



# DRAFT SERVICE PLAN MEMORANDUM

Date: January 23, 2020 Project #: 22857  
 To: Cascades East Transit Master Plan, Project Management Team  
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 Subject: Service Plan

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## INTRODUCTION

This memorandum provides the service plan for the CET Transit Development Plan. The service plan was developed to address the needs identified in Memo 4, which were based on:

- ▶ Vision, goals, and objectives developed through the first round of outreach of this project, which are used to guide the process in identifying needs.
- ▶ Analysis of deficiencies and needs of the existing system
- ▶ Results of the on-board surveys and operator interviews conducted in May and June, 2019
- ▶ Additional stakeholder and public input including through the second round of outreach for this project.

The service plan memo will inform (and be coordinated with) the capital memo, which is being developed concurrently.

## PLAN PHASES AND FUNDING ASSUMPTIONS

This section describes plan time frames and funding/cost assumptions. Potential future funding scenarios are outlined to help the agency plan for best- and worst-case scenarios. CET's fiscal year 2019-2020 projected revenue budget for total operations of the Bend and Rural systems is \$9.4 million including \$3.6 million of new revenues from the new Statewide Transportation Improvement Fund (STIF). As discussed below, the projected funding scenarios show CET with the ability to increase its annual budget for the Bend, Community Connector, and Rural services to approximately \$16 million per year over the next 20 years with existing revenue sources and STIF (assuming continued average annual growth in STIF of 4%); however, this only anticipated to keep pace with inflation of service costs and not provide for significant expansion of services beyond the new services being funded by STIF in 2020-21. Potential additional funding sources and combinations of revenue sources are considered in the following mid-term and long-term funding scenarios. For background information on existing funding sources, see Memo #1 (Existing Conditions).

### FUNDING LEVEL ASSUMPTIONS

Funding levels and phasing are summarized by general timeframe and based on the best available current data trends and assumptions; however, revenue projections, project priorities, economic trends, and development patterns can shift over time and result in shifts to funding levels and phasing. The planned phasing and funding levels are as follows:

- ▶ Existing 0-1 Years (FY 2019, includes initial implementation of STIF)
- ▶ Near-term: 1-2 Years (FY 2020-2021, includes STIF)
- ▶ Short-term: 3-5 Years (FY 2022-23 and FY 2023-24, includes STIF)
- ▶ Mid-Term: 6-10 Years (Potential sources in addition to STIF)
- ▶ Long-Term: 11-20 Years (unconstrained financially)

### EXISTING FUNDING SOURCE ASSUMPTIONS

As discussed in Memo #1 (Existing Conditions), CET currently has a mix of revenue sources including federal, service contracts, state, local, fares, one-time revenues, and advertising/other. Also shown in Memo #1 (Existing Conditions), these funding sources fluctuate year-by-year, although a solid base is provided through federal and state grants, service contracts, local funding from cities, and fare revenue. State and local funding is anticipated to be stagnant due to the new STIF funding, however, fares and contract services revenue are anticipated to increase as services are increased and the population grows. Based on this, an annual growth rate of 1.0 percent on non-STIF funding was assumed for future years (0% growth on state and local funds and 2-5% increases in fare and contract revenues) and is shown for each sub-system in Table 1.

CET is administering the STIF funding from the four regional "Qualified Entities" and is also the primary provider of services that will be funded by STIF. The Qualified Entities include the Confederated Tribes of the Warm Springs, Crook County, Deschutes County, and Jefferson County. Currently, projections for the STIF revenue have been provided by the Oregon Department of Transportation (ODOT) through the 2023 fiscal year. The projections are stagnant

for the Confederated Tribes of Warm Springs and vary for the counties with 4% annual growth rates assumed after 2021 based on projected increases in the payroll.

**Table 1: Projected Annual Revenues - Existing Funding Sources**

Funding Source	Sub-System or Qualified Entity	Sample Fiscal Year			
		2019-2020	2024-2025	2029-2030	2039-2040
Total Existing Revenue	Bend System	\$3,544,090	\$3,724,874	\$3,914,880	\$4,324,463
	Rural System	\$2,287,650	\$2,404,343	\$2,526,989	\$2,791,368
STIF	Confederated Tribes of the Warm Springs	\$100,000	\$100,000	\$100,000	\$100,000
	Crook County	\$223,000	\$313,664	\$381,620	\$564,891
	Deschutes County	\$3,049,000	\$4,327,482	\$5,265,043	\$7,793,550
	Jefferson County	\$222,000	\$314,746	\$382,936	\$566,839
<b>TOTAL</b>		<b>\$9,425,740</b>	<b>\$11,185,109</b>	<b>\$12,571,468</b>	<b>\$16,141,111</b>

### FARE REVENUE

CET should further explore the impact of a potential fare-free system or zone such as Bend. Bend fare revenues are currently approximately \$260,000 annually which is projected to be approximately \$500,000 annually by 2040 assuming 3% annual growth. Fare-free transit has the potential to increase ridership which could increase some formula funds or help CET qualify for new funding sources such as STIC (Small Transit Intensive Community); however, fare-free programs can also increase demand and costs on paratransit services and reduce contract service revenue making the potential revenue loss much greater.

### POTENTIAL FUTURE FUNDING SOURCES

There are several additional funding sources that CET could pursue if additional funding was desired such as a property tax, employer-based payroll tax, or transit utility fee. The property tax and employer-based payroll tax are discussed below as examples of the range of funding that could be generated by these approaches. Table 2 summarizes the projected growth for these potential funding sources for the 20-year planning horizon.

### PROPERTY TAX

CET could pursue becoming a transit district with taxing authority and establish a property tax, similar to other transit providers in the state. HB 2745 authorizes certain intergovernmental entities created to operate, maintain, repair and modernize non-rail transportation facilities to impose property taxes in support of those purposes, or issue general obligation bonds supported by property tax revenues, if entity obtains approval of governing bodies of affected cities and counties. This may allow CET to implement a property tax without becoming a district.

A property tax would provide a determined percentage per \$1,000 of assessed property value, such as two tenths of one percent. Table 1 shows three tax rates explored to estimate revenue

that CET could see with a property tax. In addition to variations in this revenue source based on the tax rate (0.05 percent, 0.03 percent, or 0.02 percent), two potential tax area bases were examined. The first tax area analyzed included all property within the counties serviced by CET. The second tax area includes only the incorporated areas and Warm Springs within those counties. With three tax rates and two tax areas examined, Table 2 shows six potential projections of a property tax. For all six projections, an annual growth rate of 5.0 percent was assumed for future years which includes the allowed 3% annual increase in the assessed property values and assumes a 2% annual increase for growth.

**EMPLOYER-BASED PAYROLL TAX**

Another potential future funding source is an employer-borne payroll tax through an Oregon Revised Statutes legislative change equal to one tenth of one percent. A tax of that amount would be equivalent to the employee-borne tax funding the STIF.

**Table 2: Projected Revenues - Potential Future Funding Sources**

Potential Future Funding Source	Variation	Fiscal Year			
		2019-2020	2024-2025	2029-2030	2039-2040
Property Tax	0.05% within Counties	\$14,979,349	\$19,117,867	\$24,399,781	\$39,744,673
	0.05% within Incorporated Areas	\$8,310,214	\$10,606,173	\$13,536,463	\$22,049,472
	0.03% within Counties	\$8,987,610	\$11,470,720	\$14,639,869	\$23,846,804
	0.03% within Incorporated Areas	\$4,986,128	\$6,363,704	\$8,121,878	\$13,229,683
	0.02% within Counties	\$5,991,740	\$7,647,147	\$9,759,913	\$15,897,869
	0.02% within Incorporated Areas	\$3,324,086	\$4,242,469	\$5,414,585	\$8,819,789
Employer-based Payroll Tax	N/A	\$3,594,000	\$5,055,891	\$6,129,599	\$9,025,280

**FUTURE FUNDING SCENARIOS**

Several future funding scenarios are presented in Table 3. Each scenario uses the existing funding source projections as a base, then adds new funding sources to estimate projected funding. The scenarios include the following:

- ▶ excluding STIF funding (illustrative only to see the impact of STIF on CET’s budget) Existing funding sources including STIF funding
- ▶ Existing funding sources including STIF with a payroll tax of two tenths of a percent for all areas within the serviced counties
- ▶ Existing funding sources including STIF with a payroll tax of two tenths of a percent for all incorporated areas within the serviced counties
- ▶ Existing funding sources including STIF with an employer-based payroll tax
- ▶ Existing funding sources with STIF funding, a payroll tax of two tenths of a percent for all areas within the serviced counties, and an employer-based payroll tax

- ▶ Existing funding sources with STIF funding, a payroll tax of two tenths of a percent for all incorporated areas within the serviced counties, and an employer-based payroll tax

**Table 3: Potential Future Funding Scenarios**

ID	Funding Scenario	Variation	Fiscal Year			
			2019-2020	2024-2025	2029-2030	2039-2040
A	Existing Revenue Sources (excluding STIF)	Includes Both Sub-systems	\$5,831,740	\$6,129,217	\$6,441,869	\$7,115,831
B	Existing Revenue Sources (including STIF)	N/A	\$9,425,740	\$11,185,109	\$12,571,468	\$16,141,111
C1	Existing + STIF + 0.02% Property Tax	Within Counties	-	\$18,832,255	\$22,331,381	\$32,038,980
C2		Within Incorporated Areas	-	\$15,427,578	\$17,986,054	\$24,960,900
D	Existing + STIF + Employer-based Payroll Tax	N/A	-	\$16,241,000	\$18,701,068	\$25,166,391
D1	Existing + STIF + Property Tax + Payroll Tax	0.02% Property Tax Within Counties	-	\$23,888,147	\$28,460,980	\$41,064,260
D2		0.02% Property Tax Within Incorporated Areas	-	\$20,483,469	\$24,115,653	\$33,986,180

**COST ASSUMPTIONS**

The following unit cost assumptions were used in estimating service operating costs, based on projections coordinated with CET’s fiscal department. The “Existing” time frame reflects CET’s current costs for FY 2020 (2019-2021) for each service type that CET operates, based on the November 2019 Management Report, which pre-dates new service launched based on the STIF Plans completed by each qualified entity for FY 2019- FY 2021. Subsequent average cost increases of 5% annually are assumed. Memo #1 (Existing Conditions) identified a set of peer transit agencies. The bottom row of the table provides the median operating cost per hour for these agencies, escalated for inflation using the same assumptions as for CET costs.

**Table 4: Unit Cost Assumptions for Operating Costs**

Sub-System	Existing <sup>1</sup>	Near-Term <sup>2</sup>	Short-Term <sup>2</sup>	Mid-Term <sup>2</sup>	Long-Term <sup>2</sup>
	2019-2020	2020-2021	2024-2025	2029-2030	2039-2040
Bend Dial-A-Ride	\$74.15	\$81	\$101	\$132	\$220
Bend Fixed-Route	\$75.18	\$82	\$102	\$133	\$223
Rural Dial-A-Ride	\$87.14	\$94	\$116	\$151	\$251
Rural Community Connector	\$95.34	\$103	\$128	\$166	\$277
Rural Route 20	\$79.26	\$86	\$107	\$139	\$231
Peer Median <sup>3</sup>	\$91	\$101	\$123	\$156	\$256

Notes: 1. Existing costs for 2019. 2. An additional approximately \$2 per revenue hour was added to the 2019 Existing cost to account for vacant positions. This cost was subsequently increased by 5% annually. 3. A peer median cost of \$85.40 for peer agencies in FY 2017 was identified in Memo #1, and similarly escalated by the 4% annually. 2. Costs for subsequent time frames reflect assumed 3% annual cost increases.

## RECOMMENDATIONS

CET's existing funding sources (including the STIF funding) provide a base for continuing to provide existing transit services in the region and to enhance those services into the future. However, some of these existing funding sources are either declining or not increasing to keep up with inflation.

Many of the service recommendations included in this memorandum will require additional funding such as those identified above. In the draft TDP Service Plan, the Existing through Short-Term time frames assume no new funding sources. Starting in the mid-term time frame, additional funding resources are assumed for illustrative purposes, based on the C2 funding scenario (0.02% Property Tax within incorporated areas only).

As with all funding forecasts, estimates can change quickly given the uncertainty of federal and state funding levels, and CET should continue to continually monitor the funding environment and update the future revenue forecast regularly.

## SERVICE TYPES

This section describes current and future service types operated by CET, and provides guidelines for local transit service types and frequency within the CET service area.

### TRANSIT MARKET LAND USE GUIDELINES


















Public transportation service is generally designed to be compatible with the surrounding land use context and intensity of development, which is often measured using population and employment densities. These densities reflect the presence of residential locations and activity centers where people need to get to and from on a regular basis. Setting development density guidelines provides transit agencies with quantifiable benchmarks that they can use to most efficiently target public transportation resources where there is the greatest likelihood people will choose to use transit.

Transit service can be categorized into the following types:

- ▶ **Local service** provides connections within communities, generally with relatively closely spaced stops. Local services can be designed to achieve productivity or coverage, although in practice most transit systems have a mix of these services and strike a balance between these goals:
  - ▶ **Productivity-oriented services** are relatively high frequency routes designed to operate to maximize ridership per hour of service. These routes aim to provide quick, convenient trips that provide high convenience and mobility to the busiest activity centers and highest concentrations of residences and jobs.
  - ▶ **Coverage-oriented services** are lower frequency services typically designed to serve fewer riders over a relatively large area. Service types in this category may provide transit-dependent customers not living near bus routes with reliable mobility options that may require reservations and less direct travel.
- ▶ **Regional or intercity services**, such as the CET Community Connector routes, typically connect cities, serving relatively few major stops at key activity or employment centers and connecting to local service with each city. Intercity frequency is based on market size and can be scaled to meet demand.

Figure 2 summarizes the *local* transit route types, with a description, typical transit service type and vehicle used to serve the routes, and population and employment density threshold guidelines.



LAND USE			TRANSIT	
Land Use Type	Residents per Acre	Jobs per Acre	Appropriate Types of Transit	Frequency of Service
 Urban Mixed-Use	20+	15+	   BRT Rapid Bus Local Bus	 10-15 minutes
 Neighborhood & Suburban Mixed-Use	10-20	10-15	 Local Bus	 15-30 minutes
 Mixed Neighborhoods	10-15	5-10	  Local Bus On-Demand	 30-60 minutes or on-demand
 Low Density	2-10	2-5	   On-Demand Rideshare Volunteer Driver Pgm	 60 mins or less or on-demand

Note: Community Connector routes are not subject to the density guidelines since they operate between communities; frequency of these services is based on market size and demand. On-demand service include the shopper/medical shuttle and microtransit service types identified in the next section.

Source: Nelson\Nygaard. Synthesis of industry standards, including TCRP Report 165: Transit Capacity and Quality of Service Manual, adapted to local context

Figure 1: Local Transit Service Design Policy Guidelines Summary

### RECOMMENDED SERVICE TYPES

The following transit service types are identified to meet the needs identified in earlier analysis and outreach conducted for the TDP.

- ▶ **Local fixed route transit service** is relevant for areas meeting the population or employment density guidelines presented in Figure 2, with average population density above 10 people per acre or average employment density above five jobs per acre (combined population and employment densities can also be considered).
- ▶ **Deviated fixed-route (or flex-route) service** is relevant for lower-density areas that do not meet fixed route service guidelines, or that may be just beyond existing fixed routes, such that occasional route deviations may provide sufficient mobility to certain areas. Deviated services can be used to provide local access as part of an intercity, (i.e., Community Connector, route). Community Connector Route 20 (Madras-Warm Springs) currently operates as a deviated fixed route within Warm Springs and Madras on either end of scheduled intercity trips. This service type can also include **shared-ride shuttles**, such as regularly scheduled trips between transit stops/stations and significant employment areas at key times of the day or trips with a demand-responsive element to major shopping and medical centers to help people meet non-work transportation needs on selected days/times. (CET currently provides demand-responsive service within Bend city limits to people with disabilities and low-income seniors. Demand-response service

costs more to provide per trip, which limits the amount of service that can be provided.) New technology and service models may make it possible to expand the availability of services in this category.

- ▶ **Rural Dial-A-Ride (Local Public Bus)** is a service that is open to the general public, as CET currently operates in small cities outside of Bend, including Redmond, Prineville, Sisters, Madras, and La Pine. Local public bus service does not have eligibility requirements. Riders must call at least a day ahead to schedule a ride, and ride times are scheduled based on availability.
- ▶ **ADA Paratransit (Bend Dial-A-Ride or RIDE assist)** is a required service that CET operates subject to the Americans with Disabilities Act (ADA). The ADA is a civil rights law that requires public transportation to be accessible to persons with disabilities. The ADA recognizes that some people with disabilities will not be able to utilize fixed route services, even ones that have wheelchair lifts, and requires that equivalent transit options be available to these individuals as to the general public. At a minimum, ADA Paratransit is required to run during the same hours of operation and within  $\frac{3}{4}$  mile on any side of a fixed route. As with Dial-A-Ride (Local Public Bus), ADA paratransit requires an advanced reservation and provides door-to-door wheelchair-accessible service. Unlike the Dial-A-Ride/Local Public Bus, however, ADA paratransit is only intended for eligible passengers. CET operates ADA paratransit service in Bend, with eligibility requirements that determine who may use this service. The service in Bend exceeds the minimum requirements of the ADA by allowing eligible low-income seniors to also use the service.
- ▶ **Microtransit / On-Demand Service** is a relatively new service delivery model that provides what can be thought of as a middle ground between taxis and public transit. The City of Bend, OSU-Cascades, CET, and other community partners recently contracted to operate a microtransit pilot in summer and fall 2019, with another phase of service underway in January 2020 (see Ride Bend below). Passengers generally request rides through a smartphone app, while most providers can also accommodate rides scheduled via a phone call. The provider's scheduling software then optimizes vehicle routing in real-time to serve passengers most efficiently. Passengers are notified when the vehicle will pick up, either through a smartphone app or by phone call or text. The design of microtransit services varies, and may include point-to-point service within a defined area (see Ride Bend, below), flex routes with dynamic scheduling for deviations, or service that feeds into existing fixed route transit at scheduled connections. Microtransit is not currently operated by CET but is being piloted in the service area by community partners.
- ▶ **Community Connector** is a network of fixed routes that connects riders between Bend and Redmond and the cities of Culver, La Pine, Madras, Metolius, Prineville, Sisters, and Warm Springs. This service can be considered an intercity bus service; the Federal Transit Administration (FTA) formally calls it Commuter Bus service. Community Connector is open to the general public and operates Monday through Friday. Community Connector Route 20 also offers deviated fixed-route service at either end of its intercity fixed route within Madras and Warm Springs at specific times and within a  $\frac{3}{4}$  mile distance of a transit stop. This model of providing local flexible service in between scheduled intercity trips may be replicated for other Community Connector routes and cities.
- ▶ **Shopping/Medical Shuttle** is a public transit service designed to serve regular trips to key local or regional activity centers such as commercial districts, grocery stores, or medical facilities. These routes may be the only regular or fixed-route service available within the area or times that they operate; outside of areas where there is ADA Paratransit service, they must operate as a deviated service. These routes generally carry more passengers per vehicle hour than a purely demand-responsive service. This type of service is not currently operated by CET.
- ▶ **Recreational Services** include several specialized or seasonal shuttles that CET currently operates, which provide a connection to outdoor attractions in and around Bend. Some are fare-free. These include:

- ▶ **Ride the River**, a summer shuttle that connects Riverbend Park and Drake Park, which are the beginning and ending locations for tubing float trips on the Deschutes River
- ▶ **Lava Butte Shuttle**, a summer shuttle that carries riders to the top of Lava Butte (south of Bend) for mountain-top views of Central Oregon
- ▶ **Mt. Bachelor Winter Shuttle**, which connects Bend, park-and-ride locations, and a SnoPark with the Mt. Bachelor ski area. A Mt. Bachelor Summer Shuttle is scheduled to be piloted in summer 2022, funded by a Federal Lands Access Program (FLAP) grant for an initial two-year period.
- ▶ **Ride Bend**, which prior to summer 2019 had been a fixed route circulator serving popular destinations in and around downtown Bend and the Old Mill. Ride Bend piloted an on-demand service delivery model in summer and fall 2019, using a contracted service that operates several 12-passenger vans for trips to and from locations within a designated zone in central Bend. The pilot area was defined in order to serve the areas with the highest travel demand during the summer months. The fall 2019 pilot area included OSU-Cascades, Central Oregon Community College, and Northwest Crossing, plus downtown Bend and a portion of the Old Mill District. Results of the pilot study are currently under review, but initial ridership figures show an increase in ridership over past fixed-route service. An additional period of service is underway as of January 2020.
- ▶ **Micromobility** includes shared active transportation vehicles such as scooters and bicycles, possibly with electric assist motors; this service type may be considered for low density areas within 1 mile of a fixed route stop or development centers to increase the access area. CET does not currently operate micromobility options, however bikeshare is available on a limited basis in Bend.
- ▶ **Mobility hubs** are places that provide connections between different types of transportation options, often including transit, micromobility, and on-demand services. Mobility hubs may be co-located with transit centers, secondary transit hubs, or places where routes intersect to facilitate easy transfers. Additional mobility options present at these hubs expand access to transit, and hubs typically include physical and digital information that makes access to these services seamless and easy-to-navigate. This approach to transit centers is new to CET and the Central Oregon region.

From the above recommended service types, Figure 3 summarizes existing and proposed future service types by time frame.

**Figure 2 Local Service Types by Time Frame – Existing and Future (Proposed)**

Local Service Area	Fixed-Route	ADA Paratransit	Dial-A-Ride	Flex-Route	Micro-transit	Community Connector	Rural Shopping / Medical Shuttle
<b>Deschutes County</b>							
Bend	Existing	Existing	Existing	-	Potential	Existing: 24, 28, 30	-
Redmond	Future	Future	Existing	-	Potential	Existing: 22, 24, 26, 29	-
Sisters	-	-	Existing	Potential	-	Existing: 28, 29	Potential
La Pine	-	-	Existing	Potential	-	Existing: 30	Potential
Sunriver	-	-	-	Potential	-	Future	Potential
Deschutes River Woods	-	-	-	-	-	Existing: 30	Potential
<b>Jefferson County</b>							
Madras	-	-	Existing	Future	-	Existing: 22	-
Metolius	-	-	-	Potential	-	Existing: 22	Potential
Culver	-	-	-	Potential	-	Existing: 22	Potential
Terrebonne	-	-	-	-	-	Existing: 22	Potential
Crooked River Ranch	-	-	-	-	-	-	Potential
<b>Crook County</b>							
Prineville	-	-	Existing	Future	-	Existing: 26	-
Powell Butte	-	-	-	-	-	Existing: 26	Potential
Juniper Canyon	-	-	-	-	-	-	Potential
<b>Confederated Tribes of Warm Springs</b>							
Warm Springs	-	-	-	Existing	-	Existing: 20	-

## COMMUNITY CONNECTOR SERVICE

### OVERALL SERVICE NEEDS

Table 4 summarizes existing and future needs for the CET intercity system as noted in the Needs Memorandum.

