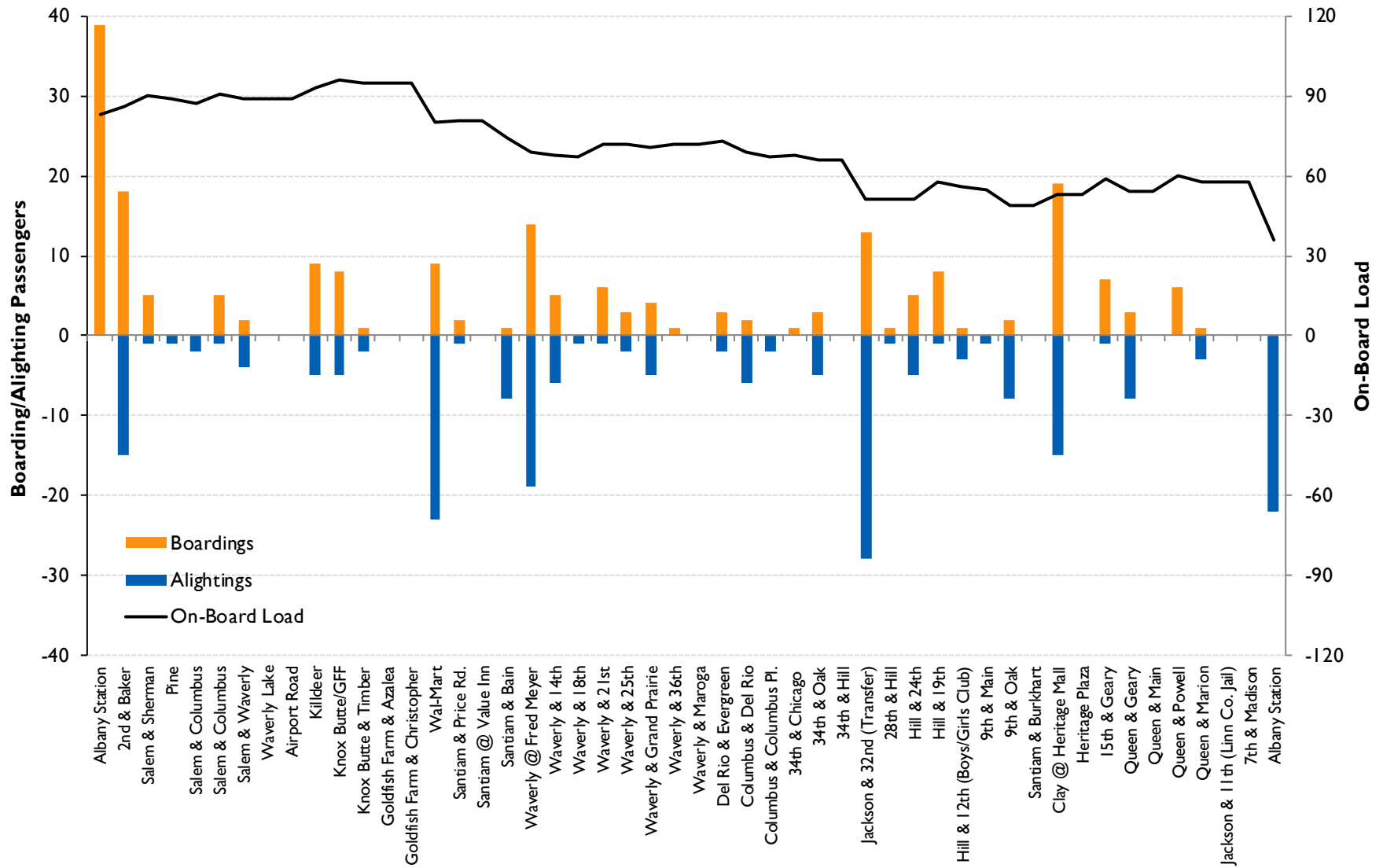


Figure 12 Route 2 Boardings and Alightings by Stop



Route 3 – Regular Service (West)

Figure 13 Route 3 Route Summary


Route 3 Weekday		Route Productivity Summary				Route Operations Summary					
		Activity		Service Hours	Productivity	On-Time Performance			On-Board Load		
		Boardings	Alightings	Service Hours	Boardings per Service Hour	% On-Time	% Early	% Late	Max Passengers On Board	Max Load Location	Direction
Total		182	182	8.9	20.5	41%	33%	26%	93	Pacific & College Park &	L
By Segment											
1	Albany Station to N. Albany Fire Station	23	4	1.3	17.3	38%	25%	38%			
2	N. Albany Fire Station to Hickory St. Park & Ride		2	0.5		50%	25%	25%			
3	Hickory St. Park & Ride to 2nd & Broadalbin	3	1	1.1	2.6	56%	33%	11%			
4	2nd & Broadalbin to 7th & Elm (Hospital)	18	6	0.7	24.0	44%	44%	11%			
5	7th & Elm (Hospital) to Jackson & 32nd (Transfer) &	13	17	1.6	7.9	44%	56%				
6	Jackson & 32nd (Transfer) & to Pacific & 34th (YMCA)	124	77	2.1	59.0	44%		56%			
7	Pacific & 34th (YMCA) to Albany Station	1	75	1.4	0.7	11%	67%	22%			
By Time Period											
	Midday	148	146	6.0	24.7				69	Pacific & College Park &	L
	PM	34	36	2.9	11.8				25	LBCC &	L

Figure 14 Route 3 Running Time by Trip

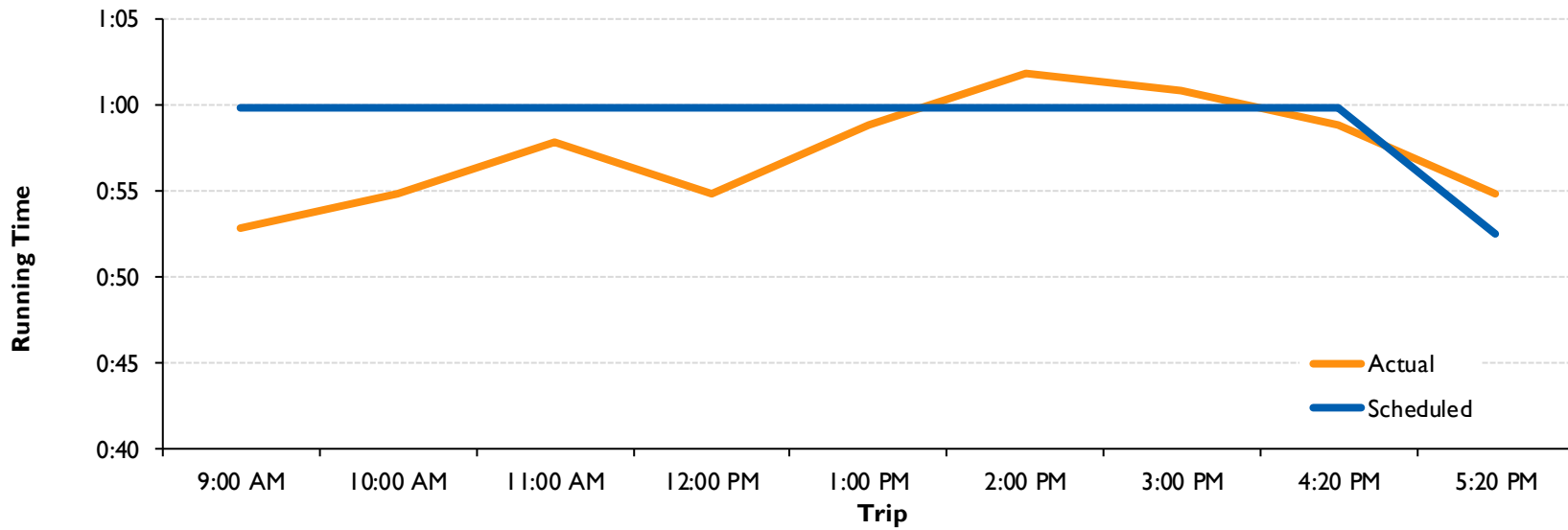


Figure 15 Route 3 Ridership by Trip

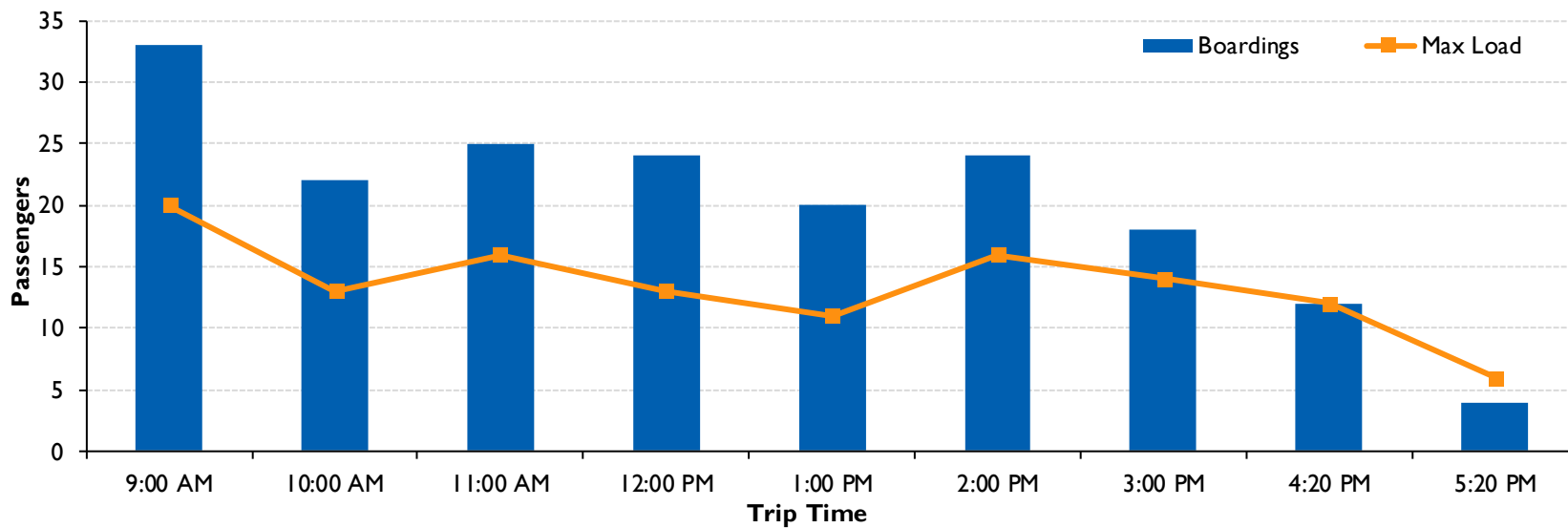


Figure 16 Route 3 On-Board Load by Stop and Time of Day

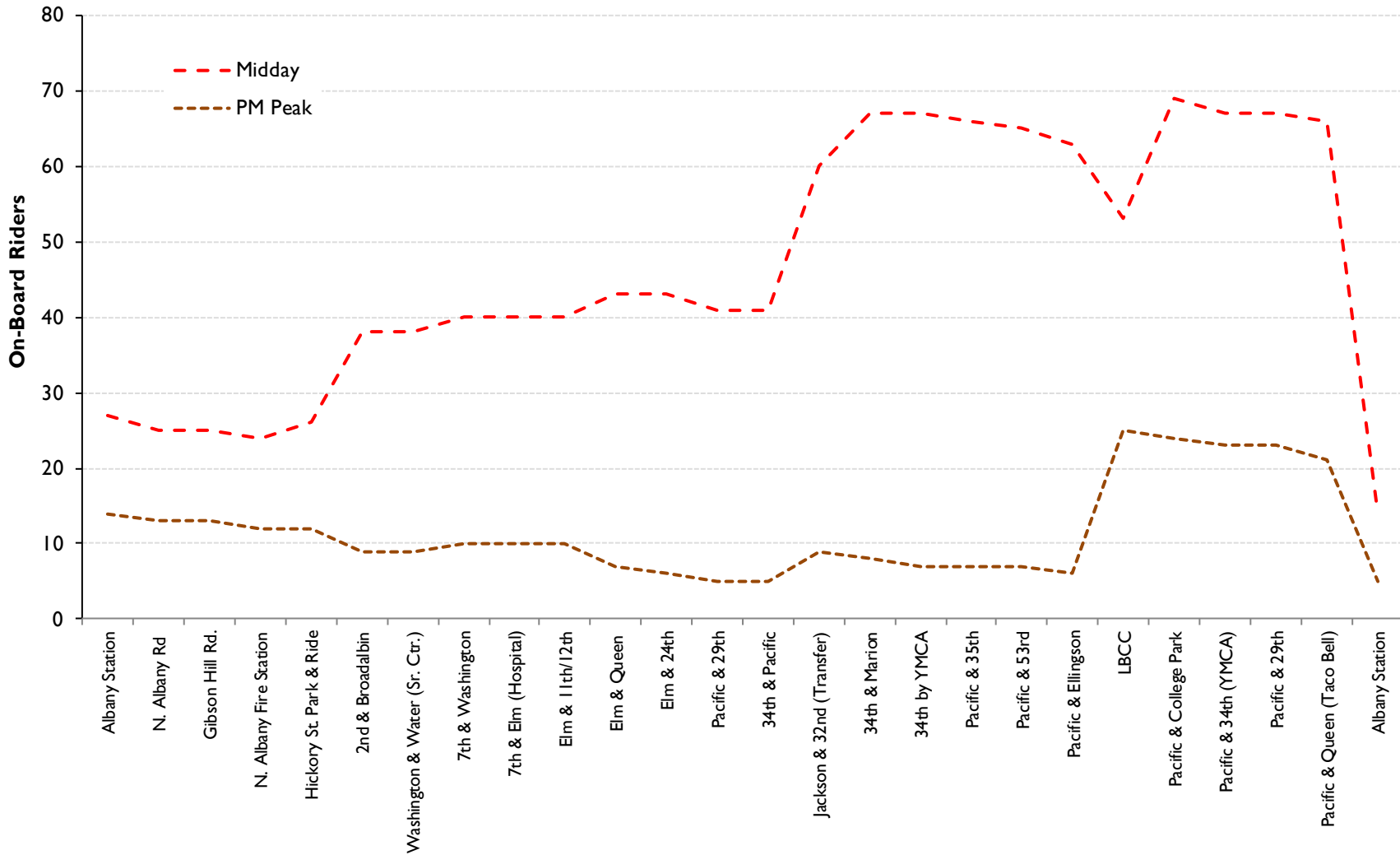
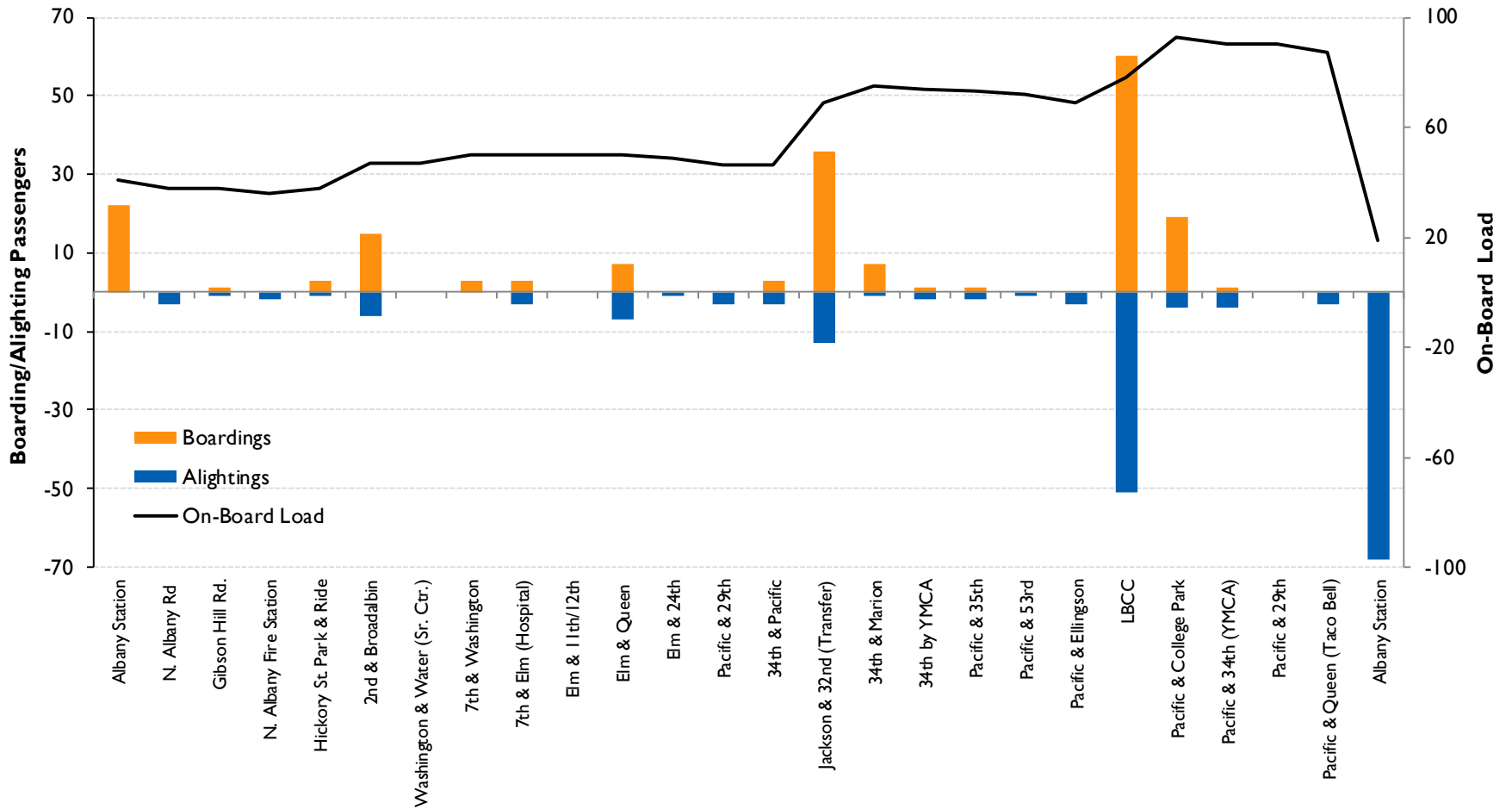


