Transit Tomorrow

Scenarios Report

Lane Transit District

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January 2019

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Transit Tomorrow

Lane Transit District (LTD) has launched Transit Tomorrow, an effort to understand how LTD's services should be distributed in its service area.

LTD operates a variety of public transportation services throughout central Lane County. But people are most likely to experience LTD as the bus system in Eugene and Springfield. Over 90% of LTD's ridership comes from the regularly scheduled bus routes (including EmX and Routes 1 through 85) that operate in the Eugene-Springfield metro area.

Transit Tomorrow is focusing first on how these metro area bus routes might change in the next three years. Upcoming work will address how changes in bus service may impact LTD's other services, such as the demand response services provided by Ridesource.

Key Trade-offs

This report describes and evaluates four possible ways that LTD service could change, based on two major trade-offs:

- **Ridership vs. Coverage:** Is it more important to provide frequent service in places that will attract the most riders, or to provide a little bit of service to as many places as possible?
- **Service vs. Affordability**: Is it more important to use LTD's resources to provide as much service as possible, or to reduce the cost of getting on the bus?

Neither of these questions have technically "correct" answers. LTD will always need to balance the competing priorities they reflect. In both cases, the correct answer depends on what the community values most.

What We've Heard

Public input received to date suggests the community does not fall entirely on one side of either trade-off.

Ridership vs. Coverage

Transit Tomorrow engaged the public in summer 2018 on preferences and priorities for future LTD service, through in-person events and a public online survey. In total, LTD engaged nearly 1,000 people through this effort, with the following primary results:

- Most of the people we heard from were more interested in high frequency service than maximizing coverage. But not everyone: over one-third were more interested in coverage.
- When we asked people about their priorities for service, respondents consistently prioritized frequency improvements – especially weekend and evening frequency – above other possibilities, including service to more places.
- Then again, most respondents preferred that LTD make minor adjustments rather than a network redesign. This argues against designing a network only for higher ridership and higher frequencies, as that would require significant change.

Service vs. Affordability

Separately, LTD convened an ad hoc Fare Policy Committee with representatives from community stakeholders. This committee was convened in response to repeated requests from the public to expand fare discount programs targeted at youth and low-income populations.

At this time, the Board of Directors has directed LTD to pursue the Fare Policy Committee's recommendations, including a new student fare subsidy program for schoolchildren and an expansion of LTD's low-income subsidy program.

This is significant because investing resources in fare discounts or subsidies means those same resources will not be available for service. Yet many people have expressed a desire for higher frequencies and longer hours, suggesting parts of the community desire more service.

LTD will soon start receiving new funds from the Statewide Transportation Improvement Fund (STIF). Some of these will likely be used to implement the Fare Policy Committee's recommendations. With the rest, LTD can pursue both service increases and further fare reductions, but the more it does of one, the less it can do the other.

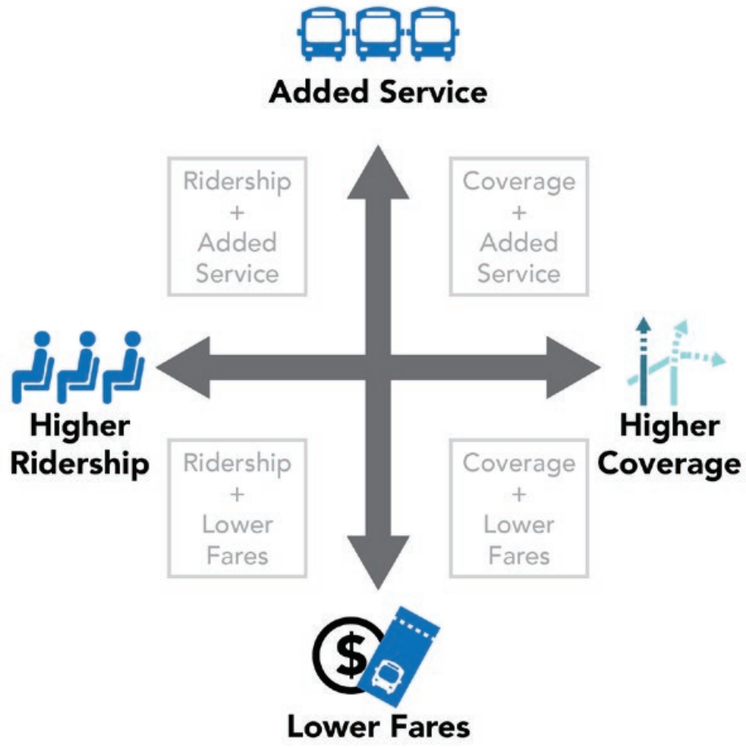


Figure 1: Trade-offs. Where should LTD focus its resources in the next three years? Is it more important to provide frequent service in a few places, or a little bit of service everywhere? Is it more important to increase service, or to make service more affordable?

Four Scenarios for Metro Area Bus Service

This report describes four scenarios for metro area bus service. Each scenario illustrates the full set of service changes that LTD could make in the next three years, if it moved strongly in one direction[1].

Scenarios were developed in two steps. First, to illustrate the trade-off between ridership and coverage, we designed two different networks:

- **High Ridership Network.** Frequent service on the metro area's main streets. Some outlying neighborhoods would be farther from service than they are right now.

OR

- **High Coverage Network.** Based on spreading service to as many places as possible, taking the existing network as a starting point. Some areas would experience lower frequencies than they do now.

We then focused on how the balance between service and affordability impacts both networks. LTD will soon start receiving STIF funds from the State of Oregon. If most of these funds were spent either on more service or lower fares, LTD could achieve one of the following[2]:

- **Added Service.** *Similar level of service, 7 days a week.* Buses would come just as frequently on Saturday and Sunday as on weekdays. Evening service would improve slightly. Fares would not change.

OR

- **Lower Fares.** *Fares reduced by up to 50%.* This would be achieved by reducing the base fare, and offering more targeted discounts (e.g. for students, low-income, seniors). Weekend and evening service would not increase.

Figure 2 provides a summary of the service that would be provided in each scenario. Figure 3 (see following page) compares the outcomes of each scenarios in terms of coverage and job access.

None of these scenarios is a proposal. But you can compare these scenarios and their outcomes to help you clarify your preferences and priorities for service changes over the next three years.

The shape of the final network will depend on what we hear from the community. It may be similar to one of these scenarios, or somewhere in between, or something closer to existing service.

1 These scenarios were developed collaboratively by staff representing LTD, the cities of Eugene and Springfield, Lane Council of Governments (LCOG), the Oregon Department of Transportation (ODOT), with help and facilitation from consultants.

2 Current estimates suggest STIF revenue will be about 10-12% of LTD's existing operating expenses. The scenarios is this report assume about 8% would be spent on service and fares, with the remainder for other priorities such as purchasing buses to help renew the vehicle fleet..

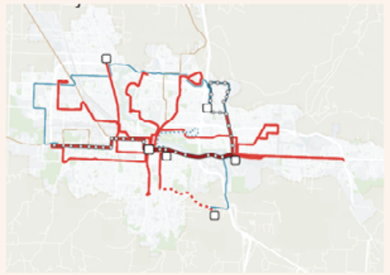
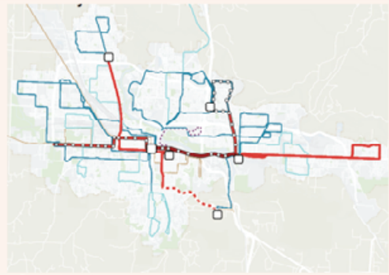
Network Concept	Ridership	Coverage
	 High frequency service on main streets. Connections enable faster travel across the metro area. Some areas lose service.	 Service in as many places as possible. Based on existing network, but more areas covered and lower frequencies in some areas.
Added Service	**Scenario 1** **Ridership + Added Service** *Most routes operate:* Every 15 mins weekdays Every 15 mins weekends Every 30 mins after 8 PM *No change in fares.*	**Scenario 3** **Coverage + Added Service** *Most routes operate:* Every 30 mins weekdays Every 30 mins weekends Every 60 mins after 7 PM *No change in fares.*
Lower Fares	**Scenario 2** **Ridership + Lower Fares** *Most routes operate:* Every 15 mins on weekdays Every 30 mins on weekends Every 30 mins after 8 PM *Fares up to 50% lower.*	**Scenario 4** **Coverage + Lower Fares** *Most routes operate:* Every 30 mins on weekdays Every 60 mins on weekends Every 60 mins after 7 PM *Fares up to 50% lower.*

Figure 2: Scenarios. These four scenarios illustrate the far ends of how much LTD's metro area network could change in the next three years. This report compares and contrasts the outcomes of each scenario, to give you the tools to tell LTD where you think it should stand on each of the two trade-offs. Some people may feel that one of these scenarios is the way to go, while others will prefer something in between, or something closer to existing service.

Summary of Outcomes by Scenario

Scenario	Weekdays				Weekends			
	Residents near any service (1/4-mile)	*Residents near frequent service (1/2-mile)**	*Avg. jobs w/in 45 minutes (door-to-door)*	*% change in jobs within 45 minutes*	*Residents near any service (1/4-mile)*	*Residents near frequent service (1/2-mile)**	*Avg. jobs w/in 45 minutes (door-to-door)*	*% change in jobs within 45 minutes*
Existing Service	**67%** *162,000*	**22%** *54,000*	25,300	N/A	**57%** 138,000	**27%** *65,000*	18,800	N/A
Scenario 1: **Ridership + Added Service**	**50%** *120,000*	**60%** *145,000*	28,900	**+ 14%**	**44%** *107,000*	**59%** *143,000*	27,500	**+ 46%**
Scenario 2: **Ridership + Lower Fares**	**50%** *120,000*	**60%** *145,000*	28,900	**+ 14%**	**44%** *107,000*	**17%** *42,000*	20,600	**+ 10%**
Scenario 3: **Coverage + Added Service**	**70%** *170,000*	**38%** *92,000*	25,100	**- 1%**	**67%** *163,000*	**37%** *89,000*	24,700	**+ 31%**
Scenario 4: **Coverage + Lower Fares**	**70%** *170,000*	**38%** *92,000*	25,100	**- 1%**	**57%** *139,000*	**17%** *42,000*	17,700	**- 6%**

**** Frequent service means a route where a bus comes every 15 minutes or better, from at least 6 AM to 7 PM on weekdays, 8 AM to 7 PM on Saturdays, and 10 AM to 7 PM on Sundays. EmX lines would remain frequent until 10 PM.***

Figure 3: Scenario Outcomes. This table illustrates the big picture of how transit service would change under each scenario. In the Ridership scenarios, many areas would be located farther from transit service, but almost all routes would be frequent, so travel times would improve, and job access would improve from almost everywhere. In the Coverage scenarios, some new areas would gain service, and a few routes would become more frequent, but travel times would not improve as much, and on average job access would not improve. On weekends, existing service is much more limited than on weekdays. The Added Service scenarios would increase weekend service, so weekend job access would improve significantly. The Lower Fares scenarios would maintain current levels of weekend service (on average), so they would have much less impact on weekend job access. Which outcomes are more valuable to you?

What This Report Covers

What's Included

Chapters 1 through 4 describe each scenario with the following information:

- **Detailed weekday network map.** Use this to find the places you care about, and notice which routes would go there on the Ridership and Coverage networks. Note the colors of the routes, which represent their weekday frequencies. Note where else those routes go.
- **Weekday, evening and weekend mini-maps.** These smaller maps illustrate how frequencies would vary from one time period to another. In the existing network, LTD provides a lot more service during weekdays than on weekday evenings or on weekends.
- **Frequency and span table**. This shows the detailed frequencies and spans of every route in each scenario. This is where you can see if the specific route(s) you care about would run at the times you want them to, and at what frequencies.
  - » Remember, **do not simply look for your route number** – start by looking at the maps to find routes near you, and then reference these tables.

In Chapter 5, we compare the outcomes that would result if any of the four scenarios were implemented, in the following terms:

- **Coverage.** Under each scenario, how many people and jobs would be located near transit service?
- **Job Access.** Under each scenario, how many jobs could you typically access in 45 minutes from anywhere in the metro area?
- **Travel Time Maps.** From selected locations, where could you get to in 45 minutes?

Future Considerations

This report specifically focuses on EmX and regular bus routes in the Eugene-Springfield metro area. Because these routes account for 90% of LTD's ridership, they constitute LTD's greatest overall impact on mobility.

Knowing the future shape of the metro area bus network will help LTD refine improvements to major corridors in Eugene and Springfield under the MovingAhead and Main/McVay projects.

However, LTD's services and LTD's interest in mobility does not end there. Achieving clarity on the orientation of the metro area bus network will make it possible to examine changes or improvements to:

- **Rural bus routes** that connect Coburg, Junction City, Veneta, Creswell, Cottage Grove, Lowell and the McKenzie River Highway to Eugene and Springfield.
- **Out-of-district services** managed and/or supported by LTD in other parts of Lane County. This includes the Diamond Express connecting Oakridge to Eugene, the Rhody Express in Florence, and South Lane Wheels in Cottage Grove.
- **Demand-responsive services**, including ADA Paratransit, non-emergency medical and human services transportation provided by LTD through the Ridesource program.

Having thoroughly reviewed the purpose and goals of its public transportation services, LTD will then be in a better place to evaluate how **other modes** (walking, cycling, driving) and **new mobility services** (like ridehailing, bike-sharing, dockless scooters, or others) can best interact with public transit.

Next Steps

Transit Tomorrow combines technical analysis and broad-based community input to develop a public transit network for the future. The next steps in the process are the following:

- **January - February 2019: Public Input on Scenarios.** LTD is asking the public for feedback on the scenarios presented in this report, and the trade-offs they reflect. LTD will be presenting key information online and at community events, and seeking public feedback through a variety of channels, including:
  - » Meeting the public at community events.
  - » Online survey seeking public feedback: http://openhouse.jla.us.com/transit-tomorrow-2
  - » Project web page: www.ltd.org/transit-tomorrow
  - » Project e-mail address: transit-tomorrow@ltd.org
- **March 2019: Board Decision on Trade-offs.** Taking into account public feedback, the LTD Board of Directors will make a policy-level decision on the preferred orientation of the future transit network.
- **Late Spring 2019: Draft Plan.** The staff and consultant team will design a network proposal. Depending on the Board's direction, the future network could be similar to what exists today, or it could be very different. This plan will be presented to the Board of Directors in late spring.
- **Late 2019: Final Plan.** The LTD Board of Directors and project staff will take the steps necessary to turn the Draft Plan into a Final Plan. This may include further public consultation as appropriate.
- **2020 - 2021: Service Changes**. LTD will make regular seasonal adjustments to service throughout this process. If the proposed future network looks very different from existing service, significant service changes may begin taking effect in Fall 2020.

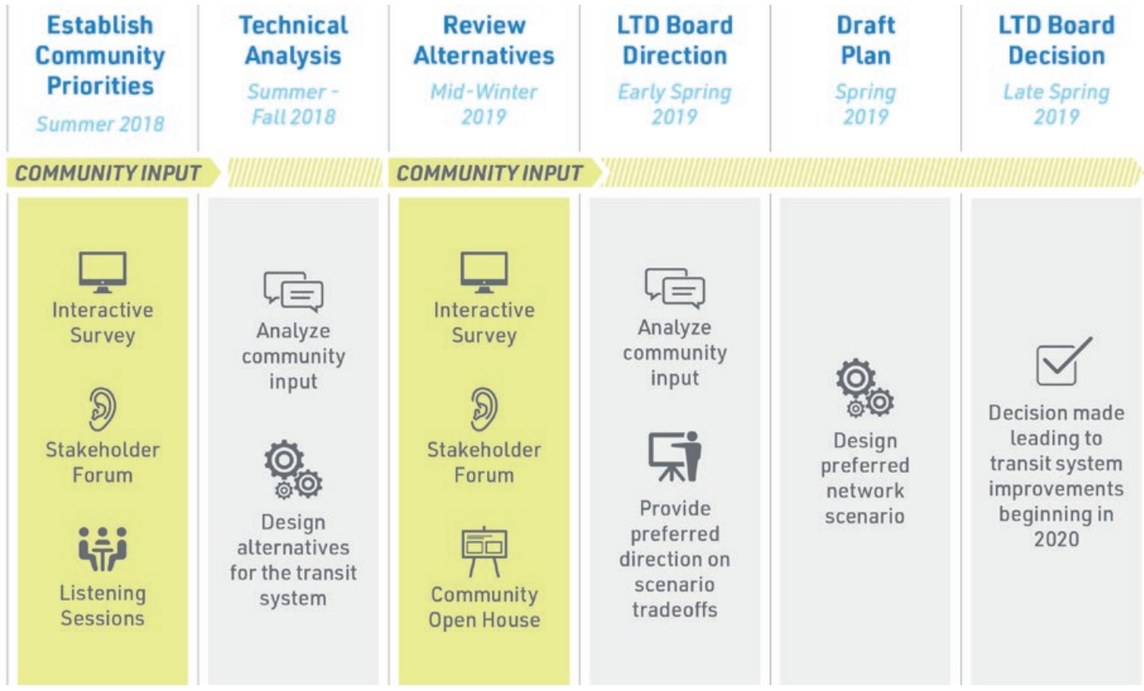


Figure 4: Scenarios. Project and community input timeline. LTD is seeking public feedback in two phases. The first phase occurred in the summer of 2018, and focused on the public's values and priorities. In January and February 2019, LTD will be consulting the public on the real-world transit network trade-offs as reflected in this Scenarios Report. Public feedback on alternatives will be critical in shaping Board Direction for the Draft Plan. Ultimately, this process may lead to significant service changes in 2020.

1 Scenario 1: Ridership + Added Service

Ridership + Added Service	Coverage + Added Service
Ridership + Lower Fares	Coverage + Lower Fares

Ridership + Added Service: Weekday Network Map

The High Ridership network is very different from the existing network:

- Service is concentrated into fewer routes targeted at main streets, major employment, hospitals, shopping malls and high schools. These fewer routes can be more frequent, so that a bus is more likely to be coming when someone needs it.
- Some areas would be a longer walk from service, or too far to walk at all for some people. For example, no bus service would be provided north of Irving Rd in north Eugene, or south of 33rd Ave in south Eugene, or east of Thurston Station in Springfield.
- Some places that are very close to an infrequent route today would still be within walking distance to a more frequent route. Because of the shorter waits, this usually provides a faster travel time.

The High Ridership network would include the following services:

- EmX would be organized as two routes coming every 15 minutes on weekdays: West Eugene to Springfield Station, and Gateway to Eugene Station. The combined service would operate every 7.5 minutes between Eugene Station and Springfield Station.
- Seven frequent routes would operate every 15 minutes or better on weekdays (compared to service every 20 to 30 minutes on existing routes). Routes 1, 2, 3, 4, 5 would connect at Eugene Station. Routes 1, 11 and 18 would connect at Springfield Station. Frequent connections would allow for faster travel across the metro area.
- Cross-town Route 80 would connect denser areas in north and west Eugene to neighborhood centers and shopping destinations every 30 minutes, without travelling through Downtown Eugene.
- Route 79x would continue to provide some direct trips from Kinsrow Commons to UO, but some 79x trips would be replaced by higher frequency service on Route 1. Route 85 would continue to connect Springfield Station to LCC every 30 minutes.

To explore this network and its relevance to your life, or the lives of people you care about:

1. Find a place you care about on the map, using the labeled streets.
2. Note which routes are nearby, by number and by color.
3. Look at the legend (top right), to see each route's weekday frequency.
4. Follow the lines to see where else those routes would go.
5. See pages 11 and 12 for when and how often those routes would run.

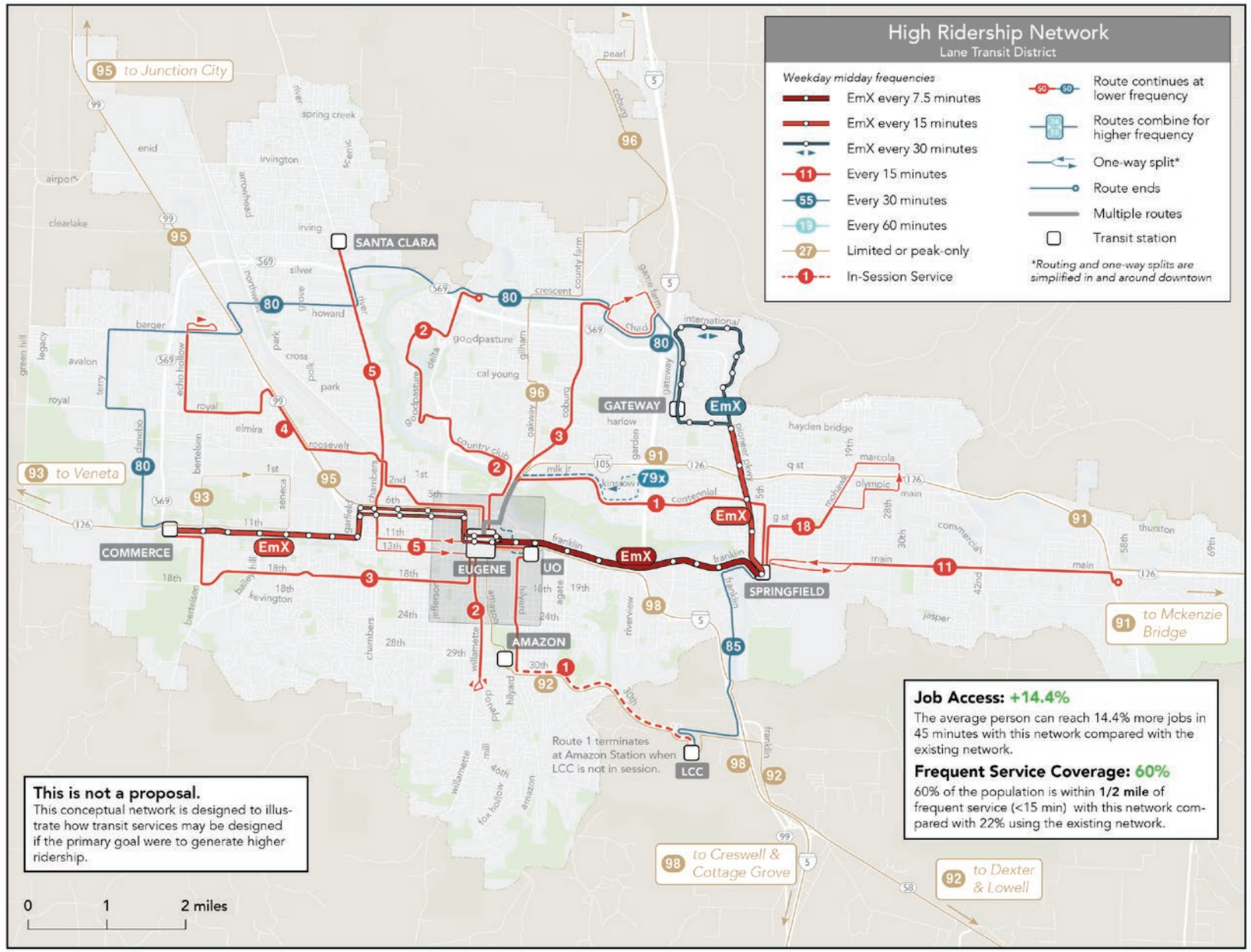


Figure 5: High Ridership Network. This map shows the routes that would operate if LTD implemented the Ridership + Added Service scenario.