**Table 5: CET Intercity System Needs**

Transit Service Need	Time Frame
More frequent Community Connector service (various routes)	Short to Mid
Community Connector service on Saturdays (various routes)	Short
New Community Connector route between Warm Spring and Government Camp	Short
More direct trips between Prineville and Bend during peak periods (via interlining)	Short to Mid
Service to Redmond Airport (using Route 26)	Short to Mid
Serve Redmond Airport early morning departures and afternoon arrivals	Short to Mid
Add service to Sunriver (e.g., via Huntington) – possibly include Mount Bachelor). See Needs Memo for details.	Short to Mid

### SUMMARY OF SERVICE ENHANCEMENTS

The following service enhancements are proposed to be phased in over time to meet those needs:

- ▶ **Enhance Community Connector service in the highest demand markets** by adding trips to increase frequency and service span
- ▶ **Modify Community Connector routes to provide more direct service**, by interlining selected routes, by providing a limited number of additional stops at major activity centers along a route, and/or redesigning Community Connector routes within Bend. Local service alternatives for Bend include transitioning from a single transit hub (current Hawthorne Station transit center located east of the Bend Parkway) to a multi-hub model which could include serving one or more mobility hubs west of the Bend Parkway. Discussion of the relevant routes (24, 29, and 30) identifies potential options and summarizes access, travel time, cycle time, and cost implications.
- ▶ **Develop enhanced regional transit stops and stations, including Mobility Hubs**, which bring together public transportation and other mobility services. Figure 4 highlights conceptual locations; additional discussion is provided in the Capital Plan memorandum.
- ▶ **Add Shopping/Medical Shuttle service in select markets** to provide a midday travel option with demand-responsive local pickups and direct service to select destinations, both to complement existing Community Connector routes and to serve new markets (see the Service Types section above for a more detailed description of this type of service).
- ▶ **Add service to selected new markets** including Sunriver, Juniper Canyon, and Crooked River Ranch.
- ▶ **Add Saturday service for the Community Connector system**

Figure 4 summarizes key changes to Community Routes. More detailed discussion/analysis of specific enhancements follows.

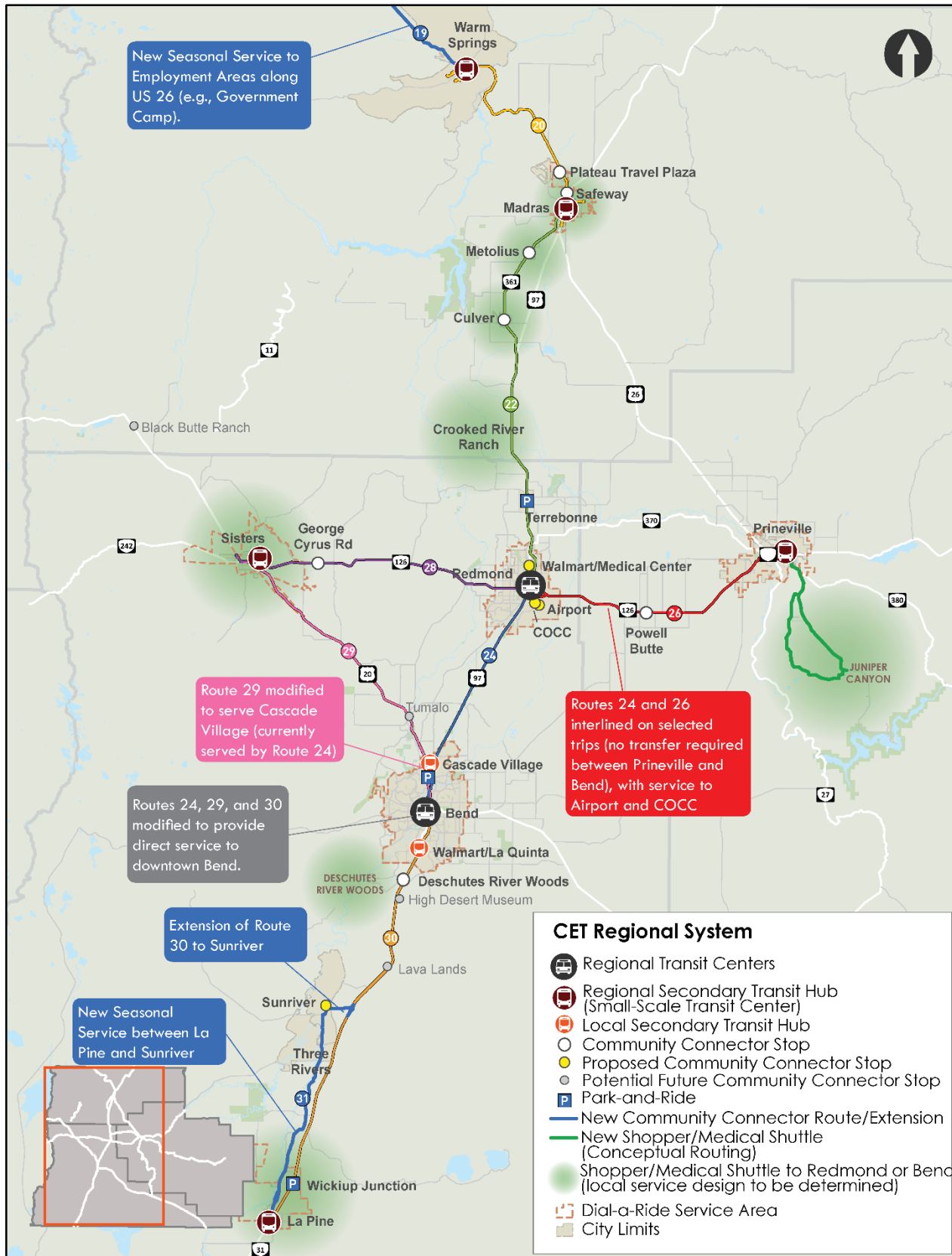


Figure 3: Community Connector Service Concepts

## MODIFICATIONS TO EXISTING SERVICES

Each section below highlights proposed changes to routing, service levels, and stops.

### ROUTE 20: WARM SPRING-MADRAS

- ▶ Improved connection to Central Oregon Breeze (see Capital Plan).
- ▶ Add Saturday service.
- ▶ Additional morning and evening trip, with evening being a higher priority.

### ROUTE 22: MADRAS - REDMOND COMMUNITY CONNECTOR

- ▶ Add a stop in the vicinity of St. Charles Medical Center/Walmart in Redmond.
- ▶ Add more frequent peak period trips and an evening trip.
- ▶ Add midday service in the form of a shopping/medical shuttle trip (see separate section below).
- ▶ Add additional local circulation (see Madras local service section below), to be provided by local Dial-A-Ride and/or the Community Connector vehicle.
- ▶ Address service to smaller communities not served by Community Connector Routes, such as Crooked River Ranch or Juniper Canyon, through shopper/medical shuttle services.
- ▶ Add Saturday service.



**ROUTE 24: REDMOND-BEND COMMUNITY CONNECTOR**

Proposed changes for Route 24 include:

- ▶ Modify routing in Bend to provide more direct service as illustrated in Figure 5. Currently, Route 24 stops at Cascade Village and Hawthorne Station. In the near- to short-term, Route 24 could be modified to continue to downtown while maintaining a stop on the eastside near Hawthorne Station. Longer-term, Route 24 could circulate through downtown enroute to a south downtown mobility hub. Both future alternatives would serve a greater number of residents than the current configuration, but would add several minutes of travel time to each trip. These options would both result in greater access to areas of higher job density.
- ▶ Add more frequent service all day and an additional evening trip.
- ▶ Improve connections with local service in Redmond in coordination with a potential transition to flex/fixed-route service (depending on outcome of the planned local transit study).
- ▶ Add Saturday service

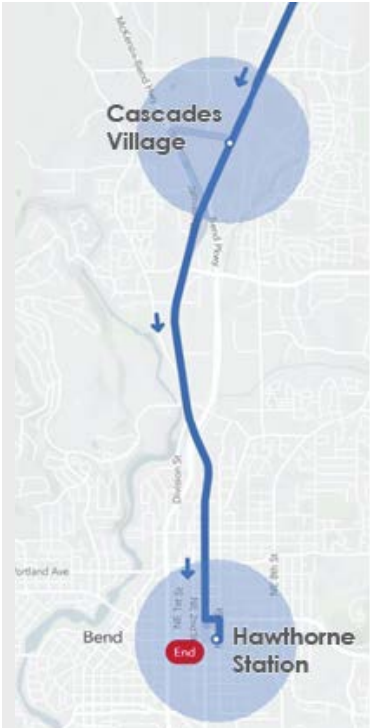
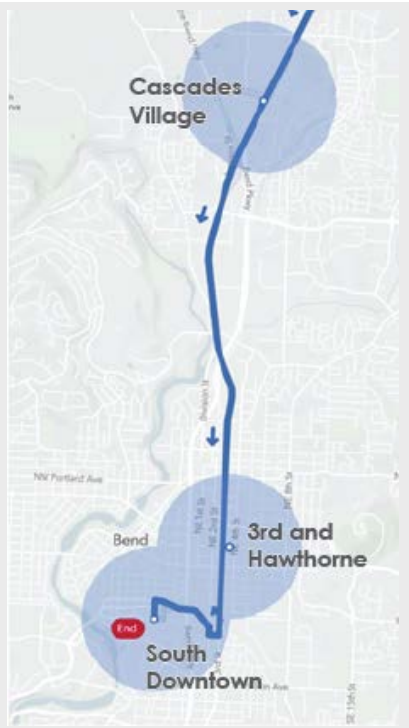
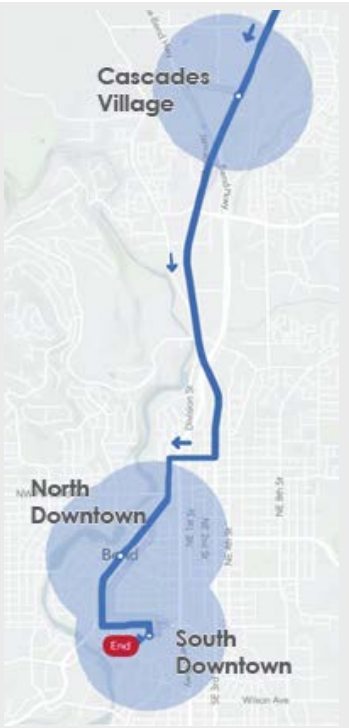
	Baseline	Near/Short-Term Transition	Longer-Term
<b>Local Routing &amp; Stops</b>	Cascade Village Hawthorne Station	Cascade Village 3 <sup>rd</sup> & Hawthorne South Downtown Hub	Cascade Village North Downtown Hub South Downtown Hub <i>no stop on eastside</i>
<b># People w/in ½ mile</b>	4,000	5,400 (+1,400)	5,900 (+1,900)
<b># Jobs w/in ½ mile</b>	3,600	5,500 (+1,900)	5,300 (+1,700)
<b>One-Way Travel Time (min)</b>	32	+4	+3
<b>Map</b>			

Figure 4 Route 24 Bend Routing Options (also applies to Route 29)



**ROUTE 26: PRINEVILLE-REDMOND**

- ▶ Redesign to serve Redmond Airport and COCC. Possible routing is shown in Figure 6. This new configuration would add approximately five minutes of travel time each direction as compared with existing routing, resulting in roughly 10 minutes of additional cycle time.
- ▶ Interline with Route 24, at least for selected peak period trips, to provide a one-seat ride to Bend.
- ▶ Add more frequent peak period trips and an evening trip.
- ▶ Add midday service in the form of a shopping/medical shuttle trip (see separate section below).
- ▶ Add additional local circulation (see Prineville local service section below), to be provided by local Dial-A-Ride and/or a Community Connector vehicle.
- ▶ Add Saturday service

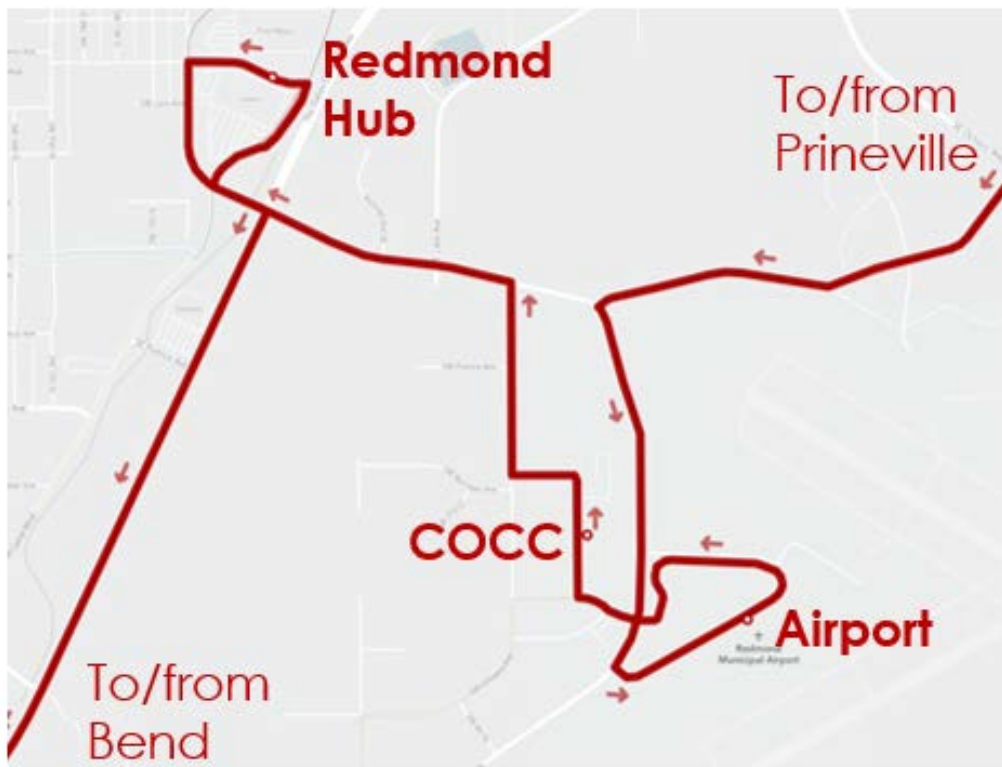


Figure 5: Route 26 Potential Service to Redmond Airport and COCC

**ROUTE 28: SISTERS-REDMOND**

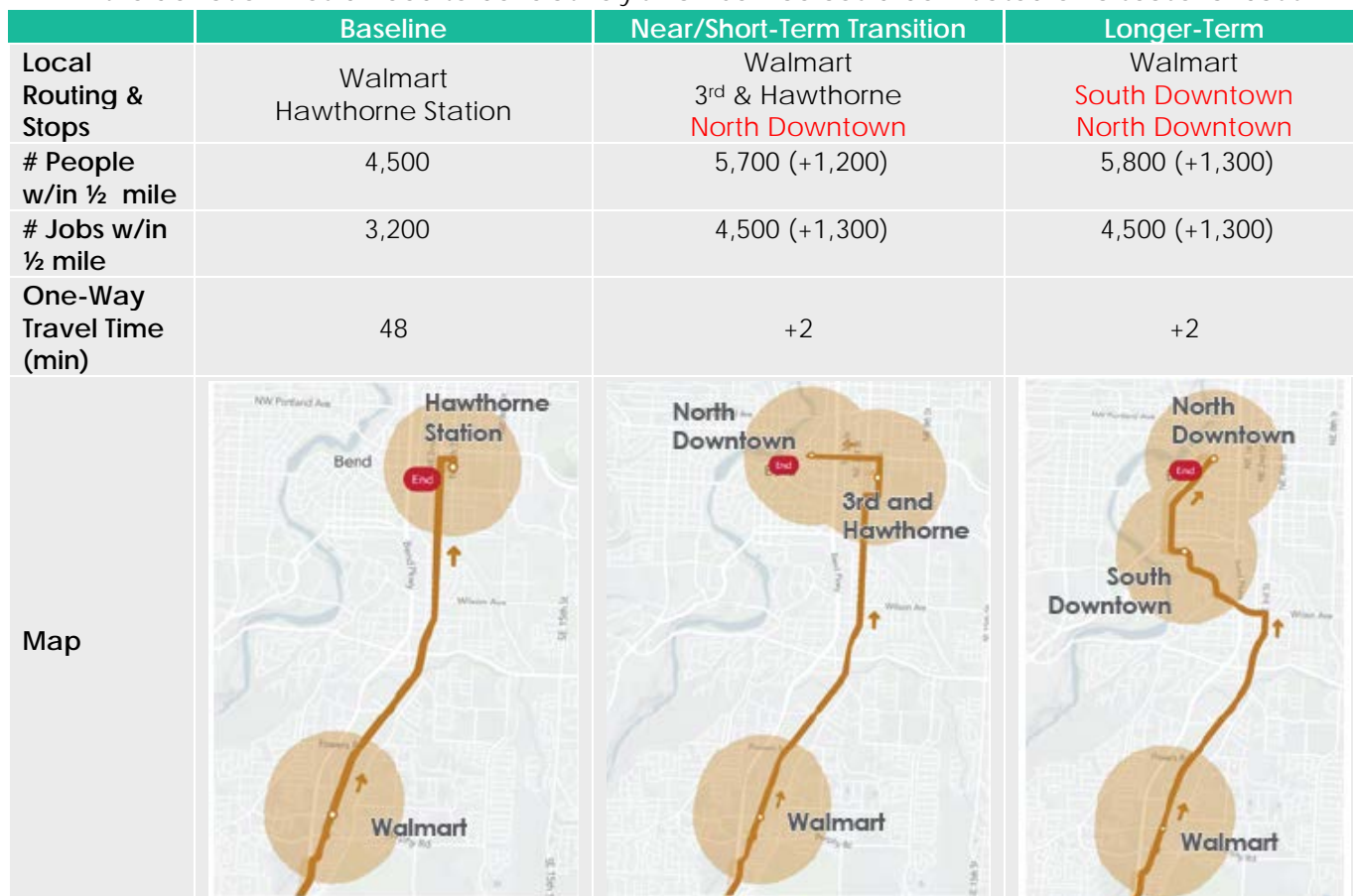
- ▶ Improve local stop branding and amenities within Sisters (see Capital Plan).
- ▶ Add additional local circulation (see Sisters local service section below), to be provided by the Community Connector vehicle. This would increase access to the service since local Dial-A-Ride currently only operates one day per week for limited hours.
- ▶ Determine if smaller communities along route, such as Eagle Crest, need service

**ROUTE 29: SISTERS-BEND**

- ▶ Improve local stop branding and amenities within Sisters (see Capital Plan).
- ▶ Contingent on roadway improvements, stop at Tumalo between Sisters and Bend.
- ▶ Provide a stop at Cascade Village in Bend.
- ▶ Modify routing in Bend to provide more direct service as illustrated in Figure 5 (above). Currently, Route 29 stops at Hawthorne Station. In the near- to short-term, Route 29 could be modified to continue to downtown while maintaining a stop on the eastside near Hawthorne Station. Longer-term, Route 24 could circulate through downtown enroute to a south downtown mobility hub.
- ▶ Add additional local circulation (see Sisters local service section below), to be provided by the Community Connector vehicle. This would increase access to the service since local Dial-A-Ride currently only operates one day per week for limited hours.
- ▶ Add Saturday service

**ROUTE 30: LA PINE - BEND**

- ▶ **Identify an improved/more efficient stop location serving Deschutes River Woods**, such as at the Riverwoods Country Store. The current location requires a deviation off the highway and is subject to train delays. If an improved location cannot be secured, CET could consider discontinuing the stop given relatively low ridership, and identifying an alternative way to serve Deschutes River Woods (see Local Service in Smaller Communities).
- ▶ **Modify routing in Bend to provide more direct service to downtown** as illustrated in Figure 7. Currently, Route 29 stops at Hawthorne Station. In the near- to short-term, Route 29 could be modified to serve a north downtown mobility hub (or a short loop) while maintaining a stop on the eastside at/near Hawthorne Station. Longer-term, Route 29 could serve a south downtown mobility hub and circulate through downtown to a north downtown mobility hub. Depending on the location of future downtown hubs, travel time increases would be minimal for both future options. Each would considerably increase the number of people and jobs that Route 29 serves.
- ▶ **Modify routing to serve Sunriver**. See Figure 4 for an illustration. This option would increase travel time by approximately 10 minutes in each direction, but serve additional population and jobs.
- ▶ **Add Saturday service**
- ▶ **Potential service to the High Desert Museum and Lava Lands Visitor Center** from Bend and Sunriver is noted as a desired service. These are not included in the proposed Route 30 options. Safe roadway access to these destinations would need to be provided and the travel time impact of the deviation would need to be relatively small. Service could be initiated on a seasonal basis.



**Figure 6: Route 30 Bend Routing Options**

	Baseline	US 97 Deviation Option	Huntington Drive Option
<b>Local Routing &amp; Stops</b>	US 97 - No service to Sunriver	S Century Drive (out and back) to/from a stop at the Country Store/Starbucks (in the vicinity of Venture Ln), with a connection to Route 31.	An alternative routing continuing on S Century Drive to Huntington, returning to US 97 at Burgess Road/Wickiup Junction stop, is estimated to take an additional 4 minutes one-way but could serve 1-2 additional stops in Sunriver
<b># People w/in ½ mile</b>	4,500	4,100 (-400)	4,100 (-400)
<b># Jobs w/in ½ mile</b>	3,300	2,600 (-700)	2,600 (-700)
<b>One-Way Travel Time (min)</b>	43 - 59 (varies by trip and stops)	+10	+18

**Figure 7: Route 30 Modification to Serve Sunriver**

**NEW SERVICES**

This section describes proposed new Community Connector services across the CET service area, including proposed shopping/medical shuttle services.

**ROUTE “19”: WARM SPRINGS EMPLOYMENT CENTER SERVICE**

- ▶ Add service between Warm Spring and regional employment along US 26, such as Government Camp and ski resorts.
  - ▶ Phasing options: Initial seasonal service, 5 weekdays per week (Wednesday-Sunday), 4 months per year (December-March) expanding to year-round service.
  - ▶ This service could potentially connect to expanded transit options in the Mt Hood area in the future.

**REDMOND AIRPORT SERVICE (INCLUDING ROUTE 26 AND THROUGH-ROUTING TO BEND)**

Two complementary options for providing service to the Redmond Airport are to use the Community Connector and a local route; routing is shown in Figure 9.

- ▶ Modify Route 26 to provide Airport connections between the Redmond Hub and the Airport, including a stop at Redmond COCC (which would provide a one-seat connection from Bend through Route 24-26 interlining) as described above.
- ▶ Route 24 would be supplemented by a local route connection between the Redmond Hub and Redmond Airport serving early morning departures and afternoon arrivals (could be an extension of a Community Connector route or part of regular deviated fixed-route or fixed-route service in Redmond).

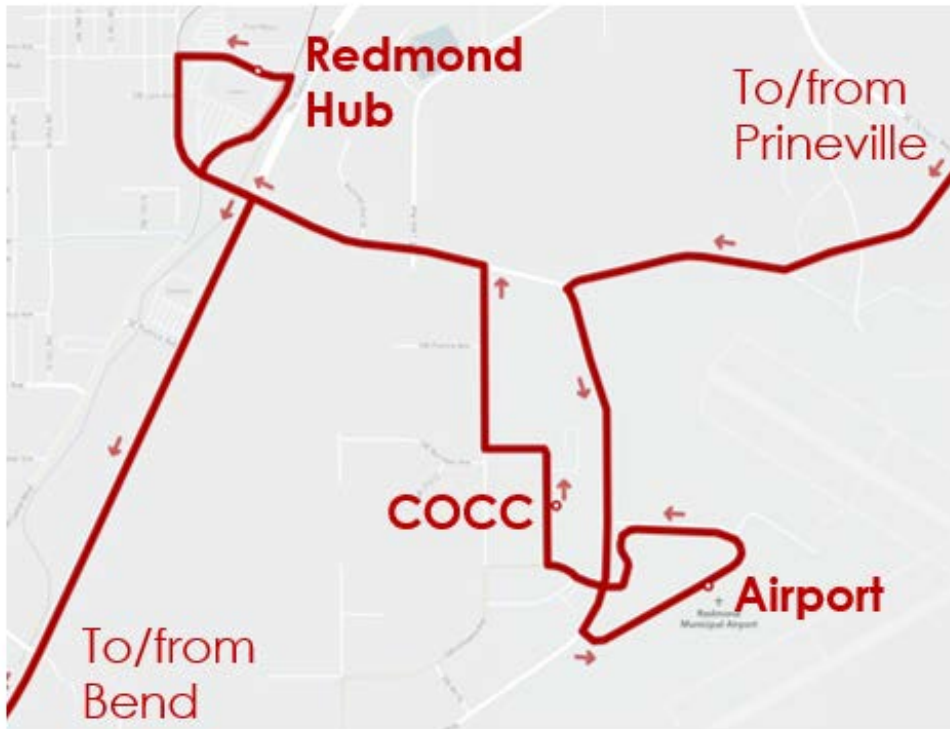


Figure 8: Airport Connection Routing

### **ROUTE "31": SUNRIVER SERVICE**

- ▶ A new Route 31 was developed as part of CET's FY 2019-2021 STIF Plan. It will connect La Pine to Sunriver, focused on connecting employees to jobs in Sunriver, with stops at the Sunriver Starbucks and the La Pine Fire Station on Huntington.
- ▶ As discussed under Route 30 (La Pine – Bend), a potential modification to serve Sunriver is proposed.
- ▶ Further tourism opportunities, such as High Desert Museum connections, could be served by Route 31 or Route 30 (see above).