Figure 17 Route 3 Boardings and Alightings by Stop



Linn-Benton Loop

Figure 18 Loop AM/PM Loop Summary



Linn-Benton AM-PM Weekday		Route Productivity Summary				Route Operations Summary					
		Activity		Service Hours	Productivity	On-Time Performance			On-Board Load		
 		Boardings	Alightings	Service Hours	Boardings per Service Hour	% On-Time	% Early	% Late	Max Passengers On Board	Max Load Location	Direction
Total		315	314	7.1	44.2	83%	11%	6%	97	5th and Monroe &	C
By Segment											
1	Albany Station to 2nd & Broadalbin	41	34	0.5	83.1	60%	40%				
2	2nd & Broadalbin to N. Albany Park and Ride	9	20	0.3	30.0	25%	75%				
3	N. Albany Park and Ride to Hewlett-Packard	34	10	1.5	22.7	20%	60%	20%			
4	Hewlett-Packard to OSU 14th & Jefferson	50	54	1.5	34.5	40%	60%				
5	OSU 14th & Jefferson to 5th and Monroe &	62	72	0.5	122.4	80%	20%				
6	5th and Monroe & to LBCC	98	23	2.1	47.8	80%	20%				
7	LBCC to Albany Station	21	101	0.8	25.2	86%	14%				
By Time Period											
	AM	98	94	2.3	42.0				54	5th and Monroe &	C
	Midday	53	57	1.3	40.8				43	5th and Monroe &	C
	PM	117	114	2.2	54.0				68	LBCC &	C
	Eve	47	49	1.3	35.3				27	LBCC &	C

Figure 19 Linn-Benton Midday Summary



Linn-Benton Midday Weekday		Route Productivity Summary			Route Operations Summary						
		Activity		Service Hours	Productivity	On-Time Performance			On-Board Load		
 		Boardings	Alightings	Service Hours	Boardings per Service Hour	% On-Time	% Early	% Late	Max Passengers On Board	Max Load Location	Direction
Total		301	301	3.7	81.4	75%	0%	25%	171	LBCC &	L
By Segment											
1	LBCC to OSU-14th & Jefferson	172	48	1.6	106.4			100%			
2	OSU-14th & Jefferson to 5th & Monroe	70	96	0.4	168.0	50%		50%			
3	5th & Monroe to LBCC	59	157	1.7	35.4	100%					
By Time Period											
	Midday	301	301	3.7	81.4				171	LBCC &	L

Figure 20 Linn-Benton Loop AM/PM Express Summary



Linn-Benton Loop AM/PM Express		Route Productivity Summary			Route Operations Summary						
		Activity		Service Hours	Productivity	On-Time Performance			On-Board Load		
 		Boardings	Alightings	Service Hours	Boardings per Service Hour	% On-Time	% Early	% Late	Max Passengers On Board	Max Load Location	Direction
Total		126	126	4.1	30.9	50%	42%		66	5th & Monroe &	L
By Segment											
1	LBCC to 5th & Monroe	60		1.8	32.7	25%	75%				
2	5th & Monroe to LBCC	66	126	2.3	29.3	50%	50%				
By Time Period											
	AM	72	72	2.1	34.6				59	5th & Monroe &	L
	PM	54	54	2.0	27.0				47	LBCC &	L

Figure 21 Loop Weekday Running Time by Trip

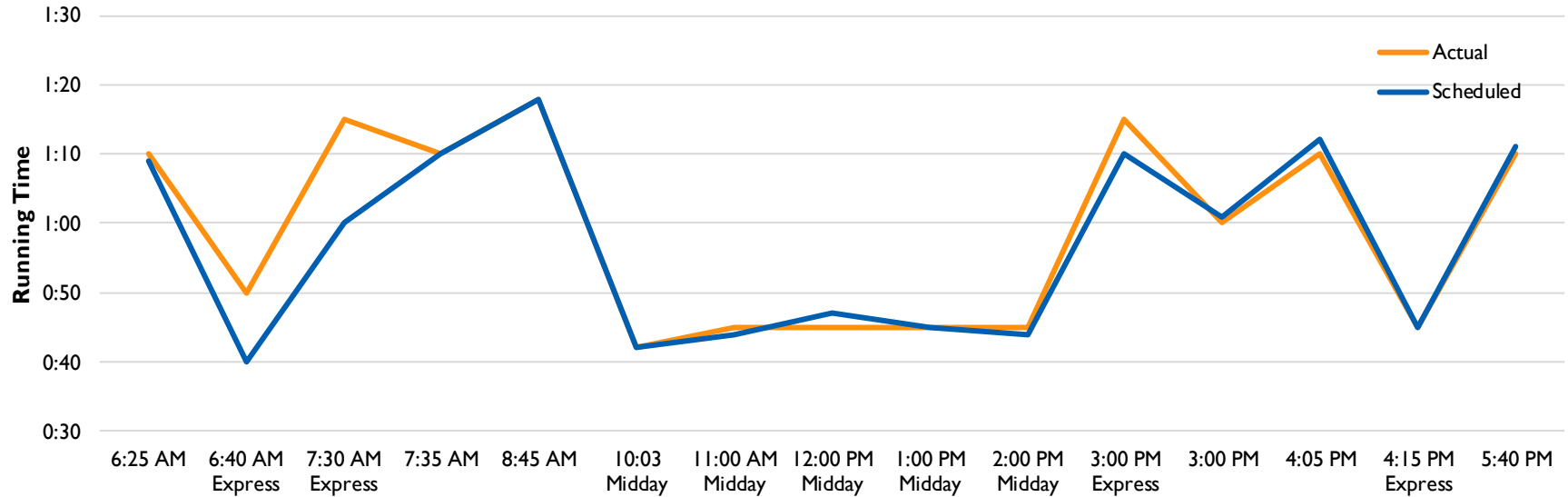


Figure 22 Loop Weekday Ridership by Trip

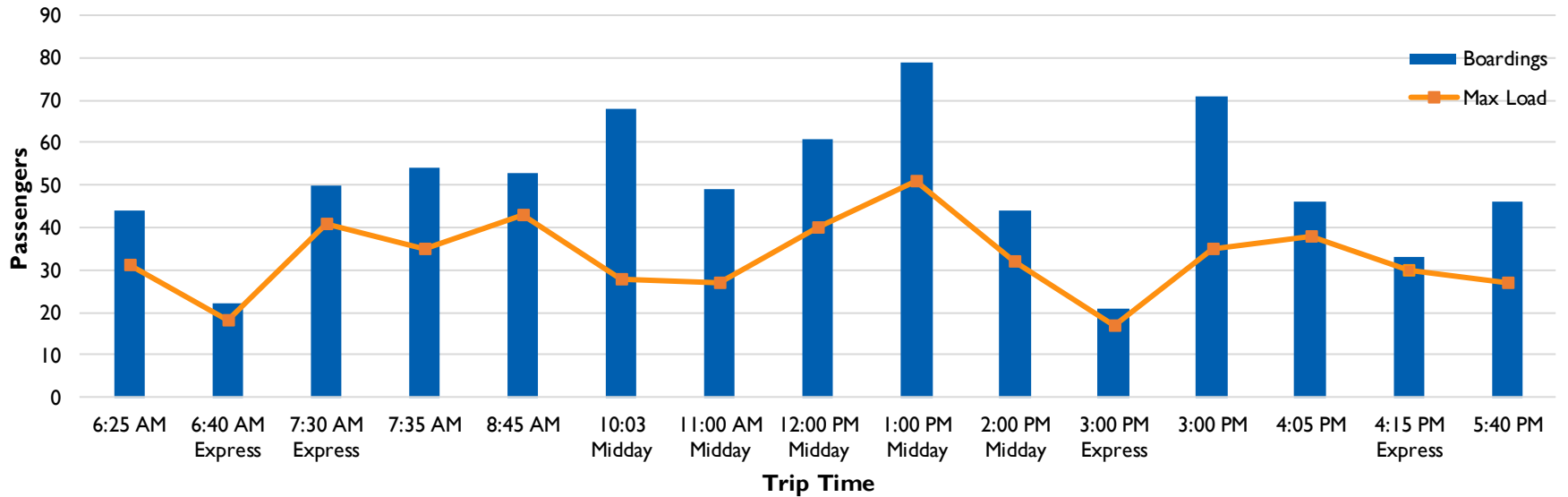


Figure 23 Loop (AM and PM Loops) On-Board Load by Stop and Time of Day

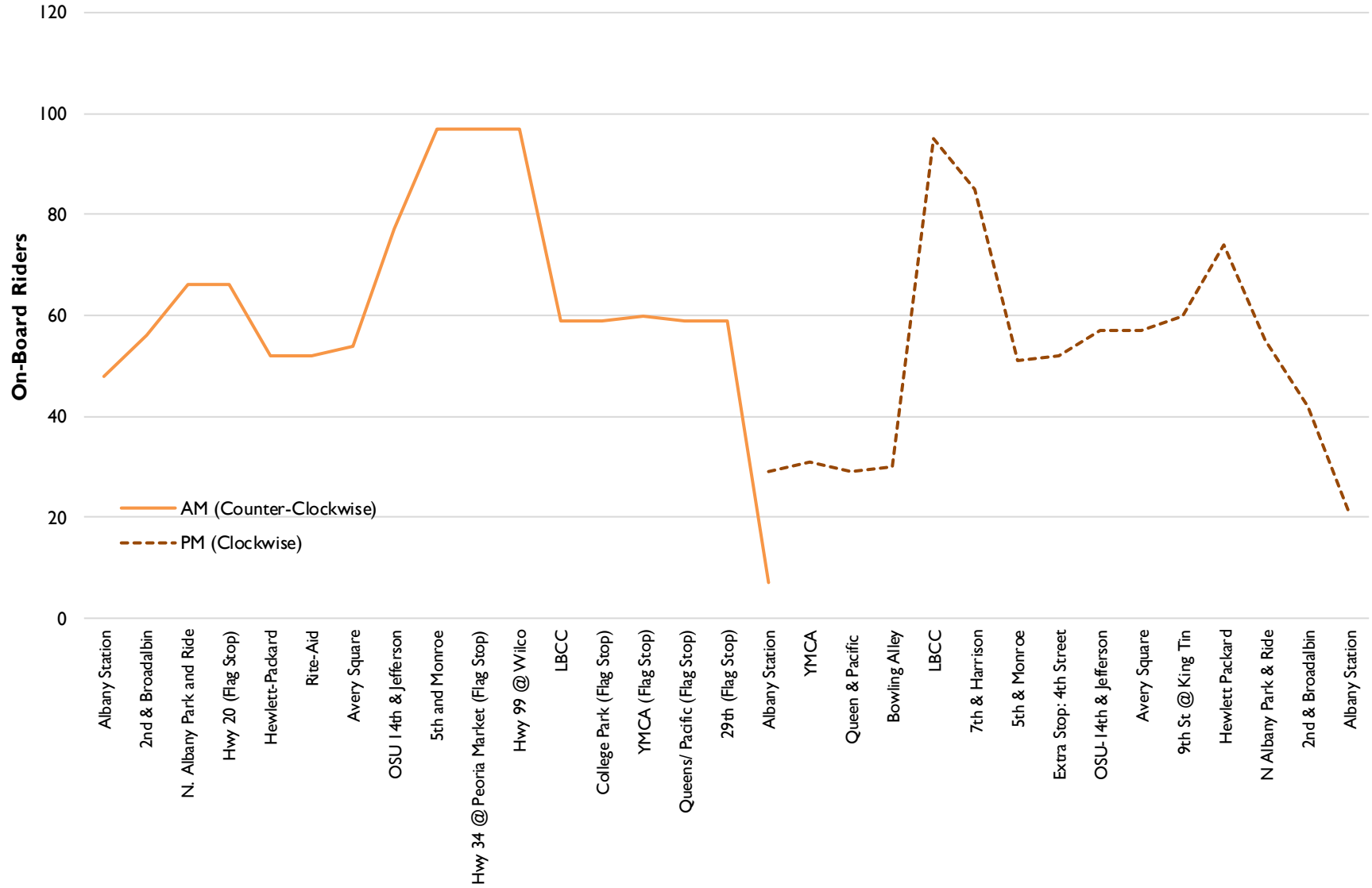


Figure 24 Loop (AM and PM Express and Midday) On-Board Load by Stop and Time of Day

