



TECHNICAL MEMORANDUM #1

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 To: Project Management Team
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 Subject: Existing Conditions

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INTRODUCTION

This memorandum describes the transit services currently provided by Cascades East Transit (CET) and the context in which those services operate. It discusses CET's organizational structure. It establishes a baseline that will be used to identify transit service improvements.

CASCADES EAST TRANSIT (CET)

In 1972, the Central Oregon Intergovernmental Council (COIC) was designated a Council of Governments organized under ORS 190. They provide services to the counties and cities within Crook, Deschutes and Jefferson Counties. COIC employs more than 100 people and services in the following areas: employment and training, alternative high school education, business loans, transportation, and community and economic development.



A 17-member board governs COIC, with representatives from each of the member governments: the counties of Crook, Deschutes, and Jefferson, and the cities of Bend, Culver, Madras, Metolius, Prineville, Redmond, La Pine, Sisters and Confederate Tribes of Warm Springs. Seven members representing the interests of the private business sector, workforce development, and education also serve on the COIC Board."

Cascades East Transit (CET) is operated by COIC. COIC's Regional Public Transit Advisory Committee (RPTAC) is the primary body that reviews current transit service, makes recommendations for future transit service, and hears citizens' comments and concerns about transit service.

CET SERVICE AREA

The **Figure 1** map series in Appendix A depicts the CET service area. These maps also show bus routes, demand-responsive transit service areas, transit centers, park-and-ride lots, key origins and destinations for travelers in the region, and walksheds (i.e., the areas within 1/4- and 1/2-mile walk of a CET bus stop).

DEMOGRAPHIC ANALYSIS

The following demographic analysis within the CET service area captures transportation-disadvantaged population densities, which includes households in poverty, elderly populations, youth populations, minority populations, disabled populations, and households without a vehicle. Many of the higher transportation-disadvantaged population densities within CET's service area overlap.

HOUSEHOLDS IN POVERTY

The **Figure 2** map series in Appendix A shows that the densest concentrations of households with incomes below 200% of the federal poverty level within the CET service area are in the following locations:

- ▶ Southwest Redmond: west of US 97, between SW Reservoir Drive and West Antler Avenue
- ▶ South Central Bend: east of SE 3rd Street, between SE Reed Market Road and Butler Market Road
- ▶ Southwest Prineville: west of NE Juniper Street, between SE Lynn Boulevard and NE 10th Street

ELDERLY POPULATION

The **Figure 3** map series in Appendix A shows that the densest concentrations of elderly populations within the CET service area are in the following locations:

- ▶ Southwest Redmond: west of US 97, between SW Reservoir Drive and OR 126



- ▶ East Bend: densest west of NE 27th Street, between NE Neff Road and US 20, and moderately dense over most of east Bend
- ▶ Southwest Prineville: west of OR 380, between SE Lynn Boulevard and NE 10th Street

YOUTH POPULATION

The **Figure 4** map series in Appendix A shows that the densest concentrations of youth populations within the CET service area are in the following locations:

- ▶ Southwest Redmond: west of US 97, between SW Reservoir Drive and West Antler Avenue
- ▶ Northeast Bend: west of NE 27th Street, between NE Wells Acres Road and NE Butler Market Road
- ▶ South Central Bend: east of SE 3rd Street, between SE Reed Market Road and SE Wilson Avenue
- ▶ Northwest Bend: spanning NW Portland Avenue west of NW Awbrey Road
- ▶ Southwest Prineville: west of SE Knowledge Street, between OR 27 and E 1st Street

MINORITY POPULATION

The **Figure 5** map series in Appendix A shows that the densest concentrations of minority populations within the CET service area are in the following locations:

- ▶ Northwest Madras: west of US 20, between SW J Street and north of NW Birch Lane
- ▶ Southwest Redmond: west of US 97, between SW Salmon Avenue and OR 126
- ▶ Northeast Bend: spanning NE Butler Market Road and NE 8th Street between NW 27th Street and NE Revere Avenue
- ▶ West Bend: west of NW Awbrey Road, between SW Colorado Avenue and NW Hills Avenue
- ▶ Most of central Prineville

DISABLED POPULATION

The **Figure 6** map series in Appendix A shows that the densest concentrations of disabled populations within the CET service area are in the following locations:

- ▶ Southwest Redmond: west of US 97, between SW Salmon Avenue and OR 126
- ▶ Northeast Bend: spanning NE Butler Market Road and NE 8th Street between NW 27th Street and NE Neff Road, and west of NE 27th Street between NE Neff Road and US 20
- ▶ South Central Bend: east of SE 3rd Street, between SE Reed Market Road and SE Wilson Avenue
- ▶ Southwest Prineville: west of N Main Street, between the river and NW 5th Street



HOUSEHOLDS WITHOUT A VEHICLE

The **Figure 7** map series in Appendix A shows that the densest concentrations of households without a vehicle within the CET service area are in the following locations:

- ▶ Southwest Redmond: west of US 97, between SW Salmon Avenue and West Antler Avenue
- ▶ Northeast Bend: west of NE 27th Street, between US 20 and NE Neff Road
- ▶ South Central Bend: east of SE 3rd Street, between SE Wilson Avenue and SE Reed Market Road

CET TRANSPORTATION SERVICES

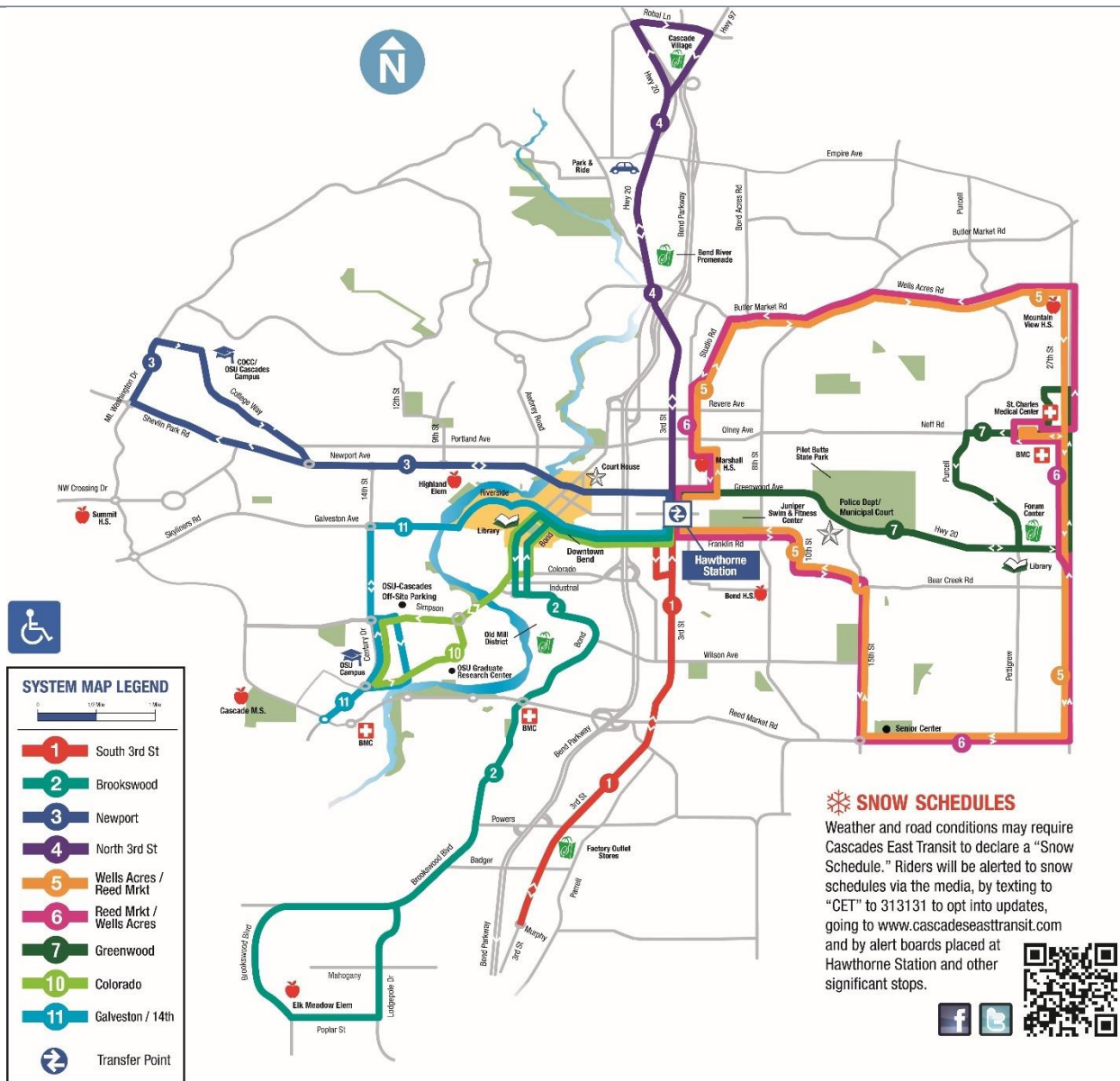
CET operates four distinct services: fixed-route bus service in Bend, Community Connector bus service (intercity bus and one deviated fixed-route service) covering the entire CET service area, demand-responsive service in Bend, and demand-responsive service in rural areas.

FIXED-ROUTE BUS SERVICE

BEND FIXED-ROUTE BUSES

CET operates nine fixed bus routes throughout Bend. Except for Route 10, these routes operate Monday through Saturday and connect to the central Hawthorne Station for route transfers; Saturday services are limited. Route 10 operates Monday through Friday. Information about fixed-route services in Bend is available using a Trip Planner tool with bus schedules and a Transit Track tool with real-time bus location and arrival time information. Bend fixed-route bus service is open to the general public.

Figure 8 shows the fixed-route bus network in Bend. **Table 1** summarizes these routes and their key service areas, days and hours, headways, service type, and fare zones. CET fare structure is described in a later section.



Source: CET web site

Figure 8: Bend Bus Routes



Table 1: Bend Fixed-Route Services

Fixed Route	Key Destinations	Days	Hours ¹	Head-ways ²	Fare Zone ³
1 – South 3 rd St	▶ Factory Outlet Stores	Mon. to Sat.	6:00 a.m. to 7:00 p.m.	30 minutes	1
2 – Brookwood	▶ Downtown Bend ▶ Old Mill District ▶ Elk Meadow Elementary	Mon. to Sat.	6:00 a.m. to 7:00 p.m.	45 minutes	1
3 – Newport	▶ Deschutes County Court House ▶ Highland Elementary ▶ COCC/OSU Cascades Campus	Mon. to Sat.	6:00 a.m. to 7:00 p.m.	30 minutes	1
4 – North 3 rd St	▶ Bend River Promenade ▶ Cascade Village	Mon. to Sat.	6:00 a.m. to 7:00 p.m.	30 minutes	1
5 – Well Acres	▶ Marshall H.S. ▶ St. Charles Med. Center ▶ Bend Memorial Clinic ▶ Mountain View H.S. ▶ Forum Shopping Center ▶ Juniper Swim & Fitness Center ▶ Work Source ▶ Senior Center	Mon. to Sat.	6:00 a.m. to 7:00 p.m.	45 minutes	1
6 – Reed Market	▶ Marshall H.S. ▶ Forum Shopping Center ▶ St. Charles Med. Center ▶ Mountain View H.S. ▶ Work Source ▶ Juniper Swim & Fitness Center ▶ Senior Center ▶ Bend Mem'l Clinic	Mon. to Sat.	6:00 a.m. to 7:00 p.m.	45 minutes	1
7 – Greenwood	▶ Pilot Butte State Park ▶ Forum Shopping Center ▶ Bend Memorial Clinic ▶ Police Dept. & Municipal Court ▶ East Bend Library ▶ St. Charles Med. Center ▶ Work Source	Mon. to Sat.	6:00 a.m. to 7:00 p.m.	30 minutes	1
10 – Colorado	▶ Downtown Bend ▶ OSU-Cascades Off-Site Parking ▶ OSU Graduate Research Center ▶ Downtown Bend Library ▶ OSU Campus	Mon. to Fri.	6:30 a.m. to 6:30 p.m.	60 minutes	1
11 – Galveston	▶ Downtown Bend ▶ OSU-Cascades Off-Site Parking ▶ OSU Campus	Mon. to Sat.	6:00 a.m. to 7:00 p.m.	60 minutes	1

¹ Hours listed represent general Monday to Friday service. Saturday service is limited and generally operates between 8:00 a.m. and 5:00 p.m.

² Headways listed represent Monday to Friday service. Headways for Saturday service are generally 60 minutes for all routes.

³ Ride Assist is a CET program for riders with wheelchairs or other ADA needs.

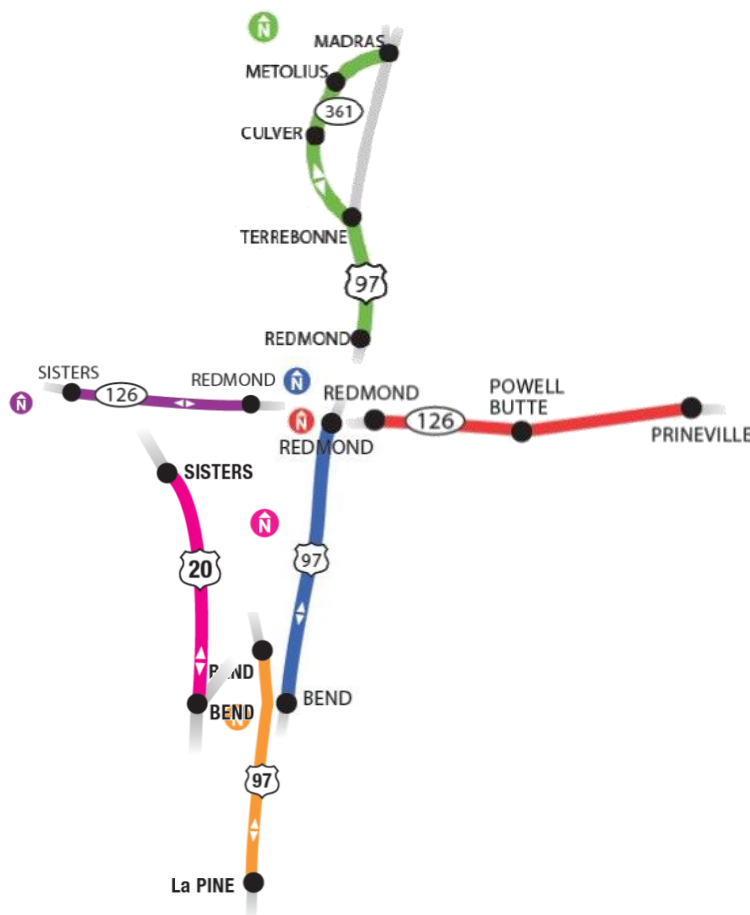
⁴ Fare structure is described in a later section.



COMMUNITY CONNECTOR SERVICE

CET operates seven Community Connector fixed routes that connect 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. **Figure 9** illustrates the Community Connector routes between Bend and surrounding cities. **Table 2** summarizes these routes and their key service areas, days and hours, trips per day, and fare zones. CET fare structure is described in a later section.

Community Connector Route 20, connecting Madras and Warm Springs, operates as an intercity route between Safeway in Madras and the Casino in Warm Springs. It operates as a deviated fixed-route service within Madras and Warm Springs. The deviated route serves fixed stops in Madras and Warm Springs at specific times and allows for deviations up to ¼ of a mile from those stops. To take advantage of deviations, passengers are required to schedule a pick-up or drop-off one day in advance.



Source: CET

Figure 9: Community Connector Bus Routes



Table 2: Community Connector Services

Fixed Route	Key Destinations		Days	Hours ¹	Trips per Day		Fare Zone ²
					NB/EB	SB/WB	
22 – Madras-Redmond	<ul style="list-style-type: none"> ▶ Redmond Transit Center ▶ Terrebonne Park & Ride ▶ Culver 	<ul style="list-style-type: none"> ▶ Metolius City Hall ▶ Madras DMV & Work Source 	Mon. to Fri.	5:30 a.m. to 6:00 p.m.	5	6	2 & 3
24 – Redmond-Bend	<ul style="list-style-type: none"> ▶ Bend Hawthorne Station ▶ Cascade Village ▶ Redmond Transit Hub 		Mon. to Fri.	6:00 a.m. to 7:00 p.m.	9	9	1 & 2
26 – Prineville-Redmond	<ul style="list-style-type: none"> ▶ Redmond Transit Center ▶ Powell Butte School ▶ Crook County Library 	<ul style="list-style-type: none"> ▶ Stryker Park ▶ Prineville 	Mon. to Fri.	6:00 a.m. to 6:00 p.m.	5	5	2 & 3
28 – Sisters-Redmond	<ul style="list-style-type: none"> ▶ Redmond Transit Center ▶ Cloverdale Fire Station ▶ Sisters 		Mon. to Fri.	6:00 a.m. to 2:30 p.m.	3	3	2 & 3
29 – Sisters-Bend	<ul style="list-style-type: none"> ▶ Bend Hawthorne Station ▶ Sisters 		Mon. to Fri.	6:30 a.m. to 5:00 p.m.	3	3	1 & 3
30 – Bend-La Pine	<ul style="list-style-type: none"> ▶ Bend Hawthorne Station ▶ Bend Walmart ▶ Deschutes River Woods 	<ul style="list-style-type: none"> ▶ La Pine ▶ Wickiup Junction 	Mon. to Fri.	6:30 a.m. to 6:30 p.m.	4	3	1 & 3
Deviated Route	Key Destinations		Days	Hours ¹	Trips per Day		Fare Zone ²
20 – Warm Springs-Madras	<ul style="list-style-type: none"> ▶ Bi-Mart ▶ Madras High School ▶ DMV ▶ COCC ▶ St. Charles Hospital ▶ Safeway ▶ Indian Head Casino ▶ Vocational Rehab 	<ul style="list-style-type: none"> ▶ Community Counseling ▶ Senior Center ▶ Warm Springs Market ▶ Community Center ▶ Tribal Administration ▶ Indian Health Service/Early Childhood Education 	Mon. to Fri.	6:00 a.m. to 7:00 p.m.	6	6	3 & 4

¹ Hours listed represent general Monday to Friday Service.

² Fare structure is described in a later section.



DEMAND-RESPONSIVE SERVICE

BEND DIAL-A-RIDE

CET offers a demand-responsive transit service in the Bend area referred to as “Dial-A-Ride.” Bend Dial-A-Ride is a ride-share operation for disabled individuals as well as low-income senior citizens who do not live near CET fixed-route bus service. It is the complementary paratransit service required by the Americans with Disabilities Act (ADA). Bend Dial-A-Ride operates seven days a week except for New Year’s Day, Memorial Day, July 4th, Labor Day, Thanksgiving, and Christmas. Bend Dial-A-Ride operates during the following times on the following days:

- ▶ Monday to Friday: 6:00 a.m. to 7:30 p.m.
- ▶ Saturday: 7:30 a.m. to 5:30 p.m.
- ▶ Sunday: 8:30 a.m. to 3:15 p.m.

The **Figure 1** map series in Appendix A includes CET's Dial-A-Ride service boundaries. The Bend Dial-A-Ride service area is the City of Bend's city limits.

To schedule a ride, eligible individuals can make a request as soon as the day prior to needing service and up to 14 days in advance, but rides can only be scheduled based on availability. If service is not available for the day and time requested, the reservation is held in a queue while ride schedulers check availability daily. CET does not accommodate same-day rides or changes.

While Bend Dial-A-Ride operates seven days a week, reservations can only be made Monday through Friday between 7:00 a.m. and 5:00 p.m. Riders do have the option to request a reservation outside of those hours by leaving a message.

Bend Dial-A-Ride offers some flexibility in its service for trips to medical appointments. If the appointment end time is unknown, a rider can request a “will call,” which must be reserved at least 24 hours in advance; the will-call list is full when five will-call requests are received. Once the appointment is finished, the rider calls to request a pick-up; the driver then has up to one hour to pick up the rider. Riders must call in for their will-call by 5:00 p.m. When the will-call list is full, other riders will need to schedule a specific pickup time.

Those desiring to utilize Bend’s Dial-A-Ride transit service are required to complete an application provided on CET’s website to secure eligibility. If more information is needed about Bend Dial-A-Ride, riders can refer to CET’s *Rider’s Guide* or the ADA Paratransit Plan available on CET’s website. CET fare structure is described in a later section.

RURAL DIAL-A-RIDE

CET Dial-A-Ride service is also offered within Central Oregon rural communities that include La Pine, Redmond, Sisters, Prineville, Madras, and Warm Springs. This Rural Dial-A-Ride service is open to the general public and does not have any eligibility



requirements. Riders need to call the day before service is needed to reserve a ride. Ride times are scheduled based on availability. Riders should plan to be ready 15 minutes prior to their scheduled pick-up, as buses are assigned a 30-minute window around the scheduled time and drivers are only required to wait 5 minutes for riders. CET fare structure is described in the next section.

The **Figure 1** map series in Appendix A includes maps of the Rural Dial-A-Ride service areas.

RECREATIONAL SHUTTLES

CET offers a variety of recreational shuttle services known as *RIDE play*. These shuttles are open to local residents and visitors and provide a connection to outdoor attractions in Bend. *RIDE play* includes the following services:

- ▶ Ride the River
- ▶ Mt. Bachelor Winter
- ▶ Lava Butte
- ▶ Ride Bend

CET is considering future rebranding of its *RIDE play* shuttle service.

RIDE THE RIVER

Floating the Deschutes River on an inner tube is a popular Bend activity during the summer season. The Ride the River shuttle helps minimize the need for riders to park vehicles within Drake Park, as the shuttle begins and ends at Bend Park & Float, stopping at River Bend Park and Drake Park. **Figure 10** illustrates the Ride the River shuttle route and stops.

The shuttle currently operates between Riverbend Park and Drake Park from mid-June to Labor Day, Monday through Sunday, 11:00 a.m. to 6:00 p.m., and offers unlimited rides with the purchase of a \$3.00 wristband; floaters need exact change. For a higher volume of floaters Friday through Sunday, the shuttles will run at 15- to 20-minute headways between 1:30 p.m. and 6:30 p.m. Shuttle service is also weather-dependent. These terms are subject to change based on the agreement between CET and Bend Parks and Recreation District and the tube Provider. More information, such as information about tube rentals and how to ride the shuttle, is available on CET's website.



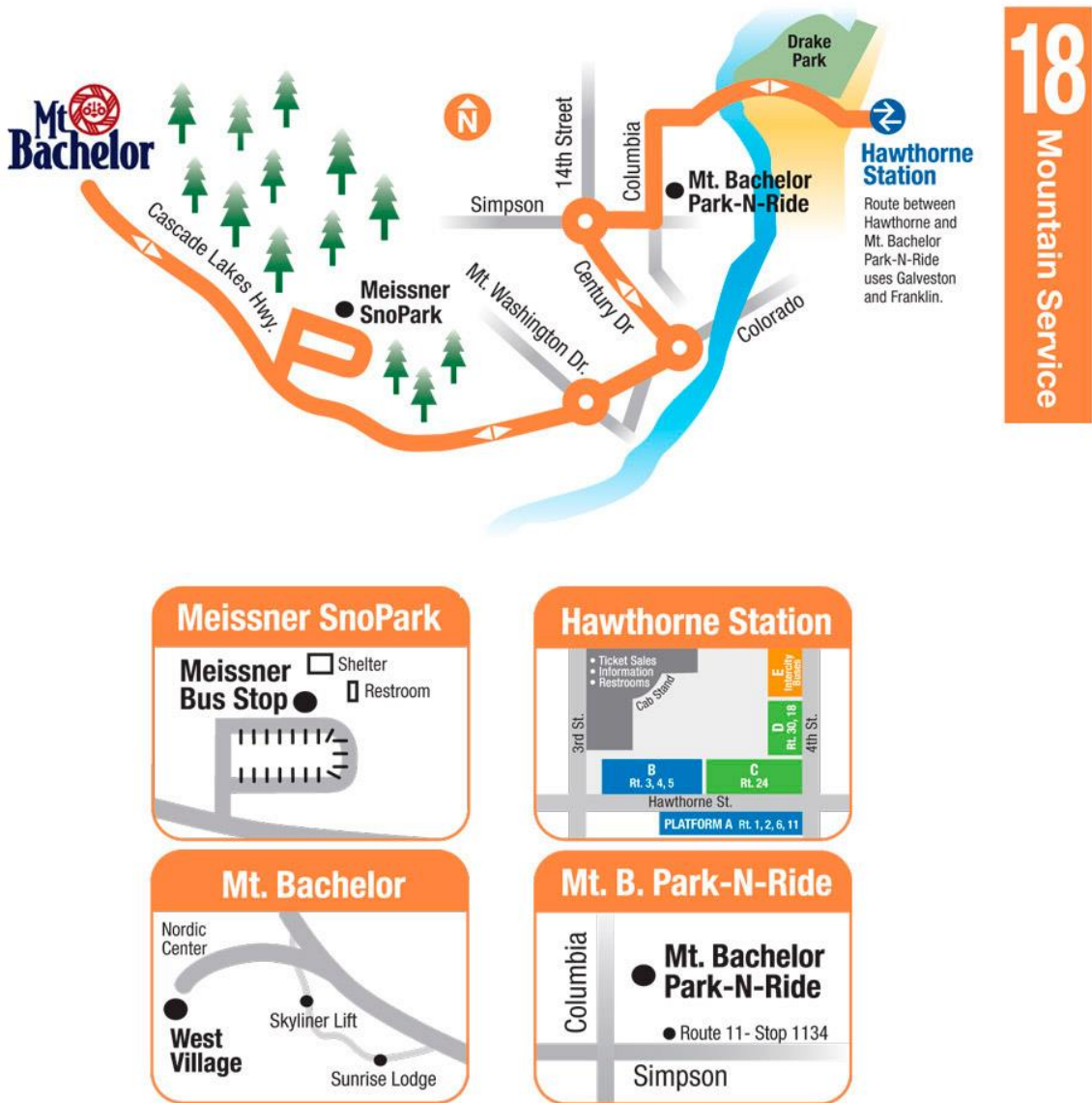
Source: CET web site

Figure 10: Ride the River Service

MT. BACHELOR WINTER SHUTTLE

CET offers a shuttle service in the winter season from Bend to Mt. Bachelor, CET Route 18, for skiers and snowboarders looking to avoid driving in snowy conditions. This route includes stops at Hawthorne Station, Mt. Bachelor Park-and-Ride, Meissner SnoPark, and Mt. Bachelor's West Village Lodge; the stop at Meissner SnoPark depends on road and weather conditions. **Figure 11** illustrates the Mt. Bachelor shuttle route and stops.

The shuttle operates Monday to Thursday from 6:40 a.m. to 5:30 p.m. and Friday and Saturday from 6:40 a.m. to 6:30 p.m., making multiple trips up and down the mountain. Riders can purchase shuttle tickets at Mt. Bachelor's Guest Services, at Safeway on Century Drive, or from the bus driver using exact change. These locations offer single-ride, two-ride, and 10-ride tickets, except for Safeway, which does not offer single-ride tickets. Season passes are also available.



Source: CET web site

Figure 11: Mt. Bachelor Shuttle Service

LAVA BUTTE

As the newest shuttle service offered through CET's *RIDE play* shuttle service, the Lava Butte shuttle is a seasonal service that transports riders to the top of Lava Butte for mountain-top views of Central Oregon. The service operates from Memorial Day to Labor Day, from the Lava Butte visitor center to the summit between 10:00 a.m. to 4:00 p.m., with the last descent from the summit at 4:40 p.m. The shuttle fare is \$2.00 but is free for riders already at the summit who desire to return to the visitor center.



RIDE BEND

The Ride Bend shuttle is the newest CET service and offers a free summer connection between Downtown Bend, the Old Mill District, OSU-Cascades, and destinations along Galveston Avenue. Figure 12 illustrates the Ride Bend shuttle route and stops. The shuttle typically runs from the end of June to Labor Day, every day from 12:00 p.m. to 10:00 p.m., at 15-minute headways. Primary Ride Bend shuttle stops are listed below, with their first pick-up time for the day:

- ▶ Downtown Bend: Franklin Avenue at Wall Street – 12:00 p.m.
- ▶ Old Mill District: Bluff Drive at the Hilton Garden Inn – 12:10 p.m.
- ▶ Century Drive at Simpson Avenue – 12:20 p.m.
- ▶ Galveston Avenue at 13th Street – 12:22 p.m.

Riders are able to identify these stops, as well as other stops not mentioned above, by locating the Ride Bend logo on bus stops along the route. The Ride Bend shuttle is operated by CET and funded through a partnership between the City of Bend, Visit Bend, and CET.



