Meeting of the
Albany Area Metropolitan Planning Organization
Regional Transportation Plan Technical Advisory Committee

Transit Subgroup

July 25, 2016
3:30 – 5:10 pm

Oregon Cascades West Council of Governments
Upstairs Meeting Room / 1400 Queen Ave. SE, Albany

Call in Information: Dial 541-497-7311 / Pin: 841

Agenda			
1.	3:30	**Agenda Review**	Theresa Conley
2.	3:35	**Coordination of Planning Efforts** MPO staff and consultant team members will review the RTP/TDP scope of work as it related to ATS services, the Linn-Benton Loop, the Linn Shuttle, and Benton County services. The Transit Subgroup is asked to discuss opportunities for integration and coordination with other transportation planning efforts (including the Linn County TSP, Benton County TSP, Lebanon TDP, and Coordinated Plans) to more fully plan for the regional public transportation system as it extends outside of the MPO planning area.	Theresa Conley, Chuck Knoll and Consultant Team
3.	4:00	**Transit Future Conditions and Transit Funding** To provide a foundation for the Transit Goals Discussion, Scott Chapman of Nelson Nygaard will briefly recap the draft future transit needs analysis and discuss proposed revisions based feedback from the RTP TAC. Scott will also provide an update on the Transit Funding memo and discuss information needed to assess the viability of additional services throughout the MPO area. Attachment A: Future Conditions Memo Attachment B: Transit Funding Memo	Scott Chapman
4.	4:10	**Transit Goals Discussion** Scott Chapman will review the RTP Framework goals as they relate to public transportation and lead a discussion on goals for the public transportation system within the Albany Area MPO, including	Scott Chapman, Theresa Conley

		connectivity to regional services that extend beyond the MPO planning area. Questions to consider: – What are the key corridors to serve? – A range of services operate within the MPO – what role will they play in serving the MPO area over the next 20 years? – What is most important – frequency, reliability, ridership, cost, travel time, coverage area, or access to services? – How should we select transit projects and measure progress towards meeting our goals? Attachment C: Transit Goals Handout Attachment D: Transit Design Guidelines Handout	
5.	4:40	**'Aspirational' Transit System Goals** Staff will discuss how the Mosaic tool can help test potential transit system improvements in the AAMPO area, including local and regional services. Transit subgroup members will be asked to discuss aspirational goals for the public transportation system, if additional funds were available.	Theresa Conley, Scott Chapman
6.	4:55	**Public Comment**	Theresa Conley
7.	5:05	**Next Steps** Staff will briefly discuss next steps and ask for input on how often and when Transit Subgroup members would prefer to meet.	Theresa Conley
8.	5:10	**Adjourn**	Theresa Conley

DRAFT MEMORANDUM #9

DATE: January 6, 2016

TO: Albany Area Metropolitan Planning Organization RTP Project Management Team

FROM: Scott Chapman – Nelson\Nygaard
Paul Leitman – Nelson\Nygaard

SUBJECT: Albany Area Metropolitan Planning Organization Regional Transportation Plan
DRAFT Technical Memorandum #9: Future Transit Conditions and Needs
P14180-004

Chapter One: Introduction

Purpose

The Transit Future Conditions and Needs Technical Memorandum is one piece of Albany Area Regional Transportation Plan (RTP) and Transit Development Plan (TDP). This document summarizes the future conditions in Albany in 2040, highlighting the differences from 2010 conditions. This report provides a snapshot of what future conditions are likely to be in the Albany area. It is intended to be an input when developing transit solutions for the Albany Area – highlighting needs and gaps while not providing specific route or service suggestions.

Report Organization

The memorandum assesses future population and employment projections in the Albany Area, where growth in population and employment are expected to occur, changes in trip demand and trip distribution, forecast transit demand, forecast roadway capacity constraints, and estimates of transit needs. Stakeholder inputs on the needs of future transportation in Albany are also included.

The Future Transit Conditions and Needs Report consists of three additional chapters:

- Chapter Two provides an overview of future population and employment forecasts as these are major indicators of transit demand.
- Chapter Three reviews the projected travel patterns for vehicles during the PM peak, and for transit trips highlighting where travel by transit may occur. Included are also forecasts for roadway capacity indicating possible traffic congestion constraints for transit.
- Chapter Four details the expected future transit needs and inputs provided by local stakeholders regarding the future of transportation.

Chapter Two: Population and Employment Growth

Oregon OEA Forecasts

Between 2010 and 2050, the Oregon Office of Economic Analysis predicts an increase of approximately 50,000 people in Linn County, or approximately 44 percent from 2010, as shown in Table 1. Almost one-third of this growth is forecast to occur between 2020 and 2030.

Table 1: Linn County Population Projections

Year	Population	Change from 2010	Percent Change from 2010
2010	116,840	-	-
2020	128,454	11,614	9.9%
2030	143,673	26,833	23.0%
2040	156,505	39,665	33.9%
2050	168,189	51,349	43.9%

Source: Oregon Office of Economic Analysis. Long-Term County Forecast (2010-2050). 2013.

CALM Model Forecasts

The CALM Travel Demand Model is a travel demand model that was developed and is maintained by ODOT's Transportation Planning Analysis Unit. It estimates 2010 and 2040 vehicular traffic in the Corvallis and Albany Area MPOs based on future population and employment growth, changing development patterns, and future growth in traffic through the region. The areas covered by the CALM Model had previously been incorporated into three separate travel demand models; the single model allows for better forecasting and capturing regional influences into surrounding communities.

According to the CALM Model parameters, the change in population in the Corvallis-Albany area is forecast at approximately 47,000, of which 20,000 new residents will be located in the existing Albany Area MPO boundaries. Table 2 shows that this is approximately a growth of 34 percent over 2010. Employment is expected to increase at a faster pace, as shown in Table 3. 10,000 new jobs are forecast in the Albany Area MPO, an increase of almost 50 percent from 2010.

Table 2: Population Projections[1]

	Corvallis-Albany Area	Albany Area MPO	Albany Share
2010	156,448	57,302	36.6%
2040	203,670	76,822	38.7%
Change	47,222	19,520	41.3%
Percent Change	30.2%	34.1%	-

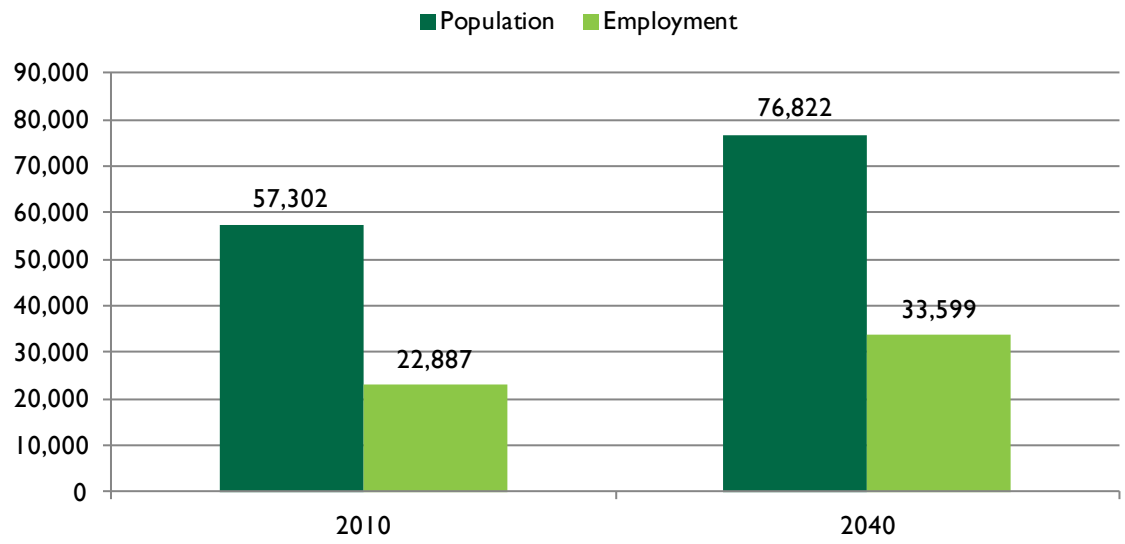
Source: CALM Model

Table 3: Employment Projections[1]

	Corvallis-Albany Area	Albany Area MPO	Albany Share
2010	64,460	22,887	35.5%
2040	100,721	33,599	33.4%
Change	36,261	10,712	29.5%
Percent Change	56.3%	46.8%	-

Source: CALM Model

Figure 1: Albany Area MPO Population and Employment Projections



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 efficient and cost-effective ways to connect residents with employment opportunities.

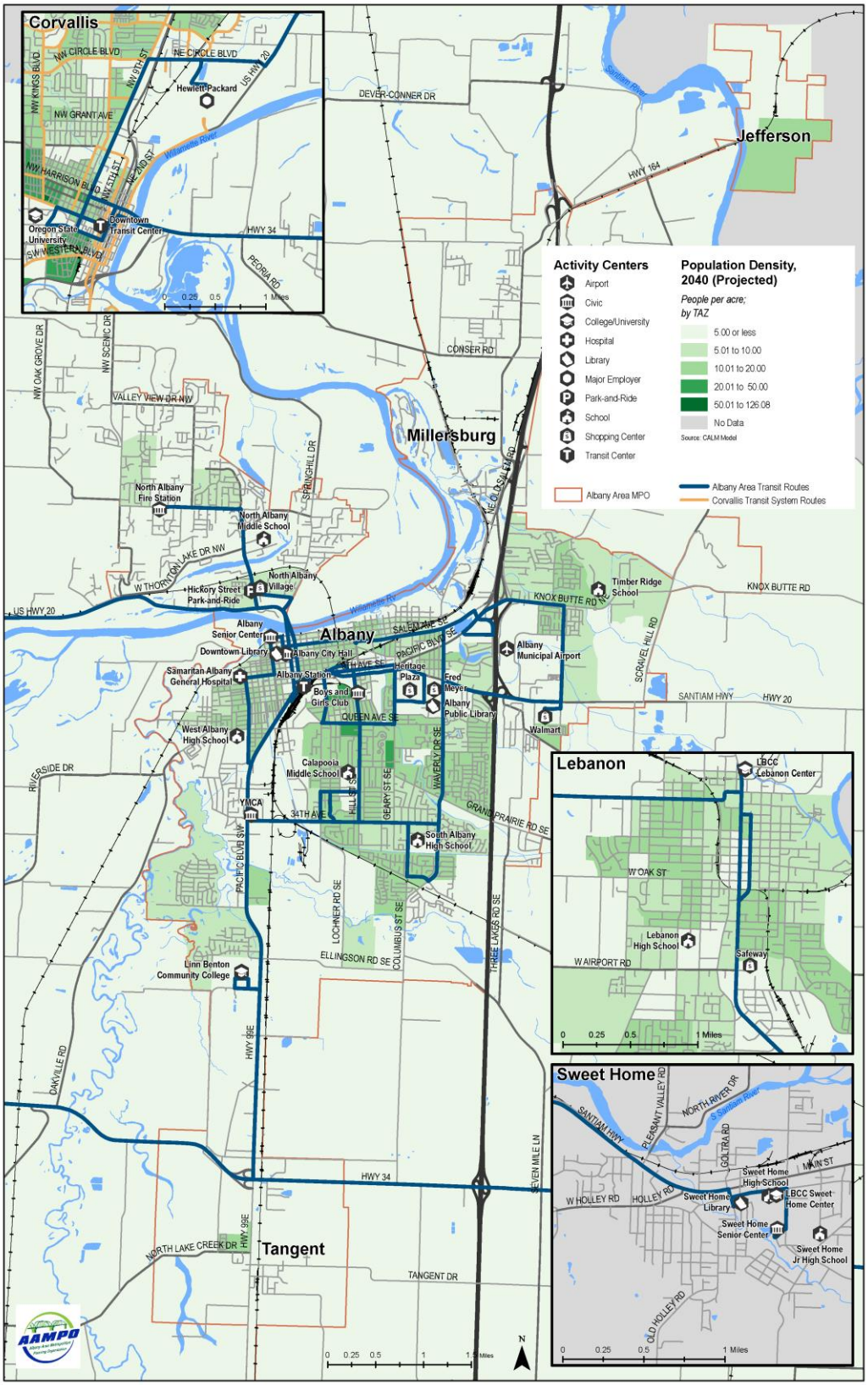
Within the Albany Area MPO, the growth in population and employment are expected to be spread fairly evenly throughout the region. Most TAZs will see a change of between -5 to +5