Note: the Ridership + Added Service and Ridership + Lower Fares scenarios are both based on the High Ridership network. This network description is identical to the one on page 14.

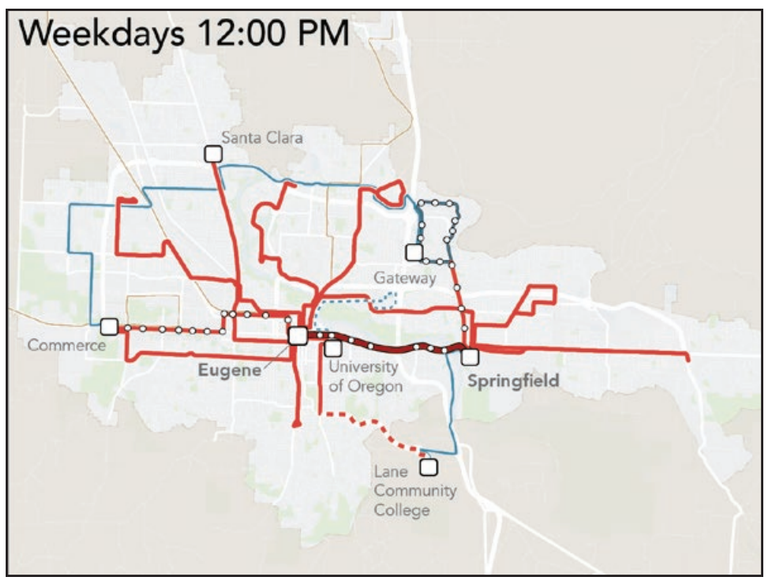
Ridership + Added Service: Weekday, Evening and Weekend Mini-Maps

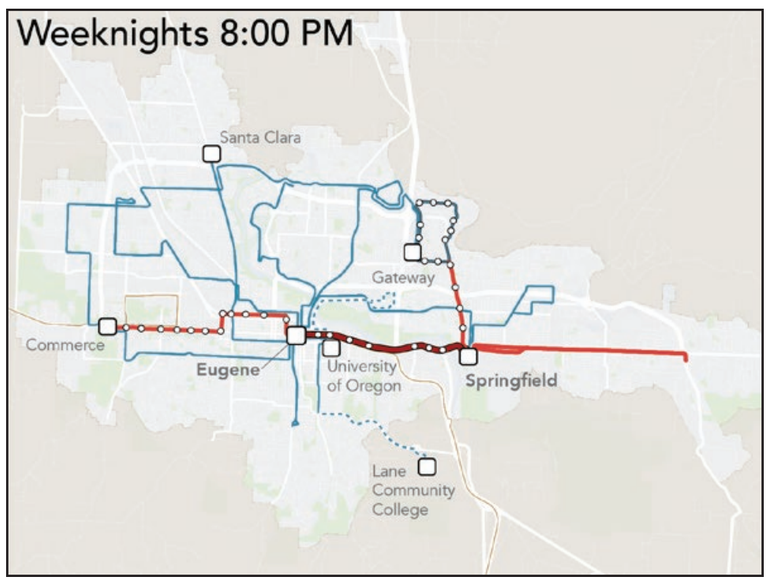
The three maps at bottom show how much service would be provided at different times of the day and week. The general pattern of service by day and time would be as follows:

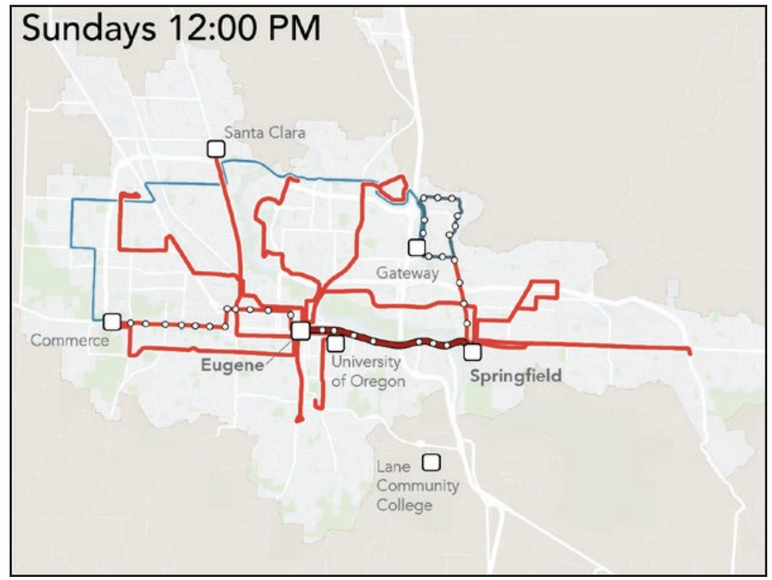
- **Left: Weekdays (Noon).** Because this scenario is based on the High Ridership network, weekday service consists almost entirely of routes that operate every 15 minutes or better from 6 AM to 8 PM.
  - » This means the bus is always coming soon, and you don't need to know the schedule to plan your trip. Going across town, it would be relatively fast to connect from one bus to another at Eugene Station or Springfield Station, even without a timed connection.
  - » Because of the high frequencies, many trips on transit would take less time than they do now, even when they require longer walks.
- **Center: Weekday Evenings (8 PM).** In this scenario, almost all routes would switch from service every 15 minutes to service every 30 minutes at 8 PM, and service would continue until midnight.
  - » This means trips will be longer than in the daytime, fewer people will find transit convenient, and it may be preferable to plan your trip in advance and know the schedule to avoid long waits.
  - » Nevertheless, this is still twice as frequent as existing service; most existing routes switch to hourly service in the evening. More frequent evening service is useful not just for socializing and shopping, but also for service industry, hospital and other workers whose shifts may end far later than 6 PM.
- **Right: Weekends (Sundays at Noon).** In the Ridership + Added Service scenario, new STIF funds would primarily be invested in added weekend service. Frequencies would be similar on weekdays and weekends.
  - » Routes that operate every 15 minutes on weekdays would still operate every 15 minutes on Saturdays (from 8 AM to 8 PM) and Sundays (from 10 AM to 7 PM). Weekend evening service would still be mostly every 30 minutes.
  - » This would be much more frequent than existing service; most existing routes operate a mix of service every 30 minutes and hourly service on Saturdays, and hourly service only on Sundays.
  - » Schedule-free travel and shorter travel times made possible by the High Ridership network would be available seven days a week. This could especially be useful for people with high weekend travel needs, such as retail and service workers.

There would still be small variations in frequency and hours of service from one route to another and one day to another. These are shown in the **detailed frequency table on the next page (page 12).**

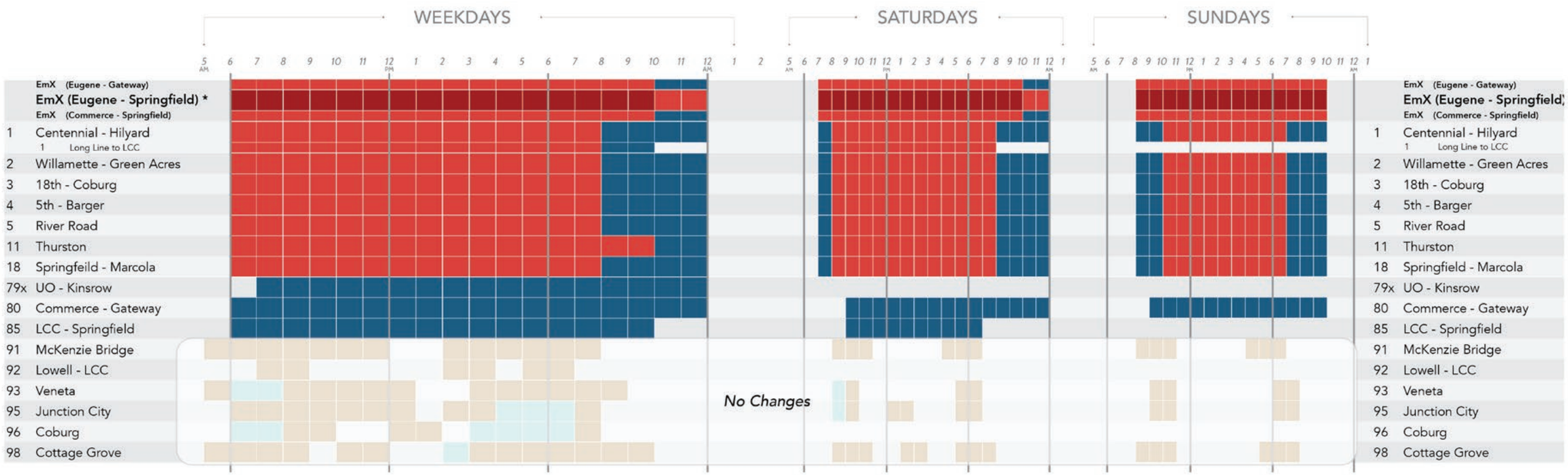
Figure 6: Mini-Maps, Ridership + Added Service Scenario. These show how frequencies would vary between weekdays, weekday evenings and weekends. Red lines indicate service every 15 minutes or better, and dark blue lines indicate service every 30 minutes. Light blue lines indicate hourly service (none in this scenario).







Ridership + Added Service: Frequencies and Hours of Service



***EmX Line A** would operate every 15 minutes from Eugene Station to Gateway Station.
EmX Line B would operate every 15 minutes from Commerce Station to Springfield Station, alternating in loop direction.
Where the two lines overlap (between Eugene Station and Springfield Station), there would be an EmX bus every 7.5 minutes.

FREQUENCY
MINUTES BETWEEN BUSES
7.5 min | 15 min | 30 min | 60 min | over 60

2 Scenario 2: Ridership + Lower Fares

Ridership + Lower Fares: Weekday Network Map

The High Ridership network is very different from the existing network:

- Service is concentrated into fewer routes targeted at main streets, major employment, hospitals, shopping malls and high schools. These fewer routes can be more frequent, so that a bus is more likely to be coming when someone needs it.
- Some areas would be a longer walk from service, or too far to walk at all for some people. For example, no bus service would be provided north of Irving Rd in north Eugene, or south of 33rd Ave in south Eugene, or east of Thurston Station in Springfield.
- Some places that are very close to an infrequent route today would still be within walking distance to a more frequent route. Because of the shorter waits, this usually provides a faster travel time.

The High Ridership network would include the following services:

- EmX would be organized as two routes coming every 15 minutes on weekdays: West Eugene to Springfield Station, and Gateway to Eugene Station. The combined service would operate every 7.5 minutes between Eugene Station and Springfield Station.
- Seven frequent routes would operate every 15 minutes or better on weekdays (compared to service every 20 to 30 minutes on existing routes). Routes 1, 2, 3, 4, 5 would connect at Eugene Station. Routes 1, 11 and 18 would connect at Springfield Station. Frequent connections would allow for faster travel across the metro area.
- Cross-town Route 80 would connect denser areas in north and west Eugene to neighborhood centers and shopping destinations every 30 minutes, without travelling through Downtown Eugene.
- Route 79x would continue to provide some direct trips from Kinsrow Commons to UO, but some 79x trips would be replaced by higher frequency service on Route 1. Route 85 would continue to connect Springfield Station to LCC every 30 minutes.

To explore this network and its relevance to your life, or the lives of people you care about:

1. Find a place you care about on the map, using the labeled streets.
2. Note which routes are nearby, by number and by color.
3. Look at the legend (top right), to see each route's weekday frequency.
4. Follow the lines to see where else those routes would go.
5. See pages 15 and 16 for when and how often those routes would run.

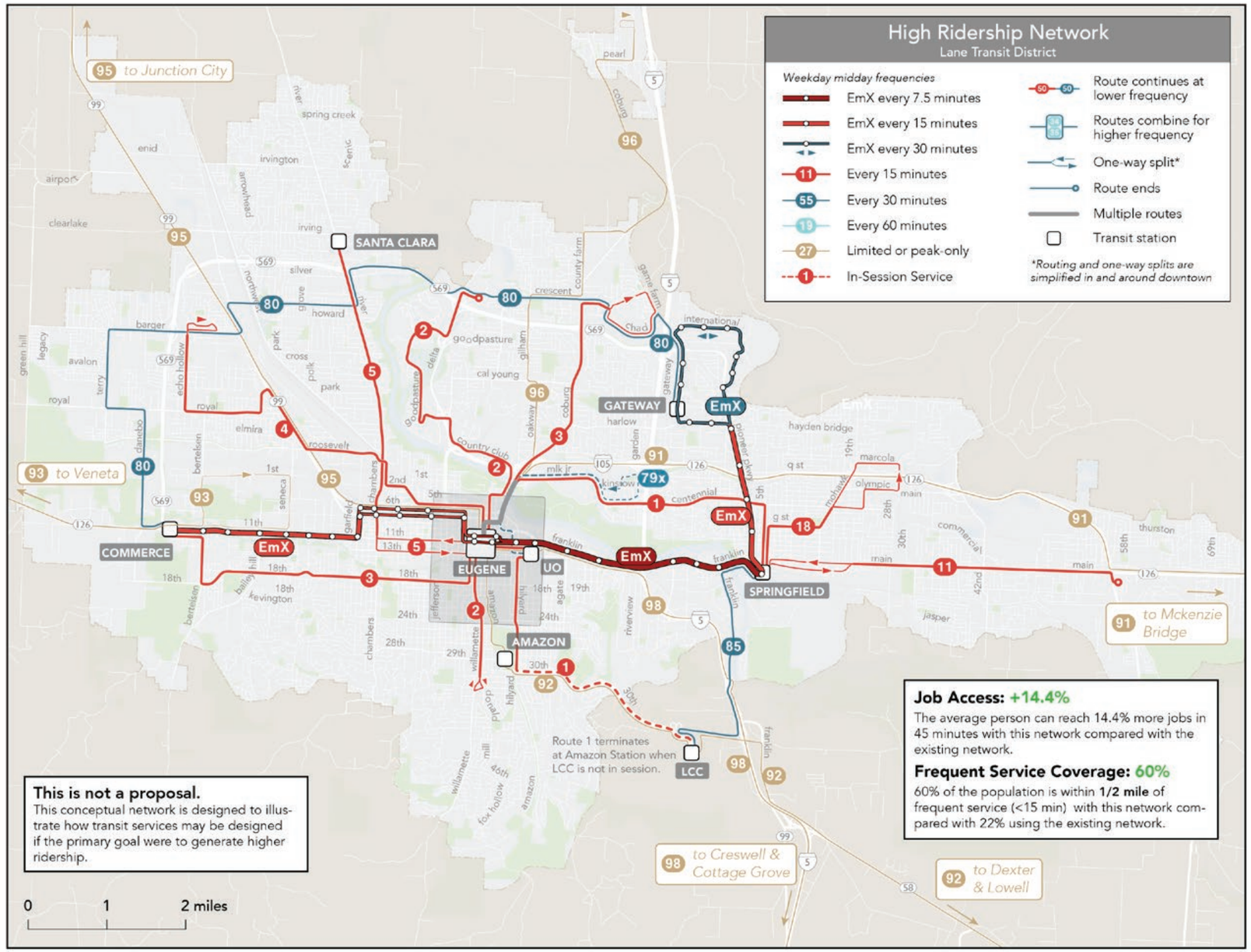


Figure 7: High Ridership Network. This map shows the routes that would operate if LTD implemented the Ridership + Lower Fares scenario.

Note: the Ridership + Added Service and Ridership + Lower Fares scenarios are both based on the High Ridership network. This network description is identical to the one on page 10.

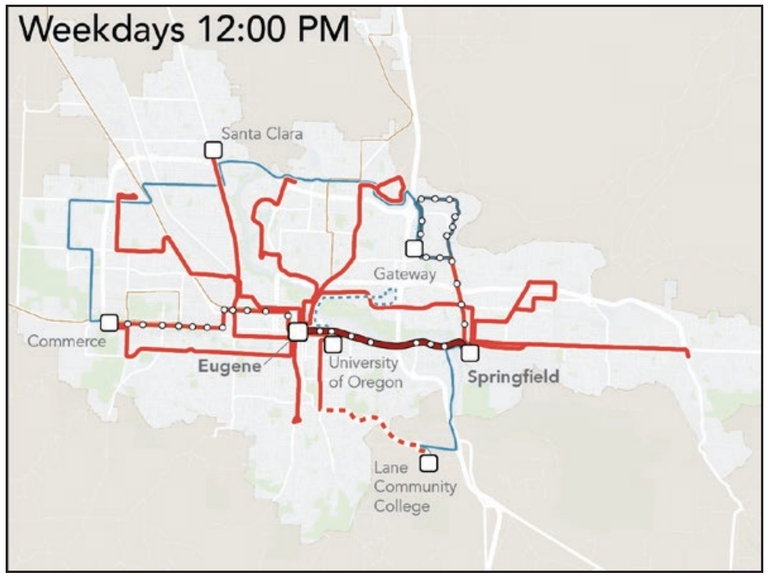
Ridership + Lower Fares: Weekday, Evening and Weekend Mini-Maps

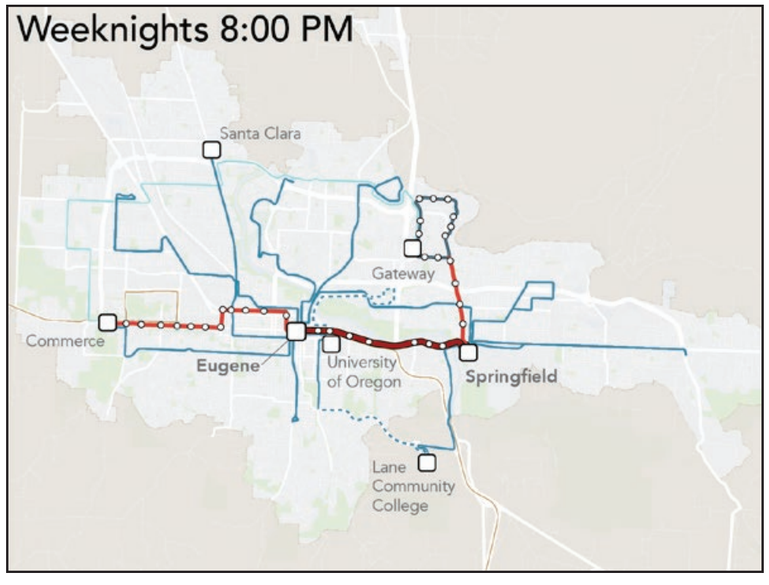
The three maps at bottom show how much service would be provided at different times of the day and week. The general pattern of service by day and time would be as follows:

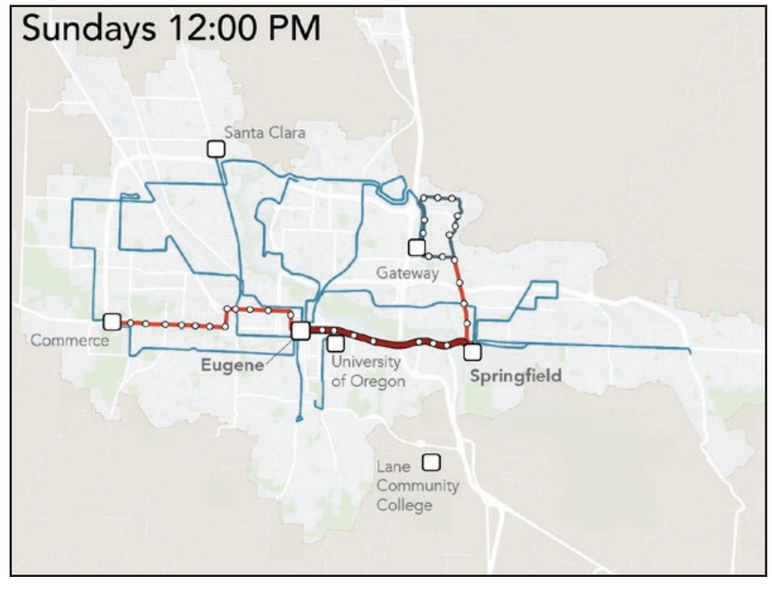
- **Left: Weekdays (Noon).** Because this scenario is based on the High Ridership network, weekday service consists almost entirely of routes that operate every 15 minutes or better from 6 AM to 8 PM.
  - » This means the bus is always coming soon, and you don't need to know the schedule to plan your trip. Going across town, it would be relatively fast to connect from one bus to another at Eugene Station or Springfield Station, even without a timed connection.
  - » Because of the high frequencies, many trips on transit would take less time than they do now, even when they require longer walks.
- **Center: Weekday Evenings (8 PM).** In this scenario, almost all routes would switch from service every 15 minutes to service every 30 minutes at 8 PM, and service would continue until midnight.
  - » This means trips will be longer than in the daytime, fewer people will find transit convenient, and it may be preferable to plan your trip in advance and know the schedule to avoid long waits.
  - » Nevertheless, this is still twice as frequent as existing service; most existing routes switch to hourly service in the evening. More frequent evening service is useful not just for socializing and shopping, but also for service industry, hospital and other workers whose shifts may end far later than 6 PM.
- **Right: Weekends (Sundays at Noon).** In the Ridership + Lower Fares scenario, new STIF funds would primarily be invested in fare discounts and reductions. As a result, fewer resources would remain to invest on weekend service. Almost all routes would operate every 30 minutes on Saturdays and Sundays.
  - » A 30 minute frequency means trips will be longer on weekends, and will require more advance planning to avoid long waits. Fewer people would find transit convenient, and fewer would ride. This might even impact weekday ridership, as some people will avoid transit if they cannot use it consistently every day.
  - » Nevertheless, this would remain more frequent than existing service; most existing routes operate a mix of service every 30 minutes and hourly service on Saturdays, and almost all existing routes operate hourly service only on Sundays.