### **SHOPPING/MEDICAL SHUTTLE SERVICE**

As described above, shopper/medical shuttles blend features of demand-responsive services and the Community Connector routes, picking up passengers at fixed local stops and with advance reservations and connecting them to major destinations. The shuttle would then pick up passengers and bring them back to their community.

The following shuttles could be implemented as midday service on existing routes:

- ▶ Sisters – Bend
- ▶ Madras – Redmond (including Culver and Metolius)
- ▶ Prineville – Redmond (can include Juniper Canyon)
- ▶ La Pine – Bend (can include Sunriver)

The following shuttles could provide service in new markets:

- ▶ Crooked River Ranch
- ▶ Juniper Canyon
- ▶ Deschutes River Woods
- ▶ Warm Springs; Simnasho and other outlying communities

### **SUMMARY OF PROPOSED ROUTE MODIFICATIONS AND PHASING**

See the Overall Summary of Community Connector and Local Service Changes section for a summary.

# BEND LOCAL SERVICE

## OVERALL SERVICE NEEDS

Table 5 summarizes existing and future needs for local service in **Bend** as noted in the Needs Memorandum.

**Table 6: Bend Local Service Needs**

Transit Service Need	Time Frame
Increase frequency on routes 1, 4, and 7	Short
Increase frequency on Routes 2, 5, 6	Mid
Increase frequency on Routes 3, 10, 11	Long
Expand service coverage in Bend including NE and SE Bend and St. Charles area	Short
Increase service coverage in SW Bend, Downtown, 3 <sup>rd</sup> Street corridor, and OSU-Cascades area	Mid
Increase service coverage in NW Bend including Summit West, Century 14 <sup>th</sup> Street corridor	Long
Increase service coverage in NW Bend for Century/14 <sup>th</sup> Street corridor	Long
Provide service to transit underserved areas	Short to Long
Provide more direct connections to downtown and the Old Mill District from the eastside and reduce overall dependence on transfers	Short
Early evening service	Short to mid
More frequent Saturday service (select routes) and extended service hours	Short
Limited Sunday service	Short
Improve bus on-time arrivals and reliability (evaluate time frame)	Monitor
Re-route service using Courtney Drive, Wells Acres/Butler Market, and Jamison Rd/Highway 20 (these needs may be considered/addressed through CET detailed route planning)	Monitor
Extend Dial-A-Ride service until 8 pm on weekdays, 7 a.m. – 7 p.m. on Saturdays, and expand service area	Short

## SUMMARY OF SERVICE ENHANCEMENTS

The following service enhancements are proposed to be phased in over time for local service in **Bend**:

- ▶ Route modifications to serve westside mobility hubs, reducing dependence on transfers, and transitioning from a single transit hub system to a multi-hub system
- ▶ Increase frequency on core routes, which is necessary to move away from a single-hub system.
- ▶ Route modifications, new routes, or microtransit to expand coverage in NE Bend, SE Bend, and the St. Charles area (based on the approach in the Bend Mobility Services and Fixed-Route Transit Network Analysis memo)
- ▶ Implement microtransit to serve new areas and bring riders to the nearest mobility hub, until demand reaches the level to support a full fixed-route, and to provide service in the later evening when demand does not warrant fixed-route service on some/all routes.

## MOBILITY HUBS

Mobility hubs are places designed to facilitate convenient, safe, and accessible connections to and between multimodal mobility services like public transportation. Mobility hubs can include a variety of infrastructure and mobility service elements and are adaptable to a range of transit facilities. This section focuses on mobility hubs in Bend. The Community Connector section (above) illustrates regional mobility hub recommendations, and the TDP Capital Plan provides a more comprehensive discussion of mobility hubs both in Bend and in a regional context. Figure 10 identifies conceptual mobility hub locations in Bend.

- ▶ Hawthorne Station is currently the primary **transit center** in Bend and provides shelters and an indoor waiting area with restrooms. It facilitates transfers to/from Community Connector routes as well as longer-distance intercity services. The TDP Service Plan recommends transitioning to a more multi-centric system.
- ▶ Several **secondary transit hubs** are recommended. These are smaller-scale mobility hubs that provide additional transfer and layover locations outside of the main transit center. In a multi-centric system, there may be no single transit center in the long-term.

Connections to/between transit routes may also occur at **major activity centers**. The smallest-scale mobility hub designation identify in the TDP recommends a higher level of amenities, such as real-time information displays and bicycle parking, at such major transit stop locations.



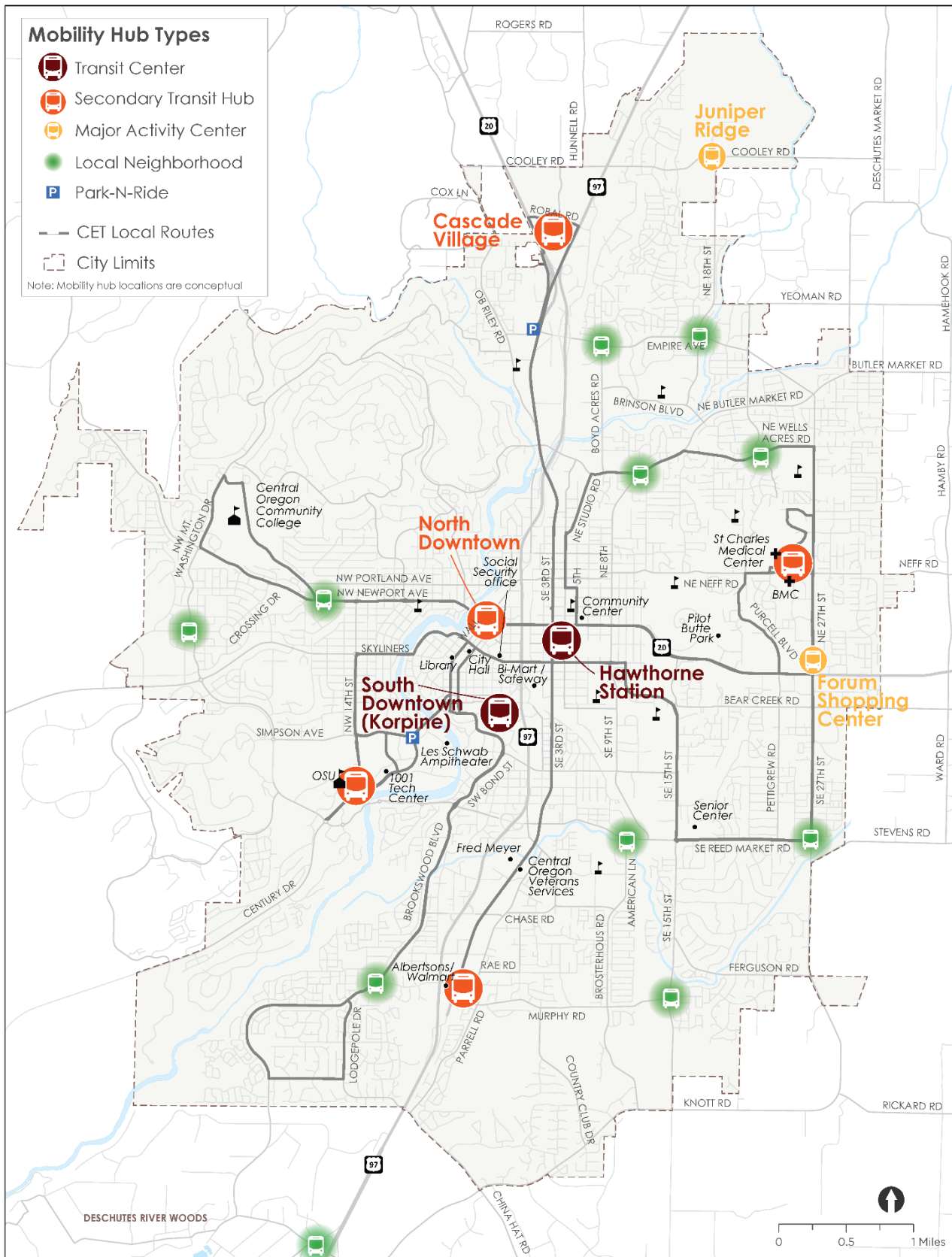


Figure 9: Conceptual Mobility Hub Locations in Bend

## WESTSIDE TRANSIT CENTER/MOBILITY HUB PHASING

As the CET system transitions to a more multi-centric service model, potential changes to Bend local routes (including extending, redesigning, or interlining routes) can provide more direct connections and lessen the system's dependence on transfers. The development of new mobility hubs in downtown Bend (along with more frequent service that reduces the need for timed transfers) are a key requirement to facilitate this change. This section focuses on how downtown mobility hubs could be introduced, allowing the role of Hawthorne Station to shift over time, and the incremental service changes that could be implemented both without significant new infrastructure and as new infrastructure is put into place.

This analysis builds on the Bend Mobility Services and Fixed-Route Transit Network Analysis Memo, Table 5 (Transit Center Implications). Table 6 (below) identifies the baseline condition for each route and summarizes the options for providing a westside connection, categorized by likely time frame in which each may be feasible. Key assumptions include:

- ▶ **Near- to Short-term:**
  - ▶ A stop at Hawthorne Station, or adjacent stops on 3<sup>rd</sup> Street at Hawthorne, would still be required. The Community Connector section identified analogous potential changes to Routes 24, 29, and 30 to connect to one or more westside mobility hubs (see Figure 5 and Figure 7); these changes would be required to eliminate a connecting stop on the eastside.
  - ▶ Some routing changes would require a more direct crossing between 3<sup>rd</sup> Street and south downtown, such as an extension/realignment of Aune Street (or other connection) as identified in the Bend Transportation System Plan (TSP) update, which would not be complete until the medium- to long-term.
- ▶ **Mid- to Long-term:**
  - ▶ Community Connector routes have been redesigned to provide a stop on the westside.
  - ▶ An Aune Street (or other) connection between 3<sup>rd</sup> Street and south downtown is available.
  - ▶ Mobility hubs are in place in both north and south downtown, as well as the eastside

**Table 7: Route Changes to Provide More Direct Connections to Westside**

Area / Corridor	Primary Network?	Baseline	Near/Short-Term Transition with continued service to eastside	Medium/Long-Term (no service to 3 <sup>rd</sup> & Hawthorne required)	Other Changes Considered in Service Plan
1 – South 3 <sup>rd</sup> Street	Yes	<ul style="list-style-type: none"> <li>▶ Does not provide direct access to downtown</li> </ul>	<ul style="list-style-type: none"> <li>▶ Serve 3<sup>rd</sup> &amp; Hawthorne then loop through downtown on Franklin/Newport; or</li> <li>▶ Interline with Route 4, no connection to downtown (this option is assumed)</li> </ul>	<ul style="list-style-type: none"> <li>▶ Connect to south downtown hub using Aune, and potentially north downtown hub. Does not serve 3<sup>rd</sup> north of Aune; or</li> <li>▶ Interline with Route 4, single out-and-back stop at south downtown mobility hub in vicinity of Hawthorne and Aune (this option is assumed)</li> </ul>	<ul style="list-style-type: none"> <li>▶</li> </ul>
2 – Brookwood	Yes (north of Old Mill)	<ul style="list-style-type: none"> <li>▶ Currently routed through south downtown to Hawthorne Station</li> </ul>	<ul style="list-style-type: none"> <li>▶ No change</li> </ul>	<ul style="list-style-type: none"> <li>▶ Reroute to north downtown hub via downtown; no connection to eastside</li> </ul>	<ul style="list-style-type: none"> <li>▶ Possible extension to SE Bend along Murphy Rd (with increased frequency, alternate with Brookwood loop)</li> </ul>
3 – Newport	Yes	<ul style="list-style-type: none"> <li>▶ Currently routed through north end of downtown between COCC and Hawthorne Station</li> </ul>	<ul style="list-style-type: none"> <li>▶ No change</li> </ul>	<ul style="list-style-type: none"> <li>▶ Reroute to south downtown hub; no connection to eastside</li> </ul>	<ul style="list-style-type: none"> <li>▶ Possible route change to serve NW Crossing (with increased frequency and change in cycle time to 40 or 45 minutes)</li> </ul>
4 – North 3 <sup>rd</sup> Street	Yes	<ul style="list-style-type: none"> <li>▶ Does not provide direct access to downtown</li> </ul>	<ul style="list-style-type: none"> <li>▶ Serve 3<sup>rd</sup> &amp; Hawthorne then loop through downtown using Franklin/Newport; or</li> <li>▶ Interline with Route 4, no connection to downtown (this option is assumed)</li> </ul>	<ul style="list-style-type: none"> <li>▶ Reroute to serve south downtown using Aune; or</li> <li>▶ Interline with Route 1, single stop at south downtown mobility hub in vicinity of Hawthorne and Aune (this option is assumed)</li> <li>▶ Either option could continue to serve 3<sup>rd</sup> &amp; Hawthorne</li> </ul>	<ul style="list-style-type: none"> <li>▶ Possible extension to Juniper Ridge (selected trips)</li> </ul>

Area / Corridor	Primary Network?	Baseline	Near/Short-Term Transition with continued service to eastside	Medium/Long-Term (no service to 3 <sup>rd</sup> & Hawthorne required)	Other Changes Considered in Service Plan
5 – Well Acres	No	▶ Does not provide direct access to downtown	▶ Extend to downtown via 3 <sup>rd</sup> & Hawthorne and interlining with Route 11	▶ Same as near-term	▶ Split routes 5 and 6
6 – Reed Market	No	▶ Does not provide direct access to downtown	▶ Serve 3 <sup>rd</sup> & Hawthorne then loop through downtown using Franklin/Newport	▶ Extend to south downtown and OSU via Reed Market (service along SE 15 <sup>th</sup> eliminated; SE 15 <sup>th</sup> would be served by another route)	▶ Extension to Cascade Village via NE 27 <sup>th</sup> and Empire (once connection is built)
7 – Greenwood	Yes	▶ Does not provide direct access to downtown	▶ Extend to south downtown via Hawthorne Station and Newport; or ▶ Extend to OSU; Route 10 eliminated (assumed)	▶ Extend to OSU; Route 10 eliminated (assumed)	▶
10 – Colorado	Yes (Downtown and OSU)	▶ Currently routed through downtown on Franklin	▶ No change; or ▶ Eliminate with Route 7 extension to OSU (assumed)	▶ Eliminate with Route 7 extension to OSU	▶
11 – Galveston	Yes (Downtown and OSU)	▶ Currently routed through downtown on Franklin	▶ Interline with Route 5	▶	▶
New - Southeast	No	▶ N/A	▶ N/A	▶ Possible interline with Route 3?	▶ New service on SE American/Brosterhouse/15 <sup>th</sup>
New – Northeast	No	▶ N/A	▶ N/A	▶ Possible interline with Route 2	▶ New service on NE 8 <sup>th</sup> /Boyd Acres; could potentially serve Juniper Ridge as well

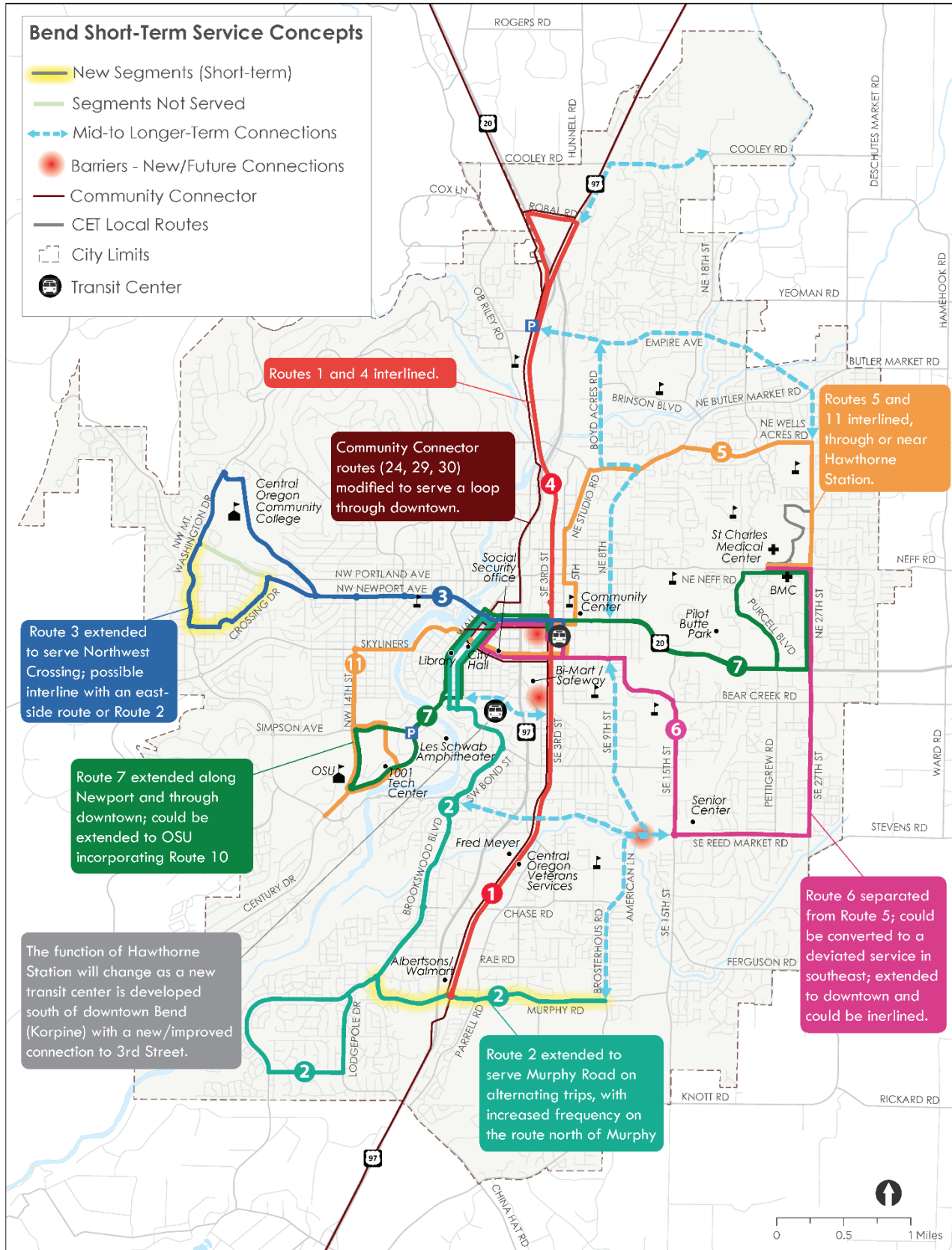


Figure 10: Bend Short-Term Service Concepts



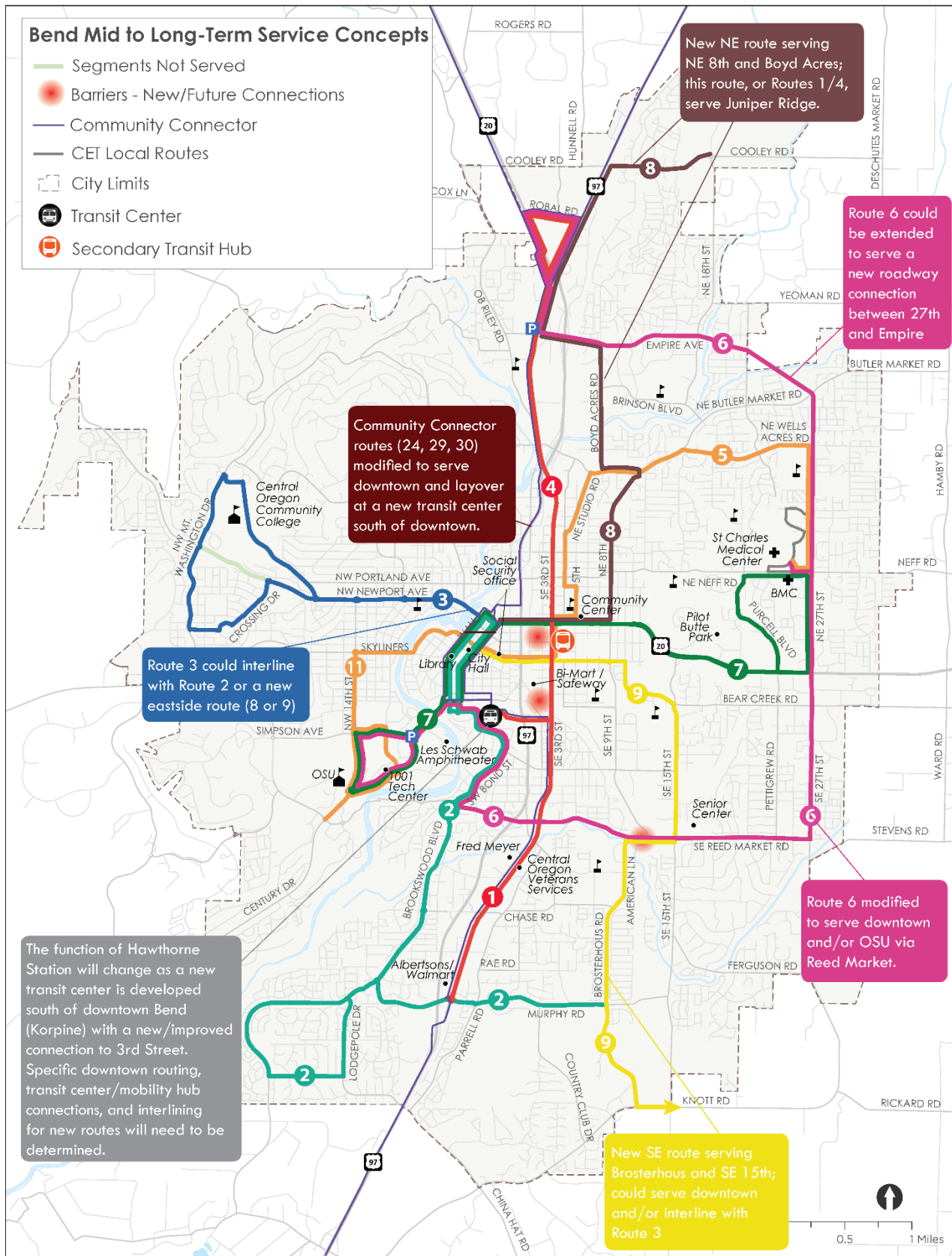


Figure 11: Bend Mid- to Long-Term Service Concepts

## PRIMARY TRANSIT NETWORK: CITY OF BEND

### OVERVIEW

The concept of primary transit corridors was introduced in the Bend Transit Plan (2012) and identifies the roadway segments that are most significant for transit. (This concept is intended for application within the City of Bend, and not necessarily in other communities.) These corridors are not bus routes or a service plan, but a policy tool to help the City of Bend and CET manage and coordinate land use, public infrastructure, and transit service provision. Primary transit corridors are a mechanism to coordinate transit and land use to achieve land use characteristics that can support a high level of transit service (e.g., as frequent as every 15 minutes) along Bend's most important arterial transit corridors by:

- ▶ **Securing a commitment from the transit provider (CET)** to maintain the highest level of transit service, and focus future investments in service capacity, frequency, and amenities along identified, mutually agreed-upon corridors where the City will focus land use planning.
- ▶ **Influencing the City's zoning and development policies** to encourage intensification of land use and plan utility infrastructure (sewer, water, etc.) to support higher-intensity development along the identified arterial transit corridors. Designating primary corridors provides a statement to the community that the City will seek to update land use plans where arterial transit corridors are currently not built or zoned for transit-supportive densities, but might be.
- ▶ **Providing direction to City engineers and planners about where street rights-of-way should be designed and managed** to help maintain transit operating speed and reliability. This enables transit to provide the best possible user experience, prevents timed-transfer connections from breaking down, and allows transit operating resources to be spent on improving service.
- ▶ **Coordinating with City, ODOT, or other vested partners** regarding operational or maintenance support agreements for connected devices or infrastructure.
- ▶ **Encouraging dense and/or transit-intensive land uses to locate on primary corridors**, or at a minimum, along the supporting network. Primary transit corridors communicate preferred locations for uses that generate high transit demand and/or that desire to have transit service. For example, if a planned land use that is known to require transit, such as a social services office or school, chooses not to locate on a primary corridor, it does so with the knowledge that it may not get the best transit service. When such uses locate away from transit, they inevitably create pressure for the transit agency to provide service where it cannot be done efficiently.

