TECHNICAL MEMORANDUM #3: TRANSIT BENCHMARKS AND MONITORING PROGRAM

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Project: UPTD Transit Master Plan

Subject: Transit Benchmarks and Monitoring Program Update (Subtask 4.6)

TABLE OF CONTENTS

INTRODUCTION

This memorandum presents the transit benchmarks proposed to be used to monitor Umpqua Public Transportation District's (UPTD's) performance following the development and implementation of the Transit Master Plan (TMP). These benchmarks consider system-wide efficiency and effectiveness and are intended to be used in addition to the route-specific monitoring proposed in *Memorandum #2: Transit Goals, Policies, and Practices*. The benchmarks identified herein consider existing goals of UPTD, ODOT, and local jurisdictions as well as national best practices. The benchmarks also consider existing and future data availability and the ease of implementing the recommended performance management program. Finally, this memorandum also explores future growth forecasts and development areas in Douglas County. This memorandum will help to inform existing and future needs alongside performance measures and stakeholder input.

EXISTING PERFORMANCE MEASURES AND DATA AVAILABILITY

The most recent plan for UPTD is the Douglas County Transit District's Public Transportation Improvement Plan. This document set evaluation criteria in alignment with Statewide Transportation Improvement Fund (STIF) criteria, but otherwise did not set additional criteria or long-term performance measures. As a recipient of federal funding, UPTD is required to collect and report certain information to the Federal Transit Administration (FTA), which is then available through the National Transit Database (NTD). Additional data may be feasible for UPTD to start to collect, although historic records may not be available. The data available via NTD include:

- Total operating expenses
- Funding from local, state, federal, and other sources
- Total capital expenses
- Fare revenues
- Contract revenues
- Total vehicles in fleet
- Total ADA accessible vehicles in fleet
- Annual vehicle miles
- Annual vehicle hours
- Annual ridership
- Average age of fleet
- Incidents
- Accidents
- Measures derived from the above, such as cost per ride or vehicle miles per vehicle

PROPOSED PERFORMANCE MEASURES

This section proposes draft performance measures that align to the goals proposed in *Memo #2: Transit Goals, Policies, and Practices*. Measures are generally categorized by the corresponding goal, summarized as follows:

- Goal 1. Provide **improved transit services** for residents, employees, and visitors throughout Douglas County.
- Goal 2. **Enhance coordination** with key partners and stakeholders.
- Goal 3. **Promote livability** and user **convenience** throughout Douglas County.
- Goal 4. Establish an environmentally and financially **sustainable** transit system.

Performance measures were identified based on available NTD measures, along with other goal-specific measures identified in *Transit Cooperative Research Program (TCRP) Report 88: A Guidebook for Developing a Transit Performance-Measurement System*.

Table 1. Measures and Data Availability

Measure	Description	Data Requirements	Potential Source
Service Area – Related to Goal 1: Improve Service and Goal 3: Promote Livability			
Population within ¼ Mile of Transit Route or Service	Provides ridership proxy using population near stops or service	population near stops	American Community Survey (US Census), Remix software
Employees within ¼ Mile of Transit Route or Service	Provides ridership proxy using employment near stops or service	employment near stops	Remix software
Number of transfer opportunities	This measure assesses connectivity to other providers. This measure can be assessed at different transfer ranges (15 minutes, 30 minutes, etc.). This measure focuses on long-distance services, such as those provided by CCAT and South Lane Wheels and potential future services by UPTD.	schedule information for UPTD and other providers	ODOT Transit Network Exploration Tool (TNExT)
Service equity	This measure is the equitable distribution of costs and benefits resulting from transit projects or services. This measure is typically evaluated with census data of disadvantaged populations. Community surveys and/or refined GIS data can help to supplement census data.	geographic distribution of transportation disadvantaged populations, public involvement	American Community Survey (US Census), advisory committees, stakeholder outreach
Service Utilization – Related to Goal 1: Improve Service, Goal 3: Promote Livability, and Goal 4: Sustainability			
Annual passenger trips	This measures the number of individuals boarding and/or alighting at a stop, boarding along a route, or boarding the system as a whole. Ridership will be measured in terms of unlinked trips, where all boardings are counted, including transfers.	total number of passengers	UPTD data (already collected for the NTD)
Annual vehicle miles	This measures the total number of miles that transit vehicles travel each year.	total vehicle service miles from odometer readings	UPTD data collection
Annual vehicle revenue miles	This measures the total number of miles that transit vehicles travel each year while in service (available to pick up and drop off passengers).	vehicle schedules (fixed-route), driver logs (demand response)	UPTD data (already collected for the NTD)
Annual vehicle revenue hours	This measures the number of hours that transit vehicles travel each year while in service.	vehicle schedules (fixed-route), driver logs (demand response)	UPTD data (already collected for the NTD)

Measure	Description	Data Requirements	Potential Source
Service Reliability – Related to Goal 1: Improve Transit Service, Goal 2: Enhance Coordination, and Goal 3: Promote Livability			
On-time performance	This measure can be used both diagnostically and as a tool to assess the experience of customers. Since substantial data collection efforts are necessary, manual data collection can become quite expensive and potentially error-prone. If data collection is automated, route-level and even operator-level performance can be determined.	automatic vehicle location (AVL) and schedule information	not currently available to UPTD
Service denials	The percentage of trip requests in which service cannot be provided within one hour of the desired time, a measure of the system's ability to accommodate trip requests. No service denials should occur for ADA complementary paratransit service.	scheduling records of all ride requests	UPTD data collection and analysis
Access time	Minimum advance notice a rider must provide to take a trip on demand response or deviated-route service, reflecting convenience to passengers.	Set by policy	UPTD policy
Cost Efficiency – Related to Goal 4: Sustainability			
Cost per revenue hour	This measure compares a transit system's ability to provide service outputs (i.e., revenue hours) as a function of service inputs (e.g., costs). It is used to estimate the cost of adding service hours when planning service expansions and, over time, to compare how the agency's costs are increasing relative to inflation. It is particularly sensitive to changes in an agency's labor costs.	annual cost data, annual vehicle revenue hours	UPTD data (already collected for the NTD)
Cost Effectiveness – Related to Goal 4: Sustainability			
Cost per passenger trip	This is a core measure of the amount of transit system resources required to meet ridership demand.	annual cost data, annual passenger boardings	UPTD data (already collected for the NTD)
Boardings per revenue hour	This is a measure of productivity, the amount of demand served given the amount of service provided. It can be used for individual routes and services to identify the potential need to change the amount or type of service provided	annual passenger boardings, annual revenue hours	UPTD data (already collected for the NTD)
Resource Utilization – Related to Goal 4: Sustainability			
Annual revenue miles per vehicle	This measure is the ratio of annual revenue miles to the number of vehicles in the fleet and is an indication of how well existing capital resources are being used. It can also be used to help estimate how frequently vehicles need to be replaced.	annual vehicle revenue miles, total number of vehicles	UPTD data (already collected for the NTD)