There would still be small variations in frequency and hours of service from one route to another and one day to another. These are shown in the **detailed frequency table on the next page (page 16).**

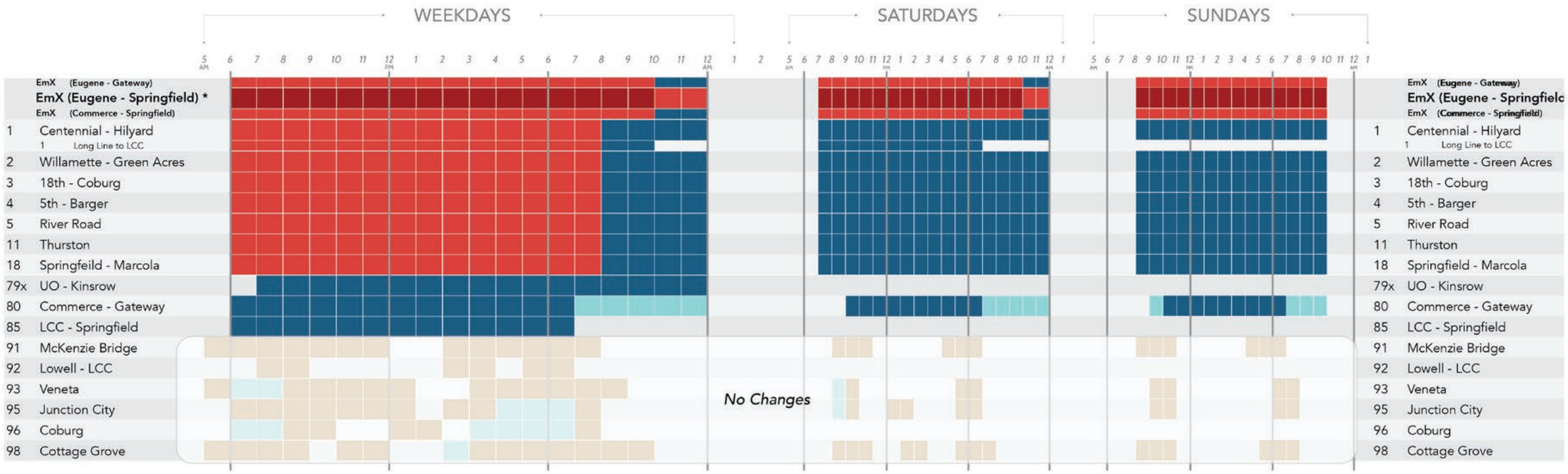
Figure 8: Mini-Maps, Ridership + Added Service Scenario. These show how frequencies would vary between weekdays, weekday evenings and weekends. Red lines indicate service every 15 minutes or better, and dark blue lines indicate service every 30 minutes. Light blue lines indicate hourly service.







Ridership + Lower Fares: Frequencies and Hours of Service



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FREQUENCY
MINUTES BETWEEN BUSES
7.5 min | 15 min | 30 min | 60 min | over 60

3 Scenario 3: Coverage + Added Service

Coverage + Added Service: Weekday Network Map

In the High Coverage network, service is spread thinner to cover more areas. New coverage has been extended to the following places:

- Route 41 (every 30 minutes) would travel deeper into the Bethel neighborhood, operating on Avalon Street and Legacy Street.
- Route 96 would operate every 60 minutes to provide an all-day service in the middle of the Cal Young neighborhood.
- A new Route 19 would connect Springfield Station every 60 minutes to neighborhoods along G Street, Commercial Ave, and Jasper Ave.
- A new Route 77 would provide service every 60 minutes between parts of west Eugene and Bethel and Seneca Station.

This is possible because frequency would be reduced in other places:

- Service in outlying residential areas of south Eugene would be reduced from every 30 minutes to every 60 minutes (Routes 34, 35, and 78 on Figure 9, compared to existing Routes 24, 28 and 78).
- Service on Coburg Road and Goodpasture Island Road would go from every 20 minutes to every 30 minutes (Routes 60, 61, and 62 on Figure 9, compared to existing Routes 66 and 67).

Other notable aspects of the High Coverage network include:

- EmX would be organized as two routes coming every 15 minutes on weekdays: West Eugene to Springfield Station, and Gateway to Eugene Station. The combined service would operate every 7.5 minutes between Eugene Station and Springfield Station.
- River Road service would be combined into new Route 50, every 15 minutes in both directions. Areas north of Hunsaker Lane would be served as a one-way loop by every other bus on Route 50.
- Service between Eugene Station and LCC would be combined into Route 82, via UO and Hilyard St instead of Amazon Parkway.

To explore this network and its relevance to your life, or the lives of people you care about:

1. Find a place you care about on the map, using the labeled streets.
2. Note which routes are nearby, by number and by color.
3. Look at the legend (top right), to see each route's weekday frequency.
4. Follow the lines to see where else those routes would go.
5. See pages 19 and 20 for when and how often those routes would run.

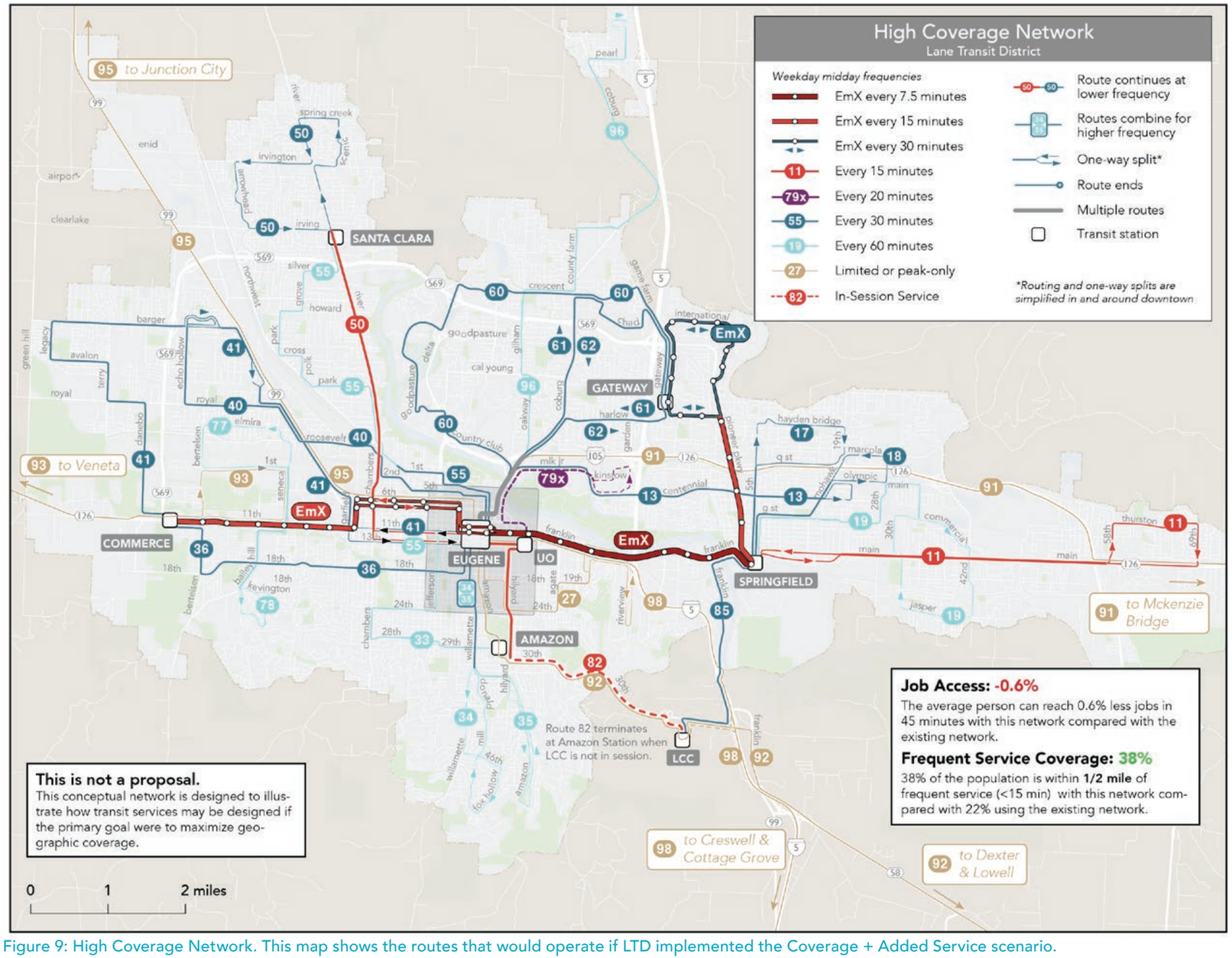


Figure 9: High Coverage Network. This map shows the routes that would operate if LTD implemented the Coverage + Added Service scenario.

Note: the Coverage + Added Service and Coverage + Lower Fares scenarios are both based on the High Coverage network. This network description is identical to the one on page 22.

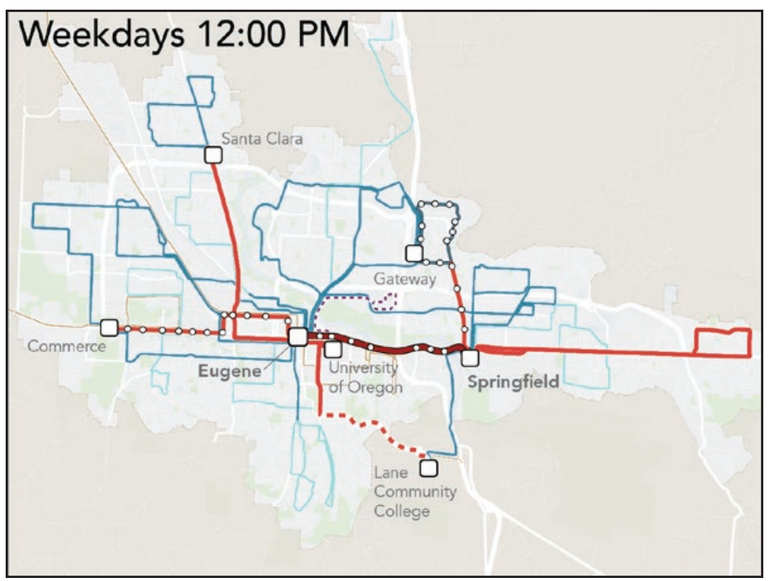
Coverage + Added Service: Weekday, Evening and Weekend Mini-Maps

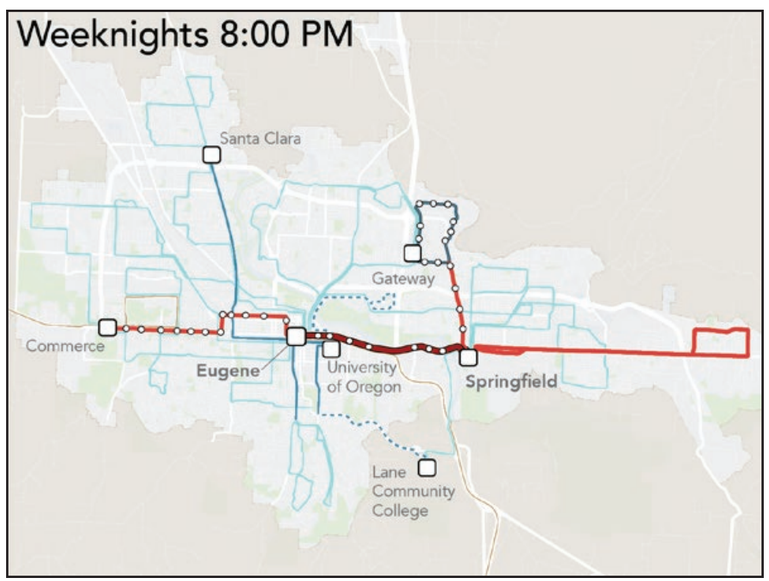
The three maps at bottom show how much service would be provided at different times of the day and week. The text below describes the general pattern of service by day and time on most routes.

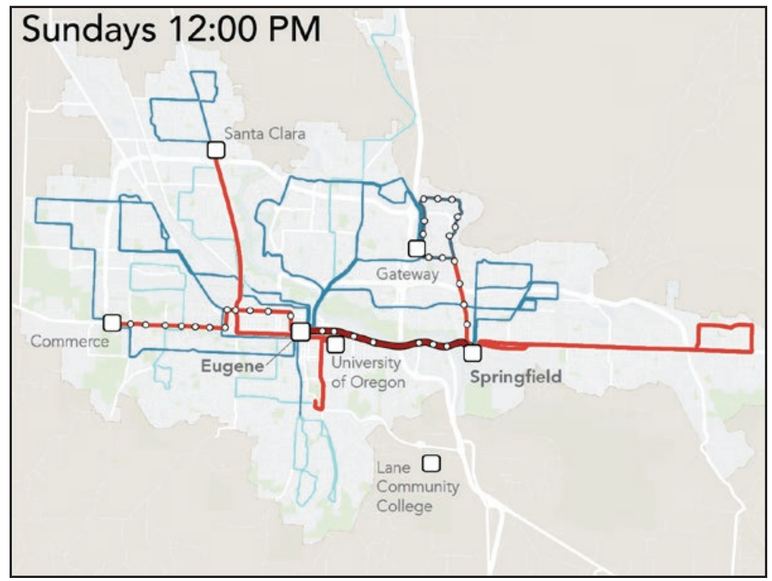
- **Left: Weekdays (Noon).** Because this scenario is based on the High Coverage network, a few routes would operate every 15 minutes or better from 6 AM to 7 PM, while most routes would operate every 30 or 60 minutes.
  - » These frequencies are mostly comparable to existing service, or lower in some areas.
  - » Travel times on transit would not improve, compared to existing service. Some trips would take longer. Many trips would continue to require advance planning and knowing the schedule to avoid long waits.
- **Center: Weekday Evenings (8 PM).** In this scenario, most routes would switch to hourly service from 7 PM until midnight.
  - » Hourly service is much less convenient than service every 15 to 30 minutes. Almost all transit trips would require advance planning, and even then many would still experience long waits. Almost anyone with the option not to take transit would drive, carpool, cycle or walk, as they do now.
  - » In some cases, the expanded coverage might make it possible to walk a shorter distance in the dark.
- **Right: Weekends (Sundays at Noon).** In the Coverage + Added Service scenario, new STIF funds would primarily be invested in added weekend service. Frequencies would be similar on weekdays and weekends.
  - » Routes that would operate every 15 to 30 minutes on weekdays would operate every 15 to 30 minutes on Saturdays (from 9 AM to 7 PM) and Sundays (from 10 AM to 7 PM). Weekend evening service would still be mostly hourly.
  - » This would be slightly more frequent than existing service on Saturdays, and much more frequent on Sundays; almost all existing routes operate hourly service only on Sundays.
  - » As a result, transit might become a more attractive travel option on weekends than now. This would be especially useful for people with high weekend travel needs, such as retail and service workers.

There would still be small variations in frequency and hours of service from one route to another and one day to another. These are shown in the **detailed frequency table on the next page (page 20).**

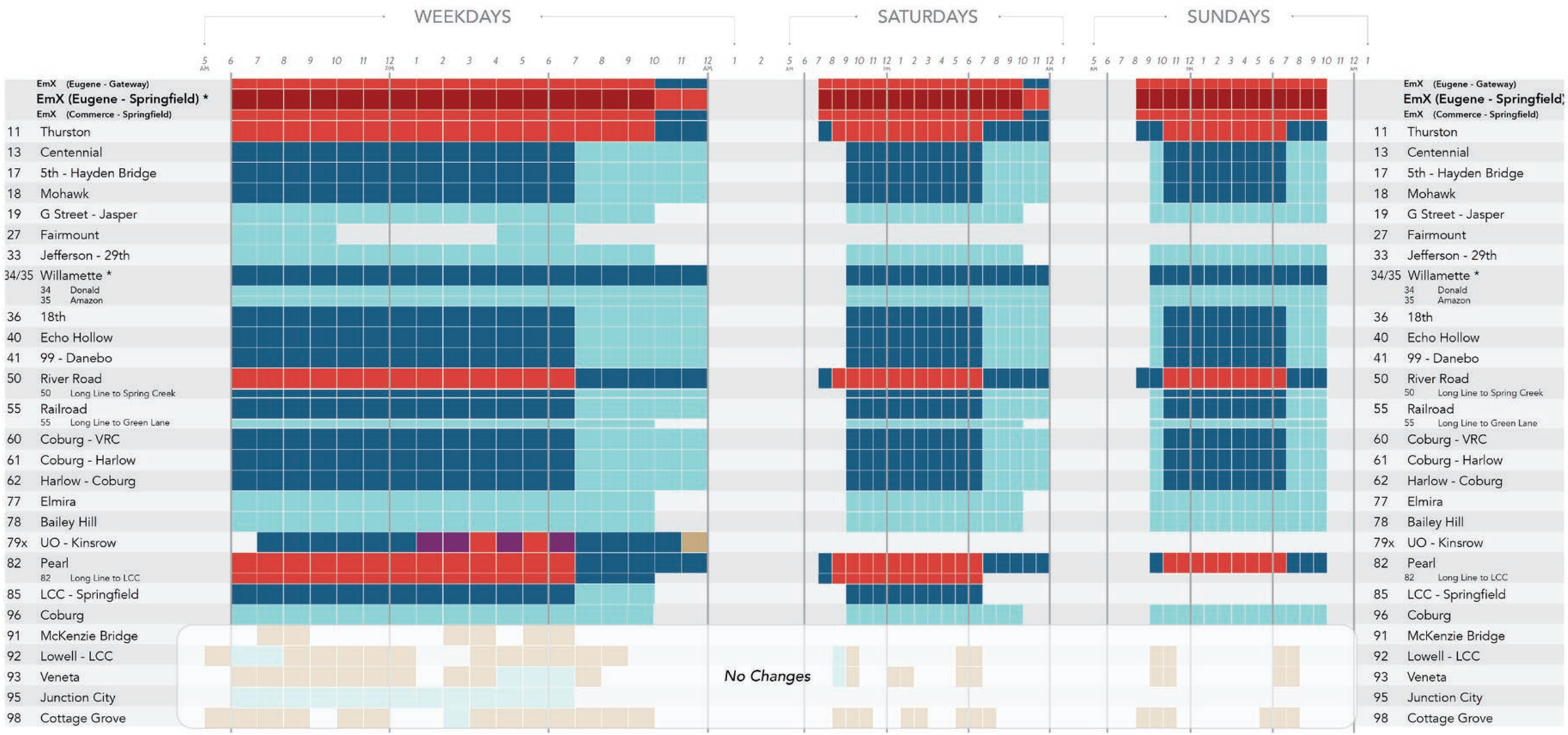
Figure 10: Mini-Maps, Ridership + Added Service Scenario. These show how frequencies would vary between weekdays, weekday evenings and weekends. Red lines indicate service every 15 minutes or better, and dark blue lines indicate service every 30 minutes. Light blue lines indicate hourly service.







Coverage + Added Service: Frequencies and Hours of Service



***EmX Line A** would operate every 15 minutes from Eugene Station to Gateway Station.
EmX Line B would operate every 15 minutes from Commerce Station to Springfield Station, alternating in loop direction.
Where the two lines overlap (between Eugene Station and Springfield Station), there would be an EmX bus every 7.5 minutes.

Routes 34 and 35 would offer a combined frequency of 30 minutes along Willamette St and Oak St between Eugene Station and 30th Ave.

FREQUENCY
MINUTES BETWEEN BUSES
7.5 min | 10-15 min | 20 min | 30 min | 60 min | over 60

4 Scenario 4: Coverage + Lower Fares

Ridership + Added Service	Coverage + Added Service
Ridership + Lower Fares	**Coverage + Lower Fares**

Coverage + Lower Fares: Weekday Network Map

In the High Coverage network, service is spread slightly thinner to cover more areas. New coverage has been extended to the following places:

- Route 41 (every 30 minutes) would travel deeper into the Bethel neighborhood, operating on Avalon Street and Legacy Street.
- Route 96 would operate every 60 minutes to provide an all-day service in the middle of the Cal Young neighborhood.
- A new Route 19 would connect Springfield Station every 60 minutes to neighborhoods along G Street, Commercial Ave, and Jasper Ave.
- A new Route 77 would provide service every 60 minutes between parts of west Eugene and Bethel and Seneca Station.

This is possible because frequency would be reduced in other places:

- Service in outlying residential areas of south Eugene would be reduced from every 30 minutes to every 60 minutes (Routes 34, 35, and 78 on Figure 11, compared to existing Routes 24, 28 and 78).
- Service on Coburg Road and Goodpasture Island Road would go from every 20 minutes to every 30 minutes (Routes 60, 61, and 62 on Figure 11, compared to existing Routes 66 and 67).

Other notable aspects of the High Coverage network include:

- EmX would be organized as two routes coming every 15 minutes: West Eugene to Springfield Station, and Gateway to Eugene Station. The combined service would operate every 7.5 minutes between Eugene Station and Springfield Station.
- River Road service would be combined into new Route 50, every 15 minutes in both directions. Areas north of Hunsaker Lane would be served as a one-way loop by every other bus on Route 50.
- Service between Eugene Station and LCC would be combined into Route 82, via UO and Hilyard St instead of Amazon Parkway.

To explore this network and its relevance to your life, or the lives of people you care about:

1. Find a place you care about on the map, using the labeled streets.
2. Note which routes are nearby, by number and by color.
3. Look at the legend (top right), to see each route's weekday frequency.
4. Follow the lines to see where else those routes would go.
5. See pages 23 and 24 for when and how often those routes would run.