[1] Values are calculated based on the TAZs that are entirely within the existing Albany Area MPO boundaries, and an average weighted sum of TAZs that are bisected by the MPO boundary.

residents per acre and between -10 and +10 jobs per acre. Only a few TAZs will see increases higher than this. The TAZs with the largest increase in residents per acre are expected to be located on the eastern edge of Albany (near the Timber Ridge School and Walmart), in the southern half of Jefferson, near Lochner Rd SE and Ellingson Rd SE, and parts of North Albany. Two TAZs are expected to have an increase of more than 10 jobs per acre: one in downtown Albany, and one south of 9th Ave SE between Hill St and Geary St. In general, these areas are not currently well-served by transit, and are areas to be considered for future transit expansion.

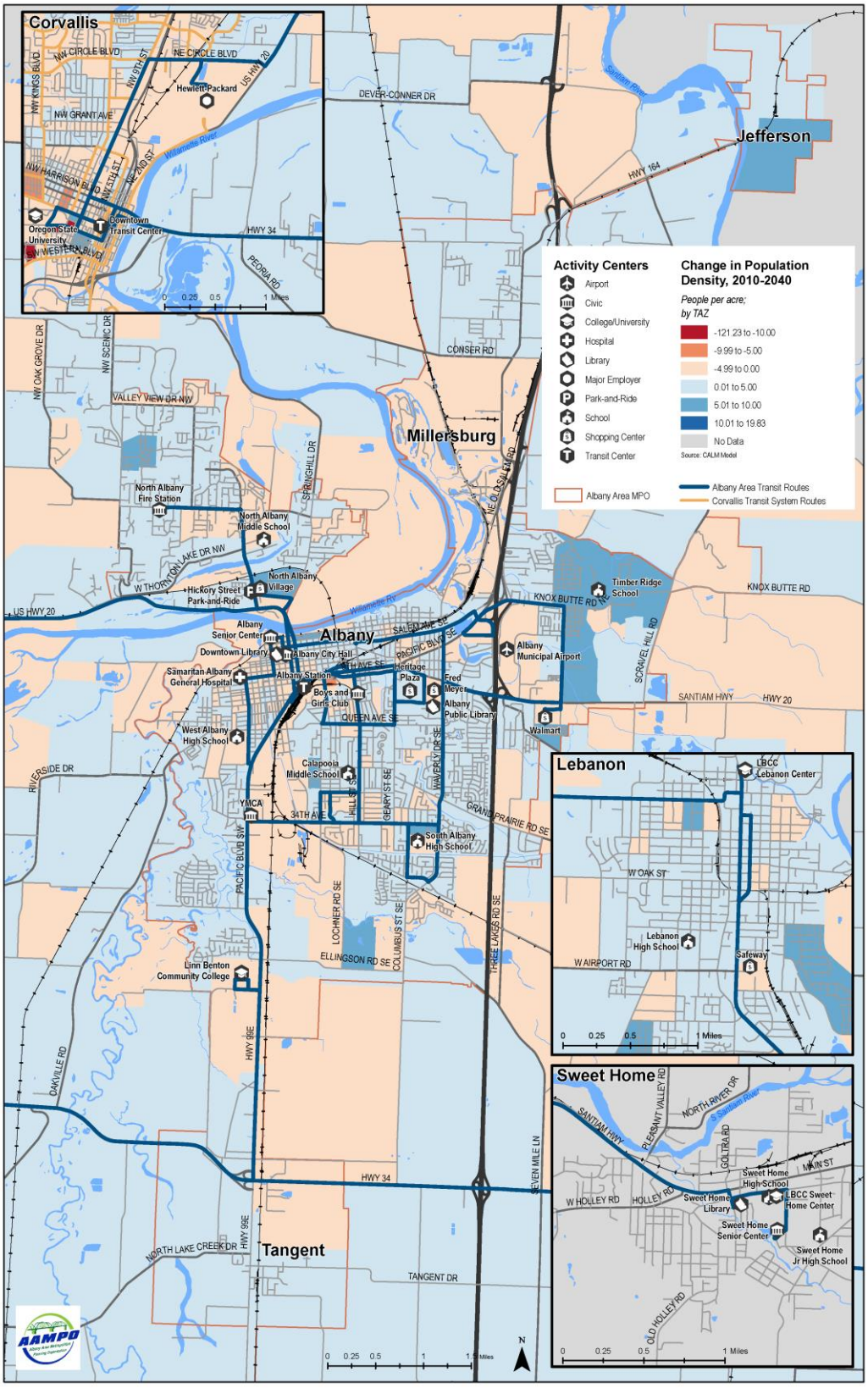
Figure 2 shows the projected population density in 2040, and Figure 3 shows the change in density. Figure 4 shows the projected employment density in 2040, and Figure 5 shows the change in density. Figure 6 shows the overall population and employment densities.

Figure 2: Population Density, 2040 (Projected)