Measure	Description	Data Requirements	Potential Source
Spare ratio	This measure is the ratio of spare vehicles (total number of vehicles in the fleet minus maximum vehicles used in service) to the total number of vehicles in the fleet. A low spare ratio indicates the potential for service disruptions if insufficient vehicles are available to replace vehicles undergoing planned or unscheduled service. A high spare ratio indicates a potentially inefficient usage of the fleet.	total number of vehicles, vehicles operated in maximum service	UPTD data (already collected for the NTD)
Maintenance Administration – Related to Goal 4: Sustainability			
Maintenance cost per vehicle	This measure tracks the amount of resources required to maintain the fleet. An aging and/or fuel-inefficient fleet will tend to have higher costs.	total maintenance costs, total number of vehicles	UPTD data collection
Vehicle-miles between breakdowns	Vehicle breakdowns are one source of reliability problems. This measure is intended for internal agency use in monitoring trends in vehicle breakdowns. It is defined as the vehicle-miles traveled during a defined period, divided by the number of breakdowns. It can be tracked by vehicle type to help with future purchasing decisions.	number of breakdowns, distance traveled by transit vehicles	UPTD data collection
Fuel cost as a percentage of operating costs	This measure can help track fleet fueling sustainability and understand potential savings by transitioning to a fleet less-reliant on unstable fuel costs.	total fuel costs, total operating costs	UPTD data collection
Perceived Service Quality (Goal 1, Goal 2, Goal 3)			
Service frequency	Frequency refers to how often transit service is provided, either at a location or between two locations, and is one component of customer access to transit. UPTD should establish frequency targets for each fixed route based upon service equity, existing and future needs, and resource availability.	Scheduled headways	UPTD schedules
Number of missed connections with coordinated transit systems	Some trips taken on UPTD services are part of a longer trip continuing outside Douglas County and a missed connection can be a serious inconvenience for a passenger, particular when few connection opportunities exist. This measure records missed connections with neighboring transit systems, where the schedules are timed to facilitate connections and UPTD was responsible for the missed connection.	total number of reported missed connections	UPTD data collection
Bus stop amenities	Comfortable waiting environments help improve the customer experience and can attract new ridership. This measure tracks the number of bus stops with signage, seating, and shelters	capital inventory data	UPTD data collection

Measure	Description	Data Requirements	Potential Source
Safety & Security (Goal 3)			
Customer feedback tracking	This measure tracks the number of customer complaints and compliments, either through a formal commenting program (e.g., comment cards, website comment links), social media and traditional news media monitoring, or a combination of these	total number of complaints and compliments	UPTD data collection
Total reportable incidents	This is a measure of transit safety. The FTA defines five categories of reportable incidents, including fatalities, injuries, property damage of $25,000 or more, crashes where a transit vehicle must be towed away, and evacuations	total number of reportable incidents	already collected for the NTD

SUMMARY OF MEASURES AND DATA AVAILABILITY

Table 2 summarizes the proposed measures, data source(s), whether the measures were historically tracked, whether data is available for UPTD, and which measures are recommended later in this memorandum for peer comparison.

Table 2. Measures and Data Availability

Measure	Available Data Source	Historically Tracked?	Available for UPTD	Recommended for Peer Comparison
Population within ¼ Mile of Transit Route or Service	Remix	**No**	Yes	No
Employees within ¼ Mile of Transit Route or Service	Remix	**No**	Yes	No
Number of transfer opportunities	ODOT TNExT	**No**	Yes	No
Service equity	Remix	**No**	Yes	No
Annual passenger trips	NTD	Yes	Yes	Yes
Annual vehicle miles	Vehicle odometers	Yes*	Yes	No
Annual vehicle revenue miles	NTD	Yes	Yes	Yes
Annual vehicle revenue hours	NTD	Yes	Yes	Yes
On-time performance	AVL/Not available	**No**	**No**	No
Service denials	Dispatcher logs/ Scheduling software	**No**	**No**	No
Access time	Policy	**No**	**Yes**	No
Cost per revenue hour	NTD	Yes	Yes	Yes
Cost per passenger trip	NTD	Yes	Yes	No
Boardings per revenue hour	NTD	Yes	Yes	Yes
Annual revenue miles per vehicle	NTD	Yes	Yes	No
Spare ratio	UPTD	Yes*	Yes	No
Maintenance cost per vehicle	UPTD budgets	**No**	Yes	No

Measure	Available Data Source	Historically Tracked?	Available for UPTD	Recommended for Peer Comparison
Vehicle-miles between breakdowns	UPTD	Yes*	Yes	No
Fuel cost as a percentage of operating costs	UPTD budgets	**No**	Yes	No
Service frequency	Schedules	Yes*	Yes	No
Number of missed connections with coordinated transit systems	Surveys/Not available	**No**	Yes	No
Bus stop amenities	Field collection/ Not available	**No**	Yes	No
Customer feedback tracking	UPTD monitoring/ Not available	Yes*	Yes	No
Total reportable incidents	NTD	Yes	Yes	No

** Tracked Internally by UPTD. Full 5 years of data not available.*

BENCHMARKING

Benchmarking involves comparing current performance with an agency's own past performance and/or peer agency performance. The benchmark type associated with each performance measure, trend analysis or peer comparison, is dependent on whether the data required for the measure are available through the National Transit Database (NTD). All of the proposed measures can be compared to UPTD's own historic performance (trend analysis), which is useful for evaluating general performance trends over time (i.e., whether performance is improving or getting worse). Peer comparison adds the element of comparing UPTD's performance to that of similar (but not identical) service providers, which helps provide context to performance results and can help identify areas where UPTD is already strong as well as areas where improvement may be possible. Because peer comparison require performance measures that are consistently defined and reported, only measures available in the NTD are proposed to be included in a peer comparison.

INITIAL FIVE-YEAR BENCHMARK DEVELOPMENT

This section provides initial five-year benchmarks for those performance measures for which UPTD has available and historic data. The benchmarks were developed by route, taking the five-year annual average for calendar years 2014 through 2018.

Each of the tables on the following pages compares the performance measure result for the most recent calendar year (2018) against the five-year benchmark. 2019 data is not yet available on the NTD, and had reduced reporting requirements due to the COVID-19 pandemic. 2020 data from UPTD is shown here for reference, but is not benchmarked against given continuing impacts of COVID-19. UPTD's 2020 data spans July 1, 2020 to June 30, 2021, and includes projected budget information rather than precise amounts spent. Projections included higher costs for service implementation that may not have been in-place for the full year or not yet implemented (ex. Lifeline services), and thus costs may be skewed higher. Additionally, NTD dial-a-ride service miles were reported with discrepancies by the previous (2014-2018) providers, most likely reporting deadhead miles/hours as

service miles/hours. As a result, historic measures related to miles and hours are likely skewed, and should be considered in future tracking.

- A green checkmark: ✔ indicates that the 2018 results met the benchmark.
- A red X: ✖ indicates that the 2018 results did not attain the benchmark.

Note: Historic costs were adjusted by an inflation factor of 3% per year.

Service Area

UPTD has not historically tracked the proposed service area metrics of **population**, **employment**, and disadvantaged populations (**service equity**) within ¼ mile of bus stops, nor quantified **transfer opportunities**. Table 3 shows the existing population, employment, and service equity of the UPTD fixed-route system, including a comparison to Douglas County's overall demographics, with bolded values showing the transit system serving those populations above county average. Existing system percentages are relative to the population within ¼ mile of those stops. For example, of the 21,700 people served by transit, approximately 20% of them are elderly adults. As shown, UPTD services serve a higher proportion of people in poverty, people of color, persons with disabilities, and households with no vehicles, and a lower proportion of people with limited English proficiency and the elderly compared to Douglas County as a whole. The UPTD fixed-route system serves approximately 20% of the County's population and 24% of the County's employment. It should be noted that these figures do not include CCAT or South Lane Wheels services, nor the demand-response system.

Table 3. Service Equity

Disadvantaged Population	Total Population	Total Employment	Poverty	200% Poverty*	People of Color	Elderly Adults	Youth	Limited English	Persons with Disabilities	Households with no Vehicles*
Douglas County	110,980	43,291	14.7%	39.0%	7.6%	25.2%	21.0%	2.5%	14.4%	7.4%
Existing Service Area	21,700	12,200	**17.0%**	**46.0%**	**12.0%**	20.0%	21.0%	1.0%	**20.0%**	**8.0%**

*Demographics are based on census information, as presented in *Memo #1: Existing System Conditions*

The **transfer opportunities** will be produced after UPTD implements their revised routes. Transfer opportunities include South Lane Wheel's Lane to Douglas Connector's stop at the Roseburg VA, with timepoints at 8:43 AM, 10:31 AM, 12:23 PM, and 2:11 PM, and CCAT's Roseburg Express stops at the Roseburg VA at 9:57 AM/2:03 PM, Mercy Hospital at 10:07 AM/1:53 PM, Roseburg Valley Mall at 10:17 AM/1:43 PM, and downtown at 10:30 AM/1:37 PM.

