

## TRANSIT BENCHMARKS

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### INTRODUCTION

This memorandum presents the transit benchmarks used to monitor South Clackamas Transportation District (SCTD)'s performance beyond development and implementation of the Transportation Development and Master Plan (TDMP). These benchmarks consider system-wide efficiency and effectiveness and are intended to be used in addition to the route-specific monitoring proposed in *Memorandum #7: Future Service Opportunities Evaluation and Prioritization and Monitoring Program*. The benchmarks identified herein consider existing goals, policies, and plans of SCTD, ODOT, Clackamas County, and the City of Molalla as well as national best practices. Benchmarks also consider existing and future data availability and ease of the recommended performance management program.

This memorandum also explores potential local policy and development code changes as measures for effectively implementing TDMP recommendations in local jurisdictions served by SCTD. Specifically, policy and code language recommended in this memorandum is intended to ensure that access to transit is incorporated and enhanced through future local land use and development decisions. The policy and code section of the memorandum provides an overview of transit-supportive policy and code; summarizes TDMP recommendations, by jurisdiction, that are relevant to local policy and code; assesses consistency between adopted language and "model" transit-supportive policy and code; and includes recommendations for potential policy and code amendments. Model transit-supportive policy language reflects goals and policies from Memorandum #3 (Updated Goals and Policies)

as well as other transit master planning work that has been done in Oregon. Model transit-supportive development code draws from Oregon transportation planning requirements and model development code, as well as other transit master planning processes.

## WHY PERFORMANCE MEASUREMENT?

Performance measurement helps transit providers monitor the extent to which transit services are embodying their vision and achieving their goals. It is also a valuable tool for ongoing monitoring and management of all aspects of service delivery.

A **performance measure** is an indicator of how a particular aspect of transit service is being provided. A **performance target** is a numeric threshold that defines whether or not that aspect of transit service is being provided at the desired level. Targets can be established based on goals, current performance, industry standards, and/or peer data. To be reliable and credible, performance measures must be objective and rely on high-quality data.

Performance measures and targets used in the Transit Development and Master Plan (TDMP) to evaluate the transit system should be closely linked to SCTD's established goals.

### SCTD TDMP Goals & Policies

*Mission: SCTD strives to provide safe, accessible, convenient, reliable, and efficient transit service that meets the needs of the community we serve.*

- » Goal Area 1: **Customer Experience**
- » Goal Area 2: **Accessibility**
- » Goal Area 3: **Connectivity & Coordination**
- » Goal Area 4: **Sustainability**

Where applicable, SCTD should use available data and analytical methodologies to evaluate how SCTD is doing relative to achieving those goals and, most importantly, use the data in a comprehensive way to understand where and how to improve. For example, as providing a safe and inviting transit environment by providing bus stop facilities is a stated goal (Goal 1D), SCTD should monitor the number of bus stops with amenities such as benches and shelters to determine how well services are performing compared to established benchmarks and historical trends.

Other documents, such as the Oregon Public Transportation Plan and related STIF evaluation criteria as well as the

### Performance Measure Categories

1. **Service Equity**
2. **Cost Efficiency**
3. **Cost Effectiveness**
4. **Productivity**
5. **Service Reliability**
6. **Service Utilization**
7. **Resource Utilization**
8. **Maintenance Administration**
9. **Perceived Service Quality**
10. **Safety and security**
11. **Demand-Response Service**

Clackamas County and Molalla Transportation System Plan, identify goals measures to evaluate transit systems. Many of the goals and measures are in-line with those identified for SCTD, including access for transportation-disadvantaged populations, connectivity to other providers, and cost and system efficiencies such as rides per hour and cost per ride. Measures that SCTD has not previously identified include OPTP's percent of vehicle fleet that is low- or zero-emission and electronic fare availability, which are included in the service opportunities analysis.

Transit Cooperative Research Program (TCRP) Report 88, *A Guidebook for Developing a Transit Performance-Measurement System*, identifies categories of performance measures as shown in the callout box to the left. *TCRP Report 88* identifies and provides detailed summaries for over 400 transit performance measures

within these categories. A series of question-and-answer menus helps providers quickly identify measures that relate to their goals and objectives.

The performance measures suggested in this memorandum will address multiple facets of SCTD's transit service and operations, include measures that are of use in statewide assessment and monitoring, use data that transit providers already report to the NTD, and represent best practices as described in *TCRP Report 88*.

## WHAT IS A PERFORMANCE MEASUREMENT PROGRAM?

A **performance measurement program** is more than an adopted set of performance measures and targets. It includes processes for selecting, calculating, evaluating, and refining those measures and targets. It also includes a process for communicating the results of performance assessments. It facilitates tracking changes in performance over time.

A performance measurement program must reflect multiple aspects of transit performance, but the number of measures included should not be overwhelmingly high. *TCRP Report 88* indicates that the characteristics of an effective performance measurement system include the following:

- » *Stakeholder acceptance*
- » *Linkage to agency and community goals*
- » *Clarity*
- » *Reliability and credibility*
- » *Appropriate variety of measures*
- » *Appropriate number of measures*
- » *Appropriate level of detail*
- » *Flexibility*
- » *Realism of goals and targets*
- » *Timeliness*
- » *Integration into provider decision-making*

The following recommended measures aim to achieve these characteristics for SCTD.

### Six Primary Uses of a Transit Performance Measurement Program

- » Monitoring transit service
- » Improving transit performance
- » Transit provider management (contracted services)
- » Developing and updating service design standards
- » Prioritizing investments in the transit system
- » Communicating regularly with decision-makers, partners, and the public

## CURRENT PERFORMANCE MEASUREMENT PROGRAMS AND DATA

Table 1 on the following page shows the data that SCTD currently collects and documents on an annual basis. There are several performance measures that can be developed from these data, some of which are currently calculated and reported by SCTD.

### CURRENT MONITORING AND REPORTING PROCEDURES

SCTD reports data annually for the Oregon Department of Transportation (ODOT) Public Transit Division. This includes information about service data (e.g. number of one-way rides, service miles, service hours); revenue, expense, and budget details; and vehicle, equipment, and facility inventories. Table 1 contains a list of the information currently collected and reported to ODOT and the National Transit Database (NTD) by SCTD.

**Table 1. SCTD Data Currently Reported to ODOT**

Data	Related Metric Type(s)
Total Passenger One-Way Rides	Cost Effectiveness Productivity Service Utilization
Elderly & Disabled One-Way Rides	Cost Effectiveness Productivity Service Utilization
Revenue Operating Hours	Cost Efficiency Productivity
Revenue Service Miles	Cost Efficiency Productivity Service Utilization Resource Utilization
Fare Revenue	Cost Effectiveness
Other Revenue <sup>1</sup>	Cost Effectiveness
Operations Expenses	Cost Efficiency Cost Effectiveness Maintenance
Capital Expenses	Cost Efficiency Cost Effectiveness
Vehicle Inventory	Cost Effectiveness Service Utilization Resource Utilization Maintenance
Equipment Owned	Maintenance
Crash Reporting	Safety and Security
Civil Rights Reporting	Safety and Security

<sup>1</sup> Includes federal, state, and local sources, as well as other types (contract revenue, income earned, grants, donations).

## RECOMMENDATIONS FOR A PERFORMANCE MANAGEMENT SYSTEM

The following section describes the recommended performance measures, benchmarking development, initial benchmark assessment, and recommendations for future monitoring and trend analysis for SCTD.

## RECOMMENDED PERFORMANCE MEASURES

Specific performance measures within each of several broad reporting categories that align with the proposed framework from Memo #3: *Updated Goals and Policies* and Memo #5: *Evaluation Framework* are described below, along with their respective data needs. Federal requirements mandate that transit agencies provide data annually to include in the National Transit Database (NTD). The federal reporting requirements were considered in the development of performance measures for SCTD. Descriptions below come from TCRP Report 88.

### Service Equity – Related to Goal Area 1: Customer Experience and Goal Area 2: Accessibility

- » **Service equity:** *This measure is the equitable distribution of costs and benefits resulting from transit projects or services. This measure is typically evaluated with refined GIS data of disadvantaged populations, currently unavailable to SCTD. Public outreach and community surveys could provide insights to equity until more refined GIS data becomes available.*
  - ❖ **Data requirements:** *refined geographic data of transportation disadvantaged populations, public involvement*

### Cost Efficiency - Related to Goal Area 4: Sustainability

- » **Total cost per service hour:** *This measure is one of the core evaluations of a transit system's overall performance, and is another cost-efficiency indicator that compares a transit system's ability to provide service outputs (e.g. service hours) as a function of service inputs (e.g. costs). It is used to estimate the cost of adding service hours 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.*
  - ❖ **Data requirements:** *cost data (administration, operating, maintenance, amortized capital) and total vehicle service hours*

### Cost Effectiveness - Related to Goal Area 4: Sustainability

- » **Cost per vehicle:** *This is an indication of the operational cost-effectiveness of the system on a per-vehicle basis*
  - ❖ **Data requirements:** *cost data (administration, operating, maintenance, amortized capital) and number of available vehicles*
- » **Total cost per passenger trip:** *This measure is one of the core evaluations of a transit system's overall performance. Intuitively, this cost efficiency metric declines as ridership increases; however, this correlation is not always true for demand-responsive service as each additional passenger often increases service hour and miles, thereby increasing total cost. Improved scheduling efficiencies, such as passenger grouping, can increase ridership without increasing total cost for demand-responsive service.*
  - ❖ **Data requirements:** *cost data (administration, operating, maintenance, amortized capital) and total number of passengers*
- » **Farebox recovery ratio:** *This measure is fare revenue divided by total expenses. It reflects how much of a transit agency's costs are covered by passenger fares.*
  - ❖ **Data requirements:** *cost data (administration, operating, maintenance, amortized capital) and revenue (fares collected)*