Source: CET web site

Figure 12: Ride Bend Service

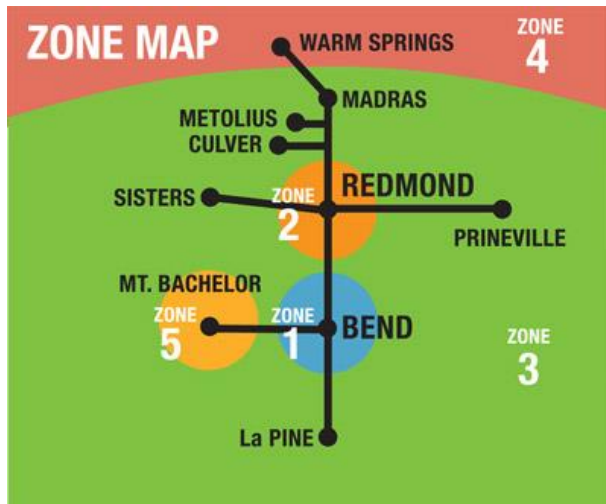


FARE STRUCTURE

CET's fare structure is organized around five zones:

- ▶ Zone 1 – Bend
- ▶ Zone 2 – Redmond
- ▶ Zone 3 – Sisters, Prineville, Culver, Metolius, and Madras
- ▶ Zone 4 – Warm Springs
- ▶ Zone 5 – Mt. Bachelor

Figure 13 illustrates the locations of the zones. **Table 3** summarizes CET's fares.



Source: CET web site

Figure 13: CET Fare Zones

All paper fare products that are purchased online are mailed to customers. No CET fare products are refundable or transferable. CET offers bus fare discounts to nonprofit organizations, groups, Medicare cardholders, disabled individuals, and seniors.



Table 3: CET Fare Structure and Prices

Zone	Service Type	Age ² or Status	Fare Price
1 – Bend	Single Ride – No Transfers	Adult/Youth	\$1.50
		Senior/Disabled	\$0.75
	Day Pass – Unlimited Rides	Adult/Youth	\$2.50
		Senior/Disabled	\$1.25
	Day Pass Ticket Books – Includes 6-Day Passes	Adult/Youth	\$12.00
		Senior/Disabled	\$6.00
	Monthly Pass	Adult	\$30.00
		Youth	\$20.00
		Senior/Disabled	\$15.00
	Dial-A-Ride	Bend Dial-A-Ride	\$2.50
Low-Income Discount		\$1.25	
Dial-A-Ride 10-Trip Punch Card	Disabled	\$25.00	
	Low Income/Senior/Disabled	\$12.50	
2 & 3 – Redmond, Sisters, La Pine, Prineville, Madras	Single Ride – No Transfers	Adult/Youth	\$1.50
		Senior/Disabled	\$1.25
	Dial-A-Ride 10-Trip Punch Card	Adult/Youth	\$15.00
		Senior/Disabled	\$12.50
4 – Warm Springs	Single Ride – No Transfers	Adult/Youth	\$1.00
		Senior/Disabled	\$0.50
	Single Ride – No Transfers	Adult/Youth	\$5.00
5 – Mt. Bachelor	Mountain 2-Ride Punch Card	All	\$9.00
	Mountain 10-Ride Punch Card	All	\$40.00
	Mountain Season Pass	Adult	\$199.00
		Youth	\$149.00
Multi-Zone ¹	Single Ride – No Transfers	Adult/Youth	\$3.75
		Senior/Disabled	\$3.00
	Day Pass – Unlimited Ride	Adult/Youth	\$6.25
		Senior/Disabled	\$5.00
	Day Pass Ticket Books – Includes 6 Day Passes	Adult/Youth	\$30.00
		Senior/Disabled	\$30.00
	Monthly Pass	Adult	\$100.00
		Youth	\$100.00
		Senior/Disabled	\$100.00

¹ Multi-zone fares can be used to ride Bend fixed-route services but do not include a ride on Bend Dial-A-Ride or local buses requiring a reservation in Culver, La Pine, Madras, Metolius, Prineville, Redmond, or Sisters.

² For Zones 1 through 4, discounted fares are available to those age 60 and older and/or disabled. Medicare clients may show their card to be eligible for Senior/Disabled fares. Up to two children, five years and younger, ride free with each adult paying full fare. Additional children must pay full fare. Children six and older pay adult fare. Youths age six to 18 may purchase discounted passes as noted in the fare schedule.

EXISTING TRANSIT DESTINATIONS IN THE STUDY AREA

Key origins and destinations for study-area travelers in the service area are listed in **Table 1** and **Table 2** above. The service area maps in the **Figure 1** map series in Appendix A show the key origins and destinations at a high level. The key origins and destinations comprise downtowns, schools, government offices, hospitals and medical centers, social/human service organizations, transit centers, park-and-ride lots,



employment centers, shopping centers, grocery stores, an airport, a convention center, libraries, parks and trailheads, and entertainment venues.

CONNECTIONS OUTSIDE OF CENTRAL OREGON

CET services connect to other transit services that allow for regional and statewide travel. The connecting services located within ¼ mile and ½ mile of one or more CET bus stops are summarized in **Table 4**. These connecting services are described in more detail in the service assessment section of the memorandum.

Table 4: Connections to Other Transit Services

Connecting Service	Service Description	Connecting Service Stops within ¼ Mile	Connecting Service Stops within ½ Mile
Central Oregon Breeze	Intercity bus service between Central Oregon communities and Portland-area destinations	Circle K & Chevron (Bend) Circle K (Madras)	Circle K & Chevron (Bend) Circle K (Madras)
Cog Wild Shuttles	Shuttle service supporting mountain bike tours	Cog Wild (Bend) Angeline's Bakery (Sisters)	Cog Wild (Bend) Angeline's Bakery (Sisters)
Eastern POINT	Intercity bus service connecting Bend to Ontario with 9 stops in between	Hawthorne Station (Bend)	Hawthorne Station (Bend)
HighDesert POINT	Intercity bus service connecting Redmond Airport, Bend, Sunriver, La Pine, and Chemult Amtrak Station	Hawthorne Station (Bend) Riverhouse Resort (Bend)	Hawthorne Station (Bend) Riverhouse Resort (Bend) Shell (La Pine)
Mt. Hood Teleporter	Shuttle service connecting Bend, Redmond, and Sisters to Salem and Portland-area destinations	Hawthorne Station (Bend) Ski Inn (Sisters)	Hawthorne Station (Bend) Ski Inn (Sisters)
Pacific Crest Lines	Intercity bus service between Bend and the Greyhound and Amtrak stations in Eugene	Hawthorne Station (Bend) Ski Inn (Sisters)	Hawthorne Station (Bend) Ski Inn (Sisters)
People Mover (Grant County)	Bus service connecting Bend, Redmond, and Prineville to Prairie City, John Day, Mount Vernon, Dayville, and Mitchell	Hawthorne Station (Bend) McDonalds (Prineville)	Hawthorne Station (Bend) McDonalds (Prineville)

Source: ODOT Transit Network Explorer Tool (TNEXT)

OTHER TRANSPORTATION SERVICES IN CENTRAL OREGON

Other public transportation services available in Central Oregon include the following:

- ▶ Central Oregon Community College (COCC) Shuttle - Provides free circulator service on campus and to/from the NW College Way/NW Shevlin Park Road.
- ▶ Cascades East Ride Center (CERC) - Coordinates trips to medical appointments for Medicaid clients. Covers Crook, Deschutes, and Jefferson Counties, as well as four communities in Northern Klamath County. Rides must be scheduled at least 48 hours in advance.
- ▶ OSU-Cascades - Offers car-sharing (Zipcar), bike-sharing, and carpooling. CET fixed-route buses serve the campus; students receive free passes. Pilot implementation of flexible transit service connecting to COCC and other destinations planned for April 2019 to July 2019.



- ▶ Commute Options for Central Oregon - Transportation Demand Management (TDM) program that coordinates vanpool programs (offered by Enterprise and V-Ride), carpool ride-matching, park-and-ride lot development and marketing, and a transportation options rewards program in Region 4.
- ▶ Charter buses
- ▶ Taxi cabs and town cars
- ▶ Transportation Network Companies (Uber and Lyft)

TRANSIT SERVICE ASSESSMENT

Assessment Indicators

The performance of existing CET transit service was assessed based on the following indicators:

- ▶ Ridership (Boardings)
- ▶ Service Hours and Service Miles
- ▶ Productivity (Boardings per Revenue Hour)
- ▶ Operating Costs (Cost Per Hour and Cost Per Boarding)
- ▶ Reliability (On-Time Performance)
- ▶ Efficiency and Effectiveness
- ▶ Passenger Quality of Service (Load Factor)

The performance assessment considers the performance of comparable transit providers, CET's operating standards, and industry best practices.

COMPARABLE TRANSIT PROVIDERS

Comparing CET system performance with cities and regions similar to Bend and Central Oregon is helpful in identifying both where CET is doing well and potential areas for improvement. It can be challenging to compare CET's service area in Central Oregon with any particular transit system or set of systems due to CET's unique mix of urban and rural service, so seven rural and 10 urban peers were selected among agencies with similar geographies, populations, and operating characteristics. Rural peers are located around the Pacific Northwest, while urban peers are drawn from cities across the western US. Data for peer comparisons are from the National Transit Database (NTD) 2017 dataset, the most recent full year available.

The types of service offered by each peer agency vary slightly (e.g., some operate vanpool service while others do not), but the summary tables include data from all modes. None of the peers operates any type of rail service. **Table 5** provides an overview of rural peers (for CET's full service area), and **Table 6** presents information for urban peers (for Bend).



Table 5: Rural Peer Transit Providers

Provider (State)	Service Area Population	Density (pop. per sq mi)	Largest City	Largest City Population	Total Annual Vehicle Revenue Hours	Annual Vehicle Hours per Capita	Annual Operating Costs	Annual Operating Costs per Capita	Annual Ridership	Annual Rides per Capita	Operating Cost per Rider
Cascades East Transit	127,940	16	Bend	81,780	83,258	0.65	\$6,227,334	\$48.67	693,124	5	\$8.98
Clallam Transit System (WA)	27,777	16	Port Angeles	19,420	95,082	3.42	\$8,587,659	\$309.16	851,200	31	\$10.09
Grays Harbor Transit (WA)	71,233	37	Aberdeen	16,335	77,053	1.08	\$8,182,004	\$114.86	903,877	13	\$9.05
Lincoln County Transportation District	46,685	48	Newport	10,139	31,165	0.67	\$1,770,818	\$37.93	317,291	7	\$5.58
Tillamook County Transportation District	25,552	23	Tillamook	5,063	36,297	1.42	\$2,266,125	\$88.69	145,135	6	\$15.61
Sunset Empire Transportation District (Clatsop County)	37,660	45	Astoria	9,595	25,795	0.68	\$1,806,611	\$47.97	240,315	6	\$7.52
Humboldt Transit Authority (CA)	136,754	34	Eureka	27,177	46,666	0.34	\$3,635,006	\$26.58	595,981	4	\$6.10
Yamhill County Transit Area	105,722	147	McMinnville	34,347	37,178	0.35	\$2,090,480	\$19.77	318,794	3	\$6.56
Rural peer average	64,483	50		17,439	49,891	1.14	\$4,048,386	\$92.14	481,799	10	\$8.64

Sources: NTD 2017 and American Community Survey 2016 five-year estimates
Note: The combined density of Jefferson, Deschutes, and Crook Counties is 16 persons per square mile.

Table 6: Urban Peer Transit Providers

Provider (State)	Service Area Population	Density (pop. per sq mi)	Largest City	Largest City Population	Total Annual Vehicle Revenue Hours	Annual Vehicle Hours per Capita	Annual Operating Costs	Annual Operating Costs per Capita	Annual Ridership	Annual Rides per Capita	Operating Cost per Rider
Cascades East Transit	127,940	2,300	Bend	81,780	83,258	0.65	\$6,227,334	\$48.67	693,124	5	\$8.98
Northern AZ Intergov. Public Transport. Auth. (Flagstaff, AZ)	65,760	2,268	Flagstaff	69,270	85,783	1.30	\$7,340,222	\$111.62	2,110,866	32	\$3.48
Whatcom Transportation Authority (Bellingham, WA)	216,108	278	Bellingham	84,462	220,500	1.02	28,575,194	\$132.23	4,870,954	23	\$5.87
Corvallis Transit (OR)	59,046	4,218	Corvallis	55,766	29,441	0.50	\$2,890,175	\$48.95	1,153,133	20	\$2.51
Everett Transit (WA)	106,736	3,139	Everett	106,580	154,576	1.45	\$21,838,366	\$204.60	2,025,267	19	\$10.78
Santa Fe Trails (NM)	67,947	1,657	Santa Fe	82,927	103,789	1.53	\$8,985,786	\$132.25	1,016,624	15	\$8.84
Yakima Transit (WA)	100,715	3,052	Yakima	93,338	94,401	0.94	\$8,047,753	\$79.91	1,174,920	12	\$6.85
Rogue Valley Transportation District (OR)	132,022	2,640	Medford	78,856	75,779	0.57	\$9,750,143	\$73.85	1,174,062	9	\$8.30
Napa Valley Transportation Authority (CA)	138,000	3,067	Napa	79,567	111,618	0.81	\$9,963,163	\$72.20	1,153,942	8	\$8.63
Pueblo Transit System (CO)	108,249	2,776	Pueblo	108,385	61,913	0.57	\$4,825,144	\$44.57	877,227	8	\$5.50
Redding Area Bus Authority (CA)	117,478	1,175	Redding	91,320	60,403	0.51	\$5,629,551	\$47.92	740,188	6	\$7.61
Urban peer average	111,206	2,427		85,047	99,820	0.92	\$10,784,550	\$94.81	1,629,718	15	\$6.84

Sources: NTD 2017 and American Community Survey 2016 five-year estimates
Notes: Density in the city of Bend is approximately 2,300 persons per square mile. The combined density of Jefferson, Deschutes, and Crook Counties is 16 persons per square mile.



SYSTEM-LEVEL PERFORMANCE ASSESSMENT

OVERALL SYSTEM PERFORMANCE

Figure 14 compares several measures of CET system performance to urban transit agencies (blue) and rural providers (gray). Key findings of this comparison are as follows:

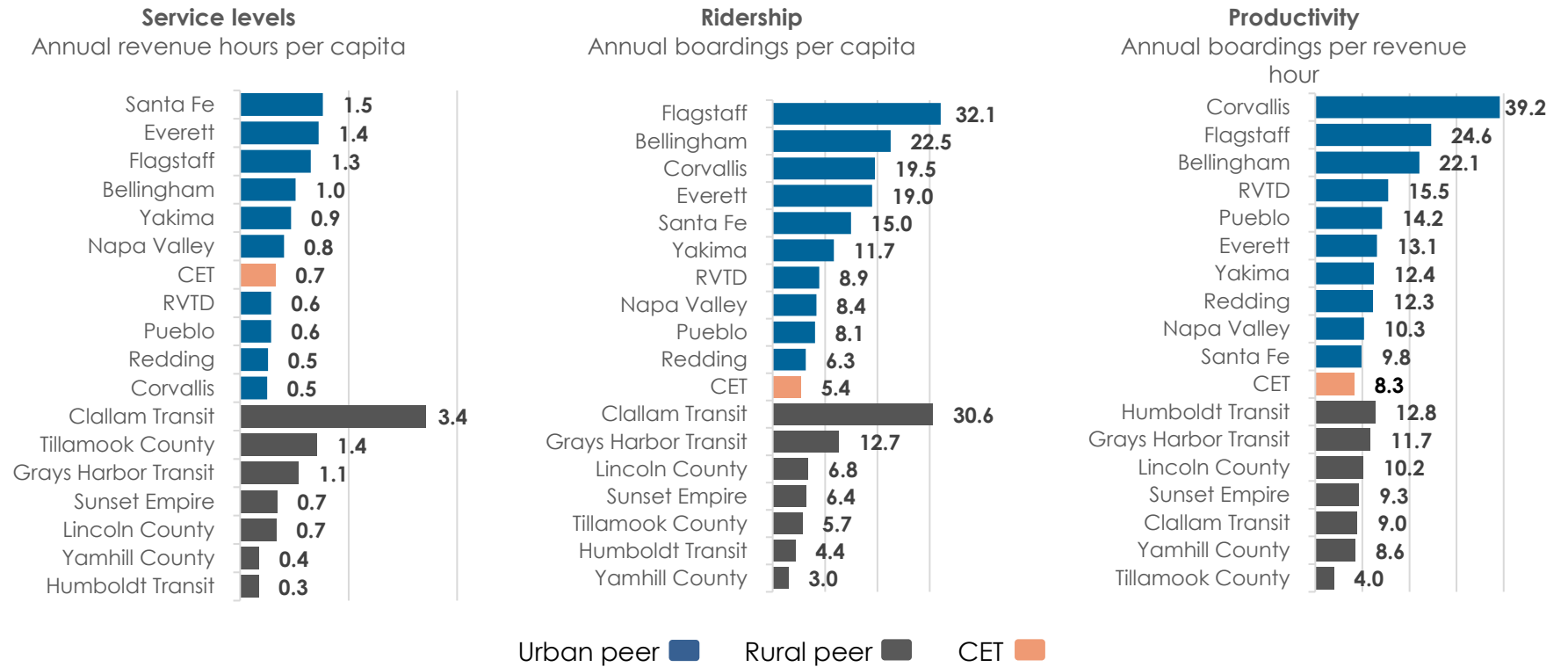
- ▶ The amount of service CET provides relative to the population it serves (revenue hours per capita) is close to the middle of both rural and urban peers.
- ▶ Ridership per capita and productivity (ridership per revenue hour) are close to the middle of the rural providers but at the low end among urban providers.

HISTORICAL SYSTEM PERFORMANCE

Figure 15 shows system-wide performance metrics for CET. Key findings of this comparison are as follows:

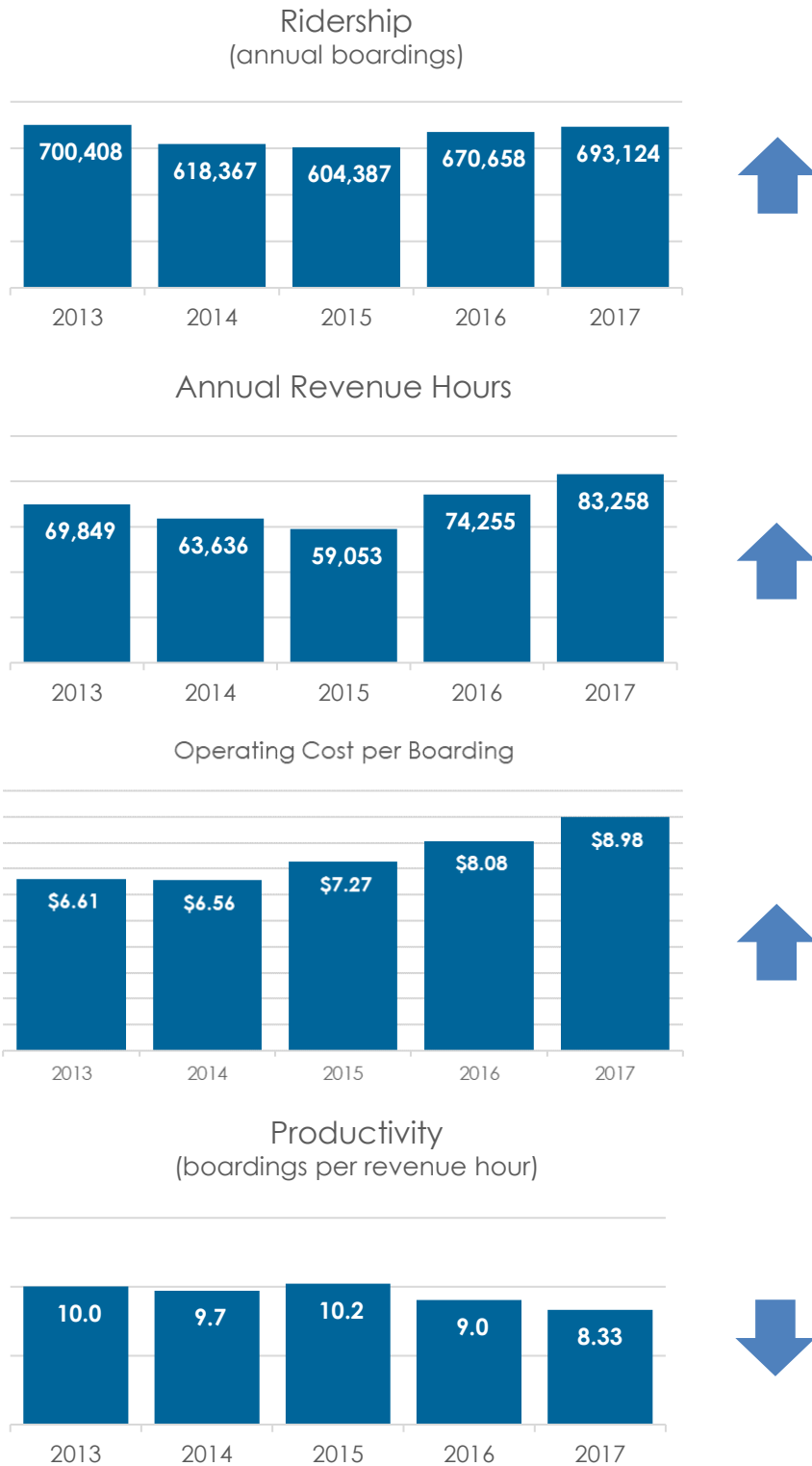
- ▶ Across the entire CET system, both ridership (annual boardings) and revenue hours (amount of service provided) declined from 2013 to 2015. CET increased the amount of service in 2016 and 2017, and ridership also increased. The upward trend in ridership from 2015 to 2017 has continued through the first 10 months of 2018; systemwide monthly boardings in 2018 are 3,000 riders per month higher than in 2017.
- ▶ Breaking down the ridership increases, fixed-route ridership in the city of Bend remained relatively steady over the five-year period, at approximately 30,000 riders per month. A reduction in demand response riders, especially in Bend, has been more than offset in recent years by large increases in ridership on both seasonal Recreational routes and on Community Connector routes.
- ▶ The amount of service provided increased by more than 23,000 revenue hours between 2015 and 2017, but ridership increased at a lower rate, leading to an increase in the operating cost per boarding and a decline in overall productivity (boardings per revenue hour). The decline in productivity roughly mirrors declines seen across the transit industry as shown in data for both urban and rural peers. (See **Figure 16**.)
- ▶ Responding to these trends, CET identified changes and reduced service on Route 6 and discontinued Route 12, the least productive route in the city of Bend, as of June 30, 2018. This is likely to result in an increase in overall system productivity in 2018.

Subsequent sections discuss ridership and performance of each service type operated by CET in more detail.



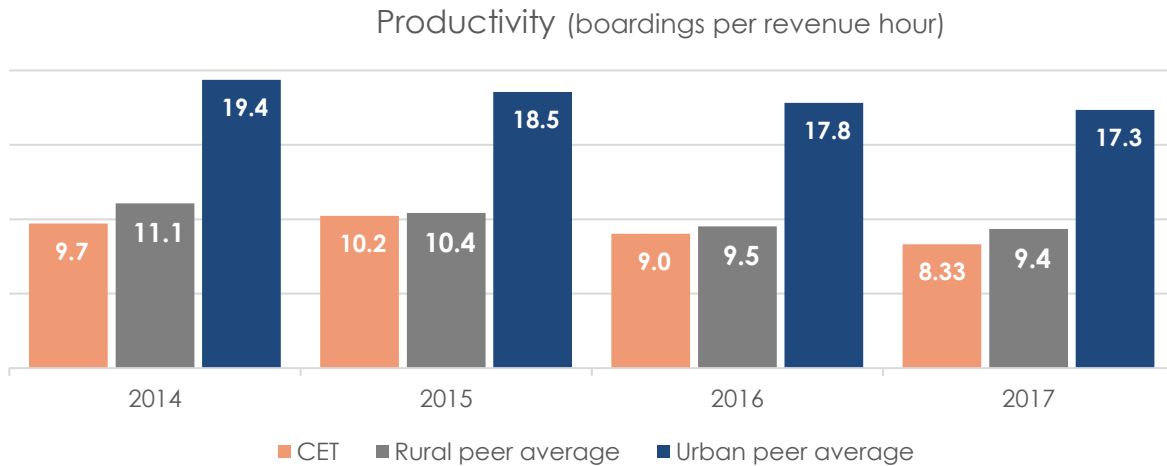
Source: NTD 2017. NTD data are reported for calendar years.

Figure 14: Peer Comparison - 2017 System Performance



Source: National Transit Database, 2017. NTD data is reported for calendar years.

Figure 15: CET System Performance, 2013-2017, and Recent Trends



Source: National Transit Database, 2017. NTD data is reported for calendar years.

Figure 16: Comparison with Peer Average Productivity, 2014-2017

PERFORMANCE BY SERVICE TYPE

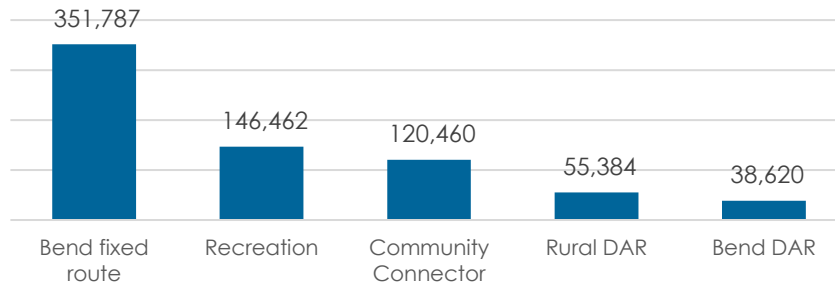
CET system performance in 2017 is shown in **Figure 17**, broken down by service type. Highlights of **Figure 17** are as follows:

- ▶ **Fixed routes** in Bend carried the most passengers, with more than 350,000 rides. Average productivity is approximately 10 passengers per revenue hour, although the highest-demand routes carry over 17 passengers per hour.
- ▶ **Recreational routes** had the second-highest ridership. These routes operate for only a few months per year, yet still carried more than 146,000 riders. Recreational routes also had the highest productivity, carrying seven more passengers per revenue hour than Bend fixed-route service.
- ▶ **Community Connector** service carried approximately one-third as many passengers as Bend fixed routes but were concentrated on a smaller number of trips. As a result, productivity is comparable to the average for Bend fixed-route service. The cost per boarding is higher than for fixed-route service due to long travel distances.
- ▶ **Demand-responsive** services totaled more than 94,000 rides in 2017. Of these:
 - ▶ **Rural Dial-A-Ride** (all cities other than Bend) has slightly higher productivity than demand-responsive service in the city of Bend. Because Rural Dial-A-Ride acts as a feeder to/from Community Connector routes, it is often able to carry more passengers per hour of service.
 - ▶ **Bend Dial-A-Ride** provides ADA complementary paratransit service for persons in the City of Bend who are unable to use fixed-route bus service due to a disability and for low-income seniors. As a result, this service is able to carry fewer passengers per hour.

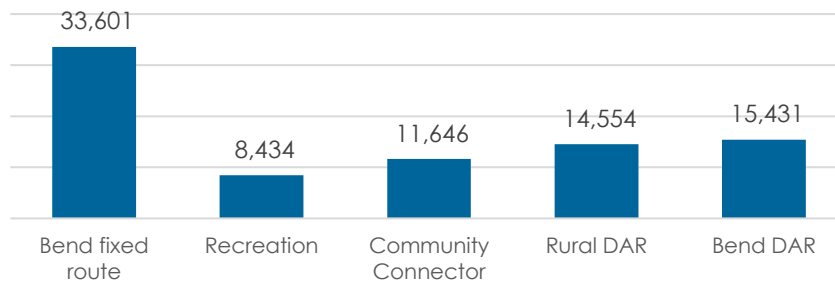
Additional detail for all service types is found in individual sections below.



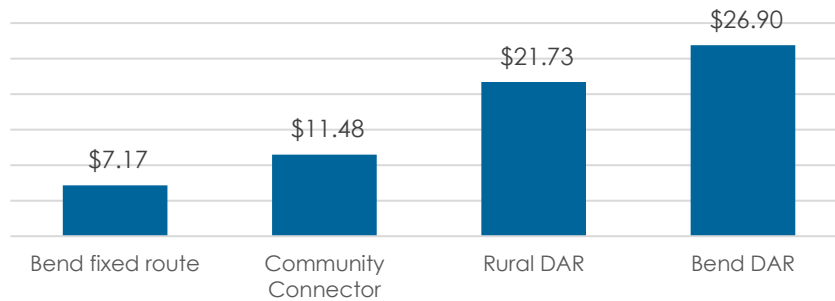
2017 Ridership



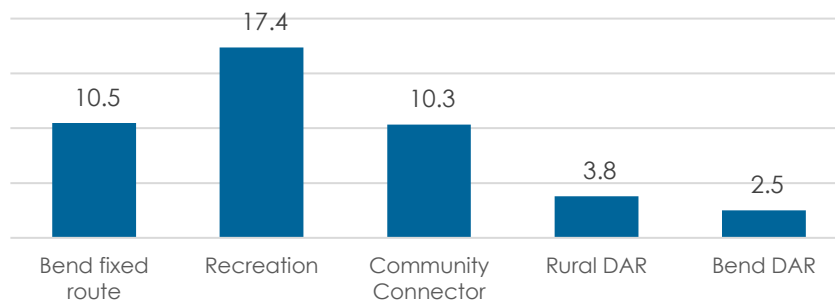
2017 Revenue hours



2017 Operating cost per trip



2017 Productivity
(boardings per revenue hour)



Productivity trend



Figure 17: 2017 CET System Performance, by Service Type, 2017 Calendar Year



TRANSIT INDUSTRY STANDARDS/BEST PRACTICES

Table 7 provides CET's existing performance standards for each service type, based on CET's *Transit Service Policies & Standards* document, the CET Regional Transit Master Plan (TMP) (2013), and the Bend MPO Transit Plan (2013), along with key performance measures from the above analyses and the performance of comparable rural and urban transit providers.