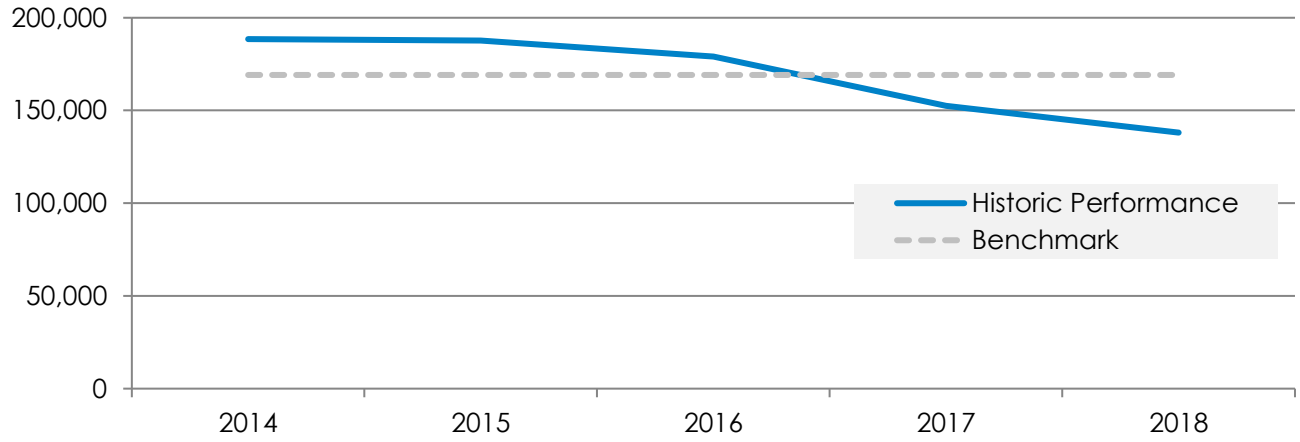
Service Utilization

Table 4 and Figure 1 show **annual rides**. As shown, transit service has decreased compared to its benchmark since 2016.

Table 4. Annual Rides

Five-Year Benchmark	UPTD
	169,157 or higher
2014	188,486
2015	187,651
2016	179,133
2017	152,453
2018	**138,061**
Meets Benchmark?	✖
2020	72,838

Figure 1. Annual Rides



UPTD can track its **annual vehicle miles** to understand fleet turnover rates. This measure differs from revenue miles, in that it also includes "deadhead" miles where transit vehicles are not in service. Deadhead miles can increase operating costs through increased driver time, fuel costs, and maintenance costs.

Table 5 and Figure 2 show **annual revenue miles**. As shown UPTD has been providing more revenue miles than the benchmark since 2017. The reported annual miles numbers for 2014 through 2018 are from the National Transit Database, which accounts for losses in service due to severe weather, vehicle breakdowns, or other cancelled service, but also may include deadhead miles.

Table 5. Annual Revenue Miles

Five-Year Benchmark	UPTD
	584,446 or higher
2014	570,608
2015	569,140
2016	564,568
2017	596,981
2018	**620,933**
Meets Benchmark?	✔
2020	535,645

Figure 2. Annual Revenue Miles

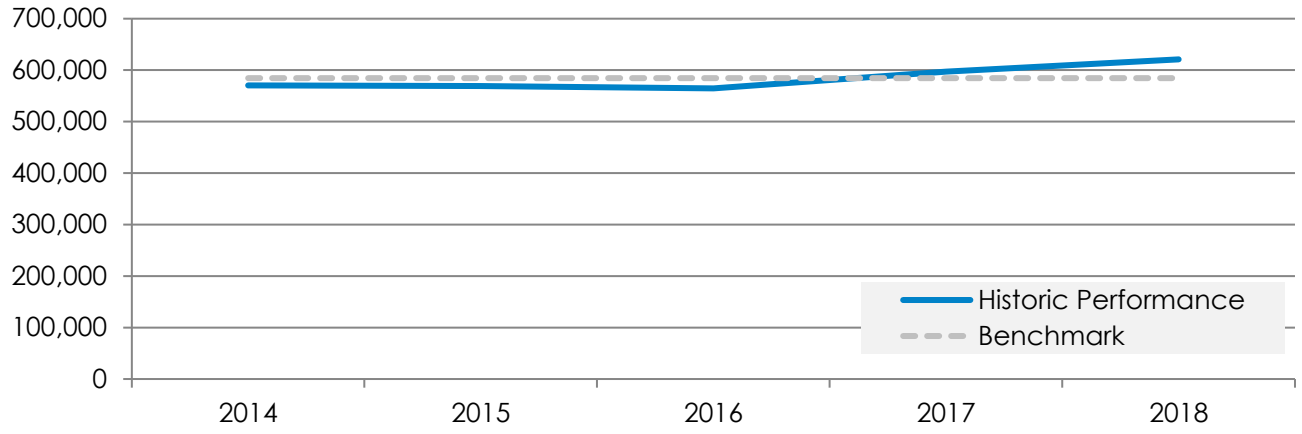
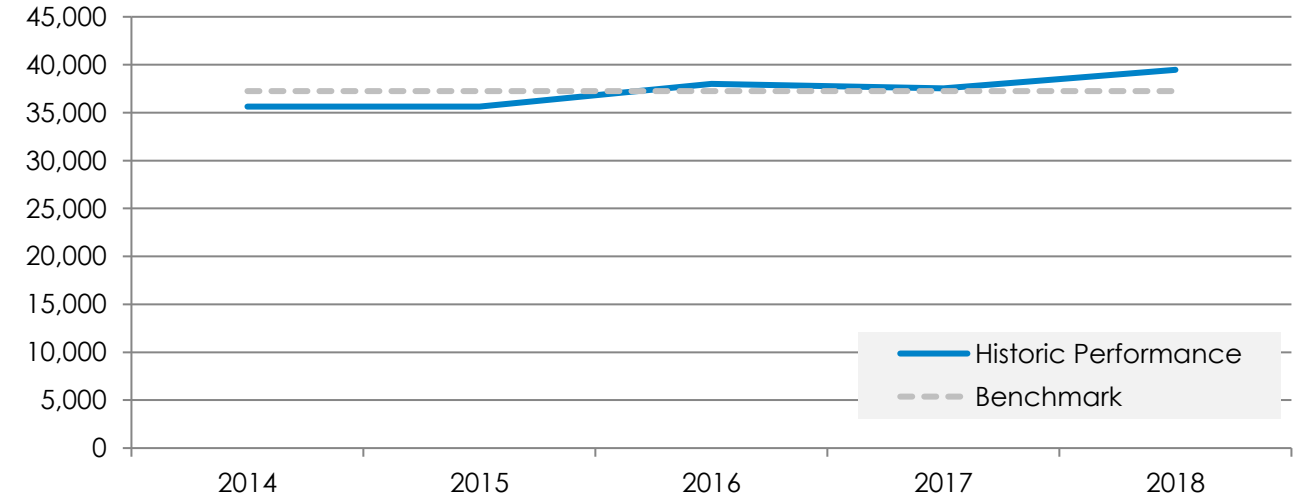


Table 6 and Figure 3 show **annual revenue hours**. As shown, UPTD is providing slightly more service hours than their benchmark since 2016. The reported annual hours numbers for 2014 through 2018 are from the National Transit Database, which accounts for losses in service due to severe weather, vehicle breakdowns, or other cancelled service. NTD dial-a-ride service hours have been reported to have discrepancies as dial-a-ride service was previously provided by different providers with different reporting practices. Additionally in 2020 the lifeline transit service was discontinued due to the COVID-19 pandemic and has not yet been back in service.

Table 6. Annual Revenue Hours

Five-Year Benchmark	UPTD
	37,249 or higher
2014	35,632
2015	35,632
2016	37,992
2017	37,521
2018	**39,467**
Meets Benchmark?	✔
2020	32,252

Figure 3. Annual Revenue Hours



Service Reliability

On-time performance cannot currently be evaluated but is recommended as a metric as automated vehicle location (AVL) data becomes available. Typical on-time performance is considered to be from 1 minute early to 5 minutes late from scheduled stop times.