### **Productivity - Related to Goal Area 1: Customer Experience and Goal Area 4: Sustainability**

- » **Passengers per vehicle service mile:** This performance measure provides an indication of how well vehicle resources are being used over a fixed distance.
  - ❖ **Data requirements:** total number of passengers and total vehicle service miles
- » **Passengers per vehicle service hour:** This performance measure provides an indication of how well vehicle resources are being used over a fixed period of time.
  - ❖ **Data requirements:** total number of passengers and total vehicle service hours
- » **Number of transfer opportunities:** This measure assesses connectivity to other routes and providers. This measure can be assessed at different transfer ranges (15 minutes, 30 minutes, etc.).
  - ❖ **Data requirements:** schedule information for SCTD and other providers

### **Service Reliability - Related to Goal Area 1: Customer Experience**

- » **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 as well as error-prone. If data collection is automated, route-level and even operator-level performance can be determined. Note that precision (e.g., accuracy of checker watches) is important since even one minute early is considered by some agencies as not on time.
  - ❖ **Data requirements:** automatic vehicle location (AVL) and schedule information

### **Service Utilization - Related to Goal Area 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.
  - ❖ **Data requirements:** total number of passengers
- » **Annual vehicle service miles:** This measures the number of miles that transit vehicles travel.
  - ❖ **Data requirements:** total vehicle service miles from odometer readings
- » **Annual vehicle service hours:** This measures the number of hours that transit vehicles are in service, including revenue hours (transporting passengers) and deadhead hours (layovers and traveling in revenue service without passengers).
  - ❖ **Data requirements:** total vehicle service miles from driver logs

### **Resource Utilization - Related to Goal Area 4: Sustainability**

- » **Vehicle service miles per vehicle:** This measure is the ratio of service miles to the number of vehicles in the fleet and is an indication of how well existing capital resources are being used.
  - ❖ **Data requirements:** total vehicle service miles from driver logs and number of available vehicles
- » **Vehicle service hours per vehicle:** This measure is the ratio of service hours to the number of vehicles in the fleet and measures the intensity of capital resources use.
  - ❖ **Data requirements:** total vehicle service miles from odometer readings and number of available vehicles

### **Maintenance Administration - Related to Goal Area 4: Sustainability**

- » **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.
  - ❖ **Data requirements:** number of breakdowns, distance traveled by transit vehicles
- » **Maintenance costs as a percentage of operating costs:** An aspect of maintenance performance measures deals with maintenance as a general measure of program effectiveness. This measure focuses on how well the maintenance department is performing relative to overall operating costs. This performance metric provides information that can assist a maintenance department manager in understanding details related to the costs of running the department.
  - ❖ **Data requirements:** total maintenance costs, total operating costs

### **Perceived Service Quality - Related to Goal Area 1: Customer Experience and Goal Area 2: Coordination**

- » **Service frequency:** Frequency refers to how often transit service is provided, either at a location or between two locations. SCTD should establish frequency targets for each route based upon service equity, existing and future needs, and resource availability.
  - ❖ **Data requirements:** Scheduled headways
- » **Number of missed connections with coordinated transit systems:** SCTD should record any missed connections with neighboring transit systems.
  - ❖ **Data requirements:** total number of reported missed connections

### **Safety and Security- Related to Goal Area 1: Customer Experience and Goal Area 4: Sustainability**

- » **Bus stop amenities:** SCTD should track the number of bus stops with signage, seating, and shelters
  - ❖ **Data requirements:** capital inventory data
- » **Total reportable incidents:** SCTD should record the number of customer complaints and compliments and develop a system by which customers can easily provide feedback.
  - ❖ **Data requirements:** total number of reported incidents, complaints, and compliments
- » **Total crashes:** SCTD should enumerate the total number of crashes involving their vehicle fleet.
  - ❖ **Data requirements:** total number of reported crashes

### **Demand-Response Service- Related to Goal Area 1: Customer Experience**

- » **Service denials:** Route deviation service as measured by the percentage of trip requests in which service cannot be adequately provided.
  - ❖ **Data requirements:** scheduling records of all deviation requests

## **RECOMMENDED BENCHMARK DEVELOPMENT METHODOLOGY**

There are six main methods that SCTD can use to develop benchmarks to track performance:

- » **Comparison to the annual average:** The average value for each measure is calculated annually.



- » *Comparison to a baseline: The value for each measure is compared to the average value for the measure in the first year that the performance-measurement system was implemented.*
- » *Trend analysis: The benchmark is based on the previous year's performance measure value, depending on the analysis period, to be expressed as either an improvement or not from the previous year.*
- » *Self-identified standards: SCTD would set benchmarks based on existing performance and the district's goals.*
- » *Comparison to typical industry standards*
- » *Comparison to peer systems*

Performance tracking for SCTD is recommended to be based on a comparison to a baseline assessment developed from the previous five years of available data, which is to be used for the initial comparison for the first year of performance tracking. For subsequent years, the recommendation is for SCTD to compare results to the five-year baseline and peer transit agencies (such as Canby Area Transit, Sandy Area Metro, and Woodburn Transit) as shown in Memo #2: Existing Conditions.

### INITIAL FIVE-YEAR BENCHMARK DEVELOPMENT

This section provides some initial five-year benchmarks for those performance measures for which SCTD has available 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.

- » *A green checkmark:  indicates that the 2018 results met the benchmark.*
- » *A red checkmark:  indicates that the 2018 results did not attain the benchmark.*

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

#### Service Equity

SCTD has not recently changed their routing. Therefore, no change is seen in **service equity**. Table 2 shows existing service equity by route, including a comparison to the service district, with bolded values showing routes serving those populations above service district average. As shown, SCTD services serve a higher proportion of people in poverty, people of color, and elderly adults and a lower proportion of people below the 200% poverty level, people with limited English proficiency, people with disabilities, and households with no vehicles.

**Table 2. Service Equity**

Disadvantaged Population		Poverty	200% Poverty*	People of Color	Elderly Adults	Youth	Limited English	Persons with Disabilities	Households with no Vehicles*
Existing Service District		9.0%	43.0%	7.0%	11.0%	24.0%	4.0%	14.0%	6.0%
Molalla City	Existing	<b>11.4%</b>	28.9%	<b>16.6%</b>	<b>11.7%</b>	<b>28.0%</b>	1.8%	12.4%	5.3%
Molalla to Canby	Existing	<b>12.4%</b>	28.0%	<b>22.9%</b>	<b>11.8%</b>	<b>29.1%</b>	3.2%	11.9%	5.5%
Molalla to CCC	Existing	8.4%	23.2%	<b>14.5%</b>	<b>13.6%</b>	<b>27.5%</b>	1.6%	11.7%	5.5%

\*Census information from Molalla City. Remaining populations based on census blocks in the SCTD service district.



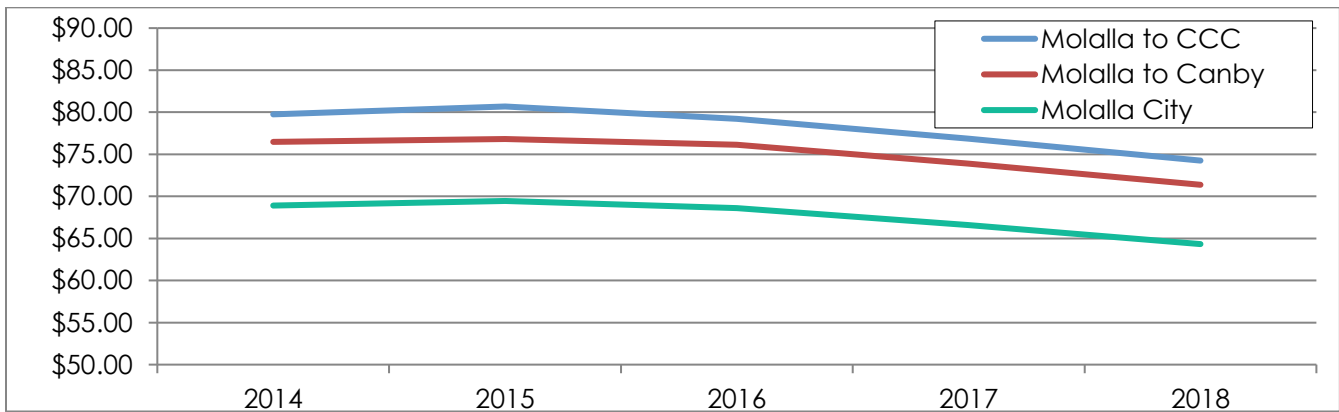
**Cost Efficiency**

Table 3 and Figure 1 show the **cost per service hour**. As shown, costs have not changed substantially after the Molalla to CCC service change in 2016. All routes have lower costs per service hour compared to their 5-year benchmark.

**Table 3. Cost per Service Hour**

Five-Year Benchmark	Molalla to CCC	Molalla to Canby	Molalla City
		<b>\$78.15</b>	<b>\$74.94</b>
2014	\$79.74	\$76.46	\$68.91
2015	\$80.69	\$76.82	\$69.45
2016	\$79.21	\$76.14	\$68.62
2017	\$76.87	\$73.90	\$66.60
2018	\$74.25	\$71.38	\$64.33
Meets Benchmark?	✓	✓	✓

**Figure 1. Cost per Service Hour**



**Cost Effectiveness**

Table 4 and Figure 2 show the **operating cost per vehicle**. As shown, the cost per vehicle has decreased slightly with the 3% inflation baseline in-place. The fleet size remains the same.