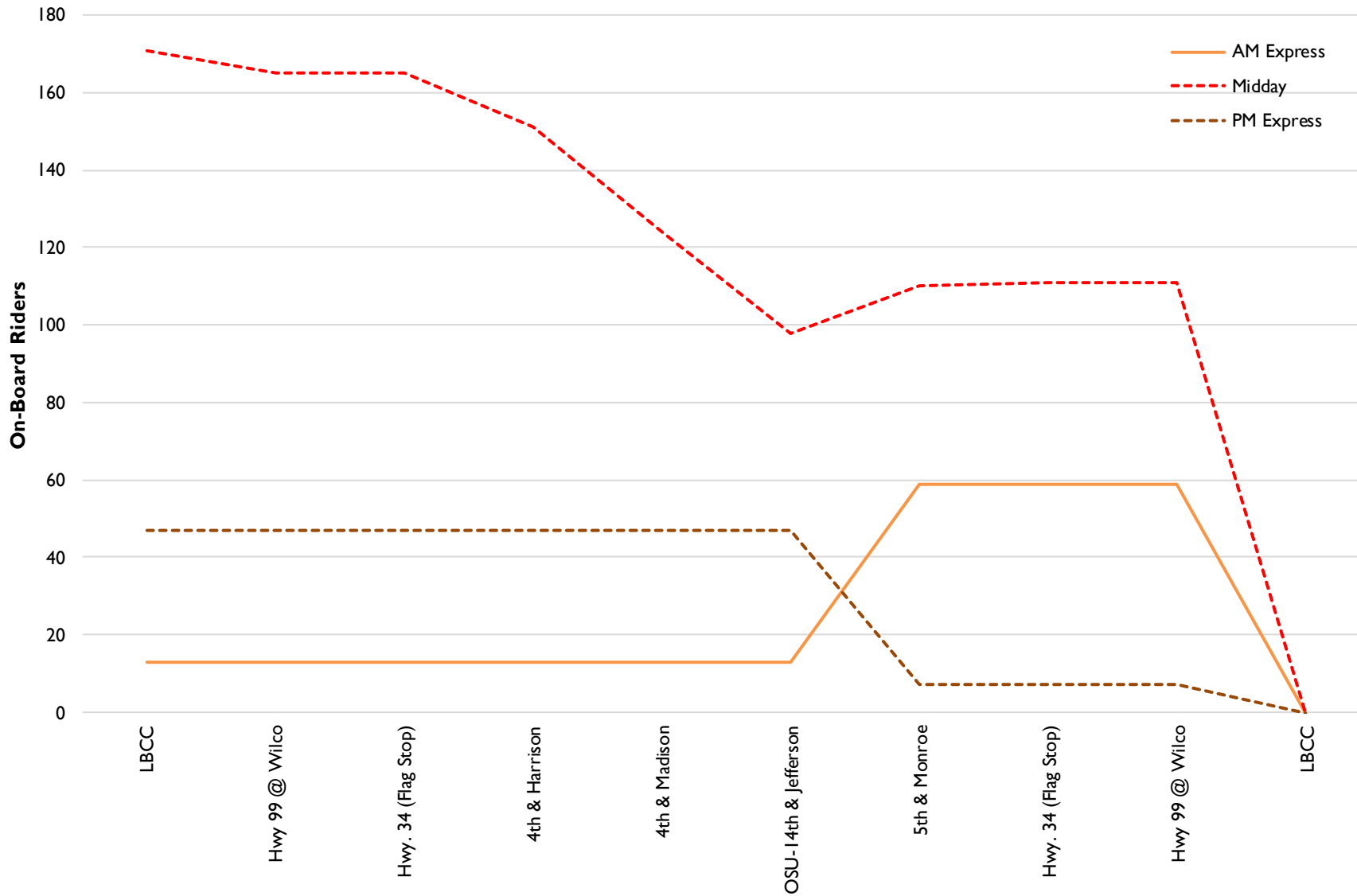


Figure 25 Loop (AM and PM Loops) Boardings and Alightings by Stop

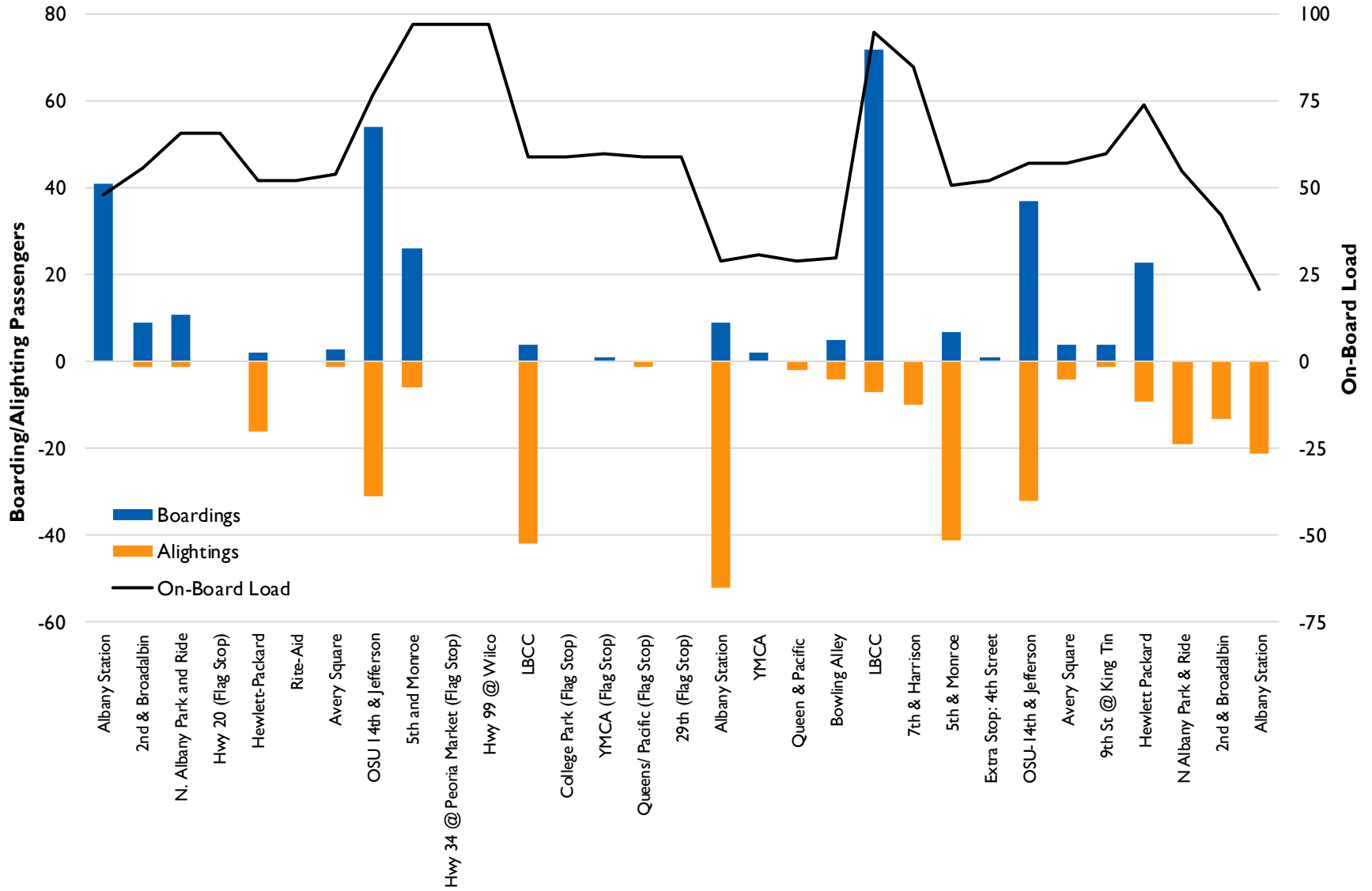


Figure 26 Loop (AM and PM Express and Midday) Boardings and Alightings by Stop

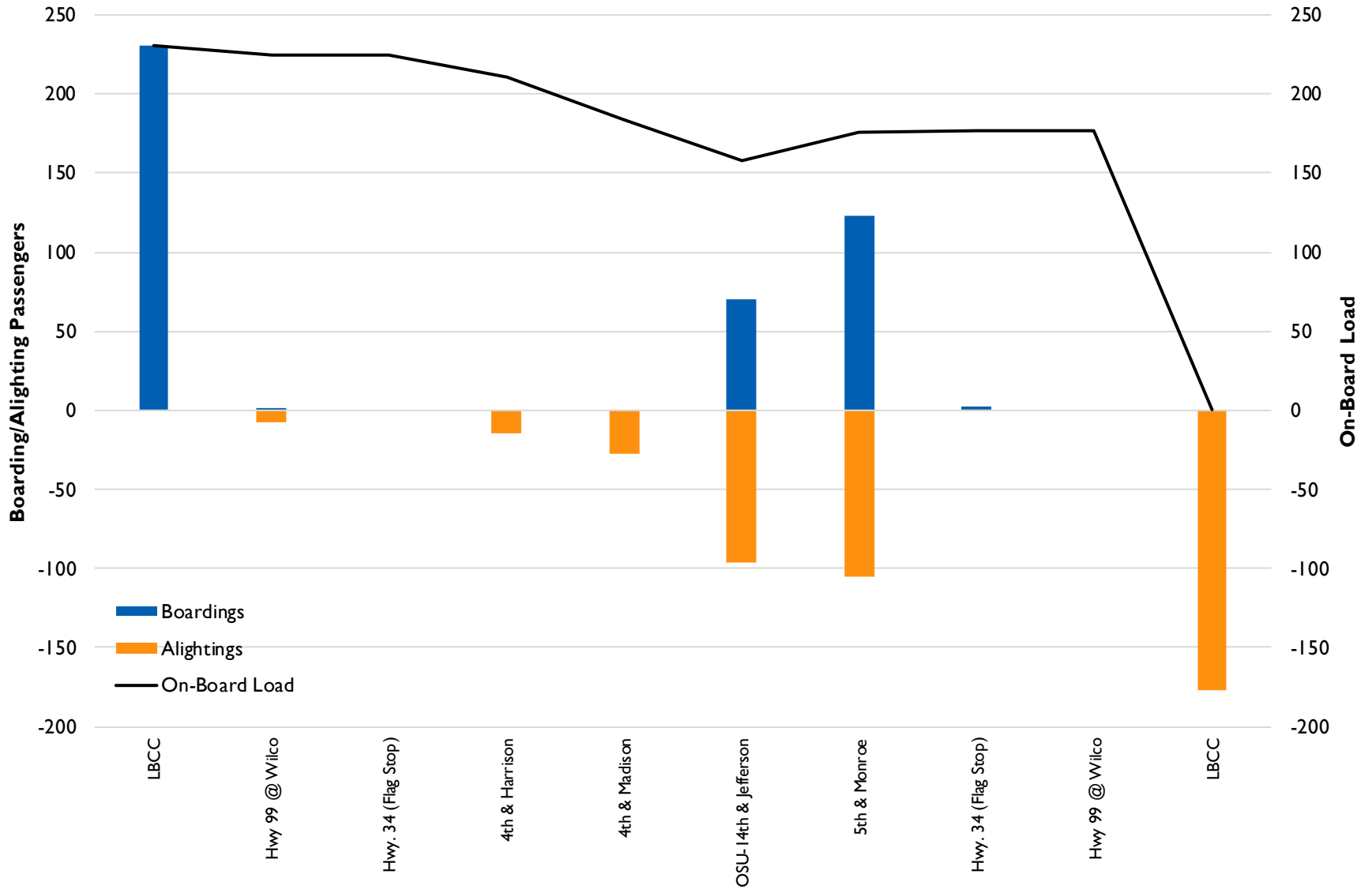
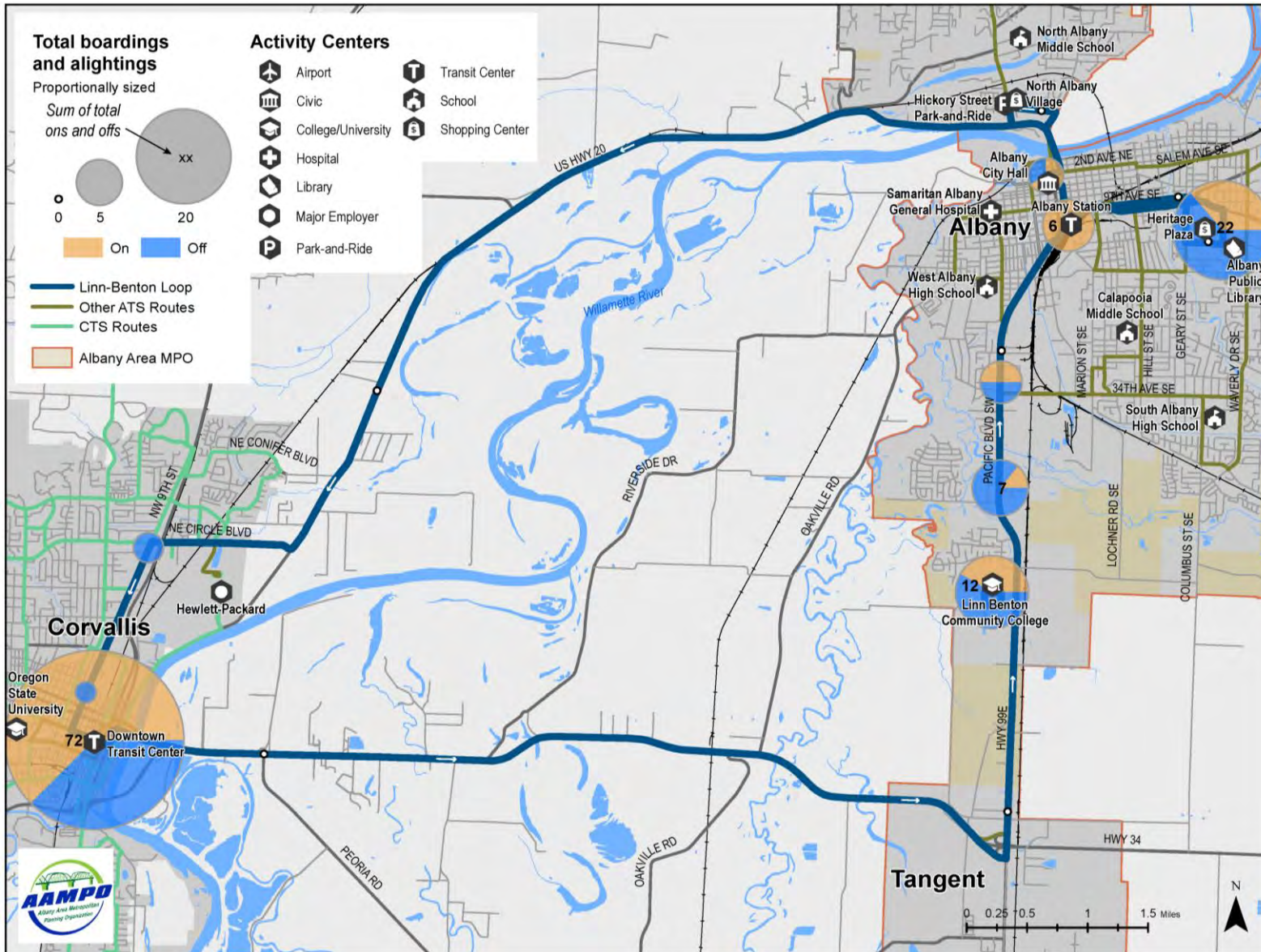
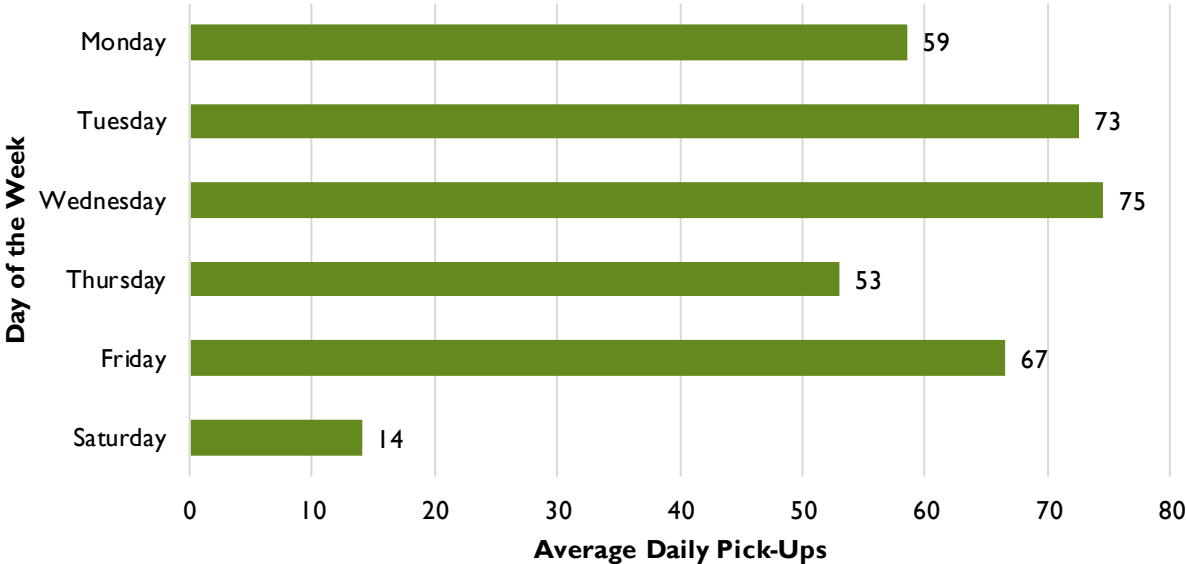


Figure 27 Loop Saturday Ridership by Stop (Fall 2014)



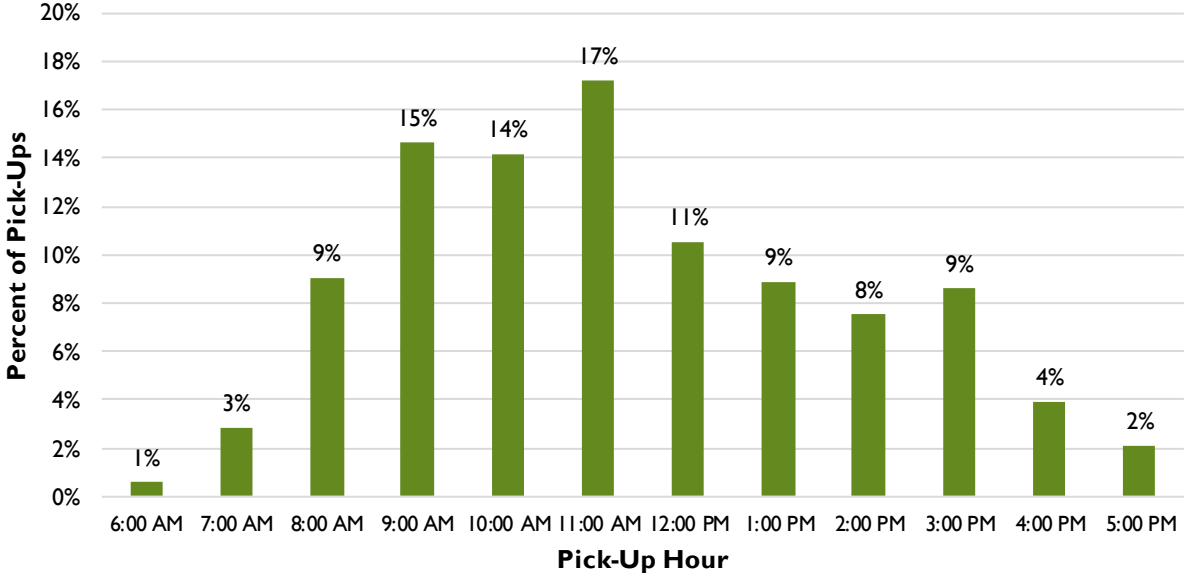
Albany Call-A-Ride

Figure 28 Albany Call-A-Ride Average Pick-Ups by Day of the Week (April 2015)



Source: City of Albany; based on Call-A-Ride manifest between April 6 and April 17, 2015.