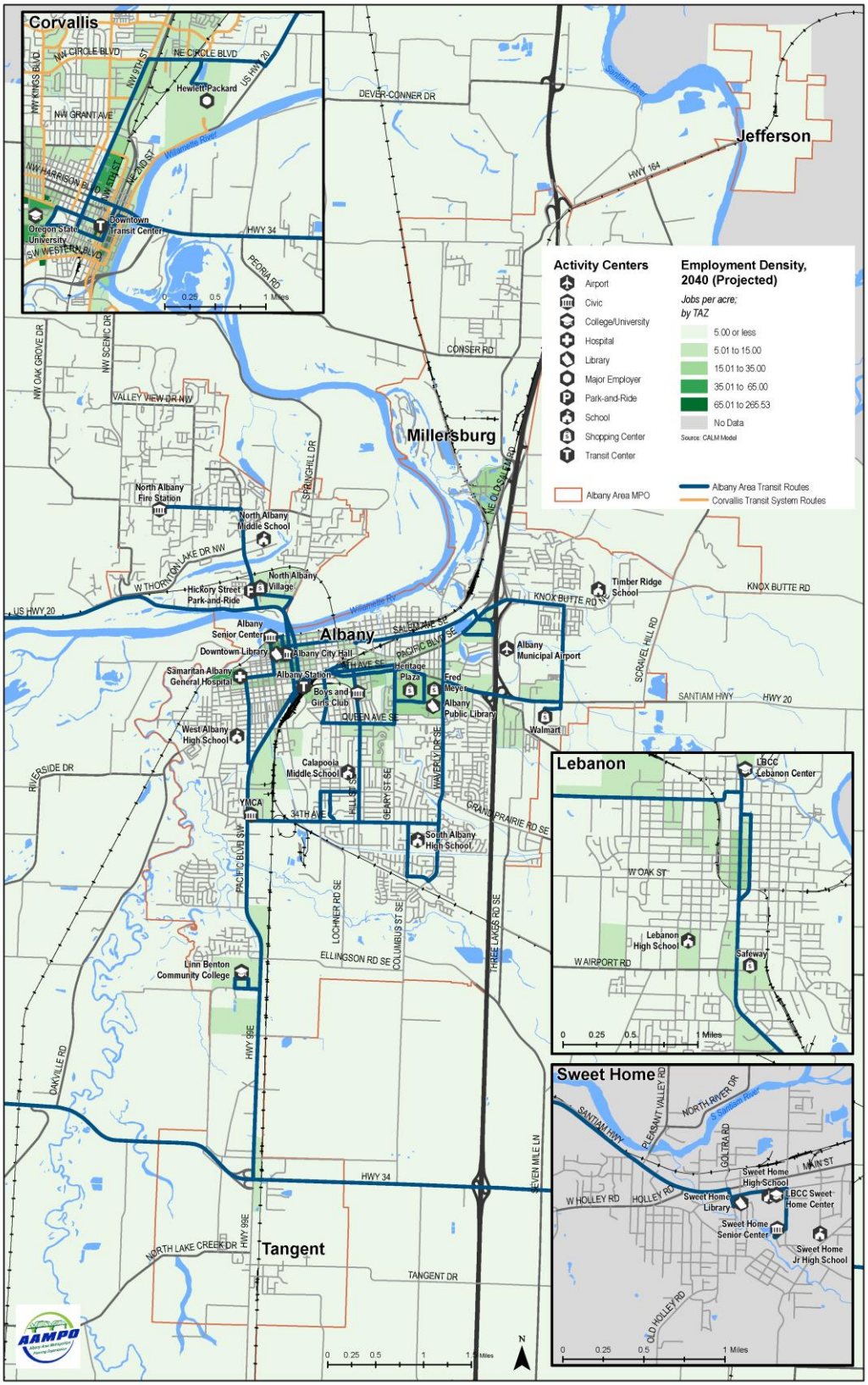
Source: Nelson\Nygaard

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



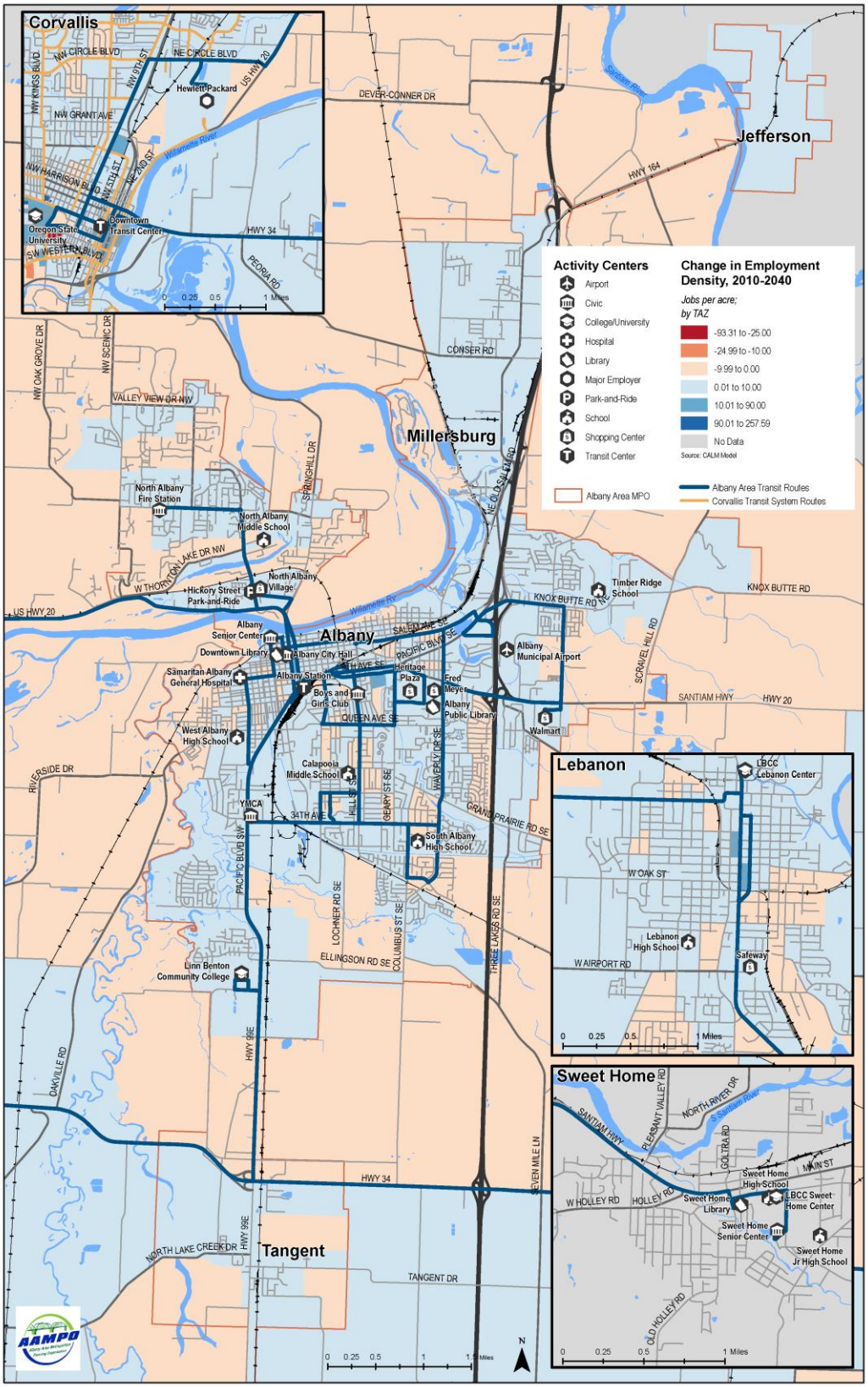
Source: Nelson\Nygaard

Figure 4: Employment Density, 2040 (Projected)



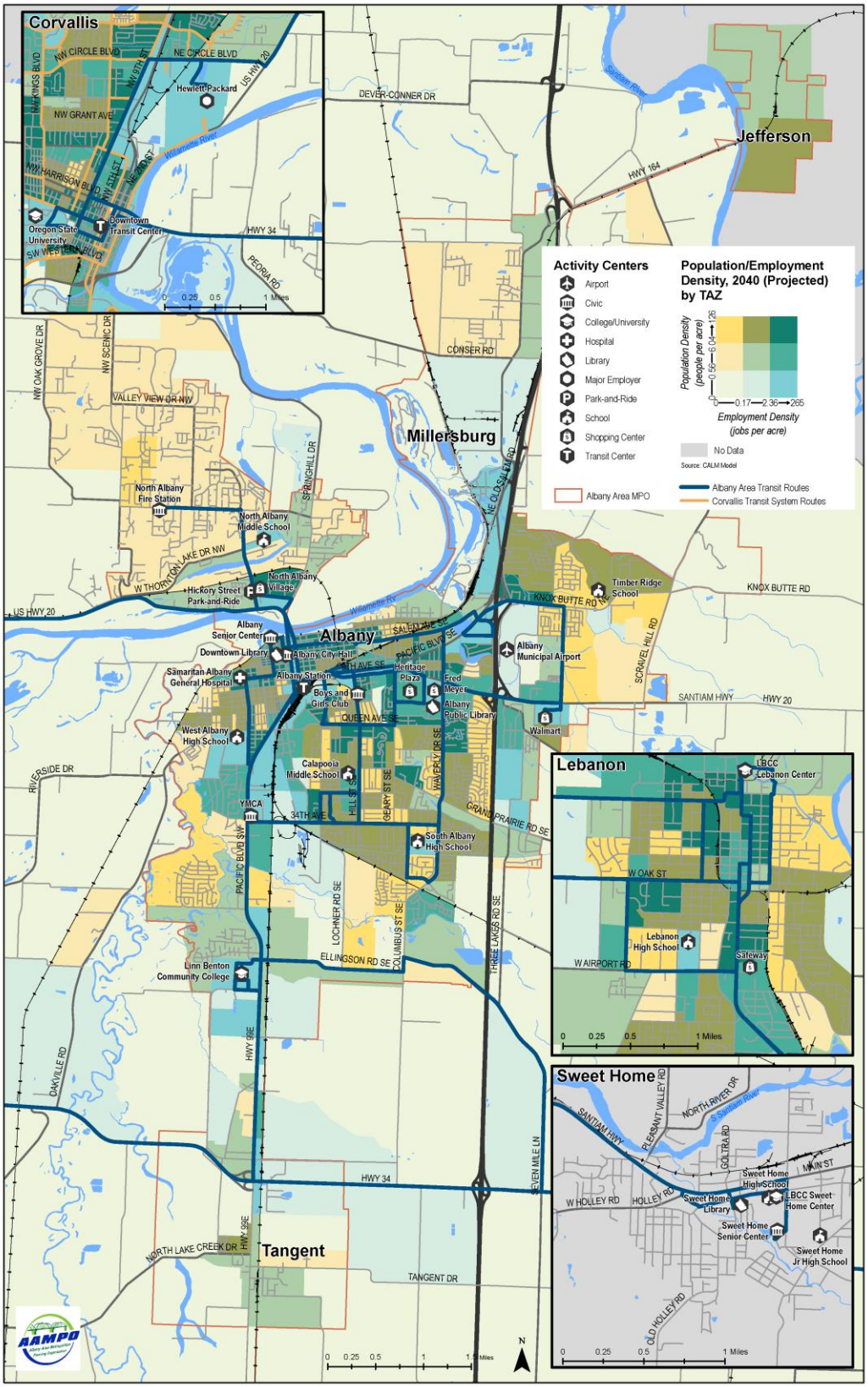
Source: Nelson\Nygaard

Figure 5: Change in Employment Density, 2010 to 2040 (Projected)



Source: Nelson\Nygaard

Figure 6: Population/Employment Density, 2040 (Projected)



Source: Nelson\Nygaard

Chapter Three: Travel Patterns

Overall Travel Patterns

The CALM Model estimated approximately 48,500 current vehicle trips during the PM peak hour in the CALM Model area. Trips with a destination or origin in the Albany Area MPO was estimated at approximately 20,700 (or 43 percent of the CALM Model). Of these trips, 19,100 are forecast to have an origin or destination within Albany (92 percent of AAMPO trips). In 2040, these values are projected to increase to 63,600 vehicle trips in the CALM Model area, 27,100 trips to/from/within the Albany Area MPO, and 24,600 trips to/from/within Albany.

Table 4 shows that the total increase in trips in the CALM Model is forecast to be spread fairly evenly throughout the region, as the CALM, AAMPO and Albany trips are expected to increase by 31, 31 and 29 percentage points respectively. Albany's share of vehicle trips in the CALM Model area and in the MPO is also expected to remain relatively the same.

Table 4: Vehicle Trip Distribution (PM Peak Hour)

	2010	2040	Change	% Change
CALM Model Trips	48,486	63,567	15,081	31%
AAMPO Trips	20,713	27,137	6,424	31%
Albany Trips	19,089	24,586	5,497	29%
AAMPO share of CALM	43%	43%	0%	-
Albany share of AAMPO	92%	91%	-1%	-

Source: DKS Associates (CALM Model)

The area with the most growth in PM peak hour trips will be East Albany (the area within the City of Albany east of I-5). This zone is expected to experience a 94 percent increase in trips with an origin or destination in East Albany. This will be followed by trips to/from Jefferson, and trips to/from Millersburg (66 and 56 percent, respectively).

The area that will experience the lowest increase in PM peak hour vehicle trips will be in the central parts of Albany (west of I-5 and south of the Willamette River). These areas will see an increase of less than 20 percent. Table 5 shows the change in PM peak vehicle trips for each of the areas in the CALM Model.

Table 5: Change in PM Peak Vehicle Trips To/From/Within Each Zone

	2010	2040	Change	% Change
Jefferson	1,171	1,947	776	66%
Tangent	676	844	168	25%
Millersburg	811	1,263	452	56%
East Albany	2,226	4,318	2,092	94%
North Albany	2,370	3,074	704	30%

	2010	2040	Change	% Change
NW Albany	3,780	4,507	727	19%
NE Albany	8,331	9,794	1,463	18%
SW Albany	3,925	5,468	1,543	39%
SE Albany	5,437	6,493	1,056	19%
North of MPO	4,949	6,959	2,010	41%
South of MPO	3,106	4,162	1,056	34%
West of MPO	22,097	27,860	5,763	26%
East of MPO	9,046	13,148	4,102	45%

Source: DKS Associates (CALM Model)

Despite the notable increase in trips with an origin or destination in Jefferson or Millersburg, the total number of trips to these locations is expect to remain very small in relation to the total number of trips within the Albany Area MPO. Trips to, from or within Jefferson and Millersburg are expected to make up 7 and 4 percent of AAMPO trips, respectively.