**Table 4. Operating Cost per Vehicle**

Five-Year Benchmark	SCTD
2014	\$141,706
2015	\$143,047
2016	\$146,146
2017	\$142,416
2018	<b>\$138,103</b>
Meets Benchmark?	✓

**Figure 2. Operating Cost per Vehicle**

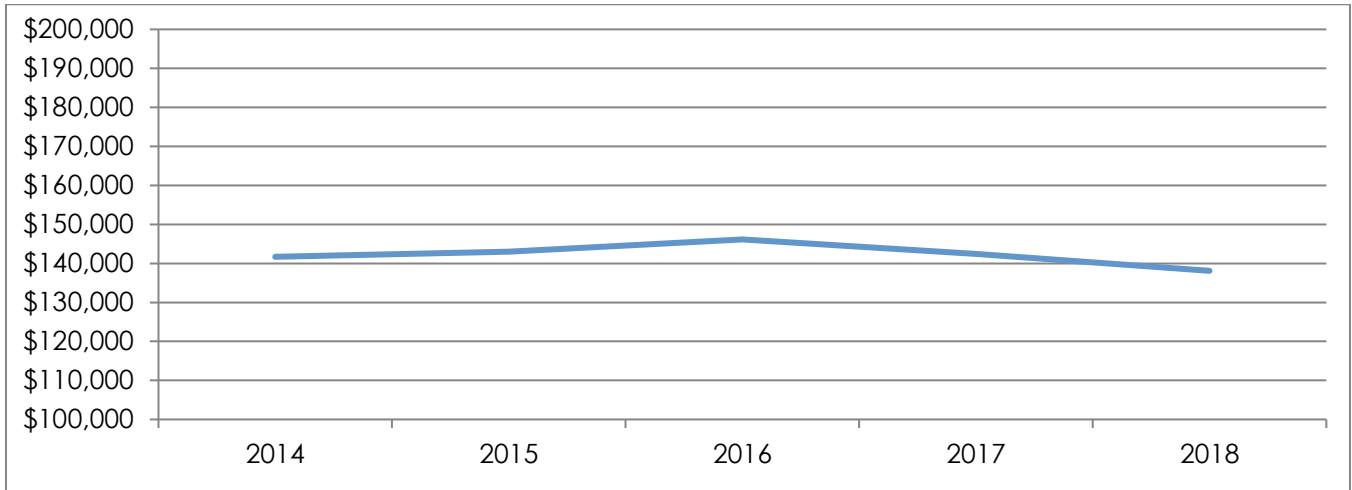


Table 5 and Figure 3 show the **operating cost per ride**. As shown, the cost per trip has increased over time for the Molalla to CCC route and decreased for other routes as operating costs increased while fleet size remains the same. Total ridership in 2018 was lower than or similar to the historic average while costs increased, resulting in the higher costs per trip overall. The Molalla to Canby and Molalla City have proportionally higher ridership compared to previous years, resulting in their decreased cost per ride.

**Table 5. Operating Cost per Ride**

Five-Year Benchmark	Molalla to CCC	Molalla to Canby	Molalla City
	<b>\$8.30</b>	<b>\$13.58</b>	<b>\$7.18</b>
2014	\$8.16	\$13.33	\$7.22
2015	\$7.52	\$13.48	\$7.74
2016	\$8.05	\$13.60	\$7.07
2017	\$8.78	\$14.63	\$7.07
2018	<b>\$8.97</b>	<b>\$12.88</b>	<b>\$6.79</b>
Meets Benchmark?	✓	✓	✓

**Figure 3. Operating Cost per Ride**

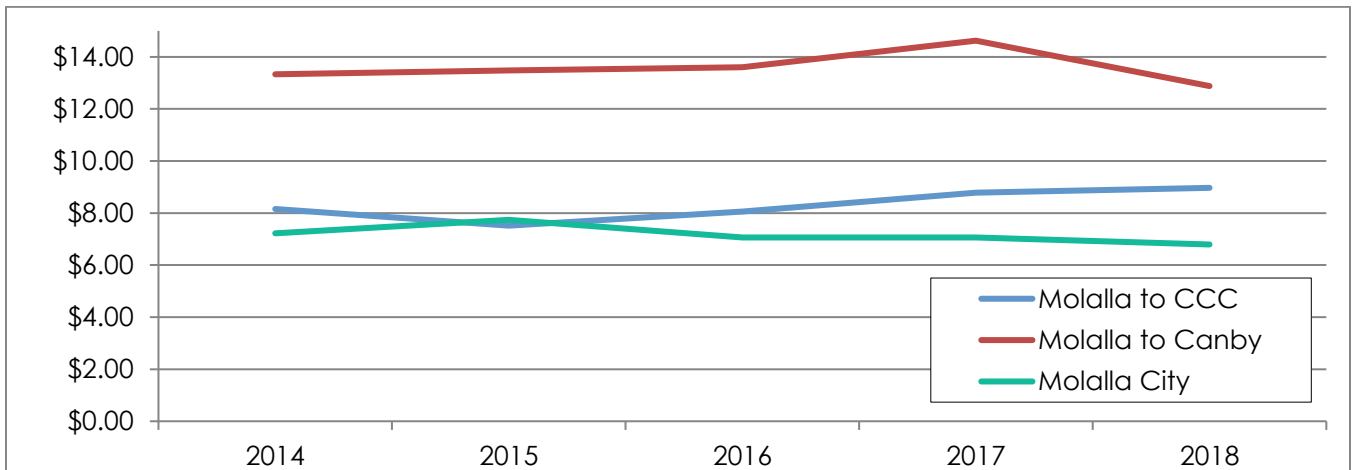
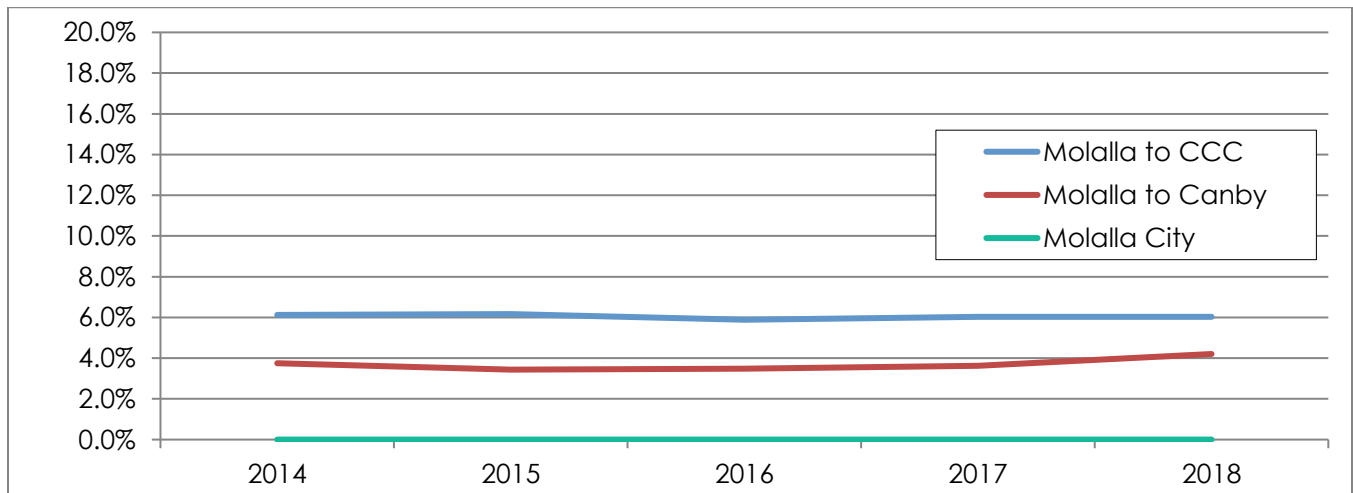


Table 6 and Figure 4 show the **farebox recovery ratio**. As shown, the Molalla to CCC route's farebox recovery ratio has stayed somewhat constant while the Molalla to Canby route's farebox recovery ratio has increased. This is due to decreased ridership on Molalla to CCC. The Molalla City route does not collect fares.

**Table 6. Farebox Recovery Ratio**

Five-Year Benchmark	Molalla to CCC	Molalla to Canby	Molalla City
	<b>6.0%</b>	<b>3.7%</b>	<b>0.0%</b>
2014	6.1%	3.7%	0.0%
2015	6.2%	3.4%	0.0%
2016	5.9%	3.5%	0.0%
2017	6.0%	3.6%	0.0%
2018	<b>6.0%</b>	<b>4.2%</b>	<b>0.0%</b>
Meets Benchmark?	✓	✓	N/A

**Figure 4. Farebox Recovery Ratio**



**Productivity**

Table 7 and Figure 5 show the **rides per mile**. As shown, Molalla to CCC has increased their service miles provided and seen decreased ridership in 2018, not meeting the five-year benchmark, while Molalla to Canby and Molalla City saw ridership increases compared to their stagnant miles provided.

**Table 7. Rides per Mile**

Five-Year Benchmark	Molalla to CCC	Molalla to Canby	Molalla City
	<b>0.33</b>	<b>0.25</b>	<b>1.51</b>
2014	0.33	0.26	1.51
2015	0.35	0.25	1.41
2016	0.34	0.25	1.54
2017	0.31	0.23	1.52
2018	<b>0.30</b>	<b>0.26</b>	<b>1.55</b>
Meets Benchmark?	✗	✓	✓