Figure 29 Albany Call-A-Ride Pick-Ups by Hour of the Day (April 2015)



Source: City of Albany; based on Call-A-Ride manifest between April 6 and April 17, 2015.

Linn Shuttle

Figure 30 Linn Shuttle Weekday Summary


Linn Shuttle		Route Productivity Summary				Route Operations Summary					
		Activity		Service Hours	Productivity	On-Time Performance			On-Board Load		
		Boardings	Alightings	Service Hours	Boardings per Service Hour	% On-Time	% Early	% Late	Max Passengers On Board	Max Load Location	Direction
		Total		288	288	15.5	18.6	48%	33%	19%	101
Inbound		114	137	7.5	15.2	53%	13%	33%	101	Albany LBCC &	I
Outbound		174	151	8.0	21.8	42%	53%	5%	94	Lebanon LBCC &	O
By Segment											
1	Albany Clay St. at Heritage Mall to Albany 2nd & Broadalbin	29	46	1.0	29.0	67%	17%	17%			
2	Albany 2nd & Broadalbin to Albany LBCC	36	57	2.5	14.4	25%	75%				
3	Albany LBCC to Lebanon LBCC	56	14	5.0	11.2	30%	50%	20%			
4	Lebanon LBCC to Lebanon Park & Oak	36	35	1.0	36.0	75%		25%			
5	Lebanon Park & Oak to Lebanon Walmart &	31	33	1.0	31.0	58%		42%			
6	Lebanon Walmart & to Sweet Home 13th & Kalmia	74	47	4.0	18.5	33%	42%	25%			
7	Sweet Home 13th & Kalmia to Sweet HomeSenior Center	26	56	1.0	26.0		50%	20%			
By Time Period											
	AM	58	67	3.9	14.8				49	Lebanon WalMart &	O
	Midday	176	167	7.8	22.7				66	Albany LBCC &	I
	PM	42	32	2.6	16.3				18	Albany LBCC &	I
	Eve	12	22	1.3	9.6				18	Lebanon LBCC &	I

Figure 31 Linn Shuttle AM Express Summary


Linn Shuttle (AM Express)		Route Productivity Summary				Route Operations Summary					
		Activity		Service Hours	Productivity	On-Time Performance			On-Board Load		
		Boardings	Alightings	Service Hours	Boardings per Service Hour	% On-Time	% Early	% Late	Max Passengers On Board	Max Load Location	Direction
Total		27	32	2.8	9.8	30%	60%	10%	18	Lebanon LBCC &	L
By Segment											
1	Walmart to Park & Oak	3		0.1	36.0	100%					
2	Park & Oak to Albany LBCC	3		0.4	7.2		100%				
3	Albany LBCC to Walmart	1	11	0.6	1.7		100%				
4	Walmart to Lebanon LBCC			0.2		100%					
5	Lebanon LBCC to Albany LBCC &	7		0.5	14.0		100%				
6	Albany LBCC & to Lebanon LBCC	7		0.4	16.8		100%				
7	Lebanon LBCC to Walmart	4		0.2	24.0		100%				
8	Walmart to 13th & Kalmia		18	0.3			100%				
9	13th & Kalmia to Sweet Home Senior Center			0.1				100%			
By Time Period											
AM		27	32	2.8	9.8				18	Lebanon LBCC &	L

Figure 32 Linn Shuttle PM Express Summary


Linn Shuttle (PM Express)		Route Productivity Summary			Route Operations Summary						
		Activity		Service Hours	Productivity	On-Time Performance			On-Board Load		
		Boardings	Alightings	Service Hours	Boardings per Service Hour	% On-Time	% Early	% Late	Max Passengers On Board	Max Load Location	Direction
Total		28	28	3.6	7.8	45%	55%	0%	10	Albany LBCC &	L
By Segment											
1	Lebanon A.T.T.C. to Albany LBCC			0.4			100%				
2	Albany LBCC to Lebanon LBCC	8		0.3	24.0		100%				
3	Lebanon LBCC to Walmart		4	0.2		100%					
4	Walmart to Albany LBCC		4	0.6			100%				
5	Albany LBCC to Lebanon LBCC &	8		0.3	24.0		100%				
6	Lebanon LBCC & to Walmart	1	4	0.2	6.0	100%					
7	Walmart to Albany LBCC		4	0.7			100%				
8	Albany LBCC to Lebanon LBCC	10	1	0.3	30.0	100%					
9	Lebanon LBCC to Walmart	1	4	0.2	6.0	100%					
10	Walmart to Sweet Home Senior Center		7	0.4			100%				
By Time Period											
PM		28	28	3.6	7.8				10	Albany LBCC &	L