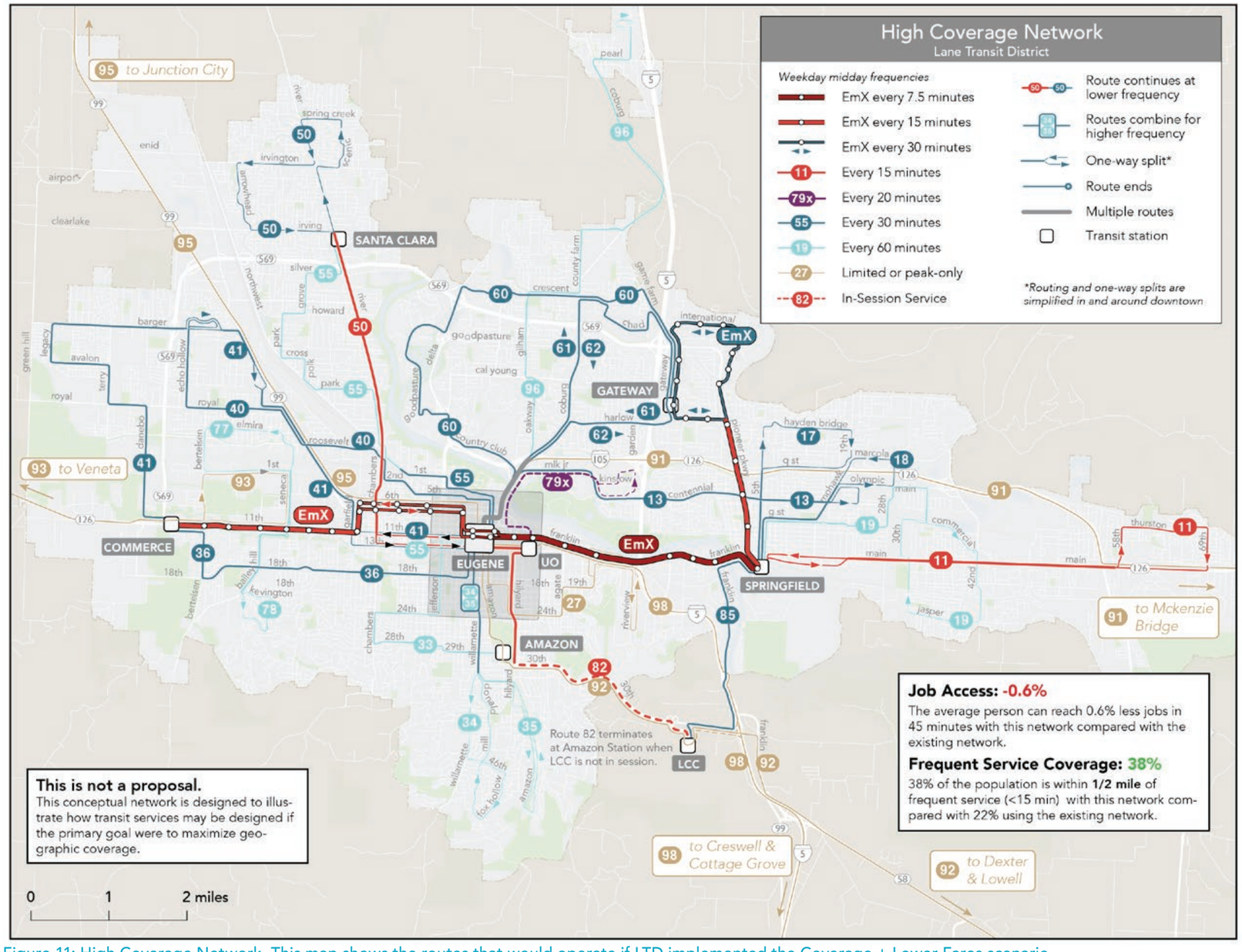


Figure 11: High Coverage Network. This map shows the routes that would operate if LTD implemented the Coverage + Lower Fares scenario.

Note: the Coverage + Added Service and Coverage + Lower Fares scenarios are both based on the High Coverage network. This network description is identical to the one on page 18.

Coverage + Lower Fares: Weekday, Evening and Weekend Mini-Maps

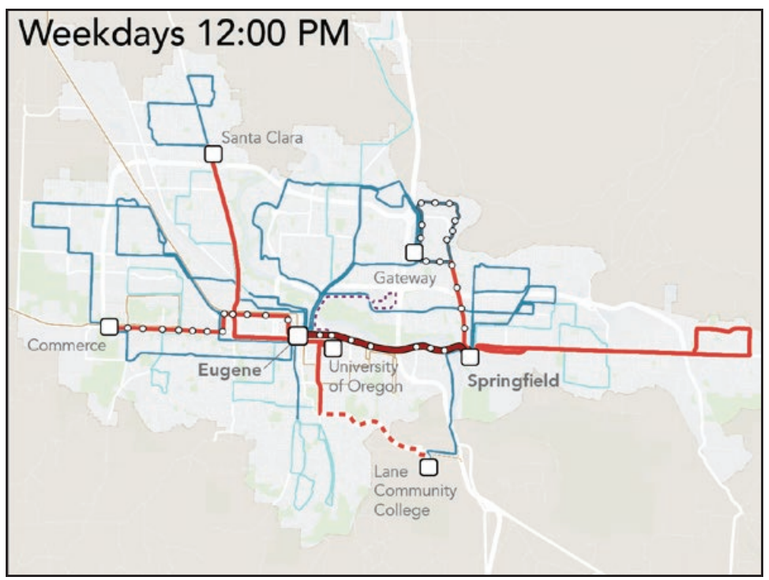
The three maps at bottom show how much service would be provided at different times of the day and week. The text below describes the general pattern of service by day and time on most routes.

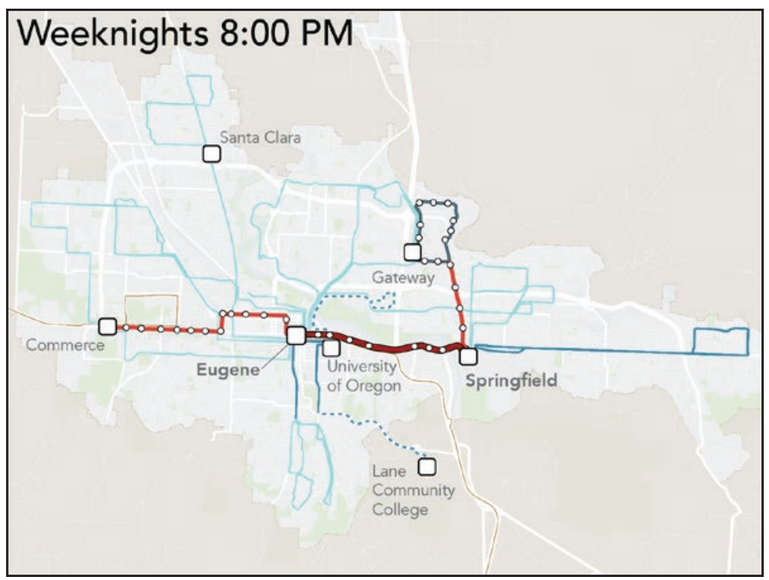
- **Left: Weekdays (Noon).** Because this scenario is based on the High Coverage network, a few routes would operate every 15 minutes or better from 6 AM to 7 PM, while most routes would operate every 30 or 60 minutes.
  - » These frequencies are mostly comparable to existing service, or lower in some areas.
  - » Travel times on transit would not improve, compared to existing service. Some trips would take longer. Many trips would continue to require advance planning and knowing the schedule to avoid long waits.
- **Center: Weekday Evenings (8 PM).** In this scenario, most routes would switch to hourly service from 7 PM until midnight.
  - » Hourly service is much less convenient than service every 15 to 30 minutes. Almost all transit trips would require advance planning, and even then many would still experience long waits. Almost anyone with the option not to take transit would drive, carpool, cycle or walk, as they do now.
  - » In some cases, the expanded coverage might make it possible to walk a shorter distance in the dark.
- **Right: Weekends (Sundays at Noon).** In the Coverage + Lower Fares scenario, new STIF funds would primarily be invested in fare discounts and reductions.
  - » As a result, fewer resources would remain to invest on weekend service. Most routes would operate every 30 minutes on Saturdays, and hourly on Sundays.
  - » This would be generally similar to existing service, which is much less convenient (and attracts much lower ridership) on Sundays than any other days.

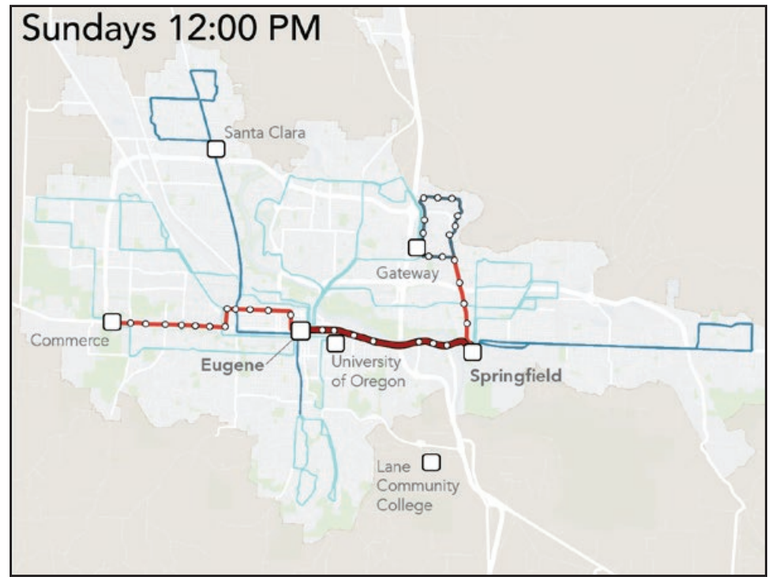
This scenario proposes the smallest service change of all four scenarios, when compared to existing service. As a result, it would probably have the least effect on who rides transit and how often they do so, although it would make it less expensive for anyone to ride.

There would still be small variations in frequency and hours of service from one route to another and one day to another. These are shown in the **detailed frequency table on the next page (page 24).**

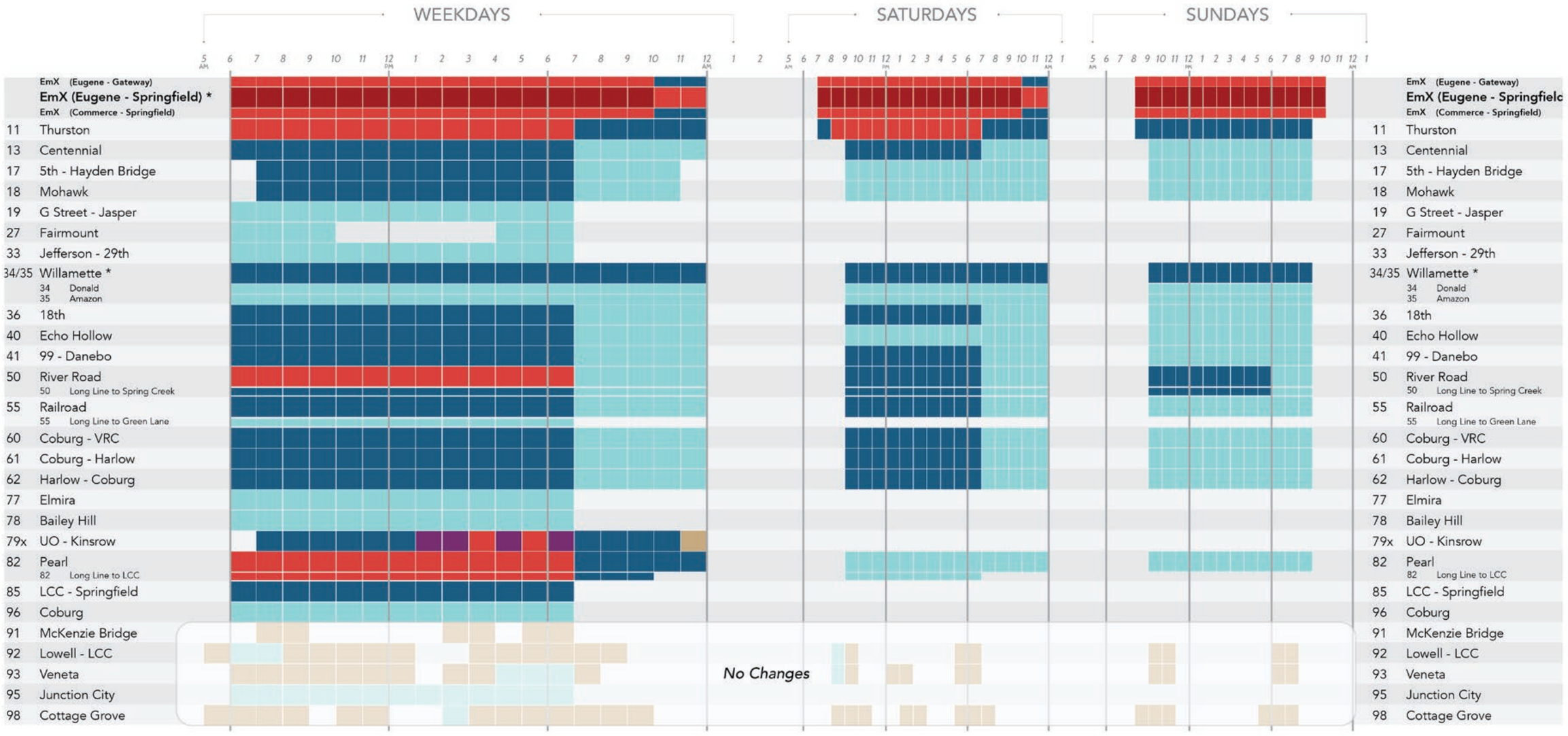
Figure 12: Mini-Maps, Ridership + Added Service Scenario. These show how frequencies would vary between weekdays, weekday evenings and weekends. Red lines indicate service every 15 minutes or better, and dark blue lines indicate service every 30 minutes. Light blue lines indicate hourly service (none in this scenario).







Coverage + Lower Fares: Frequencies and Hours of Service



***EmX Line A** would operate every 15 minutes from Eugene Station to Gateway Station.
EmX Line B would operate every 15 minutes from Commerce Station to Springfield Station, alternating in loop direction.
Where the two lines overlap (between Eugene Station and Springfield Station), there would be an EmX bus every 7.5 minutes.

Routes 34 and 35 would offer a combined frequency of 30 minutes along Willamette St and Oak St between Eugene Station and 30th Ave.

FREQUENCY
MINUTES BETWEEN BUSES

7.5 min | 10-15 min | 20 min | 30 min | 60 min | over 60

5 Comparing Outcomes

Comparing Outcomes

This chapter reports on three different ways of measuring the potential outcomes of the four scenarios. These measurements are not forecasts, and they do not rely on any assumptions about how culture, technology, prices or other factors will change in the next few years.

Instead, we measure distance to service, travel times, and the most recent data on population and jobs to give an idea of how well each scenario would serve people living and working in Eugene and Springfield. We calculate all of these outcomes at three key times:

- **Weekdays at Noon.** This represents the level of service experienced by the majority of existing transit trips. This is because people take most of their trips during the daytime, and most bus routes in Eugene and Springfield do not require peak frequency increases.
- **Weekdays at 8 PM.** This time represents weekday evening service. Existing evening service is almost all hourly outside of EmX and Route 11. Yet many people might benefit from increased evening service, including people with nontraditional work schedules (e.g. retail, restaurants, healthcare, university students etc.).
- **Sundays at Noon.** This time represents the baseline for weekend service. Existing Sunday service is almost all hourly outside of EmX and Route 11. Yet most people travel around town on weekends as well as weekdays. This can be due to nontraditional work schedules, but people also travel for a variety of other purposes such socializing, or access to shopping and retail.

Proximity

The first measure reported, on the next page, is very simple: **How many residents and jobs are near transit?**

Specifically, we measure how many people and jobs would be located within 1/4 mile of a bus stop in each scenario. This does not tell us whether people will find transit useful, only that it is available nearby. To provide some idea of usefulness, we distinguish between how many people and jobs are near frequent service (every 15 minutes or better), service every 20 to 30 minutes, or any service at all.

A 1/4 mile is a distance often used to determine whether someone is "close enough" to transit; however, many people are willing to walk farther to reach more frequent service. This is why the maps in Chapters 1 to 4 reference the percentage of the population within 1/2 mile of frequent service on weekdays. For reference, we have also provided the population and jobs within 1/2 mile of service for weekdays at noon, and Sundays at noon in the pages below..

Job Access

One of the primary functions of transit is to provide access to jobs. And, because retail and services also account for jobs, access to jobs is also a good indicator of the usefulness of transit for many other purposes.

So, we ask the question: **Could more people access more jobs (and other opportunities) by transit, in less time?**

To answer this question, we measured how far one could go in 45 minutes on transit (door-to-door, including walking, waiting and riding) from anywhere in Eugene and Springfield, and calculated how many jobs are located in that area. We then highlighted areas with significant gains and losses in job access, compared to existing service.

We chose to measure job access within 45 minutes for two reasons:

- 45 minutes is about the travel time at which transit provides the most potential benefit to a customer. Due to the initial walk and wait time, job access on transit within 30 minutes is mostly limited to places that are both close-in and very near high-frequency service.
- A 60 minute transit trip is rarely competitive with other modes in the Eugene-Springfield metro area. It is possible at almost any time to drive from the west end of Eugene to the east end of Thurston within 45 minutes.

Travel Time Maps

To understand the benefits of a network change, consider this simple question: **Where could I get to, in a reasonable amount of time, from where I am?**

To the extent that you want to do things outside of your neighborhood, your life will be more free, and you will have more opportunities, if you can get to more places in a reasonable amount of time.

The travel time maps in this chapter cover how far one could travel in 45 minutes – door-to-door, on foot and transit – from three central locations: Downtown Eugene (Eugene Station), the University of Oregon (13th & University) and Downtown Springfield (Springfield Station).

However, because these are central locations, these are also some of the places that would experience the least change in any scenario. For those who would like a broader picture, Appendix A to this report provides further travel time maps for 16 locations of interest throughout the metro area.

Summary of Outcomes

- **Weekday travel times (and job access) would improve significantly in both the Ridership scenarios.**
  - » The Ridership scenarios would reduce the number of people near any transit service, but would massively increase the number of people near frequent service. Shorter waits usually mean faster travel, even when people walk farther to and from their bus stop.
  - » The Coverage scenarios would also increase the number of people near frequent service, but much less so. And some areas would experience lower frequencies than they do now. On average, weekday access and travel times would not improve.
- **Weekend travel times (and job access) would improve significantly in both the Added Service a scenarios.**
  - » In these scenarios, service levels would be similar across nearly all routes, seven days a week, so travel times would be similar on weekdays and weekends.
  - » Weekend ridership would likely remain lower than weekday ridership in any case. But **increasing weekend ridership can also increase weekday ridership**; some people will ride transit only when it offers a convenient level of service every day.
- **Weekend travel times (and job access) would improve slightly in the Ridership + Lower Fares scenario.** They would become worse in the Coverage + Lower Fares scenario.
  - » This is because most routes would operate every 30 minutes on Sundays in the Ridership + Lower Fares scenario, but only hourly in the Coverage + Lower Fares scenario.
  - » **But both the Lower Fares scenarios would allow for cheaper fares and more discounted passes.** As a result, riding the bus would be more affordable. This may cause some people to ride the bus more often, but probably fewer people than would be attracted to transit by faster travel times.
- **The Ridership + Added Service and Ridership + Lower Fares scenarios would reduce the number of neighborhoods near transit service.** The most outlying neighborhoods and the areas farthest from main streets would be most affected.

Proximity to Transit Service: Weekdays

The bar charts at right show how many residents and jobs would be near service on weekdays at noon in each scenario, compared to the population and jobs of the Eugene-Springfield metro area[1].

This measure does not necessarily reflect that any specific person would be "close enough" to use transit. These charts assume that someone is near transit service if they are within 1/4 mile of a bus stop as the crow flies. Walking 1/4 mile over flat ground takes the average person about 5 minutes.

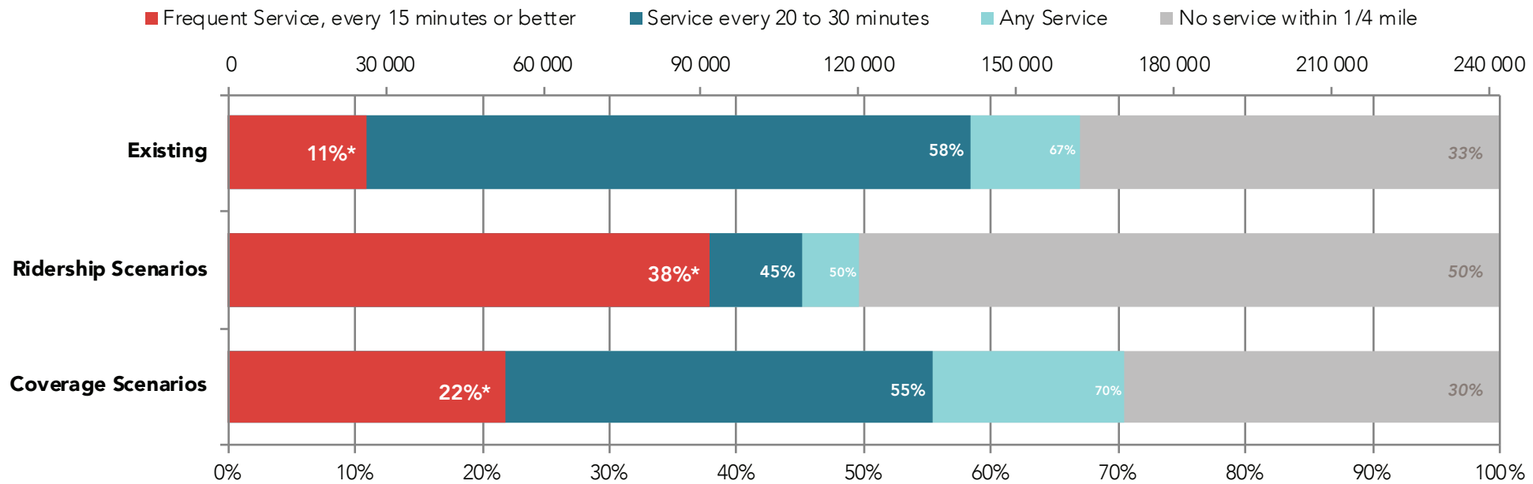
But different people are willing or able to walk different distances. Different street environments can make walking easier or harder. And many people are willing to walk longer distances to services that offer shorter waits or faster speeds.

On weekdays, at noon:

- Both Coverage scenarios slightly expand the number of residents and jobs near any transit service (+3% residents, +2% jobs compared to the existing network). They also slightly reduce the number of residents and jobs near service that comes every 30 minutes or better (-3% residents, -2% jobs).
  - » This reflects a basic geometric trade-off: if LTD expands service to more places overall, they will inevitably spread it thinner.
  - » Despite service overall being spread thinner, the Coverage scenarios also increase the number of residents and jobs near frequent service, coming every 15 minutes or better (+11% residents, +6% jobs). This is because service would be reorganized on three corridors where the existing network provides service almost, but not quite, every 15 minutes (River Road, LCC, Main Street).
- Both Ridership scenarios would massively expand the number of people located near frequent service (+27% residents, +27% jobs compared to the existing network). However, they also reduce the number of people within 1/4 mile of any service (-17% residents, -7% jobs).
  - » This reflects the other end of the same geometric trade-off: if LTD were seeking only to make service more frequent and useful, it wouldn't reach as many people and places. The key would then be to ensure that the bus network reaches the people and places most likely to generate strong ridership.