A performance measure quantifies a transit operating characteristic and provides a basis for comparison. Performance standards (also known as targets or benchmarks) are quantifiable values that define an acceptable level of performance. For example, considering productivity, routes performing below a standard of 10 to 15 boardings per revenue hour may merit attention. A single performance measure may have multiple standards based on the service type, operating period, or geographic zone being evaluated. Performance standards need to balance industry norms, CET's own goals and objectives (based on its vision statement and community values), and requirements from funding sources (such as ODOT or the FTA).

Each indicator in **Table 7** is color-coded to indicate if each service meets standards (green), is slightly below standards (yellow), or does not meet standards (red). Subsequent sections consider each service at the route or community level and identify potential areas of concern that will be addressed in the Transit Master Plan update.

Key points from 2017 data, the most recent full year available, include the following:

- ▶ **Service Efficiency** (productivity): In terms of passenger boardings per revenue hour, Bend fixed-route and Dial-A-Ride are slightly below productivity standards, but generally still within industry standards (and CET took corrective actions this year that should improve productivity). Community Connector and rural local bus service are performing within the range of established standards for comparable service types.
- ▶ **Cost Efficiency** (operating cost per revenue hour): CET has kept costs to approximately the targets set in the Regional TMP.
- ▶ **Cost Effectiveness** (operating cost per boarding): Rural Dial-A-Ride service exceeded the standard in 2017; other services were within the established range.
- ▶ **Farebox Recovery**: All services are slightly below standards, meaning that fares paid by riders are not covering the targeted proportion of operating costs. However, local policy-makers wish to set lower farebox recovery standards in order to make service more affordable.
- ▶ **On-time Performance**: Initial analysis indicates some concerns with on-time performance, which will be investigated at the route and trip level.



Table 7: CET Service Standards and 2017 Performance

Performance Standard ¹	Community Connector	Fixed-Route	Dial-A-Ride or Flex-Route	ADA Paratransit
Service Efficiency (Productivity): Unlinked Passenger Boardings per Revenue Hour	6 – 10	16 -20	DAR: 4 - 6 Flex: 5 – 8	4.0
2017 CET Actual	10.3	10.5	3.8	2.5
2017 Peer Median	Rural, all services: 9.3 Urban, all services: 13.6			
Service Efficiency: Unlinked Passenger Boardings per Revenue Mile	0.25 - 0.5	1.2	DAR: 0.25 - 0.5 Flex: 0.4 - 0.8	0.2
2017 CET Actual	0.3	0.8	0.3	0.2
2017 Peer Median	Rural, all services: 0.5 Urban, all services: 1.0			
Cost Efficiency: Operating Cost per Revenue Hour	Maintain at \$65 (2012 \$), adjusted to \$74 in 2017 \$ [4] Limit average annual cost increases to no more than 3% (approximately \$110 by 2030)			
2017 CET Actual	\$74.80			
2017 Peer Median	Rural: \$70 Urban: \$91			
Cost Effectiveness: Operating Cost per Unlinked Passenger Trip ²	\$6.80 - \$13.60	Maintain under \$5.70	DAR: \$11.30- \$17 Flex: \$9.10- 13.60	Maintain under \$28.30
2017 CET Actual	\$11.48	\$7.07	\$21.73	\$26.90
2017 Peer Median	Rural, all services: \$7.50 Urban, all services: \$7.20			
Farebox Recovery Ratio:	20% - 40% (10% minimum)	15%	DAR: 10% Flex: 10%	8%-10%
2017 CET Actual	19.0%	13.4%	6.0%	6.1%
2017 Peer Median	Rural and urban, all services: 12%			
On-time performance: Proportion of runs completed as scheduled. ³	Goal: 95% Minimum: 90%			
2017 CET Actual	On-time: 74% Early: 13% Late: 14%	On-time: 74% Early: 9% Late: 17%	On-time: 45% Early: 20% Late: 35%	On-time: 45% Early: 23% Late: 32%
Load factor: Ratio of passengers allowed at one time to the number of seats	Peak: 120% Off peak: 100%			
2017 CET Actual ⁴	TBD	TBD	TBD	TBD

Key:

Meets or exceeds standard	Slightly below standard, further analysis to be considered but likely in acceptable range	Does not meet standard, requires further analysis and may warrant corrective action
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Notes: [1] Previous standards were defined in the CET Regional Transit Master Plan (2013) or Bend MPO Transit Plan (2013), based on based on analysis of service performance from Oct 2012-Mar 2013, industry standards, and peer comparisons (Bend Transit Plan only). [2] Adjusted from 2012 targets set in CET Regional Transit Master Plan or Bend MPO Transit Plan based on 2.5% annual inflation rate. Starting at the previous average operating cost target of \$65 per hour would result in a 2017 target operating cost per hour of \$73.50. [3] CET defines "on-time" for Community Connector, fixed-route, and Recreational routes as departing not more than 5 minutes late or one minute early at each time point based on scheduled time. For fixed-route, the actual statistics reflect the scheduled time at the route mid- and end-points. [4] CET is acquiring automated passenger counters, which will enable collecting passenger loading data.



BEND FIXED-ROUTE PERFORMANCE OVERVIEW

This section analyzes the nine fixed routes that CET operates in Bend.

RIDERSHIP AND PRODUCTIVITY

Overall fixed-route ridership and productivity measures are shown in **Figure 18**, with additional detail in Table 8. Highlights of the figure are the following:

- ▶ Routes 1 (South), 4 (North), 7 (East), and 3 (Northwest) are the highest ridership and productivity routes.
- ▶ Routes 5 (Northeast), 6 (Southeast), and 10 and 11 (Southwest) are moderately productive.

Route 3 appears more productive in the October 2018 sample that was analyzed, and also has historically been more productive than annual data show. Since it serves COCC, this difference may reflect higher academic year utilization.

Maps showing Bend fixed-route daily boardings can be found in the **Figure 19** map series in Appendix A.

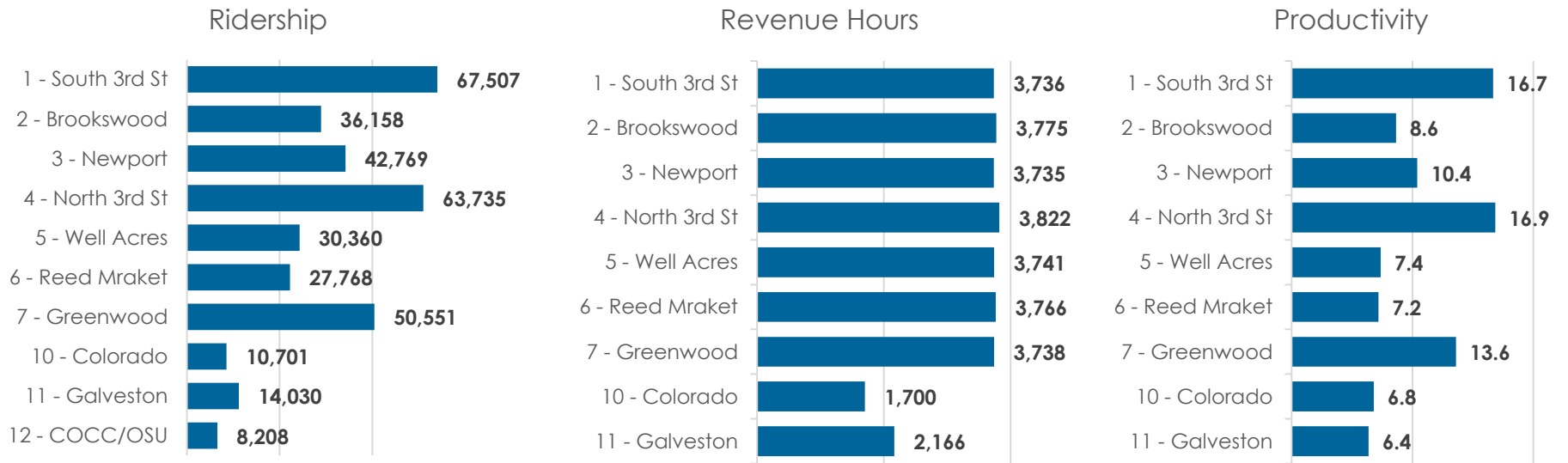


Figure 18: Bend Fixed-Route Ridership and Productivity, 2017

Table 8: Fixed Route Summary

#	Route	Daily Trips	Daily Revenue hours	Scheduled Cycle Time (minutes)	Layover/Recovery %	Avg. Daily Boardings	Avg. Boardings per Trip	Productivity (boardings per hour)	Timepoint Proportions		
									On-Time	Early	Late
1	South 3rd Street	27	14.1	18.0	42.5%	242.8	9.0	17.2	72.1%	2.2%	25.7%
2	Brookwood	18	14.6	32.0	34.4%	140.0	7.8	9.6	62.2%	3.1%	34.7%
3	Newport	27	14.3	21.0	33.7%	211.0	7.8	14.8	81.6%	11.9%	6.5%
4	North 3rd Street	27	14.0	22.0	29.3%	252.8	9.4	18.1	61.4%	6.6%	32.0%
5	Wells Acres/Reed Market	18	14.5	33.0	31.7%	109.6	6.1	7.6	73.4%	17.0%	9.5%
6	Reed Market/Wells Acres	18	14.6	33.0	32.1%	141.4	7.9	9.7	81.0%	7.5%	11.5%
7	Greenwood	27	14.2	22.0	30.1%	211.0	7.8	14.9	78.9%	6.4%	14.6%
10	Colorado	13	6.4	19.0	36.1%	49.6	3.8	7.7	76.5%	18.2%	5.3%
11	Galveston/14th	14	8.2	25.0	28.5%	46.4	3.3	5.7	81.1%	11.1%	7.8%
	Total/Average	189	114.8	24.3	33.2%	1,405	7.4	12.2	74.3%	8.8%	16.9%



ROUTE 1: SOUTH 3RD STREET

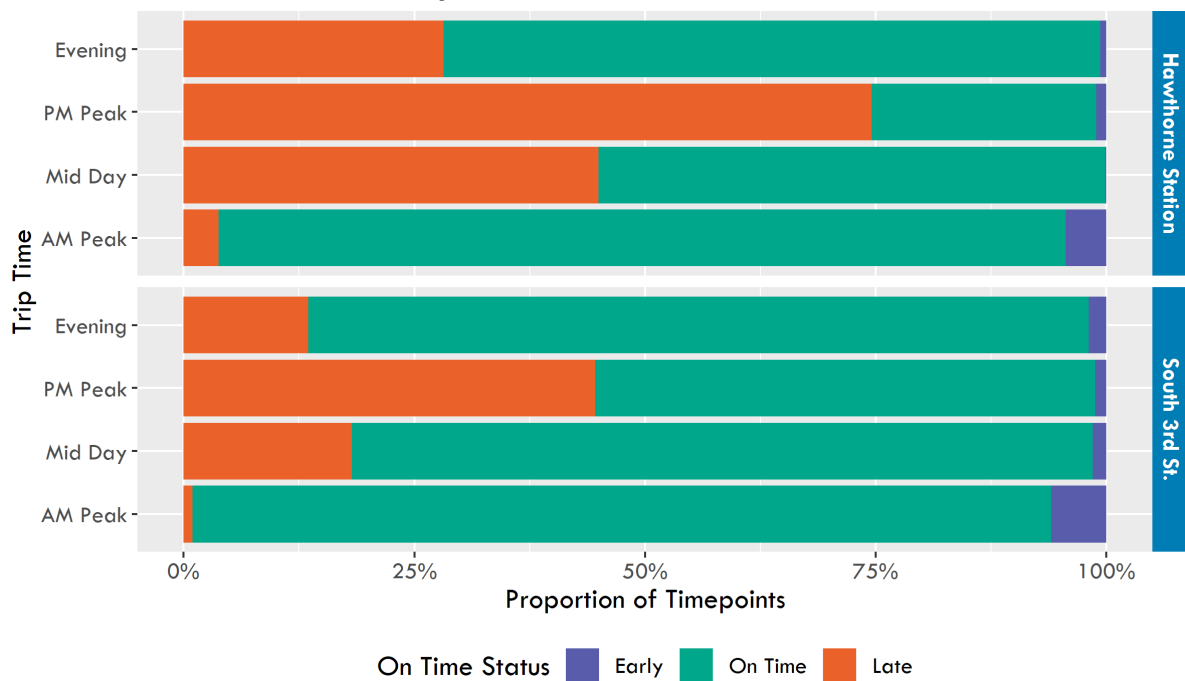
Service Description

- ▶ Serves the south part of 3rd Street / Hwy 97 Business, including Fred Meyer, Walmart, and Bend Factory Outlet Stores
- ▶ Runs every 30 minutes

Performance Characteristics¹

Time Category	Boardings per Day	Number of Round Trips	Boardings per Round Trip	Service Hours	Productivity (boardings per service hour)
AM Peak	29	6	4.8	3.0	9.7
Mid Day	126	12	10.5	6.0	21.0
PM Peak	72	6	12.0	3.0	23.9
Evening	16	3	5.3	1.5	10.5

On-Time Performance Summary²



Assessment of Strengths, Weaknesses, Opportunities

- ▶ Ridership appears consistent across all times of day, but strongest in the midday and PM
- ▶ Midday, afternoon, and evening trips tend to run late

Note: [1] Based on data from 10/1 – 10/5/2018. [2] Based on data for October 2018.



ROUTE 2: BROOKSWOOD

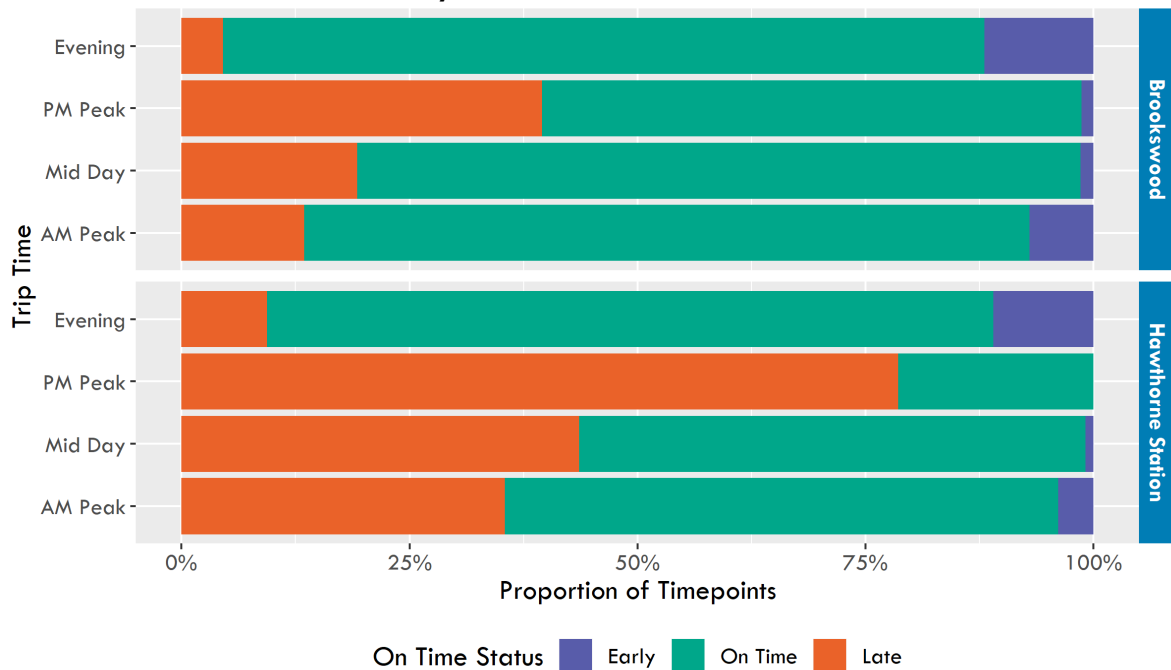
Service Description

- ▶ Serves southwest Bend including downtown, the Old Mill District, and residential areas along Brookswood Blvd
- ▶ Runs every 45 minutes

Performance Characteristics¹

Time Category	Boardings per Day	Number of Round Trips	Boardings per Round Trip	Service Hours	Productivity (boardings per service hour)
AM Peak	20	4	4.9	3.0	6.5
Mid Day	76	8	9.5	6.0	12.6
PM Peak	38	4	9.6	3.0	12.8
Evening	6	2	3.1	1.2	5.3

On-Time Performance Summary²



Assessment of Strengths, Weaknesses, Opportunities

- ▶ Moderate ridership in the midday and afternoon, but relatively low in the morning and evening
- ▶ Morning, midday, and afternoon trips tend to run late
- ▶ The 45 minute headway of this route may make timed transfers to other routes at Hawthorne Station more challenging

Note: [1] Based on data from 10/1 – 10/5/2018. [2] Based on data for October 2018.



ROUTE 3: NEWPORT

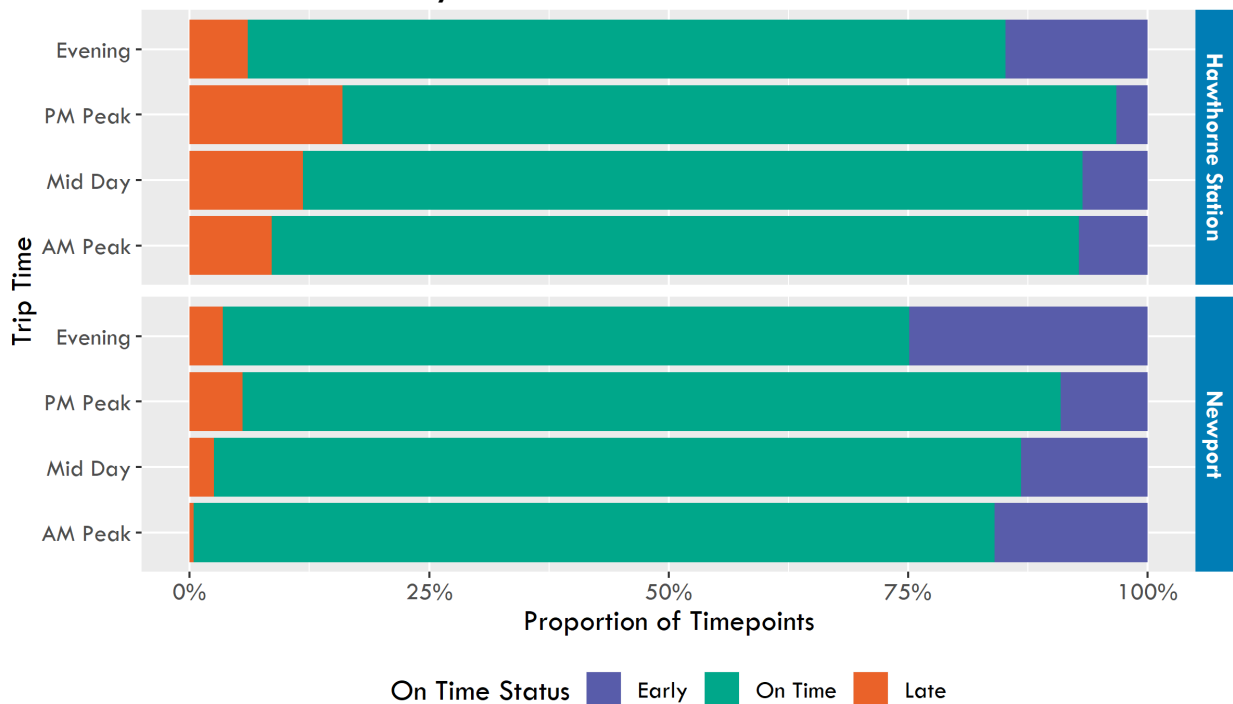
Service Description

- ▶ Serves the western part of Bend, including the northern edge of downtown and the Central Oregon Community College (COCC) campus
- ▶ The route no longer serves Summit High School or the interior of the Northwest Crossing neighborhood; starting in 2015, these areas were served by Route 12, which was eliminated in June 2018
- ▶ Runs every 30 minutes

Performance Characteristics¹

Time Category	Boardings per Day	Number of Round Trips	Boardings per Round Trip	Service Hours	Productivity (boardings per service hour)
AM Peak	45	6	7.5	3.0	15.1
Mid Day	109	12	9.1	6.0	18.1
PM Peak	48	6	8.0	3.0	15.9
Evening	9	3	3.1	1.5	6.1

On-Time Performance Summary²



Assessment of Strengths, Weaknesses, Opportunities

- ▶ Ridership is strong at all times of day, except the early evening
- ▶ Generally runs on-time, or even early



ROUTE 4: NORTH 3RD STREET

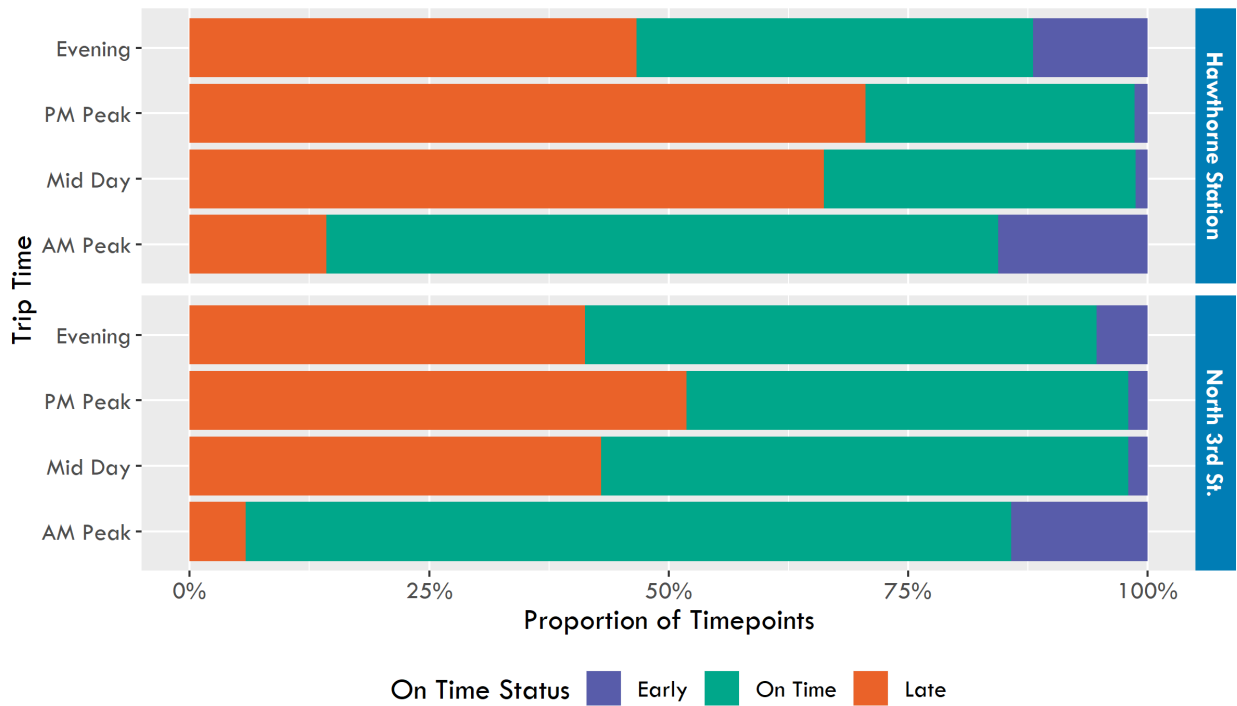
Service Description

- ▶ Serves north 3rd Street / Hwy 97 Business, including Wagner Mall, Bend River Promenade, and Cascade Village
- ▶ Runs every 30 minutes

Performance Characteristics¹

Time Category	Boardings per Day	Number of Round Trips	Boardings per Round Trip	Service Hours	Productivity (boardings per service hour)
AM Peak	39	6	6.5	3.0	12.9
Mid Day	118	12	9.9	6.0	19.7
PM Peak	79	6	13.2	3.0	26.4
Evening	16	3	5.5	1.5	10.9

On-Time Performance Summary²



Assessment of Strengths, Weaknesses, Opportunities

- ▶ Ridership is strong at all times of day; in addition to the major activity centers listed above, there is high ridership at the Sugar Loaf Road (northbound) and Burger King (Southbound) paired stops (includes social services such as the Bethlehem Inn)
- ▶ Runs late at all times of day except the morning



ROUTE 5: WELLS ACRES/REED MARKET (CLOCKWISE)

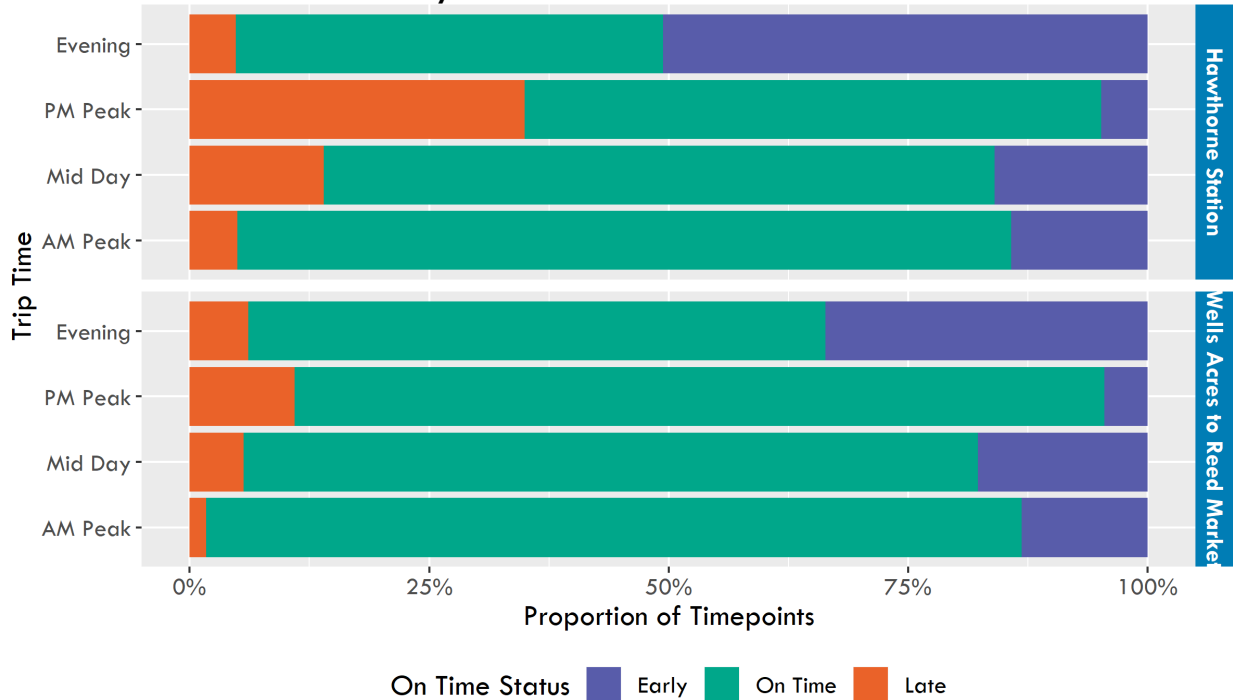
Service Description

- ▶ Serves St. Charles Medical Center and the Forum Shopping Center via a long, clockwise loop along Wells Acres Road, 27th Street, and Reed Market Road, including Mtn. View High School, Bend Senior Center, Bend High School, and various areas of multifamily housing.
- ▶ Prior to the introduction of Route 7 in September 2015, Route 5 was CET's highest ridership route but had difficulty staying on schedule, in part due to high demand. At the same time, Routes 5 and 6 were combined into a bidirectional loop. (Previously Routes 5 and 6 were interlined, alternating route every other trip.) However, some riders shifted to the faster, more direct connection provided by Route 7.
- ▶ Runs every 45 minutes

Performance Characteristics¹

Time Category	Boardings per Day	Number of Round Trips	Boardings per Round Trip	Service Hours	Productivity (boardings per service hour)
AM Peak	27	4	6.8	3.0	9.0
Mid Day	46	8	5.8	6.0	7.7
PM Peak	30	4	7.5	3.0	9.9
Evening	7	2	3.3	1.5	4.4