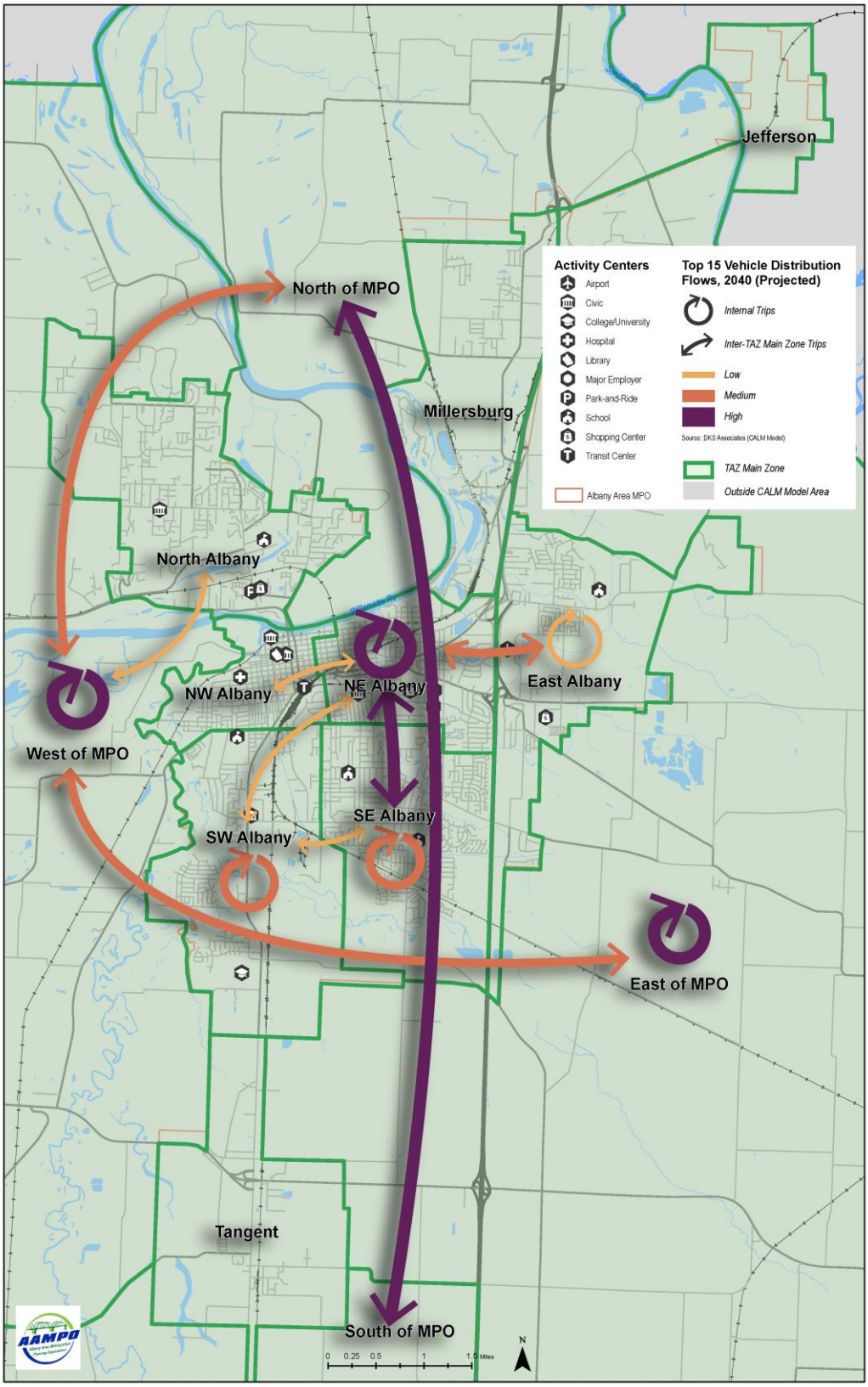
Figure 7 shows the top 15 travel flows within and between zones. The largest flows within the Albany Area MPO are within NE Albany, between NE and SE Albany, within SE Albany, and between NE Albany and East Albany. These patterns are very similar to the 2010 travel pattern estimates; however there is expected to be significant growth in travel within East Albany and travel to or from East Albany. The largest percent increases in flows are listed in Table 6 and are illustrated in Figure 7.

Table 6: Percent Change in Flows Within and Between Zones

Rank	A	B	2010	2040	Change	% Change
1	East Albany	East Albany	273	770	497	182%
2	Millersburg	East Albany	71	161	90	127%
3	Jefferson	East Albany	31	70	39	126%
4	East Albany	SW Albany	115	246	131	114%
5	East Albany	North of MPO	154	325	171	111%
6	East Albany	West of MPO	149	296	147	99%
7	East Albany	South of MPO	35	69	34	97%
8	Jefferson	Millersburg	50	98	48	96%
9	Tangent	East Albany	13	25	12	92%
10	East Albany	East of MPO	172	329	157	91%
11	Jefferson	West of MPO	69	126	57	83%
12	Jefferson	North of MPO	276	493	217	79%
13	Jefferson	Jefferson	321	572	251	78%
14	East Albany	SE Albany	252	448	196	78%
15	Jefferson	SW Albany	35	61	26	74%

Source: DKS Associates (CALM Model)

Figure 7: 2040 Top Projected Travel Flows



Source: CALM Model

Transit Demand and Travel Patterns

This section reviews the impacts, as presented by the regional travel model, of regional growth on transit travel patterns, assuming the framework for delivering transit service does not change (i.e. the level and design of service remains as today). Daily bus travel forecasts for the Albany Area MPO estimate approximately 1,400 transit trips per day with the existing service levels. Approximately 70 percent of these trips (950) are forecast to be destined for internal areas of the MPO, while 30 percent are expected to be destined to areas outside the MPO (most of these are into Corvallis). For transit trips within the MPO, most of these trips (99.7 percent) are expected to be within Albany. These Albany-to-Albany trips are outlined in Table 7.

Table 7: Percent of Internal Albany Daily Transit Trips

Origin	Destination						
	East of I-5	Benton County	NW Quad	NE Quad	SW Quad	SE Quad	TOTAL
East Albany	0%	0%	0%	3%	2%	1%	**7%**
North Albany	0%	1%	1%	1%	2%	0%	**6%**
NW Albany	0%	1%	0%	2%	6%	1%	**11%**
NE Albany	3%	1%	2%	1%	7%	7%	**21%**
SW Albany	2%	2%	6%	7%	10%	10%	**37%**
SE Albany	1%	0%	1%	7%	10%	1%	**19%**
TOTAL	**6%**	**6%**	**11%**	**21%**	**37%**	**19%**	**100%**

Note: This table only includes trips whose origin and destination are both within Albany limits.

Source: DKS Associates (CALM Model)

The data shows that most transit trips within Albany are expected to start or end in the southwest quadrant of Albany (south of Queen Ave and west of Marion St/Jackson St) – where Linn-Benton Community College is located. The next two most popular transit origins/destinations in Albany are expected to be the northeast quadrant (north of Queen Ave and east of Marion St/Jackson St) and the southeast quadrant (south of Queen Ave and east of Marion St/Jackson St). Together, these three quadrants are expected to be the origin or destination for approximately 77 percent of all Albany transit trips.

Few trips outside central Albany (in Jefferson, Tangent and Millersburg) are forecast to be served by transit based on model results using the existing service (which has limited reach to these areas). However, since no transit service currently exists in these locations, it is difficult to predict how many trips could be served with transit. The projected growth in these communities may merit some form of transit or vanpool service.

Roadway Conditions

Traffic volumes on roadways in Albany were estimated based on trip volumes and origins/destinations. These volumes are compared to the capacity of roadways to indicate which roadway segments are expected to exceed capacity. In 2010, only few roadway segments are expected to have capacity constraints meaning transit can currently operated on these roadways with moderate impediments. These links include:

- Westbound Pacific Blvd between Madison St and Lyon St
- Portions of Lyon St and Ellsworth St between Pacific Blvd and Springhill Dr
- Eastbound Queen Ave between Marion St and Geary St
- Geary St between 14th Ave and Queen Ave
- Northbound North Albany Rd between Highway 20 and Gibson Hill Rd
- Waverly Dr between Queen Ave and 21st Ave

With the expected increase in population and employment in Albany in 2040, many more roadway segments are expected to exceed the capacity. In addition to the segments listed above, the following roadways are projected to have volumes which exceed roadway capacity.

- Eastbound Highway 20 from Corvallis to North Albany
- Salem Ave between Pine St and Airport Rd
- 9th Ave east of Amtrak Station to Hill St
- Waverly Dr between 21st Ave and Grand Prairie Rd
- Eastbound Santiam Hwy between Waverly Dr and Center St
- Pacific Blvd between Waverly Dr and Killdeer Ave

The roadways listed above serve as components Albany's core roadway network. These segments are also served by Albany's transit routes, as these roadways connect most of Albany's destinations and provide the most direct and shortest routes through Albany. The projected future roadway conditions suggest slower travel speeds for buses, and increased delay. This is likely to increase the cost of service, and may require additional vehicles and operators to serve the same routes with the same frequencies.

Chapter Four: Future Transit Needs

This chapter reviews the need for additional transit investments in response to the general growth expected in the MPO area, in response to needs cited by local stakeholders, and finding from the existing conditions analysis. These needs and inputs are considerations for future transit in Albany.

Estimate of Transit Needs

This section reviews the impact of growth in the City of Albany, even if the framework for delivering transit service does not change (i.e. the level and design of service remains as today). With a current population of approximately 57,300 people, the Albany Transit System provides approximately 0.17 annual revenue hours per resident. This translates into a cost of $14.64 per resident to run the service each year. Approximately four boardings occur each year on Albany's buses per resident. Table 8 shows existing transit metrics normalized by total MPO population, total MPO population plus employment, and by the average of Albany's peers.

Table 8: Existing Albany Transit Service[2]

	Total[a]	Per Capita	Per Resident and Job	Average of Peers per Capita
Annual Revenue Hours	9,908	0.17	0.12	0.22
Annual Operating Cost	$838,820	$14.64	$10.46	$14.95
Annual Boardings	228,736	3.99	2.85	3.14

Notes: Per Capita values are based on CALM Model's Albany Area MPO population in 2010 of 57,302. Per Resident and Job values are based on CALM Model's Albany Area MPO population plus jobs in 2010 of 80,189. Average of Peers per Capita values are based on NTD's Urbanized Area Population for the peer transit systems listed in Technical Memorandum 5. Peer transit agencies include Grants Pass, OR; Paso Robles, CA; Carson, NV; Petaluma, CA; Lodi, CA; and Longview-Kelso, WA.

Source: (a) National Transit Database (2013)

Three of the six peers are located in California, where the state provides transit funding to local transit agencies. This suggests that the per capita rates may be higher for these agencies. Albany has a higher per capita rate of annual boardings than its peers, and the annual operating cost per capita differs by only approximately $0.31.

As Albany grows over the next 25 years, service hours, annual transit expenditure and ridership will all need to increase to maintain its per capita rates at a consistent level. Table 9 shows the 2040 targeted amount of revenue hours, cost, and boardings needed to keep the same values per capita, per residents plus jobs, and per capita of peer cities as in 2010.

[2] Albany transit service is based on data from the National Transit Database, which includes Albany Transit System Routes 1, 2 and 3, and the Linn-Benton Loop.

Table 9: Targeted 2040 Transit Service[3]

	Current ATS Ratios Per Capita		Current ATS Ratios Per Resident and Job		Peer Average Ratios per Capita	
	Targeted Amount	% Change from 2010	Targeted Amount	% Change from 2010	Targeted Amount	% Change from 2010
Annual Revenue Hours	13,283	34%	13,643	38%	16,824	70%
Annual Operating Cost	$1,124,565	34%	$ 1,155,063	38%	$ 1,148,716	40%
Annual Boardings	306,655	34%	314,972	38%	241,524	6%

Values calculated by multiplying 2040 Population and Employment Data (Source: CALM Model) by per capita (or per resident and job) values.

The difference in the targeted increase of revenue hours and boardings needed to maintain the same per capita rate as Albany's peers indicates that Albany's transit system is very productive – Albany provides very little service compared to its peers yet needs only a slight increase in the number of passengers to maintain the peer per capita rate of boardings (likely due to a large number of riders currently dependent on existing services – independent of the level of service).

The values listed in Table 7 suggest that Albany will need to increase its levels of service to between 13,000 and 17,000 hours annually to address population and employment growth.