Figure 33 Linn Shuttle Running Time by Trip

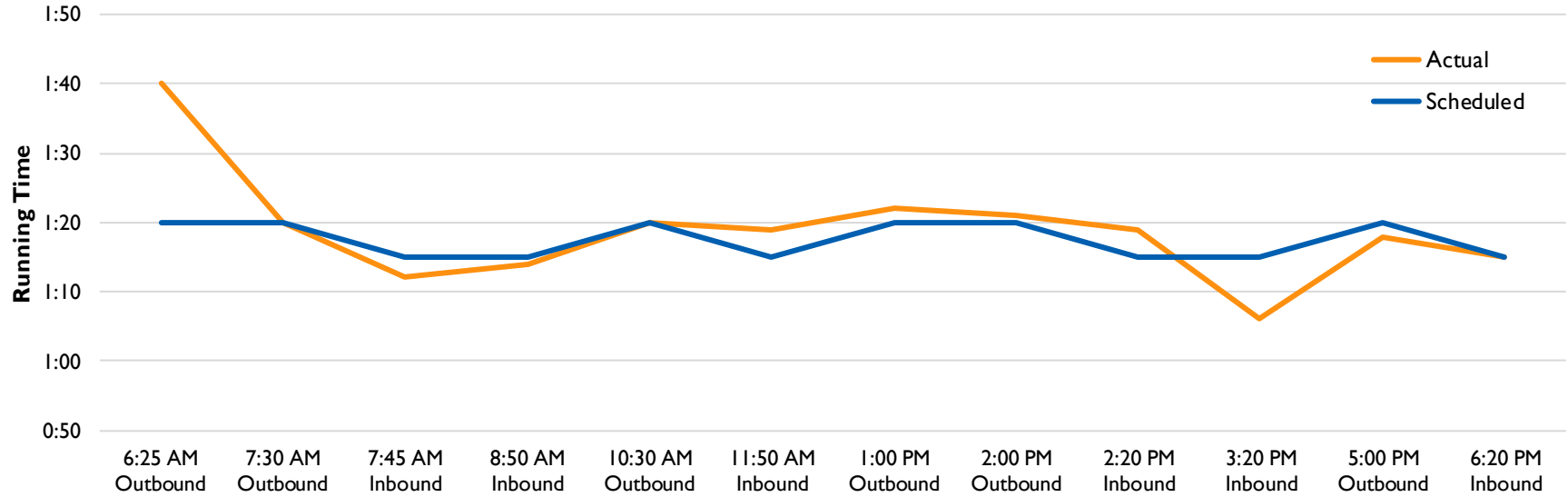


Figure 34 Linn Shuttle Express Running Time by Trip

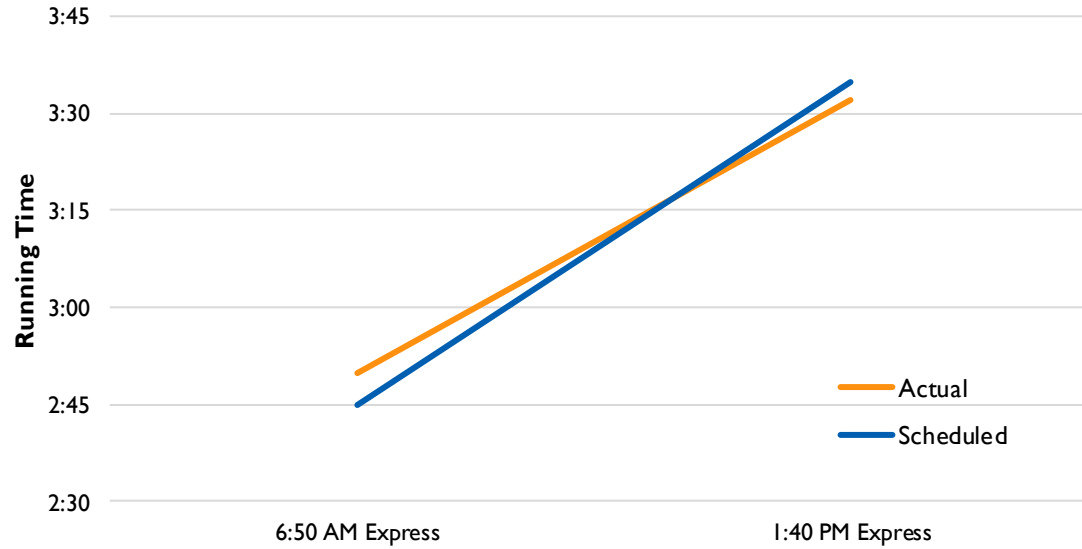


Figure 35 Linn Shuttle Ridership by Trip

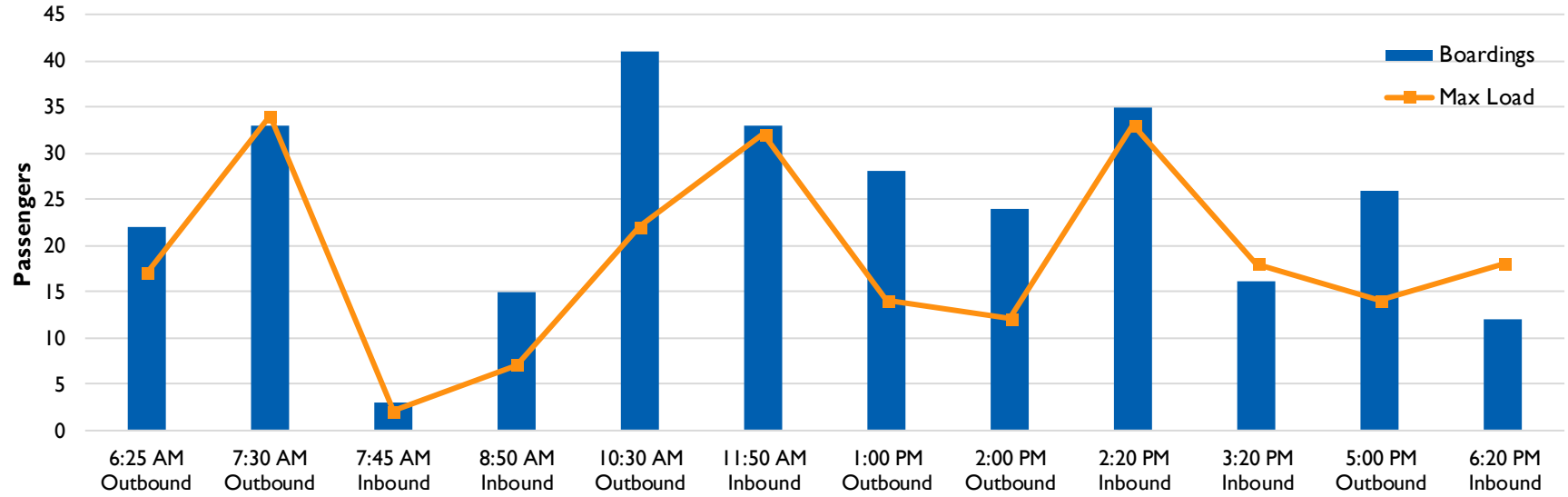


Figure 36 Linn Shuttle Express Ridership by Trip

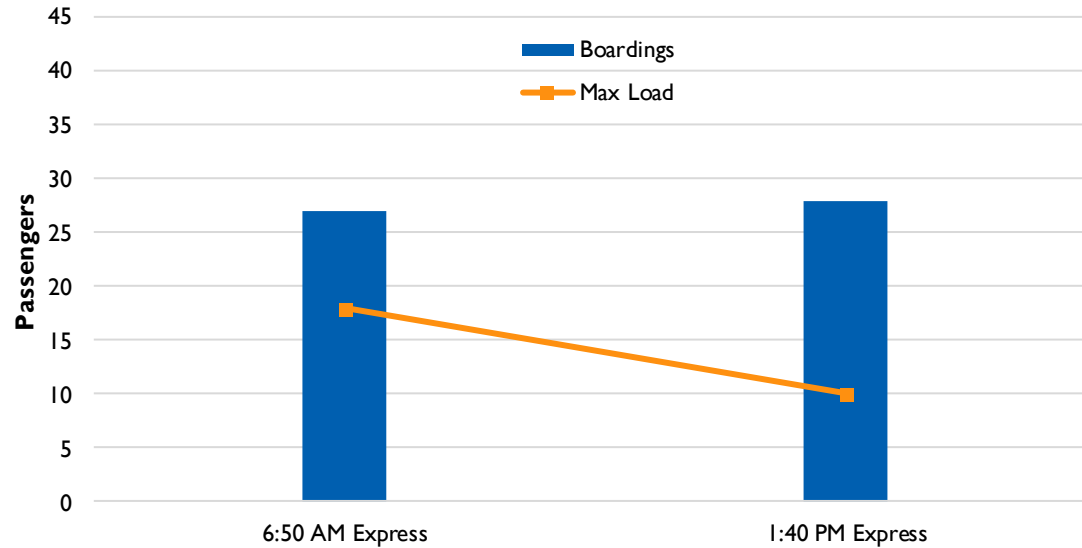


Figure 37 Linn Shuttle On-Board Load by Stop and Time of Day

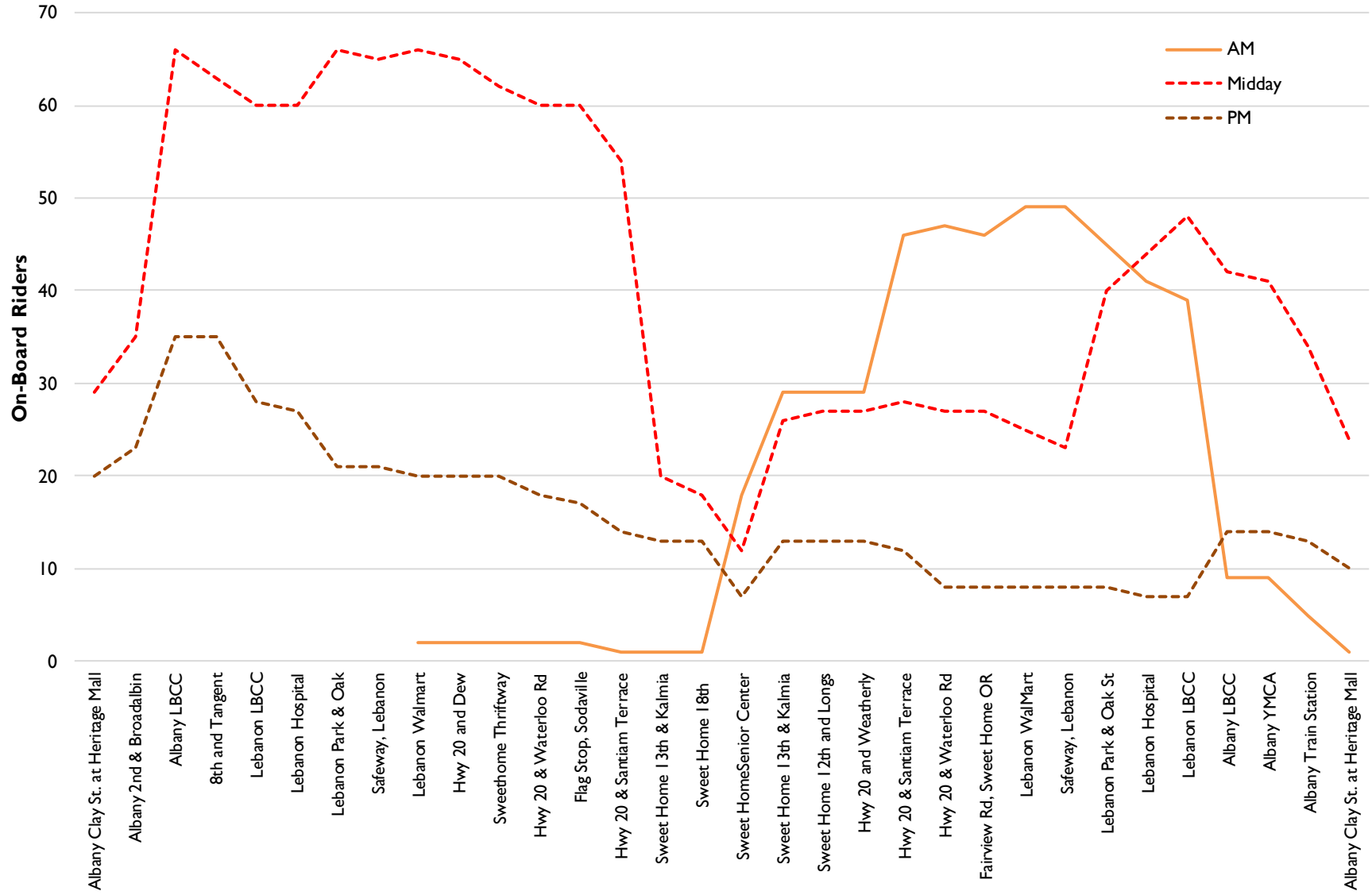


Figure 38 Linn Shuttle Express AM On-Board Load by Stop and Time of Day

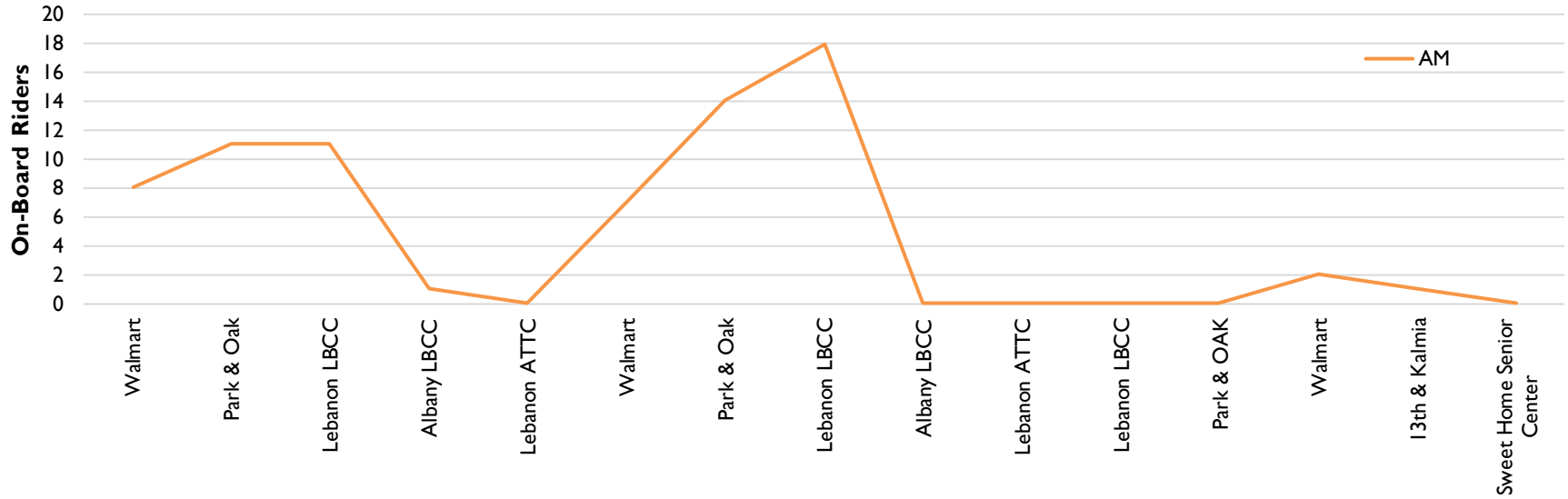


Figure 39 Linn Shuttle Express PM On-Board Load by Stop and Time of Day

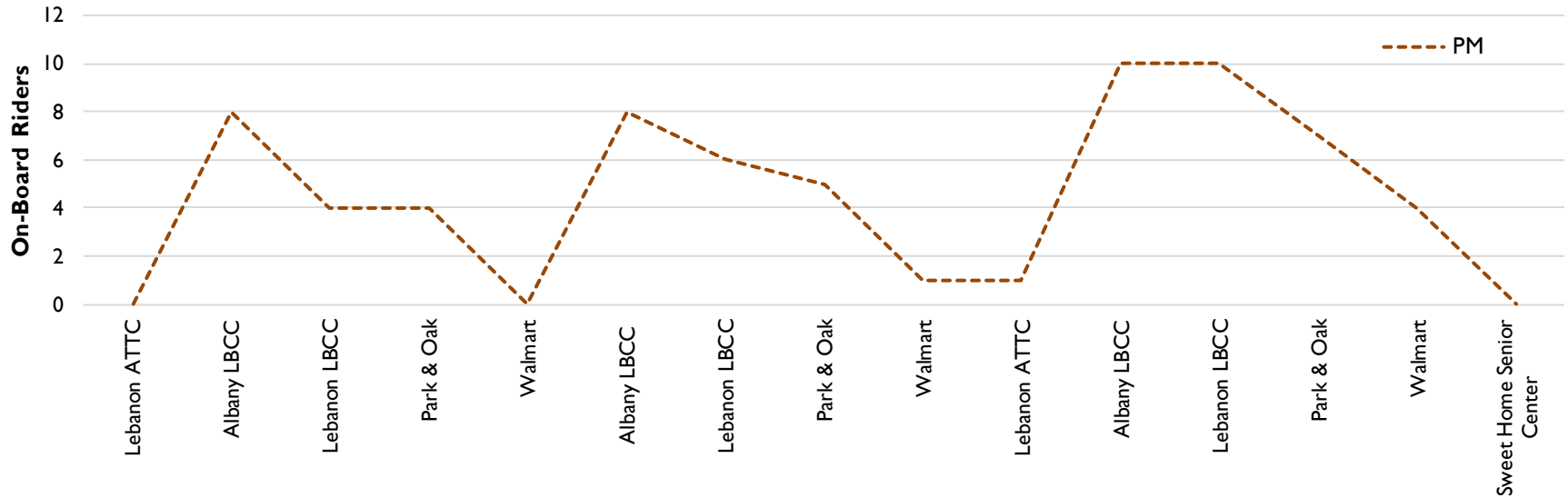


Figure 40 Linn Shuttle Boardings and Alightings by Stop

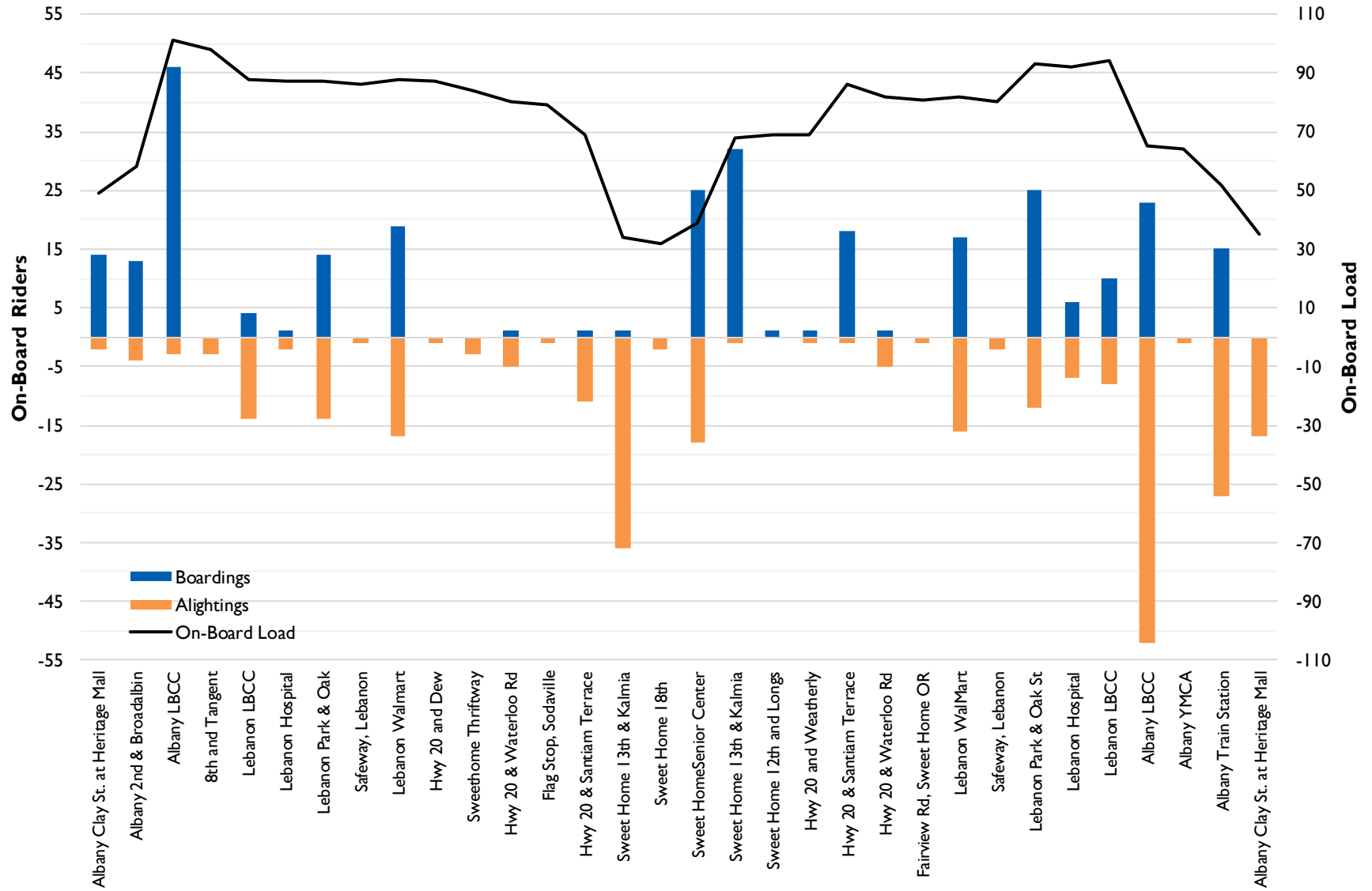


Figure 41 Linn Shuttle Express AM Boardings and Alightings by Stop

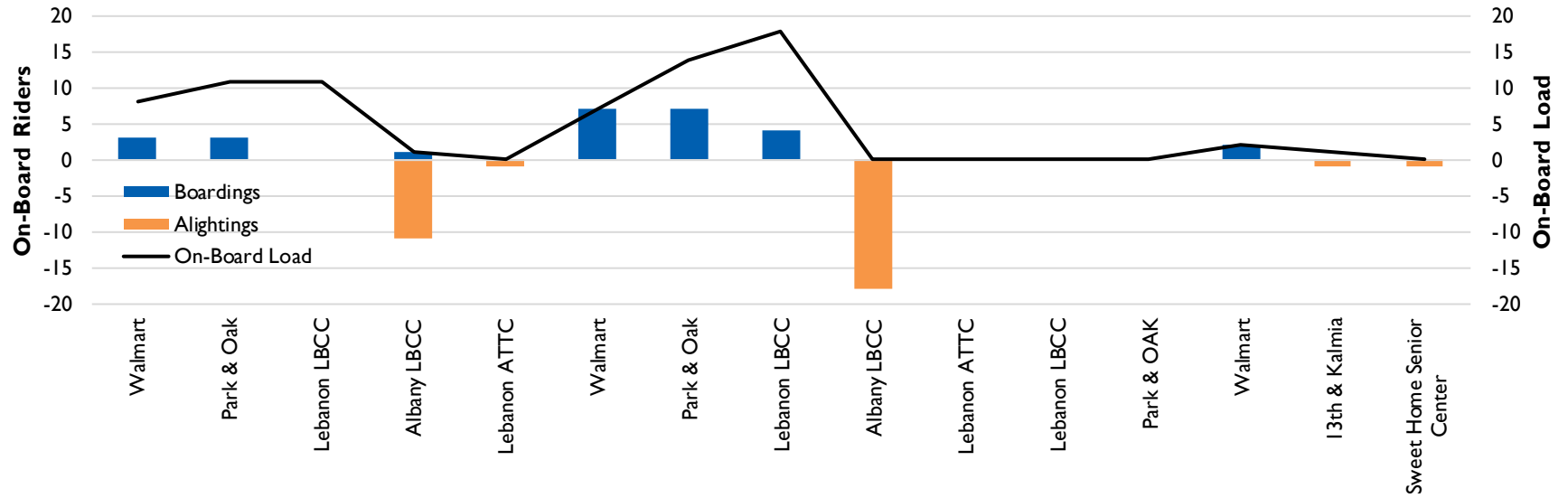
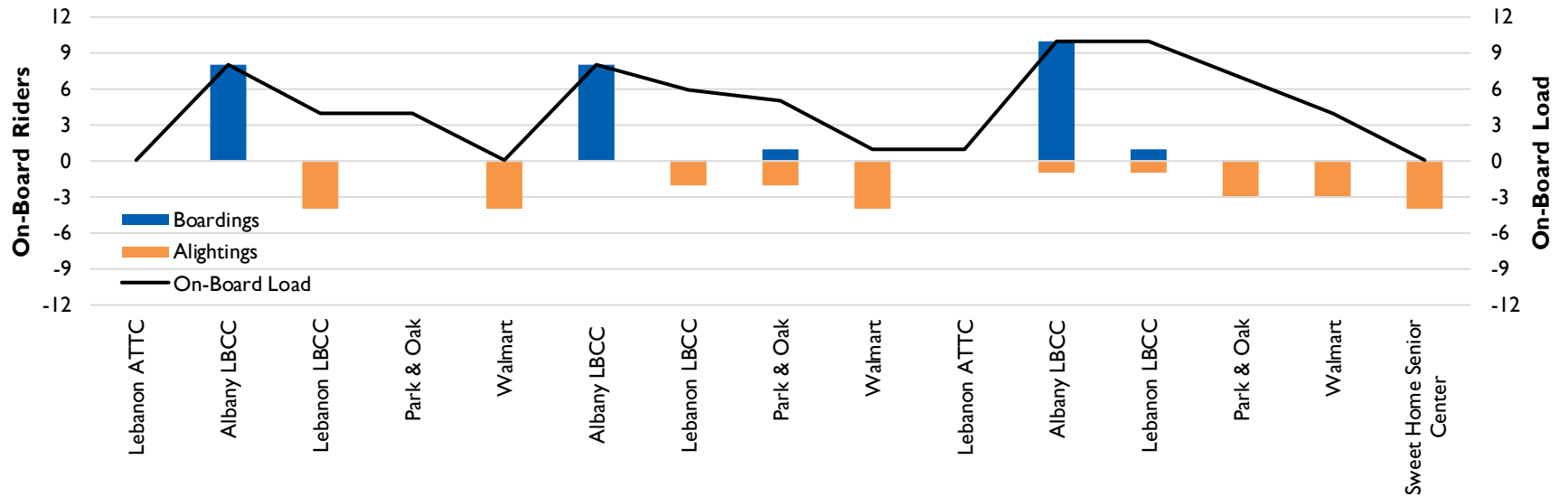


Figure 42 Linn Shuttle Express PM Boardings and Alightings by Stop



Review of Fares on Peer Systems

The following figures show the range between the cost of a discounted fare/pass, and the cost of a standard fare/pass. Only one agency—Petaluma Transit—provides a third fare for students that is different from the standard or reduced fares. The student fare falls within the ranges shown below.