It is important to emphasize that while Bend should prioritize the highest-quality transit service in primary transit corridors, some transit routes serving primary corridors will also provide transit coverage outside of those primary corridors.

Figure 12 illustrates the recommended Primary Transit Network corridor designations, based on thresholds for density of population and employment required to support frequent transit service (see Figure 2) as well as system considerations for the transit network in Bend. Corridor segments were classified as:

- ▶ **Definite corridors** with the highest land use density and ridership potential can support relatively frequent service based on current or near-term conditions. These include the following corridors or areas:

- ▶ Downtown Bend, including Newport Avenue, Franklin Avenue, and Wall/Bond Streets.
- ▶ The OSU Cascades campus and adjacent employment areas.
- ▶ The COCC campus, including Newport Avenue
- ▶ Greenwood Avenue, NE 27<sup>th</sup> Street, and the St. Charles Medical Center area.
- ▶ 3<sup>rd</sup> Ave, between Cascade Village and Walmart
- ▶ **Candidate corridors** with more moderate land use density and current or future potential for moderately frequent service (possibly only in the peak periods). In some areas and corridors, the ability to support more frequent transit service depends on how land use and urban form actually develop in the near- to longer-term. These include corridors with:
  - ▶ Existing fixed-route service
  - ▶ Potential for new fixed-route service
- ▶ **Future service areas** may be considered for either fixed-route or other service models

Table 7 summarizes Primary Transit Network corridor characteristics (densities) and designations. Population and employment density is based on a quarter-mile straight-line distance around the corridors.<sup>1</sup> Combined densities for the “Definite” corridors range from about 7 to 15 persons+jobs per acre currently and about 13 to 24 persons+jobs per acre by 2040.

A Transit-Oriented Development Strategies memorandum developed for the CET Transit Master Plan will identify policies that the City of Bend and other local agencies in CET’s service area can implement to encourage transit-supportive densities and urban form along planned Primary Transit Corridors.

**Table 8 Recommended Primary Transit Network Classifications and Density Characteristics for Definite Corridors (per Acre)**

Definite Corridors	Population Density [1]		Low-Income Population Density [2]	Employment Density [3]		Combined Population and Employment Density	
	2010	2040	2017	2010	2040	2010	2040
Franklin Avenue	3.5	7.5	1.2	11.4	16.3	15.0	23.8
OSU Area (Simpson/Century/Colorado)	0.9	10.8	0.4	6.0	10.9	6.9	21.7
Wall/Bond Streets	3.8	6.3	1.1	9.7	14.3	13.4	20.6
Greenwood Avenue	3.7	7.0	1.8	7.5	10.2	11.3	17.1
27 <sup>th</sup> Street	4.8	8.8	1.5	4.5	6.6	9.3	15.4
Newport Avenue	5.7	7.9	1.5	5.2	7.1	10.8	15.0
South 3 <sup>rd</sup> Street	3.8	7.0	1.9	4.5	6.9	8.3	13.9
North 3 <sup>rd</sup> Street	1.6	4.2	0.9	6.0	9.4	7.6	13.6

Sources: [1 & 3] Bend MPO projections and [2] American Community Survey, 2013-2017 5-Year Average

<sup>1</sup> The 2012 plan used a quarter-mile walking distance, based on existing or conceptual stops. A straight-line distance assumes that stops could be moved or street connectivity could be improved in the future.



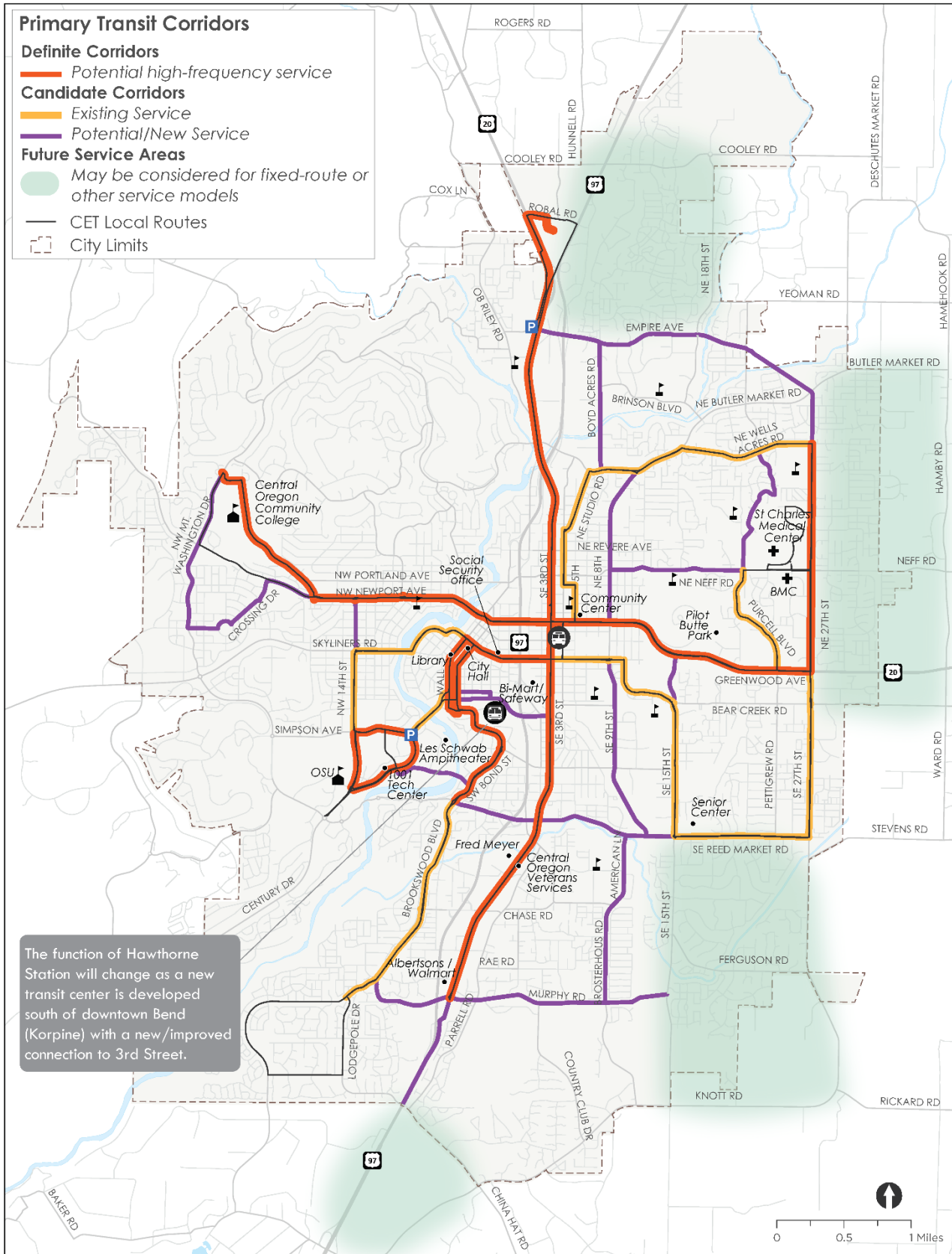


Figure 12: Recommended Primary Transit Network

### MODIFICATIONS TO EXISTING ROUTES, NEW ROUTES OR SERVICE

This section describes changes to existing routes or new routes in more detail, building upon the proposed changes to provide more direct connections to downtown.

#### ROUTE 1/4: SOUTH AND NORTH 3<sup>RD</sup> STREET

Third Street is proposed as a bus priority corridor in the Bend TSP. This option would support this designation by providing a continuous route along Third.

- ▶ **Short-term:**
  - ▶ Combine (or interline) Routes 1 and 4.
  - ▶ Increase frequency to 15-20 minutes during peak periods and then all-day, as resources allow
- ▶ **Mid-term:**
  - ▶ Continue to increase frequency.
  - ▶ Provide a connection to downtown using a new Aune Street connection.
  - ▶ Extend Route 4 to Juniper Ridge.
- ▶ **Long-term:**
  - ▶ Could potentially extend service further south as appropriate based on land use.

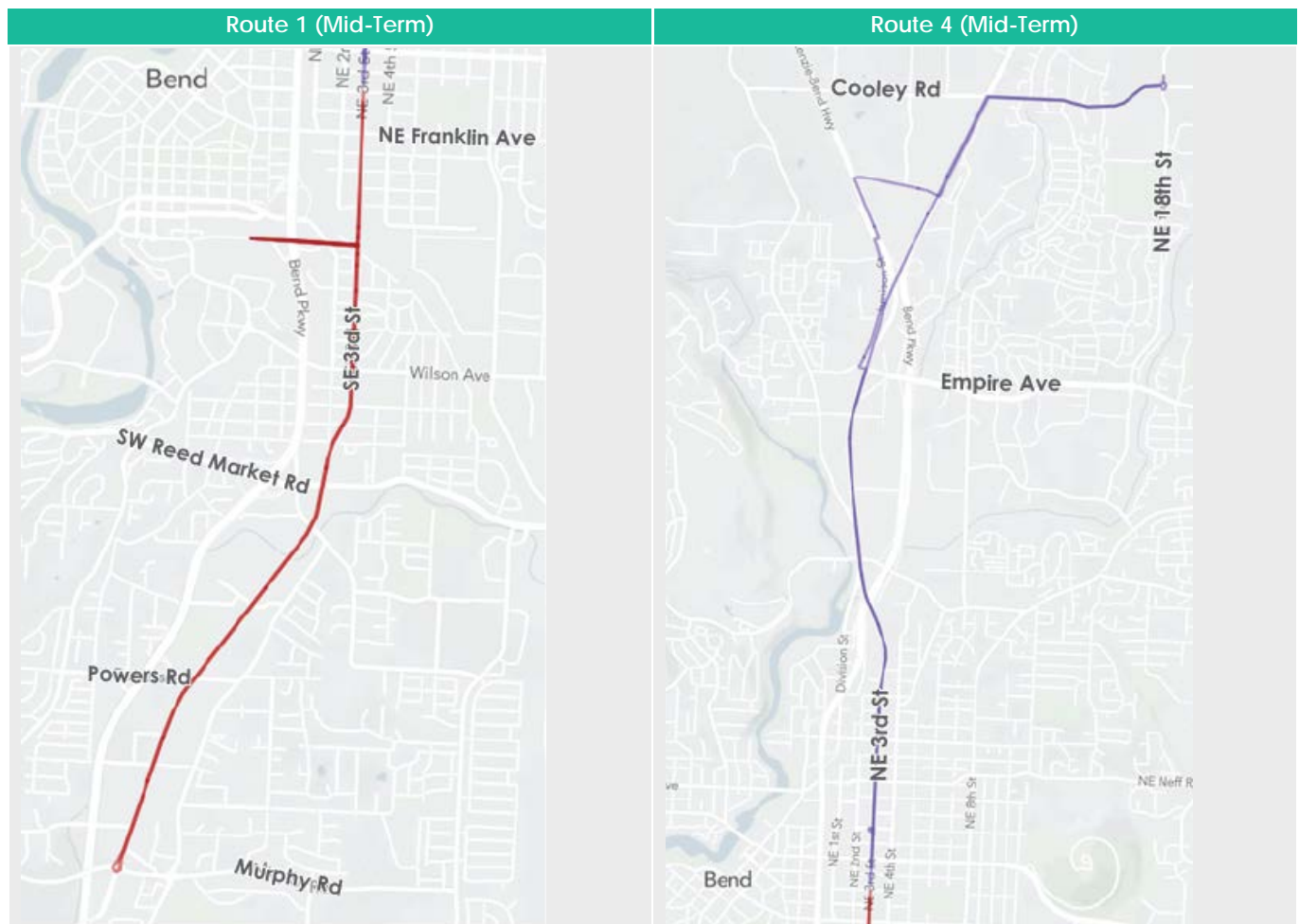


Figure 13: Bend Route 1 and 4 Proposed Changes

### ROUTE 7 AND 10: GREENWOOD AND COLORADO TO OSU

Route 7 provides direct east-west service along Greenwood Road, serving St. Charles Medical Center and the Forum Shopping Center, but requires a transfer to connect to downtown.

- ▶ **Near-term:**
  - ▶ Extend Route 7 at least to downtown, using Newport.
  - ▶ Circulate through downtown to at least Franklin and potentially Arizona/Colorado.
  - ▶ Increase frequency to 15-20 minutes during peak periods and then all-day, as resources allow.
- ▶ **Short-term:**
  - ▶ Combine Route 7 and 10, which would increase frequency to OSU.
- ▶ **Mid-term to long-term:**
  - ▶ Continue to increase frequency as warranted based on demand and as resources allow.

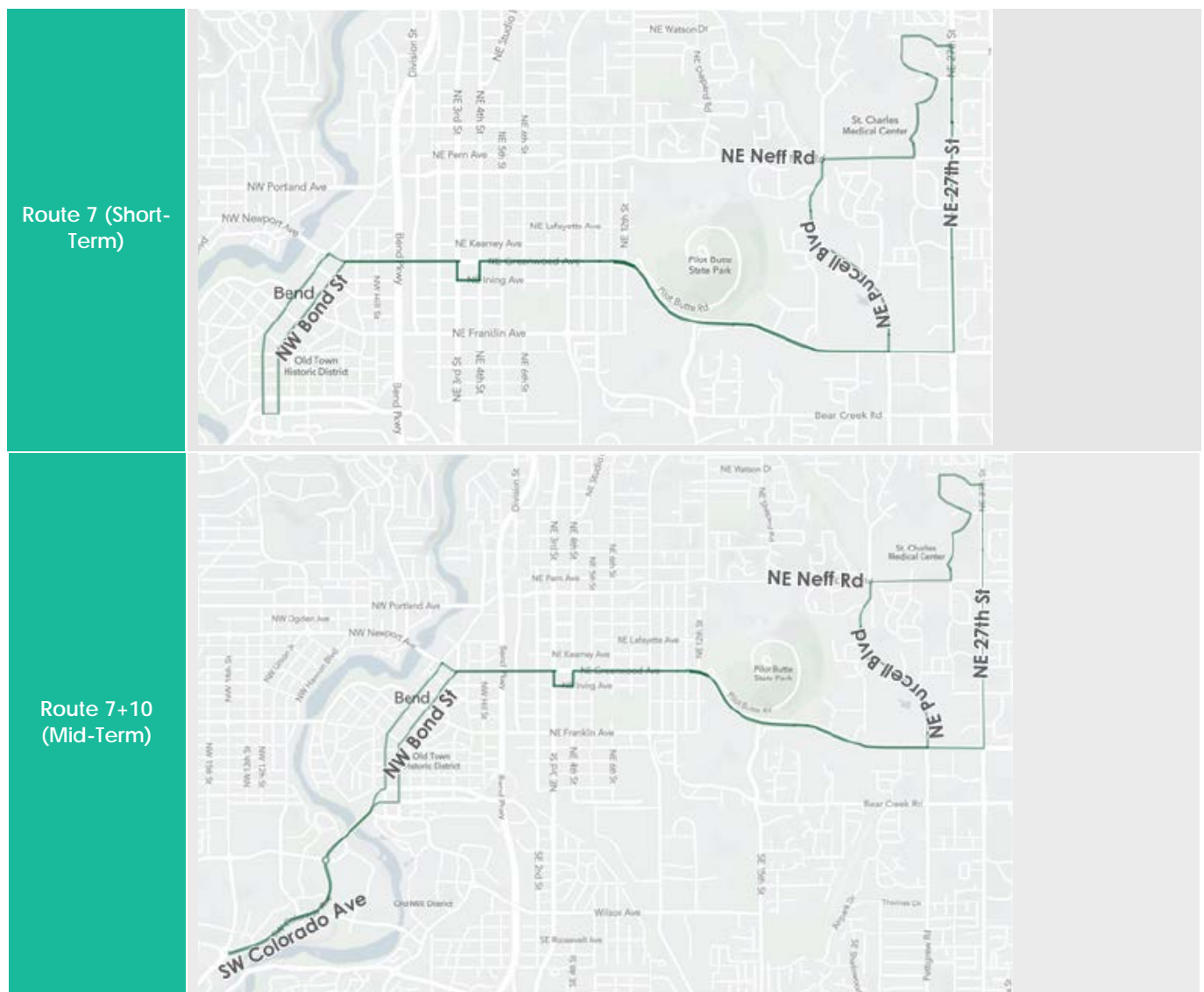


Figure 14: Bend Route 7 and 10 Proposed Changes

### ROUTE 2: BROOKSWOOD

- ▶ **Near-term:**
  - ▶ No changes
- ▶ **Short-term to mid-term:**
  - ▶ Increase frequency to 15-20 minutes during peak periods and then all-day, as resources allow.
  - ▶ Extend to serve SE Bend along Murphy Road at least to SE 15<sup>th</sup> roundabout on alternating trips. Could extend north along Brosterhaus (turnaround loop would need to be identified).
  - ▶ Re-route to north downtown hub

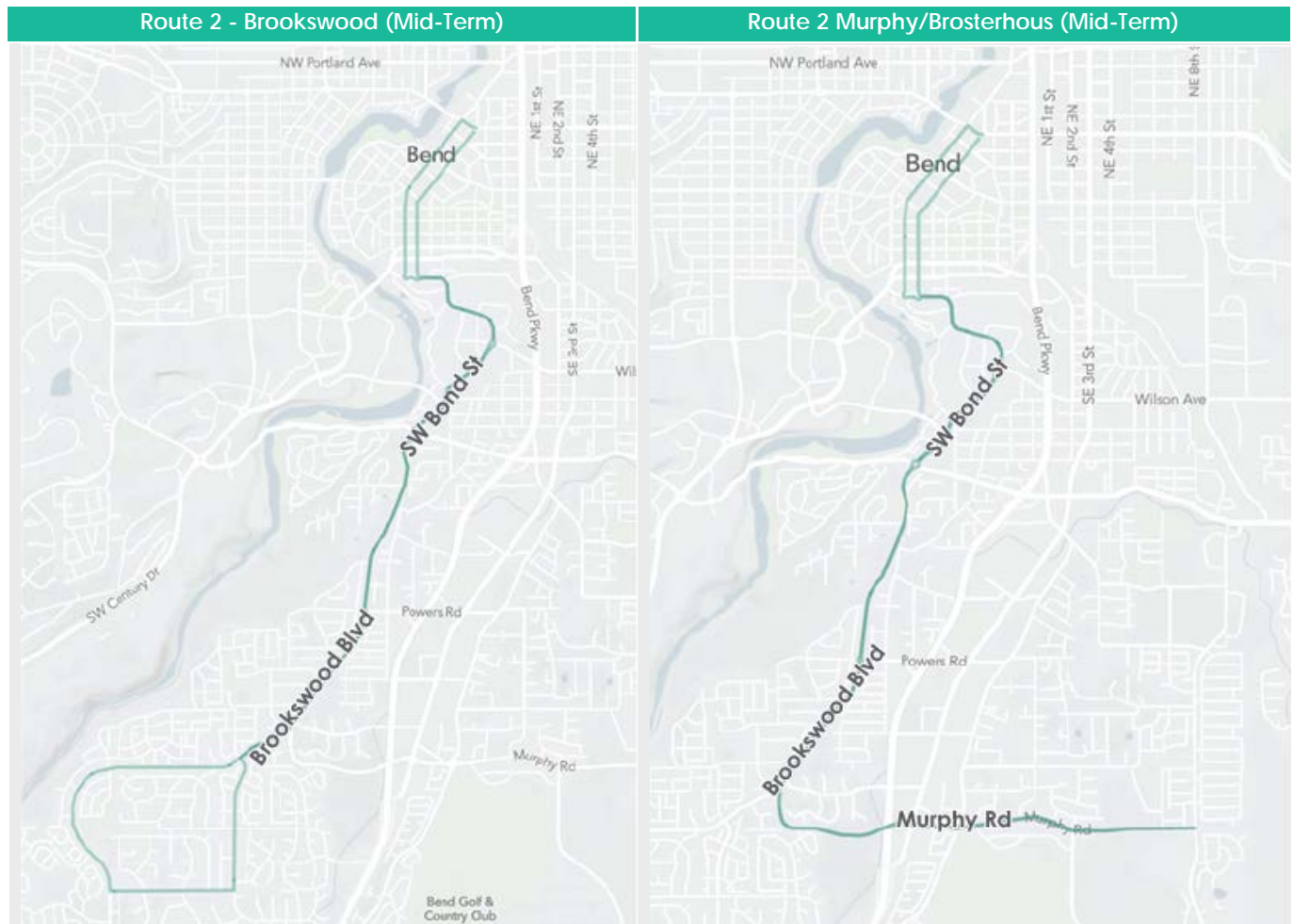
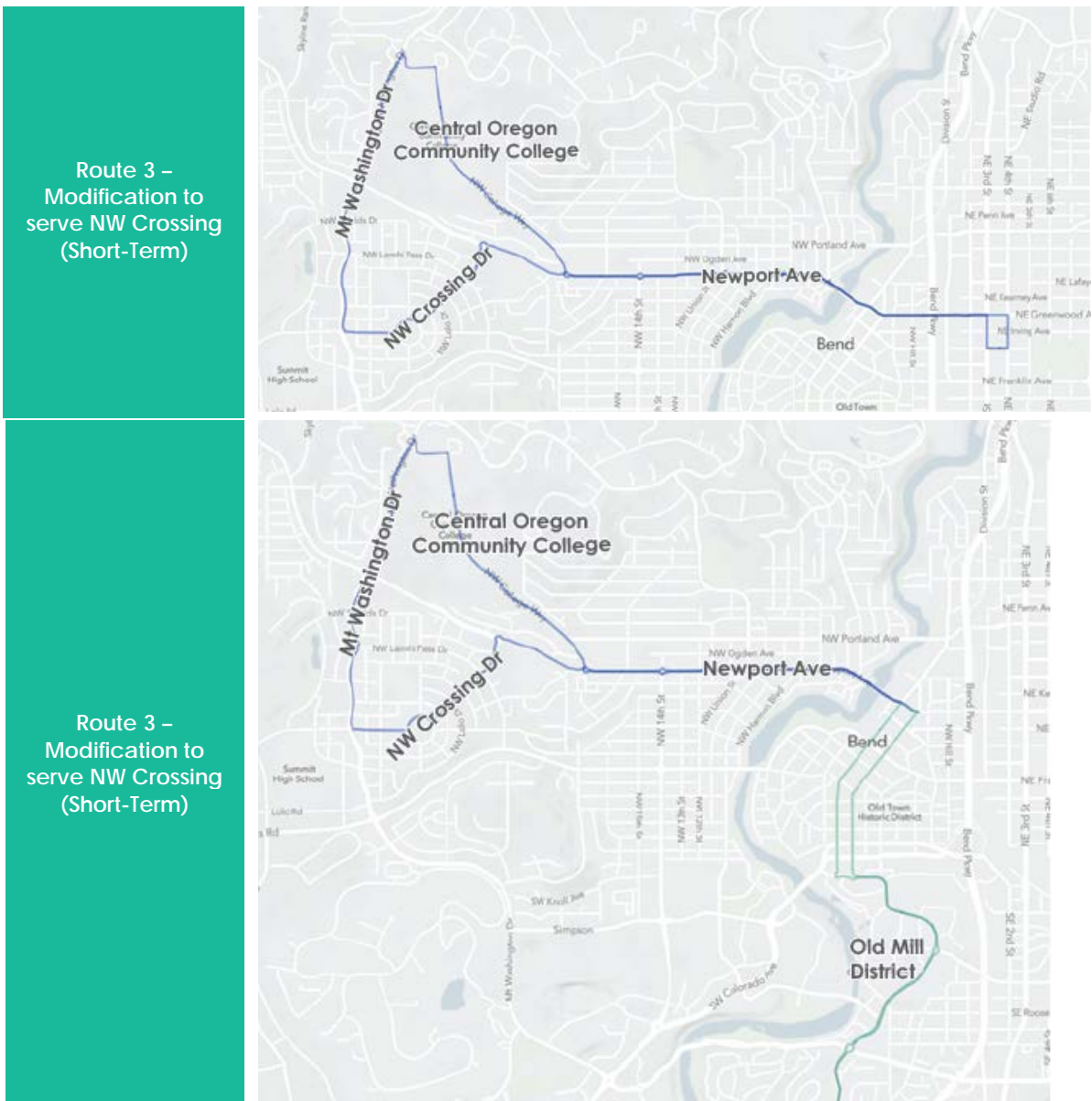


Figure 15: Bend Route 2 Proposed Changes



**ROUTE 3: NEWPORT**

- ▶ **Near-term:**
  - ▶ No changes
- ▶ **Short-term to Mid-term:**
  - ▶ Increase frequency to 15-20 minutes during peak periods and then all-day, as resources allow.
  - ▶ Expand the Route 3 western loop to serve NW Crossing; this would not be possible within the existing 30-minute cycle time.
  - ▶ Consider interlining options, such as Route 2, which would provide a direct connection through downtown and the Old Mill, and from the southwest and southeast to COCC. Since Route 3 would no longer serve the eastside, this would only be possible mid-term. Future interlining could also be possible with a future NE Route (see Route 8 below) or SE Route (see Route 9 below).