UPTD does not have extensive historic **service denial** information. Service denials should be tracked moving forward.

UPTD does not currently have extensive historic **access time** information. UPTD should track how much time elapses after a trip is planned moving forward. UPTD's website does not define a minimum advance notice, but asks riders to call "well in-advance".

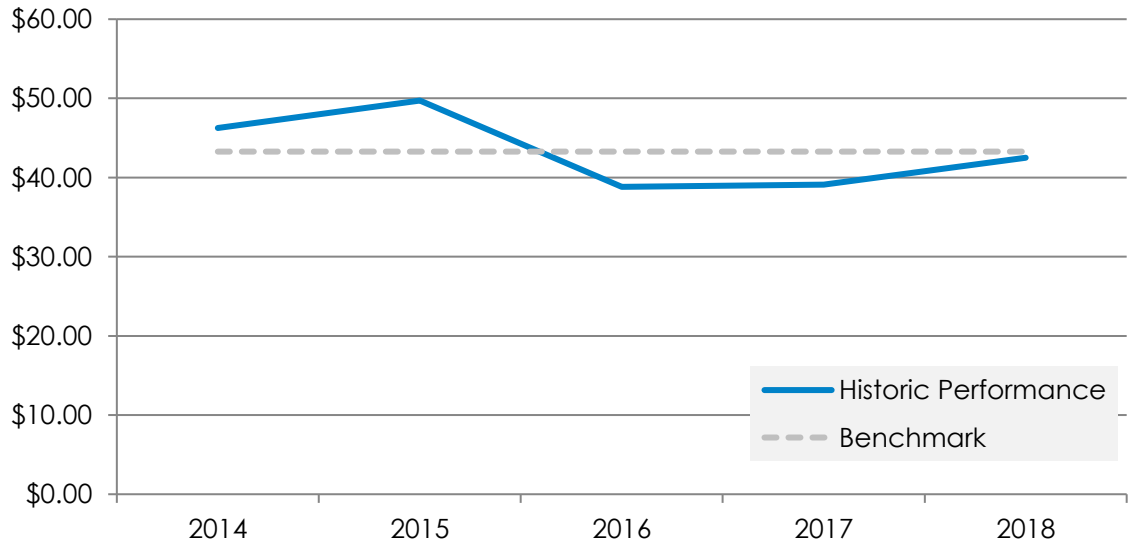
Cost Efficiency

Table 7 and Figure 4 show the **cost per revenue hour**. As shown, costs have been below the benchmark since 2016.

Table 7. Cost per Revenue Hour

Five-Year Benchmark	UPTD
	$43.28 or lower
2014	$46.26
2015	$49.72
2016	$38.83
2017	$39.10
2018	**$42.49**
Meets Benchmark?	✔
2020	$118.79

Figure 4. Cost per Revenue Hour



Cost Effectiveness

Table 8 and Figure 5 show the **cost per passenger trip**. As shown, the cost per trip has increased over time as the cost of providing services has increased and ridership has decreased.

Table 8. Cost per Passenger Trip

Five-Year Benchmark	UPTD
	$9.64 or lower
2014	$8.74
2015	$9.44
2016	$8.23
2017	$9.62
2018	**$12.15**
Meets Benchmark?	✖
2020	$52.60

Figure 5. Cost per Passenger Trip

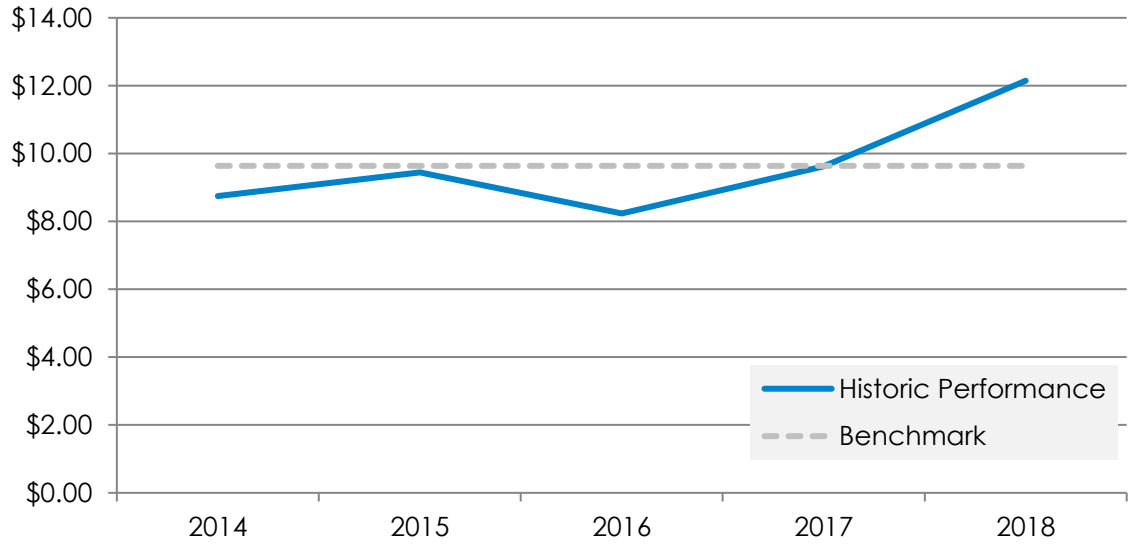
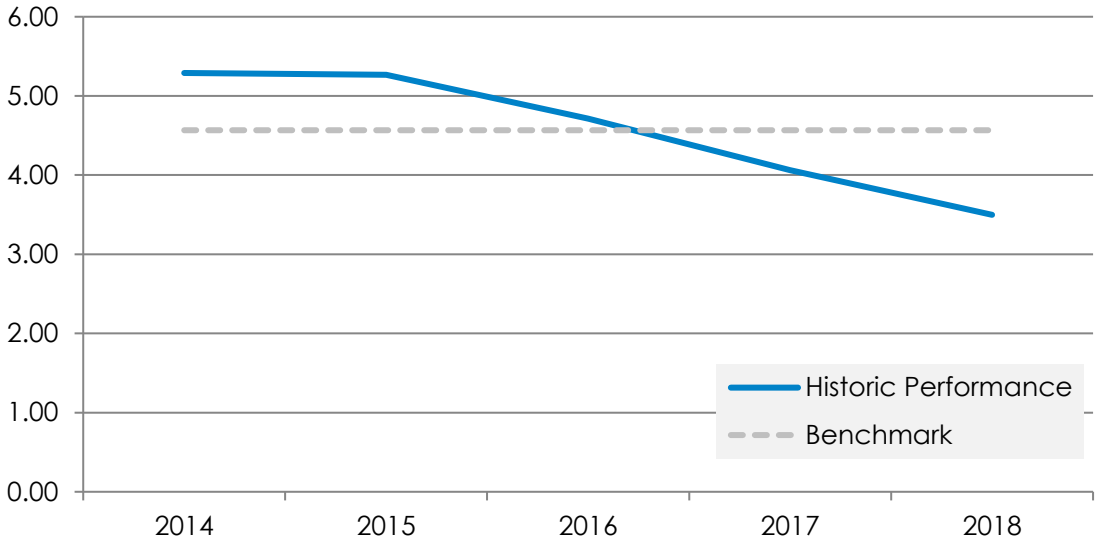


Table 9 and Figure 6 show the **passenger boardings per revenue hour**. As shown, passenger boardings per revenue hour have been decreasing since 2014.