Table 8 Comparison of Fares

Fare Type	ATS	Peer Average	Peer Median
Standard			
One-way cash fare upon boarding	\$1.00	\$1.15	\$1.00
One-way fare (with multi-ride ticket)	\$0.85	\$1.03	\$1.03
Day pass	-	\$2.50	\$2.50
Monthly pass	\$30.00	\$30.20	\$30.00
Reduced			
One-way cash fare upon boarding	\$0.50	\$0.57	\$0.50
One-way fare (with multi-ride ticket)	\$0.43	\$0.50	\$0.50
Day pass	-	\$1.25	\$1.25
Monthly pass	\$15.00	\$15.10	\$15.00
ADA / Paratransit one-way fare	\$2.00	\$2.00	\$2.00

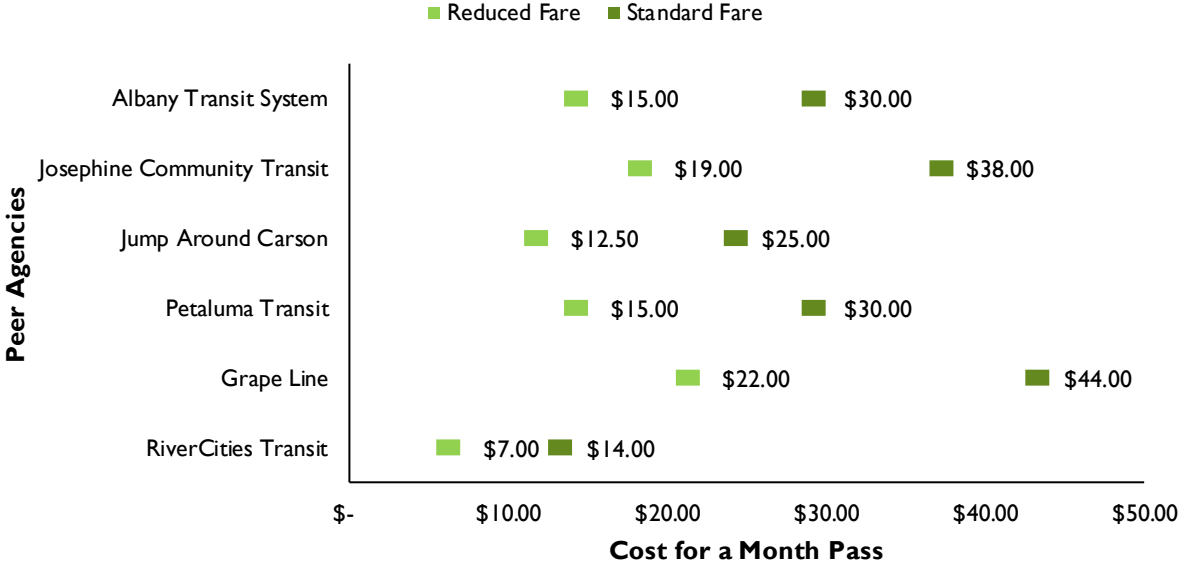
Source: City of Albany; Josephine County; Carson City; City of Petaluma; City of Lodi; RiverCities Transit

Figure 43 One-Way Fare (Multi-Ride Booklet)



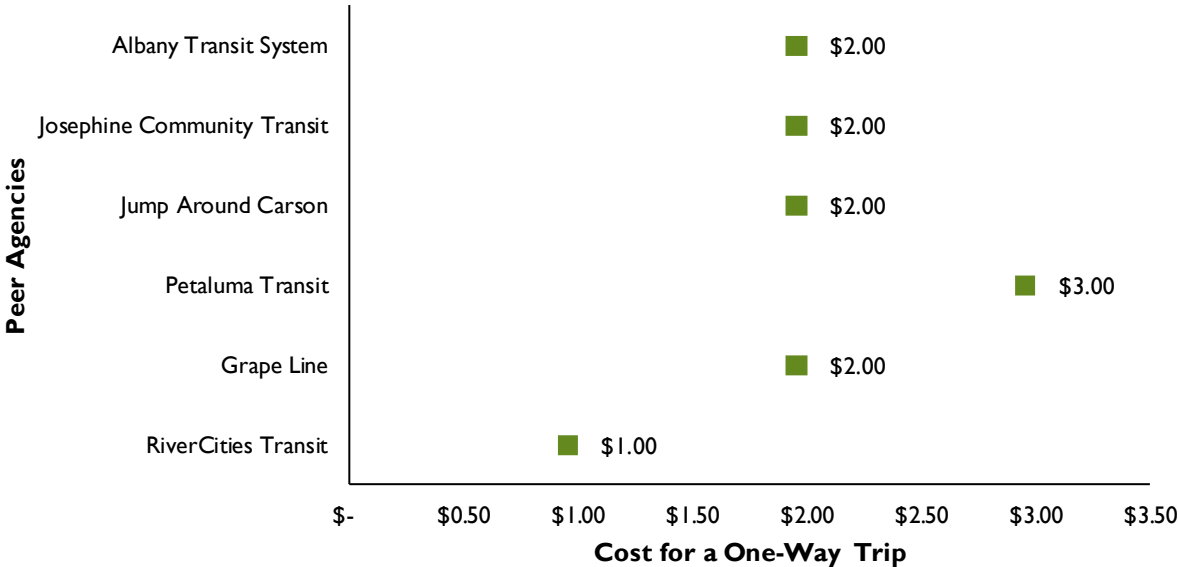
Source: City of Albany; Josephine County; Carson City; City of Petaluma; City of Lodi; RiverCities Transit

Figure 44 Monthly Pass



Source: City of Albany; Josephine County; Carson City; City of Petaluma; City of Lodi; RiverCities Transit

Figure 45 ADA Paratransit One-Way Fare



Source: City of Albany; Josephine County; Carson City; City of Petaluma; City of Lodi; RiverCities Transit

Appendix D – Future Transit System

Conceptual Schedules

Short-Term Scenario Phase I

Table 9 Conceptual Schedule: Short-Term Phase I Route 1

Albany Station	35th & Pacific	LBCC	YMCA	Albany Station	Heritage Plaza	Albany Station
6:30	6:38	6:44	6:54	6:59	7:05	7:10
8:00	8:08	8:14	8:24	8:29	8:35	8:40
9:30	9:38	9:44	9:54	9:59	10:05	10:10
11:00	11:08	11:14	11:24	11:29	11:35	11:40
No service (11:45 to 13:15)						
14:00	14:08	14:14	14:24	14:29	14:35	14:40
15:30	15:38	15:44	15:54	15:59	16:05	16:10
17:00	17:08	17:14	17:24	17:29	17:35	17:40

Table 10 Conceptual Schedule: Short-Term Phase I Route 2

Albany Station	2nd & Baker	Costco/ WinCo	3rd & Lyon	North Albany Fire Station	Albany Station
7:15	7:17	7:24	7:32	7:41	7:53
8:45	8:47	8:54	9:02	9:11	9:23
10:15	10:17	10:24	10:32	10:41	10:53
No service (11:45 to 13:15)					
13:15	13:17	13:24	13:32	13:41	13:53
14:45	14:47	14:54	15:02	15:11	15:23
16:15	16:17	16:24	16:32	16:41	16:53
17:45	17:47	17:54	18:02	18:11	18:23

Table 11 Conceptual Schedule: Short-Term Phase I Route 3

Albany Station	9th & Geary	Costco/ WinCo	Walmart	Costco/ WinCo	9th & Geary	Albany Station	West Albany HS	Albany Station
6:30	6:33	6:36	6:43	6:50	6:54	6:58	7:01	7:04
8:00	8:03	8:06	8:13	8:20	8:24	8:28	8:31	8:34
9:30	9:33	9:36	9:43	9:50	9:54	9:58	10:01	10:04
11:00	11:03	11:06	11:13	11:20	11:24	11:28	11:31	11:34
No service (11:45 to 13:15)								
14:00	14:03	14:06	14:13	14:20	14:24	14:28	14:31	14:34
15:30	15:33	15:36	15:43	15:50	15:54	15:58	16:01	16:04
17:00	17:03	17:06	17:13	17:20	17:24	17:28	17:31	17:34

Table 12 Conceptual Schedule: Short-Term Phase I Route 4

Albany Station	Heritage Plaza	South Albany HS	Heritage Plaza	Albany Station	Good Samaritan Hospital	Albany Station
7:15	7:20	7:30	7:40	7:46	7:50	7:53
8:45	8:50	9:00	9:10	9:16	9:20	9:23
10:15	10:20	10:30	10:40	10:46	10:50	10:53
No service (11:45 to 13:15)						
13:15	13:20	13:30	13:40	13:46	13:50	13:53
14:45	14:50	15:00	15:10	15:16	15:20	15:23
16:15	16:20	16:30	16:40	16:46	16:50	16:53
17:45	17:50	18:00	18:10	18:16	18:20	18:23

Short-Term Scenario Phase 2

Table 139 Conceptual Schedule: Short-Term Phase 2 Route 1

Albany Station	35th & Pacific	LBCC	YMCA	Albany Station	Heritage Plaza	Albany Station
6:30	6:38	6:44	6:54	6:59	7:05	7:10
8:00	8:08	8:14	8:24	8:29	8:35	8:40
9:30	9:38	9:44	9:54	9:59	10:05	10:10
11:00	11:08	11:14	11:24	11:29	11:35	11:40
12:30	12:38	12:44	12:54	12:59	13:05	13:10
14:00	14:08	14:14	14:24	14:29	14:35	14:40
15:30	15:38	15:44	15:54	15:59	16:05	16:10
17:00	17:08	17:14	17:24	17:29	17:35	17:40
18:30	18:38	18:44	18:54	18:59	19:05	19:10

Table 1410 Conceptual Schedule: Short-Term Phase 2 Route 2

Albany Station	2nd & Baker	Costco/ WinCo	3rd & Lyon	North Albany Fire Station	Albany Station
7:15	7:17	7:24	7:32	7:41	7:53
8:45	8:47	8:54	9:02	9:11	9:23
10:15	10:17	10:24	10:32	10:41	10:53
11:45	11:47	11:54	12:02	12:05	12:11
13:15	13:17	13:24	13:32	13:41	13:53
14:45	14:47	14:54	15:02	15:11	15:23
16:15	16:17	16:24	16:32	16:41	16:53
17:45	17:47	17:54	18:02	18:11	18:23
19:15	19:17	19:24	19:32	19:35	19:41

Table 1511 Conceptual Schedule: Short-Term Phase 2 Route 3

Albany Station	9th & Geary	Costco/ WinCo	Walmart	Costco/ WinCo	9th & Geary	Albany Station	West Albany HS	Albany Station
6:30	6:33	6:36	6:43	6:50	6:54	6:58	7:01	7:04
8:00	8:03	8:06	8:13	8:20	8:24	8:28	8:31	8:34
9:30	9:33	9:36	9:43	9:50	9:54	9:58	10:01	10:04
11:00	11:03	11:06	11:13	11:20	11:24	11:28	11:31	11:34
12:30	12:33	12:36	12:43	12:50	12:54	12:58	13:01	13:04
14:00	14:03	14:06	14:13	14:20	14:24	14:28	14:31	14:34
15:30	15:33	15:36	15:43	15:50	15:54	15:58	16:01	16:04
17:00	17:03	17:06	17:13	17:20	17:24	17:28	17:31	17:34
18:30	18:33	18:36	18:43	18:50	18:54	18:58	19:01	19:04

Table 1612 Conceptual Schedule: Short-Term Phase 2 Route 4

Albany Station	Heritage Plaza	South Albany HS	Heritage Plaza	Albany Station	Good Samaritan Hospital	Albany Station
7:15	7:20	7:30	7:40	7:46	7:50	7:53
8:45	8:50	9:00	9:10	9:16	9:20	9:23
10:15	10:20	10:30	10:40	10:46	10:50	10:53
11:45	11:50	11:58	12:00	12:06	12:10	12:16
13:15	13:20	13:30	13:40	13:46	13:50	13:53
14:45	14:50	15:00	15:10	15:16	15:20	15:23
16:15	16:20	16:30	16:40	16:46	16:50	16:53
17:45	17:50	18:00	18:10	18:16	18:20	18:23
19:15	19:20	19:28	19:30	19:36	19:40	19:46

Medium-Term Scenario

Table 17-13 Conceptual Schedule: Medium-Term Route 1

Albany Station	Heritage Plaza	Walmart	Heritage Plaza	Albany Station
7:00	7:05	7:11	7:17	7:23
8:00	8:05	8:11	8:17	8:23
9:00	9:05	9:11	9:17	9:23
10:00	10:05	10:11	10:17	10:23
11:00	11:05	11:11	11:17	11:23
12:00	12:05	12:11	12:17	12:23
13:00	13:05	13:11	13:17	13:23
14:00	14:05	14:11	14:17	14:23
15:00	15:05	15:11	15:17	15:23
16:00	16:05	16:11	16:17	16:23
17:00	17:05	17:11	17:17	17:23
18:00	18:05	18:11	18:17	18:23
19:00	19:05	19:11	19:17	19:23

Table 18-14 Conceptual Schedule: Medium-Term Route 2

Heritage Plaza	Waverly & Grand Prairie	South Albany HS	Queen & Hill	Heritage Plaza
6:30	6:34	6:39	6:46	6:51
7:30	7:34	7:39	7:46	7:51
8:30	8:34	8:39	8:46	8:51
9:30	9:34	9:39	9:46	9:51
10:30	10:34	10:39	10:46	10:51
11:30	11:34	11:39	11:46	11:51
12:30	12:34	12:39	12:46	12:51
13:30	13:34	13:39	13:46	13:51
14:30	14:34	14:39	14:46	14:51
15:30	15:34	15:39	15:46	15:51
16:30	16:34	16:39	16:46	16:51
17:30	17:34	17:39	17:46	17:51
18:30	18:34	18:39	18:46	18:51
19:30	19:34	19:39	19:46	19:51

Table 1915 Conceptual Schedule: Medium-Term Route 3

Albany Station	Pacific & 35th	LBCC	YMCA	Albany Station
6:30	6:36	6:44	6:52	6:58
7:30	7:36	7:44	7:52	7:58
8:30	8:36	8:44	8:52	8:58
9:30	9:36	9:44	9:52	9:58
10:30	10:36	10:44	10:52	10:58
11:30	11:36	11:44	11:52	11:58
12:30	12:36	12:44	12:52	12:58
13:30	13:36	13:44	13:52	13:58
14:30	14:36	14:44	14:52	14:58
15:30	15:36	15:44	15:52	15:58
16:30	16:36	16:44	16:52	16:58
17:30	17:36	17:44	17:52	17:58
18:30	18:36	18:44	18:52	18:58
19:30	19:36	19:44	19:52	19:58