On-Time Performance Summary²



Assessment of Strengths, Weaknesses, Opportunities

- ▶ Ridership is only moderately strong
- ▶ Tends to run late in the afternoon, but runs early on some trips
- ▶ The 45 minute headway of this route may make timed transfers to other routes at Hawthorne Station more challenging



ROUTE 6: REED MARKET/WELLS ACRES (COUNTER-CLOCKWISE)

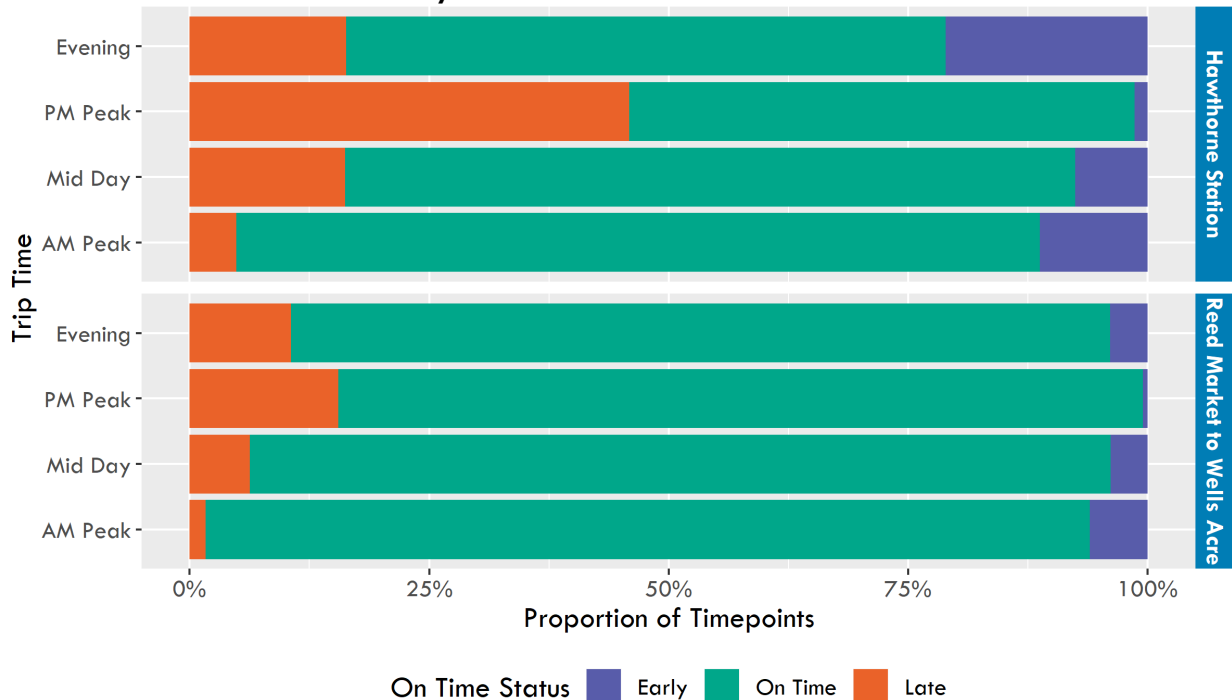
Service Description

- ▶ Serves St. Charles Medical Center and the Forum Shopping Center via a long, counter-clockwise loop (opposite of Route 5, which serves the same route in a clockwise pattern).
- ▶ When Route 7 was introduced in September 2015, Routes 5 and 6 were combined into a bidirectional loop. (Previously Routes 5 and 6 were interlined, alternating the route every other trip.) However, some riders shifted to the faster, more direct connection provided by Route 7, and Route 6 productivity is slightly lower than before introduction of Route 7. Service along Bear Creek Road between 15 Street and 27th Street was eliminated as part of these changes, and Route 7 now serves the Work Source office.
- ▶ Runs every 45 minutes

Performance Characteristics¹

Time Category	Boardings per Day	Number of Round Trips	Boardings per Round Trip	Service Hours	Productivity (boardings per service hour)
AM Peak	20	4	5.0	3.0	6.7
Mid Day	76	8	9.5	6.0	12.7
PM Peak	33	4	8.3	3.0	11.1
Evening	12	2	6.1	1.5	8.1

On-Time Performance Summary²



Assessment of Strengths, Weaknesses, Opportunities

- ▶ Ridership is only moderately strong
- ▶ Tends to run late in the afternoon, but runs early on some trips
- ▶ The 45 minute headway of this route may make timed transfers to other routes at Hawthorne Station more challenging



ROUTE 7: GREENWOOD

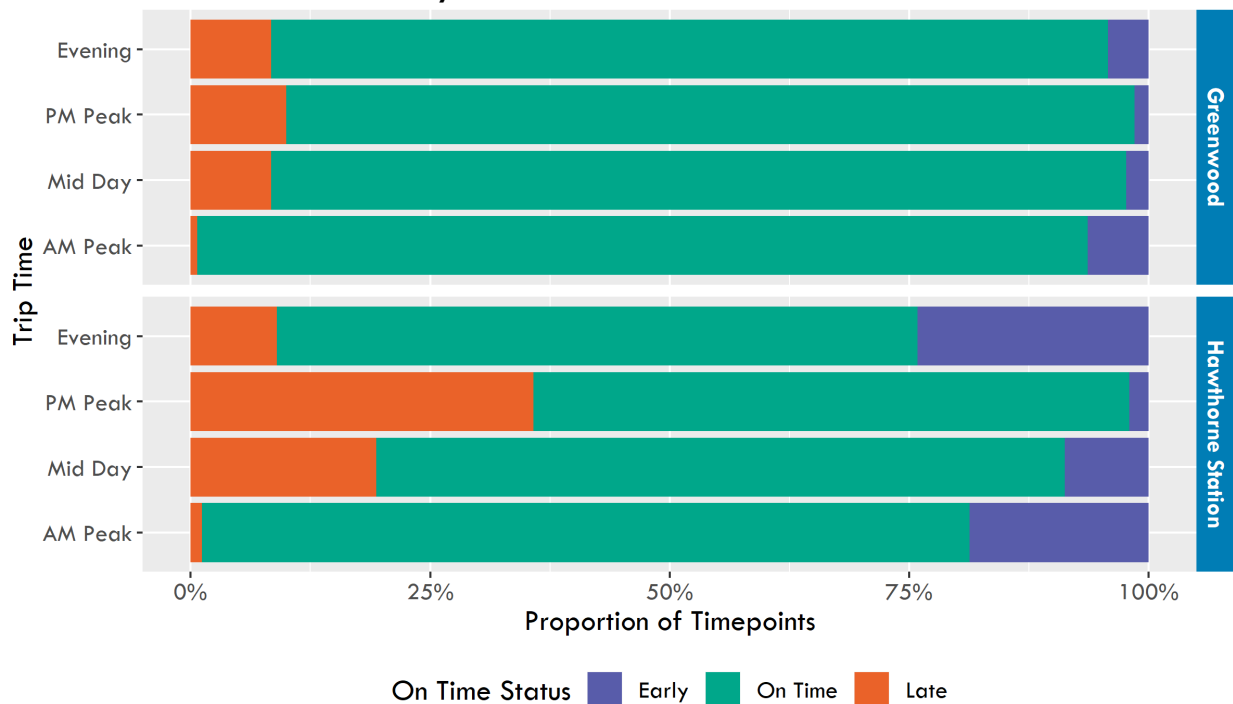
Service Description

- ▶ Serves St. Charles Medical Center via Greenwood Avenue, including the Work Source office, Police Department & Municipal Court, East Bend Library, and areas of multifamily housing.
- ▶ Route 7 was introduced on September 21, 2015 and provided a more direct east-west connection through the city, east of 3rd Street.
- ▶ Runs every 30 minutes

Performance Characteristics¹

Time Category	Boardings per Day	Number of Round Trips	Boardings per Round Trip	Service Hours	Productivity (boardings per service hour)
AM Peak	46	6	7.7	3.0	15.5
Mid Day	95	12	7.9	6.0	15.8
PM Peak	54	6	9.0	3.0	17.9
Evening	16	3	5.3	1.5	10.7

On-Time Performance Summary²



Assessment of Strengths, Weaknesses, Opportunities

- ▶ Ridership is strong during all time periods
- ▶ Tends to run late in the afternoon



ROUTE 10: COLORADO

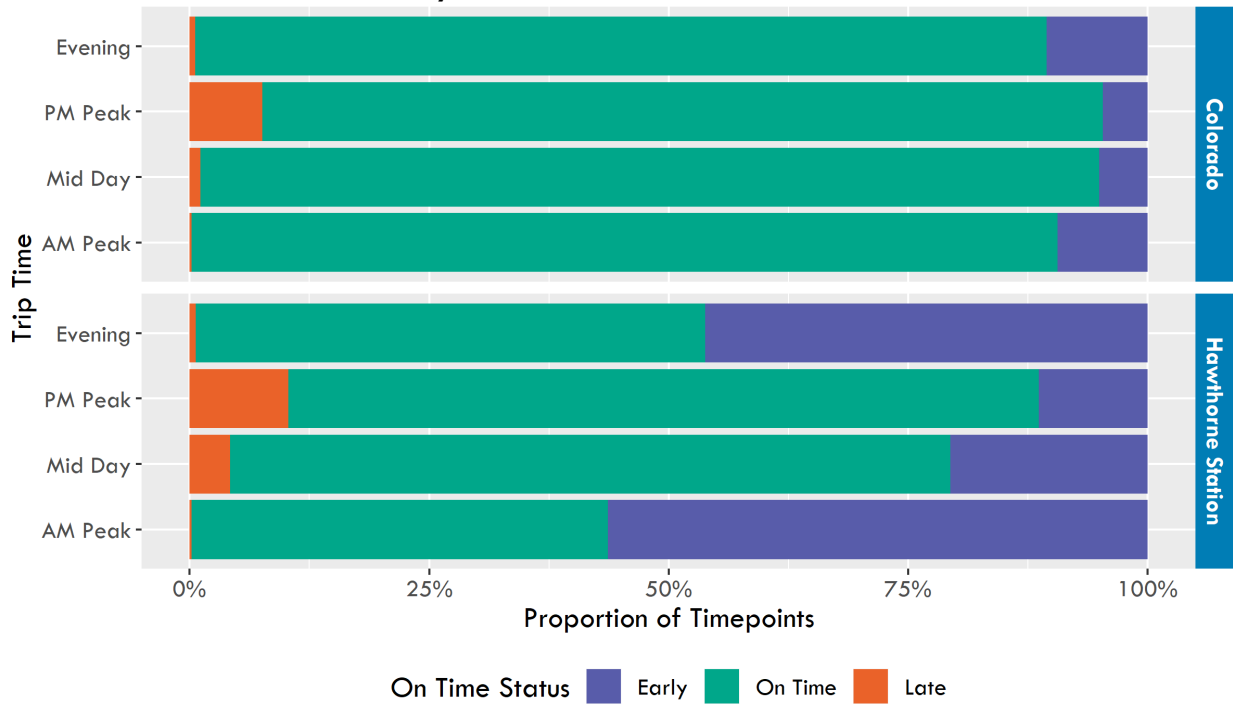
Service Description

- ▶ Serves the OSU/Cascades campus via downtown Bend and Colorado Avenue, including employment areas in the vicinity of SW Simpson Avenue, Colorado Avenue, and Century Drive
- ▶ Runs hourly (departing from Hawthorne Station on the half hour), but Route 11 serves downtown Bend and the OSU/Cascades campus with a staggered schedule (on the hour)
- ▶ This route began service on September 21, 2015

Performance Characteristics¹

Time Category	Boardings per Day	Number of Round Trips	Boardings per Round Trip	Service Hours	Productivity (boardings per service hour)
AM Peak	10	3	3.5	1.5	6.9
Mid Day	24	6	4.0	3.0	8.0
PM Peak	14	3	4.7	1.5	9.5
Evening	1	1	1.0	0.5	2.0

On-Time Performance Summary²



Assessment of Strengths, Weaknesses, Opportunities

- ▶ Ridership is only moderate, and very low on the final evening trip
- ▶ Tends to run early



ROUTE 11: GALVESTON/14TH

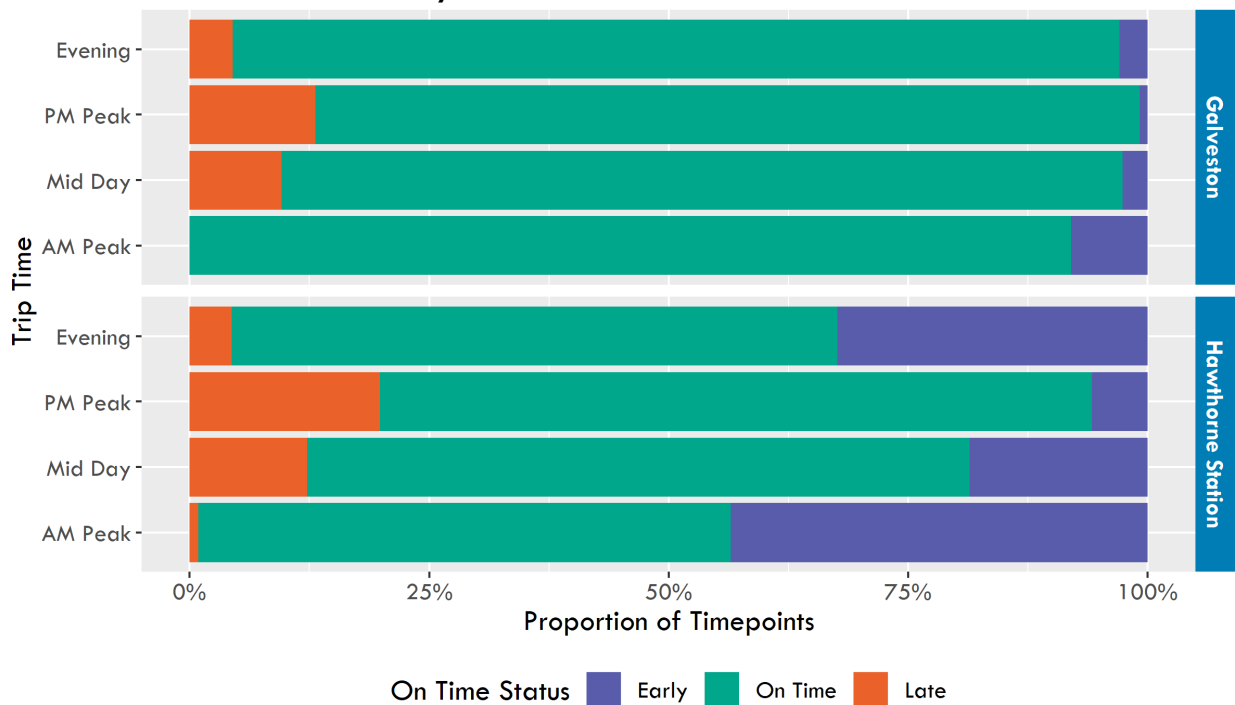
Service Description

- ▶ Serves the OSU/Cascades campus via downtown Bend and Galveston Avenue and 14th Street/Century Drive, including employment areas in the vicinity of SW Simpson Avenue, Colorado Avenue, and Century Drive
- ▶ Runs hourly (departing from Hawthorne Station on the hour), but Route 10 serves downtown Bend and the OSU/Cascades campus with staggered service (on the half-hour)
- ▶ The western routing was modified on September 21, 2015 to better serve the OSU campus and service was increased from only partial-day operations

Performance Characteristics¹

Time Category	Boardings per Day	Number of Round Trips	Boardings per Round Trip	Service Hours	Productivity (boardings per service hour)
AM Peak	8	3	2.7	1.5	5.3
Mid Day	21	6	3.6	3.0	7.1
PM Peak	12	3	4.0	1.0	12.0
Evening	5	2	2.5	1.0	5.0

On-Time Performance Summary²



Assessment of Strengths, Weaknesses, Opportunities

- ▶ Ridership is only moderate
- ▶ Some midday and afternoon trips run late, but service runs early at other times of the day



COMMUNITY CONNECTOR PERFORMANCE OVERVIEW

This section analyzes performance for the Community Connector system of intercity routes that connect the cities in CET's service area.

RIDERSHIP AND PRODUCTIVITY

Overall ridership and productivity on the Community Connector system is shown in **Figure 20**. Note: Ridership has been increasing (2018 ridership is only through 11/1/2018).

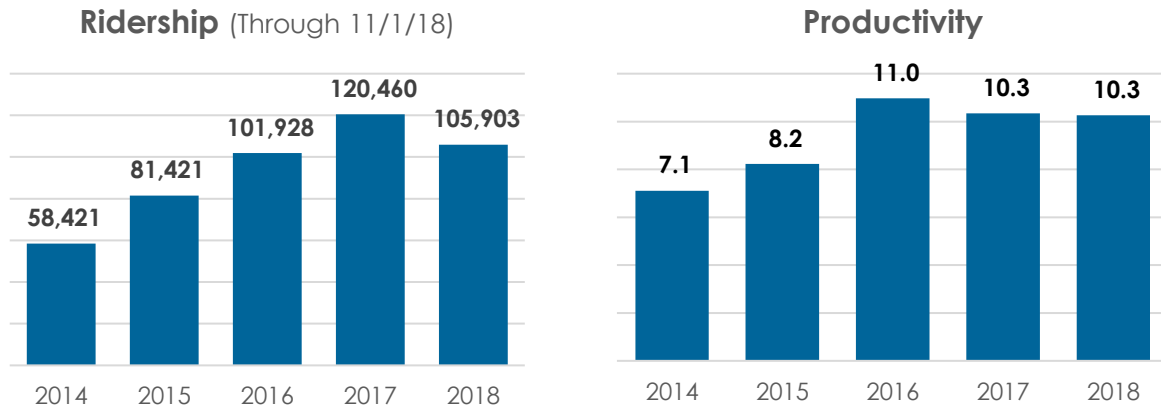


Figure 20: Community Connector Ridership and Productivity, 2014-2017

Ridership for all Community Connector routes in 2017 is shown in **Figure 21**. Revenue hours by route are shown in **Figure 22** and productivity in **Figure 23**. Maps showing Community Connector daily boardings can be found in the **Figure 19** map series in Appendix A. Highlights of these figures include the following:

- ▶ Route 20, connecting Warm Springs and Madras, was redesigned on December 12, 2016 to offer deviated fixed-route service within a ¾ mile distance of the non-intercity portion of the route in Warm Springs and Madras; the deviated fixed-route service is part of the rural local bus service.
- ▶ Route 22 (Madras-Redmond) has the second highest ridership, at approximately 26,000 riders. Route 21, connecting Culver, Metolius, and Madras, was folded into Route 22 as of 1/1/2018.
- ▶ Route 24, connecting Redmond and Bend, carried the most riders (more than 34,000), and also offers the most service among Community Connector routes.
- ▶ Routes 22 and 24 have the highest productivity among Community Connector routes—nearly 12 boardings per revenue hour.
- ▶ Route 26, connecting Prineville and Redmond has moderately strong ridership and productivity (eight riders per revenue hour, which has decreased from over 11 riders per hour in 2015)
- ▶ Route 29, which connects Sisters directly with Bend, began operation on February 6, 2017, and carried 1,034 total riders. Prior to 2017, the Sisters-Bend connection required a transfer to Route 28 between Redmond and Sisters. Productivity of Route 29 has been very low (less than two riders per hour), while



productivity on Route 28 has increased from less than three riders per hour to approximately eight riders per hour since 2016. Route 28 serves many school trips, which may account for the increase.

- ▶ Route 30, connecting Bend and La Pine, has the second lowest productivity among the Community Connector routes, declining from approximately six riders per hour in 2016 to less than four riders per hour.

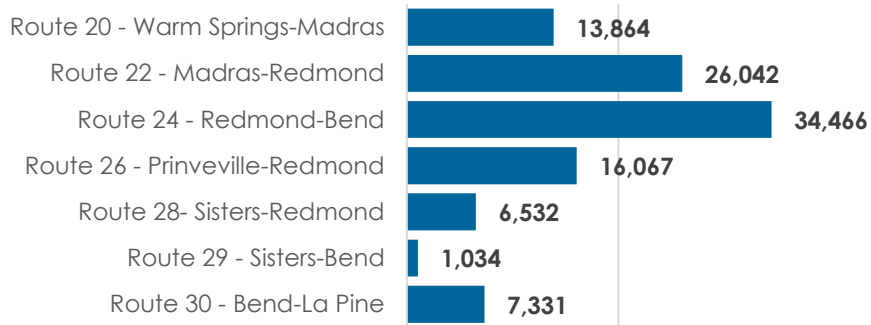


Figure 21: Community Connector 2017 Ridership

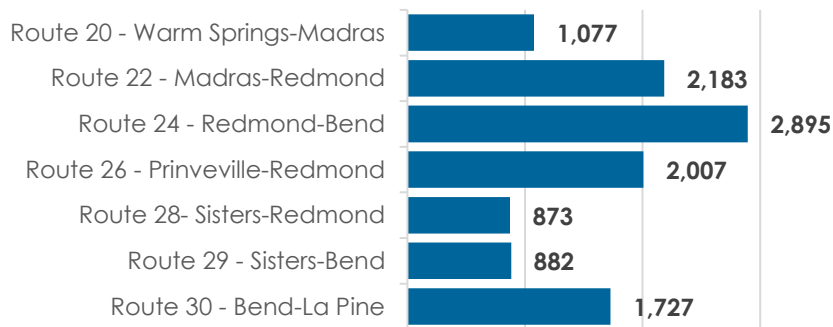


Figure 22: Community Connector 2017 Revenue Hours

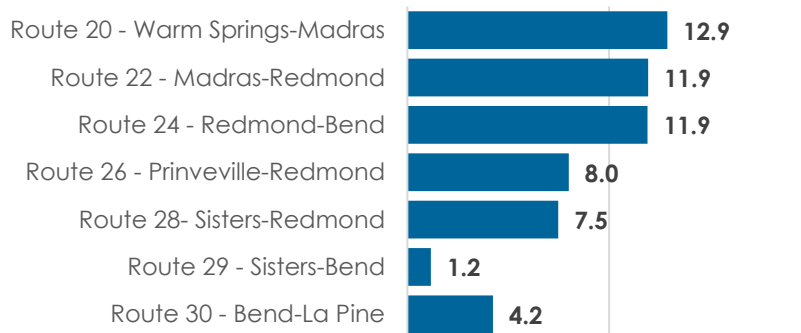


Figure 23: Community Connector 2017 Productivity



SERVICE AND PERFORMANCE CHARACTERISTICS AND ON-TIME PERFORMANCE SUMMARY

Table 9 summarizes service and performance characteristics for the Community Connector routes including on-time performance; additional analysis will be provided in the next section. Routes with the highest percentage of “Late” trips include:

- ▶ Route 24 (Redmond-Bend), in both directions
- ▶ Route 26 (Redmond-Prineville), in the Prineville direction.
- ▶ Route 29 (Redmond-Sisters) in the Redmond direction
- ▶ Route 30 (Bend – La Pine) in the La Pine direction

Note: Route 20 data shows only the Madras-Warm Springs portion that operates as an intercity route. the Madras and Warm Springs deviated routes are discussed in the Route 20 section below.

Table 9: Daily Trips, Service Hours, Boardings, and Productivity by Route and Direction (10/1 to 10/5/18)

#	Route Name	Direction	Daily Trips	Daily Service Hours	Average Runtime (minutes)	Daily Boardings	Average Boardings per Trip	Boardings per Revenue Hour	On-Time Performance at Timepoints		
									On-Time	Early	Late
20	Warm Springs/ Madras	Warm Springs	6	2.10	37.8	18.8	3.0	8.6	30.8%	15.4%	53.8%
		Madras	6	2.10	37.8	14.0	2.3	6.7	50.0%	0.0%	50.0%
22	Redmond/ Madras	Redmond	5	4.39	41.4	76.6	15.3	17.4	94.4%	4.6%	1.0%
		Madras	5	4.39	40.6	74.6	14.9	17.0	94.4%	1.8%	3.8%
24	Redmond/ Bend	Bend	9	6.56	32.1	104.8	11.6	16.0	51.2%	31.6%	17.2%
		Redmond	9	6.56	35.0	103.4	11.5	15.8	46.4%	31.5%	22.1%
26	Redmond/ Prineville	Prineville	6	3.38	29.5	38.0	6.3	11.2	76.2%	0.8%	23.0%
		Redmond	6	3.38	28.5	33.8	5.6	10.0	86.0%	1.7%	12.3%
28	Sisters/ Redmond	Sisters	3	1.73	31.7	35.4	11.8	20.5	89.1%	0.0%	10.9%
		Redmond	3	1.73	30.7	10.8	3.6	6.2	73.2%	0.0%	26.8%
29	Sisters/ Bend	Sisters	3	2.06	33.0	7.0	2.3	3.4	84.0%	1.7%	14.3%
		Bend	3	2.06	34.0	1.6	0.5	0.8	82.0%	3.0%	15.0%
30	La Pine/ Bend	La Pine	3	3.58	53.7	10.8	3.6	3.0	43.3%	33.0%	23.7%
		Bend	3	3.58	46.7	17.4	5.8	4.9	41.1%	58.2%	0.7%

Source: Based on one-week sample data from October 1 to 5, 2018

Note: On-time is defined as no more than five minutes late or one minute early.



ROUTE 20: WARM SPRINGS/MADRAS

Service Description

- ▶ Connects Madras and Warm Springs, and provides deviated fixed-route service within a ¼ mile distance of fixed stops in Madras and Warm Springs
- ▶ Route was modified on December 12, 2016, and the deviated fixed-route in Madras was introduced at that time

Ridership and On-Time Performance by Trip

Trip Time	Average Boardings	Service Hours	Productivity (boardings per hour)	Trip Time	Average Boardings	Service Hours	Productivity (boardings per hour)
Intercity (Madras-Warm Springs)				Deviated Route (in Warm Springs)			
06:15	0.40	0.3	1.3	06:33	4.2	0.8	5.0
08:14	3.20	0.3	10.7	08:29	10.0	0.8	12.0
10:13	1.60	0.3	5.3	10:28	8.2	0.8	9.8
13:41	3.80	0.3	12.7	13:59	6.0	0.8	7.5
15:38	4.00	0.3	13.3	15:53	7.4	0.8	8.9
18:48	5.80	0.3	19.3	19:03	6.0	0.4	15.0
Intercity (Warm Springs- Madras)				Deviated Route (in Madras)			
07:23	5.20	0.3	17.3	7:38	7.8	0.6	13.4
09:19	5.20	0.3	17.3	9:34	6.0	0.6	9.5
11:18	1.20	0.3	4.0	11:33	1.2	0.4	3.0
14:47	1.40	0.3	4.7	15:02	6.2	0.6	10.6
16:43				18:25			
	1.00	0.3	3.3	[3]	3.8	0.4	10.4
19:27	0.00	0.3	0.0	-	-	-	-

Assessment of Strengths, Weaknesses, Opportunities

- ▶ The intercity and deviated-fixed route portions of this service are all reasonably productive (12.9 boardings per revenue hour for intercity and 8.4 and 9.1 boardings per hour for deviated service in Madras and Warm Springs, respectively).
- ▶ Ridership on the intercity route from Warm Springs to Madras is strongest on the morning trips, and intercity ridership from Madras to Warm Springs is strongest in the afternoons. Deviated route ridership in Warm Springs is moderately strong and consistent all-day.
- ▶ Ridership on mid/late morning trip is the lowest, including on the deviated service in Madras. However, ridership on the Warm Springs deviated route is strong.
- ▶ On-time performance likely affected by the deviated nature of the route in Warm Springs and Madras (not reported at the trip level due to limited data, but may be investigated at a later stage of the project).
- ▶ CET is modifying Route 20 as of December 1, 2018 to add stops in both directions at the Plateau Travel Plaza in Madras and remove the Vocational Rehabilitation Center stop in Warm Springs (facility has relocated). There are some schedule adjustments, but the number of trips is maintained.