**Figure 5. Rides per Mile**

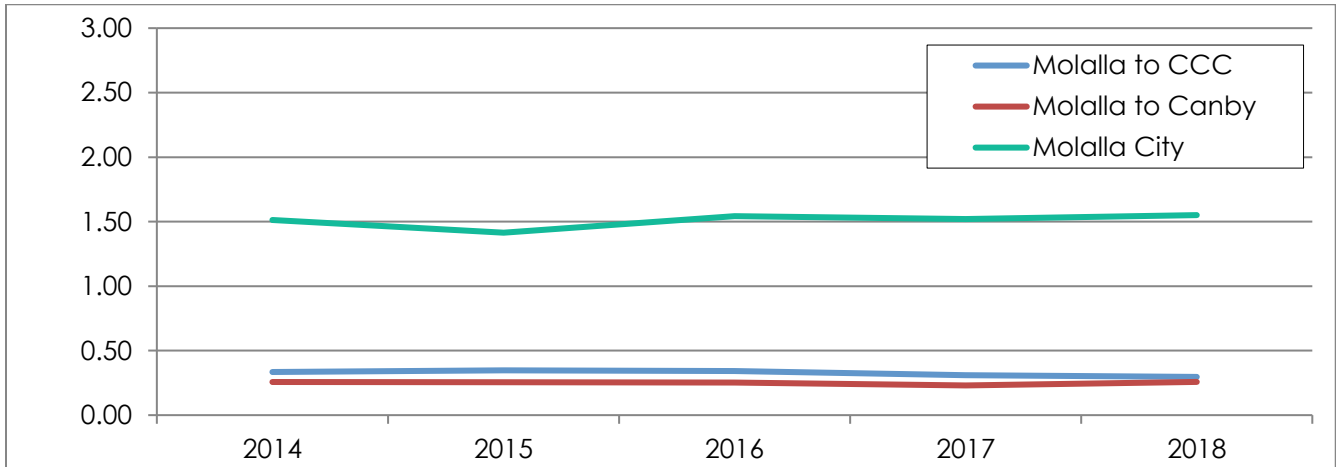
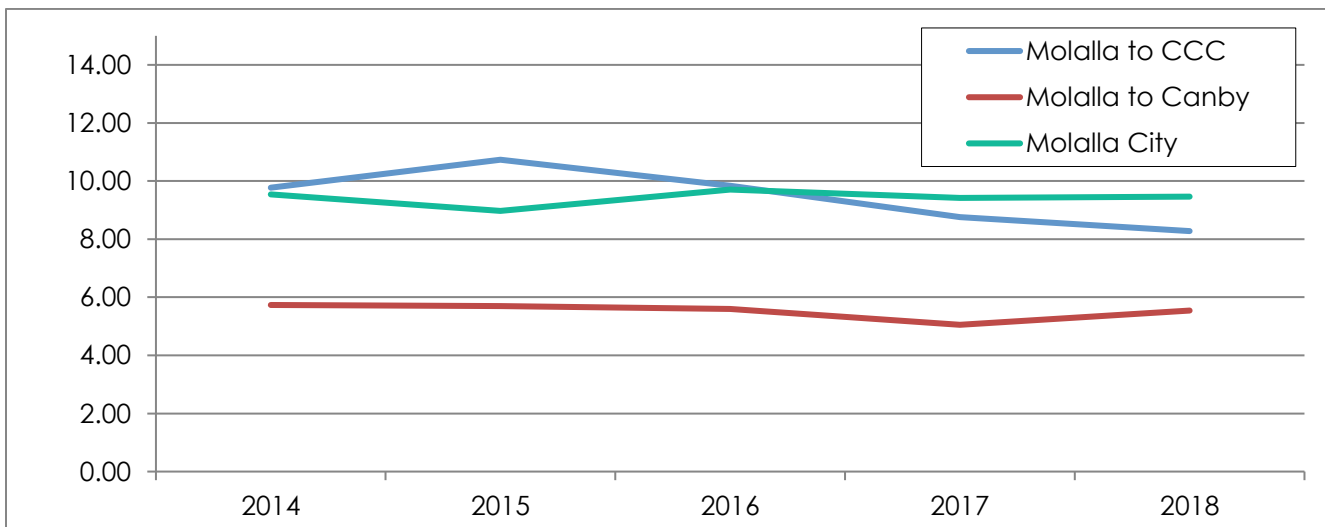


Table 8 and Figure 6 show the **rides per hour**. Similar to rides per mile, Molalla to CCC has increased their service hours provided and seen decreased ridership in 2018, not meeting the five-year benchmark, while Molalla to Canby and Molalla City saw ridership increases compared to their stagnant hours provided.

**Table 8. Rides per Hour**

Five-Year Benchmark	Molalla to CCC	Molalla to Canby	Molalla City
	<b>9.47</b>	<b>5.52</b>	<b>9.42</b>
2014	9.77	5.73	9.54
2015	10.73	5.70	8.97
2016	9.83	5.60	9.71
2017	8.75	5.05	9.43
2018	<b>8.28</b>	<b>5.54</b>	<b>9.47</b>
Meets Benchmark?	❌	✅	✅

**Figure 6. Rides per Hour**



While historic schedules of other providers are not available, the **number of transfer opportunities** can be tracked over time to evaluate connectivity and customer experience. Table 9 shows the current number of connections for each route on the 8 AM trip of each route. All SCTD services are connected to each other within 15 minutes. The Molalla to Canby route also provides connections to all other routes at the Canby Transit Center within 15 minutes. The Molalla to CCC route provides connections to most other routes at CCC within 15 minutes except for the CCC Express Harmony shuttle.

**Table 9. Number of Transfer Opportunities**

Benchmark	Molalla City	Molalla to Canby	Molalla to CCC
	<b>2</b>	<b>5</b>	<b>6</b>
2018	<b>2</b>	<b>5</b>	<b>6</b>
Connected, within 15 Minutes	Canby, CCC	City, CCC, CAT 99X NB, CAT 99X SB, Canby 3X	City, Canby, TriMet 32, 33, and 39, CCC Express Clairmont
Connected, not within 15 Minutes	-	-	CCC Express Harmony




**Service Reliability**

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

**Service Utilization**

Table 10 and Figure 7 show **annual rides**. As shown, Molalla to CCC has decreased compared to its benchmark while Molalla to Canby and Molalla City have increased.

**Table 10. Annual Rides**

Five-Year Benchmark	Molalla to CCC	Molalla to Canby	Molalla City
	<b>59,760</b>	<b>13,955</b>	<b>23,802</b>
2014	59,285	14,451	24,037
2015	65,148	14,359	22,612
2016	63,588	14,108	24,463
2017	56,830	12,783	23,846
2018	<b>53,951</b>	<b>14,075</b>	<b>24,051</b>
Meets Benchmark?			

**Figure 7. Annual Rides**

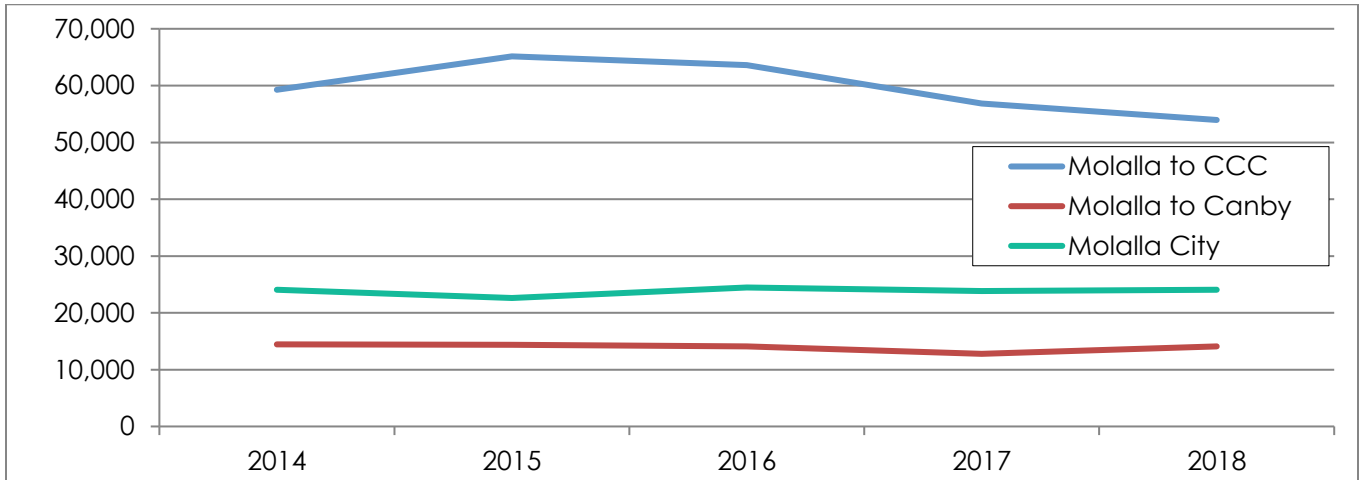


Table 11 and Figure 8 show **annual service miles**. As shown, all routes are providing slightly less service hours than their benchmark. The reported annual miles numbers for 2014 through 2017 are from the National Transit Database, which accounts for losses in service due to severe weather, vehicle breakdowns, or other cancelled service, but also may include deadhead miles. The 2018 data is from current planned service, which should be consistent in the past several years as service has remained the same, with the exception of the Molalla to CCC increase in 2016. This suggests the previous data included at least some deadhead miles.

**Table 11. Annual Service Miles**

Five-Year Benchmark	Molalla to CCC	Molalla to Canby	Molalla City
	<b>183,457</b>	<b>55,856</b>	<b>15,791</b>
2014	177,548	56,228	15,896
2015	187,549	56,552	15,987
2016	186,109	56,118	15,865
2017	184,127	55,520	15,696
2018	<b>181,950</b>	<b>54,864</b>	<b>15,510</b>
Meets Benchmark?	✓	✓	✓