Stakeholder Input on Future Needs

ATS Operators

In July 2015, two ATS bus operators provided insight into the constraints on the current transit system and potential issues that, if addressed, would improve transit in Albany.

Operations

One issue was that it is difficult to load wheelchairs at many stops throughout Albany. This is usually because of the absence of a boarding pad. As Albany continues to develop, improved bus stops will need to become in compliance with ADA requirements for bus stops.

The bus operators also said that because all routes in Albany cross a railroad crossing, buses can wait for 10-20 minutes for each instance the bus has to wait at a railroad crossing. For transit routes which cycle in 60 minutes, this can cause delays for the multiple trips before the operators are able to get back on schedule. On Salem Rd, a bus is delayed 2 or 3 times each month, while the crossing on 34th St occurs about once every couple of months.

After a bus is finished with loading or unloading at bus stops, drivers sometimes have trouble merging back into traffic because the vehicles do not have a "Yield to Bus" indicator. As Albany grows, more vehicles on the road will cause more delay to vehicles.

[3] These targeted values do not factor in the growth outside Albany's city limit. Additional service would be necessary to provide service into all areas of the MPO.

Ridership and Service

Both operators indicated North Albany is the least productive part of the network, and that very few passengers use it. However, it was suggested that more people are likely to use service in North Albany as the area grows.

Both operators also independently brought up the issues regarding frequency and span of service. Both suggested the current headways are too long, and that more frequent service would be very valuable to the passengers. Additionally, both said that passengers usually request expanded service in the morning and the evening, as well as on weekends.

One major concern is the cost of housing and the location of employment opportunities. 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.

One operator spoke about the need to un-complicate the fare structure and to make it more intuitive to new passengers. For Albany's system to grow and serve the changing community, a new or modified fare structure should be considered to simplify the payment process.

Transportation-Related Stakeholders

The future needs of Albany's transit system in 2040 were also expressed through members of the community. The following needs for Albany are based on interviews with 16 transportation-related stakeholders in the Albany area.

As Albany grows, congestion is expected to increase and be a major hindrance to the movement of people and goods. Roadway congestion was a common concern, but freight traffic was noted as a cause of congestion at railroad crossings. Since many of Albany's transit routes cross railroads at-grade (as noted above), freight traffic could be a major obstacle for Albany's buses to maintain on-time performance and improve headway reliability.

Many stakeholders noted that multimodal solutions are needed for Albany to address its future congestion issues. Some suggested that as congestion increases, automobile drivers may seek unsanctioned routes though 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.

In addition to the physical transportation needs, stakeholders discussed the soft infrastructure that is needed to support a robust transportation system. This included multi-lingual capabilities, support for the transportation-disadvantaged, and provisions of access. Stakeholders recommended Albany's transit system improve access for non-English speakers by hiring more multi-lingual bus operators, placing more than one language on signs, and displaying information with universal imagery. They also recommended that transportation planners consider the needs of those who are most disadvantaged in the community and who may not be able to engage in the public process as readily as others members of the community.

They also wanted to ensure that transportation is provided as a means for people to access health care, key services and amenities. However, there was no single definitive method to do so. Stakeholders listed transit coverage, transit frequency, training of bus operators and clients, regional coordination, and effective matching of services to the needs as options to achieve this.

As the Albany area grows, the stakeholders said that there needs to be greater affordability and efficiency of the various transportation services in and through the community. Transit coverage in smaller communities and at educational institutions, as well as improved travel means between Corvallis and Albany were also listed as future desires.

Importantly, the stakeholders also indicated that the process to develop these transportation investments needs to exist. They indicated that local staff, community stakeholders and the people who are directly impacted by decisions must communicate and coordinate together.

Existing Conditions Findings

The Transit Existing Conditions memorandum highlighted that the transit service in Albany is very limited. The routes operate with limited frequencies and require riders to take long, slow trips to get to their destination. Service on Saturday is only provided on the Linn-Benton Loop. This level of service meets the basic needs of the transit-dependent population, but would need to be expanded for transit to be more beneficial for a wider range of people and for a greater variety of trips.

Albany Transit System has active revenue fixed-route vehicles between one and six years old. The Call-A-Ride program has vehicles between two and seven years old. The useful lifespan is 12 years for a fixed-route vehicle, and 4 years for paratransit vehicles[4]. As the Albany fleet ages and as service expands, Albany should adhere to its capital vehicle replacement program to ensure an adequate supply of vehicles that are within a state of good repair.

[4] FTA Circular 5010.D – *Grant Management Requirements* 2008

Summary of 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:

- **Expected growth** – The MPO 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 percent.
- **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 MPO travel increase. These locations may require additional transit service to meet their specific needs.
- **Existing service** – Limited frequency and long travel times make current service ineffective for a wide variety of demographic groups. Improving service would make transit more valuable for more people and for a wider variety of trips.
- **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.
- **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.

Attachment B

ECONorthwest
ECONOMICS • FINANCE • PLANNING

DATE: July 6, 2016
TO: Chris Maciejewski
FROM: Nick Popenuk and Terry Moore
SUBJECT: Albany Area Metropolitan Planning Organization Regional Transportation Plan
Tech Memo #12 –Transit Funding Assumptions

1 Introduction[1]

The Albany Area Metropolitan Planning Organization (AAMPO) is responsible for preparing a long-range Regional Transportation Plan (RTP) for the Albany metropolitan area. The RTP takes a "big-picture" look at future demand for all modes of transportation in the Albany region and how that demand might be accommodated by investments in infrastructure. The RTP is an initial step in developing the region's network of transportation facilities and services, and serves as a framework for more detailed project planning.

The rules of the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) require the RTP to be "fiscally constrained," meaning that the cost of projects included in the RTP cannot exceed the capacity of the region to fund the projects. This memo estimates the level of funding that jurisdictions in the AAMPO can reasonably expect to have available over the planning period for *transit* projects. Note that a separate memo, *Tech Memo #11 – RTP Funding Assumptions*, includes revenue forecasts for other modes of transportation. This memo focuses on estimating revenues that will be available over the next 25 years for transit operations and capital improvements in the region.

The remainder of this memorandum is organized into three sections:

- Framework: Describes overarching principles and concepts, provides definitions of key terms, and describes the methods used in the analysis.
- Revenue Forecasts: Provides a forecast of future transit revenues based on historical trends and future expectations.
- Conclusions: Summarizes the key findings from the analysis.

[1] ECONorthwest has extensive experience in the area of transportation planning, especially in forecasting transportation revenues that support long-range transportation plans. Thus, language in this memo, especially in the Introduction and Framework sections draws heavily from ECONorthwest's previous work, especially the Bend MPO MTP (2014), and Funding Sources for the Maryland Parkway Corridor, Regional Transportation Commission of Southern Nevada (2015 – Draft).

2 Framework[2]

2.1 Legislative framework

Transit systems in urban areas can be extensive and cross many jurisdictions. While transit systems within an urban area are typically operated by one entity, funding is often the joint responsibility of federal, state, and local governments. Efficiently building, operating and maintaining such a system requires planning to coordinate investments in multiple jurisdictions.

Urbanized areas over 50,000 in population are required by federal law to coordinate plans for transportation improvements at a regional level. The RTP serves this function by considering long-run transportation needs at a regional level and identifying policies, programs, and projects to meet these needs. The plans of local jurisdictions responsible for the transportation system in the Albany metropolitan area must be consistent with the policies, programs, and projects identified in the RTP.

A key requirement for regional transportation plans is that they be fiscally constrained—the cost of actions identified in the RTP cannot exceed the level of funding considered reasonably available in the region. The cost of all potential transit projects in a region almost always exceeds the financial resources considered reasonably available to pay for the projects. Thus, an important component of the RTP is forecasting future revenues for transit, to set reasonable expectations for what level of service can be provided in future years, and what service improvements (if any) can be afforded.

2.2 Transportation funding principles

Projects to improve the transportation system are funded through a mix of federal, state, and local revenues distributed through a variety of funding programs that dictate how this revenue can be spent. In addition to revenue generation and spending by multiple jurisdictions, revenue sharing among jurisdictions and cooperation among multiple jurisdictions on individual projects makes describing transportation funding complicated. In this section, we explain some key transportation funding principles, and provide definitions of key terms, with the intent of making this evaluation of transportation funding less complicated and easier to understand.

2.2.1 Funding vs. Financing

The terms "funding" and "financing" are often are used interchangeably; there is an important difference. Providing transportation facilities and services costs money, and somebody has to

[2] Much of the language in this framework section is an abridged version of the framework section found in Tech Memo #11 – RTP Funding Assumptions. Readers should refer to that tech memo for a more complete description of the framework.

pay those costs. The ultimate source of revenue for these costs is *funding*. Examples of funding mechanisms are tolls, fuel taxes, registration fees, impact fees, and property taxes.

When the funds for transportation costs are borrowed and paid back over time, then these costs have been *financed*. Public agencies finance costs for the same reasons that households and businesses do—to reduce the current out-of-pocket costs by spreading out payments over time. Since financed costs must be paid back over time, financing the costs cannot increase the total amount of funding available in an area over a long-term planning period.

This report is about funding. In the future, as local jurisdictions within the AAMPO pursue the implementation of specific transportation improvements, they may choose to finance those projects as a method of accelerating funding capacity. The details of any potential future financing arrangements are beyond the scope of this analysis.

2.2.2 Sources, Mechanisms, and Programs

"Source," "mechanism," and "program" are terms that are often used interchangeably when discussing funding, but each term is distinct for the purposes of this analysis:

- A *source* is the entity that pays for the funding. We look at sources of funding two different ways (1) the unit of government that provides funding directly to a project (government source), and (2) the group of persons or businesses that pay the money to the government (the ultimate source).
- A *mechanism* (also called a *tool*) is the method that is used to charge persons or businesses to generate the funding. Examples of funding mechanisms include gas tax, vehicle registration fees, and transit ticket sales.
- A *program* is an ongoing, well-defined approach for spending a specific sum of money, usually with a specified funding source, and with clear rules on what projects can receive funding, and what dollar amounts those projects can receive. The FTA Small Starts Program is an example of a funding program.

2.2.3 Capital vs. Operations and Maintenance

Our analysis looks at both capital and operations and maintenance:

- *Capital* costs are one-time, up-front costs associated with the construction and implementation of a project.
- *Operations and maintenance* (O&M) costs are long-term, ongoing costs associated with keeping a project in working order after the capital investment is complete.

Capital costs are frequently presented as a lump-sum number, whereas O&M costs are frequently presented as an average annual number. An important reason to separate these two types of costs is that some funding sources may only be available, or appropriate to use on either capital or O&M costs, but not both.

2.3 Definitions

Below we define key terms that appear throughout this memorandum.

- **Fiscal Year End (FYE)** denotes the completion of a one-year, or 12-month, accounting period. For example, FYE 2015 refers to the 2014-15 fiscal year, ending June 30, 2015.
- **Year of Expenditure (YOE)** denotes that dollar values are reported as nominal values, which increase over time due to assumed inflation rates.
- **Constant 2016 $** denotes that dollar values are reported in constant terms based on FYE 2016 values. These values remain constant over time, and do not reflect changes in value due to inflation.