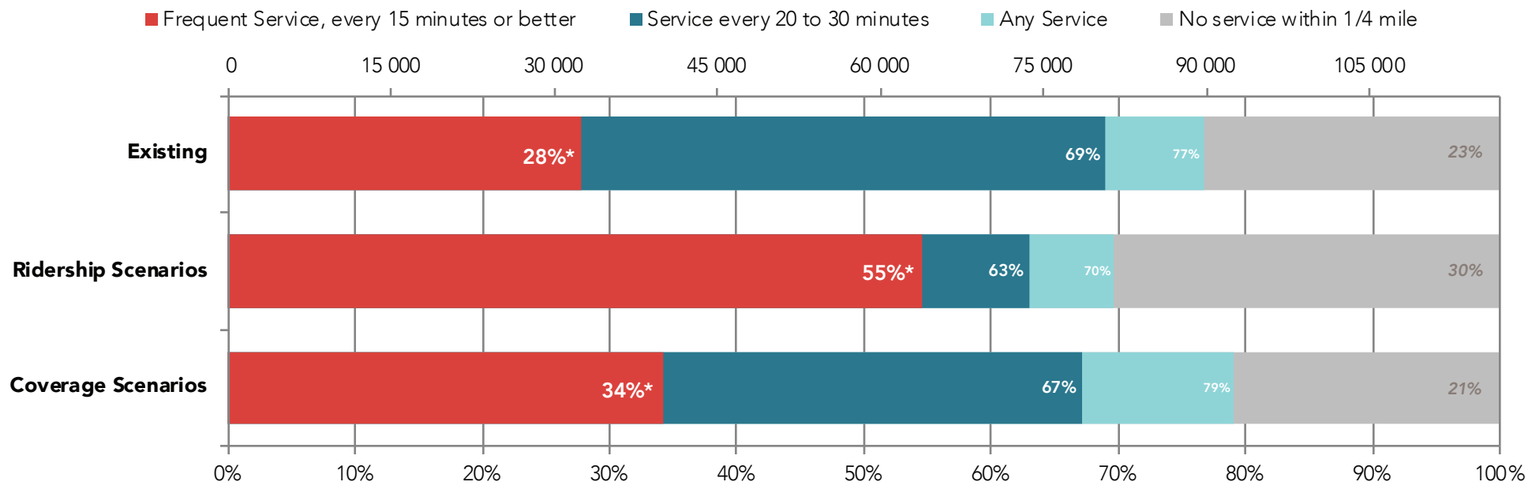
Residents near Transit on Weekdays at Noon

within 1/4 mile of a bus stop in Eugene and Springfield



Jobs near Transit on Weekdays at Noon

within 1/4 mile of a bus stop in Eugene and Springfield



** LTD often calculates how many people are within 1/2 mile of frequent service rather than 1/4-mile, because many people will walk farther to access a service that comes more often. By that measure:*

- ***Existing:** 22% of residents and 42% of jobs are near frequent service*
- ***Ridership Scenarios:** 60% of residents and 76% of jobs would be near frequent service*
- ***Coverage Scenarios:** 38% of residents and 52% of jobs would be near frequent service*

1 Note that, on weekdays at noon, there is no difference between the Ridership + Added Service and the Ridership + Lower Fares scenario, and there is also no difference between the Coverage + Added Service and the Coverage + Lower Fares Scenario.

Proximity to Transit Service: Weekday Evenings

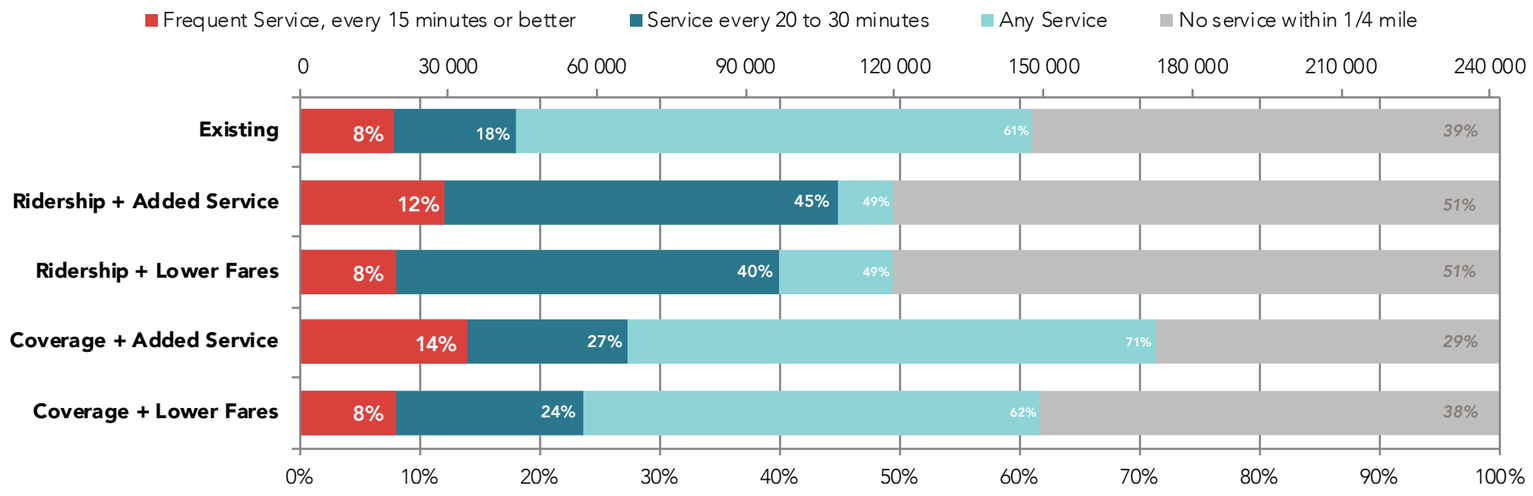
The bar charts at right show how many residents and jobs would be near transit service on weekdays at 8 PM in each scenario, compared to the total population and jobs of the Eugene-Springfield metro area.

We use this time to represent the level of service generally available on weekday evenings, when fewer routes run and frequencies are generally lower than in the midday. On weekdays, at 8 PM:

- The Ridership scenarios would extend service coming every 30 minutes or better to far more people than the Coverage scenarios:
  - » The Ridership + Added Service and Ridership + Lower Fares scenarios would both massively increase the number of residents and jobs near service every 30 minutes or better (+22 to +27% residents, +25% to +28% jobs, compared to the existing network).
  - » The Coverage + Added Service and Coverage + Lower Fares Scenarios would also increase the number of people near service every 30 minutes or better, but much less so (+6% to +10% residents, +5% to +8% jobs).
- But, as in the midday, the Ridership scenarios would extend overall transit service to fewer people than the Coverage scenarios:
  - » The Ridership + Added Service and Ridership + Lower Fares scenarios would reduce the total number of people near any service (-12% residents, -4 to -5% jobs, compared to the existing network).
  - » The Coverage + Added Service scenario would increase the total number of residents and jobs near any transit service (+9% residents, +5% jobs).
  - » The Coverage + Lower Fares Scenario would make almost no change in how many residents and jobs are near any transit service (+1% residents, +0% jobs).
- There is a slight difference between access to frequent service between the Added Service and the Lower Fares scenarios:
  - » The Ridership + Added Service and Coverage + Added Service scenarios would provide frequent service on Main Street after 8 PM. As a result, in both Added Service scenarios the number of people near frequent service would increase slightly (+4 to +6% residents and +1% jobs, compared to the existing network).
  - » In the Ridership + Lower Fares and Coverage + Lower Fares scenarios, the number of people near frequent service would remain almost unchanged (+0% residents, +1% jobs).

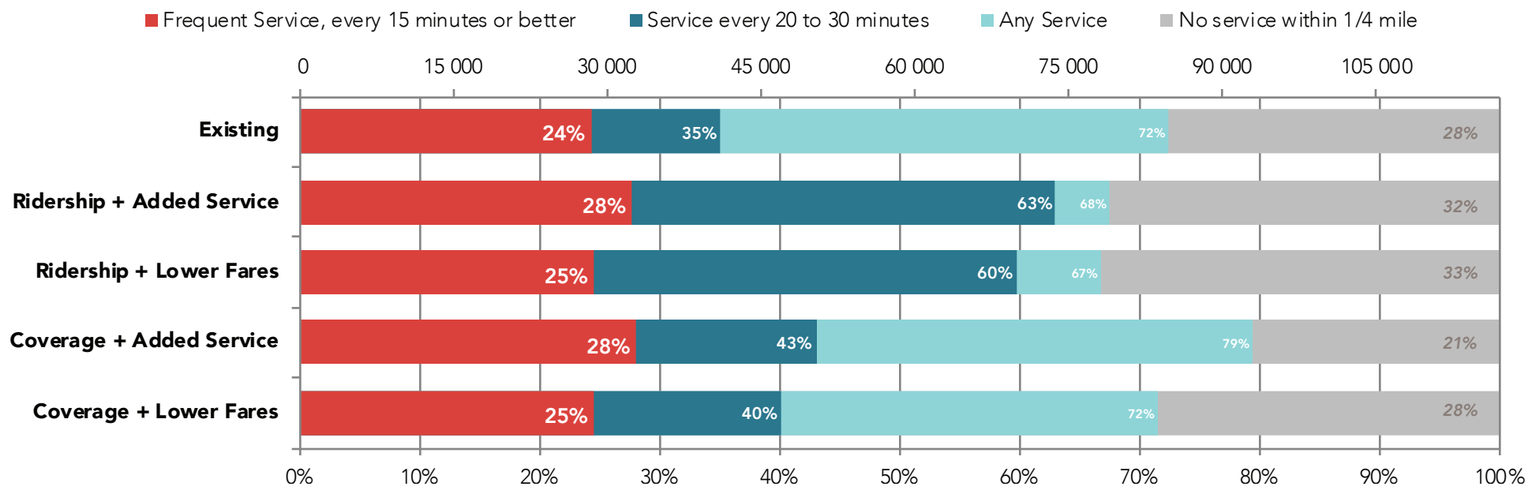
Residents near Transit on Weekdays at 8pm

within 1/4 mile of a bus stop in Eugene and Springfield



Jobs near Transit on Weekdays at 8pm

within 1/4 mile of a bus stop in Eugene and Springfield



Proximity to Transit Service: Weekends

The bar charts at right show how many residents and jobs would be near transit service on Sundays at noon, compared to the total population and jobs of the Eugene-Springfield metro area.

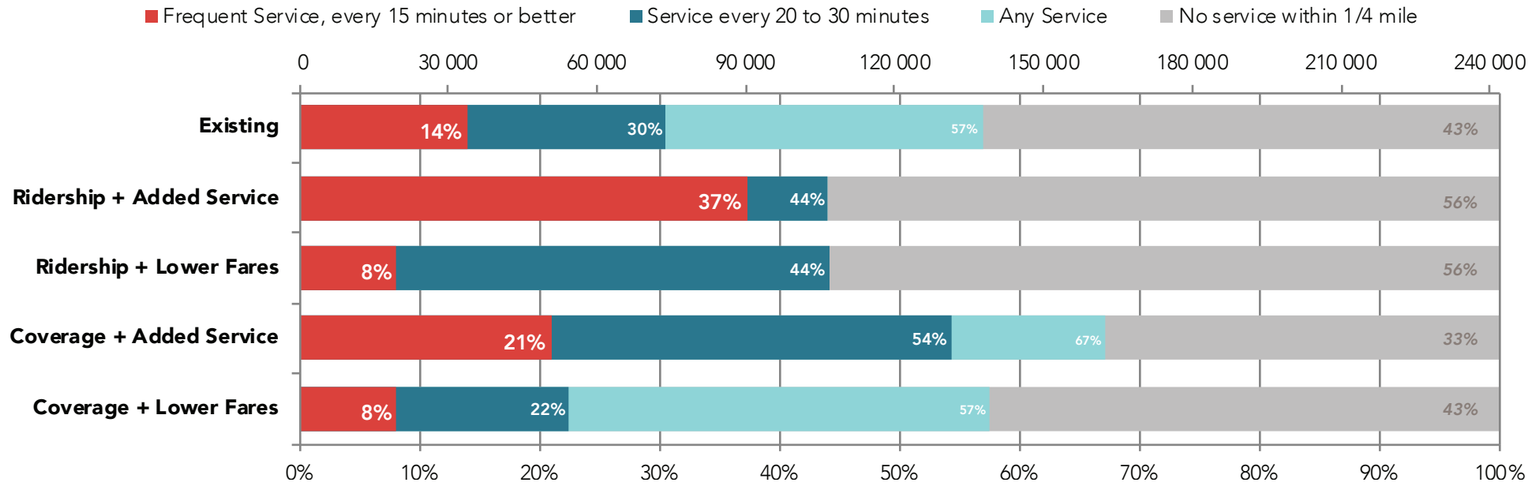
We use Sunday midday service as a proxy for weekend service in general, because it shows the lowest amount of service provided in the daytime on any day of the week. This is important because most people travel seven days a week. Many people will make a decision to ride transit or not (or a decision to buy a second car for their household, or not) based on the lowest possible level of service they are likely to encounter.

On Sundays, at noon:

- Three of the four scenarios would massively increase the number of people near service every 30 minutes or better:
  - » In both Ridership scenarios, the number of residents and jobs near service every 30 minutes or better would increase by +14% and +16% respectively, compared to the existing network.
  - » In the Coverage + Added Service scenario, the number of residents and jobs near service every 30 minutes or better would increase even more, by +24% and +20% respectively.
- The Ridership + Added Service scenario would massively increase the number of residents and jobs near frequent service, coming every 15 minutes or better (+23% residents, +27% jobs, compared to the existing network). But the number of people near any service at all would decrease (-13% residents, -6% jobs).
- The Ridership + Lower Fares scenario wouldn't improve the number of people near frequent service (-6% residents, -2% jobs, compared to the existing network). This scenario would also reduce the number of people near any service at all (-9% residents, -5% jobs).
- The Coverage + Added Service scenario would increase the number of people near transit service at all frequencies. The number of residents and jobs near frequent service would both increase by +7%, compared to the existing network. The number of residents and jobs near any service would increase by +10% and +9% respectively.
- The Coverage + Lower Fares scenario would make the least difference compared to existing service. Although the number of people near frequent service would decrease (-6% residents, -2% jobs, compared to the existing network), the number of people near any transit service would change very little (+0% residents, -1% jobs).

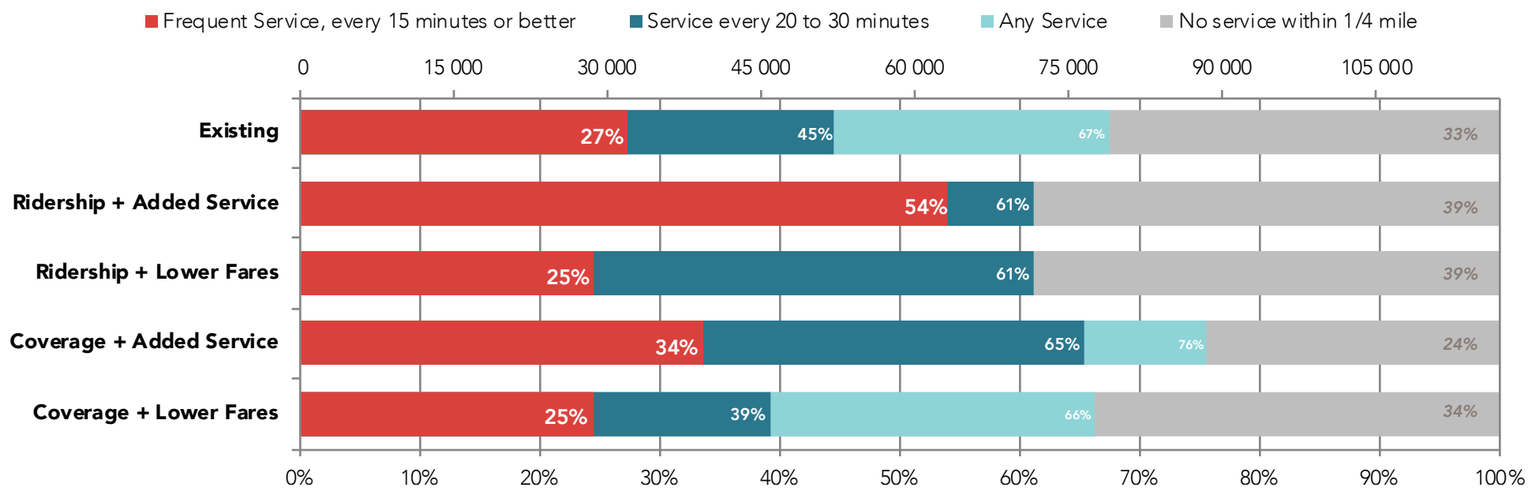
Residents near Transit on Sundays at Noon

within 1/4 mile of a bus stop in Eugene and Springfield



Jobs near Transit on Sundays at Noon

within 1/4 mile of a bus stop in Eugene and Springfield



** LTD often calculates how many people are within 1/2-mile of frequent service rather than 1/4-mile, because many people will walk farther to access a service that comes more often. By that measure:*

- ***Existing:** 27% of residents and 43% of jobs are near frequent service*
- ***Ridership + Added Service:** 59% of residents and 74% of jobs would be near frequent service*
- ***Coverage + Added Service:** 37% of residents and 50% of jobs would be near frequent service*
- ***Ridership + Lower Fares and Coverage + Lower Fares:** 17% of residents and 38% of jobs would be near frequent service*

Access to Jobs: Weekdays

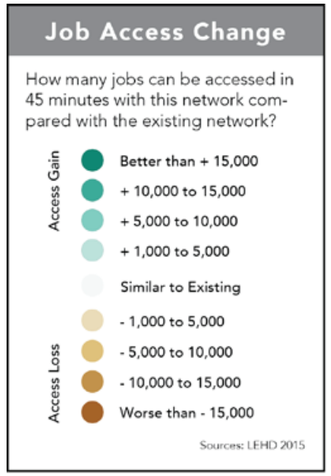
Providing transit near people, even at high frequency, is not enough to attract many people to actually ride. Transit needs to go *where* they want to go, and also *when* they want to go. We need a way to describe the kind of access that becomes possible on a complete and connected transit network: **how many useful places could you reach in a reasonable amount of time, from anywhere else?**

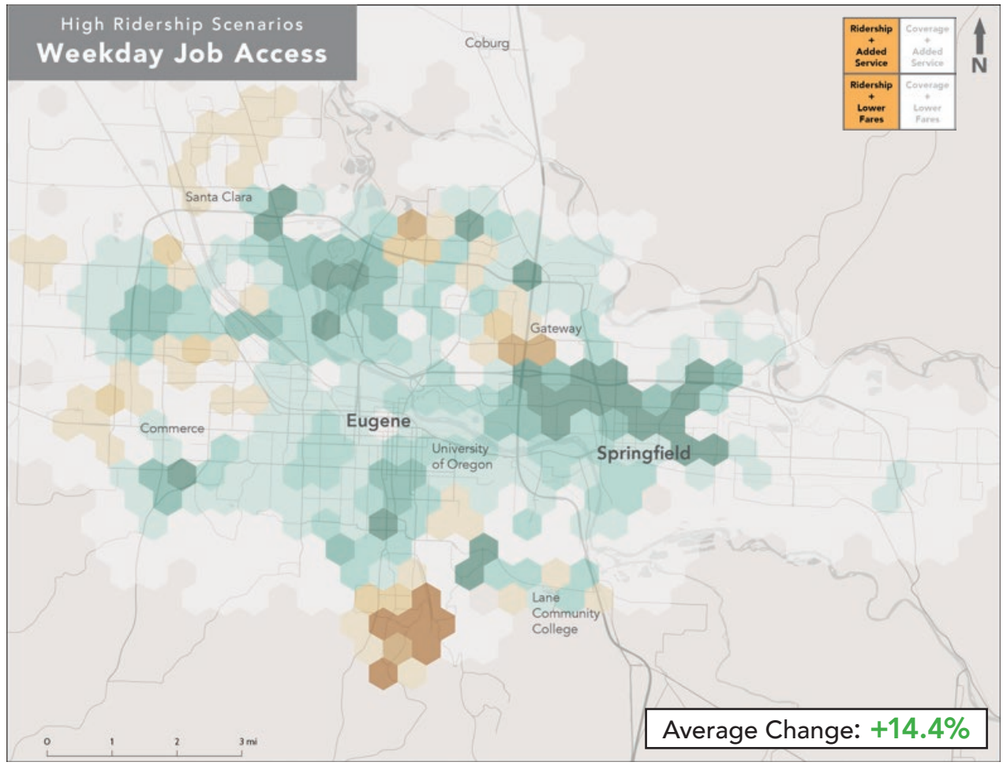
There's no perfect definition of "useful places": different things are useful to different people. But we can calculate something useful to many people: access to jobs. This captures several key functions of the transit network, including:

- Access to many jobs means it is more likely that someone can access their job by transit. In the longer term, how well a transit network provides access to jobs will impact what jobs people will consider, apply for and take.
- Places where many jobs are located often have other interesting features. Offices, shopping centers, social services, and even schools and houses of worship all are employers in themselves, in addition to being near or in employment centers. So calculating access to jobs helps us understand opportunity more broadly.
- This all points to one key fact: **more access means more opportunity.**

The maps below show how many more (or fewer) jobs could be reached in 45 minutes on transit on weekdays at noon, from anywhere in the Eugene-Springfield metro area (door-to-door, including walking, waiting, and riding). These maps show that:

- The Ridership + Added Service and Ridership + Lower Fares scenarios would improve job access by transit for most of the metro area. The exceptions are in places that lose service, such as in far south Eugene, or near Harlow Road west of Gateway.
- The Coverage + Added Service and Coverage + Lower Fares scenarios would cause a slight reduction in job access for most places in Eugene. Significant losses would occur in places where frequency is reduced, such as far south Eugene.
- Weekday job access for most of Springfield would improve in all scenarios. This is because of two service changes common to all scenarios: EmX service every 15 minutes from Gateway to Eugene Station, and Route 11 frequency improved to a consistent 15 minutes.