**Figure 16: Bend Route 3 Proposed Changes**

### ROUTES 5 AND 11: WELLS ACRES AND GALVESTON/14<sup>TH</sup> TO OSU

- ▶ **Short-term:**
  - ▶ Interline Routes 5 and 11 to provide a more direct connection from the eastside to downtown.
- ▶ **Mid-term:**
  - ▶ Increase frequency to 20-30 minutes during peak periods and then all-day.
- ▶ **Long-term:**
  - ▶ Route 5 could potentially be extended to provide additional coverage east of NE 27<sup>th</sup> Street using available time in the schedule.

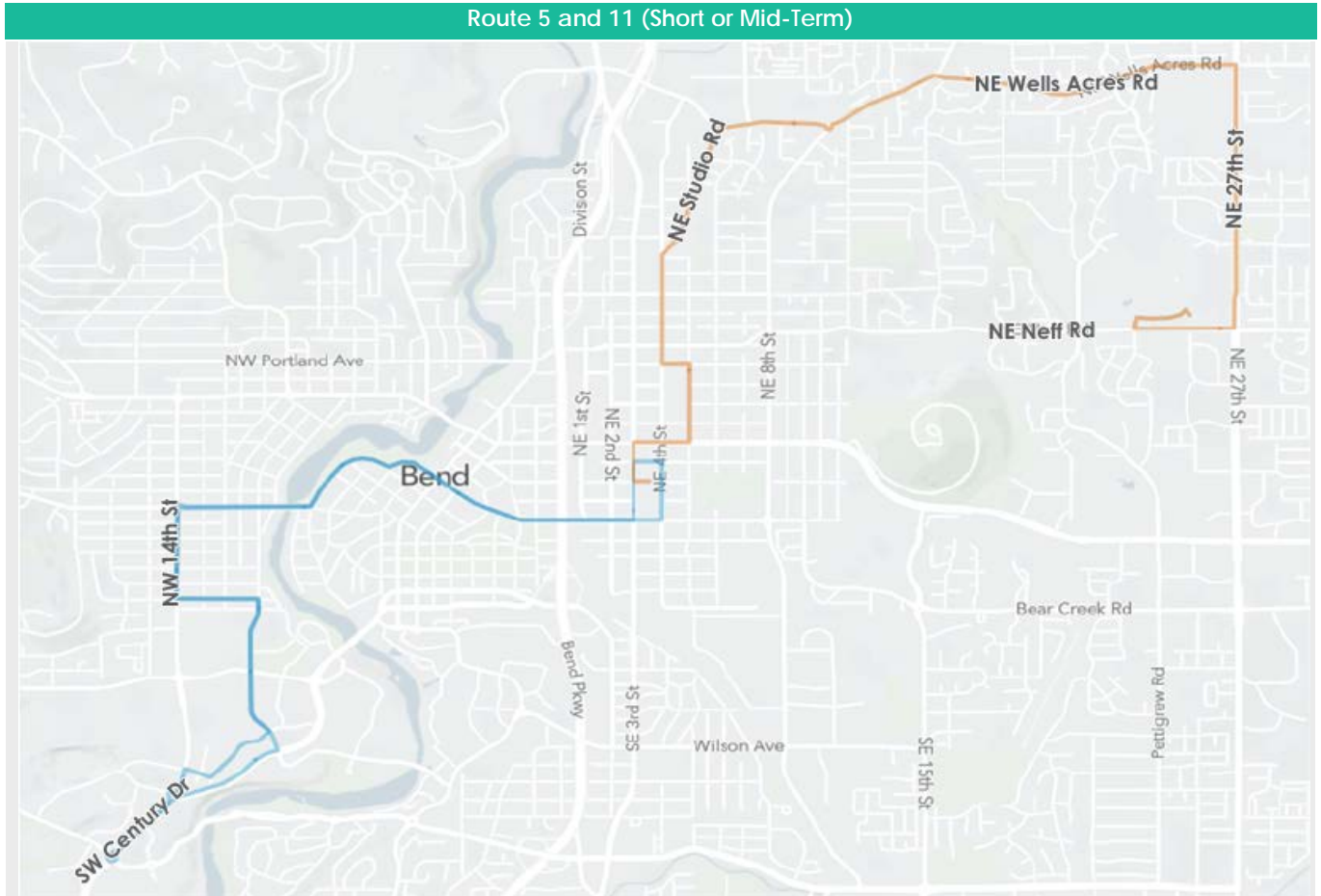
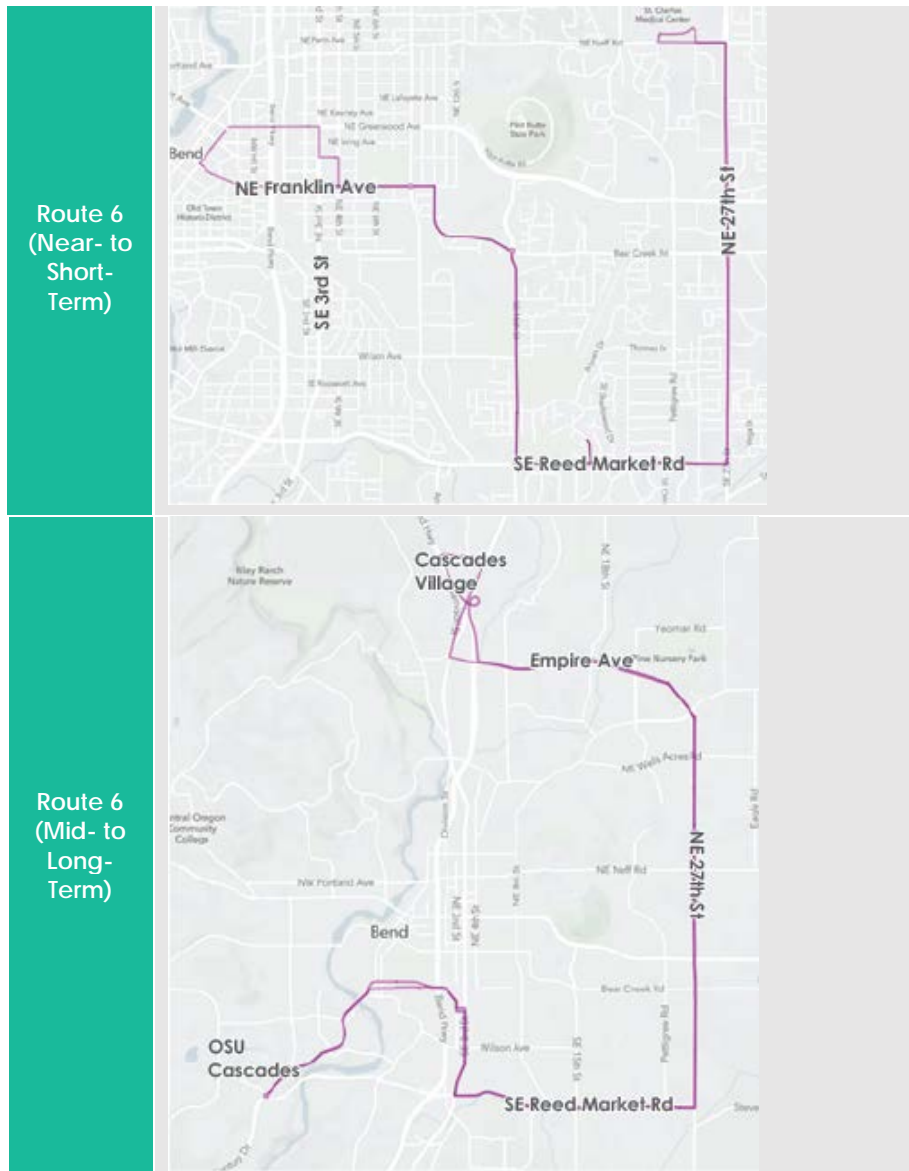


Figure 17: Bend Route 5 and 11 Proposed Changes

**ROUTE 6: REED MARKET**

- ▶ **Near-term to short-term:**
  - ▶ Decouple Routes 5 and 6, allowing Route 5 to be interlined with Route 11 (proposed; see above). Develop a short-term Route 6 concept which could include a loop connecting to downtown and supporting deviations along the eastern part of the route.
- ▶ **Mid-term or long-term:**
  - ▶ Restructure Route 6 on the south end to provide a continuous connection on Reed Market Road, with a connection to downtown and OSU. This would require mitigating an at-grade BNSF railroad crossing on Reed Market Road west of 9<sup>th</sup> Street.
  - ▶ On the north end, extend Route 6 to serve a future connection of NE 27<sup>th</sup> Ave and Empire Ave, connecting to Cascade Village. The route could include 1-2 short deviations to serve mobility hubs along Empire Ave.
  - ▶ While other routes (e.g., 1/4) provide more direct connections between some of these destinations, this route concept provides new transit connections to multiple major activity centers.



**Figure 18: Bend Route 6 Proposed Changes**

### NEW SERVICE TO NE BEND (ROUTE 8)

- ▶ **Near-term to mid-term:**
  - ▶ As warranted by demand, Route 4 could be extended to serve Juniper Ridge (see Routes 1 and 4 above).
  - ▶ Initiate a microtransit pilot for the northeast area to test demand and build understanding of desired travel patterns. This service would provide connections to the primary transit network from the northeast area. Demand that scales beyond the ability of a single bus to provide reasonable service in the area can indicate when CET should consider transitioning to a fixed-route model serving the outer northeast area.
- ▶ **Mid-term to long-term:**
  - ▶ Provide a new route connecting serving NE Bend along NE 8<sup>th</sup> Street and Boyd Acres Road, which would improve transit access to the underserved area north of Pilot Butte. This route could connect to Cascade Village and/or serve Juniper Ridge in lieu of Route 4. On the south end it could provide a loop through downtown and/or provide a connection at Hawthorne Station. It could also interline with another route including proposed Route 9.

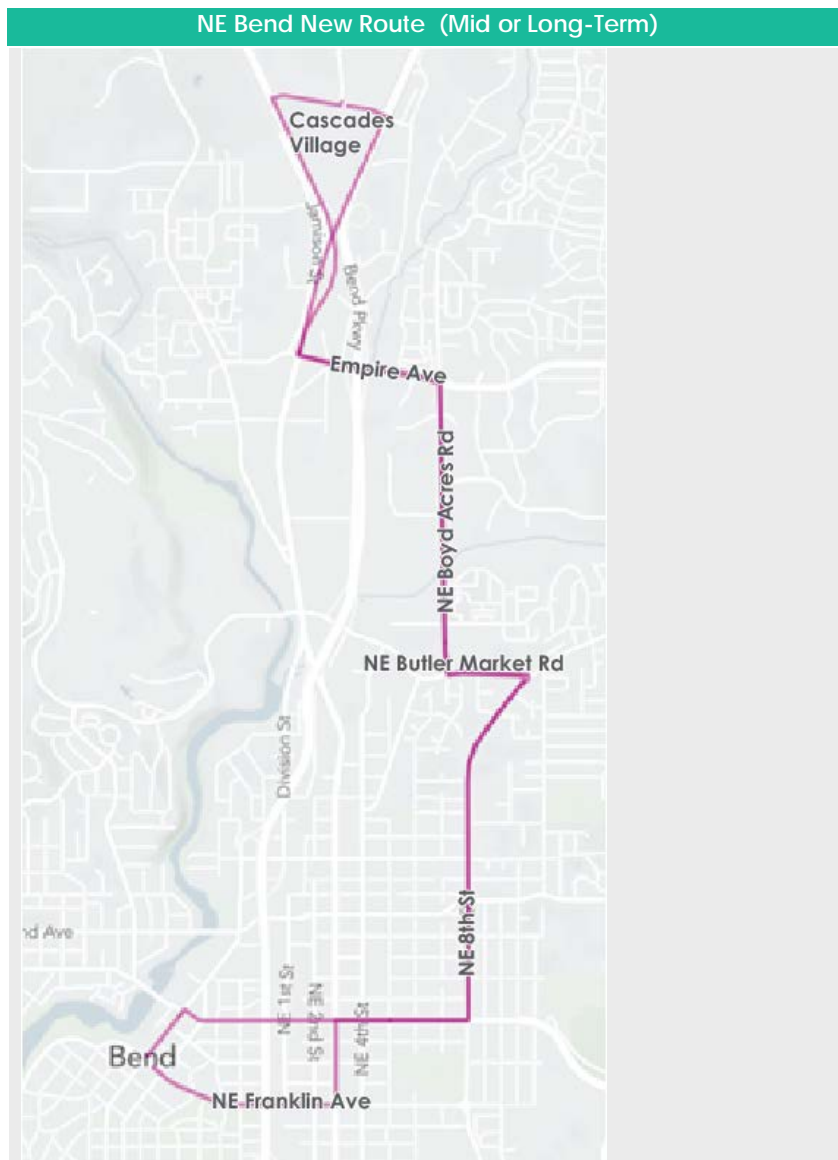


Figure 19: Bend NE Route Proposed New Route (Conceptual)



### NEW SERVICE TO SE BEND (ROUTE 9)

- ▶ **Near-term to mid-term:**
  - ▶ Use existing routes to improve service to southeast Bend along Murphy Road and/or Brosterhous Road (see Route 2 above).
  - ▶ Initiate a microtransit pilot for the southeast area to test demand and build understanding of desired travel patterns. This service would provide connections to the primary transit network from the southeast area. Demand that scales beyond the ability of a single bus to provide reasonable service in the area can indicate when CET should consider transitioning to a fixed-route model serving the outer southeast area.
- ▶ **Mid-term to long-term:**
  - ▶ Provide a new route connecting to developing population and employment in SE Bend, including the new high school currently under construction. An at-grade BNSF railroad crossing on Reed Market Road west of 9<sup>th</sup> Street creates operational issues for connecting SE 9<sup>th</sup> or SE 15<sup>th</sup> Street to American Lane and Brosterhous Road.

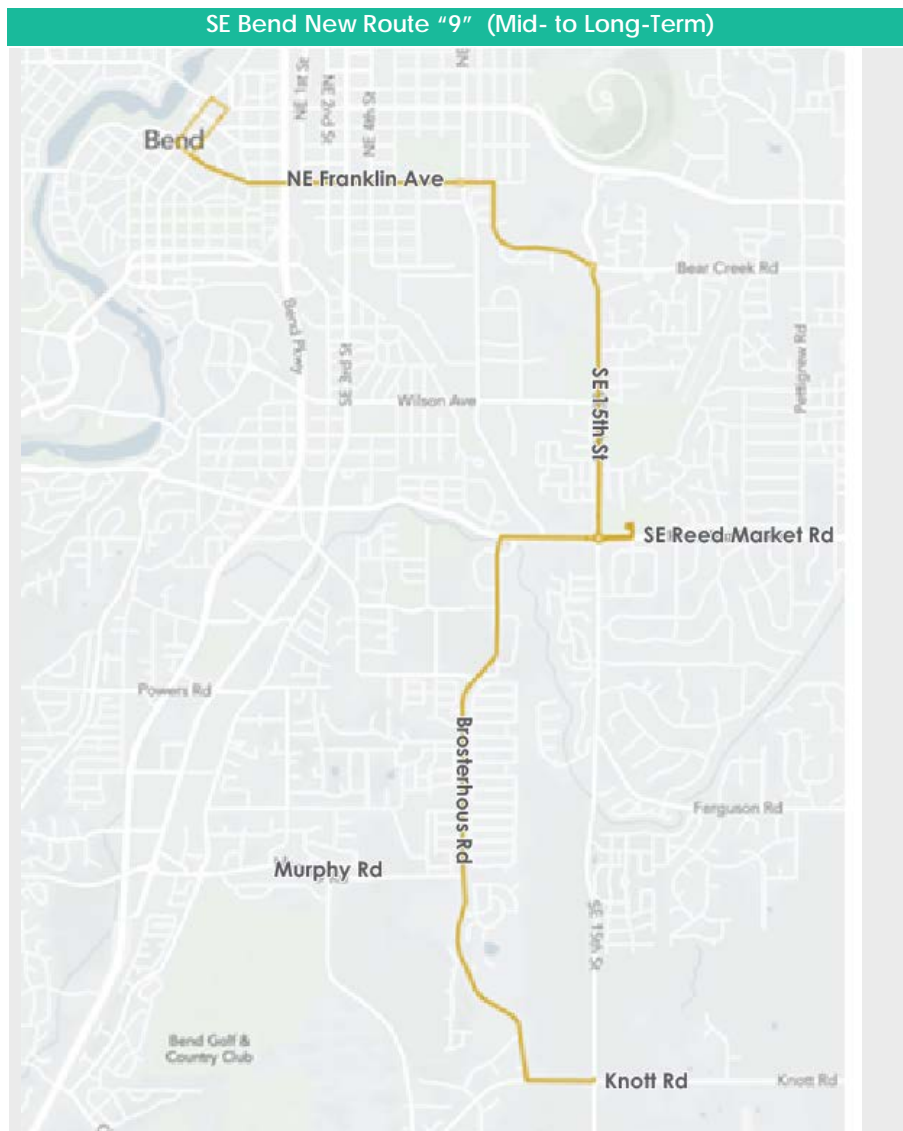


Figure 20: Bend SE Route Proposed New Route (Conceptual)

### FREQUENCY SCENARIOS

Several frequency scenarios were analyzed for the existing local fixed route system in Bend. Ridership impacts, service costs, and vehicle needs were estimated using two different methods:

- ▶ A simple elasticity model, which estimates ridership based on an assumed positive correlation between increases in service frequency and passenger boardings
- ▶ The TBEST model, which accounts for land use and other factors in addition to service frequency

The analysis illustrates where increased frequency would be most effective in terms of generating ridership, estimates how much funding the strategies would require for operational and capital expenses, and suggests which scenarios may be most cost-effective. The scenarios modeled are:

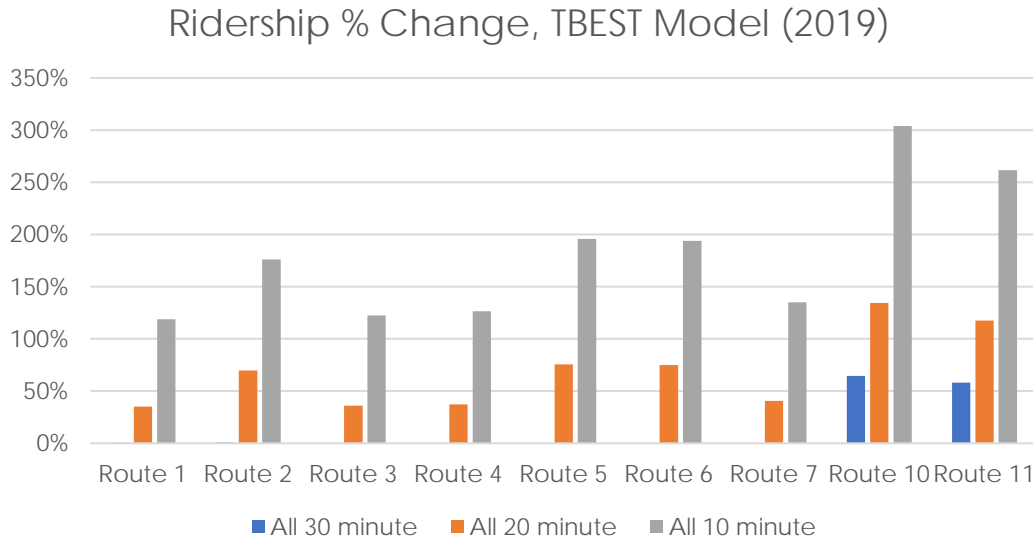
- ▶ 30-minute frequency all day, on all routes
- ▶ 20 minute frequency all day, on all routes
- ▶ 10-minute frequency all day, on all routes
- ▶ 15-minute frequency all day on the primary network (Routes 1, 3, 4, 7, 10, and 11), maintaining existing headways on all other routes
- ▶ 20-minute peak frequency, with 40-minute off-peak
- ▶ 15-minute peak frequency, with 20-minute off-peak

Summary results using the elasticity model are shown in Table 8.

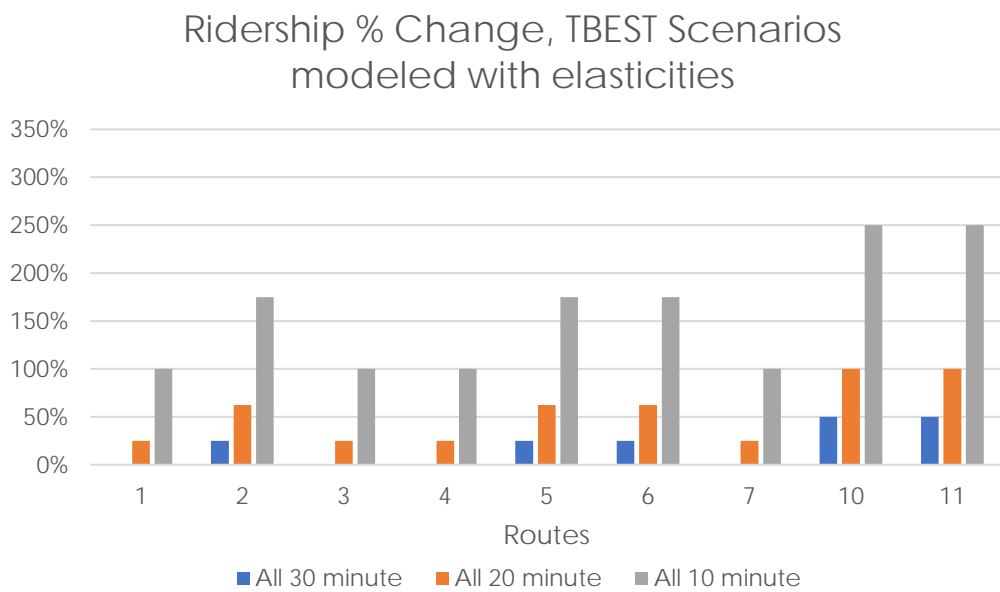
**Table 9: Ridership by Scenario (Elasticity model)**

Scenario	Existing weekday ridership	Additional weekday ridership	Future weekday ridership	% change	Annual weekday ridership change	Future annual weekday ridership	Future productivity (boardings per service hour)
All 30 minute	1,390	150	1,540	11%	37,840	392,290	9.6
All 20 minute		570	1,960	41%	145,070	499,520	7.0
All 10 minute		1,840	3,220	132%	466,750	821,200	7.3
Primary network 15 minute		610	1,990	43%	153,400	507,850	10.0
20 peak / 40 off peak		310	1,690	22%	77,280	431,730	8.0
15 peak / 20 off peak		820	2,200	59%	207,110	561,560	7.9

Figure 21 and Figure 22 show the comparison between the two model approaches in estimating changes in ridership by route. The TBEST model outputs show slightly greater gains in ridership than estimating ridership for the same scenarios using the elasticity. These differences are generally consistent across routes. The greatest discrepancy between these two is on Route 10, especially in the All 30 Minute and All 20 Minute scenarios. Differences in ridership estimates between the TBEST model and the elasticity method are likely due to land use and other variables that are accounted for in the TBEST model.