2.4 Methods

The methods used in this analysis are simple to explain, though they can be challenging to apply. These methods are summarized below:

- Review historical trends in transportation expenditures in the AAMPO. The City of Albany operates the transit system in the AAMPO. The City was contacted and asked to provide historical data on transportation funding for FYE 2013 through FYE 2015, including specific categories of revenues and expenditures.
- Consult and confer with City staff. We followed up with staff at the City of Albany, as needed to ensure completeness of the historical data, and an understanding of likely future trends.
- Forecast future revenue sources. Based on the historical data, and input from staff at the City of Albany, we forecast future revenues from FYE 2016 through FYE 2040. The revenue forecasts in this memorandum are presented in both constant 2016 dollars, and nominal, year of expenditure dollars. To convert from constant to nominal dollars, we use the inflation index shown in Exhibit 1. This inflation index assumes 1.31% inflation each year. This assumption was provided by ODOT as part of its 2013 long-range revenue forecast.
- Review forecasts with ODOT staff. Much of the funding for transit service is channeled through ODOT to local transit providers. Thus, our forecasts were coordinated with ODOT staff to ensure they reflected ODOT projections of future State and federal revenues.
- Review forecasts with AAMPO staff and Technical Advisory Committee.

Exhibit 1. Assumed inflation index used in this analysis, FYE 2015 to 2040

FYE	Index
2016	1.0000
2017	1.0310
2018	1.0630
2019	1.0960
2020	1.1300
2021	1.1650
2022	1.2011
2023	1.2383
2024	1.2767
2025	1.3163
2026	1.3571
2027	1.3992
2028	1.4426
2029	1.4873
2030	1.5334
2031	1.5809
2032	1.6299
2033	1.6804
2034	1.7325
2035	1.7862
2036	1.8416
2037	1.8987
2038	1.9576
2039	2.0183
2040	2.0809

Source: ODOT Long-Range Revenue Tables 2013 v3

3 Revenue forecasts

3.1 Albany Transit Service Overview

The City of Albany operates the Albany Transit System (ATS), which provides transit service for the Albany metropolitan area. The Albany Transit Plan describes the services offered by ATS, and recommended future improvements in service.[3] ATS operates Monday through Friday, from 6:30 AM to 6:20 PM.

ATS offers three routes: (1) early morning, (2) regular service – east, and (3) regular service – west. Route 1 covers much of the same area as Routes 2 and 3 combined, but is a shortened route with fewer stops, and operates only from 6:30 to 8:30 AM. Routes 2 and 3 provide an expanded area and more stops from 9:00 AM to 6:20 PM. ATS has approximately 85 designated stops, including 21 with shelters.

ATS charges one-way fares of $1.00 per trip (transfers are free at designated points), with a discounted rate of $0.50 per trip for seniors, disabled, and youth passengers. Children under age 6 ride for free. Monthly passes are also available at a price of $30 for adults, and $15 for seniors, disabled, and youth passengers.

Albany Call-A-Ride is a paratransit service provided by the City of Albany, offering curb-to-curb transportation within the City of Albany and within ¾ mile outside city limits for seniors and citizens with disabilities. The fare is twice the fare for fixed-route service at $2.00 per one-way trip. To help contribute to lower operating costs, the Call-A-Ride program is staffed primarily by volunteer drivers and dispatchers. The City of Millersburg helps finance this service in exchange for providing Albany Call-A-Ride in Millersburg.

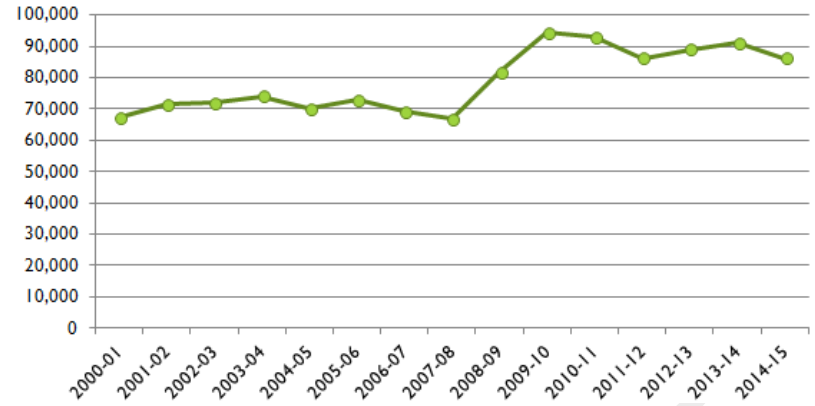
Albany Call-A-Ride also provides a special services senior medical-shopper shuttle that operates on a fixed-route between senior housing locations, retails stores, grocery stores, and medical facilities. Route deviations of up to five minutes are available upon request. The service is open to the general public with no age restrictions Tuesday, Wednesday, and Thursday between 8:00 AM and 4:30 PM. Fares for this service are $1.00 per one-way trip.

Fares contribute a significant amount to ATS revenues. Ridership for the ATS fixed-route service is shown in Exhibit 2. A high number of Linn Benton Community College (LBCC) and Oregon State University (OSU) students use the ATS service which contributes to higher ridership between January and May as well as October and November. Downturns in ridership occur during the month of December and summer months. But, OSU and LBCC students do not have to pay fares. ATS ridership peaked in FY 10/11 at 94,200 but has decreased to 86,100 in FY

[3] Albany Transit Plan, January 2011, prepared by Kittelson & Associates, Inc. Because the Albany Transit Plan is five years old, we have updated information, where necessary, to reflect current conditions.

14/15. These trends directly contribute to fluctuations in fare revenue, depending on the type of rider.

Exhibit 2. Albany Transit System Fixed-Route Ridership 2001-2015



Source: Albany Transit System

ATS capital expenditures are typically for transit vehicles and transit technologies. ATS has nine vehicles for fixed-route transit service that all use diesel fuel. The ages of the vehicles range from a brand new 2015 bus to a 24-year old bus, with an average model year of 2004. Exhibit 3 lists the vehicles with their make, model and year. In addition to transit vehicles, ATS has two pickup trucks for non-revenue use. ATS has implemented onboard security systems on new vehicles and is working with ODOT to update its Google Transit database to support a region-wide strategy for transit trip planning information.

Exhibit 3. ATS Fixed-Route Vehicle Inventory

Vehicle Number	Make	Model	Year	Length
428-03	Gillig	Phantom	2003	40 ft
430-95	Gillig	Phantom	1995	40 ft
431-10	ElDorado	EZ Ride II	2010	35 ft
432-15	Gillig	Low Floor	2014	40 ft
455-05	Gillig	Low Floor	2005	35 ft
460-91	Gillig	Spirit	1991	30 ft
470-97	Gillig	Phantom	1997	35 ft
480-10	ElDorado	EZ Ride II	2010	35 ft
481-15	Gillig	Low Floor	2015	35 ft

Source: Albany Transit System

Partner Service

The City of Albany operates an inter-city service known as The Linn-Benton Loop. The Loop provides service between Albany, LBCC, downtown Corvallis, OSU, and Hewlett Packard. This service is a partnership between public agencies and private sector businesses including the City of Albany (designated operator), Linn and Benton counties, LBCC, OSU, and Hewlett-Packard.

The route operates Monday through Friday from 6:25 AM until 7:00 PM, and from 8:00 AM until 6:00 PM on Saturday. Fares for the Loop service are $1.50 for adults; $0.75 for seniors, persons with disabilities, and youth; and free for LBCC, OSU, Samaritan Health Services, or Hewlett-Packard ID card holders.

Regional and Connecting Services

There are several additional transit services that provide connections to ATS service. These service providers include: Coast to Valley Express, Linn Shuttle, Sweet Home Shopper, Valley Retriever, Amtrak, and BoltBus. Additionally, there are two entities providing demand responsive services within Albany: Benton County Dial-A-Bus and Corvallis-Albany Connection.

- Coast to Valley Express is co-operated by Lincoln and Benton counties, connecting Albany and Corvallis to Newport seven days a week.
- Linn Shuttle is operated by the non-profit Senior Citizens of Sweet Home, Inc., serving the cities of Sweet Home, Lebanon, and Albany Monday through Friday.
- Sweet Home Shopper is a service of Linn Shuttle that connects people to shopping trips, medical appointments, and other downtown Sweet Home destinations Monday through Friday.
- Valley Retriever is a private bus service that operates twice per day between Newport and Salem, with stops in Philomath, Corvallis and Albany.
- Amtrak offers two train routes (Amtrak Cascades and the Coast Starlight) and multiple bus routes that provide service to Albany.
- BoltBus provides service from Albany south to Eugene, and north to Portland. There are two trips in each direction daily, Thursday through Monday.
- Benton County Dial-A-Bus is a paratransit service offering curb-to-curb transportation in North Albany (part of Benton County) and between Albany and Corvallis for seniors and citizens with disabilities seven days a week.
- Corvallis-Albany Connection is a demand responsive service provided by Benton County through a contract with Dial-A-Bus. This service—available to Albany and Corvallis residents 60 years of age and over and persons with disabilities—will pick up and drop off riders at the destinations of their choosing in Albany and Corvallis Mondays, Wednesdays, and Fridays.

3.2 Historical revenues and expenditures

Exhibit 4 shows historical revenues and expenditures for ATS. Federal funds are the largest source of revenue and those funds have increased substantially in recent years. That increase, however, is not anticipated to be a long-term trend, but instead is the result of a change in eligibility for the Albany area, regarding certain federal funds.

Exhibit 4. Historical annual transit revenues and expenditures, Albany Transit Service, FYE 2013 to FYE 2015 (YOE $)

	FYE 2013	FYE 2014	FYE 2015
Resources			
Federal Funds	$ 490,701	$ 870,505	$ 1,376,921
ODOT Funds	$ 32,014	$ 8,002	$ -
City of Albany - General Fund	$ 436,100	$ 440,000	$ 466,700
City of Albany - Capital Equip. Fund	$ -	$ 76,000	$ 88,000
City of Millersburg	$ 3,556	$ 560	$ 788
Linn County	$ 61,526	$ -	$ -
Benton County	$ 24,000	$ 8,000	$ 8,000
Pass Programs	$ 235,786	$ 235,800	$ 245,200
Bus Fares	$ 77,942	$ 89,532	$ 86,140
Advertising	$ 5,338	$ 4,911	$ 7,004
Other	$ 7,903	$ 3,300	$ 1,907
Total Revenue	$ 1,374,866	$ 1,736,610	$ 2,280,660
Expenditures			
Personnel Services	$ 841,085	$ 948,769	$ 999,437
Materials & Services	$ 725,756	$ 532,208	$ 562,696
Capital Expenditures	$ -	$ 80,118	$ 752,087
Total Expenditures	$ 1,566,841	$ 1,561,095	$ 2,314,220
Annual Surplus (Deficit)	$ (191,975)	$ 175,515	$ (33,560)

Source: Compiled by Chris Bailey, Assistant Public Works Director, City of Albany, November 17, 2015.