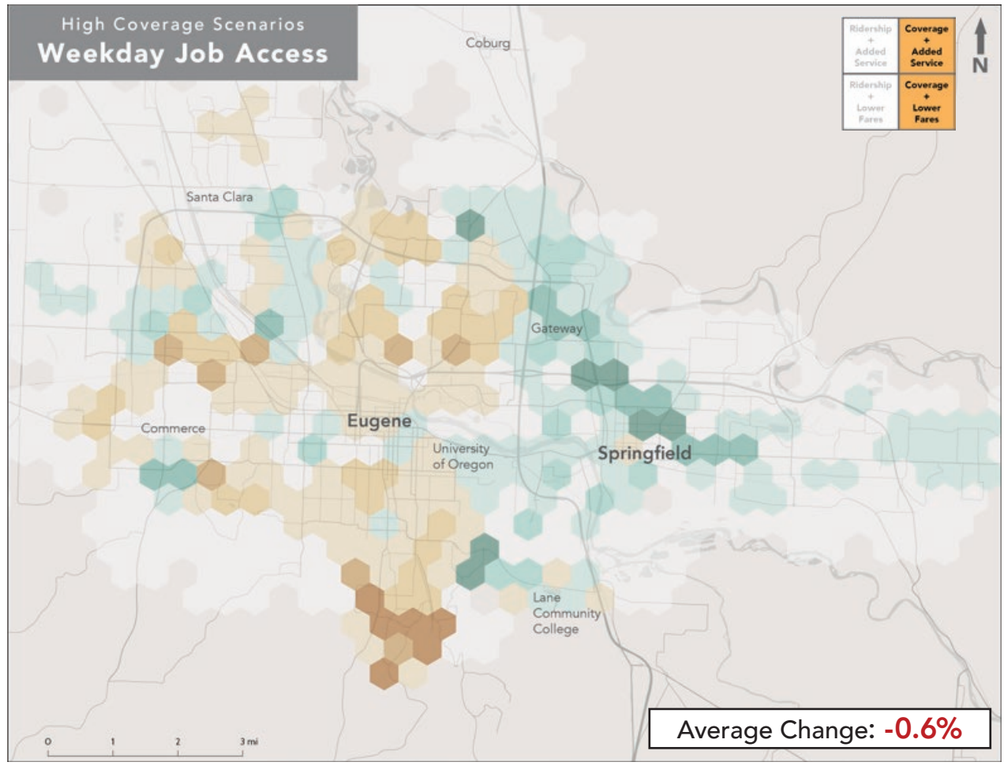


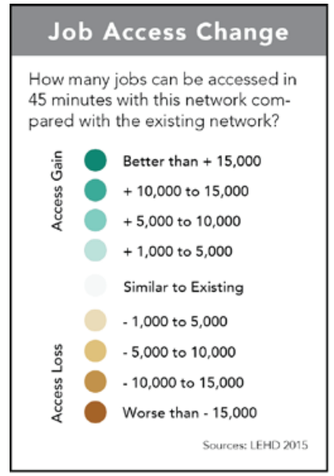
Figure 13: How many more (or fewer) jobs could you access in 45 minutes on transit in each scenario (door-to-door, including walking, waiting, and riding)? The maps above show the Ridership scenarios on the left (Ridership + Added Service and Ridership + Lower Fares are identical at weekday midday), and the Coverage scenarios on the right (Coverage + Added Service and Coverage + Lower Fares are identical at weekday midday).

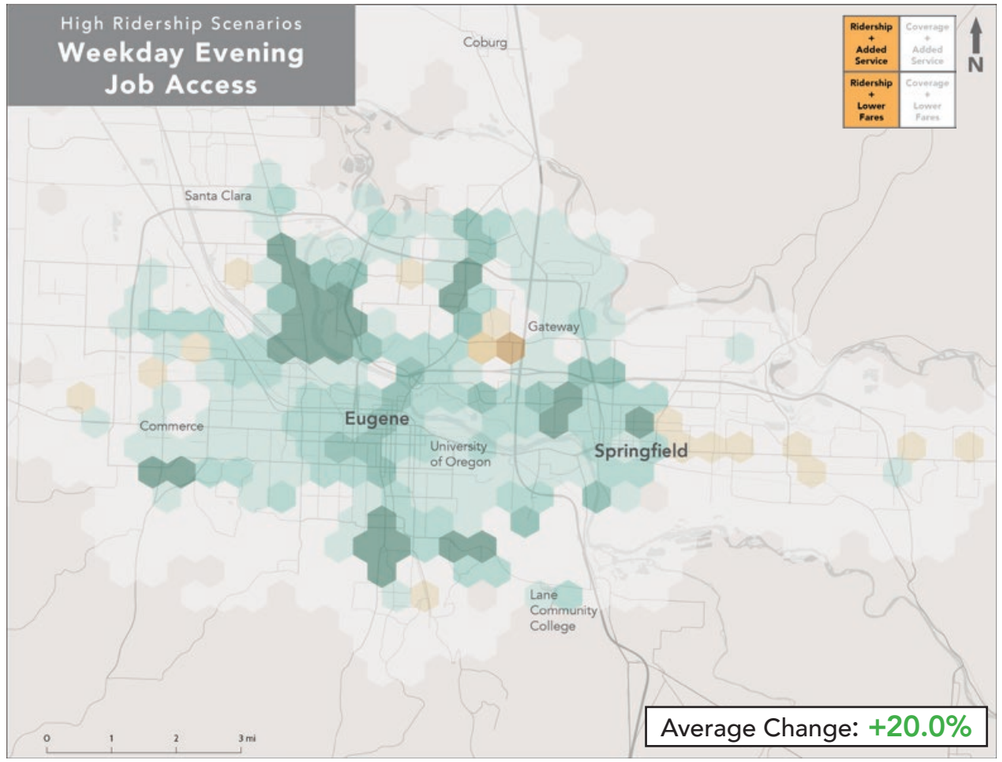
Access to Jobs: Weekday Evenings

The maps below show how many more (or fewer) jobs could be reached within 45 minutes on transit from anywhere in the Eugene-Springfield metro area, on weekdays at 8 PM (door-to-door, including walking, waiting, and riding).

These maps show that:

- The Ridership + Added Service and Ridership + Lower Fares scenarios would improve job access by transit from the majority of Eugene, and western parts of Springfield, on weekday evenings.
  - » This is because in these scenarios, most evening service would operate every 30 minutes instead of every 60 minutes. So even though fewer routes would operate, wait times would be much shorter, and most trips would be faster.
- The Coverage + Added Service and Coverage + Lower Fares scenarios would mostly cause limited change in job access on weekday evenings, compared to existing service. This is because the network would largely operate in the same places and at similar frequencies as existing service. The exceptions include:
  - » Job access would improve significantly in south Eugene, due to the higher 30-minute frequency on Willamette Street until 33rd Avenue, and increased evening service to LCC.
  - » Job access would be less in two areas where existing schedules cause overlapping routes to provide higher frequencies: near the intersection of Coburg Road & Harlow Road, and near Highway 99 in the vicinity of Roosevelt Boulevard and Royal Avenue.





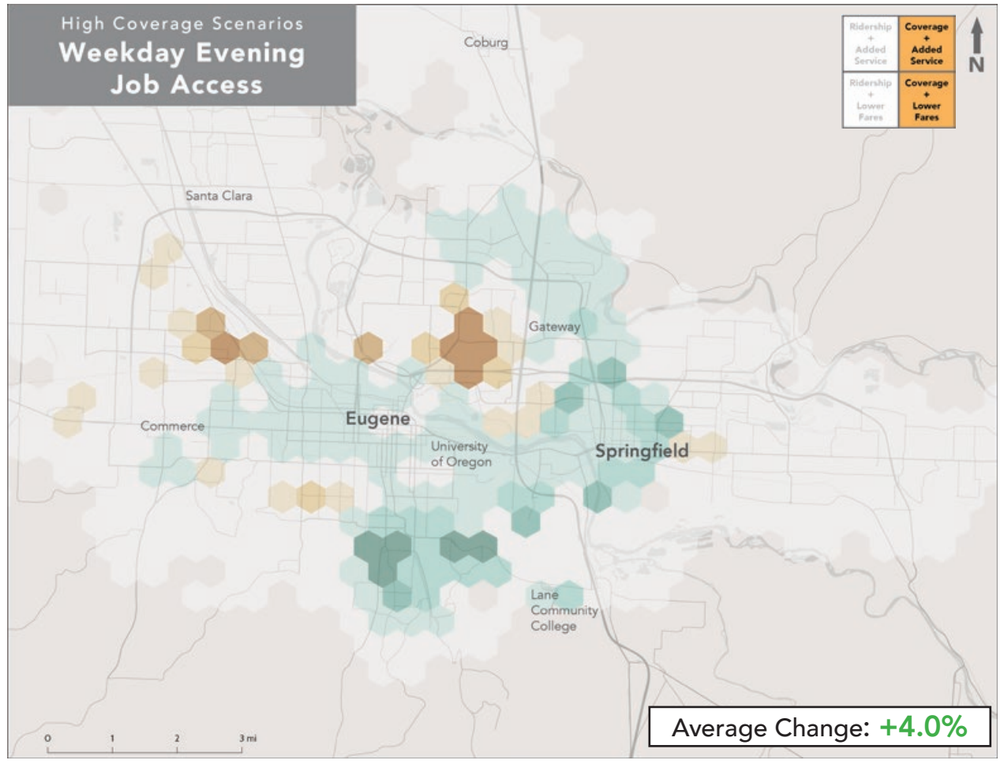


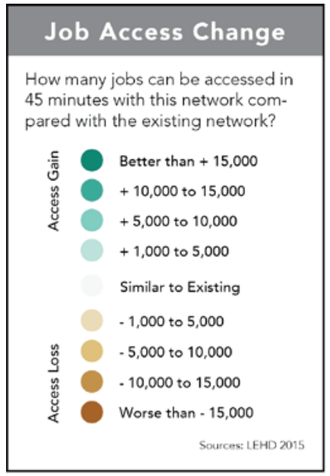
Figure 14: How many more (or fewer) jobs could you access in 45 minutes on transit in each scenario (door-to-door, including walking, waiting, and riding)? The maps above show the Ridership scenarios on the left (Ridership + Added Service and Ridership + Lower Fares are similar on weekday evenings), and the Coverage scenarios on the right (Coverage + Added Service and Coverage + Lower Fares are similar on weekday evenings).

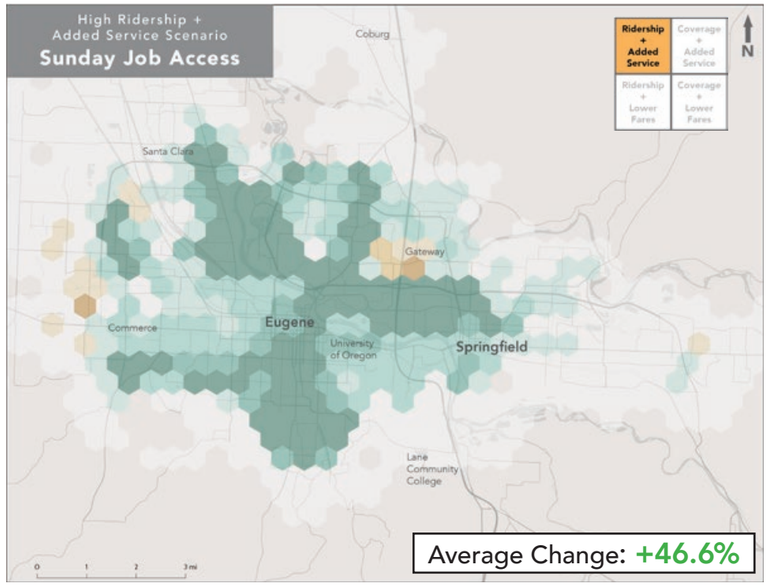
Access to Jobs: Weekends

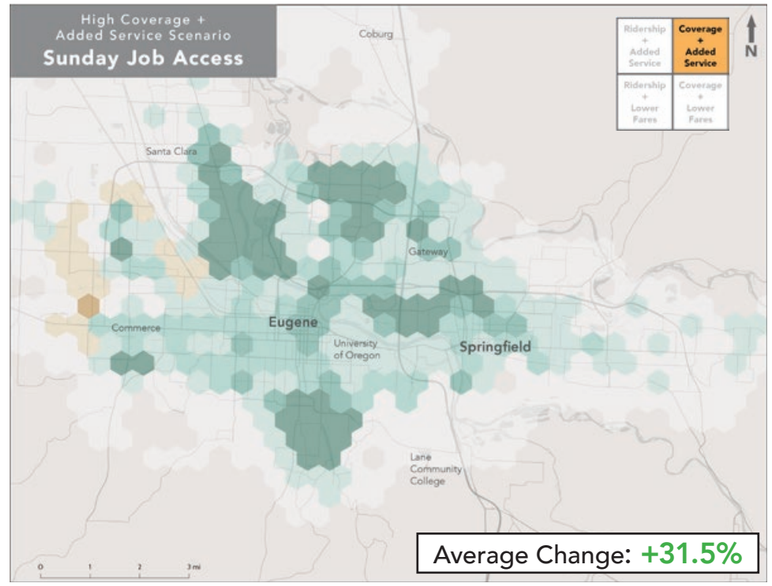
The maps below show how many more (or fewer) jobs could be reached within 45 minutes on transit from anywhere in the Eugene-Springfield metro area, on Sundays at noon (door-to-door, including walking, waiting, and riding).

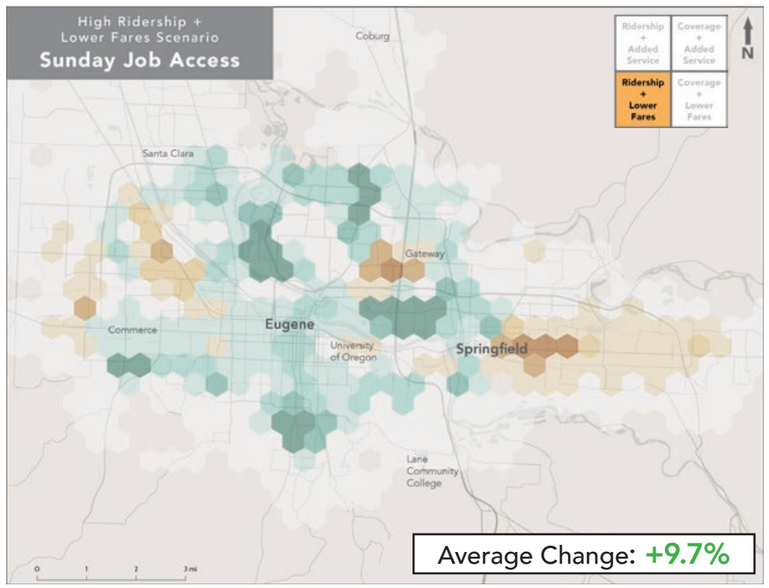
These maps show that:

- The Ridership + Added Service scenarios would massively improve weekend job access for large parts of the metro area. This is because frequent service would be available on all major corridors; in existing service, nearly all routes are hourly except for EmX and Route 11. Slight losses would occur in areas that lose service (e.g. Thurston, parts of Harlow Road), or where service to Eugene Station is replaced by the "Beltline" Route 80 (e.g. parts of Danebo).
- The Coverage + Added Service Scenario would also produce significant job access gains on the weekend. These come from three sources: first, service on River Road and Hilyard Street would operate every 15 minutes; secondly, most other non-EmX routes would operate every 30 minutes instead of every 60 minutes; thirdly, the network in this scenario would maintain at least hourly service to any area that currently receives service, and would even expand that area slightly.
- The Ridership + Lower Fares Scenario shows more gains than losses in weekend job access. The gains reflect areas where service every 60 minutes would be replaced with service every 30 minutes. The losses reflect reduced frequency on Main Street (every 30 minutes instead of every 15), the elimination of Route 12 on Harlow Road, and reduced service on Highway 99.
- In the Coverage + Lower Fares scenario, more places would lose job access on weekends than would gain. The biggest losses reflect reduced frequency on Highway 99 (Route 41 every 60 minutes instead of very 30), reduced frequency on Main Street (every 30 minutes instead of every 15), and the loss of overlapping service near Coburg Rd & Harlow Road.









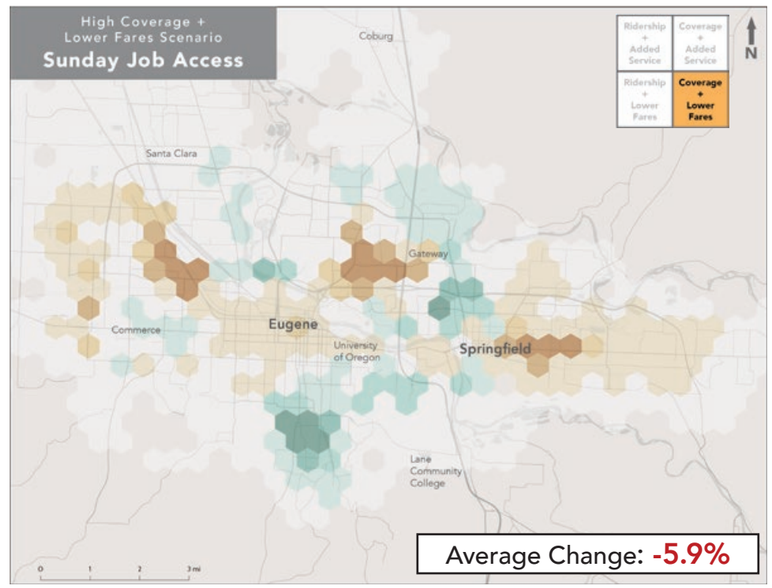


Figure 15: How many more (or fewer) jobs could you access in 45 minutes on transit in each scenario (door-to-door, including walking, waiting and riding)? The maps above show the Ridership + Added Service (top left), Ridership + Lower Fares (top right), Coverage + Added Service (bottom left), and Coverage + Lower Fares (bottom right) scenarios, on Sundays at noon.

Travel Time Maps: Eugene Station, Weekdays

The travel time maps on this and the following pages show where you could get to, on average[1], in 45 minutes door-to-door (including walking, waiting and riding), from a given starting point. On these maps:

- **Dark blue shows no change.** It denotes areas that can usually be reached in 45 minutes on the existing network today, and could still be reached within 45 minutes if a scenario were implemented.
- **Light blue shows improvement.** It denotes areas that could usually be reached in 45 minutes in a scenario, but would take longer to reach in the existing network.
- **Gray shows losses.** It denotes areas that can be reached in 45 minutes in the existing network but would take longer to reach in a scenario.

This chapter shows 45 minute transit travel time maps for three key locations: Eugene Station, 13th Ave & University St (on the campus of the University of Oregon), and Springfield Station. Appendix A contains these maps for 16 locations, including these three. When reviewing these maps, remember that:

- Waiting time counts![2]
- In most cases, a longer walk to a high-frequency route can get people farther, faster, than a shorter walk to an infrequent route.
- Some of the access shown in these maps isn't reached on a single route, but requires a transfer. Especially with the multiple frequent lines in the High Ridership scenarios, some places are reachable quickly even when the trip involves a transfer.
- It's not just about the size of the area, but also what's inside. For this reason, we've shown the change in the number of people and jobs that can be reached, in addition to the areas on the maps.

Because Eugene Station lies at the center of the transit network today, and would lie at the center of any of the scenario networks, there is relatively limited change in where you could reach in 45 minutes from this location, especially on weekdays.

How far can I travel in **45 minutes** from

Eugene Station

at noon on a weekday?

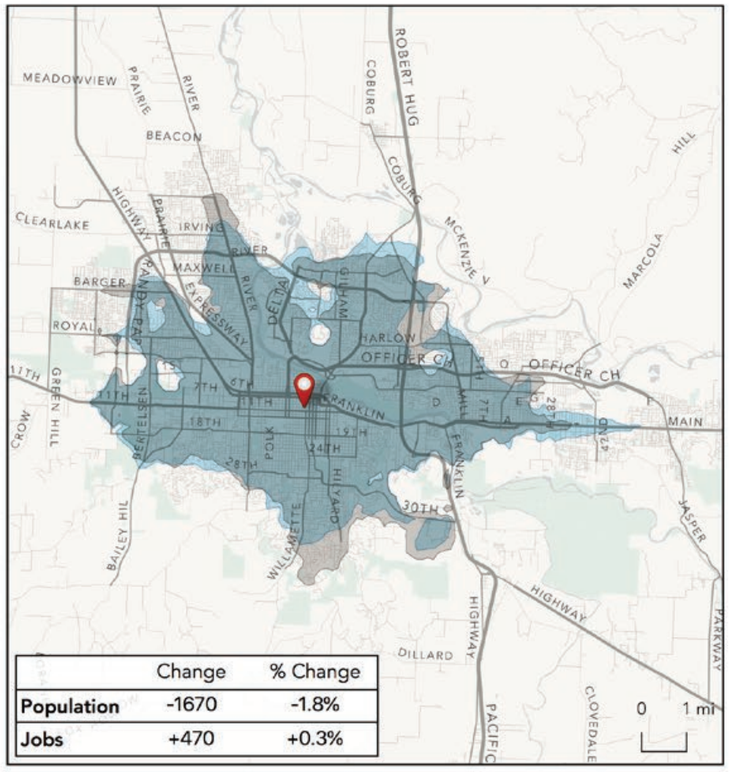
High **Ridership** + Added Service Scenario

This scenario is similar to the one below.

High **Coverage** + Added Service Scenario

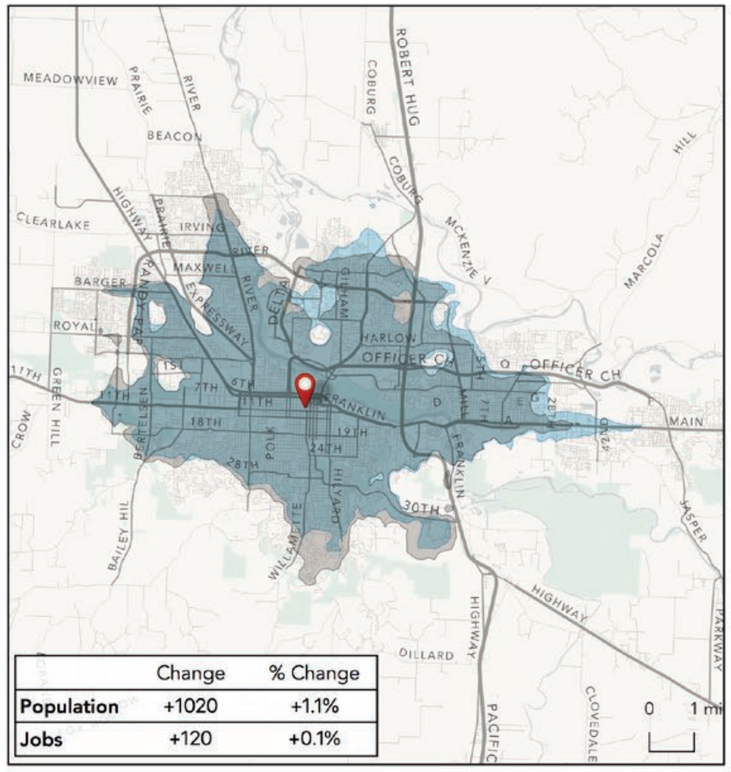
This scenario is similar to the one below.

High **Ridership** + Lower Fares Scenario



	Change	% Change
Population	-1670	-1.8%
Jobs	+470	+0.3%

High **Coverage** + Lower Fares Scenario



	Change	% Change
Population	+1020	+1.1%
Jobs	+120	+0.1%

1 By "on average", we mean approximately 50% of the time, assuming random departure times within a one-hour window, and based on a combination of existing scheduled bus speed and observations of actual speeds at different times of day.

2 Even if you time your departure just right and don't wait at the bus stop, a lower-frequency route often makes you wait at your destination because it can force you to arrive very early (rather than be slightly late). Very few people have the liberty of arriving when they please for all their trips, or control the end of something of an appointment or social call at exactly the right time to catch the bus home. Riding transit means waiting *somewhere*. The more frequent the transit, the shorter the wait. On average, you will wait one-half of the frequency of the route.