Table 2016 Conceptual Schedule: Medium-Term Route 4

Albany Station	North Albany Road & Hickory Street	North Albany Fire Station	North Albany Road & Hickory Street	Albany Station
6:30	6:35	6:42	6:49	6:54
7:30	7:35	7:42	7:49	7:54
8:30	8:35	8:42	8:49	8:54
9:30	9:35	9:42	9:49	9:54
10:30	10:35	10:42	10:49	10:54
11:30	11:35	11:42	11:49	11:54
12:30	12:35	12:42	12:49	12:54
13:30	13:35	13:42	13:49	13:54
14:30	14:35	14:42	14:49	14:54
15:30	15:35	15:42	15:49	15:54
16:30	16:35	16:42	16:49	16:54
17:30	17:35	17:42	17:49	17:54
18:30	18:35	18:42	18:49	18:54
19:30	19:35	19:42	19:49	19:54

Table 2117 Conceptual Schedule: Medium-Term Route 5

Heritage Plaza	Costco/WinCo	Knox Butte & Timber Ridge	Costco/WinCo	Heritage Plaza
7:00	7:07	7:13	7:19	7:24
8:00	8:07	8:13	8:19	8:24
9:00	9:07	9:13	9:19	9:24
10:00	10:07	10:13	10:19	10:24
11:00	11:07	11:13	11:19	11:24
12:00	12:07	12:13	12:19	12:24
13:00	13:07	13:13	13:19	13:24
14:00	14:07	14:13	14:19	14:24
15:00	15:07	15:13	15:19	15:24
16:00	16:07	16:13	16:19	16:24
17:00	17:07	17:13	17:19	17:24
18:00	18:07	18:13	18:19	18:24
19:00	19:07	19:13	19:19	19:24

Table 2218 Conceptual Schedule: Medium-Term Route 6

Albany Station	2nd & Baker	Costco/WinCo	Good Samaritan Hospital	Albany Station
7:00	7:02	7:09	7:20	7:25
8:00	8:02	8:09	8:20	8:25
9:00	9:02	9:09	9:20	9:25
10:00	10:02	10:09	10:20	10:25
11:00	11:02	11:09	11:20	11:25
12:00	12:02	12:09	12:20	12:25
13:00	13:02	13:09	13:20	13:25
14:00	14:02	14:09	14:20	14:25
15:00	15:02	15:09	15:20	15:25
16:00	16:02	16:09	16:20	16:25
17:00	17:02	17:09	17:20	17:25
18:00	18:02	18:09	18:20	18:25
19:00	19:02	19:09	19:20	19:25

Long-Term Scenario

Table 2319 Conceptual Schedule: Long-Term Route I

LBCC	YMCA	Albany Station	Heritage Plaza	Walmart	Heritage Plaza	Albany Station	35th & Pacific	LBCC
-	-	6:00	6:03	6:10	6:18	6:21	6:27	6:35
6:15	6:24	6:30	6:33	6:40	6:48	6:51	6:57	7:05
6:45	6:54	7:00	7:03	7:10	7:18	7:21	7:27	7:35
7:15	7:24	7:30	7:33	7:40	7:48	7:51	7:57	8:05
7:45	7:54	8:00	8:03	8:10	8:18	8:21	8:27	8:35
8:15	8:24	8:30	8:33	8:40	8:48	8:51	8:57	9:05
8:45	8:54	9:00	9:03	9:10	9:18	9:21	9:27	9:35
9:15	9:24	9:30	9:33	9:40	9:48	9:51	9:57	10:05
9:45	9:54	10:00	10:03	10:10	10:18	10:21	10:27	10:35
10:15	10:24	10:30	10:33	10:40	10:48	10:51	10:57	11:05
10:45	10:54	11:00	11:03	11:10	11:18	11:21	11:27	11:35
11:15	11:24	11:30	11:33	11:40	11:48	11:51	11:57	12:05
11:45	11:54	12:00	12:03	12:10	12:18	12:21	12:27	12:35
12:15	12:24	12:30	12:33	12:40	12:48	12:51	12:57	13:05
12:45	12:54	13:00	13:03	13:10	13:18	13:21	13:27	13:35
13:15	13:24	13:30	13:33	13:40	13:48	13:51	13:57	14:05
13:45	13:54	14:00	14:03	14:10	14:18	14:21	14:27	14:35
14:15	14:24	14:30	14:33	14:40	14:48	14:51	14:57	15:05
14:45	14:54	15:00	15:03	15:10	15:18	15:21	15:27	15:35
15:15	15:24	15:30	15:33	15:40	15:48	15:51	15:57	16:05
15:45	15:54	16:00	16:03	16:10	16:18	16:21	16:27	16:35
16:15	16:24	16:30	16:33	16:40	16:48	16:51	16:57	17:05
16:45	16:54	17:00	17:03	17:10	17:18	17:21	17:27	17:35
17:15	17:24	17:30	17:33	17:40	17:48	17:51	17:57	18:05
17:45	17:54	18:00	18:03	18:10	18:18	18:21	18:27	18:35
18:15	18:24	18:30	18:33	18:40	18:48	18:51	18:57	19:05
18:45	18:54	19:00	19:03	19:10	19:18	19:21	19:27	19:35
19:15	19:24	19:30	19:33	19:40	19:48	19:51	-	-
19:45	19:54	20:00	-	-	-	-	-	-

Table 2420 Conceptual Schedule: Long-Term Route 2

Albany Station	2nd & Baker	Heritage Plaza	South Albany High School	Heritage Plaza	Albany Station
6:00	6:02	6:08	6:23	6:33	6:44
7:00	7:02	7:08	7:23	7:33	7:44
8:00	8:02	8:08	8:23	8:33	8:44
9:00	9:02	9:08	9:23	9:33	9:44
10:00	10:02	10:08	10:23	10:33	10:44
11:00	11:02	11:08	11:23	11:33	11:44
12:00	12:02	12:08	12:23	12:33	12:44
13:00	13:02	13:08	13:23	13:33	13:44
14:00	14:02	14:08	14:23	14:33	14:44
15:00	15:02	15:08	15:23	15:33	15:44
16:00	16:02	16:08	16:23	16:33	16:44
17:00	17:02	17:08	17:23	17:33	17:44
18:00	18:02	18:08	18:23	18:33	18:44
19:00	19:02	19:08	19:23	19:33	19:44

Table 2521 Conceptual Schedule: Long-Term Route 3

LBCC	Waverly & Del Rio	Heritage Plaza	Costco/ WinCo	Heritage Plaza	Waverly & Del Rio	LBCC
6:00	6:12	6:20	6:26	6:31	6:39	6:50
7:00	7:12	7:20	7:26	7:31	7:39	7:50
8:00	8:12	8:20	8:26	8:31	8:39	8:50
9:00	9:12	9:20	9:26	9:31	9:39	9:50
10:00	10:12	10:20	10:26	10:31	10:39	10:50
11:00	11:12	11:20	11:26	11:31	11:39	11:50
12:00	12:12	12:20	12:26	12:31	12:39	12:50
13:00	13:12	13:20	13:26	13:31	13:39	13:50
14:00	14:12	14:20	14:26	14:31	14:39	14:50
15:00	15:12	15:20	15:26	15:31	15:39	15:50
16:00	16:12	16:20	16:26	16:31	16:39	16:50
17:00	17:12	17:20	17:26	17:31	17:39	17:50
18:00	18:12	18:20	18:26	18:31	18:39	18:50
19:00	19:12	19:20	19:26	19:31	19:39	19:50

Table 2622 Conceptual Schedule: Long-Term Route 4

Albany Station	North Albany Park-and- Ride	Laura Vista & Flame Tree	North Albany Park-and- Ride	Albany Station	Heritage Plaza	Albany Station
6:00	6:04	6:15	6:25	6:31	6:41	6:52
7:00	7:04	7:15	7:25	7:31	7:41	7:52
8:00	8:04	8:15	8:25	8:31	8:41	8:52
9:00	9:04	9:15	9:25	9:31	9:41	9:52
10:00	10:04	10:15	10:25	10:31	10:41	10:52
11:00	11:04	11:15	11:25	11:31	11:41	11:52
12:00	12:04	12:15	12:25	12:31	12:41	12:52
13:00	13:04	13:15	13:25	13:31	13:41	13:52
14:00	14:04	14:15	14:25	14:31	14:41	14:52
15:00	15:04	15:15	15:25	15:31	15:41	15:52
16:00	16:04	16:15	16:25	16:31	16:41	16:52
17:00	17:04	17:15	17:25	17:31	17:41	17:52
18:00	18:04	18:15	18:25	18:31	18:41	18:52
19:00	19:04	19:15	19:25	19:31	19:41	19:52

Table 2723 Conceptual Schedule: Long-Term Route 5

Albany Station	Samaritan Hospital	2nd & Baker	Costco/ WinCo	Walmart	Costco/ WinCo	3rd & Lyon	Samaritan Hospital	Albany Station
6:00	6:05	6:08	6:16	6:25	6:35	6:43	6:46	6:51
6:30	6:35	6:38	6:46	6:55	7:05	7:13	7:16	7:21
7:00	7:05	7:08	7:16	7:25	7:35	7:43	7:46	7:51
7:30	7:35	7:38	7:46	7:55	8:05	8:13	8:16	8:21
8:00	8:05	8:08	8:16	8:25	8:35	8:43	8:46	8:51
8:30	8:35	8:38	8:46	8:55	9:05	9:13	9:16	9:21
9:00	9:05	9:08	9:16	9:25	9:35	9:43	9:46	9:51
9:30	9:35	9:38	9:46	9:55	10:05	10:13	10:16	10:21
10:00	10:05	10:08	10:16	10:25	10:35	10:43	10:46	10:51
10:30	10:35	10:38	10:46	10:55	11:05	11:13	11:16	11:21
11:00	11:05	11:08	11:16	11:25	11:35	11:43	11:46	11:51
11:30	11:35	11:38	11:46	11:55	12:05	12:13	12:16	12:21
12:00	12:05	12:08	12:16	12:25	12:35	12:43	12:46	12:51
12:30	12:35	12:38	12:46	12:55	13:05	13:13	13:16	13:21
13:00	13:05	13:08	13:16	13:25	13:35	13:43	13:46	13:51
13:30	13:35	13:38	13:46	13:55	14:05	14:13	14:16	14:21
14:00	14:05	14:08	14:16	14:25	14:35	14:43	14:46	14:51
14:30	14:35	14:38	14:46	14:55	15:05	15:13	15:16	15:21
15:00	15:05	15:08	15:16	15:25	15:35	15:43	15:46	15:51
15:30	15:35	15:38	15:46	15:55	16:05	16:13	16:16	16:21
16:00	16:05	16:08	16:16	16:25	16:35	16:43	16:46	16:51
16:30	16:35	16:38	16:46	16:55	17:05	17:13	17:16	17:21
17:00	17:05	17:08	17:16	17:25	17:35	17:43	17:46	17:51
17:30	17:35	17:38	17:46	17:55	18:05	18:13	18:16	18:21
18:00	18:05	18:08	18:16	18:25	18:35	18:43	18:46	18:51
18:30	18:35	18:38	18:46	18:55	19:05	19:13	19:16	19:21
19:00	19:05	19:08	19:16	19:25	19:35	19:43	19:46	19:51
19:30	19:35	19:38	19:46	19:55	-	-	-	-

Scenario Impacts

Ridership

Overall, service improvements and population growth are likely to increase ATS ridership. To estimate future ridership in each of the recommended scenarios, three key drivers of ridership are used: frequency, travel time and population growth.

Transit riders typically seek to minimize their travel times, just as people traveling by other modes. According to the Transit Capacity and Quality of Service Manual,¹ ridership increases between 0.3% and 0.5% for every 1.0% increase in frequency, and by the same amount for every 1.0% decrease in travel times. We used the midpoint of 0.4% as the rate of change, or elasticity, in this analysis. Estimated travel times using existing and proposed schedules were used as a proxy for overall system travel times.

Increased reliability is valued highly by transit riders because of the impacts it has on their travel time, and the reliability of the schedule. According to the Transit Capacity and Quality of Service Manual, passengers perceive wait time to cost approximately two to three times their typical value of time. However, there was little quantitative research defining a ridership elasticity factor for wait time. For this analysis therefore, no ridership impact is assumed as a result of reliability improvements. ~~Table 28~~~~Table 26~~ lists estimated changes in ridership for each scenario based on changes in service frequency and average route travel time.

Table 28~~26~~ Estimated Ridership Impacts of Fixed Route Service Changes

Scenario	Value	Percent Change from Existing	Percent Change in Ridership	Change in Daily Ridership ²
Frequency (in minutes)				
Existing	60	-	-	-
Short-Term	90	-50%	-20%	-168
Medium-Term	60	0%	0%	0
Long-Term	43 ³	28%	11%	97
Average Travel Time (roundtrip, in minutes)				
Existing	70	-	-	-
Short-Term	45	-31%	12%	104
Medium-Term	49	-16%	6%	55
Long-Term	45	-36%	14%	124

In addition to service changes, long-term population growth in Albany will increase ridership. Currently, ATS serves approximately 86,000 passengers per year, or about 1.6 annual boardings per capita. ~~Table 29~~~~Table 27~~ lists the future annual projected ridership for each scenario, using population values derived from the CALM Model.

¹ Transit Capacity and Quality of Service Manual, 3rd Edition. 2013. TCRP Report 165.

² Change in Daily Ridership is the total change in boarding and alightings from existing ridership (minus the ridership from stops that will no longer be served in a scenario).

³ Long-Term frequency of 43 minutes is based on a weighting of frequency by revenue hours. 57% of revenue hours are at 30-minute frequencies, and 43% of revenue hours are at 60-minute frequencies.

Table 2927 Fixed Route Ridership Impacts of Population Growth

Scenario	Year	Population (City of Albany)	Ridership per Capita	Annual Ridership	Percent Change in Ridership	Change in Daily Ridership ⁴
Existing	2017	53,593	1.61	86,149	-	-
Short-Term	2020	54,892	1.61	88,237	2.4%	22
Medium-Term	2024	56,624	1.61	91,021	5.7%	50
Long-Term	2040	63,553	1.61	102,159	18.6%	165

Source: City of Albany, CALM model

The cumulative effects to ridership based on service changes are presented in [Table 30](#)~~Table 28~~. The Short-Term scenario could lose 10% of its ridership, particularly due to the reduction in service frequency. In the Medium and Long-Term scenarios, notable ridership growth is expected. Growth in both scenarios are largely attributable to reductions in travel time and overall population growth.

Table 3028 Future Fixed Route Ridership Forecast

Scenario	Change in Daily Ridership based on:				Net Change in Daily Ridership	Future Daily Ridership	Percent Change
	Service Removal ⁵	Frequency	Travel Time	Population Growth			
Short-Term	-49	-168	104	22	-91	797	-10.3%
Medium-Term	-33	0	55	50	72	960	8.1%
Long-Term	-29	97	124	165	357	1,246	40.2%

Note: Some values may not add up due to rounding. Daily Ridership is the sum of boardings and alightings.

Fare Revenue

The future growth of ridership will directly impact ATS' fare revenue. Estimated fare revenue impacts are based on the following assumptions:

- Forty-four percent of passengers pay a full \$1.00 fare per trip.^{6,7}
- Each passenger boards on average 3.23 days per week (or approximately 168 days per year).⁶
- Existing annual fare revenue is approximately \$30,000.

⁴ Daily Ridership is the sum of boardings and alightings. The values in this column represents the change from existing boardings and alightings.

⁵ Service removal is the estimated ridership that is expected to be eliminated by no longer serving existing stops in each scenario. These reductions are assumed for stops that are located more than ¼-mile from proposed service.

⁶ Based on data collected from the Fall 2014 on-board survey (excluding responses from the Loop and the Linn Shuttle). This is due to high ridership on ATS by LBCC students, who do not pay a fare.

⁷ On-board survey data indicates 44% of passengers paid a fare. The survey showed a significant portion of these passengers paid reduced or discounted fares. For estimation purposes, all fare-paying passengers are assumed to pay the full \$1.00 fare.

The potential fare revenue effect for each scenario is listed in [Table 31](#)~~Table 29~~. Estimated annual revenue changes range between about \$3,500 less than today's annual fare revenue (Short-Term) to an increase of more than \$13,000 over the existing value (Long-Term).