**Figure 21: Ridership Percentage Change for All-Route Scenarios Using TBEST Model**



**Figure 22: Ridership Percentage Change for All-Route Scenario Using Elasticity Method**

Service hours and operating costs are shown in Table 9, sorted by estimated operating cost per new rider. The All 10 Minute scenario has the highest annual service costs given its high frequency, at more than \$10 million per year, but results in relatively low new operating cost per new rider (\$16.33). The Primary Transit Network 15 Minute scenario is the most efficient in terms of new operating costs per new rider, at \$13.79.

**Table 10: Service Hours and Operating Costs by Scenario**

Scenario	Future Daily weekday service hours	Future Annual weekday service hours	Future Annual service cost	New weekday annual service cost	New operating cost per new rider
All 30 minute	160	40,720	\$3,664,800	\$1,226,400	\$32.41
20 peak / 40 off peak	213	54,230	\$4,880,700	\$2,442,300	\$31.60
All 20 minute	279	71,120	\$6,400,800	\$3,962,400	\$27.31
15 peak / 20 off peak	279	71,120	\$6,400,800	\$3,962,400	\$19.13
All 10 minute	438	111,800	\$10,062,000	\$7,623,600	\$16.33
Primary network 15 minute	198	50,600	\$4,554,000	\$2,115,600	\$13.79

*Key Findings*

- ▶ **Increasing service frequency to every 15-minutes on the Primary Transit Network (Routes 1, 3, 4, 7, 10 and 11) would result in the lowest cost per new rider (\$13.79) and highest systemwide productivity (10 riders per hour),** and an annual operating cost of about \$4.5 million when fully implemented. This suggests this is the most cost-effective approach, by focusing service to and from major activity generators and areas of greater population density. Routes 1, 3, 4 and 7 have the highest service frequency today; this scenario would quadruple service on Routes 10 and 11. Routes 10 and 11 serve areas with relatively new and rapid growth, where phased service increases could moderate initial costs. (In practice, frequency increases could also be tailored to portions of existing routes.)
- ▶ **Routes 1, 3, 4, and 7 form the core of the Primary Transit Network and have the highest ridership per transit service hour today. The modeling results suggest this balance would continue in the future** under each of the operating scenarios modeled.
- ▶ **The 20-minute/40-minute peak/off-peak scenario and all-day 30-min scenarios suggests approach for balancing all day frequency on the Primary Transit Network with a moderate increase in frequency on a wider geographic coverage in the city.** This aligns with rider survey responses, which prioritized longer weekend and evening hours, and greater service frequency throughout the day.

**EVENING SERVICE ENHANCEMENTS**

Two complementary approaches to enhancing evening service are recommended.

- ▶ **Near-term to mid-term:**
  - ▶ Expand fixed-route and ADA Paratransit service until 8 pm or 9 pm, coordinated with later service on the Community Connector system.
  - ▶ Develop and expand a microtransit pilot program to provide later evening connections when demand does not warrant fixed-route service on core and/or all routes (e.g., after 8 or 9 pm).

**SUMMARY OF PROPOSED ROUTE MODIFICATIONS AND PHASING**

See the Overall Summary of Community Connector and Local Service Changes section for a summary.

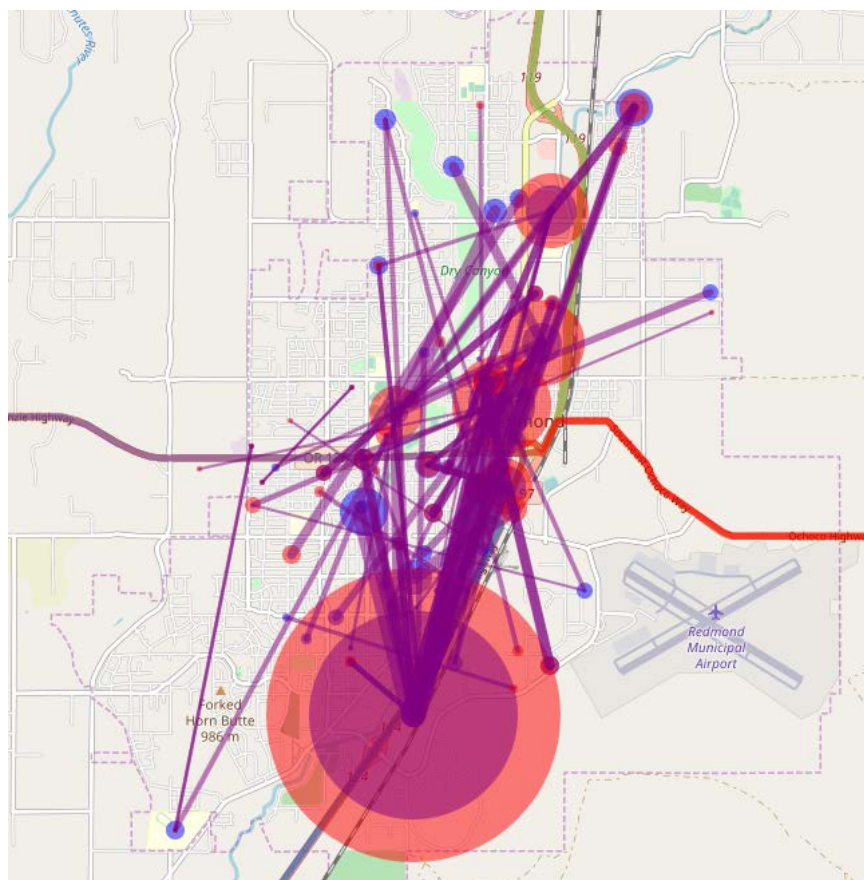
# REDMOND LOCAL SERVICE

## OVERALL SERVICE NEEDS

Table 10 summarizes the existing and future needs for local service in **Redmond** as noted in the Needs Memorandum.

**Table 11: Redmond Local Service Needs**

Transit Service Need	Time Frame
Fixed-route and ADA Paratransit service in Redmond, including increasing service south of Evergreen	Short
Add routes that serve Ridgeview High School, new growth in the south and west, Canal/Odem Medo to the south (high percentage of low-income populations), and Walmart/other retail services (realigning proposed SE route)	Mid or Long
Service needs to southern industrial land	Monitor
Service needs to NE with UGB expansions	Long



Note: Average of 1 or more trips per week. Excludes contract trips

**Figure 23: Existing Redmond Dial-A-Ride Trips (2018) and Service Area (City Limits)**

## SERVICE ENHANCEMENTS

The Redmond Transit Master Plan (2008) looked at various fixed-route and flex-route scenarios and the Regional TMP (2012) considered several fixed-route scenarios. The City of Redmond will be undertaking a study in 2020 to determine a direction for local service. As such, high-level enhancements are provided to identify general resource requirements (number of routes and coverage).

The following service enhancements could be considered and implemented as phased enhancements for the local service model in **Redmond**.

- ▶ **Dial-A-Ride** service (existing) maximizes coverage, but requires advance reservations and, given the city's size, it is at capacity for a purely demand-responsive service model.
- ▶ **Deviated fixed-routes** maintain a high level of coverage by allowing deviations along a route, enable trips without advance reservations, and increase system capacity, but can be challenging to schedule depending on the number of deviations allowed, and deviations can increase travel times.
- ▶ **Fixed-routes** can enable more frequent and direct service at regularly scheduled times, but reduce coverage.
- ▶ **A hybrid of fixed- and deviated-route service**, e.g., north-south and east-west spine served by higher-frequency core fixed-routes that are fed by connecting deviated routes, could balance tradeoffs between a purely fixed-route or deviated-route system depending on the land use context.

The service plan assigns each enhancement to a time frame for illustrative purposes, pending completion of the local service study:

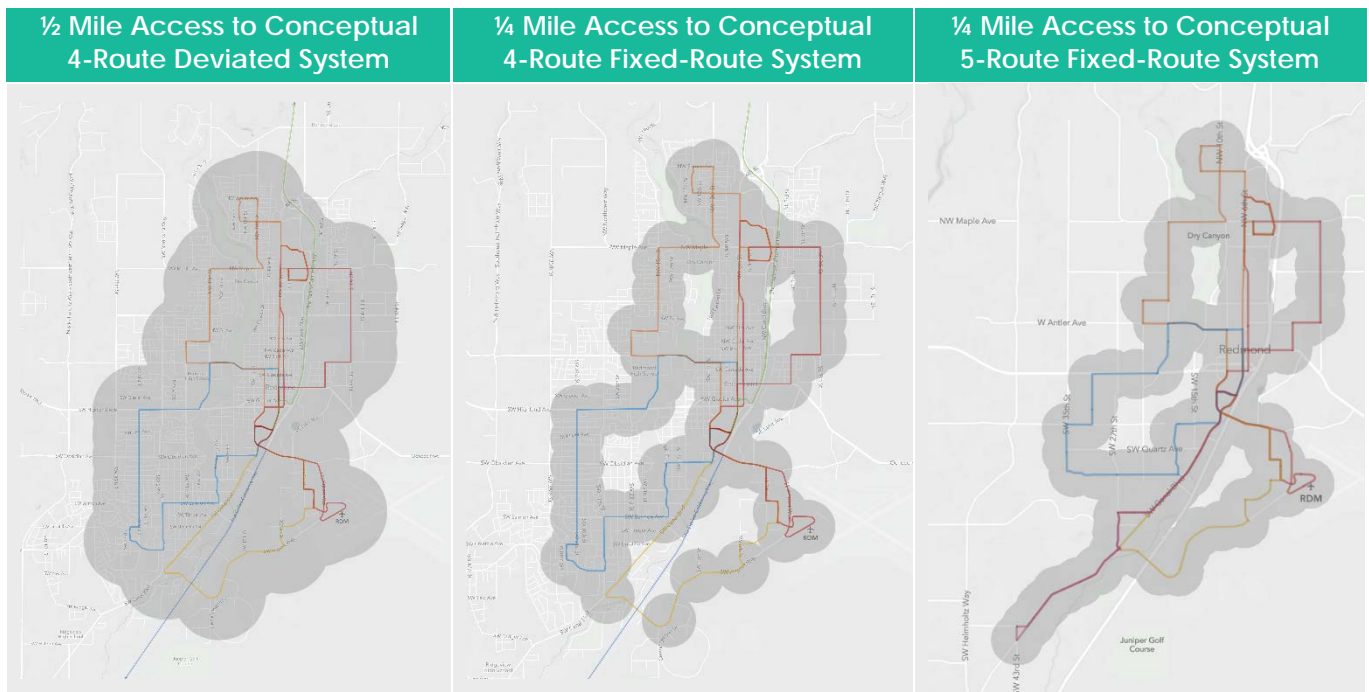
- ▶ **Existing/Near-Term:** Maintain Dial-A-Ride; introduce a local circulator/flex route.
- ▶ **Short-Term:** Introduce a system of four deviated fixed-routes (or alternative option, e.g., as proposed in the 2008 Transit Master Plan), which is assumed to redirect partial Redmond Dial-A-Ride service hours while maintaining some level of general demand-response service. ADA Paratransit is not required/provided. Provide evening service (a microtransit pilot is assumed, but could also be Dial-A-Ride).
- ▶ **Mid-Term:** Introduce a five-route system including ADA Paratransit, which is assumed to redirect all/some Redmond Dial-A-Ride service hours.
- ▶ **Longer-Term:** Potential route modifications to address longer-term needs identified; could also be introduced in an earlier time frame as warranted by land use.

Table 11 and Figure 24 compare the enhancements.



**Table 12: Summary of Redmond Conceptual Service Alternative and Preliminary Phasing**

Plan Phase	Existing	Near-Term	Short-Term	Mid-Term	Long-Term
Funding Level:	Existing	STIF FY19-21	STIF FY22-23, FY23-24	STIF+Additional Sources	STIF+Additional Sources
<b>Service Type / # of Routes</b>	Dial-A-Ride (average 3 vehicles all-day)	Dial-A-Ride (weekday only) Add Local Circulator flex-route (weekdays and Saturday)	4 Deviated Routes Circulator flex-route Maintain 1 Dial-A-Ride vehicle	4 Fixed-Routes Local circulator ADA Paratransit	5 Fixed-Routes Local circulator ADA Paratransit
<b>Service Days / Hours</b>	6 am – 6 pm weekdays	6 am – 6 pm weekdays Circulator runs on Saturdays			
<b># People</b>	28,500 (2017 citywide estimate)	Local Circulator: 9,500 (w/in 1/2 mile)	Deviated Routes / Circulator: 19,000 (w/in 1/2 mile)	Fixed Routes / Circulator: 12,400 (w/in 1/4 mile)	Fixed Routes / Circulator: 12,900 (w/in 1/4 mile)
<b># Jobs</b>	12,700 (2017 citywide estimate)	Local Circulator: 2,900 (w/in 1/2 mile)	Deviated Routes / Circulator: 4,200 (w/in 1/2 mile)	Fixed Routes / Circulator: 3,000 (w/in 1/4 mile)	Fixed Routes / Circulator: 3,000 (w/in 1/4 mile)



**Figure 24: Comparison of Redmond Conceptual Transit Access**



## LOCAL SERVICE IN SMALLER COMMUNITIES

### OVERALL SERVICE NEEDS

Table 12 summarizes the existing and future needs for local service in smaller communities (other than Bend and Redmond) as noted in the Needs Memorandum.

**Table 13: Local Service Needs in Smaller Communities**

Transit Service Need	Time Frame
Local circulating service in La Pine	Short
Local circulating service in Sisters	Short
Local circulating service in Madras	Short
Local service for Metolius and Culver (consider Dial-A-Ride, and shopper medical shuttle options)	Mid
Local service for Crooked River Ranch (consider Dial-A-Ride, and shopper medical shuttle options)	Mid
Local circulating service in Prineville	Short
Service for Juniper Canyon (consider flex-route, Dial-A-Ride, and shopper medical shuttle options)	Short

### SERVICE ENHANCEMENTS

The following service enhancements are proposed to be phased in over time for local service in **smaller communities**:

- ▶ Flex-routes, potentially as part of Community Connector trips. Local services must be flex routes; fixed-route service would trigger an ADA Paratransit requirement.
- ▶ Shopper/medical shuttles
- ▶ Dial-A-Ride, including recommendations for integration/coordination with intercity service

CET has traditionally provided local service within city limits/urban growth boundaries. The TDP service plan may be able to meet some needs outside of UGBs with shopper/medical shuttles. CET may also explore developing policies around alternative service models (such as subsidizing trips provided by Transportation Network Companies).

Specifics for each community are discussed below.

### MOBILITY HUBS

Mobility hubs (described above and in the TDP Capital Plan) are places designed to facilitate convenient, safe, and accessible connections to and between multimodal mobility services like public transportation. Mobility hubs can be designed at a variety of scales. In Bend and Redmond, there are currently primary **transit centers** with shelters and an indoor waiting area with restrooms. **Secondary transit hubs** identify smaller scale mobility hubs that can serve as small transit centers in smaller communities. Figure 10 identifies conceptual mobility hub locations for the CET system. **Major activity centers** are the smallest-scale mobility hub designation identified, and may be appropriate at a variety of locations in the CET system.

## LA PINE

- ▶ Maintain existing Dial-A-Ride (baseline).
- ▶ Introduce a flex-route, which may be operated by one of the existing Dial-A-Ride vehicles or the Route 30 Community Connector vehicle, depending on the time of day. Figure 25 illustrates existing Dial-A-Ride travel patterns, which could be used as the basis for the route design.
- ▶ Add a late morning/midday shopper medical shuttle to Bend operating 2-3 days per week (as part of Route 30). Service could expand to 5 days per week based on demand; see Community Connector section.

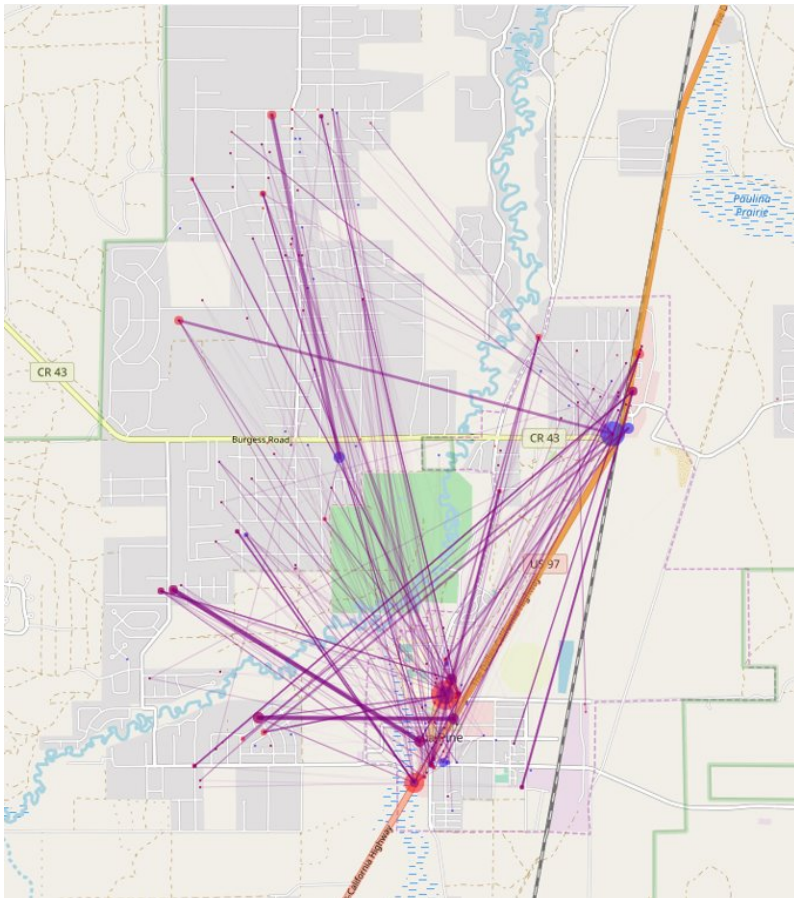


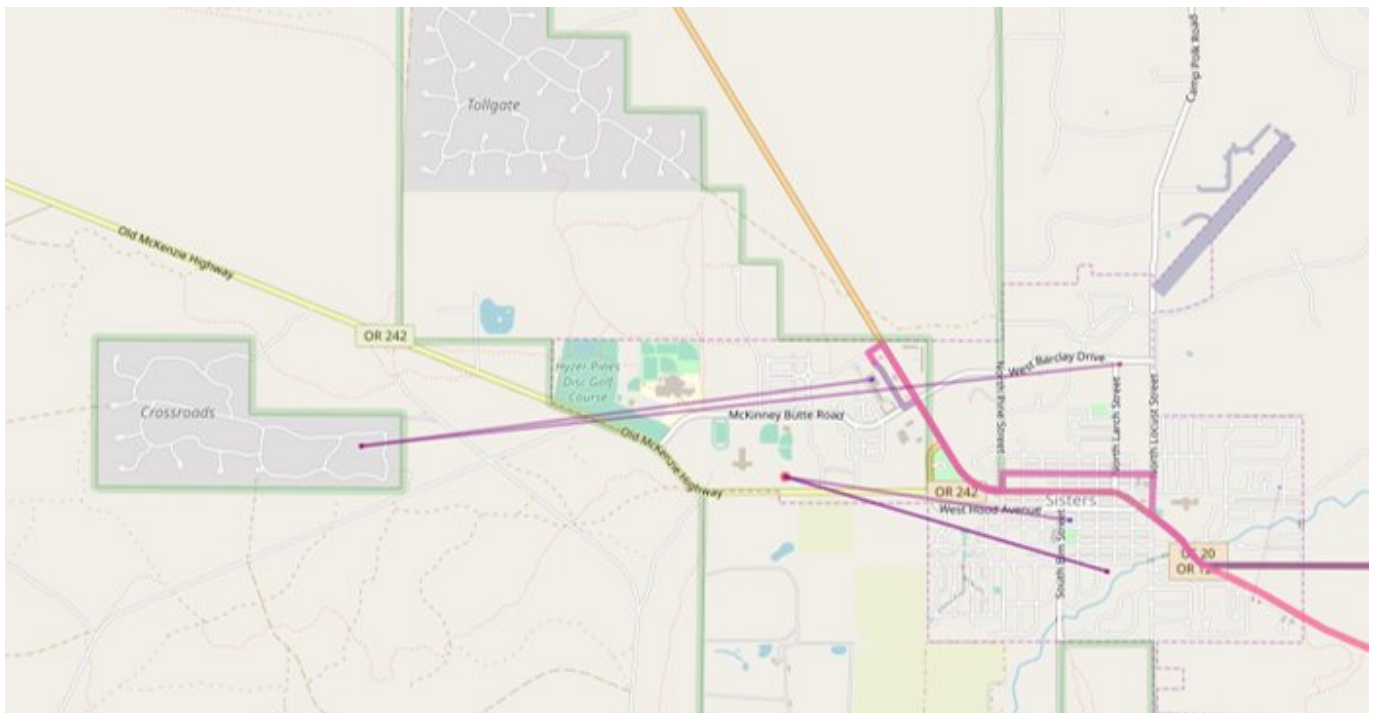
Figure 25: La Pine Dial-A-Ride Service Area and Trips, 2018

## SUNRIVER

- ▶ It is assumed that CET will provide connections from Sunriver to La Pine and Bend as part of Routes 30 and 31 (see Community Connector section), but that CET will not provide circulating local service throughout Sunriver.

**SISTERS**

- ▶ Maintain existing Dial-A-Ride, which operates only two hours per day, one day per week (baseline), but is planned to expand to two days per week.
- ▶ Introduce a flex-route which would be operated by the Route 28 and/or 29 Community Connector vehicles. Figure 26 illustrates existing Dial-A-Ride travel patterns, which could be used as the basis for the route design.
- ▶ Replace the existing Dial-A-Ride with a late morning/midday shopper medical shuttle to Bend operating 2-3 days per week (as part of Route 29); this could alternatively go to Redmond, depending on community input. Service could expand to 5 days per week based on demand; see Community Connector section.



**Figure 26: Sisters Dial-A-Ride Service Area and Trips, 2018**

**MADRAS**

- ▶ Maintain existing Dial-A-Ride and the flex-route that operates as part of Route 20 (Warm Springs) (baseline). Figure 27 illustrates the existing flex-route operated as part of Route 20, including the deviation area.
- ▶ Add additional flex-route trips, which may be operated by a Dial-A-Ride vehicle or the Route 22 Community Connector vehicle.
- ▶ Add a late morning/midday shopper medical shuttle to Redmond operating 2-3 days per week (as part of Route 22); this shuttle would also server Metolius and Culver. Service could expand to 5 days per week based on demand.