**Figure 8. Annual Service Miles**

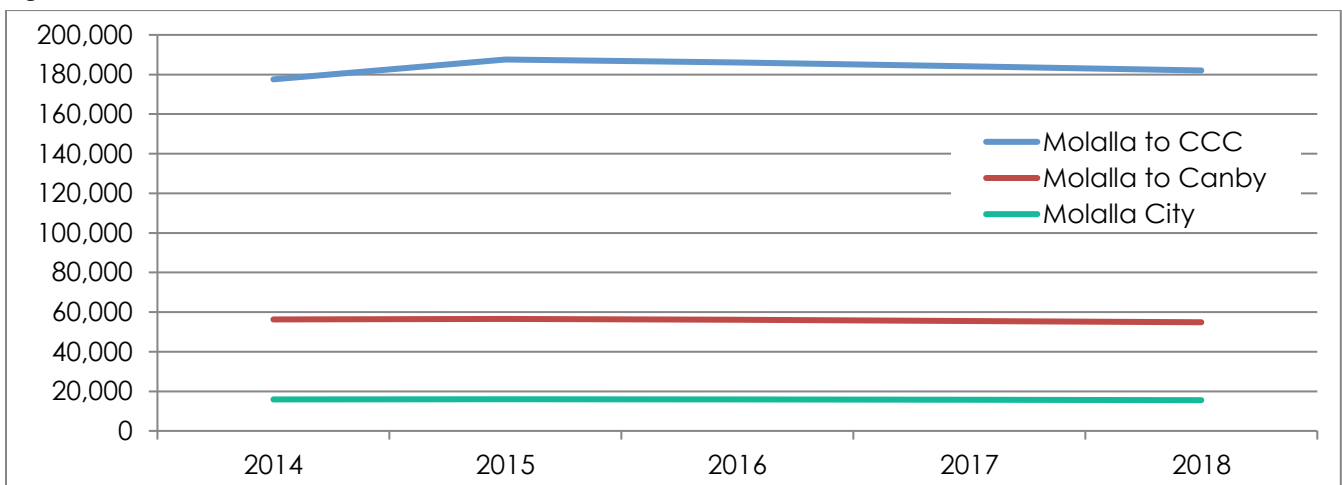
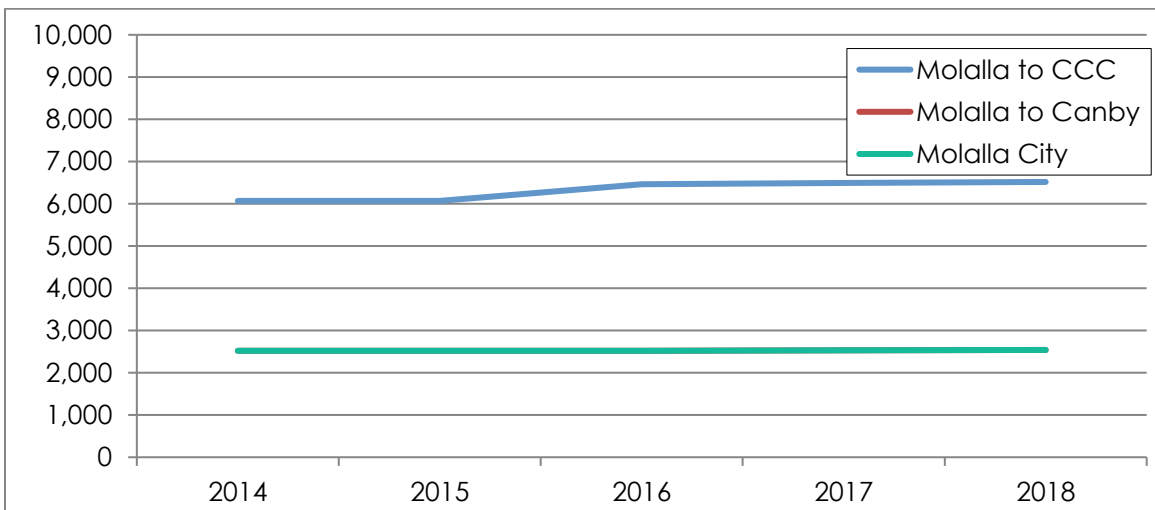


Table 12 and Figure 9 show **annual service hours**. As shown, all routes are providing slightly more service hours than their benchmark. The reported annual hours numbers for 2014 through 2017 are from the National Transit Database, which accounts for losses in service due to severe weather, vehicle breakdowns, or other cancelled service. The 2018 data is from current planned service, which should be consistent in the past several years as service has remained the same, with the exception of the Molalla to CCC increase in 2016.

**Table 12. Annual Service Hours**

Five-Year Benchmark	Molalla to CCC	Molalla to Canby	Molalla City
		<b>6,323</b>	<b>2,526</b>
2014	6,069	2,520	2,520
2015	6,069	2,520	2,520
2016	6,466	2,520	2,520
2017	6,492	2,530	2,530
2018	<b>6,518</b>	<b>2,540</b>	<b>2,540</b>
Meets Benchmark?	✓	✓	✓

**Figure 9. Annual Service Hours**



**Resource Utilization**

Table 13 and Figure 10 show the **annual service miles per vehicle** in SCTD's fleet. As discussed above, the historic fluctuations in reported miles may include deadhead miles. The 2018 data is from current planned service, which should be consistent in the past several years as service has remained the same, with the exception of the Molalla to CCC increase in 2016. The fleet size has remained consistent.

**Table 13. Annual Service Miles per Vehicle**

Five-Year Benchmark	SCTD
	<b>42,517</b>
2014	41,612
2015	43,348
2016	43,015
2017	42,557
2018	<b>42,054</b>
Meets Benchmark?	✓

**Figure 10. Annual Service Miles per Vehicle**

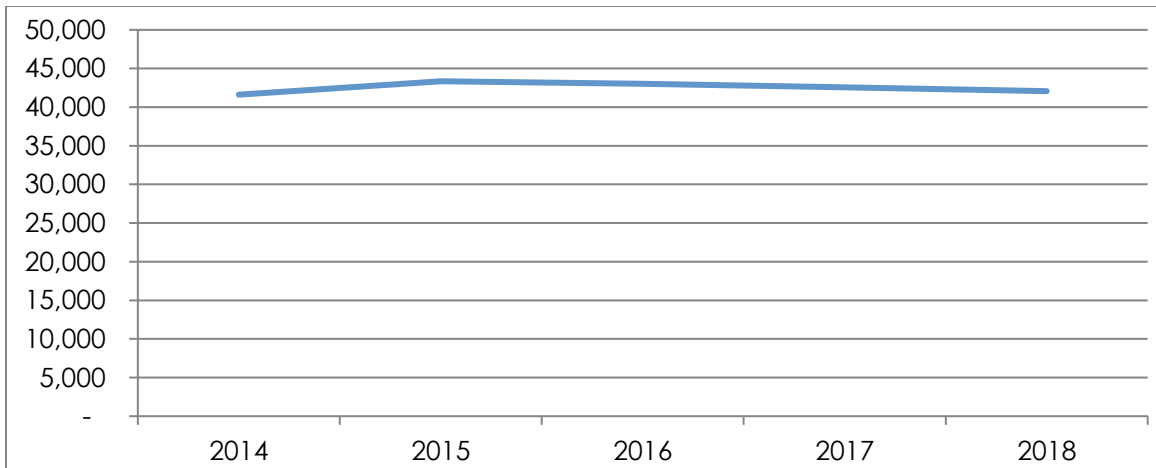


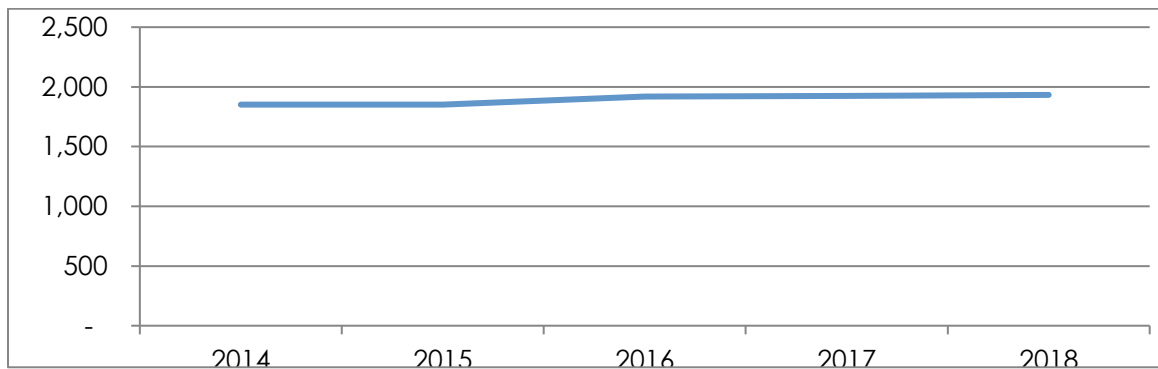


Table 14 and Figure 11 show the annual service hours per vehicle in SCTD's fleet. The reported annual hours numbers for 2014 through 2017 are from the National Transit Database, which accounts for losses in service due to severe weather, vehicle breakdowns, or other cancelled service. The 2018 data is from current planned service, which should be consistent in the past several years as service has remained the same, with the exception of the Molalla to CCC increase in 2016. The fleet size has remained consistent.

**Table 14. Annual Service Hours per Vehicle**

Five-Year Benchmark	SCTD
2014	1,852
2015	1,852
2016	1,918
2017	1,925
2018	<b>1,933</b>
Meets Benchmark?	✓

**Figure 11. Annual Service Hours per Vehicle**



**Maintenance Administration**

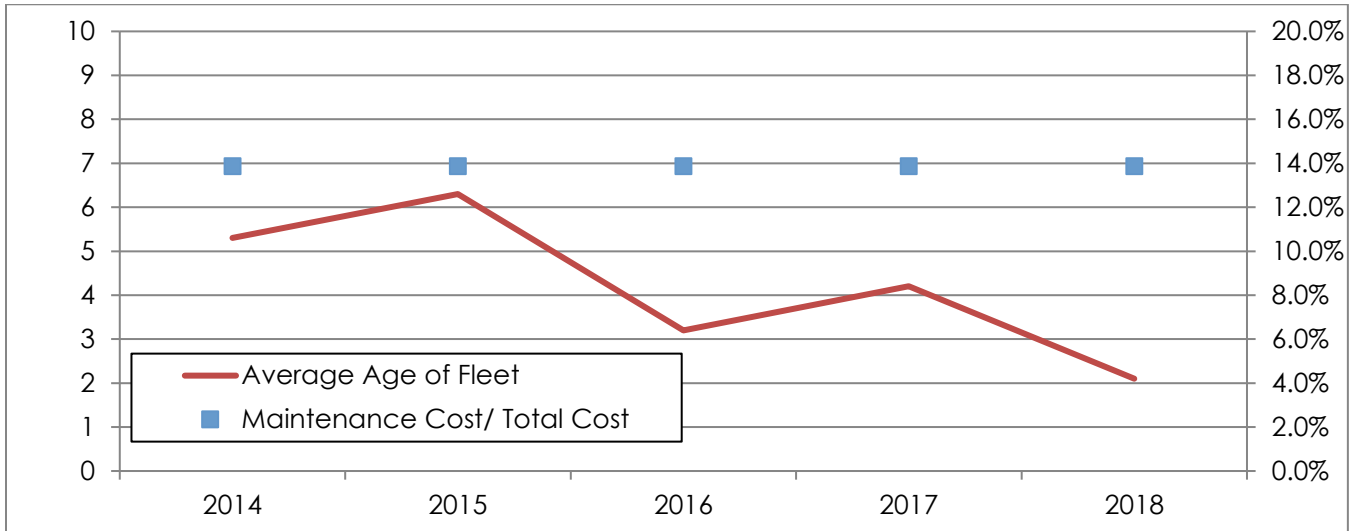
There are no breakdowns in past 5 years via NTD and thus no **vehicle-miles between breakdowns** to track, SCTD noted less than one per quarter on average.