Although the Federal Transit Administration (FTA) has numerous programs that provide funding for transit service, there are two programs that are particularly important for understanding historical allocations of federal funds to ATS. The FTA Urbanized Area Formula Program (5307) provides funding for "urban areas," defined as an incorporated area with population of 50,000 or more that is designated as such by the U.S. Census Bureau. These funds have a wide-range of eligible activities, including both capital and operations and maintenance. Funding is allocated formulaically based on population and population density, which makes these funds more dependable than other FTA programs that may be allocated based on a competitive grant process.

The Albany Urbanized Area was designated following the 2010 decennial census, which determined that the urbanized area population exceeded 50,000. This designation resulted in ATS being eligible to receive FTA 5307 funding for the first time in FYE 2014. Prior to FYE 2013, the primary source of federal funding for ATS was FTA Formula Grants for Other than Urbanized Area (5311). FTA 5311 funds function similarly to 5307 funds, with minor differences in eligible uses of the funds. These funds, however, are available to jurisdictions with population less than 50,000. The allocation of these funds is still formulaic (based on non-urbanized population and land area), providing jurisdictions with dependability.

The designation of the Albany Urbanized Area in FYE 2014 corresponded with a 77% increase in federal transit funding for Albany that year, and an additional 58% increase in federal funding the following year. Over that same time period, other revenue sources have remained relatively constant. The net impact has been an increase in total annual revenues from $1.37 million in FYE 2013 to $2.28 million in FYE 2015.

Federal funds received in FYE 2015, however, included $304,000 from a FTA Section 5309 grant. FTA 5309 is a discretionary grant program for capital investment in transit systems. These funds were used by the City of Albany for the acquisition of new buses in FYE 2015. The City of Albany's adopted budget for FYE 2016 (not shown in Exhibit 4), estimates $897,000 in federal funding, mostly from FTA Section 5307. That funding amount is more inline with funding that the City received in FYE 2014, the first year in which it was eligible for 5307 funds.

Other than federal funds, the City of Albany's general fund provides the next largest source of revenue for ATS. The City's general fund contributed $466,700 in FYE 2015, and has experienced modest increases in funding in each of the past three years.

Operating revenues, including bus fares, advertising, and pass programs contributed $338,344 in funding for ATS in FYE 2015, with pass programs generating $245,200 of that total. These pass programs include passes and partnerships with Oregon State University and Linn-Benton Community College.

3.3 Projected revenues

Exhibit 5 shows projected annual revenues for transit for the City of Albany in year-of-expenditure (i.e., nominal) dollars. Projections for FYE 2016 were taken from the City of Albany's adopted budget. In future years, projections for federal funds were based on ODOT long-range projections for federal funding for transit, which assume 1.4% growth per year.[4] For other funding sources, we assumed revenues increase at a rate equal to inflation, based on ODOT's assumed long-term inflation rate of 3.1% per year. This is consistent with recent historical growth in transit revenues for the City of Albany, after adjusting for the one-time increase in funds for capital expenditures in FYE 2015.

[4] The ODOT Long-Range Revenue Tables 2013 v3 include forecasts of federal funds for each public transit provider in the State, including the City of Albany. The ODOT forecast for Albany called for $1,042,000 in funding in FYE 2016, which is 16% higher than what is forecast in the City of Albany adopted budget. To provide a more conservative revenue forecast, instead of using the ODOT forecast values, we start with the City of Albany's adopted budget number for FYE 2016 and apply the assumed ODOT growth rate for future years.

Exhibit 5. Projected annual revenues for transit, Albany Transit Service, FYE 2016 to FYE 2040 (YOE $)

FYE	Federal Funds	Albany General Fund	Operating Revenues	Other	Total
2016	$ 897,400	$ 571,900	$ 324,500	$ 114,900	$ 1,908,700
2017	$ 909,964	$ 589,629	$ 334,560	$ 118,462	$ 1,952,615
2018	$ 922,703	$ 607,930	$ 344,944	$ 122,139	$ 1,997,716
2019	$ 935,621	$ 626,802	$ 355,652	$ 125,930	$ 2,044,005
2020	$ 948,720	$ 646,247	$ 366,685	$ 129,837	$ 2,091,489
2021	$ 962,002	$ 666,264	$ 378,043	$ 133,859	$ 2,140,168
2022	$ 975,470	$ 686,909	$ 389,757	$ 138,006	$ 2,190,142
2023	$ 989,127	$ 708,184	$ 401,828	$ 142,281	$ 2,241,420
2024	$ 1,002,975	$ 730,145	$ 414,289	$ 146,693	$ 2,294,102
2025	$ 1,017,017	$ 752,792	$ 427,139	$ 151,243	$ 2,348,191
2026	$ 1,031,255	$ 776,125	$ 440,379	$ 155,931	$ 2,403,690
2027	$ 1,045,693	$ 800,202	$ 454,040	$ 160,768	$ 2,460,703
2028	$ 1,060,333	$ 825,023	$ 468,124	$ 165,755	$ 2,519,235
2029	$ 1,075,178	$ 850,587	$ 482,629	$ 170,891	$ 2,579,285
2030	$ 1,090,230	$ 876,951	$ 497,588	$ 176,188	$ 2,640,957
2031	$ 1,105,493	$ 904,117	$ 513,002	$ 181,645	$ 2,704,257
2032	$ 1,120,970	$ 932,140	$ 528,903	$ 187,276	$ 2,769,289
2033	$ 1,136,664	$ 961,021	$ 545,290	$ 193,078	$ 2,836,053
2034	$ 1,152,577	$ 990,817	$ 562,196	$ 199,064	$ 2,904,654
2035	$ 1,168,713	$ 1,021,528	$ 579,622	$ 205,234	$ 2,975,097
2036	$ 1,185,075	$ 1,053,211	$ 597,599	$ 211,600	$ 3,047,485
2037	$ 1,201,666	$ 1,085,867	$ 616,128	$ 218,161	$ 3,121,822
2038	$ 1,218,489	$ 1,119,551	$ 635,241	$ 224,928	$ 3,198,209
2039	$ 1,235,548	$ 1,154,266	$ 654,938	$ 231,903	$ 3,276,655
2040	$ 1,252,846	$ 1,190,067	$ 675,252	$ 239,095	$ 3,357,260

Source: Calculated by ECONorthwest based on the following sources:
ODOT Long-Range Revenue Tables 2013 v3.
City of Albany, Budget FY 2015-16.
Historical budget information provided by Chris Bailey, City of Albany, November 17, 2015.

Exhibit 6 shows the same information as Exhibit 5, but adjusted for inflation and presented in constant 2016 dollars. This shows federal funds slowly decreasing over time, while other funding sources remain constant.

Exhibit 6. Projected annual revenues for transit, Albany Transit Service, FYE 2016 to FYE 2040 (Constant 2016 $)

FYE	Federal Funds	Albany General Fund	Operating Revenues	Other	Total
2016	$ 897,400	$ 571,900	$ 324,500	$ 114,900	$ 1,908,700
2017	$ 882,603	$ 571,900	$ 324,500	$ 114,900	$ 1,893,903
2018	$ 868,018	$ 571,900	$ 324,500	$ 114,900	$ 1,879,318
2019	$ 853,669	$ 571,900	$ 324,500	$ 114,900	$ 1,864,969
2020	$ 839,575	$ 571,900	$ 324,500	$ 114,900	$ 1,850,875
2021	$ 825,753	$ 571,900	$ 324,500	$ 114,900	$ 1,837,053
2022	$ 812,147	$ 571,900	$ 324,500	$ 114,900	$ 1,823,447
2023	$ 798,778	$ 571,900	$ 324,500	$ 114,900	$ 1,810,078
2024	$ 785,600	$ 571,900	$ 324,500	$ 114,900	$ 1,796,900
2025	$ 772,633	$ 571,900	$ 324,500	$ 114,900	$ 1,783,933
2026	$ 759,896	$ 571,900	$ 324,500	$ 114,900	$ 1,771,196
2027	$ 747,351	$ 571,900	$ 324,500	$ 114,900	$ 1,758,651
2028	$ 735,015	$ 571,900	$ 324,500	$ 114,900	$ 1,746,315
2029	$ 722,906	$ 571,900	$ 324,500	$ 114,900	$ 1,734,206
2030	$ 710,989	$ 571,900	$ 324,500	$ 114,900	$ 1,722,289
2031	$ 699,281	$ 571,900	$ 324,500	$ 114,900	$ 1,710,581
2032	$ 687,754	$ 571,900	$ 324,500	$ 114,900	$ 1,699,054
2033	$ 676,425	$ 571,900	$ 324,500	$ 114,900	$ 1,687,725
2034	$ 665,268	$ 571,900	$ 324,500	$ 114,900	$ 1,676,568
2035	$ 654,301	$ 571,900	$ 324,500	$ 114,900	$ 1,665,601
2036	$ 643,503	$ 571,900	$ 324,500	$ 114,900	$ 1,654,803
2037	$ 632,889	$ 571,900	$ 324,500	$ 114,900	$ 1,644,189
2038	$ 622,440	$ 571,900	$ 324,500	$ 114,900	$ 1,633,740
2039	$ 612,173	$ 571,900	$ 324,500	$ 114,900	$ 1,623,473
2040	$ 602,069	$ 571,900	$ 324,500	$ 114,900	$ 1,613,369

Source: Calculated by ECONorthwest based on the following sources:
ODOT Long-Range Revenue Tables 2013 v3.
City of Albany, Budget FY 2015-16.
Historical budget information provided by Chris Bailey, City of Albany, November 17, 2015.

Note that the revenues projected in Exhibit 5 and Exhibit 6 do not include speculative future funding for capital projects. The nature of capital funding for transit depends on discretionary or competitive grants from the federal government, with a smaller amount of matching local funds. These funds are unpredictable and depend on the specific types and costs of planned future capital improvements. Conversations with ATS and ODOT staff indicate that $XXXXX to $YYYYY is a reasonable range of funding for future capital projects to assume over the planning period, in constant 2016 dollars. This would equate to $XXXX to $YYYYY in year-of-expenditure dollars.

> Need an additional conversation with Albany Transit Service staff and/or ODOT staff to decide if we want to make an estimate of potential future funding for capital projects in the area, or if this is too speculative and not worth quantifying.

These revenue forecasts are for planning purposes. Any forecast that extends 25 years into the future is inherently uncertain. This uncertainty is amplified in the case of ATS, by the recent designation as an urbanized area, changing the region's eligibility for different federal funding programs. Additionally, our forecast of future federal funding for transit is provided by ODOT,

but that underlying ODOT forecast was last updated in 2013, when Albany was still receiving FTA Section 5311 funds, rather than the 5307 funds for urbanized areas.

Further complicating the forecast is the political system by which federal transit funding decisions are made. The FTA relies on Congress to pass periodic transportation funding packages which can change, eliminate, or restructure federal transportation funding programs. For example, from 2005 to 2012, federal transportation funding was determined by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), and various temporary extensions to that act. In 2012, SAFETEA-LU was replaced by Moving Ahead for Progress in the 21st Century (MAP-21). In December 2015, MAP-21 was replaced by the Fixing America's Surface Transportation (FAST) Act, which authorizes transportation expenditures for five years, through September 30, 2020.