**Figure 27: Madras Flex-Route Conceptual Map (Existing Route 20)**

**METOLIUS AND CULVER**

- ▶ Add a late morning/midday shopper medical shuttle to Madras and/or Redmond operating 2-3 days per week (as part of Route 22). Service could be expand to 5 days per week based on demand.

**WARM SPRINGS**

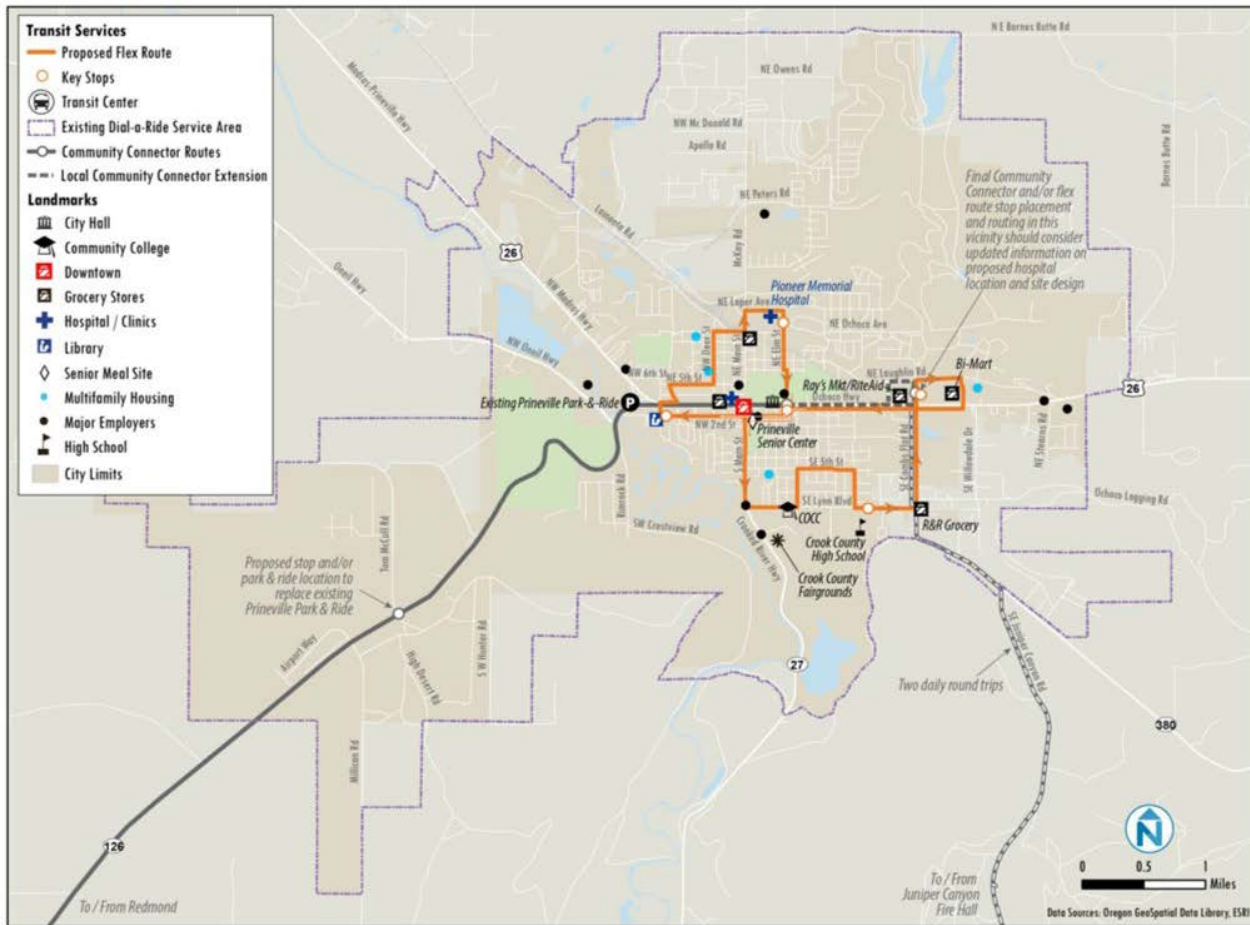
- ▶ Develop a local mobility hub, including a stop for the Central Oregon Breeze, existing Route 20, and proposed Route 19 (see Community Connector section).
- ▶ Add a morning and evening trip on Route 20, which includes a local flex-route in Warm Springs.
- ▶ Provide Saturday service on Route 20, which includes a local flex-route in Warm Springs.
- ▶ Provide a shopper/medical shuttle 1-2 days per week to serve Simnasho and other outlying communities.

**CROOKED RIVER RANCH**

- ▶ Add a late morning/midday shopper medical shuttle to Redmond operating 1-2 days per week

**PRINEVILLE**

- ▶ Introduce a flex-route which would be operated by the Route 26 Community Connector vehicles or a local Dial-A-Ride vehicle. Figure 28 shows a route concept developed for previous plans.
- ▶ Add a late morning/midday shopper medical shuttle to Redmond operating 2-3 days per week (as part of Route 26)



Source: 2012 Regional Transit Master Plan and 2016 Rural Expansion Study Concept

**Figure 28: Prineville Flex-Route Conceptual Map**

### JUNIPER CANYON

- ▶ Add a late morning/midday shopper medical shuttle to Prineville operating 1-2 days per week; this could operate as a flex-route serving Juniper Canyon and be coordinated with the Community Connector shopper/medical shuttle service and be provided by the same vehicle.

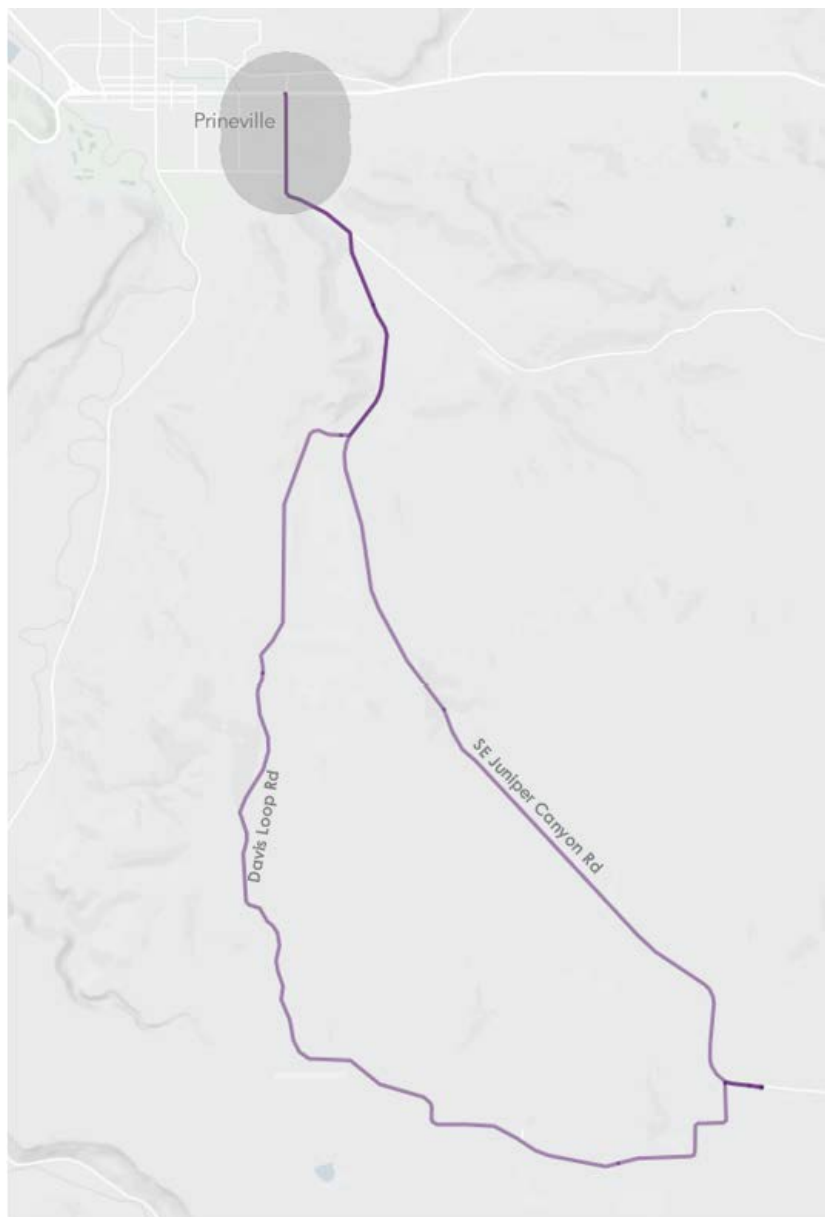


Figure 29: Juniper Canyon Shopper-Medical Shuttle Conceptual Routing



### DESCHUTES RIVER WOODS

- ▶ Add a late morning/midday shopper medical shuttle to Bend operating 1-2 days per week; this could operate as a flex-route within Deschutes River Woods. Figure 30 illustrates the general area, which is only served by the Route 30 Community Connector stop at River Woods Baptist Church.

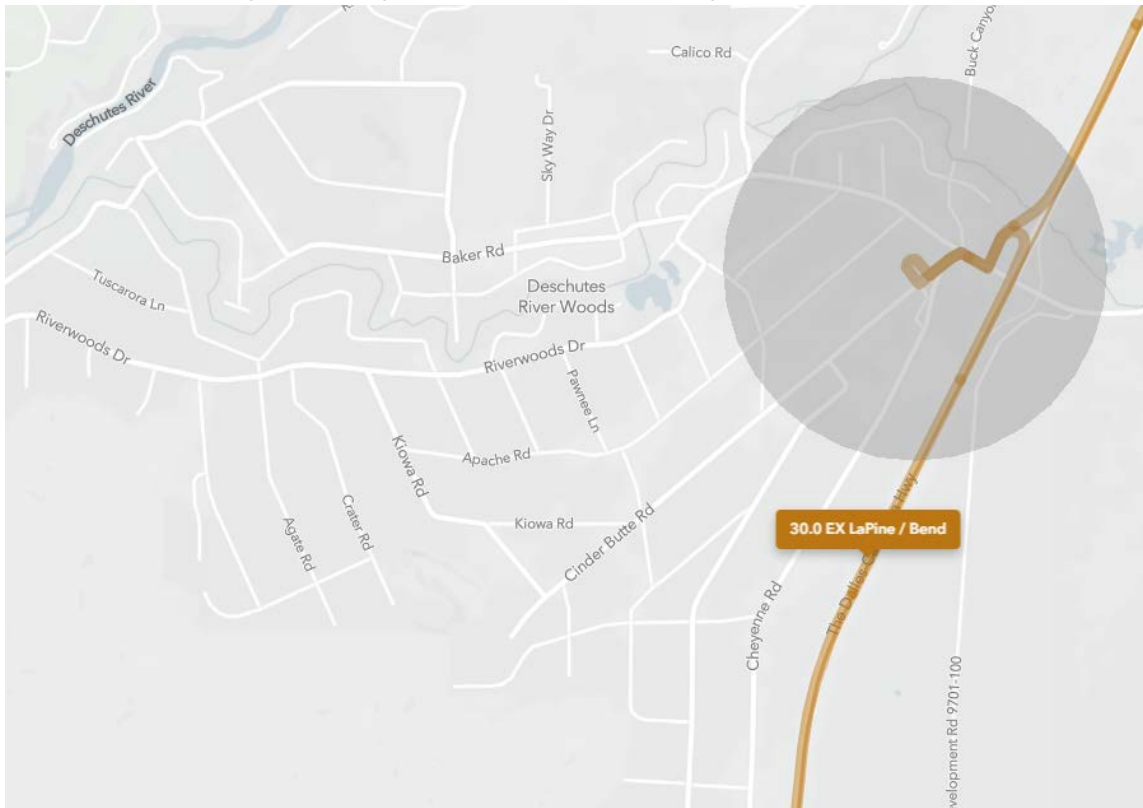


Figure 30: Deschutes River Woods General Area Map



## RECREATIONAL SERVICES

CET's current recreational services (Ride Play) include Ride the River, a summer shuttle for floating the Deschutes River, Mt. Bachelor (a winter shuttle to Mt. Bachelor), and Lava Butte (a summer shuttle to Lava Butte). With Bend's growing popularity for recreational and outdoor activities for residents and visitors alike, CET will continue to expand its recreational services based on available opportunities, vehicle capacity, and partner support.

The Ride Play services need to be funded in full by fares (typically higher for recreation trips than other CET trips), local agencies, other public or private entity, or special grants such as the Federal Lands Access Program (FLAP) grants.

CET has received a two-year FLAP grant for future summer service to Mt. Bachelor (2022-2023), which could be continued beyond this time frame depending on future grants.

The Ride Play services should not be funded by state or federal grants that CET could use for its Bend, Community Connector, or Dial-A-Ride services; however, some of the locations listed below could be served by Community Connector routes and use a combination of funding types.

The locations identified as potential needs and opportunities to seek out or evaluate partnerships include:

- ▶ Sunriver (year-round)
- ▶ Black Butte Ranch (year-round)
- ▶ High Desert Museum (year-round to/from Bend and/or Sunriver)
- ▶ Lava Lands Visitor Center (seasonal to/from Bend and/or Sunriver)
- ▶ OSU Cascades (year-round)
- ▶ Smith Rock (summer)
- ▶ Popular Central Oregon sno-parks (winter)

## SUMMARY OF COMMUNITY CONNECTOR AND LOCAL SERVICE

This section provides a summary of Community Connector and local service by preliminary plan time frames, including costs relative to funding, service levels by sub-system, and fleet and facility requirements inputs for the TDP Capital Plan. The service plan phasing assumptions are conceptual and intended to illustrate alternative cost and funding scenarios and obtain input from stakeholders and the public. A more detailed implementation and phasing plan will be developed based on input received.

### FINANCE SUMMARY

The costs for providing CET service were projected for the 20-year plan time frame based on the assumptions described in the “Plan Phases and Funding Assumptions” section above, including assumed local funding for capital costs (e.g., buses and facilities), i.e., local match, based on the TDP Capital Plan; an average of \$500,000 to \$1M annually. Actual costs will depend on funding from grants and other sources, which vary over time. For conceptual purposes, an average of \$500,000 in local capital costs is assumed in FY 2020 and increased by 2% annually over the plan time frame to an average of \$750,000 by 2040. The funding requirement will be refined based on the final TDP service and implementation plans. Table 13 summarizes costs and funding for each time period.

Existing CET funding sources (including STIF) are assumed at projected levels for the near-term and short-term:

- ▶ **Existing/Near-Term:** This represents existing service, which will be enhanced in the near-term based on the STIF plans that were prepared in Spring 2019 by each qualified entity (QE) that CET serves, covering FY 2019 to FY 2021. The service plan focuses on the short-term through long-term time frames. STIF funding is not included in Existing funding levels, but is reflected starting in the Near-Term.
- ▶ **Short-Term:** This represents FY 2022 to FY 2025). It is assumed that new funding sources will not be available in the short-term, therefore options for reducing the level of enhancements are provided below to align projected costs and funding. Various enhancements identified as needs/priorities were eliminated (deferred until mid-term or long-term) in order to more closely align costs with available funding, including those identified in Table 14.

**Table 14: Examples of Enhancements Removed from Short-Term Service Scenario to**

Community Connector	Local Service
<ul style="list-style-type: none"> <li>▶ Smaller increase in number of Route 22 Madras – Redmond trips</li> <li>▶ Add only 1 midday trip on Route 24 Redmond – Bend instead of 3 trips.</li> <li>▶ No addition of evening trips on Routes 22, 24, and 26</li> </ul>	<ul style="list-style-type: none"> <li>▶ No expansion of Route 2 to serve the southeast area and increase frequency north of Murphy Road.</li> <li>▶ No modification of Route 4 to increase frequency and serve Northwest Crossing.</li> <li>▶ No microtransit pilots to serve the southeast and northeast areas in Bend.</li> <li>▶ No expansion of Saturday service hours in Bend</li> <li>▶ Limit Saturday local service in Redmond to a single circulator route.</li> </ul>

Additional funding would be required to provide enhanced services in the mid-term and long-term time frames:

- ▶ **Mid-Term:** Conceptually, the “Existing + STIF + 0.02% Property Tax (incorporated areas)” funding level is assumed. This level of additional funding would provide an additional approximately \$5.5 million to provide both the short-term and additional enhancements.
- ▶ **Long-Term:** This plan time frame is not cost-constrained and may ultimately include a variety of enhancements whose implementation would depend on land use and other readiness factors. Currently, with the exception of Sunday service, it includes the same enhancements as the mid-term time frame, projected through 2040 to ensure that the service would be sustainable.

**Table 15: Summary of Costs and Funding by Plan Time Frame**

Phase Name	Existing	Near-Term	Short-Term	Mid-Term	Long-Term	% Change (Existing to Mid-Term)
<b>Plan Years</b>	2019-2020	2020-2021	2022-2025	2026-2030	2031-2040	
<b>Representative Year</b>	2019-2020	2020-2021	2024-2025	2029-2030	2039-2040	
Service Costs - Existing / Maintain	\$6,431,000	\$6,984,000	\$8,673,000	\$11,298,000	\$18,856,000	76%
Service Costs - Enhancements	\$0	\$1,711,000	\$2,355,000	\$11,182,000	\$25,315,000	-
Service Costs - Total	\$6,431,000	\$8,695,000	\$11,028,000	\$22,480,000	\$44,171,000	250%
Capital/Match Req't (Average)		\$504,000	\$545,000	\$602,000	\$734,000	
<b>Existing + STIF Funding Only</b>	\$6,456,000	\$9,890,000	\$11,000,000	\$12,500,000	\$16,000,000	94%
STIF Carryover						
<i>Funding Surplus (Deficit)<sup>1</sup></i>	\$25,000	\$691,000	(\$573,000)	(\$10,582,000)	(\$28,905,000)	
<b>Existing + STIF + 0.02% Property Tax (incorporated areas)</b>	\$6,456,000	\$9,890,000	\$11,000,000	\$17,900,000	\$24,800,000	177%
STIF Carryover						
<i>Funding Surplus (Deficit)</i>	\$25,000	\$691,000	(\$573,000)	(\$5,182,000)	(\$20,105,000)	

Note: Existing and Near-Term include funds available through STIF funding in the FY 2019 – 2021 time frame that will be used for services that CET has not yet started operating.

**COST SUMMARY BY SERVICE AREA AND TYPE**

Table 15 provides a breakdown of costs by service area and/or service type.

**COST SUMMARY BY QUALIFIED ENTITY**

Table 16 provides a comparison of STIF funding and costs by qualified entity. The allocation of costs by qualified entity is based on the agreed-upon allocation for the FY 2019-2021 STIF plans submitted by each QE, projected to future services. Funding is limited to STIF, since other CET funds are not allocated in the same way.

**Table 16: Costs and Funding by Service Type and Area**

Phase Name	Existing	Near-Term	Short-Term	Mid-Term	Long-Term	% Change (Ex. to Mid)
<b>Plan Years</b>	2019-2020	2020-2021	2023-2025	2026-2030	2031-2040	
<b>Representative Year</b>	2019-2020	2020-2021	2024-2025	2029-2030	2039-2040	
<b>Total Service Cost</b>	\$6,432,000	\$8,695,000	\$11,028,000	\$22,480,000	\$44,171,000	
<b>Existing + STIF Funding</b>	\$6,456,000	\$9,890,000	\$11,000,000	\$12,500,000	\$16,000,000	
<b>By Service Type</b>						
Community Connector	\$1,338,000	\$2,351,000	\$3,089,000	\$4,802,000	\$9,336,000	259%
Fixed-Route	\$2,290,000	\$3,298,000	\$4,164,000	\$11,702,000	\$22,207,000	411%
Dial-A-Ride (All Communities)	\$2,804,000	\$3,046,000	\$3,775,000	\$5,976,000	\$12,628,000	113%
<b>Community Connector</b>						
Warm Springs - Madras: CC	\$229,000	\$273,000	\$392,000	\$575,000	\$1,023,000	151%
Madras - Redmond: CC	\$233,000	\$422,000	\$525,000	\$837,000	\$1,471,000	259%
Redmond - Bend: CC	\$342,000	\$493,000	\$664,000	\$928,000	\$1,659,000	171%
Prineville - Redmond: CC	\$164,000	\$416,000	\$517,000	\$810,000	\$1,415,000	394%
Sisters - Redmond: CC	\$91,000	\$125,000	\$155,000	\$201,000	\$335,000	121%
Sisters - Bend: CC	\$106,000	\$165,000	\$246,000	\$344,000	\$637,000	225%
La Pine - Bend: CC	\$174,000	\$285,000	\$357,000	\$460,000	\$861,000	164%
Warm Springs / Employment Areas: CC	\$0	\$79,000	\$99,000	\$367,000	\$859,000	-
La Pine - Sunriver: CC	\$0	\$75,000	\$93,000	\$121,000	\$809,000	-
Crooked River Ranch - Redmond: CC	\$0	\$16,000	\$20,000	\$53,000	\$89,000	-
Deschutes River Woods - Bend: CC	\$0	\$0	\$0	\$53,000	\$89,000	-
<b>Bend Local Service</b>						
Bend: Fixed-Route	\$2,290,000	\$2,901,000	\$3,795,000	\$9,629,000	\$17,390,000	320%
Bend: Dial-A-Ride (Including microtransit)	\$1,141,000	\$1,226,000	\$1,528,000	\$3,445,000	\$5,929,000	202%
<b>Non-Bend Local Service</b>						
<b>Redmond:</b> Fixed-Route and/or Dial-A-Ride	\$912,000	\$1,381,000	\$1,583,000	\$3,260,000	\$7,128,000	257%
<b>La Pine:</b> Dial-A-Ride and/or Flex-Route	\$272,000	\$293,000	\$362,000	\$471,000	\$1,566,000	73%
<b>Sisters:</b> Dial-A-Ride and/or Flex-Route	\$14,000	\$30,000	\$37,000	\$48,000	\$80,000	243%
<b>Madras:</b> Dial-A-Ride and/or Flex-Route	\$227,000	\$257,000	\$317,000	\$412,000	\$1,370,000	81%
<b>Prineville:</b> Dial-A-Ride and/or Flex-Route	\$238,000	\$257,000	\$317,000	\$412,000	\$1,370,000	73%
<b>Costs By Day of Week</b>						
Weekday	\$6,018,000	\$7,724,000	\$9,938,000	\$20,001,000	\$37,028,000	232%
Saturday	\$318,000	\$788,000	\$862,000	\$1,943,000	\$3,238,000	511%
Sunday	\$95,000	\$104,000	\$129,000	\$169,000	\$3,047,000	78%

**Table 17: Cost and Funding by Qualified Entity, Existing through Short-Term**

	Deschutes County			Crook County			Jefferson County			Warm Springs		
Phase Name	Existing	Short-Term	Mid-Term	Existing	Short-Term	Mid-Term	Existing	Short-Term	Mid-Term	Existing	Short-Term	Mid-Term
<b>Plan Years</b>	2023-2025	2023-2025	2026-2030	2023-2025	2023-2025	2026-2030	2023-2025	2023-2025	2026-2030	2023-2025	2023-2025	2026-2030
<b>Representative Year</b>	2024-2025	2024-2025	2029-2030	2024-2025	2024-2025	2029-2030	2024-2025	2024-2025	2029-2030	2024-2025	2024-2025	2029-2030
Service Cost	\$5,484,000	\$9,171,000	\$19,548,000	\$336,000	\$667,000	\$950,000	\$557,000	\$1,059,000	\$1,585,000	\$153,000	\$381,000	\$806,000
STIF Funding Only	N/A	\$4,411,000	\$5,630,000	N/A	\$320,000	\$408,000	N/A	\$321,000	\$409,000	N/A	\$100,000	\$100,000
<b>By Service Type</b>												
Community Connector	\$855,000	\$1,865,000	\$2,694,000	\$98,000	\$350,000	\$538,000	\$330,000	\$742,000	\$1,173,000	\$153,000	\$381,000	\$806,000
Fixed-Route	\$2,290,000	\$4,164,000	\$11,702,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Dial-A-Ride (All)	\$2,339,000	\$3,142,000	\$5,152,000	\$238,000	\$317,000	\$412,000	\$227,000	\$317,000	\$412,000	\$0	\$0	\$0
<b>Community Connector</b>												
Warm Springs - Madras	\$0	\$0	\$0	\$0	\$0	\$0	\$76,000	\$129,000	\$190,000	\$153,000	\$262,000	\$386,000
Madras - Redmond	\$77,000	\$162,000	\$262,000	\$0	\$0	\$0	\$156,000	\$363,000	\$575,000	\$0	\$0	\$0
Redmond - Bend	\$342,000	\$664,000	\$928,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Prineville - Redmond	\$66,000	\$167,000	\$272,000	\$98,000	\$350,000	\$538,000	\$98,000	\$250,000	\$408,000	\$0	\$0	\$0
Sisters - Redmond	\$91,000	\$155,000	\$201,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sisters - Bend	\$106,000	\$246,000	\$344,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
La Pine - Bend	\$174,000	\$357,000	\$460,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Warm Springs / Empl. Areas	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$99,000	\$367,000
La Pine - Sunriver	\$0	\$93,000	\$121,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Crooked River Ranch - Redmond	\$0	\$20,000	\$53,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Deschutes River Woods - Bend	\$0	\$0	\$53,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Bend Local Service</b>												
Bend: Fixed-Route	\$2,290,000	\$3,795,000	\$9,629,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Bend: Dial-A-Ride	\$1,141,000	\$1,528,000	\$3,445,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Non-Bend Local Service</b>												
<b>Redmond: Fixed-Rt/DAR</b>	\$912,000	\$1,583,000	\$3,260,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>La Pine: DAR / Flex-Route</b>	\$272,000	\$362,000	\$471,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Sisters: DAR / Flex-Route</b>	\$14,000	\$37,000	\$48,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Madras: DAR / Flex-Rt.</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$227,000	\$317,000	\$412,000	\$0	\$0	\$0
<b>Prineville: DAR / Flex-Rt.</b>	\$0	\$0	\$0	\$238,000	\$317,000	\$412,000	\$0	\$0	\$0	\$0	\$0	\$0

## COMMUNITY CONNECTOR

Table 18 provides a summary of Community Connector enhancements by plan time frame.