Note: [1] Based on data from 10/1 – 10/5/2018. [2] Based on data for October 2018. [3] There is a gap in service between the 16:43 Route 20 arrival in Madras and the 18:25 deviated-route and intercity trip to Warm Springs



ROUTE 22: REDMOND/MADRAS

Service Description

- ▶ Connects Madras, Culver, Metolius, Terrebonne, and Redmond
- ▶ In late 2016, Route 21 connecting Madras, Culver, and Metolius was combined with Route 22

Ridership and On-Time Performance by Trip

Direction	Trip Time	Average Boardings	Service Hours	Productivity (boardings per hour)	On-Time	Early	Late
Madras	5:38:00	0.8	0.67	1.2	100.0%	0.0%	0.0%
	7:18:00	2	0.67	3.0	96.9%	1.0%	2.1%
	14:30:00	51.8	0.68	75.8	89.3%	4.1%	6.6%
	16:12:00	13.8	0.68	20.2	96.5%	0.9%	2.6%
	17:54:00	6.2	0.68	9.1	89.6%	2.8%	7.5%
Redmond	6:28:00	62.6	0.70	89.4	99.2%	0.0%	0.8%
	8:08:00	12	0.70	17.1	97.6%	0.0%	2.4%
	15:21:00	0	0.68	0.0	95.7%	4.3%	0.0%
	17:03:00	1.8	0.68	2.6	83.7%	16.3%	0.0%
	18:45:00	0.2	0.68	0.3	91.8%	6.6%	1.6%

Assessment of Strengths, Weaknesses, Opportunities

- ▶ Boardings are unexpectedly very high on the early morning trip to Redmond and the 2:30 pm trip to Madras. Further investigation of this level of boardings should occur, as it might indicate deployment of multiple vehicles and/or peak school activity.

Note: [1] Based on data from 10/1 – 10/5/2018. [2] Based on data for October 2018.



ROUTE 24: REDMOND/BEND

Service Description

- ▶ Connects Redmond and Bend
- ▶ Stops at Cascade Village at the north end of Bend were introduced on 2/1/2017

Ridership and On-Time Performance by Trip

Direction	Trip Time	Average Boardings	Service Hours	Productivity (boardings per hour)	On-Time	Early	Late
Bend	5:55:00	2.8	0.53	5.3	52.8%	32.1%	15.1%
	7:22:00	11.2	0.53	21.0	48.4%	45.2%	6.5%
	8:54:00	15.4	0.53	28.9	51.4%	45.9%	2.7%
	10:21:00	6	0.53	11.3	50.0%	50.0%	0.0%
	12:23:00	9.2	0.53	17.3	58.1%	32.6%	9.3%
	14:23:00	50	0.53	93.7	55.3%	4.3%	40.4%
	15:40:00	3.2	0.55	5.8	65.9%	29.5%	4.5%
	17:50:00	5.2	0.53	9.7	44.0%	29.8%	26.2%
	19:10:00	1.8	0.53	3.4	42.6%	39.3%	18.0%
Redmond	6:37:00	34.2	0.58	58.6	64.1%	26.9%	9.0%
	8:04:00	19.2	0.58	32.9	58.8%	41.2%	0.0%
	9:36:00	6.6	0.58	11.3	57.9%	40.4%	1.8%
	11:03:00	1.4	0.58	2.4	66.7%	33.3%	0.0%
	13:05:00	5.6	0.58	9.6	44.8%	37.9%	17.2%
	15:05:00	11	0.58	18.9	38.2%	18.4%	43.4%
	17:05:00	15	0.58	25.7	44.2%	23.1%	32.7%
	18:32:00	5.2	0.58	8.9	32.0%	37.3%	30.7%
	19:52:00	5.2	0.58	8.9	30.8%	29.2%	40.0%

Assessment of Strengths, Weaknesses, Opportunities

- ▶ Boardings are relatively low on some of the later morning/early afternoon trips and the last two trips of the day
- ▶ Boardings are high (and may exceed capacity) on the first trip to Bend and the 2:23 pm trip to Redmond
- ▶ Afternoon trips, particularly to Redmond, tend to run late

Note: [1] Based on data from 10/1 – 10/5/2018. [2] Based on data for October 2018.



ROUTE 26: REDMOND/PRINEVILLE

Service Description

- ▶ Connects Redmond and Prineville

Ridership and On-Time Performance by Trip

Direction	Trip Time	Average Boardings	Service Hours	Productivity (boardings per hour)	On-Time	Early	Late
Prineville	6:03:00	2.8	0.48	5.8	91.4%	0.0%	8.6%
	7:22:00	1.4	0.48	2.9	85.5%	0.0%	14.5%
	14:23:00	24.4	0.48	50.5	58.5%	1.2%	40.2%
	15:50:00	5.6	0.50	11.2	56.8%	2.1%	41.1%
	17:50:00	3.8	0.50	7.6	95.7%	0.0%	4.3%
Redmond	6:42:00	21.6	0.48	44.7	95.7%	0.0%	4.3%
	8:01:00	10.2	0.48	21.1	86.0%	8.8%	5.3%
	15:02:00	0.6	0.47	1.3	83.1%	0.0%	16.9%
	16:30:00	0.8	0.47	1.7	97.8%	0.0%	2.2%
	18:30:00	0.6	0.47	1.3	100.0%	0.0%	0.0%

Assessment of Strengths, Weaknesses, Opportunities

- ▶ Two of the three afternoon trips to Prineville run late

Note: [1] Based on data from 10/1 – 10/5/2018. [2] Based on data for October 2018.



ROUTE 28: SISTERS/REDMOND

Service Description

- ▶ Connects Redmond and Sisters

Ridership and On-Time Performance by Trip

Direction	Trip Time	Average Boardings	Service Hours	Productivity (boardings per hour)	On-Time	Early	Late
Sisters	6:12:00	3.2	0.52	6.2	88.0%	0.0%	12.0%
	7:23:00	11.8	0.53	22.1	90.3%	0.0%	9.7%
	14:40:00	20.4	0.53	38.2	88.8%	0.0%	11.2%
Redmond	6:43:00	7.4	0.50	14.8	84.8%	0.0%	15.2%
	7:55:00	1.6	0.52	3.1	72.5%	0.0%	27.5%
	15:12:00	1.8	0.52	3.5	66.2%	0.0%	33.8%

Assessment of Strengths, Weaknesses, Opportunities

- ▶ Utilization of this route has improved since 2016
- ▶ 7:55 am and 3:12 pm trips to Redmond tend to run late
- ▶ There is an imbalance in ridership patterns on this route (e.g., more people going to Sisters than Redmond) that needs further investigation.

Note: [1] Based on data from 10/1 – 10/5/2018. [2] Based on data for October 2018.



ROUTE 29: SISTERS/BEND

Service Description

- ▶ Connects Bend and Sisters
- ▶ Service on this route started on 2/6/2017; previously there was no direct connection between Sisters and Bend

Ridership and On-Time Performance by Trip

Direction	Trip Time	Average Boardings	Service Hours	Productivity (boardings per hour)	On-Time	Early	Late
Sisters	6:40:00	2.8	0.55	5.1	100.0%	0.0%	0.0%
	15:45:00	2.8	0.55	5.1	66.3%	0.0%	33.7%
	17:10:00	1.4	0.55	2.5	83.7%	5.1%	11.2%
Bend	7:13:00	0.2	0.57	0.4	94.4%	0.0%	5.6%
	16:18:00	1.4	0.57	2.5	62.5%	0.0%	37.5%
	17:43:00	0	0.57	0.0	78.2%	7.3%	14.5%

Assessment of Strengths, Weaknesses, Opportunities

- ▶ Ridership is extremely low on this route. Since it is a relatively new route, recommend outreach to understand why it does not appear to be meeting travel needs, even as Route 28 is performing better than before Route 29 began operation; re-evaluate service to other destinations in Sisters, including Black Butte Ranch as was considered when the route was introduced.
- ▶ 3:45 pm trip to Sisters tends to run late, which may relate to 4:18 trip to Bend running late

Note: [1] Based on data from 10/1 – 10/5/2018. [2] Based on data for October 2018.



ROUTE 30: LA PINE/BEND

Service Description

- ▶ Connects Bend and La Pine, including stops at the south end of Bend (Walmart) and in Deschutes River Woods
- ▶ The Deschutes River Woods stop was introduced in 2013 and the south Bend stop was introduced 7/2/2017.

Ridership and On-Time Performance by Trip

Direction	Trip Time	Average Boardings	Service Hours	Productivity (boardings per hour)	On-Time	Early	Late
Bend	6:47:00	7.6	0.90	8.4	100.0%	0.0%	0.0%
	8:18:00						
	14:37:00	9.8	0.72	13.7	36.2%	62.3%	1.4%
	16:29:00	0	0.72	0.0	42.6%	57.4%	0.0%
La Pine	7:56:00	6.6	0.72	9.2	33.3%	66.7%	0.0%
	15:30:00	0	0.98	0.0	44.3%	30.4%	25.2%
	17:22:00	4.2	0.98	4.3	42.5%	34.9%	22.6%

Assessment of Strengths, Weaknesses, Opportunities

- ▶ Afternoon trips to La Pine run late
- ▶ Confirm whether La Pine bus is based in Bend or La Pine; if the former, consider whether there would be any demand for an early morning trip to La Pine on the current “deadhead” run, possibly in conjunction with shifting times of the trips (the single morning trip to La Pine carried an average of 6.6 riders).
- ▶ There may be opportunities to improve access to the route in La Pine; re-evaluation the possibility of service to Sun River.

Note: [1] Based on data from 10/1 – 10/5/2018. [2] Based on data for October 2018.



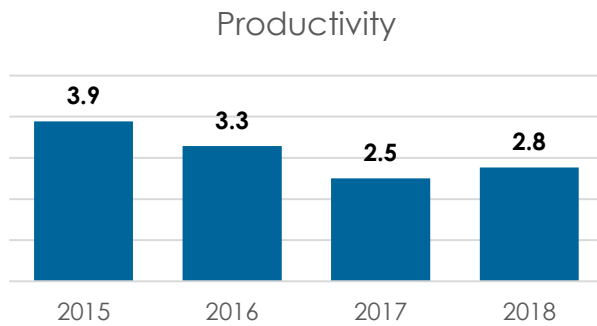
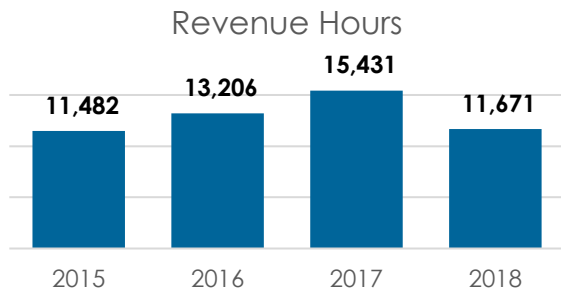
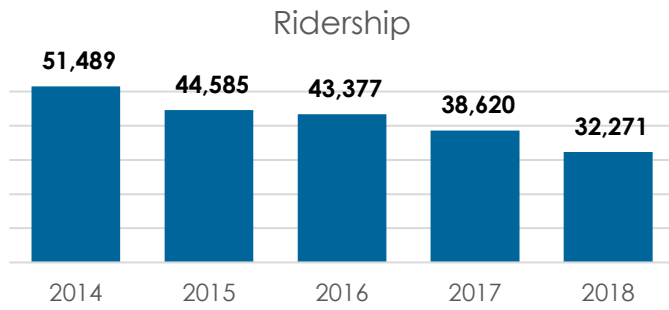
BEND DIAL-A-RIDE PERFORMANCE OVERVIEW

This section summarizes performance for demand-responsive service that CET operates within the city of Bend. While CET is required to provide ADA complementary paratransit service within a $\frac{3}{4}$ mile distance of fixed-route service, during the same hours of operation, CET has historically provided service within Bend city limits as well as on Sundays. (Fixed-route service runs on weekdays and Saturdays.) CET also provides Bend Dial-A-Ride service to low-income seniors.

RIDERSHIP AND PRODUCTIVITY

Figure 24 provides ridership, revenue hours, and productivity for demand-responsive service in Bend for 2014-2017. Highlights of the figure include the following:

- ▶ Ridership on demand-responsive service in Bend has declined from a high of more than 51,000 rides in 2014 to 38,620 rides in 2017. Capacity available to serve trips for the general public may be constrained based on the number of vehicles available.
- ▶ While ridership has declined over the past four years, the number of revenue hours of demand-responsive service has increased each year, peaking at more than 15,000 revenue hours in 2017.
- ▶ The diverging trends in ridership and revenue hour trends has resulted in a drop in productivity (rides per revenue hour), to a low of 2.5 rides per hour in 2017.



Note: 2014 revenue hours were not available.

Figure 24: Ridership, Revenue Hours, and Productivity, 2014-2017



SERVICE CHARACTERISTICS

Table 10 shows service characteristics for Bend Dial-A-ride service, and **Table 11** shows on-time performance.

Table 10: 2018 Bend Dial-A-Ride Service Statistics

		2018 (through December 13)	
Number of customers	572		
Annual trips per customer	48		
Average runtime per trip	16 minutes		
Total trips	27,544		
	Category	Proportion	
Funding source ^[1]	Self-pay	42%	
	ADA/Disability	32%	
	Medicaid and Low-income senior	16%	
	Contract	10%	
Ambulatory vs. ^[1] mobility device ^[2]	Ambulatory	78%	
	Mobility device	22%	

[1] Funding source and ambulatory status are calculated from fall 2018 ride data. [2] Includes a small number of car seats.

Table 11: 2018 Bend Dial-A-Ride On-time Performance

	Number	Proportion of All Trips
On-time	12,297	45%
Early	4,504	16%
Late	10,743	39%
Total	27,544	

RIDERSHIP PATTERNS

The majority of trips on Bend dial-a-ride are between locations in downtown Bend and locations in east bend. There are relatively few trips that begin or end on Bend's west side.

Figure 25 shows the most common trip patterns aggregated by zone, showing only those origin/destination zone pairs with 5 more or trips per week.

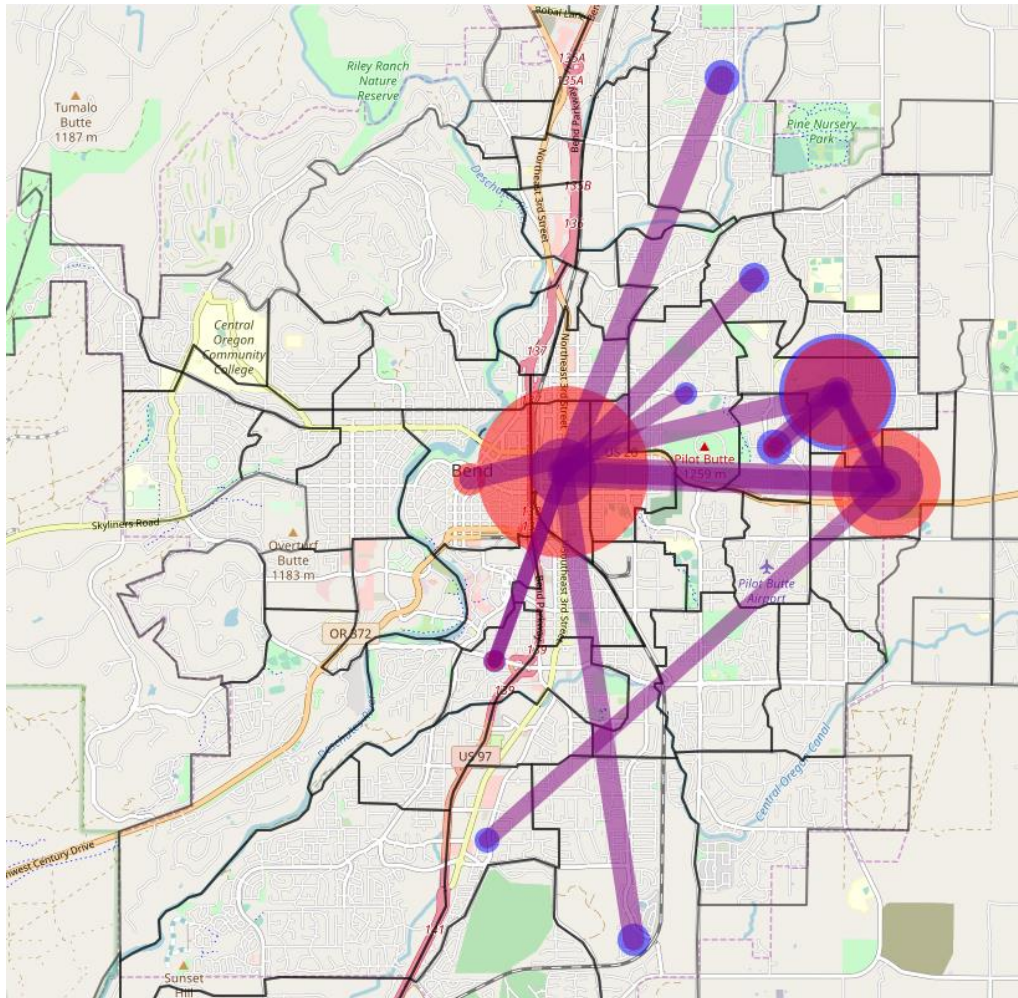


Figure 25: Bend Dial-A-Ride Trip Patterns, 2018, Origins and Destinations by Zone

Figure 26 shows the primary individual origins and destinations within the city of Bend. This view is limited to origin/destination pairs with 3 or more trips per week. Major origins and destinations shown here include Fresenius Kidney Care in east Bend, and Hawthorne Station, Norton Avenue Apartments, and Possibilities Thrift Store in central Bend.

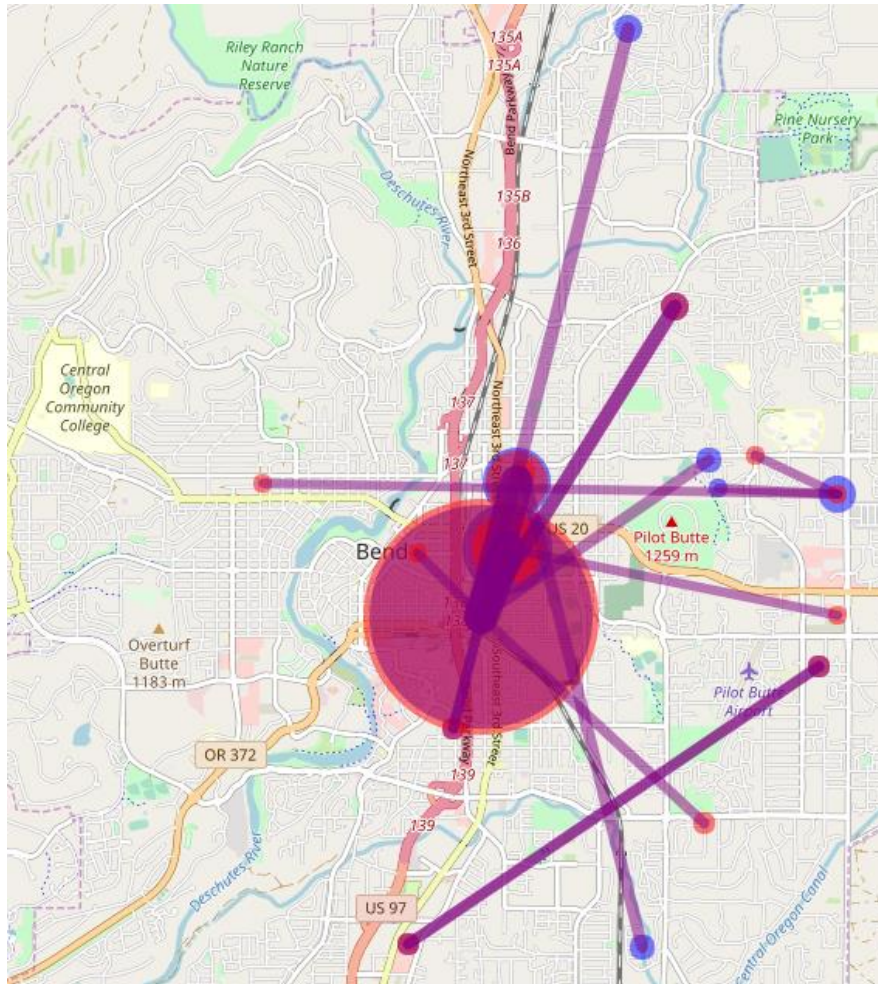


Figure 26: Bend Dial-A-Ride Trip Patterns, 2018, Major Individual Origins and Destinations

Table 12 shows the average number of weekly trips to and from these key locations.

Table 12: Weekly Trip Totals for Major Trip Locations in Bend

Location	Average Number of Weekly Trips To/From
Possibilities Thrift Store	133
Hawthorne Station	44
Fresenius Kidney Care	39
Norton Ave Apartments	31
East Lake Village Apartments	22
Abilitree Admin. Office	17

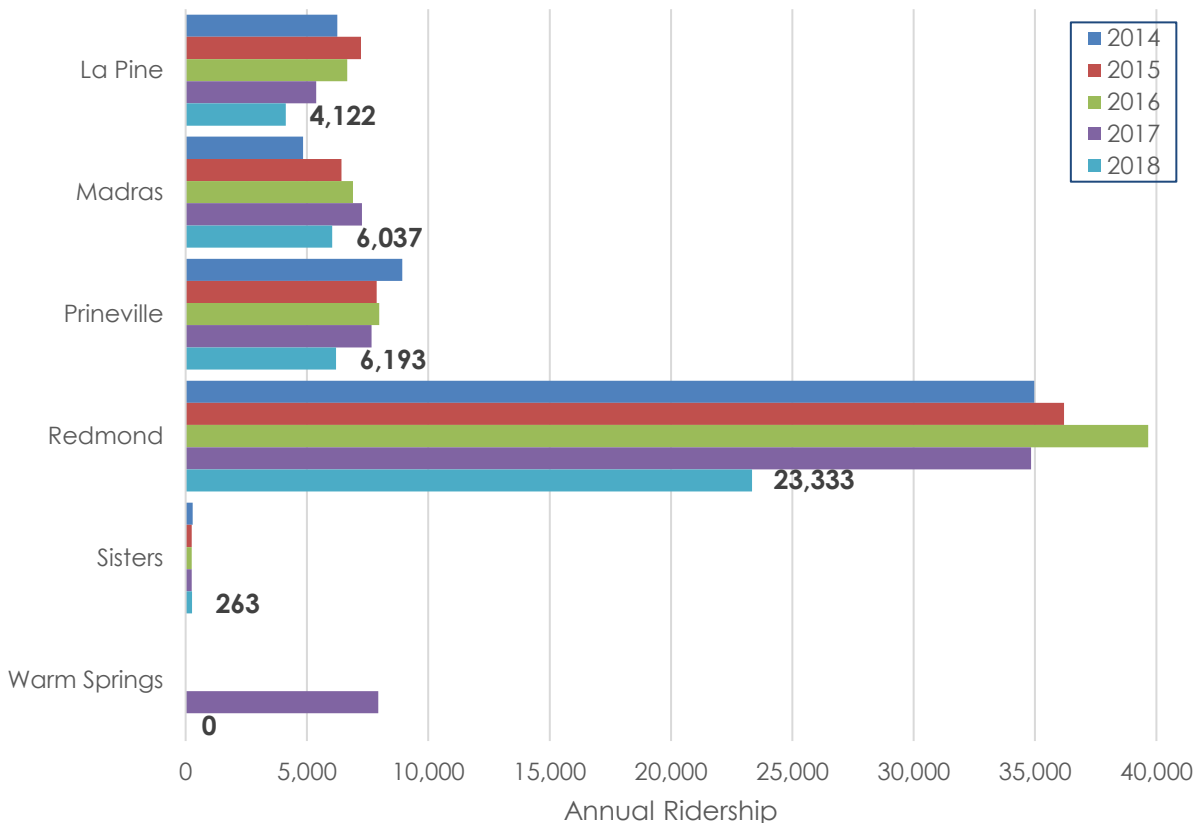


RURAL DIAL-A-RIDE PERFORMANCE OVERVIEW

Rural Dial-A-Ride service provides demand-responsive service for the general public in all communities except Bend. In Warm Springs and Madras, Route 20 provides deviated fixed-route service within these communities; this service is in addition to the general demand-responsive service in Madras.

RIDERSHIP AND PRODUCTIVITY

Historical ridership over the past five years is shown in **Figure 27**. Except for a slight increase in Madras, ridership has declined slightly since 2016. In La Pine, this decrease is consistent with lower ridership on Route 30 (La Pine-Bend).



Note: A full year of data is not yet available for 2018.

Figure 27: Rural Dial-A-Ride Ridership by Community, 2014-2018

Figure 28 compares ridership (annual boardings), the amount of service provided (annual revenue hours), and productivity (boardings per revenue hour) for 2017. Productivity in all communities is within the general range of what is acceptable for demand-response service. Highlights of the figure are as follows:



- ▶ Ridership on Redmond demand-responsive service (35,000 boardings in 2017) accounted for over half of all rural local bus boardings during less than half of all revenue hours. Several vehicles provide service, whereas other communities generally have just one vehicle in service. Productivity (4.5 rides per revenue hour) is the highest of all communities.
- ▶ Prineville and Madras each accounted for more than 7,000 boardings, with productivity of close to four boardings per revenue hour.
- ▶ Ridership in Sisters was the lowest of all communities, but service is only provided one day per week and productivity is comparable to the Madras and Prineville services.
- ▶ Rural Dial-A-Ride service in La Pine has the lowest productivity (2.1 rides per revenue hour).
- ▶ Warm Springs ridership is the second highest among these services.

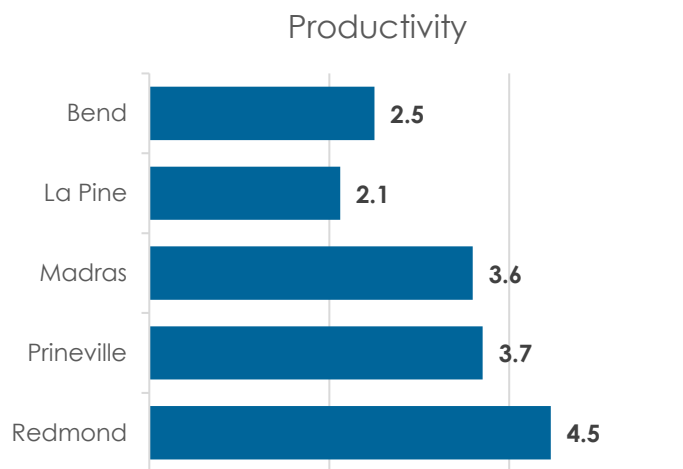
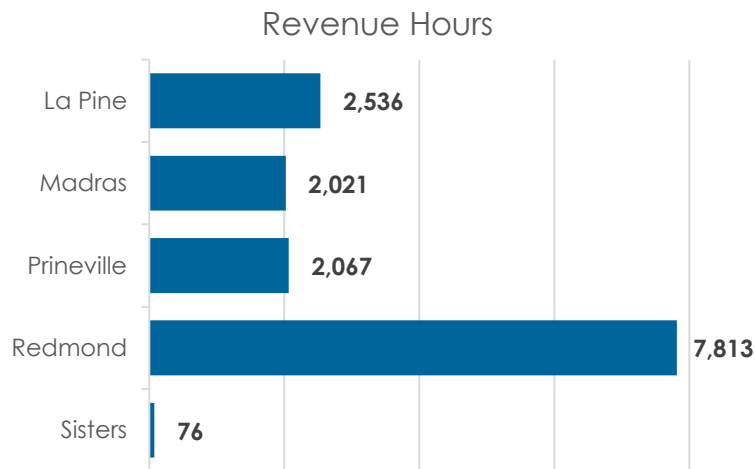
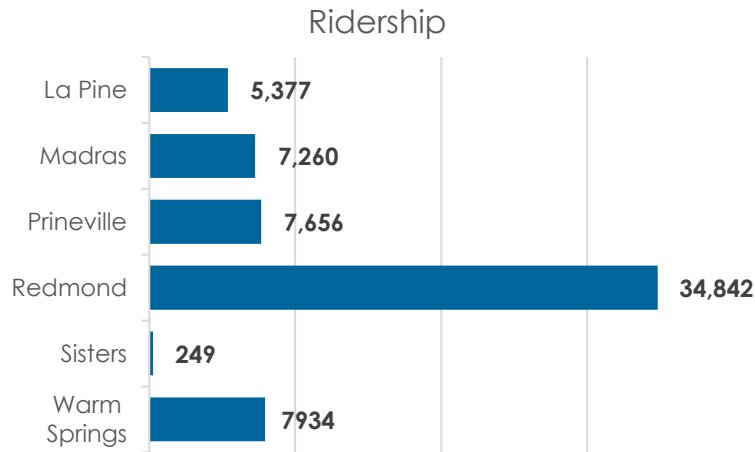


Figure 28: Rural Dial-A-Ride Ridership by Community, 2014-2018



RIDERSHIP AND REVENUE HOURS PER CAPITA

Figure 29 and **Figure 30** compare Rural Dial-A-Ride ridership and revenue hours to each community's population in 2017, respectively. This indicates how much demand there is and how much service is provided relative to each community's size. Highlights of the figures are as follows:

- ▶ La Pine had both the highest number of revenue hours per capita (1.3 annual revenue hours per person) and the highest ridership per capita (2.7 annual boardings per person).
- ▶ Warm Springs has the second highest ridership per capita (2.2).
- ▶ Redmond, Madras, and Prineville are fairly comparable in terms of ridership (one boarding per person) and the amount of service provided (0.2 to 0.3 revenue hours per person)
- ▶ Ridership in Sisters was the lowest, but the number of revenue hours per person was also far lower than for other communities.