Table 9. Passenger Boardings per Revenue Hour

Five-Year Benchmark	UPTD
	4.57 or higher
2014	5.29
2015	5.27
2016	4.72
2017	4.06
2018	**3.50**
Meets Benchmark?	✖
2020	2.26

Figure 6. Passenger Boardings per Revenue Hour



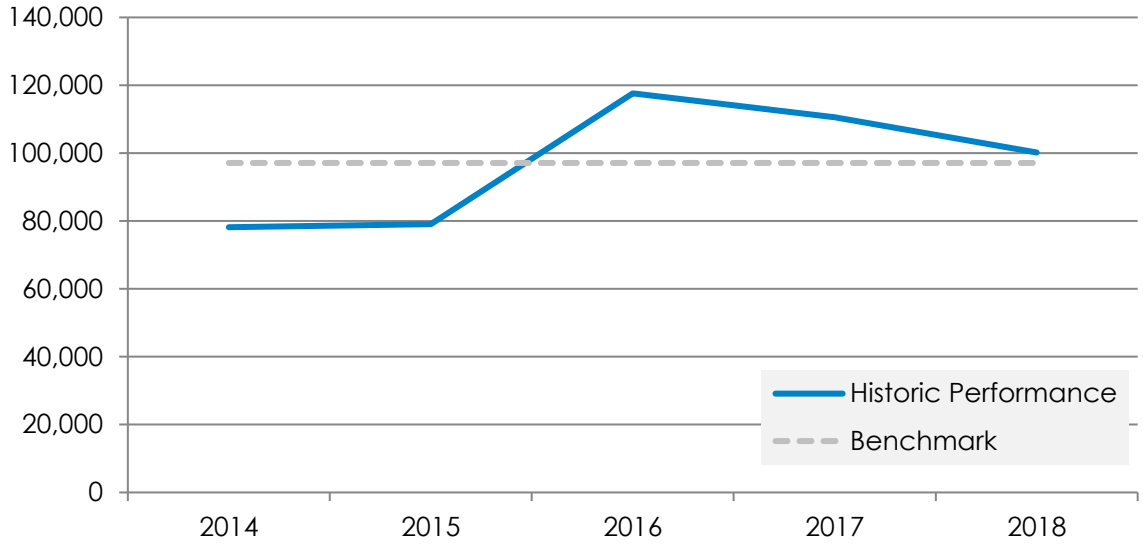
Resource Utilization

Table 10 and Figure 7 show the **annual revenue miles per vehicle.** As shown, vehicle usage significantly increased in 2016, with more service provided compared to the fleet size.

Table 10. Annual Revenue Miles per Vehicle

Five-Year Benchmark	UPTD
	97,107 or higher
2014	78,165
2015	79,047
2016	117,618
2017	110,552
2018	**100,150**
Meets Benchmark?	✔
2020	81,158

Figure 7. Annual Revenue Miles per Vehicle



UPTD does not currently have historic **spare ratio** information. Remix currently estimates the fixed-route system taking a maximum of 7 vehicles across the 6 UPTD fixed-routes. Of the existing fleet, 14 are active-use cutaway vans and buses, indicating a 100% vehicle spare ratio. These should be tracked moving forward to improve service reliability and ensure appropriate fleet size.

Maintenance Administration

Maintenance cost per vehicle has not been historically tracked, and was $2,540.63 per vehicle in 2020.

UPTD does not currently have historic **vehicle-miles between breakdowns** information. These should be tracked moving forward.

Fuel/power cost as a percentage of operating costs has not been historically tracked, and was 6% in 2020.

Perceived Quality

UPTD's **service frequency** ranges from 1 hour to several hours, depending on service and direction. Tracking this information over time can help to understand changes to other metrics, such as rides per hour and resource utilization.

UPTD does not currently have historic **missed connections with coordinated transit systems** information. These should be tracked moving forward, as reported by customers, to improve service coordination.

UPTD does not currently have a complete inventory of **bus stop amenities**. Bus stop information should be inventoried moving forward. Inventories to include signage, bus pullout, shelter, and restrooms.

Safety & Security

UPTD should complete **customer feedback tracking** of customer complaints and compliments.

UPTD reports **incident** information to the NTD. These should continue to be tracked moving forward. UPTD had zero reportable incidents in 2014, 2015, and 2018, and one reportable incident in each of 2016 and 2017.

PEER EVALUATION

This section provides a peer comparison for selected performance measures using 2018 NTD data. Peer transit services were selected for comparison using a method developed for the National Rural Transit Assistance Project. This method identifies peer agencies based on the type of service provided, vehicle miles operated, population served, funding type, and proximity to Douglas County. The following Oregon peer transit providers were selected for comparison: Tillamook County Transportation District (TCTD), Coos County Area Transit (CCAT), Lincoln County Transit Service District (LCTSD), Yamhill County Transit (YCT), and Columbia County Rider (CCR). The first several measures – annual rides, miles, and hours – are provided for context and not to say UPTD should be providing more of all of these than its peers.

Service Utilization

Figure 8 shows **annual rides**. As shown, UPTD is in middle of the peer group, with TCTD, LCTSD, and YCT serving more annual rides and CCR and CCAT serving fewer.

Figure 8. FY18 Peer Transit Services Annual Rides

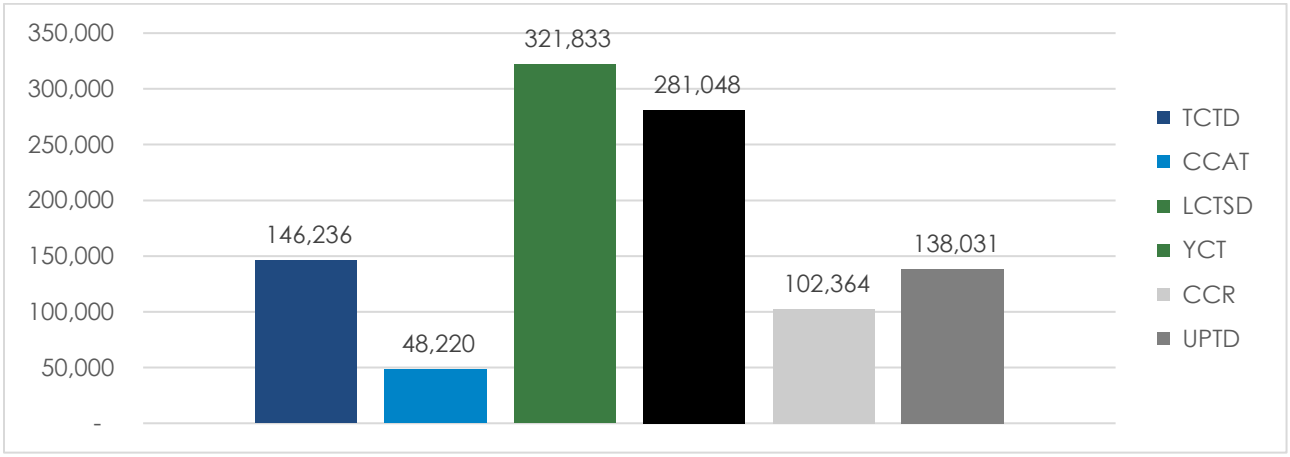


Figure 9 shows **annual revenue miles**. As shown, UPTD is again in the middle of the peer group, with TCTD, YCT, and CCR operating more miles annually and LCTSD and CCAT operating fewer miles.