Table 15 and Figure 12 show **maintenance costs as a percentage of operating costs** and compare these to the average age of the fleet. Historic maintenance costs are being obtained and the Figure 13 data are placeholders.

**Table 15. Maintenance Costs as a Percentage of Operating Costs v. Age of Fleet**

Five-Year Benchmark	Average Age of Fleet	Maintenance Cost/ Total Cost
		<b>4.22</b>
2014	5.30	
2015	6.30	
2016	3.20	
2017	4.20	
2018	<b>2.10</b>	<b>13.9%</b>
Meets Benchmark?	✓	

**Figure 12. Maintenance Costs as a Percentage of Operating Costs v. Age of Fleet**



**Perceived Service Quality**

Table 16 shows the historic **service frequency** for SCTD services. As shown, the Molalla to CCC Route added morning frequency in 2016. All other services' frequencies have remained the same.

**Table 16. Service Frequency**

Five-Year Benchmark	Molalla to CCC	Molalla to Canby	Molalla City
	Near 1 Hour Off-Peak, 1/2 Hour Peak	1 Hour Headway	1 Hour Headway
2014	1 Hour Headway	1 Hour Headway	1 Hour Headway
2015	1 Hour Headway	1 Hour Headway	1 Hour Headway
2016	1 Hour Off-Peak, 1/2 Hour Peak	1 Hour Headway	1 Hour Headway
2017	1 Hour Off-Peak, 1/2 Hour Peak	1 Hour Headway	1 Hour Headway
2018	<b>1 Hour Off-Peak, 1/2 Hour Peak</b>	<b>1 Hour Headway</b>	<b>1 Hour Headway</b>
Meets Benchmark?	✔	✔	✔

SCTD does not currently have extensive historic **missed connections with coordinated transit systems** information. These should be tracked moving forward.

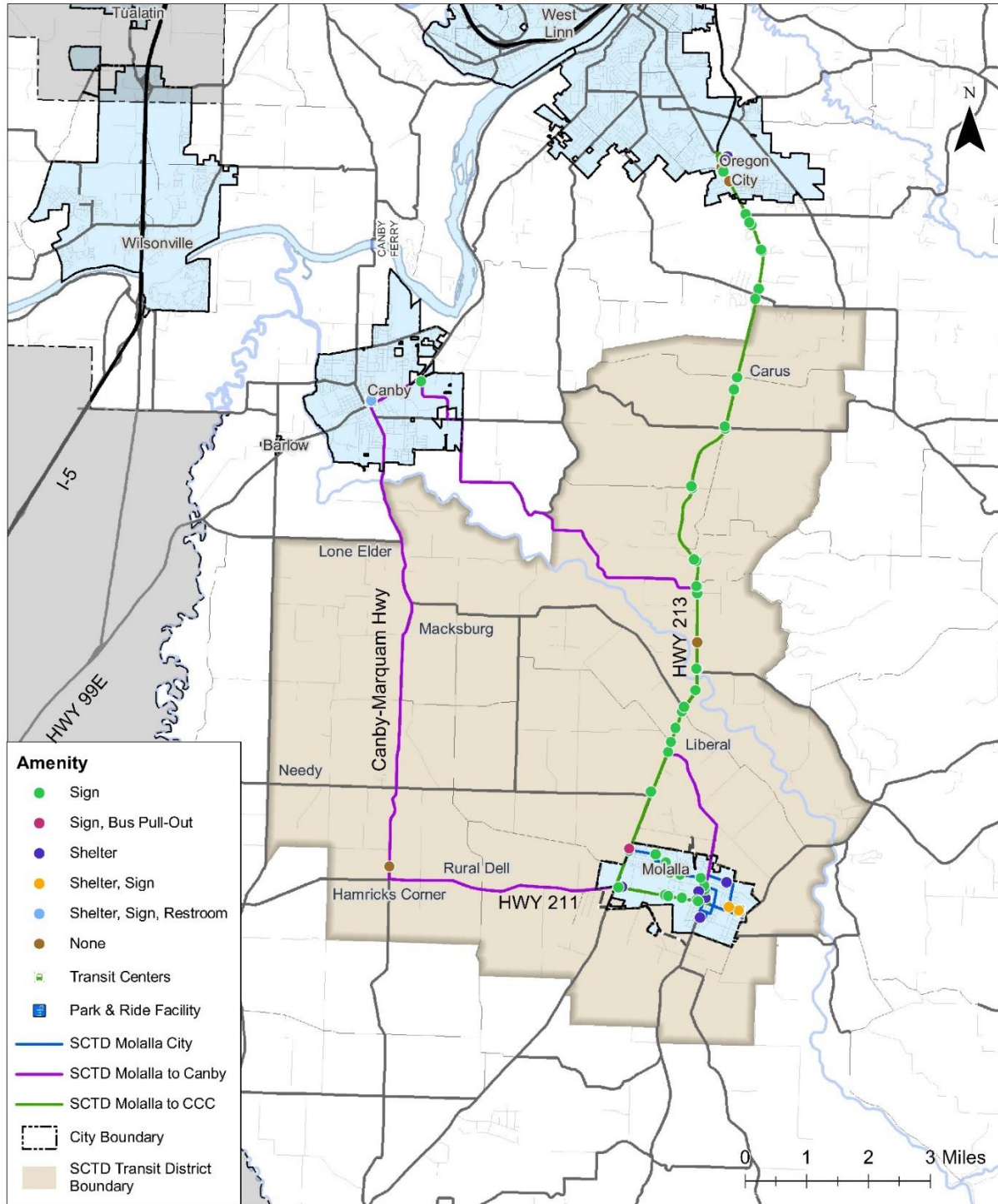
**Safety and Security**

SCTD does not currently have a complete **bus stop inventory**. The bus stops inventoried so far are shown in Table 17 and Figure 13. Table 17 also shows the percentage of the inventoried stops that have different amenities. As shown most bus stops have at least a stop sign. 9 bus stops have shelters, 1 has a bus pullout, and 1 has a restroom. In addition to the 76 existing stops, 24 potential stop locations have been identified by SCTD.

**Table 17. Bus Stop Inventory**

Year	Inventoried Number of Stops	Sign	Bus Pullout	Shelter	Restroom
2018	58	54	1	9	1
		93%	2%	16%	2%

**Figure 13. Bus Stop Inventory**



SCTD does not currently have extensive historic **incident** information, though the NTD shows none reported. These should be tracked moving forward.

SCTD does not currently have extensive historic **crash** information, though the NTD shows none reported. These should be tracked moving forward.

## Demand-Response Service

SCTD does not currently have extensive historic **service denial** information. SCTD received 4 deviation requests in the last year which were all accommodated. Service denials should be tracked moving forward.

## MONITORING AND TREND ANALYSIS

As part of the performance monitoring program, regular baseline analysis should be applied to compare the given performance measure against the previous five years of data (e.g. 2019 v. 2013-2018 average) on an annual basis. The identification of short-term and long-term trends will help assess ongoing performance and provide support for modifications to current operational procedures, long-term planning efforts, and coordination with other jurisdictions and transit agencies.

## POTENTIAL POLICY AND CODE AMENDMENTS

This section provides local policy and development code amendments for consideration by jurisdictions benefited by SCTD TDMP recommendations. The potential amendments are arrived at through the following steps: presenting an overview of transit-supportive policy and development code concepts; providing the existing transit service context and TDMP service recommendations for each of the jurisdictions; and assessing existing policy and development requirements for consistency with TDMP service recommendations and transit-supportive “model” policy and code language. The recommended policy and code language is intended to ensure that access to transit is incorporated and enhance through future local land use and development decisions.

## POLICY AND CODE OVERVIEW

### Transit-Supportive Policies

Model transit-supportive policies have been developed over the course of prior transit master planning processes that the consulting team have conducted in Oregon. Transit-supportive policies developed for this planning process are also informed by the goals and policies that were established in Memorandum #3 (Updated Goals and Policies).<sup>1</sup>

Model transit-supportive policies recommended for integration into the adopted transportation policies of jurisdictions served by SCTD are grouped and described as follows. The grouping is based on goal areas established in Memorandum #3.<sup>2</sup> Model transit-supportive policy language is presented in Appendix A.

- » **General** – *General policy statements establish: the SCTD TDMP as a guidance document for jurisdictions within SCTD's service area; the mission of serving community members, particularly transit-dependent members; and a commitment to improving safety for transit customers.*
- » **Accessibility & Connectivity** – *These policies emphasize the accessibility of and connections to transit stops and uses important to customers' daily needs and thriving.*

<sup>1</sup> Note that policies from Memorandum #3 that apply to SCTD as a transit service provider – and not necessarily to local governments whose communities are served by SCTD – are not included in model transit-supportive policies presented in this memorandum.

<sup>2</sup> Because these goals and policies need to be written from the perspective of the jurisdictions instead of SCTD, the goal area title of “Customer Service” was shifted to be “General.”

- » **Coordination** – These statements commit the jurisdiction to coordination with the transit service provider in reviewing development applications and providing for transit-related improvements in association with development.
- » **Sustainability** – These policies call for improved access and connections to other transportation services and options, as well as any other strategies that support the reduction of driving alone and carbon pollution.