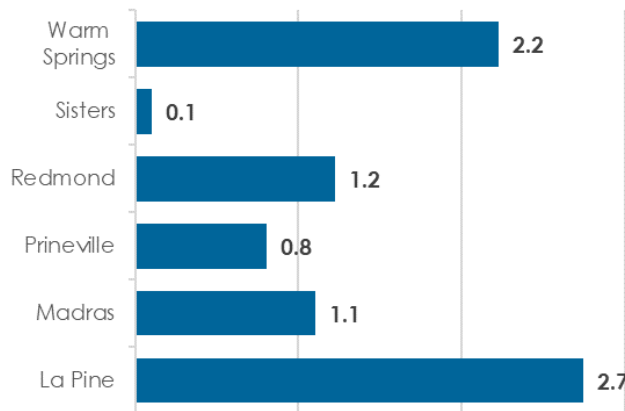


Figure 29: Ridership per Capita by Community, 2017

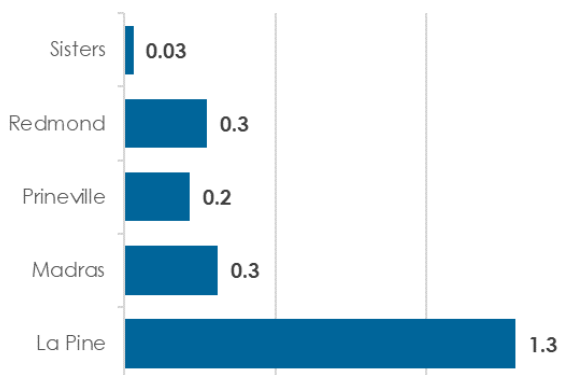


Figure 30: Revenue Hours per Capita by Community, 2017



SERVICE CHARACTERISTICS

Table 13 shows ridership and trip characteristics by city for rural local bus service, and **Table 14** shows on-time performance overall. Data includes rides through December 13. Highlights are as follows:

- ▶ Redmond has shown the highest demand for local bus service in 2018, with more than 22,000 rides, well over half of the rural local bus total ridership. Madras and Prineville each account for approximately 16% of remaining trips.
- ▶ A total of 1,309 unique riders (customers) used rural local bus service in 2018. Each customer rode 29 times on average.
- ▶ Average trip length ranges from 10 minutes in Madras, to nearly 20 minutes in Warm Springs.
- ▶ Forty-five percent of trips were on time. More trips were late than those that arrived early.

Table 13: 2018 Rural Local Bus Statistics by City

	Number of Customers	Annual Trips per Customer	Average Runtime per Trip (min.)	Total Trips	Share of All Trips
Redmond	636	35	16.6	22,327	59%
Prineville	269	22	11.8	6,009	16%
Sisters	5	50	12.4	249	1%
Madras	246	24	10.0	5,886	16%
La Pine	151	23	11.4	3,400	9%
Powell Butte	1	1	16.1	1	0%
Warm Springs	1	36	19.6	36	0%
All cities	1,309	29	14.3	37,908	

Table 14: 2018 Overall On-time Performance for Rural Local Bus

		Share of all trips
On-time	17,124	45%
Early	8,529	23%
Late	12,257	32%
Total	37,910	

RIDERSHIP PATTERNS - REDMOND

Figure 31 shows major demand-responsive service travel patterns in the city of Redmond. Travel is predominantly north-south, with many trips ending at the Opportunity Foundation Thrift Store. Other key locations served by rural local bus service in Redmond include the Library, Cascade Swim Center, the Senior Center, Walmart, and Housing Opportunities Apartments.

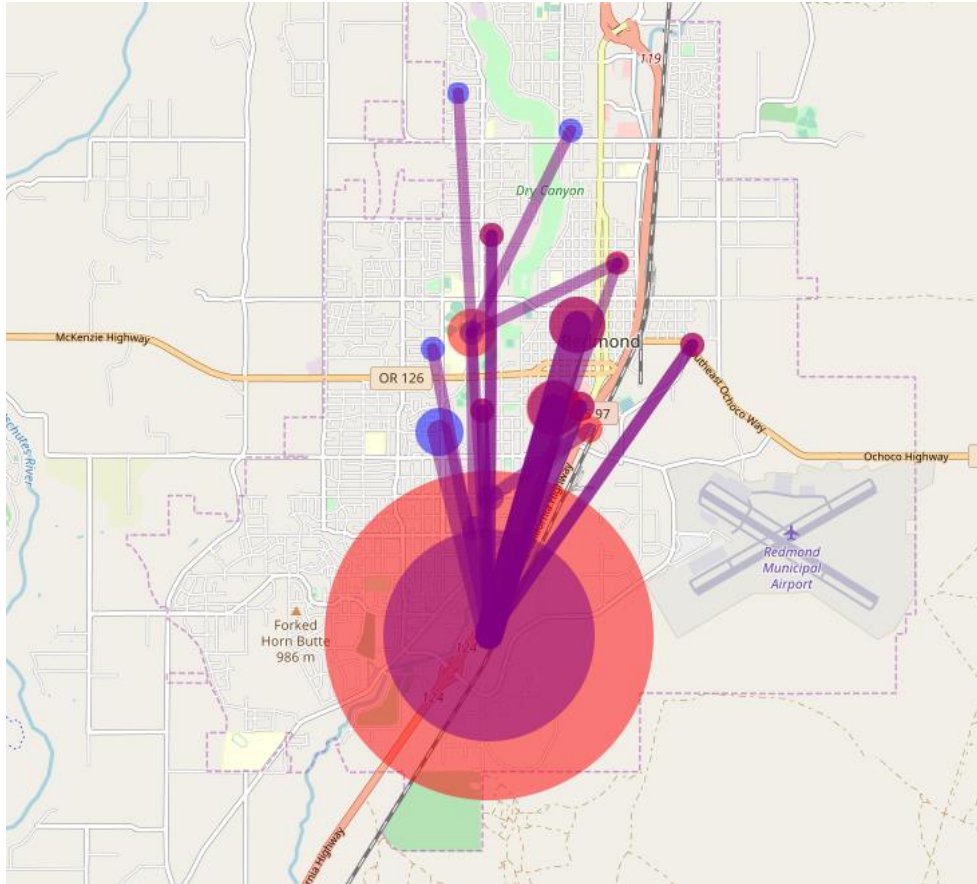


Figure 31: Redmond Rural Dial-A-Ride Trip Patterns, Origins, and Destinations, 2018

RIDERSHIP PATTERNS - PRINEVILLE

Figure 32 shows travel patterns in the city of Prineville. Key locations commonly served by demand-responsive transit include the Stryker Park bus stop, where passengers can transfer to Community Connector service to Redmond, and the Senior Center.

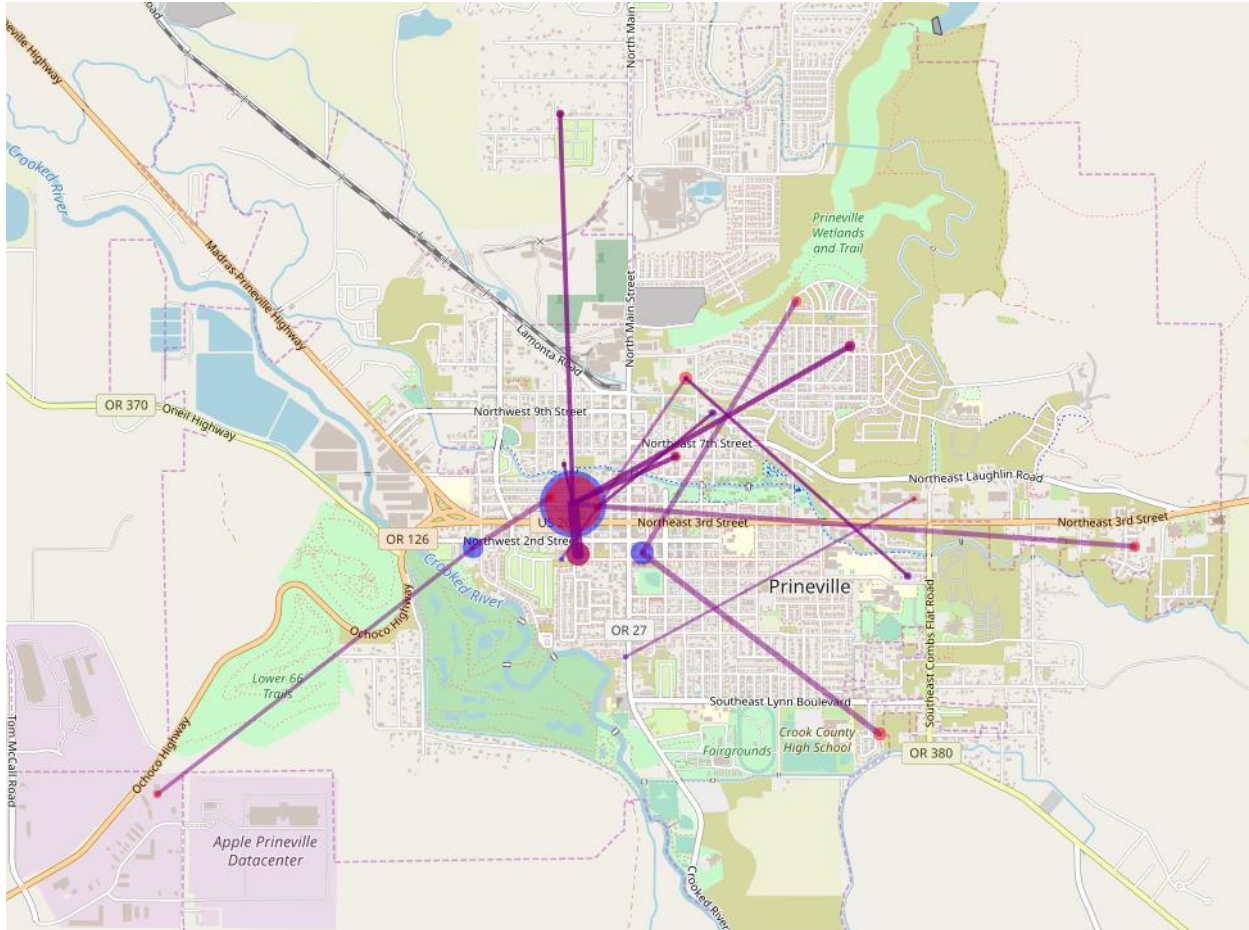


Figure 32: Prineville Rural Dial-A-Ride Trip Patterns, Origins, and Destinations, 2018

RIDERSHIP PATTERNS - SISTERS

Figure 33 shows travel patterns on rural local bus service in Sisters. The highest-demand location for demand-responsive transit service in Sisters is the Senior Center.

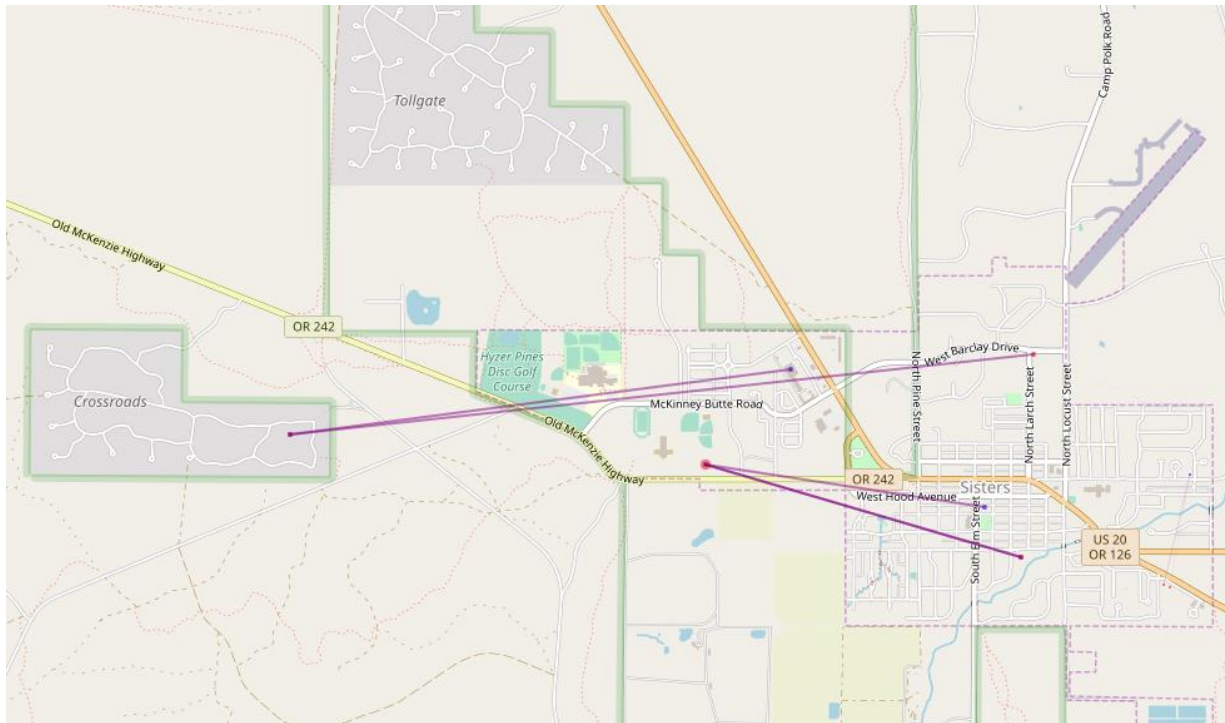


Figure 33: Sisters Rural Dial-A-Ride Trip Patterns, Origins, and Destinations, 2018

RIDERSHIP PATTERNS - MADRAS

Figure 34 shows the primary travel patterns in the city of Madras. Travel patterns are distributed across the city, with many trips beginning or ending at the Possibilities Thrift Store. Other locations frequently served by demand-responsive service include Fresenius Kidney Care center, Trestle Apartments, East Cascade Assisted Living Memory Care, Best Care – Madras Day Treatment, and the Senior Center.

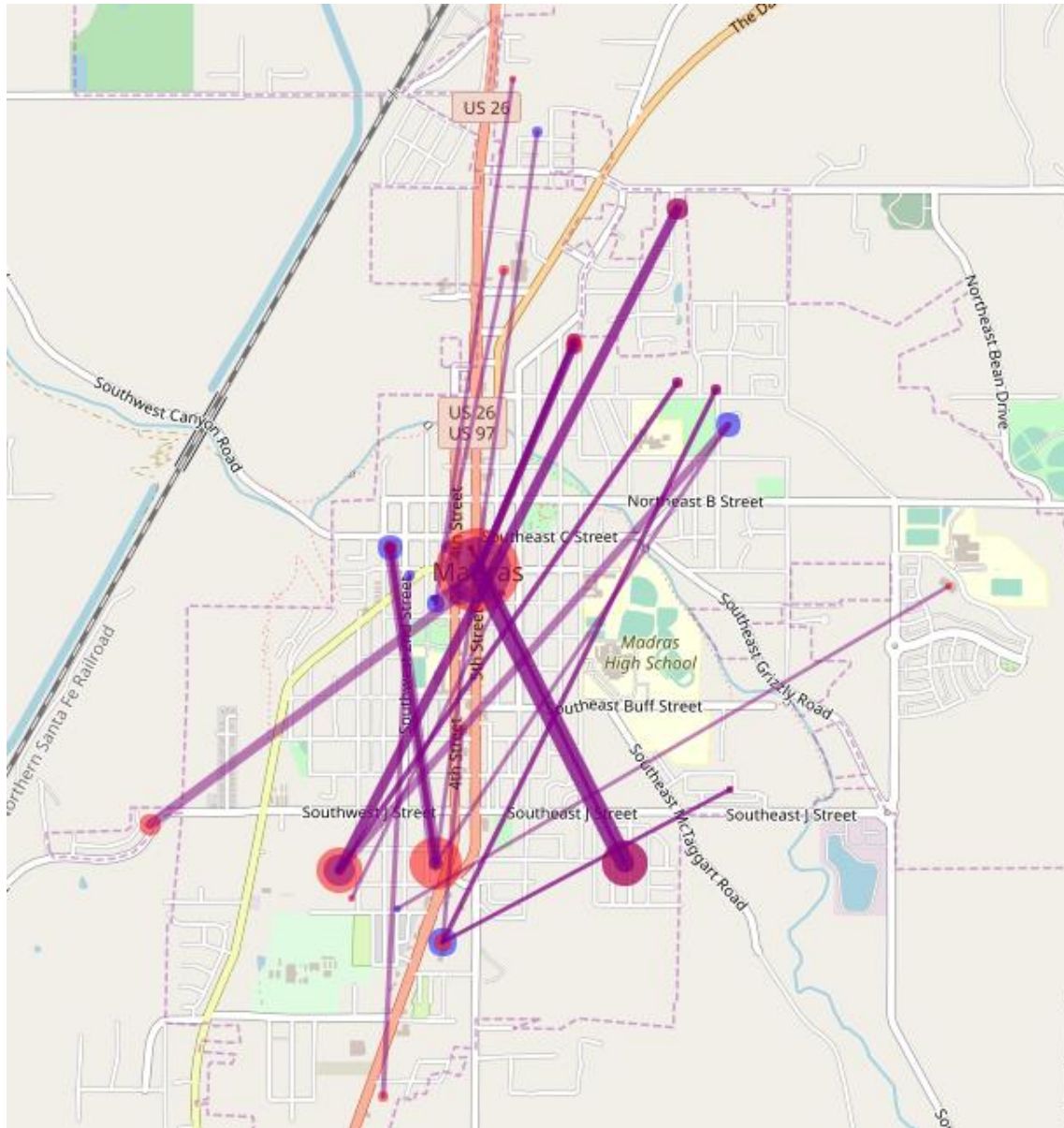


Figure 34: Madras Rural Dial-A-Ride Trip Patterns, Origins, and Destinations, 2018

RIDERSHIP PATTERNS - LA PINE

Figure 35 shows common trip patterns in the city of La Pine. Locations most frequently served by demand-responsive transit include Ray's Food Place, Prairie House Assisted Living, and Holy Redeemer Church.

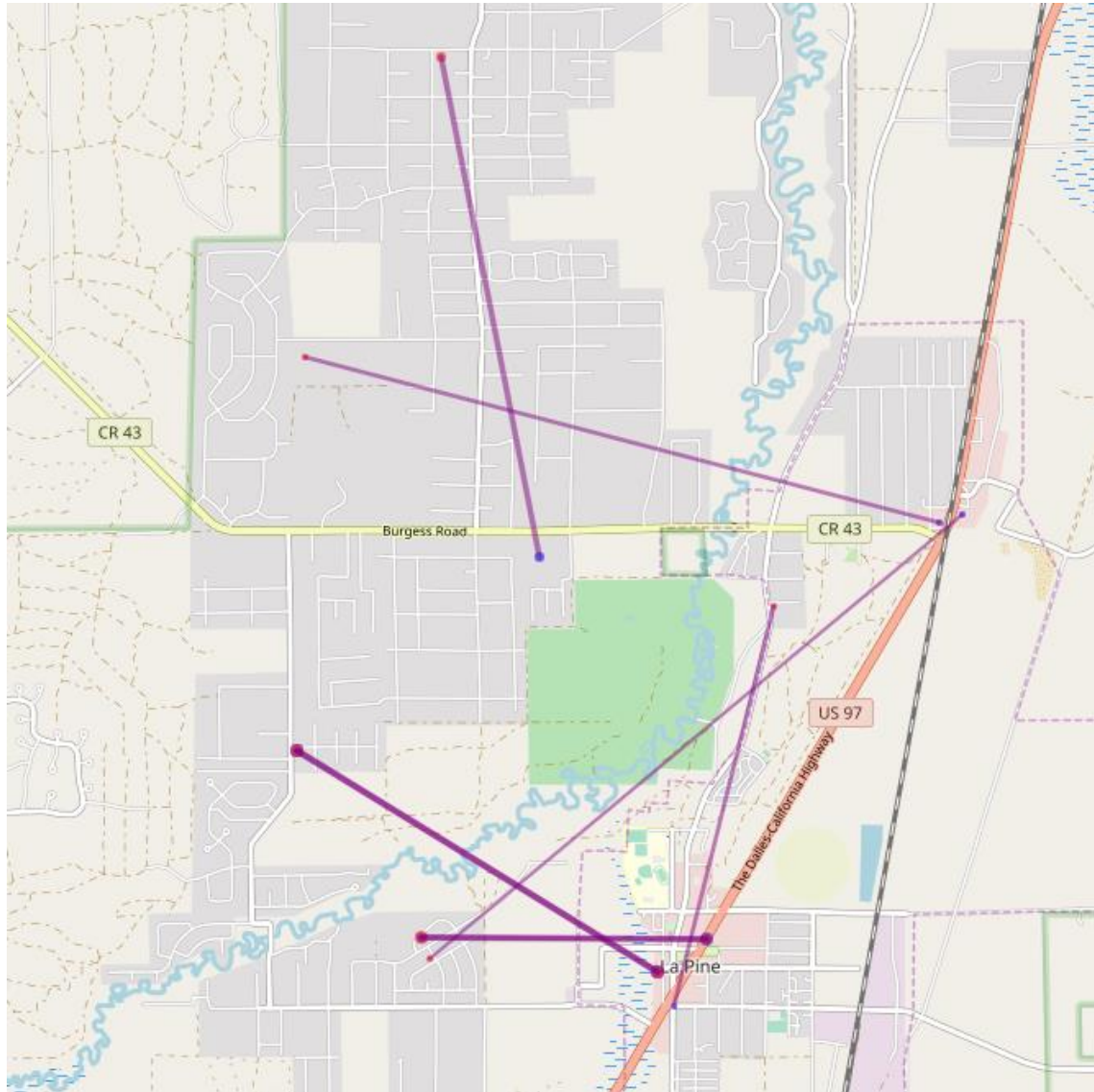


Figure 35: La Pine Rural Dial-A-Ride Trip Patterns, Origins, and Destinations, 2018

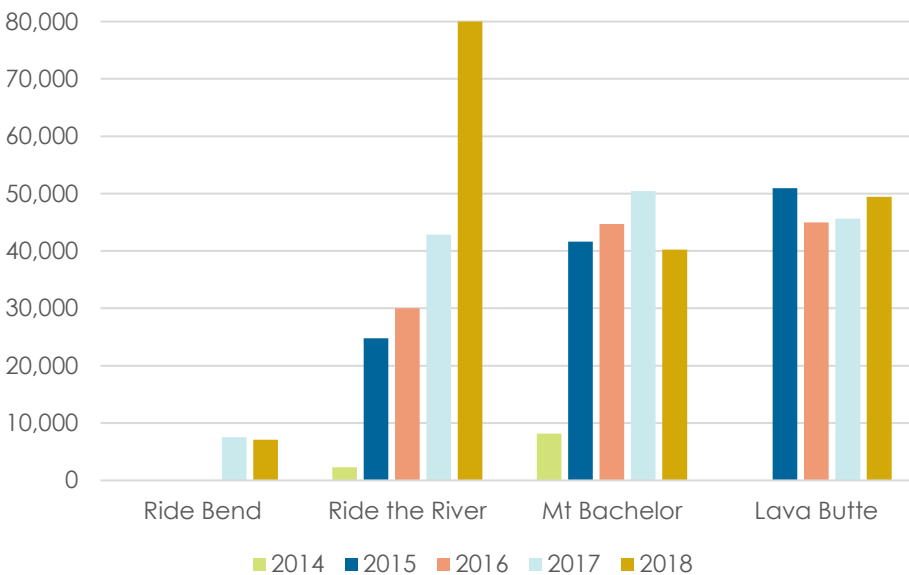


RECREATIONAL SERVICE PERFORMANCE OVERVIEW

This section summarizes performance statistics for CET's recreational services. These services are seasonal and are funded by different sources than CET's other services.

RIDERSHIP AND PRODUCTIVITY

Figure 36 shows historical ridership on CET's recreational services over the past several years. Ridership has been consistently strong on the Mt. Bachelor and Lava Butte services, while the Ride the River service has seen the most dramatic growth, particularly from 2017 to 2018. The Ride Bend circulator service for central Bend was launched in 2017.



Note: 2018 data is through November 1, 2018.

Figure 36: Recreational Route Historical Ridership, 2014-2018

Figure 37 presents ridership (annual boardings), the amount of service provided (annual revenue hours), and productivity (boardings per revenue hour) for 2017, respectively. Performance for each service is discussed in more detail below.

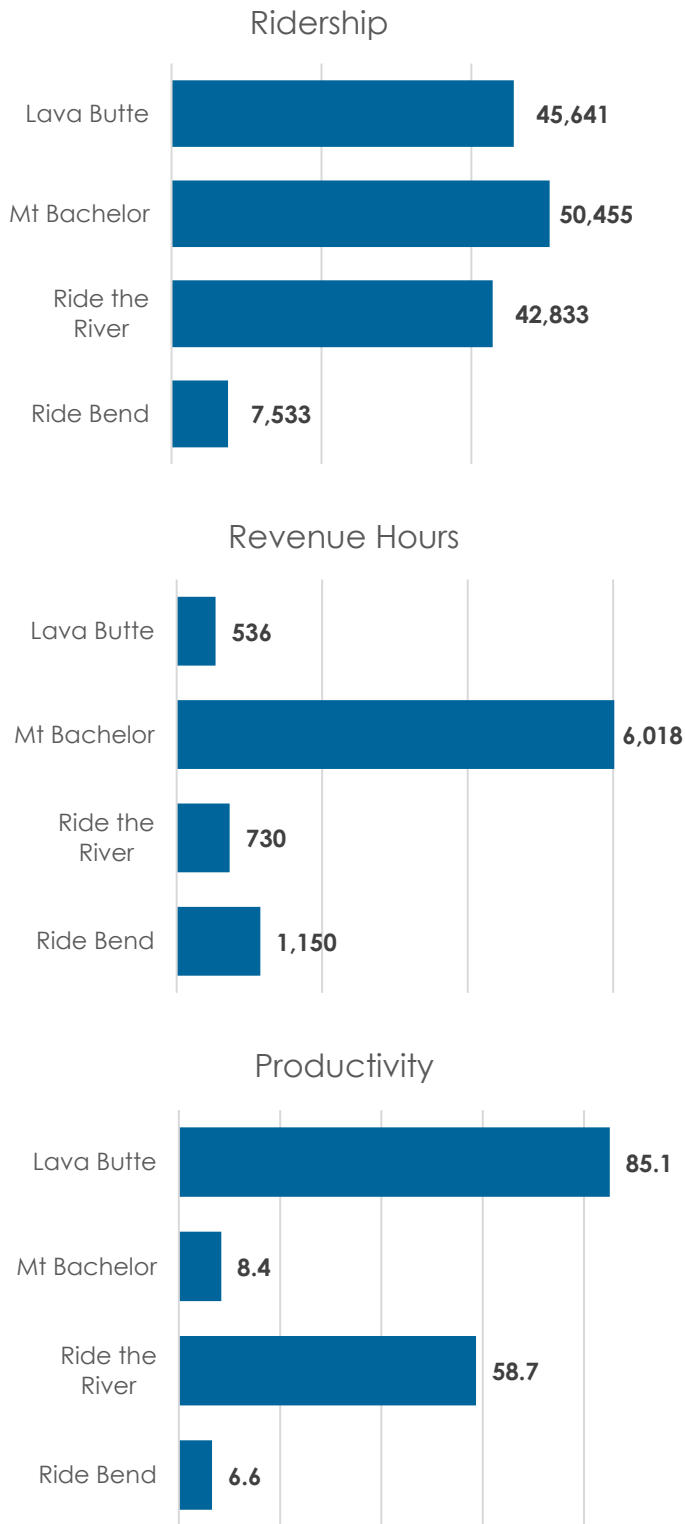


Figure 37: Recreational Route Ridership, Revenue Hours, and Productivity, 2017



LAVA BUTTE ROUTE PROFILE

The Lava Butte shuttle is a fare-based service started in 2015 in coordination with Discover your Forest that carries visitors to and from the summit of Lava Butte, located south of Bend just west of Highway 97. Lava Butte is part of the Newberry Volcano National Monument. People can catch the shuttle from the Visitor Center, located near the highway at the base of the butte. The bus operates between Memorial Day and Labor Day.