With the passage of each of those acts, assumptions for local transportation funding change. In many cases, these changes are minor, but on some occasions they can be substantial. The effects of the FAST Act have yet be reflected in allocations of federal funds to the State and local levels. Initial input from ODOT on the FAST Act indicates that it is unlikely to have a substantial impact on transit funding for the Albany region. However, in 2020 and beyond, Congress will need to pass new transportation appropriations bills, which adds uncertainty to revenue projections beyond the 2020 horizon.

4 Conclusions

Our evaluation of transit funding for the Albany Area MPO yields the following conclusions:

- **Recent historical revenue growth is not indicative of a long-term trend**. From FYE 2013 to FYE 2014, annual revenues increased from $1.37 million to $2.28 million, an increase of 66%. This increase in revenue was due primarily to an increase in federal funding, which includes the City of Albany's transition from FTA 5311 to 5307 funding eligibility as a newly-recognized urban area, as well as additional one-time federal funding in FYE 2015 for capital projects. The City's adopted budget for FYE 2016 anticipates a decrease in annual funding, from $2.28 million to $1.91 million.
- **Long-term revenue projections do not keep pace with inflation**. Beyond FYE 2016, federal funding is anticipated to increase at a rate of 1.4% per year, as forecast by ODOT. This growth is less than the 3.1% inflation predicted by ODOT. For other funding sources, such as operating revenues and City general fund contributions, recent historical trends suggest that these sources may be able to keep pace with inflation, but experience no growth over time in real terms, after adjusting for inflation and presenting in constant 2016 dollars. We forecast total revenues for ATS to increase at an average annual rate of 2.38% (nominal, year-of-expenditure dollars), which equates to an average annual decrease of 0.70%, when adjusted for inflation and presented in constant 2016 dollars.
- **Funding for capital projects is uncertain and opportunistic**. The long-term annual revenue projections included in this memorandum do not include speculative future funding for capital projects. . The nature of capital funding for transit depends on discretionary or competitive grants from the federal government, with a smaller amount of matching local funds. These funds are unpredictable and depend on the specific types and costs of planned future capital improvements.
- **There is inherent uncertainty in long-term transit funding forecasts**. These revenue forecasts are for planning purposes. Any forecast that extends 25 years into the future is inherently uncertain. This uncertainty is amplified in the case of ATS, by the recent designation as an urbanized area, changing the region's eligibility for different federal funding programs. Further complicating the forecast is the political system by which federal transit funding decisions are made. The FTA relies on Congress to pass periodic transportation funding packages which can change, eliminate, or restructure federal transportation funding programs.

Transit Related Goals & Objectives

Goal	Transit Service Objectives
1. Provide for a balanced and multi-modal regional transportation system that meets existing needs and prepares for future needs.	• Increase walking, bicycling and transit mode shares • Increase transit frequency and reliability • Reduce Vehicle Miles Traveled (VMT) per capita
2. Enhance regional and intermodal connectivity for movement of all modes within the MPO as well as between the MPO and other areas.	• Increase the percentage of the population within a maximum travel time between work and home • Improve transit frequency and coverage in high employment and dense residential areas • Reduce out-of-direction travel • *Improve regional connectivity*
6. Demonstrate responsible stewardship of funds and resources.	• Increase total transportation revenue
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.	• Increase population and employment density
8. Provide for a transportation system with positive personal health impacts.	• Improve health and wellness of the general population by increasing active transportation choices and access to care facilities
9. Provide for a diversified transportation system that ensures mobility for all.	• Distribute transportation system user benefits evenly across all population groups • Distribute health benefits of active transportation across all population groups

Potential Route Design Evaluation Criteria

Transit Design Guideline	Evaluation Criteria Measures	Objectives								
		Increase transit mode share	Increase frequency	Increase reliability	Reduce travel time	Increase availability	Increase access to healthcare	Equitable distribution of service	Efficient use of funds	*Improve Regional Connections*
• Simplicity	• Qualitative assessment of system design (H/M/L)	X		X	X				X	
• Directness • Minimal Deviations • Arterial focus • Symmetry	• Directness ratio based on auto travel time for key O-D pairs	X		X	X				X	
	• Percent of travel time off of most direct routing by route									
	• Percent of major collectors and above (by miles) that have regular transit service									
• Coverage (not a productivity-based guideline)	• Number or percent of jobs within ¼ mile of regularly served transit stop	X				X	X	X		
	• Number or percent of households within ¼ mile of stop									
	• Number of below-poverty level households within ¼ of stop									
	• Number of CAR pickups within ¼ of stop									
	• Number of senior or disabled residential facilities, or workforce training centers within ¼ of stop									
• Coordinated	• Qualitative assessment of competing routes and ease of transfers									X
• Consistent scheduling	• Qualitative assessment of schedule understandability	X								X
• Optimal use of resources	• Ratio of in-service/revenue hours to vehicle hours								X	
• Level of service	• Percent of routes meeting frequency of service goals • Percent of routes meeting span of service goals	X	X							X

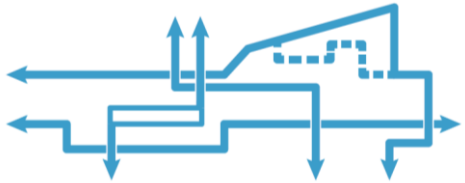
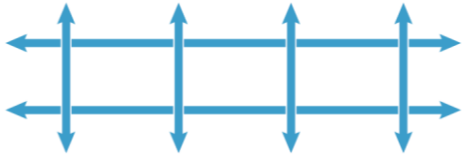
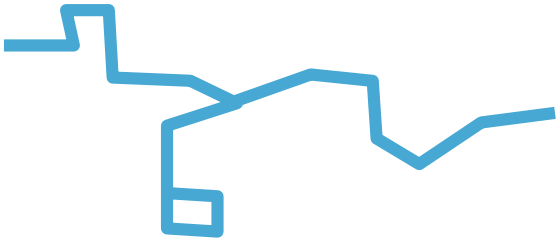
NOTES:

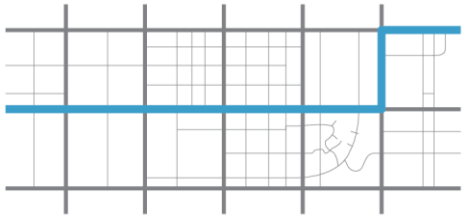
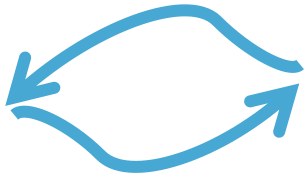
- Increase Mode Share is a proxy for Reduce VMT
- Reduce Travel Time is a proxy for Reduce Out-of-Direction Travel
- Increase Availability is a proxy for service to population and employment densities, increase active transportation options to general population

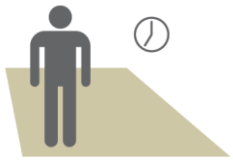
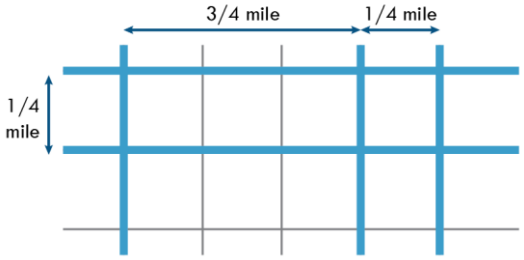
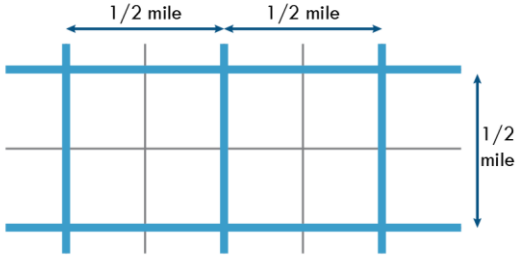
Sample Service Design Principles

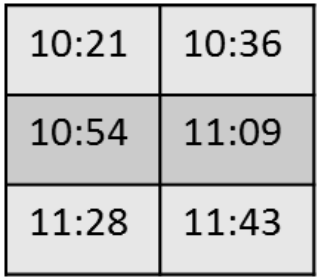
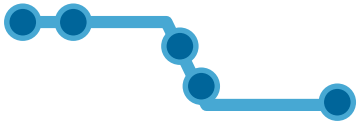
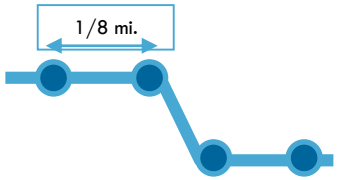
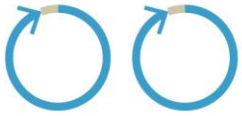
Service design principles can be either quantitative or qualitative. Their value is to provide an approach to structuring and evaluating services, especially productivity or ridership based services. In many cases, transit agencies find that over the years, land use decisions such as building a hospital or mall far from the center of town, or various requests from riders, cause a direct and simple route to become long and circuitous. When services underperform and a particular route warrants closer inspection, comparing the route design against these principles often helps pinpoint the reason why performance is suffering. These principles are summarized in Figure 1.

Figure 1 Service Design Principles

Principle	Benefit	Discouraged	Recommended
Service should be simple	Passengers can quickly and easily understand the service, where it goes, and the travel time.	 Complex	 Simple and intuitive
Routes operate along a direct path	Routes are easier to understand and navigate when they follow a direct line.	 Circuitous, complicated	 Direct, easy to understand
Minimize route deviations	Fewer directional changes make the route easy to understand and remember. It also reduces overall travel time.	 Out of direction travel, with longer travel time	 Direct route, shorter travel time

Principle	Benefit	Discouraged	Recommended
Operate major routes on arterials	Passengers have a good knowledge of major roads and use them for reference.	 Travels slowly on local streets	 Travels on main roads with many destinations
Routes should be symmetrical	A route that operates on the same street in both directions makes it easy for riders to return to their starting point.	 One-way service	 Two-way service
Routes should serve well-defined markets	Routes need major destinations to anchor them and attract riders.	 Serves areas with little demand	 Serves major destinations

Principle	Benefit	Discouraged	Recommended
Service should be well-coordinated	Coordination between different services minimizes redundancy, balances passenger loads, and ensures short transfers.	 Lack of coordination	 Service operates as a system
Routes should be spaced apart from each other.	Consistent route spacing minimizes redundancy (parallel routes operating too close) and increases access to service (maximizes number of routes within ¼ mile walk).	 Irregular spacing	 Consistent spacing

Principle	Benefit	Discouraged	Recommended
Service should be consistent	People can easily remember repeating patterns. Consistent schedules allow passengers to know when to catch a bus, without needing to remember the times for each trip.	 Irregular schedule	 Consistent schedule
Space stops appropriately	Stop spacing needs to balance the needs of convenient access and reducing travel times. Stop spacing should be consistent and support the type of service being offered.	 Inconsistent stop spacing	 Consistent stop spacing
Service design should maximize service	Cycle time[1] and frequency must be matched to make the most efficient use of revenue hours.	 Inefficient use of time	 Route maximizes service

Principle	Benefit	Discouraged	Recommended
Match vehicle type to service type	Size vehicles according to ridership. Smaller vehicles may be better suited to operate on local streets.	 Vehicles not matched to service	 Vehicles matched to service

Notes: [1] Cycle time is the amount of time required for a bus to complete a full round trip on a route, including layover and recovery time, and be able to start another round trip