### **Transit-Supportive Development Code**

Transit-supportive model code concepts and language has evolved over the course of transit master planning processes in other areas of the State, drawing on sources such as the Oregon Transportation Planning Rule (TPR) and State of Oregon Transportation and Growth Management Model Development Code for Small Cities, 3rd Edition (“Model Code”).<sup>3</sup>

Transit-supportive code concepts can be grouped and described as follows.

- » **Coordination** – Coordination between jurisdictions and transit service providers (e.g., SCTD) regarding proposed development is critical to ensuring transit-supportive development occurs. The periods during which an applicant is preparing a development application and when that application is under review by the jurisdiction present key opportunities for this coordination.
- » **Access to Transit and Supportive Improvements** – Providing safe and convenient access to transit and furnishing stops with supportive improvements (e.g., lighting and seating) is critical to transit's robust usage. In addition to requiring access directly from buildings on a site to an existing or planned transit stop (“**site access**”), transit-supportive access also consists of ensuring that transportation network connectivity is high enough to easily reach transit stops by walking and rolling (e.g., biking, scooting, mobility devices). Strategies proposed in Table 1 promote this connectivity through maximum block length standards and required non-motorized access through long blocks (“**area access**”).<sup>4</sup>
- » **Other Transit-Related Provisions**
  - ❖ **Parking** – Parking affects the transit orientation of development in several ways. Capping the amount of **vehicle parking** permitted can help make alternatives to driving more attractive and create smaller parking areas for more pedestrian-oriented and transit-supportive development. The location and design of vehicle parking – e.g., restricting parking between buildings and the street and requiring landscaping and walkways – play a significant role in making pedestrian access to transit attractive and convenient. Parking areas also provide potential locations for transit stops, park-and-rides, and ridesharing. Providing sufficient and well-designed **bicycle parking** supports connections from transit to destinations by bike.
  - ❖ **Urban form** – Urban form created by development standards can be used to establish a pedestrian-friendly environment and support transit. Transit-supportive development standards include those that: minimize the distance between buildings and the transit street; allow

<sup>3</sup> TPR: <https://secure.sos.state.or.us/oard/displayDivisionRules.action?selectedDivision=3062>

Model Code: <https://www.oregon.gov/LCD/TGM/Pages/Model-Code.aspx>

<sup>4</sup> Projects that improve pedestrian and bicycling infrastructure and connections to transit streets are also vital to supporting transit. These types of projects generally fall within the purview of transportation system planning.

*buildings to be set back from the street if pedestrian amenities are provided; and do not allow parking between the building and street.*

- ❖ **Definitions** – Development codes should include transit-related definitions in order to clarify and support transit-supportive code provisions.

Transit-supportive code concepts are outlined below in Table 18. Model code language that corresponds to the numbered concepts is provided in Appendix B.

**Table 18. Overview of Transit-Supportive Development Code Concepts**

	Code Concepts	Notes
<b>Coordination with Transit Agencies</b>		
1.	Pre-application conference and/or complete application notice	Require involvement of transit provider in pre-application conference and/or application review for development applications
2.	Hearing notice	Require notice of development application hearings be sent to transit provider
<b>Access to Transit and Supportive Improvements</b>		
<b>Site Access</b>		
3.	Access between the site and the street	Require pedestrian connections between primary building entrances and the sidewalk/street (transit street)
4.	Access to transit stop and supportive improvements	Require pedestrian connections from the site to existing and/or planned transit stops  Work with transit provider to provide seating, lighting, etc. at stops  Improvements to be provided consistent with guidelines in TMP or other document(s) indicated, as applicable
<b>Area Access</b>		
5.	Access to transit stops from beyond the site	Block length: Establish max. block length standards  Accessway through long blocks: Require non-motorized accessways through blocks over a specified size
<b>Other Transit-Related Provisions</b>		
<b>Vehicle Parking</b>		
6.	Transit-related uses in parking areas	Allow for redevelopment of existing parking lots to accommodate transit-related uses (e.g., park-and-rides, transit-oriented buildings), granted other min. parking standards can be met and the location of the use is appropriate and safe
7.	Preferential parking for employee ridesharing	Require location of rideshare (carpool) parking required to be closest to primary entrance, aside from Americans with Disabilities Act (ADA)-accessible parking
8.	Maximum parking requirements	Potential reduction of existing max. that is (e.g., set at 50% of min. required parking)
9.	Reduced parking requirements	Establish reductions (inc. max. % reduction) for locations within specified distance of transit

	Code Concepts	Notes
10.	Shared parking	Allow for shared use of parking areas for uses that have different peak parking usage
11.	Parking area landscaping	Set min. standards for perimeter landscaping, landscaping islands, and walkways through parking lots
12.	Parking area walkways	Set min. standards for perimeter landscaping, landscaping islands, and walkways through parking lots
<b>Bicycle Parking</b>		
13.	Minimum space and design requirements	Establish min. bicycle parking space and design requirements
<b>Urban Form</b>		
14.	Maximum building setbacks	Establish max. setbacks, e.g., no min. setback and max. 10' setback
15.	Pedestrian amenities in front yard setbacks	Allow for greater front setback when pedestrian space (seating, etc.) provided  E.g., up to 20' setback for up to 50% of building face
16.	Parking between the building and the street	Prohibit parking and circulation in front setback  Related to max. front setback
<b>Definitions</b>		
17.	Transit-related terms	Establish definitions for terms such as park and ride, transit center, and transit improvements, as needed to support new code language

## POLICY AND CODE ASSESSMENT

### Context

The City of Molalla is the primary jurisdiction within the SCTD service area, distinguished by the following SCTD services:

- » a city loop route that is recommended to be modified as growth occurs as well as increased in frequency and extended in hours and days of service in Memorandum #7 (Future Service Opportunities Evaluation and Prioritization);
- » existing service to Canby and Clackamas Community College (CCC) in Oregon City that is recommended for service enhancements and modifications in Memorandum #7; and
- » new service to Woodburn that is recommended in Memorandum #7.

Because SCTD is the only transit service provider for Molalla's intra- and inter-city needs, coordinating Molalla's transportation policies and development requirements with the recommendations of the SCTD TDMP is of primary importance.

The policies and development codes of the other jurisdictions that are currently served by SCTD or that are recommended to be served as a result of this planning process are of supporting, secondary importance. The following summarizes current and recommended service that could have a bearing on policy and code recommendations.

- » **Canby** – Memorandum #7 recommends increasing the frequency and extending the hours and days of existing service to Canby, in addition to potentially modifying the existing loop route to be a two-way route, involving the relocation of existing stops. Canby Area Transit (CAT) and Wilsonville's SMART also provide transit service in and to Canby.
- » **Oregon City** – Current SCTD service to Oregon City is limited to the Clackamas Community College (CCC) route. Service recommendations in Memorandum #7 include potential modification of the existing route to serve Henrici Road and Beaver Creek Road. This route enhancement serves the Beaver Creek Road Concept Plan Area, as identified in that planning process' Final Future Transportation Needs Memorandum. TriMet also serves Oregon City.
- » **Woodburn** – Recommended new service to Woodburn includes a route that provides access to the Woodburn Transit Center, Walmart, and Woodburn Premium Outlets and a potential commuter service (e.g., shuttle) to the Outlets. Existing service in Woodburn consists of the following: Woodburn Transit Service, which provides intra-city service; Cherriots, which connects the city to Salem; and CAT, which provides service between Woodburn and Canby via 99E.
- » **Silverton** – Memorandum #7 notes that new service to Silverton should be considered through further evaluation and monitoring.
- » **Estacada** – Memorandum #7 does not recommend future service to Estacada.

## Policy Assessment

### Molalla

Molalla completed a Transportation System Plan (TSP) update in 2018. The City's transportation policies were updated as part of the TSP process. In particular, the City of Molalla augmented its transportation policies with the goals and objectives developed as part of its TSP update process. Policies that were in effect prior to the TSP update process, in addition to policies that were added as a result of the TSP update, include the following transit-supportive statements:

- » *Encourage the continued use of public transportation services and identify improvements to further promote transit in the community.*
- » *Reduce reliance on single occupancy vehicles by improving the quality of available transit service and developing bicycle and pedestrian facilities that encourage non-vehicular modes of transportation.*
- » *Improve existing connections and create new connections between households and schools, parks, transit stops and other community destinations.*
- » *Provide for the needs of the transportation disadvantaged to the greatest extent possible.*

While these adopted policies are supportive, the policy language recommended in Appendix A provides more robust support for transit in general, as well as reflect the recommendations developed during the TDMP process.

### Other Jurisdictions

The following assessment compares service recommendations (Memorandum #7) to existing transit-related policies in the local TSP, comprehensive plan transit element, or other adopted plans.

- » **Canby** – The CAT Master Plan (2017) refers to SCTD in terms of existing service and recommends that the existing Canby Transit Center location be maintained for optimal access by CAT, SCTD, and SMART transit



services. *The Transit Plan in Canby's TSP (2010) lays out transit goal and objectives regarding coordinated, efficient, reliable, and growth-responsive service and land use policies and development that support transit and transportation options. These plans acknowledge transit and SCTD, yet are not specific about coordination with SCTD.*

- » **Oregon City** – *The Beaver Creek Road Concept Plan notes that transit-oriented land uses “have been strategically located to increase the feasibility of transit service in the future.”<sup>5</sup> The Concept Plan anticipates connecting the Beaver Creek Road area via transit to CCC, the Oregon City Regional Center (downtown and adjacent areas), and the rest of the region. However, the plan identifies TriMet as the provider, not SCTD, and does not specifically refer to connections to Molalla.<sup>6</sup> The City is also in the process of updating its Comprehensive Plan and Municipal Code to allow planned housing and mixed-use development to occur, including amending zoning designations, within the Beaver Creek Concept Plan Area. Implementation of the Concept Plan and the zoning amendments should include coordination with SCTD and other transit-supportive elements.*
- » **Woodburn** – *The Woodburn TSP (2019) does not identify SCTD as a transit district providing service in the city. Policies updated for the TSP include coordinating service with other service providers, but not specifically with SCTD.*
- » **Silverton** – *Policies in the Silverton TSP (2008)<sup>7</sup> call for supporting multi-modal transportation and the expansion of regional transit services. They do not anticipate service by or coordination with SCTD.*
- » **Clackamas County (Clackamas Industrial Area)** – *The Clackamas Industrial Area is a County urban renewal area. The objectives of its Development Plan (amended 2007) are to provide a minimum level of improvements to support industrial development, including roadway connections to enhance internal circulation, reduce the burden on congested major arterials, and improve access to Interstate 205. The plan does not refer to transit – whether to transit improvements, transit district coordination, or commuter shuttles facilitated by the transit district.*

## Code Assessment

### Molalla

The City of Molalla Development Code, Municipal Code Title 17, governs land use, development, and design standards.<sup>8</sup> The City's transportation-related development code was amended as part of the recent TSP update process. Consequently, the code exhibits a significant level of support for and consistency with model language.