In the 2018 season, the Lava Butte shuttle carried nearly 50,000 passengers. This number has held relatively steady since the route's inception in 2015. (See **Figure 38.**)

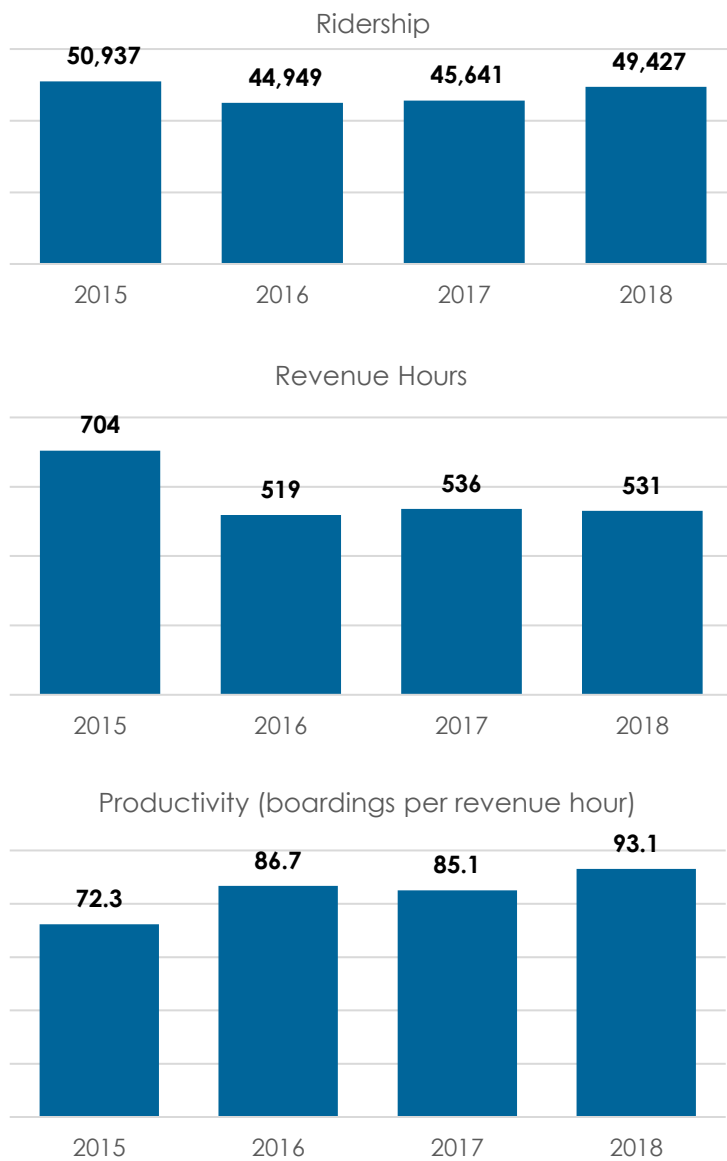


Figure 38: Lava Butte Ridership, Revenue Hours, and Productivity, 2015-2018



MT BACHELOR SHUTTLE (ROUTE 18) PROFILE

The Mt. Bachelor Shuttle is a fare-based service to Mt. Bachelor and Virginia Meissner SnoPark that operates during winter months, funded by the resort and a federal land access program (FLAP) grant.

As shown in **Figure 39**, ridership on the Mt. Bachelor shuttle has been increasing over the past several years. It appears that the service increased in 2016 and 2017, which reduced productivity (i.e., ridership increased at a lower rate).

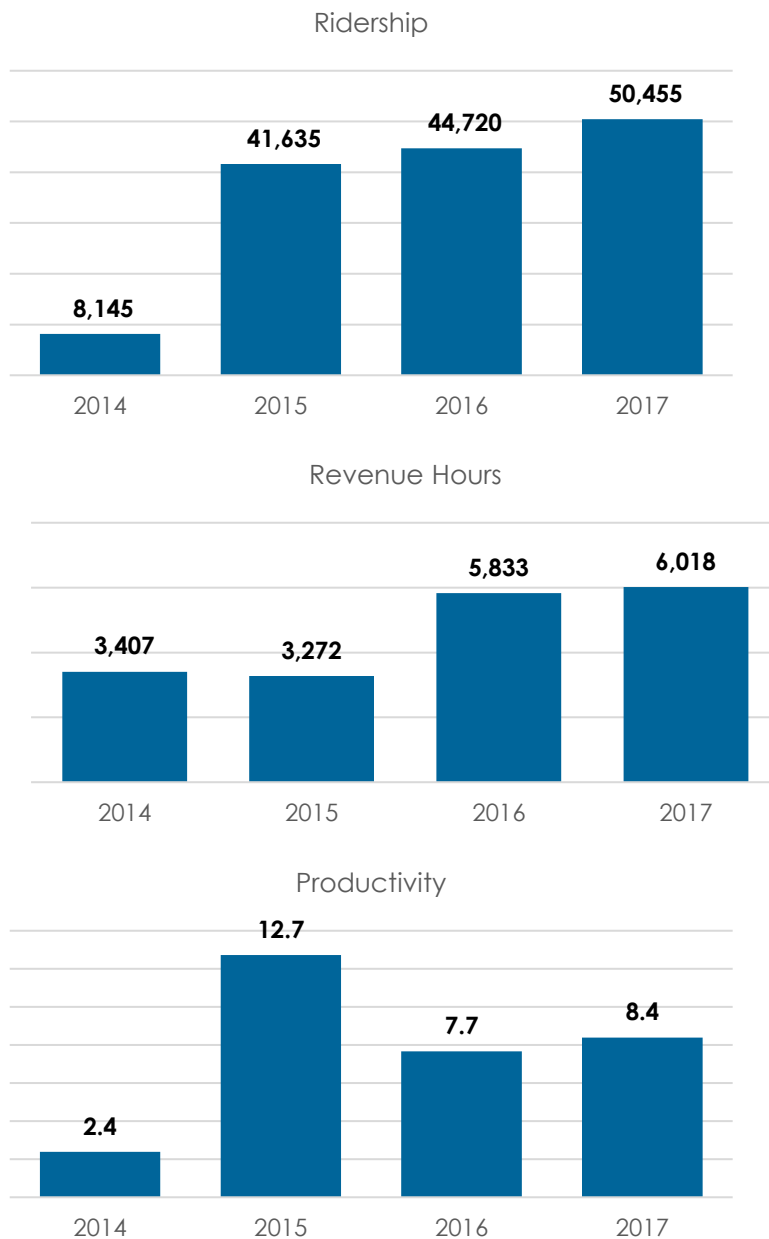


Figure 39: Mt Bachelor Shuttle (Route 18) Boardings, Revenue Hours, and Productivity, 2015-2018



RIDE THE RIVER ROUTE PROFILE

Ride the River is a fare-based service operated in summer months in coordination with an inner tube vendor (currently Tumalo Creek). Ride the River ridership has been steadily increasing, as shown in **Figure 40**. Ridership nearly doubled between 2017 and 2018. CET has increased service to keep up with demand.

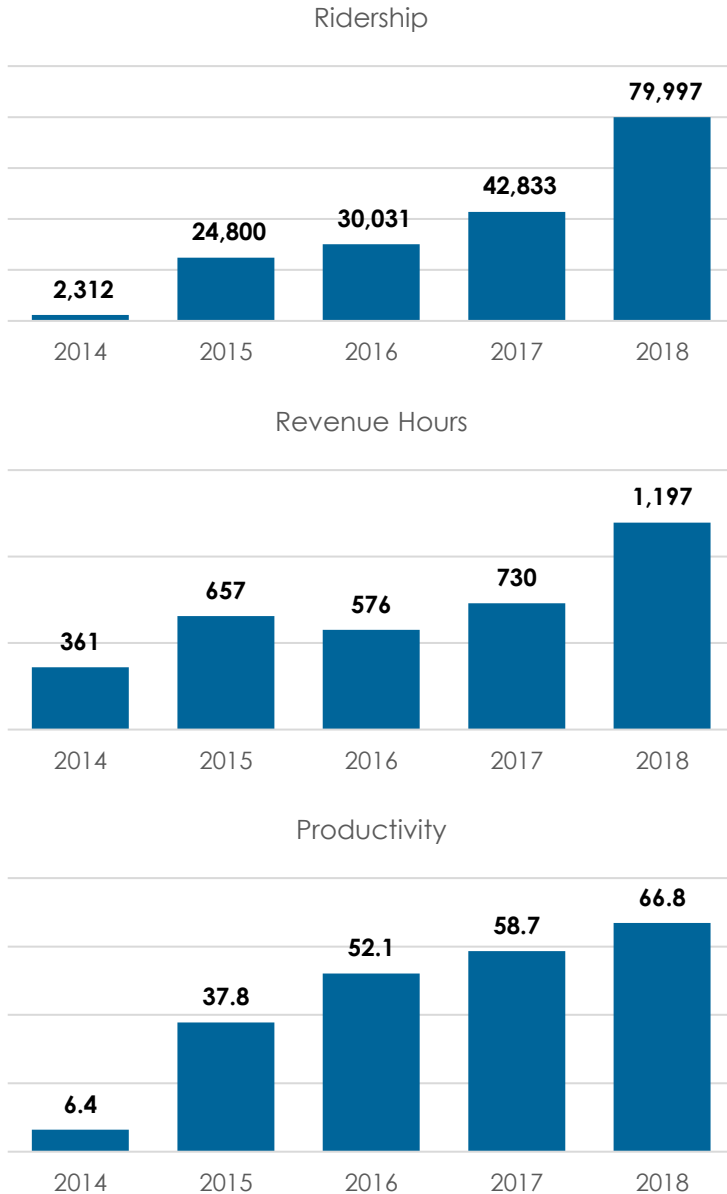


Figure 40: Ride the River Ridership, Revenue Hours, and Productivity, 2015-2018

RIDE BEND ROUTE PROFILE

Ride Bend is a free circulator service in central Bend, promoted by the City of Bend and funded by tourism revenues. Ridership, revenue hours, and productivity (boardings per revenue hour) are summarized in **Figure 41**. Over the two years that the Ride Bend service has been in operation, it has carried approximately five to six passengers per revenue hour. Ridership and productivity were slightly lower in 2018.

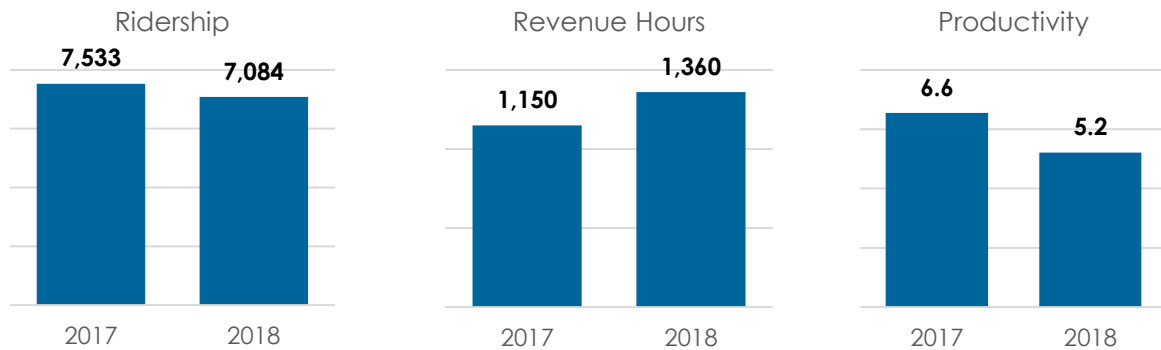


Figure 41: Ride Bend Ridership, Revenue Hours, and Productivity, 2017-2018

TRANSIT WALKSHEDS

The **Figure 1** map series in Appendix A shows the area that is within walking distance of CET fixed-route transit services. The typical distance that a person will walk to access local bus service is 1/4 mile, and the typical distance that a person will walk to access a premium transit service (such as a rail mode) is 1/2 mile. Actual walking distance for a given trip will vary with the condition and quality of the walking environment.

INTERCITY AND REGIONAL CONNECTIONS

CENTRAL OREGON BREEZE

Central Oregon Breeze (COB) is a shuttle service that connects riders between Bend, other Central Oregon communities, and the Portland Metro Area. Some COB stops require that reservations are made 24 hours in advance or are considered “flag stops.” **Table 15** details COB stops and departures within CET's service area and identifies the nearest CET services, whether fixed-route or community connectors, that riders may utilize to connect with COB shuttles.



Table 15: Transit Connections between COB Services and CET Services

COB Stop	COB Departures		Nearest CET Services			
	Daily	Fri/Sun	Bus Stop	Distance	Arrival/Departure	
Bend Circle K	7:00 a.m. (northbound)	11:30 a.m. (northbound)	Route 4 ODOT Park & Ride & Ride (stop F)	0.2 miles north	6:15 a.m.	M-F
					6:45 a.m.	
					10:45 a.m.	
					11:15 a.m.	
					10:18 a.m.	
Redmond Airport	7:20 a.m. (northbound)	11:50 a.m. (northbound)	Redmond Hub	2.5 miles west	11:18 a.m.	S/S
					7:13 a.m. ¹	
	5:34 p.m. (southbound)	10:10 p.m. (southbound)	Redmond Library	2.5 miles northwest	8:26 a.m. ¹	M-F
					7:11 a.m. ²	
					8:30 a.m. ²	
Terrebonne Thriftway Market	7:35 a.m. (northbound)	12:05 p.m. (northbound)	Terrebonne Park & Ride (Thriftway)	0.0 miles	5:30 p.m. ³	M-F
					7:00 a.m. (southbound)	
	5:10 p.m. (southbound)	9:50 p.m. (southbound)			8:40 a.m. (southbound)	
					6:03 p.m. (northbound)	
	8:00 a.m. (northbound)	12:30 p.m. (northbound)	Madras Dollar Tree	0.2 miles south	7:45 a.m.	
4:45 p.m. (southbound)					9:15 p.m. (southbound)	11:40 a.m.
Warm Springs Shell Station	8:30 a.m. (northbound)	1:00 p.m. (northbound)	Indian Head Casino	0.9 miles west	6:29 p.m.	M-F
					7:23 a.m.	
	4:30 p.m. (southbound)	9:00 p.m. (southbound)	8:29 a.m.	11:18 a.m.	4:43 p.m.	

¹CET Route 28 arriving from Sisters
²CET Route 26 arriving from Prineville
³CET Route 26 departing to Prineville

The following list describes transit service and time gaps between CET stops and the COB stops in **Table 15**:

- ▶ **Redmond Airport | Redmond Hub | Redmond Library**
 - ▶ No CET connection between Redmond Airport and Redmond Hub/Library
 - ▶ No CET service from Redmond Hub to Sisters after COB 5:34 p.m. daily airport arrival
 - ▶ No CET service from Redmond Hub/Library to Sisters or Prineville after COB 10:10 p.m. Friday airport arrival
 - ▶ No CET weekend service to connect to COB Sunday service
- ▶ **Terrebonne Thriftway Market | Terrebonne Park & Ride**
 - ▶ No CET service from Terrebonne to Culver or Metolius after COB 9:50 p.m. Friday airport arrival
 - ▶ Three+ hour gap between CET Friday arrival in Terrebonne (from Culver/Metolius) and COB northbound departure



-
- ▶ No CET weekend service to connect to COB Sunday service
 - ▶ **Madras Circle K | Madras Dollar Tree**
 - ▶ No CET service into Madras after COB 9:15 p.m. Friday arrival
 - ▶ No CET weekend service to connect to COB Sunday service
 - ▶ **Warm Springs Shell Station | Indian Head Casino**
 - ▶ No CET service into Warm Springs after COB 9:00 p.m. Friday arrival
 - ▶ No CET weekend service to connect to COB Sunday service

COG WILD SHUTTLES

Cog Wild Shuttle service connects mountain bikers to the mountain biking trails in Central Oregon, including areas such as Swampy Lakes Sno-Park, Wanoga Sno-Park, Dutchman Flat, and Mt. Bachelor Bike Park. Beginning May 1st, the shuttle offers rides from its headquarters at 255 SW Century Drive in Bend to these locations. The shuttle leaves at 7:30 a.m., 9:00 a.m., 10:30 a.m., 12:30 p.m., 3:00 p.m., and 5:30 p.m.

Two of CET's Bend routes, Routes 10 and 11, include bus stops near Cog Wild's headquarters to provide a connection to their shuttle service. With the exception of a few service and time gaps, Routes 10 and 11 connect mountain bike riders to each departure time. The service and time gaps between CET and Cog Wild are listed below.

- ▶ CET Bend Route 10 – Simpson at Columbia (Stop C)
 - ▶ No CET weekend service
- ▶ CET Bend route 11 – Columbia at Simpson (Stop D)
 - ▶ No CET Saturday connection for 7:30 a.m. Cog Wild shuttle
 - ▶ No CET Sunday service

EASTERN POINT

The Eastern POINT provides daily bus service between Bend and Ontario that makes nine stops in communities along the route, including Burns and Vale. The bus makes one trip per day in each direction, departing from and arriving at Hawthorne Station at 1:40 p.m. and 12:55 p.m., respectively. Hawthorne Station is the transit hub in Bend providing connections to all Bend fixed-routes as described in earlier sections of this memorandum.

HIGHDESERT POINT

The HighDesert POINT is a daily Amtrak shuttle service that connects riders between the Redmond Airport and the Chemult Amtrak Station where they can board the Coast Starlight train. The route includes three other stops in Bend, Sun River, and La Pine, with two trips per day in each direction. The schedule is impacted by possible delays in train arrivals and departures in Chemult. The bus departs from the following locations within CET's service area:



- ▶ Redmond Airport
 - ▶ Southbound – 6:35 a.m. | 5:00 p.m.
 - ▶ Arrival – 11:50 a.m. | 10:30 p.m.
- ▶ The Riverhouse on the Deschutes in Bend
 - ▶ Southbound – 7:00 a.m. | 5:30 p.m.
 - ▶ Northbound – 11:30 a.m. | 10:00 p.m.
- ▶ Bend Hawthorne Station
 - ▶ Southbound – 7:15 a.m. | 5:45 p.m.
 - ▶ Northbound – 11:15 a.m. | 9:45 p.m.
- ▶ La Pine Shell Station/McDonald's
 - ▶ Southbound – 8:15 a.m. | 6:40 p.m.
 - ▶ Northbound – 10:25 a.m. | 8:50 p.m.

Riders within the Redmond area and outlying communities wishing to connect to the Redmond Airport may need to primarily rely on CET dial-a-ride services. Community Connectors from Sisters, Madras, and Prineville do not currently accommodate all HighDesert POINT departure times at the Redmond Airport, including the need to transfer between the Redmond Hub and the airport. Riders in Bend desiring to connect to either HighDesert POINT Bend stops via CET services can do so by utilizing Bend Route 4 (stops C and G, Bend River Promenade) or any fixed route to reach Hawthorne Station. Similar to Redmond, riders in the La Pine area wishing to connect to the HighDesert POINT stop would need to rely on CET Dial-A-Ride services.

MT. HOOD TELEPORTER

Mt. Hood Teleporter is another shuttle service between Bend and Portland that includes a network of taxis, airport shuttles, and trailers. This service takes a different route than COB in that it connects with Sisters and Salem en route to and from Portland. This shuttle service includes three stops within CET's service area: Hawthorne Station, Redmond Transit Hub, and 310 East Cascade Avenue in Sisters. Below is a list of departure times for these stops:

- ▶ Bend Hawthorne Station
 - ▶ Northbound – 9:00 a.m.
 - ▶ Arrival – 6:00 p.m.
- ▶ Redmond Transit Hub
 - ▶ Westbound – 9:30 a.m.
 - ▶ Southbound – 5:30 p.m.
- ▶ Sisters
 - ▶ Northbound – 10:00 a.m.
 - ▶ Eastbound – 5:00 p.m.



Riders in Bend wishing to access the Mt. Hood Teleporter can do so by utilizing any CET fixed-route service and transfer at Hawthorne Station. Riders within the Redmond area wishing to connect to the Redmond Transit Hub may need to primarily rely on CET Dial-A-Ride services. Riders in outlying communities also wishing to connect to the Redmond Transit Hub may need to rely either on CET Dial-A-Ride services or Community Connectors from Madras, Warm Springs, and Prineville. These Community Connectors provide on-time direct connections to the Mt. Hood Teleporter stop in Redmond. Those in the Sisters area wishing to utilize this shuttle service may need to rely on CET Dial-A-Ride services to reach the Sisters stop location.

PACIFIC CREST BUS LINES

This daily bus service provides a connection for riders between Bend and Eugene, with stops at Hawthorne Station, Eugene Greyhound, and Eugene Amtrak. Every day, this bus arrives and departs Hawthorne Station at 12:30 p.m. and 1:00 p.m., respectively. Riders within Bend wishing to connect to this bus line can do so by utilizing any of CET's fixed-route services to transfer at Hawthorne Station. Riders in outlying communities would need to rely on either CET Dial-A-Ride services or Community Connectors from La Pine, Redmond, Sisters, Madras, Warm Springs, and Prineville.

PEOPLE MOVER – GRANT COUNTY

The Grant County People Mover is a shuttle service that provides connections to several Central Oregon communities, including some within the CET service area (i.e., Bend, Redmond, and Prineville). People Mover offers two routes from Bend: one to Prairie City and the other to Monument. Both provide intermittent stops in Redmond and Prineville. These connections have set routes and cannot deviate with the exception of hospital and doctor appointments.

The Bend to Prairie City route operates Monday, Wednesday, and Friday and stops in the following locations at the specified times.

- ▶ Prineville (McDonalds)
 - ▶ Westbound – 9:30 a.m.
 - ▶ Eastbound – 5:15 p.m.
- ▶ Redmond Transit Hub
 - ▶ Westbound – 10:05 a.m.
 - ▶ Eastbound – 4:30 p.m.
- ▶ Bend Hawthorne Station
 - ▶ Westbound – 10:55 a.m.
 - ▶ Eastbound – 4:00 p.m.

The Bend to Monument route operates on Wednesdays and Fridays, requires reservations, and stops in the following locations at the specified times.



- ▶ Prineville (McDonalds)
 - ▶ Westbound – 9:38 a.m.
 - ▶ Eastbound – 4:55 p.m.
- ▶ Redmond Transit Hub
 - ▶ Westbound – 9:55 a.m.
 - ▶ Eastbound – 4:20 p.m.
- ▶ Bend Hawthorne Station
 - ▶ Westbound – 10:50 a.m.
 - ▶ Eastbound – 3:30 p.m.

Riders within Bend wishing to connect to this shuttle service can do so by utilizing any of CET's fixed-route services to transfer at Hawthorne Station. Riders in outlying communities wishing to connect to this shuttle service in Bend or Redmond would need to rely on either CET Dial-A-Ride services or Community Connectors from La Pine, Sisters, Madras, and Warm Springs.

TRANSIT CAPITAL ASSETS ANALYSIS

EXISTING CAPITAL FLEET INVENTORY

CET operates 70 transit vehicles of varying size, capacity, and intended service. Vehicles range from 30-foot heavy-duty transit buses to small buses and specialized vans, having accessibility and bike features, and used for Community Connector routes, fixed-routes, dial-a-ride, and Deschutes National Forest access routes. Some transit vehicles are nearly brand new while others have outlived their useful life in either age or mileage. **Table 12** summarizes the inventory of CET's fleet of revenue vehicles; **Table 13** identifies revenue vehicles that are partially or fully eligible for replacement.



Table 16: Existing Capital Fleet Inventory

Vehicle Type ¹ (#)	Service	Seating Capacity	Propulsion	Age	Average Mileage	Useful Life	Condition	Accessibility Features	Bike Rack	Average Fuel Efficiency	Vehicle Use ²
25-30' Light-Duty Transit Bus (31)	<ul style="list-style-type: none"> Fixed-Route Community Connector Dial-A-Ride 	9 to 22	Unleaded	2.6 to 17.0 years	132,655	5 years	<ul style="list-style-type: none"> New Excellent Good 	<ul style="list-style-type: none"> Wheelchair Capable (34" W x 70" H; 800 lbs.) Drop Down Chains 	<ul style="list-style-type: none"> Yes (22) No (3) Unknown (6) 	5.9 miles/gallon	<ul style="list-style-type: none"> DR/DO DR/PT CB/DO MB/PT
30' Heavy Duty Transit Bus (11)	<ul style="list-style-type: none"> Fixed-Route Community Connector Deschutes National Forest 	27 to 38	Diesel	3.7 to 7.5 years	148,717	10 years	<ul style="list-style-type: none"> Excellent Good 	<ul style="list-style-type: none"> Wheelchair Capable (34" W x 70" H; 800 lbs.) Drop Down Chains 	<ul style="list-style-type: none"> Yes (5) No (6) 	9.1 miles/gallon	<ul style="list-style-type: none"> CB/DO MB/PT
30' Medium Duty Transit Bus (5)	<ul style="list-style-type: none"> Community Connector Dial-A-Ride 	22 to 29	<ul style="list-style-type: none"> Diesel Unleaded 	7.1 to 17.0 years	252,666	7 years	<ul style="list-style-type: none"> Excellent Good Fair 	<ul style="list-style-type: none"> Wheelchair Capable (34" W x 70" H; 800 lbs.) Drop Down Chains 	Yes	8.6 miles/gallon	<ul style="list-style-type: none"> DR/PT CB/DO
Small Bus & Specialized Van (9)	<ul style="list-style-type: none"> Dial-A-Ride 	5 to 14	Unleaded	9.0 to 13.0 years	112,701	4 years	<ul style="list-style-type: none"> Excellent Good 	<ul style="list-style-type: none"> Wheelchair Capable (34" W x 70" H; 800 lbs.) Drop Down Chains (6) 	<ul style="list-style-type: none"> Yes (6) Unknown (3) 	5.75 miles/gallon	<ul style="list-style-type: none"> DR/DO DR/PT
Undefined (14)	<ul style="list-style-type: none"> Fixed-Route Community Connector Deschutes National Forest 	34 to 38	Diesel	0.5 to 2.7 years	76,556	10 to 12 years	Excellent	<ul style="list-style-type: none"> Wheelchair Capable (34" W x 70" H; 800 lbs.) Drop Down Chains 	Yes	10.5 miles/gallon	<ul style="list-style-type: none"> DR/DO CB/DO MB/PT

¹Federal Transit Administration (FTA) Categories

²DO = directly operated by CET; PT = purchased transportation/contracted out; MB = motor bus; DR = demand-responsive; CB = commuter bus

Table 17: Transit Vehicles Partially or Fully Eligible for Replacement

Agency Vehicle #	VIN	FTA Category	Service	Useful Life (Years)	Age (Years)	Useful Life (Mileage)	Actual Mileage	Condition	Replacement Eligibility	
									Age	Mileage
814	1FD4E45S28DB59400	25-30' Light-Duty Transit Bus	Dial-A-Ride	5	10.0	150,000	177,864	Good	✓	✓
820	1FD4E45S19DA20711		Dial-A-Ride	5	9.6	150,000	234,870	Excellent	✓	✓
822	1FD4E4FS9ADA11161		Dial-A-Ride	5	8.9	150,000	130,130	Excellent	✓	
823	1FD4E4FS7ADA11160		Dial-A-Ride	5	8.9	150,000	149,039	Excellent	✓	
824	1FD4E4FS0ADA11162		Community Connector	5	8.8	150,000	158,972	Excellent	✓	✓
825	1FD4E4FS0ADA11159		Dial-A-Ride	5	8.8	150,000	196,251	Excellent	✓	✓
837	1FDWE35L26HB21831		Dial-A-Ride	5	13.0	150,000	112,342	Good	✓	
7762	1FDXE45S07DB32353		Dial-A-Ride	5	12.0	150,000	148,126	Good	✓	
7777	1FD4E4FS0ADB00391		Dial-A-Ride	5	7.5	150,000	158,619	Excellent	✓	✓
832	1FVACW5DU5CHBL5709	30' Medium Duty Transit Bus	Community Connector	7	7.0	200,000	257,416	Excellent		✓
7770	1FTSS34L09DA70385	Small Bus & Specialized Van	Dial-A-Ride	4	9.3	100,000	106,950	Excellent	✓	✓



NON-REVENUE FLEET INVENTORY

For operational uses outside of transit service provision, CET owns and maintains six non-revenue transit vehicles, detailed in **Table 18**. Operational uses may include bus stop inventory, maintenance, or installation; site visits; or responding to stalled buses.

Table 18: Non-Revenue Transit Fleet Inventory

Vehicle #	Year	Make	Model		Capacity	Location
7251	1999	Dodge Intrepid	6-CLY	4 Door	6	Bend
643	1994	Ford F250	V-8	2 Door	3	Bend
7232	2003	Ford Crown Victoria	-	4 Door	6	Redmond
650	2012	GMC Sierra 350	V-8	4 Door	6	Redmond
660	2006	Chevy Silverado 2500	V-8	4 Door	6	Redmond
670	2005	GMC 2500 X-CAB	-	-	-	Redmond

BUS STOPS AND AMENITIES

The **Figure 19** map series in Appendix A shows bus stop locations for all of CET's fixed-route services.

Along CET's nine fixed routes in Bend, bus stops include amenities such as landing pads compliant with ADA standards, curb ramps, benches, trash receptacles, shelters, Braille signs, and schedule holders. **Table 15** summarizes the inventory of amenities, expressed as percentages by route.

CET's *Transit Service Policies & Standards* document specifies how bus stop amenities are located throughout the transit system in each participating municipality. These amenities can be provided by several different sources outside of CET, such as private developers or local citizen groups, which at times removes bus stop ownership and maintenance responsibility from CET. Therefore, CET conducts inventories of those bus stop amenities for bus stops that it owns or maintains. Providing new bus stops is typically driven by boarding volumes, wait time, nearby amenities, ADA accessibility, and availability of adequate right-of-way.