Travel Time Maps: Eugene Station, Weekday Evenings

On weekday evening, the differences between the Added Service and Lower Fares scenarios are limited. For this reason, we show only the travel time maps for the slightly less favorable Lower Fares scenarios.

From Eugene Station, the primary difference between the scenarios on weekday evenings is the significant increase in the number of places that can be reached in both of the Ridership + Added Service and Ridership + Lower Fares scenarios. This is because:

- In existing service and in the Coverage scenarios, most routes (apart from EmX) depart Eugene station every 60 minutes.
- In the Ridership scenarios, most routes would depart Eugene Station every 30 minutes.

In the Coverage + Added Service and Coverage + Lower Fares scenarios, there is also a slight improvement in access from Eugene Station to south Eugene. This is because:

- Routes 34 and 35 would provide a combined 30-minute frequency service on Willamette Street north of 33rd Avenue.
- Route 82 would continue operating every 30 minutes to LCC until 10 PM, and every 30 minutes on Hilyard Street until midnight.

How far can I travel in **45 minutes** from

Eugene Station

at 8pm on a weekday?

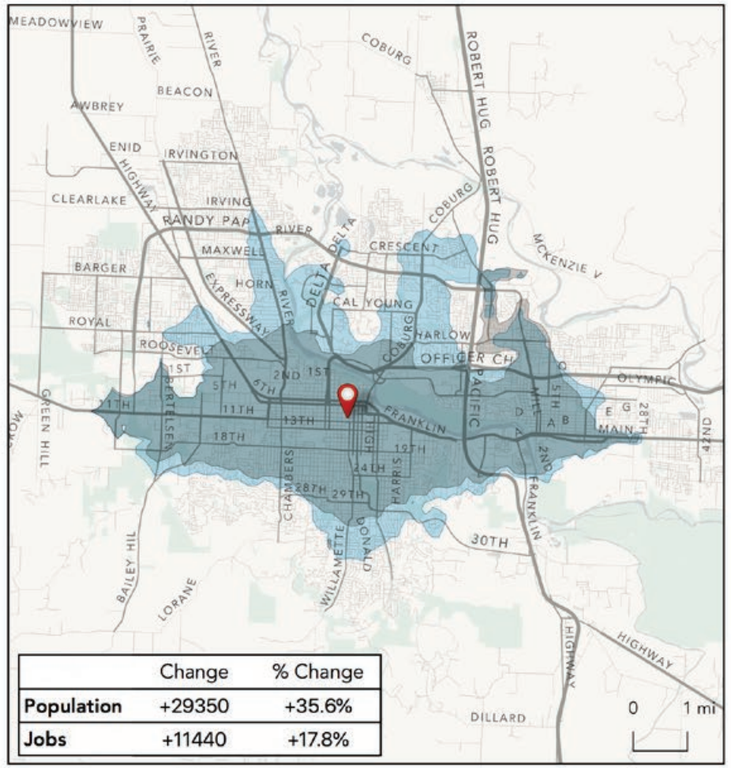
High **Ridership** + Added Service Scenario

This scenario is similar to the one below.

High **Coverage** + Added Service Scenario

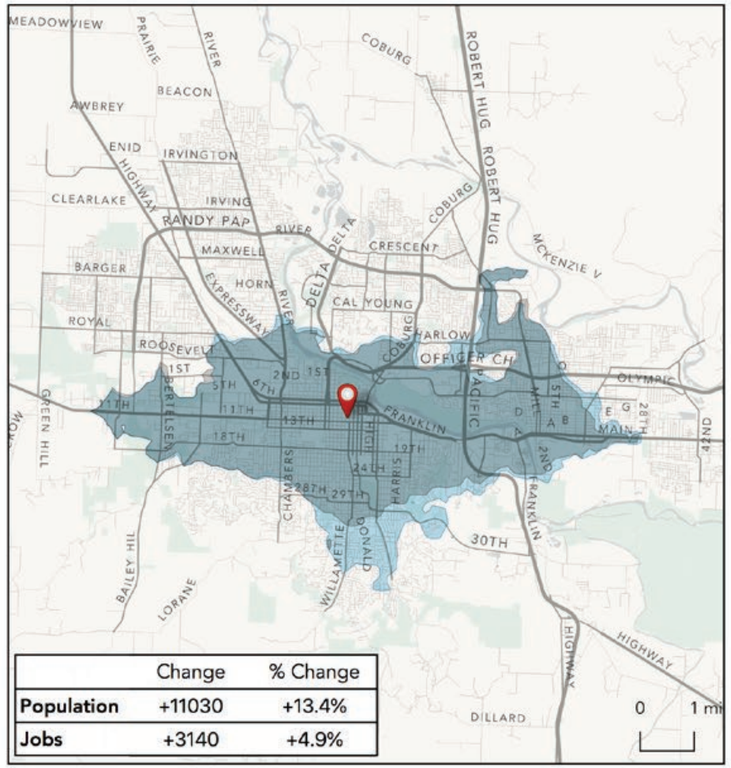
This scenario is similar to the one below.

High **Ridership** + Lower Fares Scenario



	Change	% Change
Population	+29350	+35.6%
Jobs	+11440	+17.8%

High **Coverage** + Lower Fares Scenario



	Change	% Change
Population	+11030	+13.4%
Jobs	+3140	+4.9%

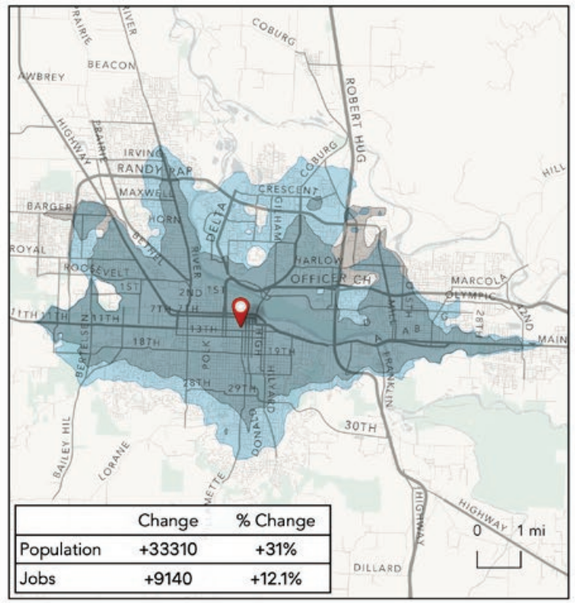
Travel Time Maps: Eugene Station, Weekends

On weekends, each of the four scenarios behaves in a unique way, related both to the proposed network (High Ridership vs. High Coverage) and the proposed priority for new resources (Added Service vs. Lower Fares).

- In both the Ridership + Added Service and Coverage + Added Service scenarios, the area reachable in 45 minutes from Eugene Station would increase significantly. This is because both these scenarios have a similar level of service 7 days a week, and so there is a great increase in Sunday service compared to the existing network.
- In the Ridership + Lower Fares scenario, certain places would become easier to reach from Eugene Station on weekends, while others would take longer. For example:
  - » Because the Highway 99 corridor is currently served every 30 minutes by Route 41, even on Sundays, the reduction to a single route with a longer path means it takes slightly longer to reach locations farther from Downtown Eugene.
  - » Conversely, because Routes 66/67 currently operate only every 60 minutes on Sundays, routes that serve the same places would operate every 30 minutes in this scenario. As a result, there is a much faster connection to places like Valley River Center, or Upper Coburg Road.
- In the Coverage + Lower Fares Scenario, there is a reduction in places that can be reached from Eugene Station along routes where service would be less than in the existing network. For example:
  - » Along Highway 99, frequency on Route 41 would be reduced from every 30 minutes to every 60 minutes.
  - » Along Harlow Road, Route 12 currently operates every 30 minutes on Sunday; but Routes 61/62 in this scenario would operate hourly on Sunday.

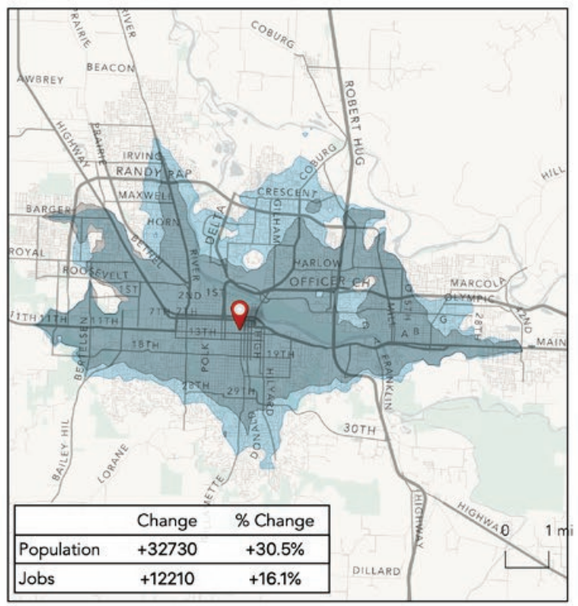
How far can I travel in **45 minutes** from **Eugene Station** at noon on a Sunday?

High Ridership + Added Service Scenario



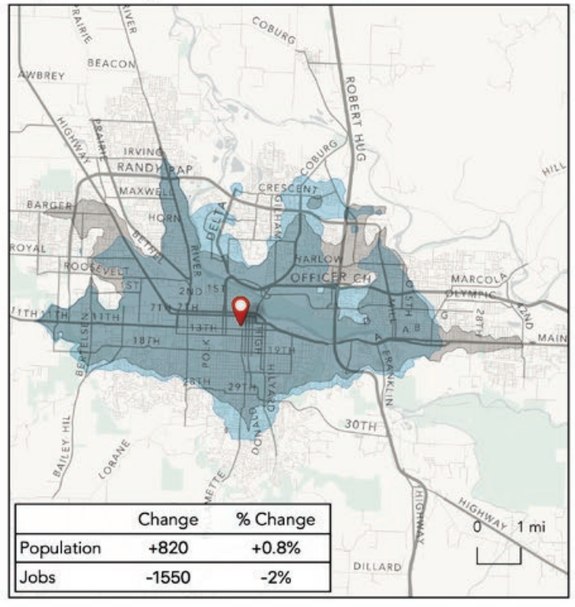
	Change	% Change
Population	+33310	+31%
Jobs	+9140	+12.1%

High Coverage + Added Service Scenario



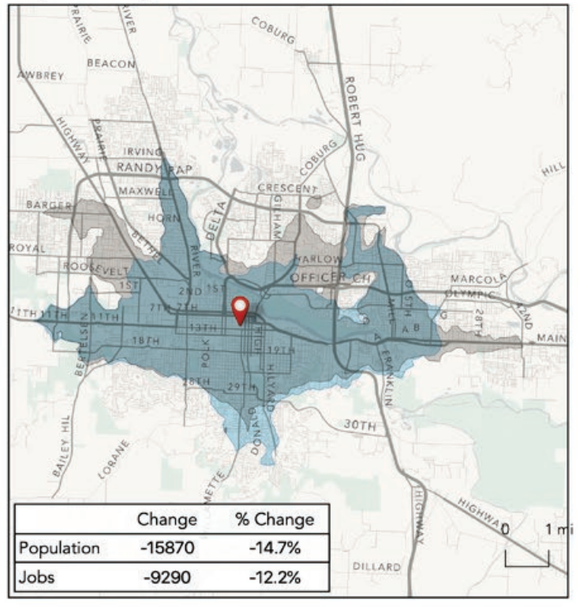
	Change	% Change
Population	+32730	+30.5%
Jobs	+12210	+16.1%

High Ridership + Lower Fares Scenario



	Change	% Change
Population	+820	+0.8%
Jobs	-1550	-2%

High Coverage + Lower Fares Scenario



	Change	% Change
Population	-15870	-14.7%
Jobs	-9290	-12.2%

Travel Time Maps: University of Oregon, Weekdays

The University of Oregon is perhaps the single most important destination in LTD's transit network. As of Fall 2017, at least 17% of all weekday trips on LTD started or ended within one block of the UO campus. As a result, it's important to consider how any changes to LTD's network will affect access to this location.

On weekdays at noon:

- There is no difference in service levels between the Added Service and Lower Fares scenarios, so we show only the maps for the Lower Fares scenarios.
- In the Ridership + Added Service and the Ridership + Lower Fares scenarios, access to and from the University of Oregon would improve, for the following reasons:
  - » EmX between Downtown Springfield and Downtown Eugene would operate every 7.5 minutes, compared to every 10 minutes today; and service to Gateway, every 15 minutes from UO, would not require a transfer at Springfield Station.
  - » Connections to Springfield would improve on both Route 11 (better timing) and Route 18 (more frequent).
  - » Frequent connections at Eugene Station mean that, on average, trips would be faster to places beyond Downtown Eugene, including Highway 99, Valley River Center, and Coburg Road.
  - » Route 1 would offer a direct service every 15 minutes between UO and LCC.
- In the Coverage + Added Service and Coverage + Lower Fares scenarios, certain improvements would remain, but other places would take longer to reach:
  - » The improvements in EmX service, and connections to Route 11 in Springfield would be similar to the Ridership scenarios.
  - » The redesigned Route 82 would also provide service every 15 minutes between UO and LCC.
  - » But connections at Eugene Station to Valley River Center and Coburg Road would deteriorate, as service to those areas would be provided every 30 minutes (instead of every 20 minutes at present).
  - » Trips to areas south of West 18th Avenue would also get slightly longer, because Route 78 would no longer reach UO.

How far can I travel in **45 minutes** from

13th Ave at University St

at noon on a weekday?

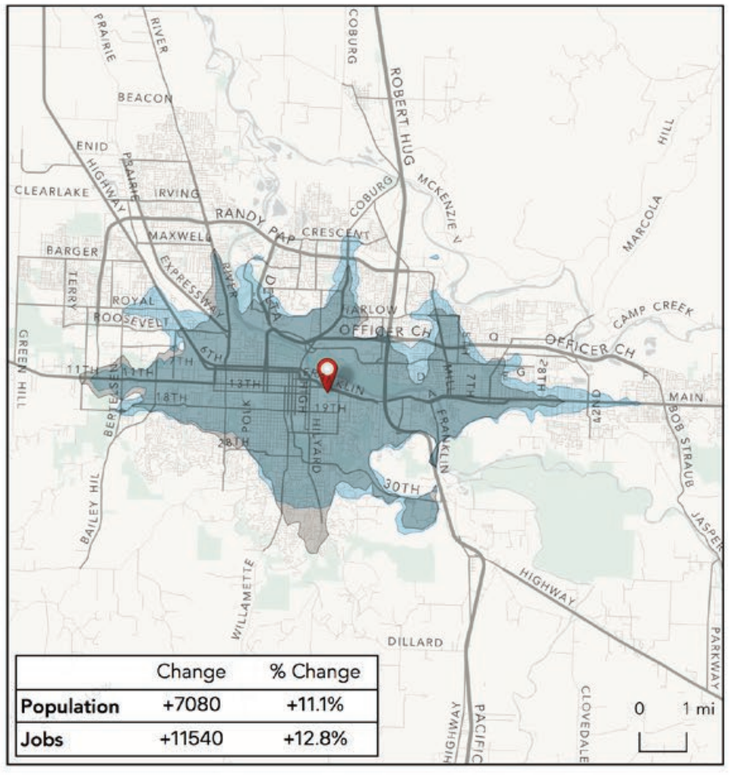
High **Ridership** + Added Service Scenario

This scenario is similar to the one below.

High **Coverage** + Added Service Scenario

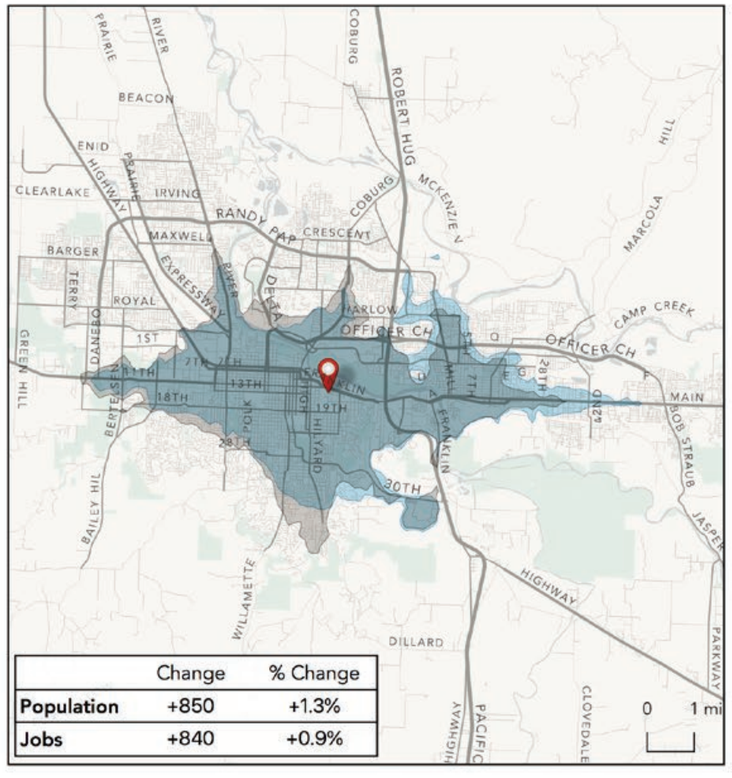
This scenario is similar to the one below.

High **Ridership** + Lower Fares Scenario



	Change	% Change
Population	+7080	+11.1%
Jobs	+11540	+12.8%

High **Coverage** + Lower Fares Scenario



	Change	% Change
Population	+850	+1.3%
Jobs	+840	+0.9%

Travel Time Maps: University of Oregon, Weekday Evenings

On weekday evenings:

- The differences between the Added Service and Lower Fares scenarios are limited. For this reason, we show only the travel time maps for the slightly less favorable Lower Fares scenarios.
  - » The main difference would be that in the Added Service scenarios, it would become possible to reach farther out on Main Street due to improvements on Route 11.
- The Ridership + Added Service and the Ridership + Lower Fares scenarios would slightly improve travel times to areas reached via connections at Eugene Station, because most routes would operate every 30 minutes instead of every 60 minutes.
  - » For example, this would make it possible to travel from the center the UO campus to Valley River Center within 45 minutes door-to-door on weekday evenings.
- There would be no significant difference in access to and from UO in the Coverage + Added Service or Coverage + Lower Fares scenarios on weekday evenings, compared to existing service.

How far can I travel in **45 minutes** from

13th Ave at University St

at 8pm on a weekday?

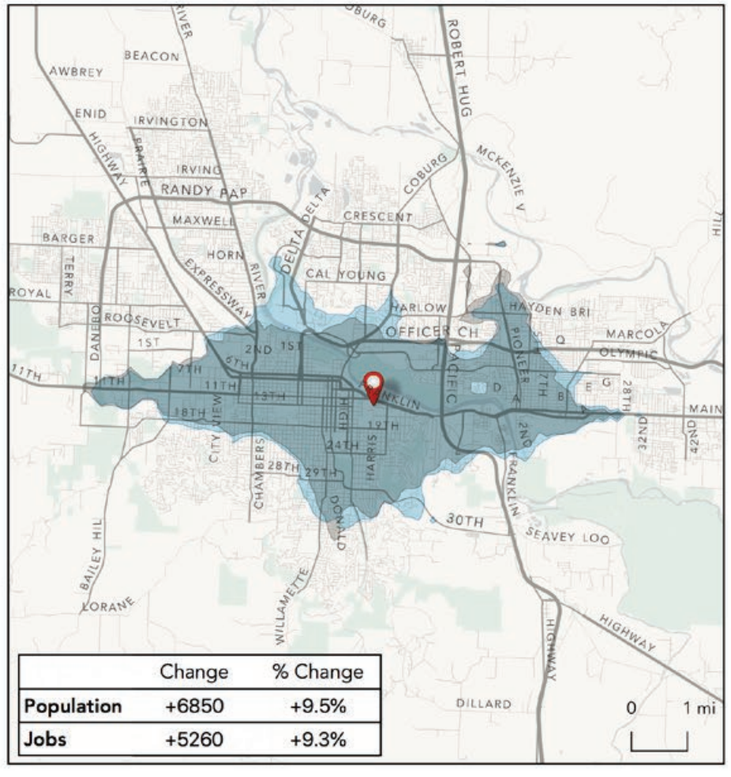
High **Ridership** + Added Service Scenario

This scenario is similar to the one below.

High **Coverage** + Added Service Scenario

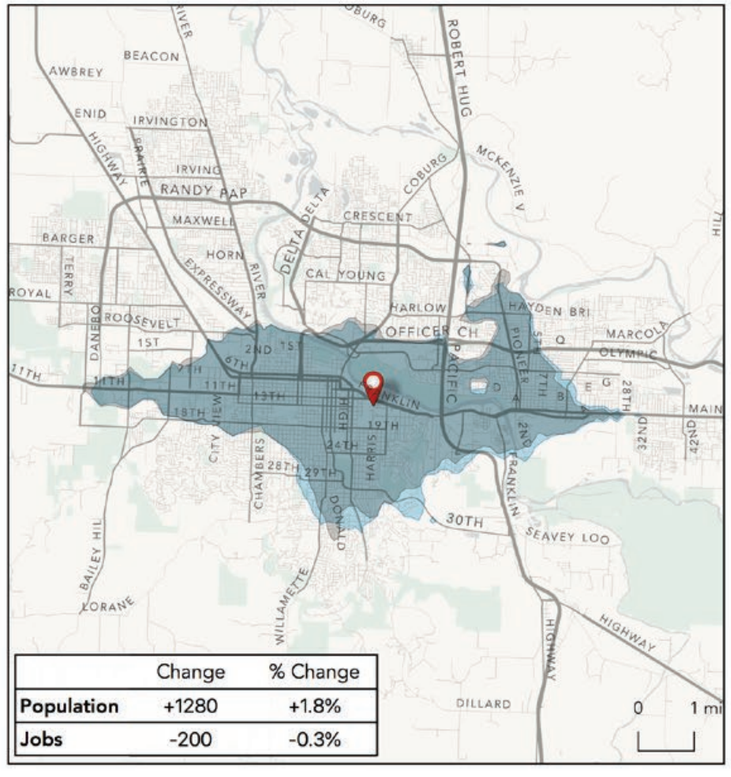
This scenario is similar to the one below.