Table 31~~29~~ **Potential Change in Fare Revenue**

Scenario	Change in Daily Boardings ⁸	Daily Change in Fare-Paying Ridership	Annual Change in Fare Revenue	Projected Fare Revenue	Percent Change in Fare Revenue
Short-Term	-46	-20	-\$3,400	\$26,600	-11%
Medium-Term	36	16	\$2,660	\$32,660	9%
Long-Term	179	79	\$13,229	\$43,229	44%

Evaluation

Service changes in each scenario were evaluated against several performance measures that were vetted with the project's Technical Advisory Committee Transit Subgroup. The measures evaluated are listed in [Table 32](#)~~Table 30~~. Effort was made to keep the list of measures short and easy to measure for future evaluation of the system.

Table 32~~30~~ **Performance Measures**

Category	Measure
Service Design	Percent of revenue hours meeting frequency of service goals.
	Percent of revenue hours meeting span of service goals.
Productivity-Focused	Travel time between key destinations.
	Ratio of in-service hours to vehicle hours.
Coverage-Focused	Percent of jobs within ¼ mile walk of transit stop.
	Percent of households within ¼ mile walk of transit stop.
	Percent of households below poverty line within ¼ mile walk of transit stop.
	Percent of households without a vehicle within ¼ mile walk of transit stop.
	Percent of key destinations within ¼ mile walk of transit stops.

Service Design Measures

When routes run and how frequently they run are key components of transit service. Service design metrics were developed early in the project to guide the planning and scheduling of the transit scenarios for Albany. [Table 33](#)~~Table 31~~ lists the span and frequency goals for different route types (local and commuter), for each service day (weekday, Saturday and Sunday). These reflect the long-term desire for improved service levels.

⁸ Daily Boardings are half of the Net Change in Daily Ridership from [Table 30](#)~~Table 11~~.

Table 333+ Service Design Targets

Service Type	Weekday	Saturday	Sunday
Span of Service (hours)			
Local	16	12	12
Commuter	6 AM-9 AM 3 PM-6 PM	0	-
Frequency of Service (minutes)			
Local	60	60	60
Commuter	4 trips per day	4 trips per day	-

[Table 34](#)~~Table 32~~ identifies the percent of service hours in each route that meet the span and frequency goals. A summary of the scenarios is in [Table 35](#)~~Table 33~~. Overall, the scenarios continue to fall short of meeting the span goals, while the frequency goals are achieved in all scenarios, except the Short-Term Scenario.

Table 3432 Achievement of Service Design Targets

Scenario	Route	Route Type	Span		Meets Span Goals	Frequency	Meets Frequency Goals
Existing	1	Local	6:30 AM – 8:40 PM	2 hours	No	60 min	Yes
	2	Local	9 AM – 6 PM	9 hours	No	60 min	Yes
	3	Local	9 AM – 6 PM	9 hours	No	60 min	Yes
	Percent of service hours meeting goals:					0%	-
Short-Term	1	Local	6:30 – 11:45 AM 2:00 – 5:45 PM	9 hours	No	90 min	No
	2	Local	7:15 – 11:00 AM 1:15 – 6:30 PM	9 hours	No	90 min	No
	3	Local	6:30 – 11:45 AM 2:00 – 5:45 PM	9 hours	No	90 min	No
	4	Local	7:15 – 11:00 AM 1:15 – 6:30 PM	9 hours	No	90 min	No
	Percent of service hours meeting goals:					0%	-
Medium-Term	1	Local	7:00 AM – 6:30 PM	11.5 hours	No	60 min	Yes
	2	Local	6:30 AM – 6:00 PM	11.5 hours	No	60 min	Yes
	3	Local	6:30 AM – 6:00 PM	11.5 hours	No	60 min	Yes
	4	Local	6:30 AM – 6:00 PM	11.5 hours	No	60 min	Yes
	5	Local	7:00 AM – 6:30 PM	11.5 hours	No	60 min	Yes
	6	Local	7:00 AM – 6:30 PM	11.5 hours	No	60 min	Yes
	Percent of service hours meeting goals:					0%	-
Long-Term	1	Local	6:00 AM – 8:00 PM	14 hours	No	30 min	Yes
	2	Local	6:00 AM – 8:00 PM	14 hours	No	60 min	Yes

Scenario	Route	Route Type	Span		Meets Span Goals	Frequency	Meets Frequency Goals
	3	Local	6:00 AM – 8:00 PM	14 hours	No	60 min	Yes
	4	Local	6:00 AM – 8:00 PM	14 hours	No	60 min	Yes
	5	Local	6:00 AM – 8:00 PM	14 hours	No	30 min	Yes
Percent of service hours meeting goals:					0%	-	100%

Table 3533 Service Hours Meeting Span and Frequency Goals

Scenario	Span	Frequency
Existing	0%	100%
Short-Term	0%	0%
Medium-Term	0%	100%
Long-Term	0%	100%

Travel Times

Transit riders place high value on travel times, especially riders who have other transportation options. Therefore, a key measure is how well each scenario reduces travel time and out-of-direction travel relative to the existing network. To estimate the travel times in each of the scenarios, hypothetical schedules were developed for each of the routes based on the span, frequency and cycle times. These schedules were used to calculate the travel time for a round trip, including transfer time, where applicable.

Table 36**Table 34** provides the estimated travel times between six destinations for five different travel pairs. These travel pairs were identified with input from the RTP TAC Transit Subgroup. The locations and flows analyzed are shown in Figure 46. The roundtrip travel times for each pair and the percent change from the existing system are all provided.

The data suggest each of the scenarios will reduce roundtrip travel times for passengers, with overall roundtrip travel times reduced by 15 to 40%. Some trips may take considerably longer due to transfers or out-of-direction travel, while others are expected to see significant reductions as a result of more direct trips or route interlining.

Table 3634 Estimated Roundtrip Travel Time between Destinations

ID	Start	End	Scenario Travel Times (Minutes)				Change in Travel time		
			Existing	Short	Medium	Long	Short	Medium	Long
1	South Albany High School	Albany Station (Amtrak Station)	59	38	63	44	-36%	-7%	-25%
2	LBCC	Heritage Plaza Mall	111	55	60	50	-50%	-46%	-55%
3	LBCC	Albany Station (Amtrak Station)	60	29	28	29	-52%	-53%	-52%
4	Walmart	Albany Station (Amtrak Station)	60	28	23	21	-53%	-62%	-65%
5	North Albany Fire Station	LBCC	60	90	120	80	50%	100%	33%
Average Roundtrip Travel Time (minutes)			70	48	59	45	-31%	-16%	-36%

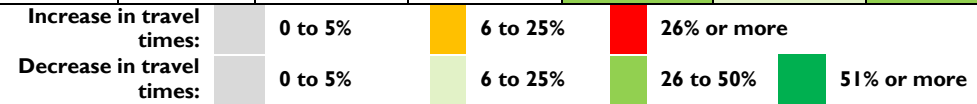
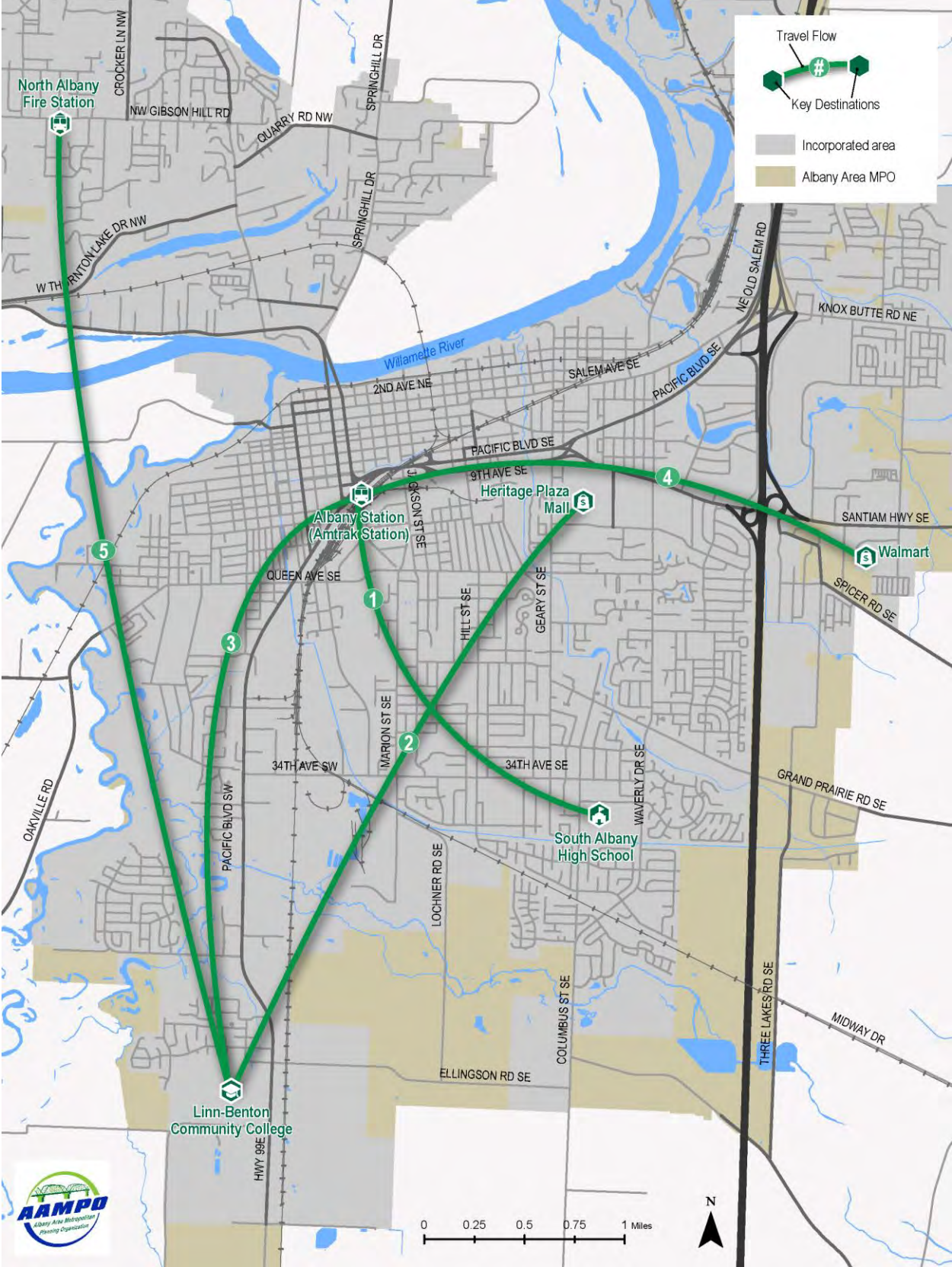


Figure 46 Destinations and Flows Analyzed in Travel Time Analysis



In-Service Hours

In addition to travel time, transit customers also place high value on reliability. People need to be sure that they can get to their destination at the times listed on the schedules. The current system suffers from low on-time performance. Buses often run late, and there is little time for operators to recover following each run. On-time performance, reliability and efficiency for future scenarios can best be predicted based on the percent of cycle time dedicated to in-service time (or run time).

A very high percent in-service time (or low percent layover time) indicates little time to recover from being behind schedule. A very low percent in-service time (or high percent layover time) indicates inefficient use of operator time and vehicle resources. A reasonable in-service time is between 80 and 90%, giving operators enough time to take a break or make up for time lost due to active train crossings or heavy passenger loads.

[Table 37](#)~~Table 35~~ lists the cumulative in-service time, cumulative cycle time, percent run time and percent layover time for each scenario. It shows a significant improvement in layover time for all scenarios. This suggests on-time performance and reliability will improve in all scenarios.

Table 37~~35~~ **In-Service Time, Cycle Time and Layover Time by Scenario**

Scenario	Cumulative In-Service Time	Cumulative Cycle Time	Percent In-Service Time	Percent Layover Time
Existing	120	120	100.0%	0.0%
Short-Term	149	180	82.7%	17.2%
Medium-Term	150	180	83.3%	16.7%
Long-Term ^[1]	247	300	82.3%	17.7%

[1] Long-Term service time and cycle time do not include commuter service.

Coverage of Employment and Housing

Service efficiency must be weighed against ensuring service availability. Each community decides how to allocate resources to either make sure the highest percent of people can walk to a bus route or to focus service on arterial corridors and expect people to walk a little farther to service. One way to measure coverage is to analyze the percent of jobs, households, and vulnerable population groups that would be served in each scenario. The existing system serves approximately 80% of jobs and 70% of households in Albany. Additionally, approximately 80% of people with incomes below the federal poverty level, and 80% of households with no access to a vehicle are within ¼ mile of a bus stop served by the current network. [Table 38](#)~~Table 36~~ shows the numbers of jobs, households, people below poverty and zero-vehicle households that would continue to be served in each scenarios.

Table 3836 Access to Transit within ¼-Mile Walkshed of Stops

Scenario	Number				Percent			
	Jobs	Households	People Below Poverty	Zero-Vehicle Households	Jobs	Households	People Below Poverty	Zero-Vehicle Households
Existing	14,777	12,622	6,981	1,057	77%	67%	78%	83%
Short-Term	13,820	11,810	6,163	974	72%	62%	69%	76%
Med-Term	14,612	12,176	6,450	1,032	76%	64%	72%	81%
Long-Term	15,193	13,315	6,997	1,085	79%	70%	78%	85%
Albany	19,256	18,947	8,936	1,279	100%	100%	100%	100%

Notes: Albany values are for the City of Albany only and do not include other areas within the AAMPO Area.. Jobs and Household values based on 2010 CALM data at the TAZ level. People Below Poverty values based on US Census ACS 2011-2015 5-Year Estimates by Block Group (Table C17002). Zero-Vehicle Household values based on US Census ACS 2011-2015 5-Year Estimates by Block Group (Table B25044).

Coverage of Key Destinations

In addition to providing access to jobs and households, transit serves community destinations, including commercial and shopping centers, health facilities, employment centers, educational facilities, and other high-demand destinations.

[Table 39](#)[Table 37](#) lists the key destinations identified within Albany. These destinations were used to assess how well each of the scenarios provides services to locations where Albany residents live, work, shop, recreate and receive healthcare.

Table 3937 Key Destinations

ID	Name	Type
1	West Albany High School	Education - High School
2	South Albany High School	Education - High School
3	LBCC	Education - Higher Education
4	Sherman Oaks Apartments	Housing
5	Albany Court Senior Apartments	Housing
6	Albany RV & Trailer Park	Housing
7	Geary & 24th (high density housing)	Housing
8	Mennonite Village	Housing
9	Albany Public Library	Library
10	Samaritan Albany General Hospital	Medical
11	Samaritan Albany Cancer Resource Center	Medical
12	Downtown Albany	Downtown / Mixed Use Area
13	Heritage Plaza Mall	Shopping/Commercial
14	Walmart	Shopping/Commercial
15	Fred Meyer	Shopping/Commercial
16	North Albany Village	Shopping/Commercial
17	Bi-Mart	Shopping/Commercial
18	Safeway and Grocery Outlet	Shopping/Commercial

ID	Name	Type
19	Costco and Kohl's	Shopping/Commercial
20	Albany Senior Center	Social Services
21	YMCA	Social Services
22	Family Tree Relief Nursery	Social Services
23	Habitat for Humanity ReStore	Social Services
24	Linn County Public Health	Social Services
25	Boys & Girls Club	Social Services
26	Albany Station (Amtrak Station)	Transportation
27	North Albany Park & Ride	Transportation
28	North Albany Fire Station	Transportation

Of the 28 key destinations within Albany, only 24 are currently served within a ¼ mile of transit. All scenarios preserve service to the same 24 locations. With the expansion of service in the Long-Term Scenario, one additional key destination is served: the Mennonite Village on Columbus Street. ~~Table 40~~ ~~Table 38~~ lists the percent of key destinations within a ¼-mile walk of stops in each scenario.

Table 4038 Key Destinations Served by Transit

Scenario	All Transit Service	
	Number	Percent
Existing	24	86%
Short-Term	24	86%
Medium-Term	24	86%
Long-Term	25	89%
Albany	28	100%

Note: Assumes a destination is served by transit if it is located within ¼ mile walk of a transit stop.