Table 19: Bus Stops and Amenities Inventory - Bend Fixed Routes

Route (# of Stops)	ADA Pad	Benches	Trash Receptacles	Shelters	Braille Signs	Schedule Holders
1 (20)	90%	10%	95%	15%	90%	100%
2 (36)	83%	11%	47%	14%	83%	100%
3 (22)	91%	45%	50%	9%	82%	100%
4 (22)	77%	9%	68%	18%	91%	91%
5 (43)	53%	21%	26%	7%	53%	53%
6 (40)	73%	13%	40%	10%	60%	73%
7 (31)	97%	16%	45%	16%	45%	94%
10 (14)	79%	7%	21%	7%	43%	100%
11 (25)	44%	12%	20%	4%	48%	52%

In addition to these bus stops, CET operates two primary transit stations: Hawthorne Station in Bend and the Redmond Transit Hub. Hawthorne Station is the Bend public transportation hub, located at 334 Hawthorne Avenue, where all Bend fixed-routes intersect. This facility serves CET buses within Bend; buses to La Pine, Redmond, and Sisters; and buses to Mt. Bachelor during the winter season. This location also provides rides to Sisters, Prineville, Madras, Warm Springs, Metolius, and Culver, with a transfer in Redmond. Hours of operation for Hawthorne Station are 6:30 a.m. to 6:00 p.m. from Monday to Friday and 10:00 a.m. to 2:00 p.m. on Saturday and Sunday. Hawthorne Station has an indoor waiting area, restrooms, and shelters.

The new Redmond Transit Hub is located at SW Kalama Avenue and SW 6th Street, adjacent to Fred Meyer, and is a regional hub for the Madras-Redmond, Prineville-Redmond, Sisters-Redmond, and Bend-Redmond routes. This facility provides approximately 38 parking stalls, a public restroom facility, secured bicycle parking, wayfinding signs, security cameras, and lighting. It also includes shelters that can accommodate numerous passengers, access for 9 buses at one time, and a bike lane routed between parking stalls and the bus loading area.

OPERATIONS AND MAINTENANCE FACILITIES

Table 16 summarizes the functions of CET's operations and maintenance facilities. Vehicles are stored in multiple facilities throughout the service area (including city and county facilities) to reduce daily deadhead mileage when buses begin and end service. CET maintains the vehicles it operates as well as many of the vehicles for which it contracts out operations. Redmond Public Works maintains the vehicles used in Community Connector and Rural Dial-A-Ride operations.



Table 20: Operations and Maintenance Facilities

Facility	Description
La Pine (51340 US 97)	Includes driver's office and storage for 3 vehicles. Shared with Deschutes County Sheriff's Office.
Bear Creek Office (1250 NE Bear Creek Road in Bend)	Includes CET administration office, paratransit administration office, maintenance garage, and storage for 40 vehicles. A secure facility owned by COIC.
Redmond Office (343 E Antler Avenue)	Includes CET dispatch office, CET administration office, Cascades East Ride Center, maintenance garage, and storage for 18 vehicles. A secure facility owned by COIC.
Prineville Office (2321 NE 3 rd Street)	Includes driver's office and storage for 2 vehicles. Shared with Oregon Department of Education.
Madras Office (281 SW 3 rd Street)	Includes driver's office and storage for 3 vehicles. Shared with COIC WorkForce and Department of Motor Vehicles.

TRANSIT-SUPPORTIVE TECHNOLOGIES

The CET web site provides a trip planning interface that is integrated with Google Transit. TransitApp is a web interface and smart phone app that is available via the CET web site. TransitApp indicates the real-time location and anticipated arrival time of CET fixed-route buses, as shown in **Figure 42**.

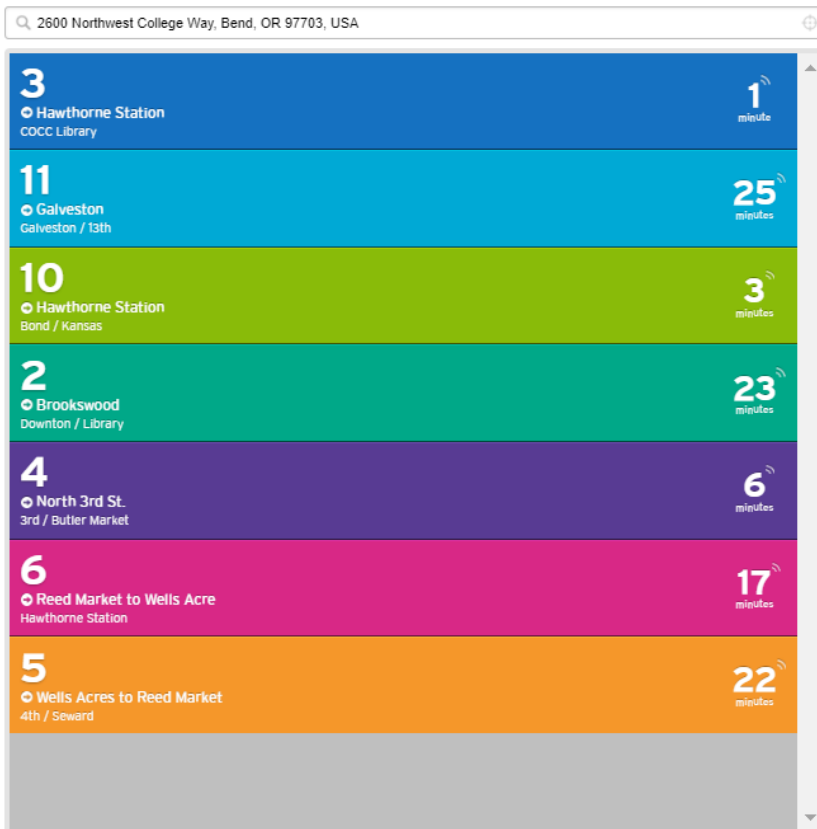


Figure 42: Example TransitApp Display (COCC Library Bus Stop)



CET uses RouteMatch computer-assisted scheduling and dispatching software to coordinate and manage demand-responsive transit services.

PARK AND RIDE LOTS

The **Figure 1** map series in Appendix A shows the location of park-and-ride lots in the service area. **Table 17** below describes the formal and informal park-and-ride lots located in Deschutes, Jefferson, and Crook Counties. "Formal" lots are those that are ADA-accessible and officially designated by a government or agency as park-and-ride lots. "Informal" lots are not so designated. Either kind of lot could be a dedicated parking facility or a lot shared with other uses. Informal lots could also exist in areas such as roadway shoulders.

In **Table 17**, the formal park-and-ride lot locations and sizes are as reported in ODOT's 2017 *Park & Ride Directory*. The informal park-and-ride lot information and the utilization percentages for both formal and informal lots are from the *ODOT Region 4 Park and Ride Lot Plan* (dated January 2014). The Park and Ride Lot Plan indicates that the perceived demand for park-and-ride lots in Central Oregon in 2014 was medium to low in Crook County, medium in Bend, medium in Redmond, unknown in Sisters, medium to high in South Deschutes County, and low to medium in Jefferson County.



Table 21: Central Oregon Park-and-Ride Lots

Name	Location	Type	Parking Spaces	
			Available	Used ¹
Sunriver Marketplace Park-and-Ride (carpooling only)	18160 Cottonwood Rd in Sunriver	Formal	6	17-83%
Mount Bachelor Park-and-Ride	SW Simpson and Columbia in Bend	Formal	200	>5% during ski season
ODOT Park-and-Ride	63055 N Hwy 97 in Bend ²	Formal	10	13-63%
La Pine Park-and-Ride	17000 Burgess Rd in La Pine	Formal	25	>40%
Sisters Pumphouse Park-and-Ride	464 E Washington Ave in Sisters ³	Formal	6	17-83%
Powell Butte Park-and-Ride	Powell Butte Hwy and E Hwy 20 in Bend	Informal	8	13-63%
Prineville Park-and-Ride	305 NW Madras Hwy in Prineville	Informal	12	42-83%
Shoulder	US 97 and Vandever Rd in South Deschutes County	Informal	N/A	N/A
Shoulder	US 97 and State Rec Rd in South Deschutes County	Informal	N/A	N/A
Walmart	20120 Pinebrook Blvd in Bend	Informal	N/A	N/A
Culver City Hall	200 First Ave in Culver	Informal	N/A	N/A
Riverwoods Country Store	19745 Galen Baker Rd in Deschutes River Woods	Informal	N/A	N/A
Commercial Store	53750 Hwy 97 in La Pine	Informal	N/A	N/A
Jefferson County Fairgrounds	430 SW Fairgrounds Rd in Madras	Informal	N/A	N/A
Across from Madras Fire Department	4th and J St in Madras	Informal	N/A	N/A
Safeway	80 NE Cedar St in Madras	Informal	N/A	N/A
DMV/ WorkSource	249 SW 3rd St in Madras	Informal	N/A	N/A
Metolius Market	3777 SW Culver Hwy in Metolius	Informal	N/A	N/A
Powell Butte Post Office	16052 OR 126 in Powell Butte	Informal	N/A	N/A
Powell Butte Church	13720 OR 126 in Powell Butte	Informal	N/A	N/A
Prineville City Hall	387 NE 3rd St in Prineville	Informal	N/A	N/A
Downtown Redmond Transit Center	827 SW Deschutes Ave in Redmond	Informal	N/A	N/A
COCC/ WorkSource	2158 SE College Loop in Redmond	Informal	N/A	N/A
Safeway	1705 US 97 in Redmond	Informal	N/A	N/A
Walmart	300 NW Oak Tree Ln in Redmond	Informal	N/A	N/A
Warm Springs Tribal Admin/ Wellness Center	1270 Kot-Num Rd	Informal	N/A	N/A

¹ Calculated from ODOT Region 4 Park and Ride Lot Plan (January 2014)

² The address of this lot in the ODOT Region 4 Park and Ride Lot Plan is 20340 Empire Blvd in Bend.

³ The address of this lot in the ODOT Region 4 Park and Ride Lot Plan is 591 E Hwy 20 in Sisters.



COIC TRANSIT BUDGET AND FUNDING SOURCE ANALYSIS

This section summarizes CET existing operating and capital budgets and identifies potential funding opportunities, including the Statewide Transportation Improvement Fund (STIF) that will provide Oregon transit agencies with dedicated funding starting in 2019. Federal and state funds described in this section are generally provided through the Oregon Department of Transportation (ODOT), which manages Federal Transit Administration (FTA) and state public transportation funds available to rural and small urban public transportation providers and providers of public transit for seniors and people with disabilities.

CURRENT BUDGET

COMMUNITY CONNECTOR AND LOCAL SERVICE OUTSIDE OF BEND

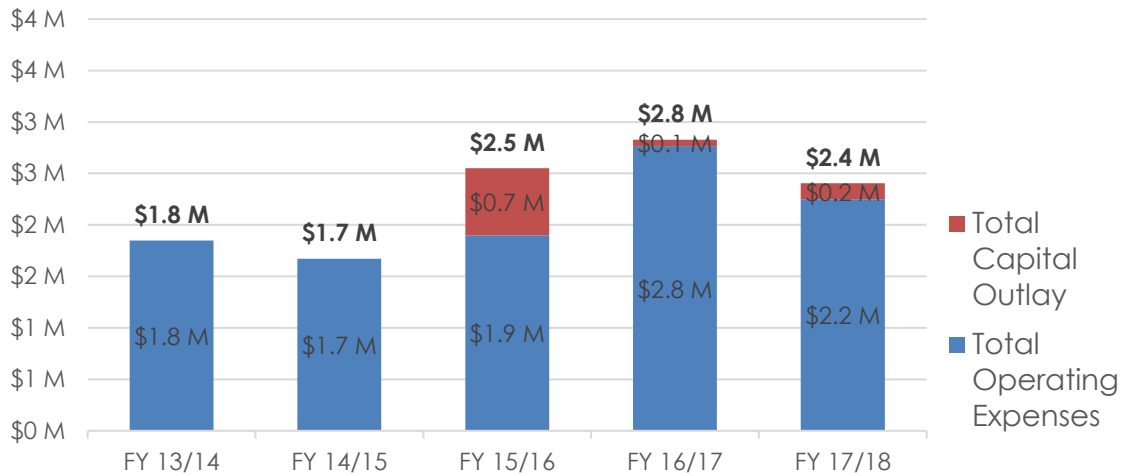
Figure 43 shows overall CET annual expenses for the rural system (Community Connector and Rural Dial-A-Ride service outside of Bend) between 2014 and 2018) and provides a breakdown between capital and operating expenses in each year.

Highlights of the figure are as follows:

- ▶ Expenses increased from FY 2015/2016 to FY 2016/2017 as CET made targeted Community Connector service enhancements, but declined in FY 2017/2018 as revenues declined from multiple sources (particularly federal).
- ▶ Capital expenses include buses (e.g., funded through the federal 5339 program).

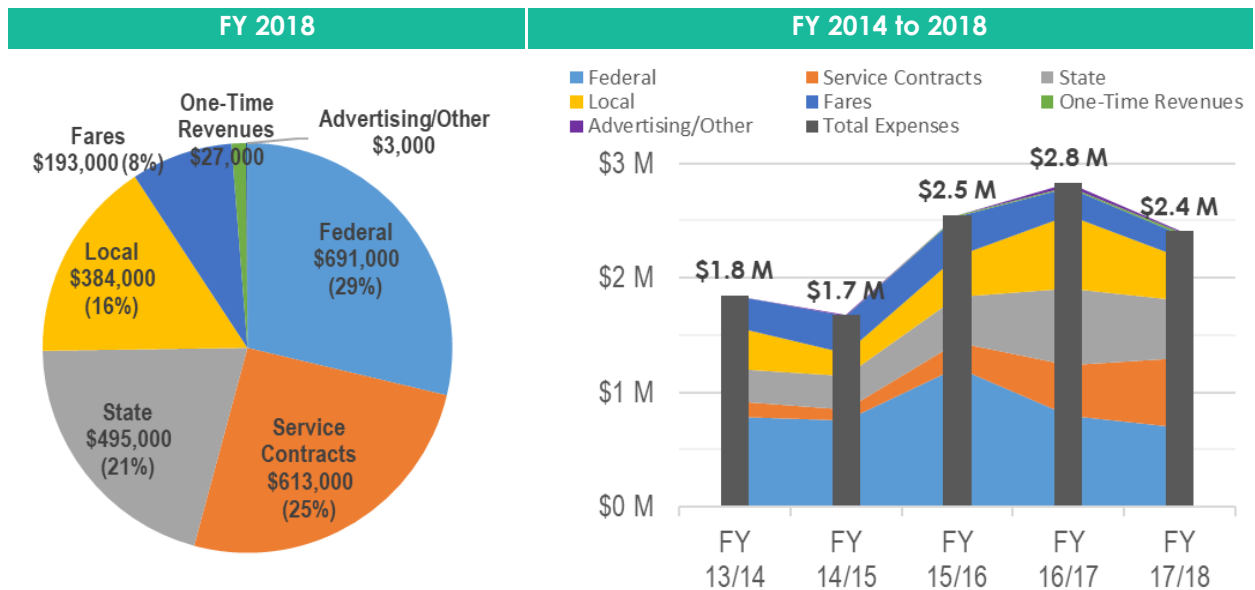
Figure 44 summarizes revenue sources (combined capital and operating) for 2018 and shows trends for 2014-2018. In the most recent fiscal year:

- ▶ Over a quarter of revenue for the rural system was distributed by ODOT from federal sources, including the following FTA programs: 5310 Enhanced Mobility for Seniors and People with Disabilities, 5311 Formula Grants for Other than Urbanized Areas, and 5311 (f) Mobility Management.
- ▶ A quarter of CET's rural system budget was funded through service contracts with social service providers (such as COCOA), the Oregon Department of Human Services (DHS), and the Medicaid program.
- ▶ Over 20% of the rural system budget came from state funds, including Special Transportation Fund (STF) formula funding for transportation services to older adults and persons with disabilities. CET works with County-based STF Advisory Committees to prioritize and distribute funds allocated to Crook, Deschutes, and Jefferson counties.
- ▶ Local contributions from Culver, Metolius, Madras, Prineville, and Redmond comprised 16% of revenues. (There did not appear to be a La Pine contribution.)
- ▶ Fares provided 8% of rural system revenues (9% of operating expenses).
- ▶ An OBDD Regional Solutions grant helped fund capital purchases for the building of the Redmond Hub.



Source: CET. Note: CET's 2018 fiscal year represents 2017/2018 (July 2017 to June 2018)

Figure 43: Rural System Total Expenses, FY 2014-2018



Source: CET
Note: CET's 2018 fiscal year represents 2017/2018 (July 2017 to June 2018)

Figure 44: Rural System Revenues (Operating and Capital)

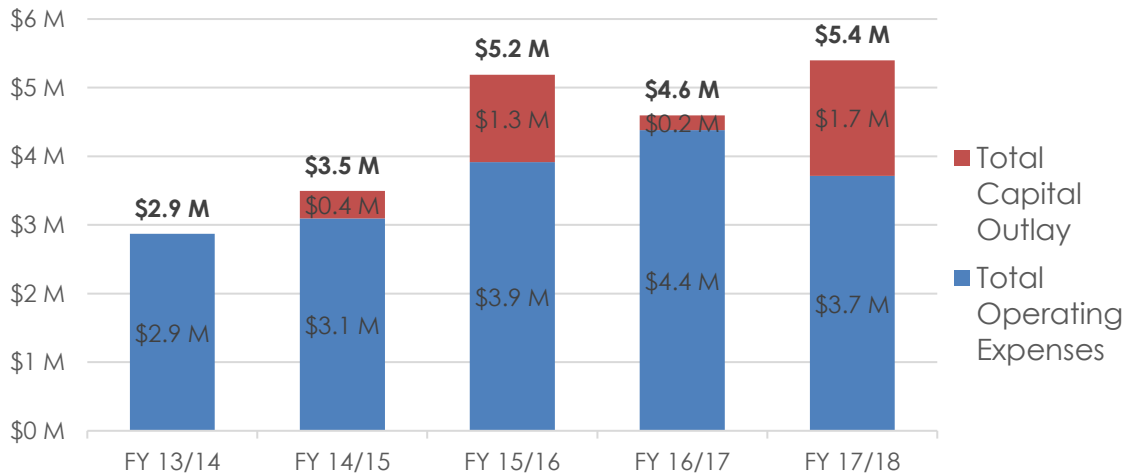


BEND LOCAL SERVICE

Figure 45 shows overall CET annual expenses for the Bend system (fixed-route and demand-response) between 2014 and 2018 and provides a breakdown between capital and operating expenses in each year. The figure shows that operating expenses increased each year through FY 2016/2017, but declined in FY 2017/2018. As can be seen in the right panel of Figure 45, this was in part related to a decline in overall federal revenue (5307 and 5310 programs).

Capital expenses include buses (e.g., funded through the federal 5339 program) and a significant one-time state grant (OBDD Regional Solutions) in FY 2017-2018 that funded a low-floor bus and enhancements to seven bus stop locations in Bend. **Figure 46** summarizes revenue sources (combined capital and operating) for 2018 and shows trends for 2014-2018. Bend operating revenues increased in FY 2015/2016 as CET expanded Bend local service, funded by increased City of Bend and private funding contributions. In the most recent fiscal year:

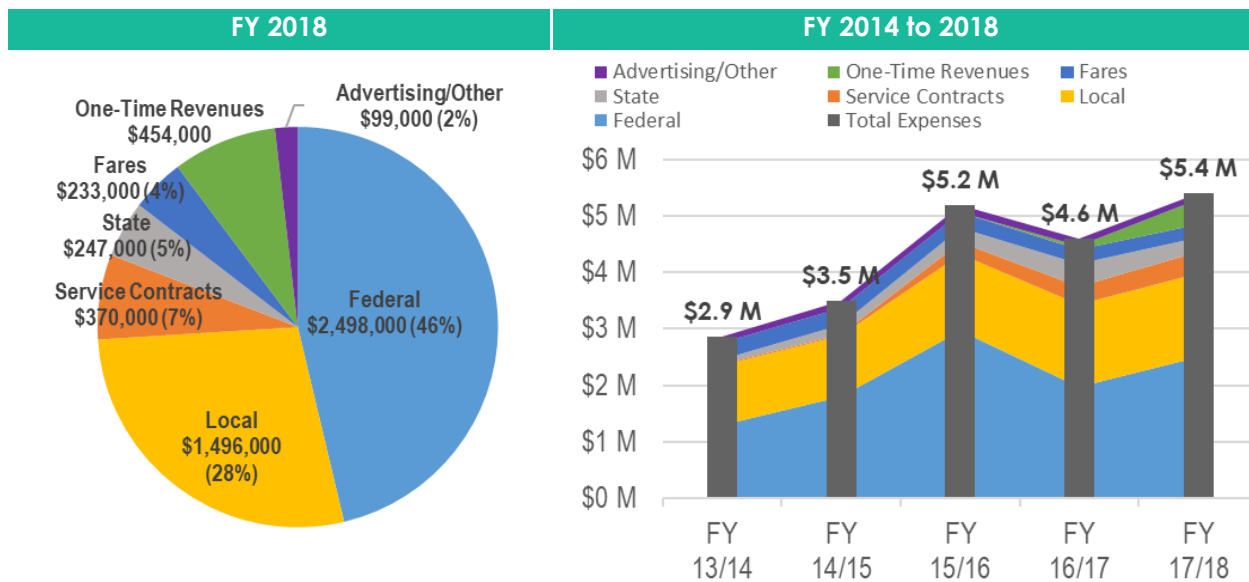
- ▶ Nearly half of Bend local service was funded through **federal sources** (46%), including the following FTA programs: 5307 Urbanized Area Formula Funds, 5310, and 5311(f); the Mobility Management portion of the 5311(f) grants covered the operational and indirect costs associated with running The Market in the Hawthorne Station inter-modal center.
- ▶ Over a quarter (28%) of operating revenues came from **local sources**—primarily the City of Bend.
- ▶ Seven percent of the Bend budget came from **service contracts**, including DHS.
- ▶ Five percent of the Bend budget came from **state funds**, including STF formula funds from Deschutes County and ODOT Transit Network funds (also used towards the staff costs associated with running The Market in the Hawthorne Station).
- ▶ **Fares** (not including service contracts) provided 4% of total Bend system revenues (6% of operating expenses).



Source: CET

Note: CET's 2018 fiscal year represents 2017/2018 (July 2017 to June 2018)

Figure 45: Bend System Operating and Capital Expenses, FY 2014-2018



Source: CET

Note: CET's 2018 fiscal year represents 2017/2018 (July 2017 to June 2018).

Figure 46: Bend System Revenues (Operating and Capital)



NEW FUNDING OPPORTUNITIES

Federal and state funding sources fall into two categories: formula-based and discretionary. Formula funds are allocated from ODOT, typically every two years based on formulas developed by ODOT staff and approved by local stakeholders through the public transportation advisory committee structure.

STIF FORMULA FUNDING

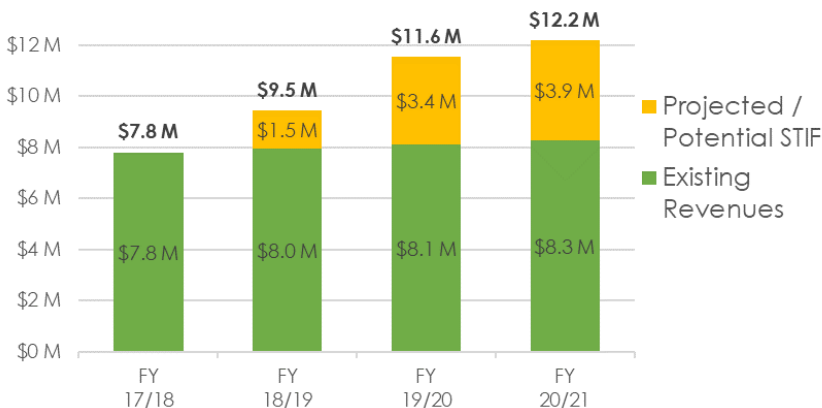
The State Legislature passed a transportation funding package (House Bill 2017) that includes over \$100 million dollars annually for public transportation providers statewide, starting in fiscal year 2019. The funding is from a statewide employee payroll tax and can be used for operations, capital, planning, and other purposes. STIF funds can be used to match federal and other grant funding sources.

Figure 47 illustrates projected STIF funding for the following “Qualified Entities” that will receive STIF funds for the region:

- ▶ Deschutes County: \$1.3 million in FY 2019, approximately \$3 million annually starting in FY 2020.
- ▶ Crook and Jefferson counties: over \$80,000 in FY 2019 and \$200,000 annually starting in FY 2020
- ▶ The Confederated Tribes of the Warm Springs: \$50,000 in FY 2019 and \$100,000 annually in subsequent years.

The figure also shows the resulting overall CET budget if it receives all funds.

A process must be developed to allocate funds if there are multiple transit providers who serve each Qualified Entity. Currently, CET is anticipated to be the sole provider. CET is developing intergovernmental agreements (IGAs) with each qualified entity to be the recipient of these funds and is in the process of forming advisory committees that will review and prioritize the projects that will be submitted for funding in April 2018.



Source: CET Operating Budget, FY 2018, with a 2.5% annual increase assumed through FY 2021; ODOT STIF Formula Fund Estimates for FY 2019 to 2021, December 2018 Update.

Figure 47: Future Operating Revenues with STIF



OVERVIEW OF OTHER FUNDING PROGRAMS

The FTA and ODOT offer discretionary funding programs (grants) on varying schedules. Discretionary transit funding programs typically fund capital investments such as vehicles, equipment, and bus stops. These funds may also support pilot projects, such as alternative fuel vehicles and new service models, and major capital projects (e.g., transit center construction or expansion). Some of these programs are specific to public transportation, while others fund transportation improvements statewide and have more limited project eligibility requirements. The eligibility for Connect Oregon funds for transit project was restricted through the HB 2017 legislation, although new STIF discretionary funding programs are now available.

The discretionary funding programs include the following:

- ▶ The **ODOT Special Transportation Fund (STF) Discretionary Program** funds transportation services for older adults and persons with disabilities. Solicitations identify specific prioritization criteria. There is no local match rate requirement.
- ▶ The **FTA Section 5339 Bus and Bus Facilities Program** is used to replace, rehabilitate and purchase buses, equipment and bus-related facilities. Vehicle replacements must meet age and mile requirements. The local match rate is 20%.
- ▶ The **Oregon State Transportation Improvement Program (STIP) –Enhance Program** solicits every two to four years statewide for transportation projects that enhance, expand, or improve the transportation system. The program's public transportation funding is typically limited to vehicles and equipment supporting services that improve the state transportation system. The local match rate is 20%.
- ▶ The **ODOT State Transportation Improvement Fund (STIF)** allocates a total of 9% of available funds for two discretionary funding programs. The **Discretionary Fund** can be used for all types of projects except ongoing operations. The **Intercommunity Discretionary Fund** is for improving connections between communities and other key destinations, emphasizing statewide transit network connectivity. Eligible projects include capital (vehicles, facilities, equipment and technology), mobility management, planning, research and operations; however, ongoing operations projects are not guaranteed funding in future grant solicitations. The local match is generally 20% of the total cost, but may be reduced to 10% for projects that predominantly serve or provide access to rural communities (50,000 population or less and outside of urban areas).
 - ▶ La Pine is looking to apply for STIF Discretionary Program funds to develop a transit hub.



- ▶ **FTA Small Transit-Intensive Cities (STIC) Formula Funds** are available to urbanized areas (UZAs) under 200,000 in population. Bend can potentially access additional federal 5307 formula funding for each of six criteria where it meets or exceeds the average for an urbanized area (UZA) with 200,000 to less than one million population (approximately \$200,000 per criteria in FY 2017). **Table 18** shows how transit service data for the Bend area in 2017 compared to the average for UZA between 200,000 and 1 million population. CET is closest to meeting the threshold for the Vehicle Revenue Hours per Capita criterion. Corvallis meets five of the criteria and secures over \$1 million in annual funding. Additional service and ridership enabled by the STIF may allow CET to meet some of the STIC criteria.

Table 22: Small Transit Intensive Cities Eligibility Thresholds, FY 2018

	PMT/ VRM	PMT/ VRH	VRM/ Capita	VRH/ Capita	PMT/ Capita	UPT/ Capita
Bend (2017)	2.82	35.40	6.59	0.52	18.58	4.99
UZAS under 1 Million and over 200,000	6.34	111.53	11.48	0.73	82.31	12.57
UZAS under 200,000	3.20	59.77	8.82	0.60	41.05	8.90

Source: FTA, FY 2018 Apportionment STIC NTD data

Notes: PMT = Passenger Miles Traveled, VRM = Vehicle Revenue Miles, VRH = Vehicle Revenue Hours, UPT = Unlinked Passenger Trips