High **Ridership** + Lower Fares Scenario



	Change	% Change
Population	+6850	+9.5%
Jobs	+5260	+9.3%

High **Coverage** + Lower Fares Scenario



	Change	% Change
Population	+1280	+1.8%
Jobs	-200	-0.3%

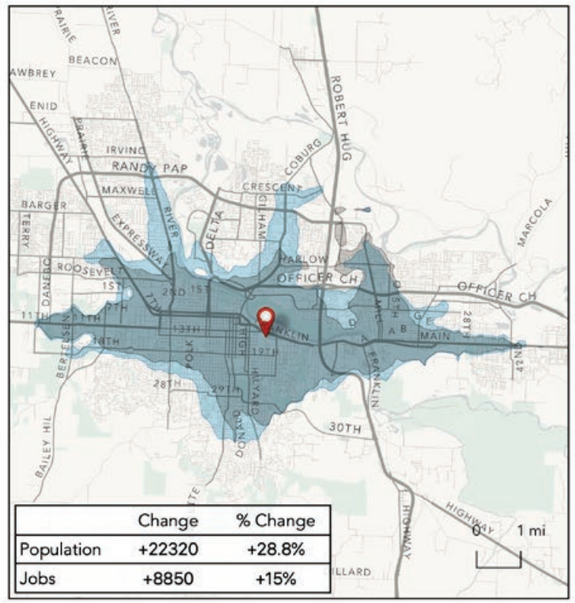
Travel Time Maps: University of Oregon, Weekends

On weekends, each of the four scenarios behaves in a unique way, related both to the proposed network (High Ridership vs. High Coverage) and the proposed priority for new resources (Added Service vs. Lower Fares).

- In the Ridership + Added Service scenario, weekend access to and from the University of Oregon would improve significantly, similar to weekdays:
  - » EmX between Downtown Springfield and Downtown Eugene would operate every 7.5 minutes, compared to every 15 minutes today; and service to Gateway, every 15 minutes from UO, would not require a transfer at Springfield Station.
  - » Connections to frequent services at Eugene Station mean that, on average, trips would be slightly faster to places beyond Downtown Eugene, including Highway 99, Valley River Center, and Coburg Road.
- The Coverage + Added Service scenario would slightly improve access to and from UO on weekends, particularly:
  - » Better connection to River Road, due to service every 15 minutes on Route 50.
  - » Better connections to south Eugene, due to service every 15 minutes on Route 82.
- There would be less change in both the Ridership + Lower Fares and Coverage + Lower Fares scenarios, as weekend service levels would not be higher overall than they are in the existing network.
  - » There would even be slight reductions in access to and from UO in both of the Lower Fares scenarios, mostly related to lower frequency or less favorable routing on connecting routes at Eugene Station and Springfield Station. For example, in both cases, Route 11 would operate only every 30 minutes on Sundays, instead of every 15 minutes currently.

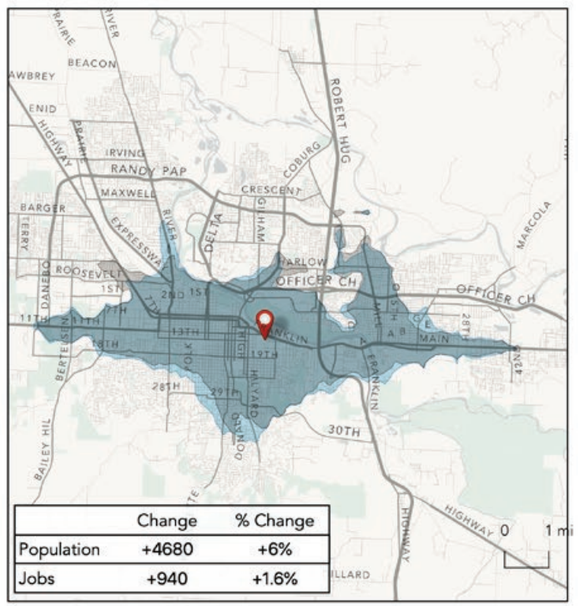
How far can I travel in **45 minutes** from **13th Ave at University St** at noon on a Sunday?

High Ridership + Added Service Scenario



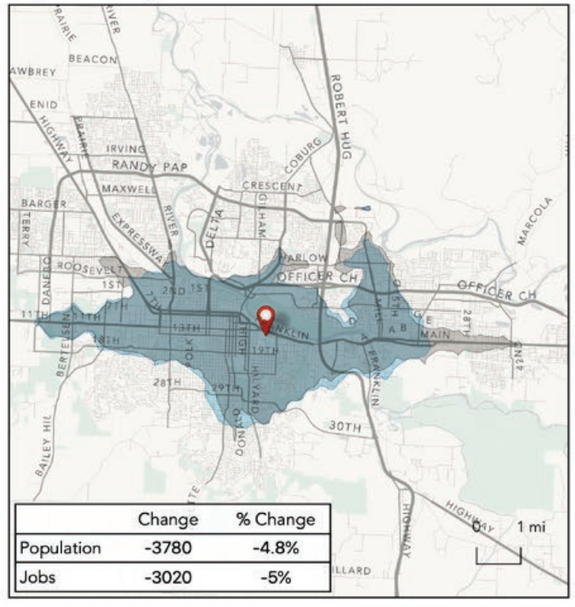
	Change	% Change
Population	+22320	+28.8%
Jobs	+8850	+15%

High Coverage + Added Service Scenario



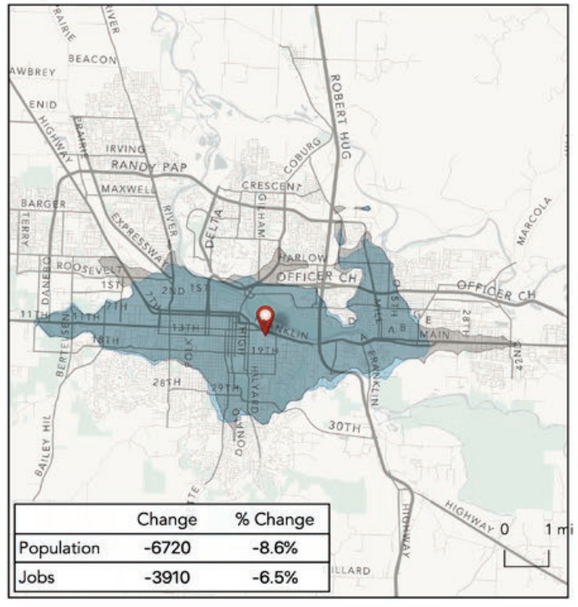
	Change	% Change
Population	+4680	+6%
Jobs	+940	+1.6%

High Ridership + Lower Fares Scenario



	Change	% Change
Population	-3780	-4.8%
Jobs	-3020	-5%

High Coverage + Lower Fares Scenario



	Change	% Change
Population	-6720	-8.6%
Jobs	-3910	-6.5%

Travel Time Maps: Springfield Station, Weekdays

Springfield Station would remain the second most central point in the network in any scenario. As a result, there would be relatively limited change in weekday access by transit to this location to other places in the metro area.

On weekdays at noon:

- There is no difference in service levels between the Added Service and Lower Fares scenarios, so we show only the maps for the Lower Fares scenarios.
- Due to the distance between Springfield Station and Eugene Station, improved connections to other routes at Eugene Station are not significant within 45 minutes in any scenario.
- In the Ridership + Added Service and the Ridership + Lower Fares scenarios:
  - » A frequent route would operate every 15 minutes from Springfield Station to lower Coburg Road along Centennial/MLK. As a result, connections up Coburg Road would be improved.
  - » Route 11 would terminate at Thurston Station, so much of Thurston would take longer to reach (and would require a long walk).
- In the Coverage + Added Service and Coverage + Lower Fares scenarios, there is very little difference in access to and from Springfield Station within 45 minutes compared to existing service.

How far can I travel in **45 minutes** from

Springfield Station

at noon on a weekday?

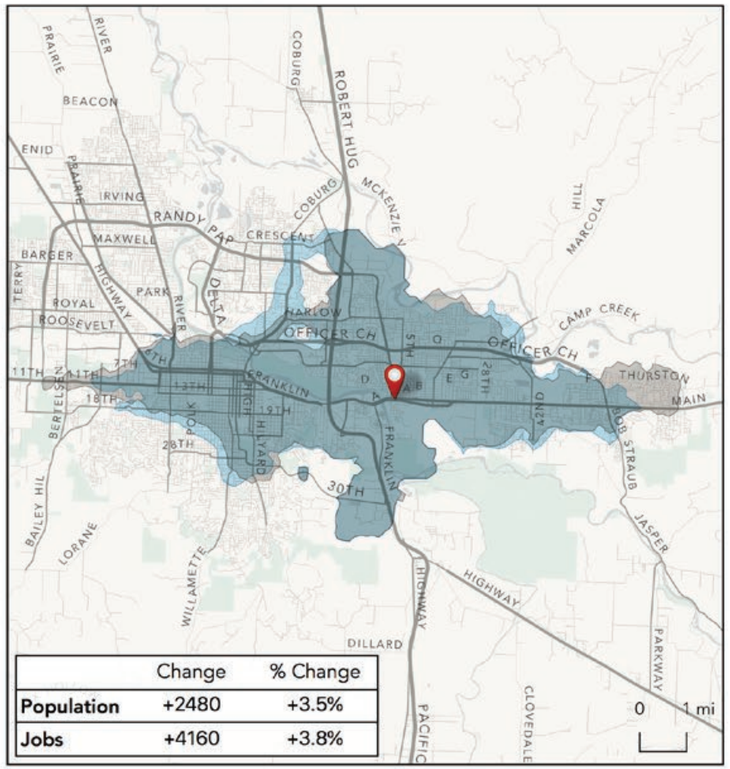
High **Ridership** + Added Service Scenario

This scenario is similar to the one below.

High **Coverage** + Added Service Scenario

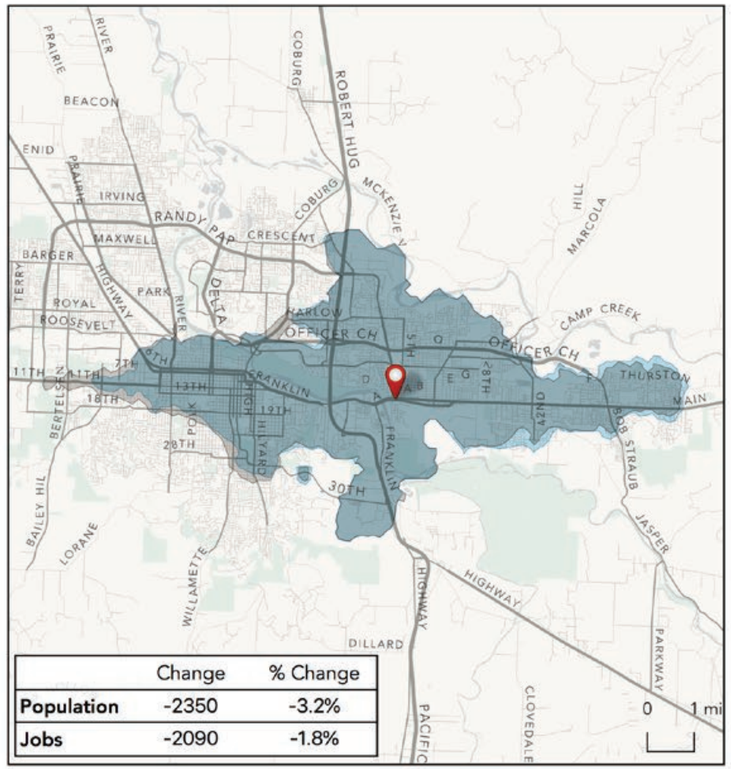
This scenario is similar to the one below.

High **Ridership** + Lower Fares Scenario



	Change	% Change
Population	+2480	+3.5%
Jobs	+4160	+3.8%

High **Coverage** + Lower Fares Scenario



	Change	% Change
Population	-2350	-3.2%
Jobs	-2090	-1.8%

Travel Time Maps: Springfield Station, Weekday Evenings

On weekday evenings:

- The differences between the Added Service and Lower Fares scenarios are limited. For this reason, we show only the travel time maps for the slightly less favorable Lower Fares scenarios.
  - » The main difference would be that in the Added Service scenarios, it would become possible to reach farther out on Main Street due to improvements on Route 11.
  - » This means trips to areas along Main Street would be considerably faster from Springfield Station in the Added Service scenarios.
- Due to the distance between Springfield Station and Eugene Station, the impacts of improved connections to other routes at Eugene Station are not large within 45 minutes.
  - » However, all four scenarios would lead to a slight improvement in access to and from Springfield Station due to the increased frequency of the core segment of the EmX, which would continue to operate every 7.5 minutes between Eugene Station and Springfield Station until 10 PM, seven days per week.

How far can I travel in **45 minutes** from

Springfield Station

at 8pm on a weekday?

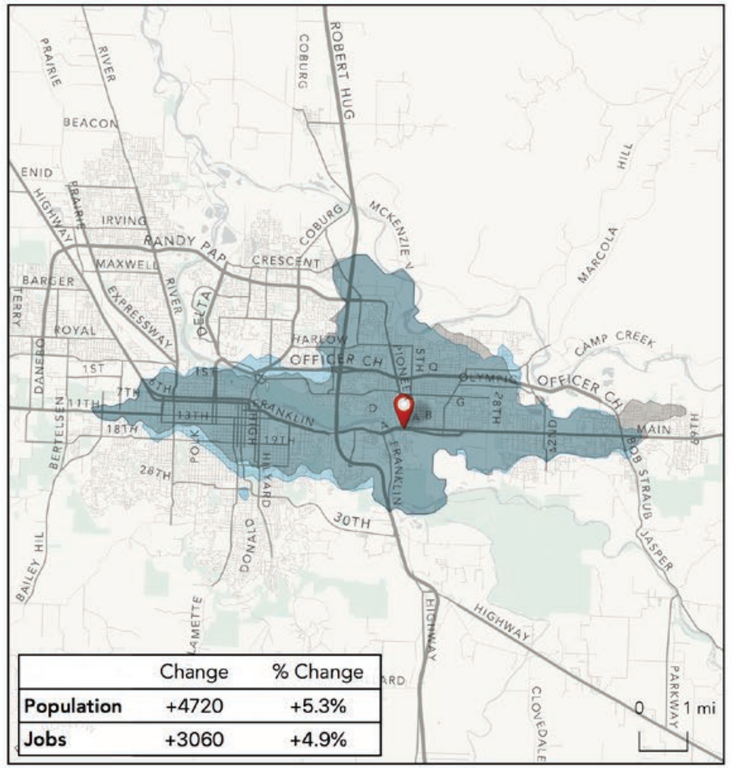
High **Ridership** + Added Service Scenario

This scenario is similar to the one below.

High **Coverage** + Added Service Scenario

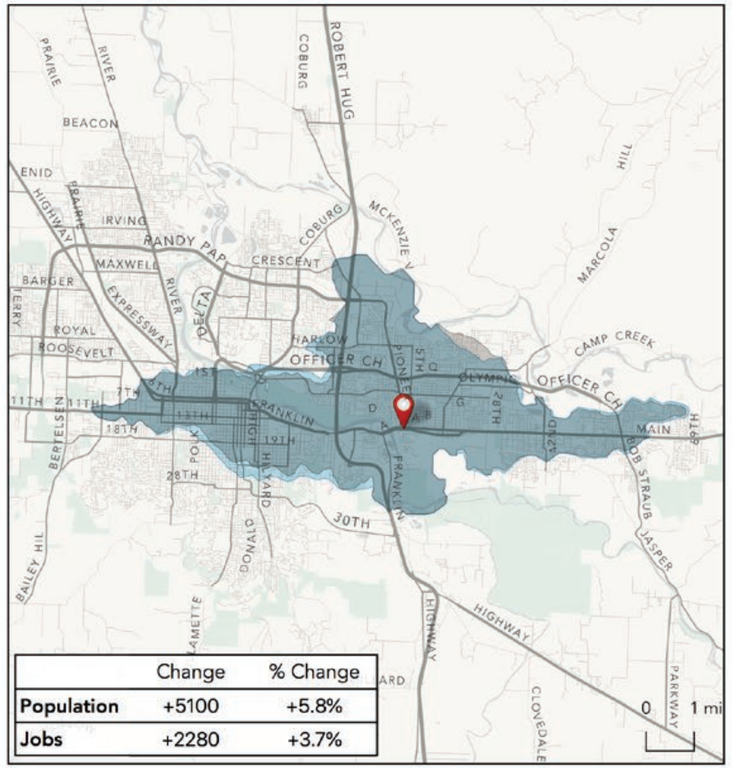
This scenario is similar to the one below.

High **Ridership** + Lower Fares Scenario



	Change	% Change
Population	+4720	+5.3%
Jobs	+3060	+4.9%

High **Coverage** + Lower Fares Scenario



	Change	% Change
Population	+5100	+5.8%
Jobs	+2280	+3.7%

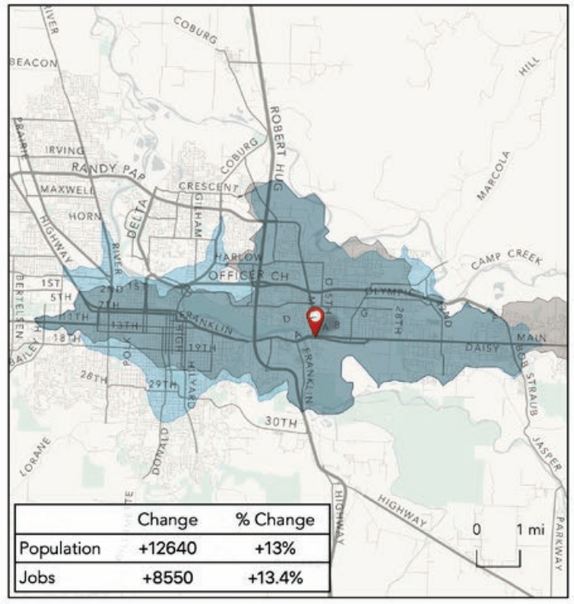
Travel Time Maps: Springfield Station, Weekends

On weekends, each of the four scenarios behaves in a unique way, related both to the proposed network (High Ridership vs. High Coverage) and the proposed priority for new resources (Added Service vs. Lower Fares).

- In the Ridership + Added Service scenario, the area reachable in 45 minutes from Springfield Station would increase significantly. Faster weekend bus speeds mean that there is more advantage to be gained from the connections to other frequent routes at Eugene Station.
  - » The main exception to this is Thurston, because in this scenario Route 11 would terminate at Thurston Station. Trips to places east of Thurston Station would require longer walks and more time.
- In the Coverage + Added Service scenario, the differences are less pronounced because there is a smaller difference compared to existing service. Nonetheless, there is also a slight increase in the places that could be reached. This is especially visible for example in south Eugene.
- In both of the Ridership + Lower Fares and Coverage + Lower Fares scenarios, there would be less weekend service at Springfield Station than in the existing network.
  - » As a result, access to residential parts of Springfield would decrease. For example, because Route 11 would only operate every 30 minutes, far less of east Springfield and Thurston could be reached within 45 minutes.
  - » On the other hand, there would be a slight improvement in access to certain parts of Eugene mostly due to improved EmX frequencies combining with connections to other routes at Eugene Station.

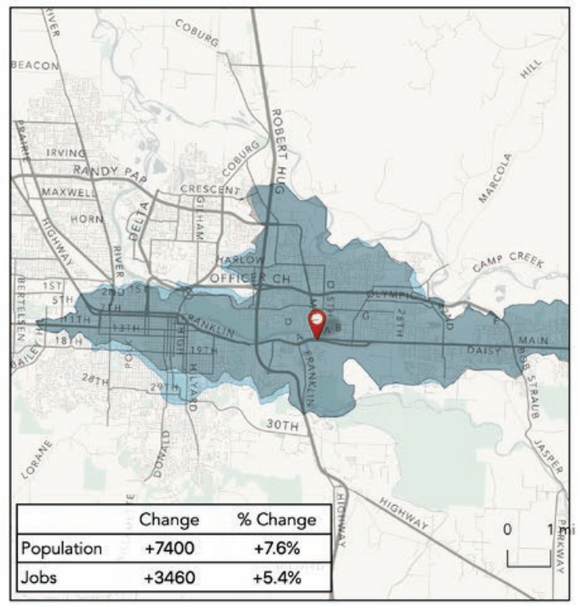
How far can I travel in **45 minutes** from **Springfield Station** at noon on a Sunday?

High Ridership + Added Service Scenario



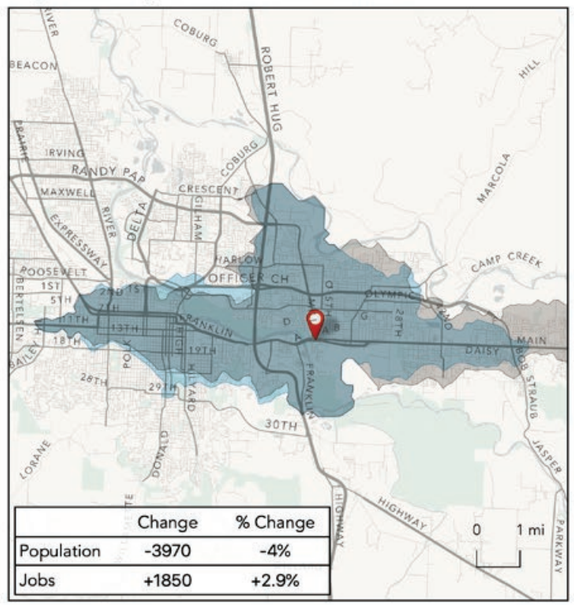
	Change	% Change
Population	+12640	+13%
Jobs	+8550	+13.4%

High Coverage + Added Service Scenario



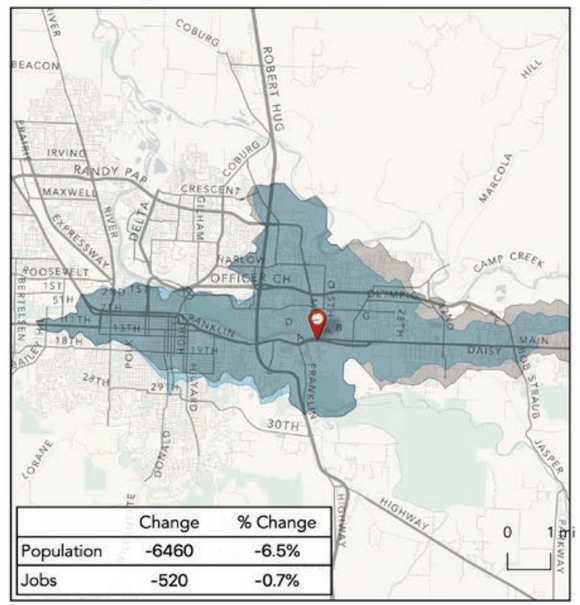
	Change	% Change
Population	+7400	+7.6%
Jobs	+3460	+5.4%

High Ridership + Lower Fares Scenario



	Change	% Change
Population	-3970	-4%
Jobs	+1850	+2.9%

High Coverage + Lower Fares Scenario



	Change	% Change
Population	-6460	-6.5%
Jobs	-520	-0.7%