Figure 9. FY18 Peer Transit Services Annual Revenue Miles

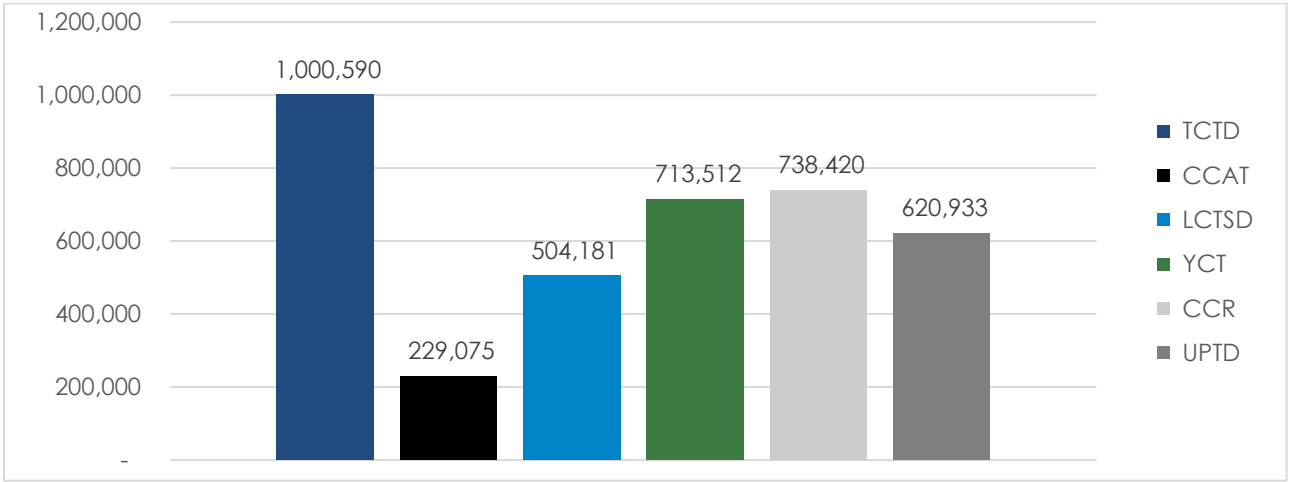
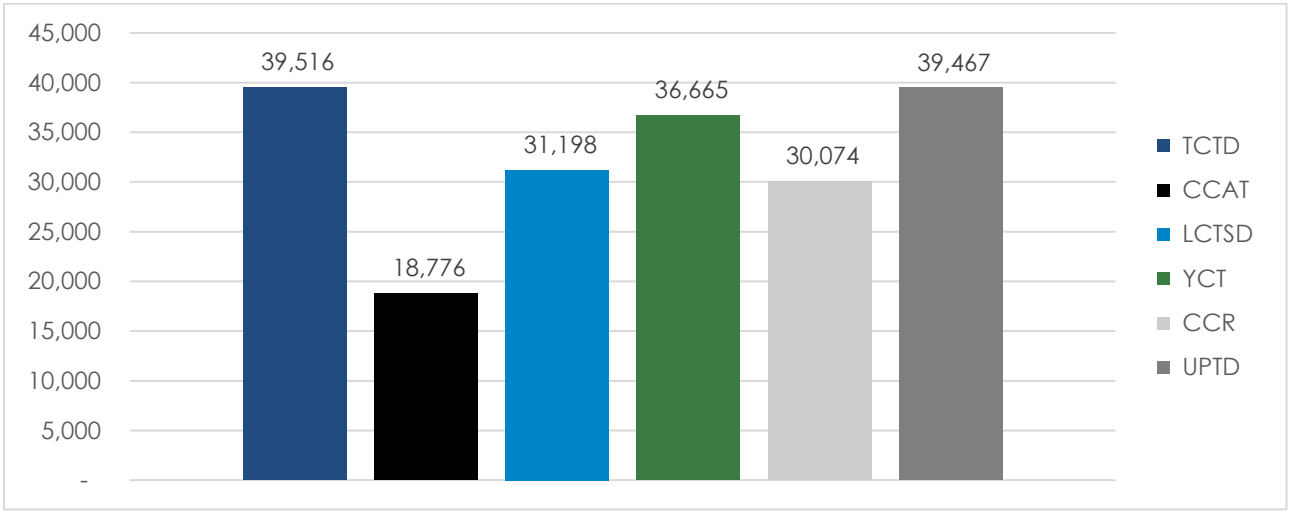


Figure 10 shows **annual revenue hours**. As shown, UPTD has the second-highest annual revenue hours with TCTD being slightly higher.

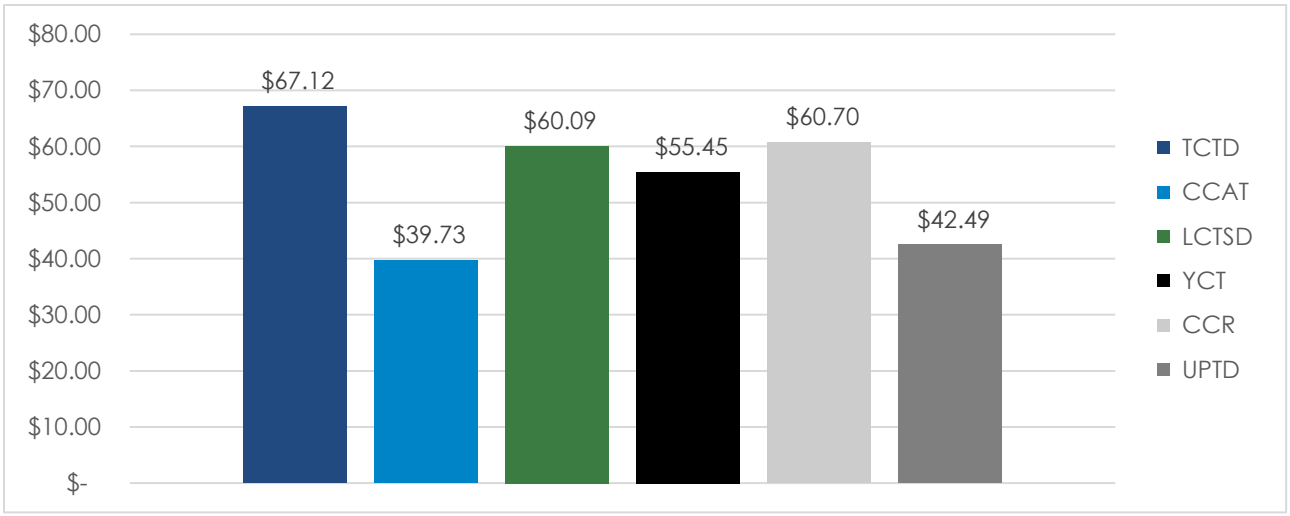
Figure 10. FY18 Peer Transit Services Annual Service Hours



Cost Efficiency

Figure 11 shows the **cost per revenue hour**. As shown, UPTD has the second-lowest operating cost per revenue hour within the peer group, with only CCAT being lower.

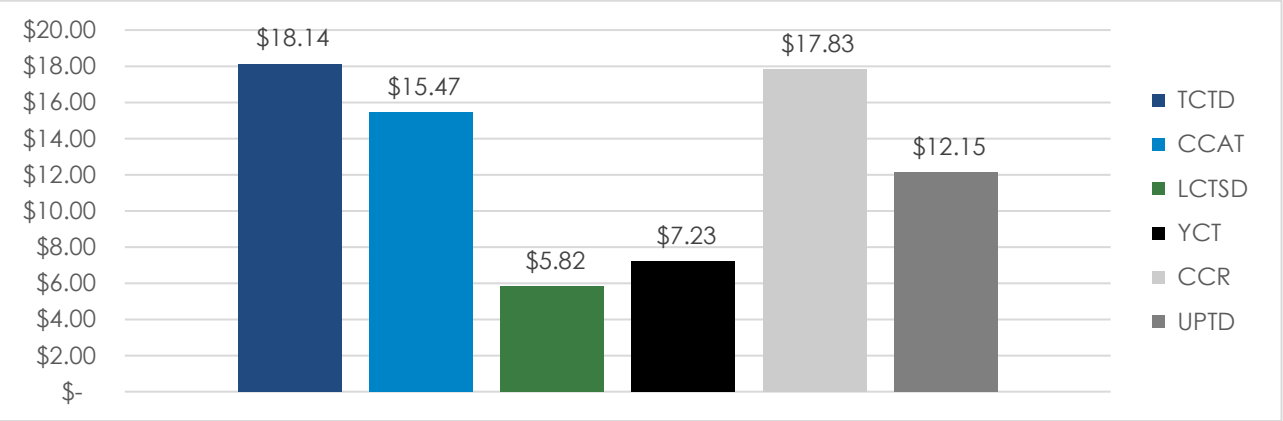
Figure 11. FY18 Peer Transit Services Cost per Service Hour



Cost Effectiveness

Figure 12 shows the **operating cost per ride**. As shown, UPTD is in the middle of the peer group, with LCTSD and YCT having lower costs.