**Table 18: Community Connector Service Plan Summary**

Plan Phase	Existing/Near-Term	Short-Term	Mid-Term	Long-Term
Funding Level:	Existing + STIF FY19-21	STIF FY22-23, FY23-24	STIF+Additional Sources	STIF+Additional Sources
<b>Route 20 Warm Springs - Redmond</b>	<ul style="list-style-type: none"> <li>Maintain existing weekday service (6 daily trips)</li> </ul>	<ul style="list-style-type: none"> <li>Add 1 additional trips, likely evening (7 daily trips)</li> <li>Add Saturday service (3 trips)</li> <li>Shopper/medical shuttle (1-day per week)</li> </ul>	<ul style="list-style-type: none"> <li>Add 1 additional trips (evening and/or morning)</li> <li>8 weekday and 3 Saturday trips</li> <li>Shopper/medical shuttle (2 days per week)</li> </ul>	<ul style="list-style-type: none"> <li>8 weekday and 3 Saturday trips</li> <li>Add Sunday service (3 trips)</li> <li>Shopper/medical shuttle (2 days per week)</li> </ul>
<b>Route "19" Warm Springs Employment Service</b>	<ul style="list-style-type: none"> <li>New Seasonal Service, Wed-Sun, 3 trips per day, 4 months per year</li> </ul>	<ul style="list-style-type: none"> <li>Maintain seasonal service</li> </ul>	<ul style="list-style-type: none"> <li>Maintain seasonal service</li> </ul>	<ul style="list-style-type: none"> <li>7 days per week, 3 daily trips</li> </ul>
<b>Route 22 Madras - Redmond</b>	<ul style="list-style-type: none"> <li>Add 1 peak trip (6.5 total)</li> <li>Add midday shopper/ medical shuttle trip (5 days)</li> <li>Add 3 Saturday trips</li> </ul>	<ul style="list-style-type: none"> <li>Add 1 peak trip</li> <li>7 weekday, 3 Saturday trips</li> <li>Midday shopper/ medical shuttle (5 days)</li> </ul>	<ul style="list-style-type: none"> <li>Add 1 evening trip (8 weekday, 3 Saturday trips)</li> <li>Midday shopper/ medical shuttle (5 days)</li> </ul>	<ul style="list-style-type: none"> <li>8 weekday, 3 Saturday trips</li> <li>Midday shopper/ medical shuttle (5 days)</li> <li>Add Sunday service (3 trips)</li> </ul>
<b>Route 24 Redmond-Bend</b>	<ul style="list-style-type: none"> <li>Add 1 midday trip (10 total)</li> <li>Add 5 Saturday trips</li> </ul>	<ul style="list-style-type: none"> <li>Add 1 midday trip (11 weekday, 5 Saturday trips)</li> </ul>	<ul style="list-style-type: none"> <li>Add 1 midday and 1 evening trip (13 weekday, 5 Saturday trips)</li> </ul>	<ul style="list-style-type: none"> <li>13 weekday, 5 Saturday trips</li> <li>Add Sunday service (5 trips)</li> </ul>
<b>Route "25" Crooked River Ranch - Redmond</b>	<ul style="list-style-type: none"> <li>New midday shopper/ medical shuttle (1 day)</li> </ul>	<ul style="list-style-type: none"> <li>Midday shopper/ medical shuttle (1 day)</li> </ul>	<ul style="list-style-type: none"> <li>Expand shopper/ medical shuttle to 2 days per week</li> </ul>	<ul style="list-style-type: none"> <li>Midday shopper/ medical shuttle (2 days)</li> </ul>
<b>Route 26 Prineville-Redmond</b>	<ul style="list-style-type: none"> <li>Add 1 peak weekday trips, interline service with Route 24, serving Redmond Airport and COCC (6 total)</li> <li>Add midday shopper/ medical shuttle trip (5 days)</li> <li>Add 3 Saturday trips</li> </ul>	<ul style="list-style-type: none"> <li>Add 1 peak weekday trip (7 weekday, 3 Saturday trips)</li> <li>Midday shopper/ medical shuttle (5 days)</li> </ul>	<ul style="list-style-type: none"> <li>Add 1 evening trip (8 weekday, 3 Saturday trips)</li> <li>Midday shopper/ medical shuttle (5 days)</li> </ul>	<ul style="list-style-type: none"> <li>8 weekday, 3 Saturday trips</li> <li>Midday shopper/ medical shuttle (5 days)</li> <li>Add Sunday service (3 trips)</li> </ul>
<b>Route 28 Sisters - Redmond</b>	<ul style="list-style-type: none"> <li>Maintain existing service (3 trips)</li> <li>Add flex route in Sisters</li> </ul>	<ul style="list-style-type: none"> <li>3 weekday trips with local flex route</li> </ul>	<ul style="list-style-type: none"> <li>3 weekday trips with local flex route</li> </ul>	<ul style="list-style-type: none"> <li>3 weekday trips with local flex route</li> </ul>

Plan Phase	Existing/Near-Term	Short-Term	Mid-Term	Long-Term
<b>Route 29 Sisters - Bend</b>	<ul style="list-style-type: none"> <li>• Maintain existing weekday service (3 trips)</li> <li>• Add flex route in Sisters</li> <li>• Add Saturday service (3 trips)</li> <li>• Add midday shopper/ medical shuttle trip (2 days)</li> </ul>	<ul style="list-style-type: none"> <li>• 3 weekday and 3 Saturday trips with local flex route</li> <li>• Midday shopper/ medical shuttle (2 days)</li> </ul>	<ul style="list-style-type: none"> <li>• 3 weekday and 3 Saturday trips with local flex route</li> <li>• Expand midday shopper/ medical shuttle to 3 days per week</li> </ul>	<ul style="list-style-type: none"> <li>• 3 weekday and 3 Saturday trips with local flex route</li> <li>• Midday shopper/ medical shuttle (3 days)</li> <li>• Add Sunday service (3 trips)</li> </ul>
<b>Route 30 La Pine – Bend</b>	<ul style="list-style-type: none"> <li>• Maintain existing weekday service (4 trips)</li> <li>• Add flex route in La Pine</li> <li>• Add Saturday service (3 trips)</li> <li>• Add midday shopper/ medical shuttle trip (3 days)</li> </ul>	<ul style="list-style-type: none"> <li>• 4 weekday and 3 Saturday trips with local flex route</li> <li>• Midday shopper/ medical shuttle (3 days)</li> </ul>	<ul style="list-style-type: none"> <li>• 4 weekday and 3 Saturday trips with local flex route</li> <li>• Midday shopper/ medical shuttle (3 days)</li> </ul>	<ul style="list-style-type: none"> <li>• 4 weekday and 3 Saturday trips with local flex route</li> <li>• Midday shopper/ medical shuttle (3 days)</li> <li>• Add Sunday service (3 trips)</li> </ul>
<b>Route “31” La Pine - Sunriver</b>	<ul style="list-style-type: none"> <li>• New service, seasonal</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain service; potential enhancement to connect to recreational/employment sites</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain/enhance service</li> </ul>	<ul style="list-style-type: none"> <li>• Enhance service to year-round</li> </ul>
<b>Route “32” Deschutes River Woods</b>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Add shopper/ medical shuttle, 2 days per week</li> </ul>	<ul style="list-style-type: none"> <li>• Midday shopper/ medical shuttle (2 days)</li> </ul>



## LOCAL SERVICE

### SUMMARY BY COMMUNITY

Table 19 provides a summary of local service enhancements by plan time frame for each community.

**Table 19: Local Service Plan Summary**

Plan Phase	Existing/Near-Term	Short-Term	Mid-Term	Long-Term
Funding Level:	Existing+ STIF FY19-21	STIF FY22-23, FY23-24	STIF+Additional Sources	STIF+Additional Sources
Bend	Fixed-Route, Dial-A-Ride/ADA <ul style="list-style-type: none"> <li>• Weekday 6 am – 7:30 pm, 30/45 min headways</li> <li>• Saturday 7:30 am – 5:30 pm, at up to 30 min headways</li> </ul>	Fixed-Route, Dial-A-Ride/ADA <ul style="list-style-type: none"> <li>• Weekday 6 am – 7:30 pm, up to 15/20 min peak headways on core routes (1, 4, and 7, with 7 extended to downtown/Old Mill and/or OSU)</li> <li>• Saturday 7:30 am –5:30 pm</li> </ul>	Fixed-Route, Dial-A-Ride/ADA <ul style="list-style-type: none"> <li>• Weekday 6 am – 9 pm</li> <li>• Evening Service on Core Routes/DAR to 9 pm</li> <li>• Saturday extended to 7:00 am – 7:00 pm</li> <li>• Sunday DAR Only 8:30 am – 3:15 pm</li> <li>• Evening Microtransit to approx. 11 pm</li> </ul>	Fixed-Route, Dial-A-Ride/ADA <ul style="list-style-type: none"> <li>• Weekday 6 am – 9 pm</li> <li>• Evening Service on Core Routes/DAR to 9 pm</li> <li>• Saturday 7:00 am – 7:00 pm</li> <li>• Sunday 8:00 am – 6:00 pm</li> <li>• Evening Microtransit to approx. 11 pm</li> </ul>
Redmond <sup>1</sup>	Dial-A-Ride <ul style="list-style-type: none"> <li>• 6:30 am – 6:00 pm</li> </ul> Add deviated circulator route Add limited Saturday service (e.g., circulator route)	Possible conversion to Deviated Fixed-Route Service <ul style="list-style-type: none"> <li>• Weekday 6:30 am – 6:00 pm</li> <li>• Saturday circulator route</li> </ul>	Fixed-Route, ADA, Limited Dial-A-Ride (or hybrid of fixed-route and deviated-routes) <ul style="list-style-type: none"> <li>• Weekday 6:30 am – 6:00 pm</li> <li>• Saturday 7:00 am – 6:00 pm</li> <li>• Evening Microtransit</li> </ul>	Fixed-Route, ADA, Limited Dial-A-Ride (or hybrid of fixed-route and deviated-routes) <ul style="list-style-type: none"> <li>• Weekday 6:30 am – 6:00 pm</li> <li>• Saturday 7:00 am – 6:00 pm</li> <li>• Sunday 8:00 am – 6:00 pm</li> <li>• Evening Microtransit</li> </ul>
La Pine	Dial-A-Ride <ul style="list-style-type: none"> <li>• 6 am – 6 pm</li> </ul>	Dial-A-Ride/Flex-Route <ul style="list-style-type: none"> <li>• 6 am – 6 pm</li> </ul> Saturday limited circulation as part of Route 30 flex-route  Expand service boundaries to meet rural need	Dial-A-Ride/Flex-Route <ul style="list-style-type: none"> <li>• 6 am – 6 pm</li> </ul> Saturday limited circulation as part of Route 30 flex-route	Dial-A-Ride/Flex-Route <ul style="list-style-type: none"> <li>• 6 am – 6 pm</li> </ul> Saturday limited circulation as part of Route 30 flex-route

Plan Phase	Existing/Near-Term	Short-Term	Mid-Term	Long-Term
Sisters	Dial-A-Ride <ul style="list-style-type: none"> <li>Tuesday only 9-10 am, 1-2 pm)</li> <li>Add 2nd day of service</li> </ul>	Dial-A-Ride <ul style="list-style-type: none"> <li>2 days, limited hours</li> </ul> Route 29/30 flex-route Saturday limited circulation as part of Route 29 flex-route  Expand service boundaries to meet rural need	Dial-A-Ride <ul style="list-style-type: none"> <li>2 days, limited hours</li> </ul> Route 29/30 flex-route Saturday limited circulation as part of Route 29 flex-route	Dial-A-Ride <ul style="list-style-type: none"> <li>2 days, limited hours</li> </ul> Route 29/30 flex-route Saturday and Sunday limited circulation as part of Route 29 flex-route
Prineville	Dial-A-Ride <ul style="list-style-type: none"> <li>7:30 am – 5:30 pm</li> </ul>	Dial-A-Ride/Flex-Route <ul style="list-style-type: none"> <li>7:30 am – 5:30 pm</li> </ul> Evening and Saturday limited circulation as part of Route 26 flex-route	Dial-A-Ride/Flex-Route <ul style="list-style-type: none"> <li>7:30 am – 5:30 pm</li> </ul> Evening and Saturday limited circulation as part of Route 26 flex-route	Dial-A-Ride/Flex-Route <ul style="list-style-type: none"> <li>7:30 am – 5:30 pm</li> </ul> Evening, Saturday, and Sunday limited circulation as part of Route 26 flex-route
Madras	Dial-A-Ride <ul style="list-style-type: none"> <li>7:30 am – 5:30 pm</li> </ul> Flex-Route as part of Route 20	Dial-A-Ride/Flex-Route <ul style="list-style-type: none"> <li>7:30 am – 5:30 pm</li> </ul> Early evening and Saturday limited circulation as part of Route 20/22 flex-routes	Dial-A-Ride/Flex-Route <ul style="list-style-type: none"> <li>7:30 am – 5:30 pm</li> </ul> Early evening and Saturday limited circulation as part of Route 20/22 flex-routes	Dial-A-Ride/Flex-Route <ul style="list-style-type: none"> <li>7:30 am – 5:30 pm</li> </ul> Early evening, Saturday, and Sunday limited circulation as part of Route 20/22 flex-routes
Warm Springs	Flex-Route (part of Route 20) <ul style="list-style-type: none"> <li>6 am – 7 pm (6 trips)</li> </ul> Add flex-route as part of 3 Saturday Route 20 trips	Flex-Route (part of Route 20) <ul style="list-style-type: none"> <li>6 am – 7 pm (7 trips)</li> </ul> 3 Saturday Route 20 flex-route trips	Flex-Route (part of Route 20) <ul style="list-style-type: none"> <li>6 am – 7 pm (8 trips)</li> </ul> 3 Saturday Route 20 flex-route trip	Flex-Route (part of Route 20) <ul style="list-style-type: none"> <li>6 am – 7 pm (8 trips)</li> </ul> 3 Saturday and Sunday Route 20 flex-route trip

Notes: Preliminary assumptions for Redmond service; to be determined based on local transit study.

**BEND DETAILED SUMMARY**

Table 20 summarizes Bend local service enhancements.

**Table 20: Summary of Bend Service Concepts**

Plan Phase	Existing/Near-Term	Short-Term	Mid-Term	Long-Term
Funding Level:	Existing+ STIF FY19-21	STIF FY22-23, FY23-24	STIF+Additional Sources	STIF+Additional Sources
1 – South 3 <sup>rd</sup> St	30 min headway*	<ul style="list-style-type: none"> <li>Interlined with Route 4, 15-20 min peak headway</li> </ul>	<ul style="list-style-type: none"> <li>Interlined with Route 4, 15-20 min all-day headway</li> </ul>	<ul style="list-style-type: none"> <li>Add Sunday Service</li> </ul>
2 – Brookwood	45 min headway*	<ul style="list-style-type: none"> <li>45 min headway</li> </ul>	<ul style="list-style-type: none"> <li>15-20 min headway, alternating trips to Murphy/Brosterhus and Brookwood</li> </ul>	<ul style="list-style-type: none"> <li>Add Sunday Service</li> </ul>
3 – Newport	30 min headway*	<ul style="list-style-type: none"> <li>30 min headway</li> </ul>	<ul style="list-style-type: none"> <li>15-20 min all-day headway, serves NW Crossing</li> </ul>	<ul style="list-style-type: none"> <li>Add Sunday Service</li> </ul>
4 – North 3 <sup>rd</sup> St	30 min headway*	<ul style="list-style-type: none"> <li>Interlined with Route 1, 15-20 min peak headway</li> </ul>	<ul style="list-style-type: none"> <li>Interlined with Route 1, 15-20 min all-day headway</li> <li>Extended to Juniper Ridge</li> </ul>	<ul style="list-style-type: none"> <li>Add Sunday Service</li> </ul>
5 – Well Acres	45 min headway*	<ul style="list-style-type: none"> <li>Interlined with Route 11</li> </ul>	<ul style="list-style-type: none"> <li>Interlined with Route 11, 20-30 min all-day headway</li> </ul>	<ul style="list-style-type: none"> <li>Add Sunday Service</li> </ul>
6 – Reed Market	45 min headway*	<ul style="list-style-type: none"> <li>Split from Route 5, redesign to serve downtown and/or provide deviated service</li> </ul>	<ul style="list-style-type: none"> <li>Extend to Cascade Village via NE 27<sup>th</sup> and/or to downtown/OSU via Reed Market</li> </ul>	<ul style="list-style-type: none"> <li>Add Sunday Service</li> </ul>
7 – Greenwood	30 min headway*	<ul style="list-style-type: none"> <li>Extend to downtown, 15-20 min peak headway, then to OSU (incorporating Route 10) in short or mid-term</li> </ul>	<ul style="list-style-type: none"> <li>Combined with Route 10, connects eastside to downtown/OSU, 15-20 min all-day headway</li> </ul>	<ul style="list-style-type: none"> <li>Add Sunday Service</li> </ul>
8 – NE (New)	N/A	<ul style="list-style-type: none"> <li>N/A (Initiate microtransit pilot if resources permit; not assumed)</li> </ul>	<ul style="list-style-type: none"> <li>Approx 45 min headway route</li> </ul>	<ul style="list-style-type: none"> <li>Add Sunday Service</li> </ul>
9 – SE (New)	N/A	<ul style="list-style-type: none"> <li>N/A (Initiate microtransit pilot, or service via Route 2, if resources permit; not assumed)</li> </ul>	<ul style="list-style-type: none"> <li>Approx 45 min headway route</li> </ul>	<ul style="list-style-type: none"> <li>Add Sunday Service</li> </ul>
10 – Colorado	60 min headway*	<ul style="list-style-type: none"> <li>Folded into Route 7 (Short or Mid-Term)</li> </ul>	<ul style="list-style-type: none"> <li>Folded into Route 7</li> </ul>	<ul style="list-style-type: none"> <li>N/A</li> </ul>
11 – Galveston	60 min headway*	<ul style="list-style-type: none"> <li>Interlined with Route 5</li> </ul>	<ul style="list-style-type: none"> <li>Interlined with Route 5, 20-30 min all-day headway</li> </ul>	<ul style="list-style-type: none"> <li>Add Sunday Service</li> </ul>

Note: \* Short-term changes that are part of FY 2019-2021 STIF plan can be phased in starting in the near-term.

## FLEET AND FACILITY REQUIREMENTS

The number of vehicles required to operate CET service is based on the number of routes/services operated as well as the frequency (fixed-route and Community Connector) or number of vehicles required to maintain an adequate level of service to meet demand, or based on available resources (Dial-A-Ride). Increased frequency in the short- and mid-term will require multiple buses to operate a route in many cases. Table 21 identifies the peak number of vehicles required by service type, area, and/or vehicle type; these figures are an input to the TDP Capital Plan. The plan includes smaller, more flexible vehicles for some routes.

**Table 21: Fleet Requirements**

Vehicles Required	Total Buses by Time Period				Incremental Buses by Time Period (vs. previous time period)		
	Existing	Short-Term	Mid-Term	Long-Term	Short-Term	Mid-Term	Long-Term
<b>By Service Type</b>	<b>26</b>	<b>36</b>	<b>51</b>	<b>55</b>	<b>10</b>	<b>15</b>	<b>4</b>
Community Connector	7	13	13	13	6	0	0
Fixed-Route	9	13	23	24	4	10	1
Dial-A-Ride	10	10	15	18	0	5	3
<b>Bend and Redmond</b>	<b>16</b>	<b>20</b>	<b>35</b>	<b>36</b>	<b>4</b>	<b>15</b>	<b>1</b>
Bend Fixed-Route	9	12	19	19	3	7	0
Bend DAR	4	4	8	8	0	5	0
Redmond Fixed-Route	0	1	4	5	1	3	1
Redmond Dial-A-Ride	4	4	4	4	0	1	0
<b>By Vehicle Class</b>	<b>26</b>	<b>36</b>	<b>51</b>	<b>55</b>	<b>10</b>	<b>15</b>	<b>4</b>
Large	1	2	2	2	1	0	0
Medium	15	22	32	33	7	10	1
Small	10	12	11	14	2	-1	3
Van	0	0	6	6	0	6	0
<b>By Community or Connection</b>	<b>26</b>	<b>36</b>	<b>51</b>	<b>55</b>	<b>10</b>	<b>15</b>	<b>4</b>
Bend	13	16	27	27	3	12	0
Redmond	4	5	8	9	1	4	1
Redmond - Bend	1	2	2	2	1	0	0
La Pine	1	1	1	2	0	0	1
La Pine - Bend	1	1	1	1	0	0	0
La Pine - Sunriver	0	1	1	1	1	0	0
Sisters	0	0	0	0	0	0	0
Sisters - Redmond	1	1	1	1	0	0	0
Sisters - Bend	1	1	1	1	0	0	0
Madras	1	1	1	2	0	0	1
Madras - Redmond	1	2	2	2	1	0	0
Prineville	1	1	1	2	0	0	1
Prineville - Redmond	1	2	2	2	1	0	0
Warm Springs (incl in WS - Madras)	0	0	0	0	0	0	0
Warm Springs - Madras	1	1	1	1	0	0	0
Warm Springs / Employment Areas	0	1	1	1	1	0	0
Crooked River Ranch - Redmond	0	1	1	1	1	0	0

## NEXT STEPS

- ▶ Local TAC input will be incorporated to refine the alternatives and phasing, and develop the TDP Implementation Plan
- ▶ COIC TBEST analysis of route options in Bend will be completed, which will be useful in optimizing cycle times and frequency