Figure 12. FY18 Peer Transit Services Operating Cost per Ride



FUTURE GROWTH FORECASTS

Future population and growth forecasts were gathered based on Portland State University (PSU) Population Research Center's population forecasts, State of Oregon Economic Department's employment projections, transportation system plans (TSPs) and other planning documents from Douglas County communities, and other available data. This information will help to inform existing and future needs alongside performance measures and stakeholder input.

PSU population forecasts were last updated for Douglas County in 2018. Figure 13, Figure 14, and Figure 15 show projected and historic population growth. As shown, the largest population increases are anticipated in Sutherlin, Myrtle Creek, Roseburg, and Winston. Canyonville also experiences substantial growth compared to its population, but is a smaller community. Many small cities and the unincorporated areas are not anticipated to grow substantially. In particular, Reedsport and the unincorporated areas have been or are anticipated to remain stagnant or decrease in population. These population trends suggest travel between incorporated communities will increase.

Figure 13. Projected Population Growth – Small Cities

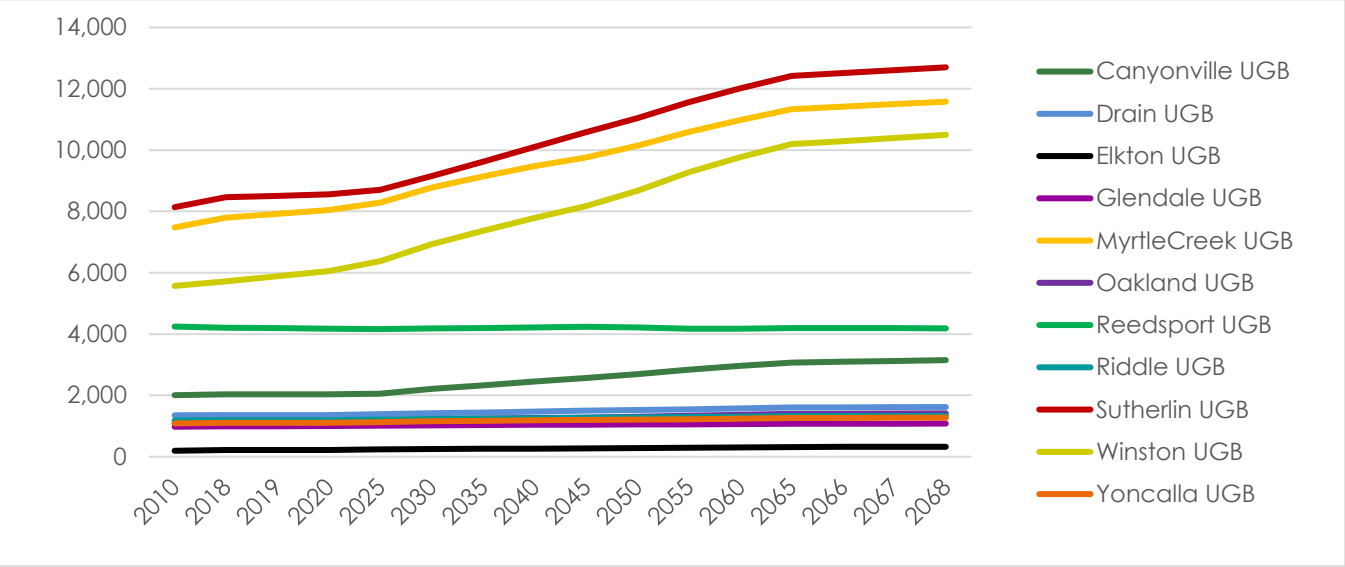


Figure 14. Projected Population Growth – County, Roseburg, and outside UGBs

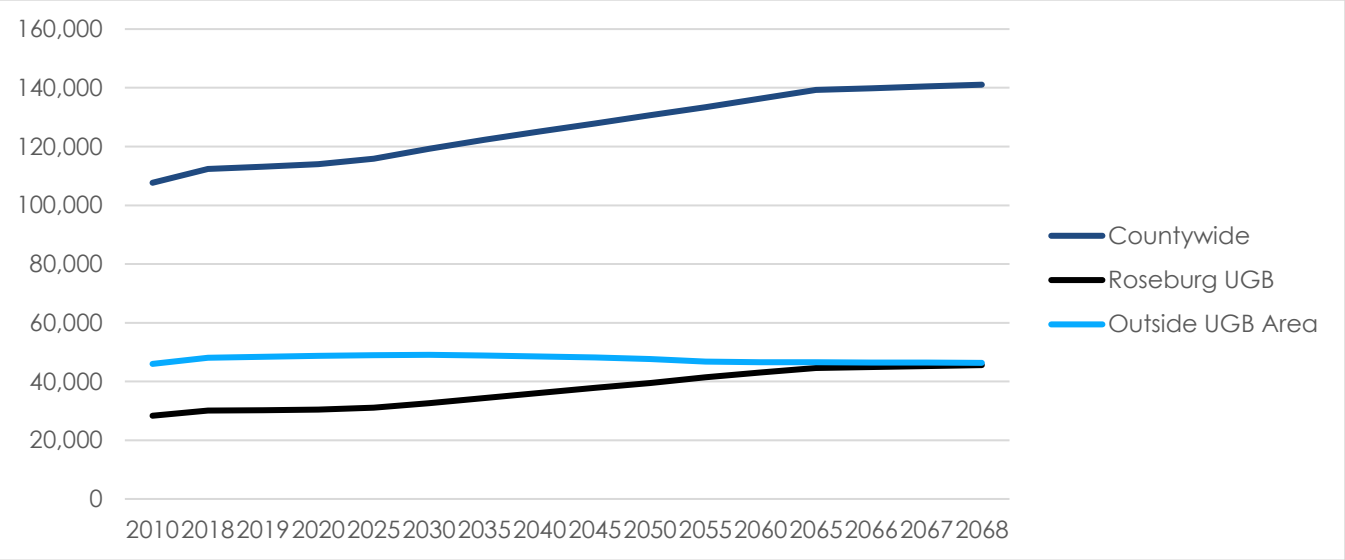
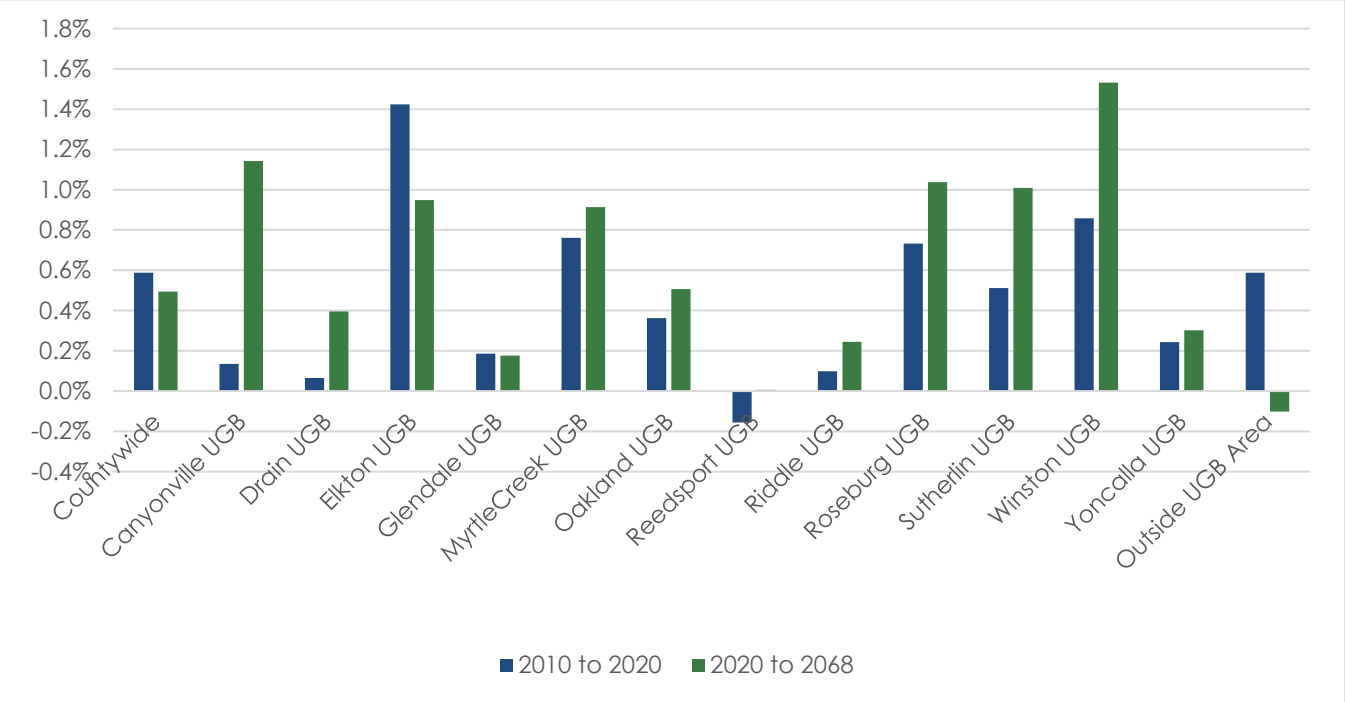


Figure 15. Projected Population Growth – Relative Historic and Future Percentages



Employment projections are joined for Coos, Curry, and Douglas counties, referred to as the Southwestern Oregon region. Figure 16 and Figure 17 show the projected growth by sector. The service industry, healthcare, and construction and extraction industries are anticipated to grow at the fastest rates and include many employees in the region. Professional and related services, office and administrative support, and sales and related services will also provide high amounts of jobs in the region. Farming, fishing, and forestry, as well as office and administrative support, are expected to decline.

Figure 16. Projected Employment Growth – Total Growth

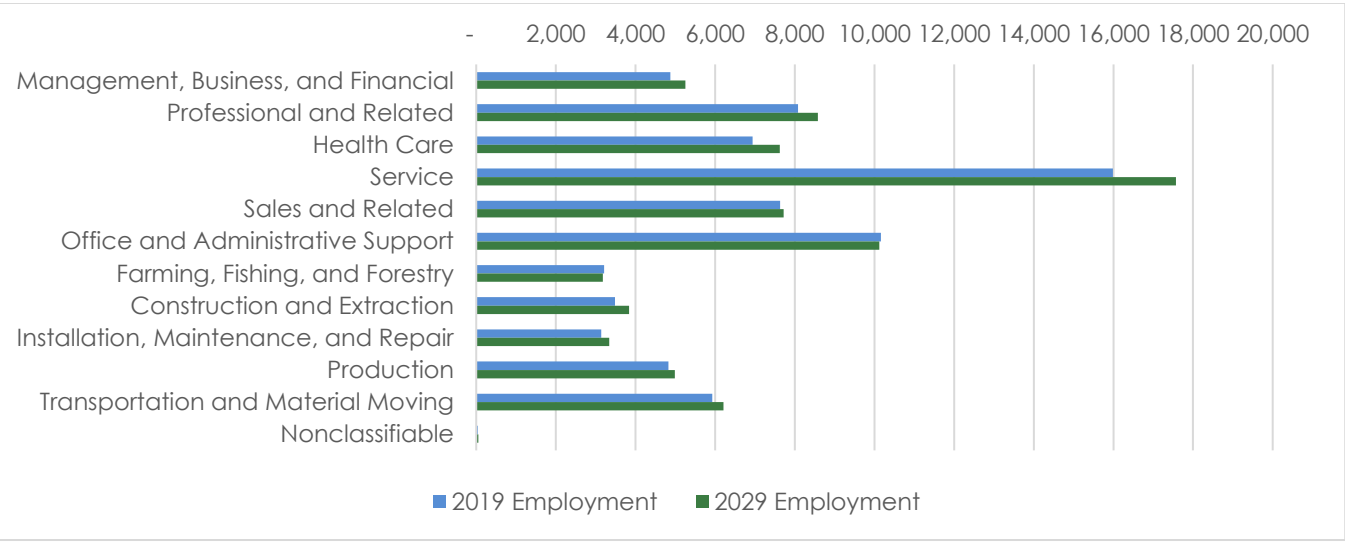
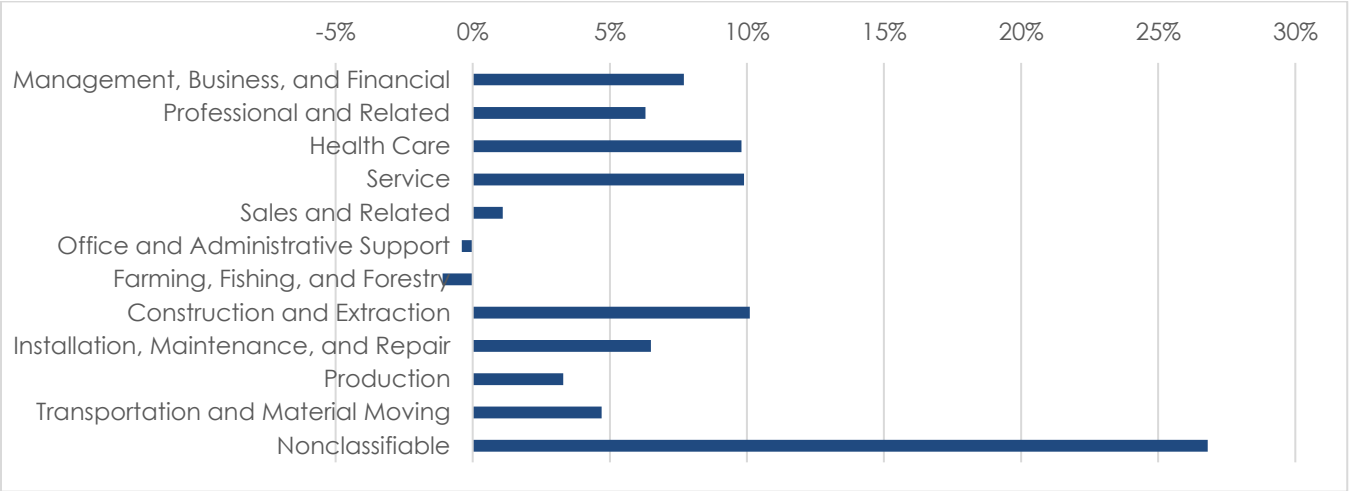


Figure 17. Projected Employment Growth – Percentage Growth



Local transportation system plans were developed in different years. Some communities have realized most of their projected growth, while other plans are newer with more-recent projections. TSP findings are as follows:

- The City of Myrtle Creek TSP (2006) projects growth through 2025. It estimates a net population growth of 2,593, approximately 1.58% average annual growth. The TSP identifies zones where growth was projected for commercial/industrial uses, but not jobs.
- The City of Reedsport TSP (2006) projects growth through 2025. It projected 1069 new households (no current households or total future presented) and 692 new jobs (approximately 50% increase, or 2.5% per year).
- The City of Roseburg TSP (2019) projected population growth through 2065 and employment through 2040. Estimates are based on PSU's forecasts and estimated to be populations growth from 24,820 today to 39,239 by 2035, and 46,805 by 2065, an average annual growth rate of 1.9% between 2018 and 2065. Employment is expected to grow by 37% between 2017 and 2040, approximately 1.6% annual growth.
- The City of Sutherlin TSP (2020) does not include projected population or employment information.
- The City of Winston TSP (2003) projected population to grow from 5,012 to 9,052 in 2020, or about 4% annually. Employment projections were not complete.

NEXT STEPS

This memorandum was reviewed with the Project Management Team (PMT) and the Technical Advisory Committee (TAC) to collect input on the proposed measures and to determine if there are additional performance measures that should be considered by UPTD for monitoring their long-term progress towards their goals and objectives. The performance measurement framework was refined and will be included in the TMP.