Table 19 presents an assessment of the consistency of existing development requirements with model transit-supportive code, indicated in the table by the finding of consistent (“yes”), not consistent (“no”), or partially consistent (“partial”).

<sup>5</sup> [https://www.orcity.org/sites/default/files/fileattachments/public\\_works/page/3239/bcreport090908final.pdf](https://www.orcity.org/sites/default/files/fileattachments/public_works/page/3239/bcreport090908final.pdf)

<sup>6</sup> See Transit section, page 25, in the Beaver Creek Road Concept Plan.

<sup>7</sup> An update of Silverton's TSP began in 2016 and the update process was suspended in 2018-2019. New TSP goals and policies have not been adopted.

<sup>8</sup> <https://qcode.us/codes/molalla/>

**Table 19. Assessment of Existing Molalla Development Code**

	Transit-Supportive Development Code	Consistency
<b>Coordination with Transit Agencies</b>		
1.	Pre-application conference and/or complete application notice	No
2.	Hearing notice	Partial
<b>Access to Transit and Supportive Improvements</b>		
<b>Site Access</b>		
3.	Access between the site and the street	Yes
4.	Access to transit stop and supportive improvements	No
<b>Area Access</b>		
5.	Access to transit stops from beyond the site	Block length – Partial Accessway – Yes
<b>Other Transit-Related Provisions</b>		
<b>Vehicle Parking</b>		
6.	Transit-related uses in parking areas	Yes
7.	Preferential parking for employee ridesharing	Yes
8.	Maximum parking requirements	Yes
9.	Reduced parking requirements	Yes
10.	Shared parking	Yes
11.	Parking area landscaping	Yes
12.	Parking area walkways	Yes
<b>Bicycle Parking</b>		
13.	Minimum space and design requirements	Space requirements – Yes Design requirements – Partial
<b>Urban Form</b>		
14.	Maximum building setbacks	Yes/Partial
15.	Pedestrian amenities in front yard setbacks	Yes/Partial
16.	Parking between the building and the street	Yes
<b>Definitions</b>		
17.	Transit-related terms	No

**Other Jurisdictions**

Given the supplementary service that SCTD provides – or is recommended to provide – to jurisdictions outside Molalla, a detailed code assessment was not performed for these jurisdictions. Policy and general code recommendations are provided for each of these jurisdictions in the next section.

**POLICY AND CODE RECOMMENDATIONS**

**Policy**

**Molalla**

As stated in the previous assessment section, currently adopted City of Molalla policies are generally supportive of transit. Appendix A in this memorandum suggests new, model policy language that provides more robust support for transit enhancements envisioned in the TDMP.

### Other Jurisdictions

Given the TDMP service recommendations and the local policy framework assessment in this memorandum, the following policy concepts are recommended for each jurisdiction.

- » **Canby** – State support for the following: keeping a centrally-located Canby Transit Center; coordination between Canby and SCTD regarding service enhancements and modifications, including requiring coordination for development proposed along existing and planned SCTD routes; and coordination between service providers operating within the city.
- » **Oregon City** – Commit to coordination with SCTD regarding service in the Beaver Creek Road area and ensure that transit-supportive code concepts are reflected in Title 17 Development Code updates that guide future development in the area. Support coordination between service providers operating within the city.
- » **Woodburn** – Acknowledge existing and recommended SCTD service and require coordination between Woodburn and SCTD related to development proposed along planned SCTD routes. Support coordination between service providers operating within the city.

### Development Code

#### Molalla

Given the assessment findings in Table 2 and service recommendations in Memorandum #7, the code concepts identified in Table 1 that are appropriate for incorporation into Molalla's Development Code are listed below. Model code language corresponding to each numbered concept is provided in Appendix B. These code amendment recommendations could be considered directly following SCTD adoption of the TDMP, or in conjunction with other code updates that the City of Molalla may conduct over the next few years.

- » **Coordination (Table 1 Code Concepts 1 and 2)** – Short of creating a pre-application process that does not currently exist, it is recommended that the City provide notice specifically to transit service providers (SCTD) at the following milestones in processing a land use application, where the proposed action may have implications for existing or planned transit service: (a) upon determination of a complete application; and (b) before an upcoming hearing.
- » **Access to transit stops and transit stop improvements (Table 1 Code Concept 4)** – Given the potential for increased service frequencies and ridership in implementing the TDMP, it is recommended that development requirements be set to provide site access to existing and planned transit stops and to either require developers to provide or coordinate with SCTD to provide transit stop improvements in conjunction with development.
- » **Block length (Table 1 Code Concept 5)** – The minimum intersection spacing standards in the existing Public Works Specifications could be expanded to specify minimum and maximum intersection spacing. Block length standards should be established in the code (minimum and maximum), using the existing minimum intersection spacing standards from Public Works as a starting point and differentiating the standards by land use (zoning categories) in addition to functional classification.
- » **Bicycle parking design (Table 1 Code Concept 13)** – Existing code refers to Public Works for bicycle parking design standards, which were not found. Consider adding bicycle parking design standards consistent with the model language either to the Public Works Design Standards or to the development code.

- » **Maximum building setbacks and pedestrian amenities in setbacks (Table 1 Code Concepts 14 and 15)** – Existing code does not require a minimum setback in Commercial, Industrial, and Public/Semi-Public zones and establishes a 0-foot build-to line in Commercial zones. Consider a no minimum setback, and potentially also a 0- to 10-foot build-to line requirement, for development fronting an existing or planned transit stop. In a related vein, the 0-foot build-to line may be increased in Commercial zones when pedestrian amenities are provided between the building entrance and street. If build-to lines are instituted for development fronting an existing or planned transit stop, then this allowance for pedestrian amenities should be instituted as part of those provisions.
- » **Definitions (Table 1 Code Concept 17)** – Transit-related terms such as park-and-ride, transit center, or transit stop amenities or improvements are not currently defined in the code. Include definitions for transit-related terms that are used in proposed transit-supportive code amendments.

### Other Jurisdictions

Given service recommendations in Memorandum #7, policies recommended above, and the size of and development intensities in the jurisdictions, the following general recommendations should be considered during future code update processes.

#### *All Jurisdictions (Canby, Oregon City, and Woodburn)*

- » Coordination with transit agencies (Table 1 Code Concepts 1 and 2)
- » Vehicle parking/transit-related uses in parking areas (Table 1 Code Concept 6), TPR requirement
- » Vehicle parking/preferential parking for employee ridesharing (Table 1 Code Concept 7), TPR requirement
- » Bicycle parking/minimum space requirements (Table 1 Code Concept 13), TPR requirement
- » Definitions (Table 1 Code Concept 17)

#### *Oregon City and Woodburn*

- » Access to transit and supportive improvements (Table 1 Code Concepts 3-5)
- » Vehicle parking/all other provisions (Table 1 Code Concepts 8-12)
- » Bicycle parking/design requirements (Table 1 Code Concept 13)
- » Urban form requirements (Table 1 Code Concepts 14-16)

## NEXT STEPS

### Performance Measures and Benchmarks

The performance measures, benchmarks, comparison tables and figures shown in this memorandum are an initial examination of the availability of performance data, suggested benchmarks, and evaluation of the last five years of results. A systematic and holistic performance evaluation and identification of appropriate benchmarks for set performance measures are critical inputs for SCTD to justify service improvements. Performance measures and benchmarks are likely to change over time. In order to work towards a preferred monitoring system and realistic, credible, and accepted benchmarks, SCTD should consider the following next steps:

- » Review the recommendations and results in this memorandum and decide if the performance measurements, benchmarks, and monitoring approach meet SCTD's needs.
- » Identify any data or information reporting gaps and create steps to collect any required data in the future.

- » *Decide what SCTD would like to commit to in terms of a performance measurement system, and what SCTD wants to include in the updated Transit Development and Master Plan.*
- » *Identify and determine the process for creating an ongoing monitoring and tracking effort for performance measurement, as well as the process for updating performance measurements to meet changing needs and goals.*
- » *Develop a methodology to select and compare SCTD's performance measure results against peer transit agencies such as Canby Area Transit (CAT), Sandy Area Metro (SAM), and Woodburn Transit.*
- » *Create a decision-making framework for acting on the results of the performance measurement system*

The Project Management Team and Technical Advisory Committee reviewed the transit benchmarks and provided comments and revisions. The final recommendation transit benchmarks will be incorporated in the Transit Development & Master Plan for SCTD to monitor performance over time.

### **Policy and Code Amendments**

The Draft TDMP should include direction for the jurisdictions it serves on transit-supportive actions that can be made at the local level that support transit ridership and facilities. Specifically, the TDMP should include recommended local jurisdiction policy and code measures, as refined by the City of Molalla and the other jurisdictions SCTD serves or will serve.

- » *The City of Molalla should review and refine model transit-supportive policy language in Appendix A and consider future adoption as a supportive measure to implement the TDMP. The City is encouraged to incorporate refined policy language as part of a future action to update the City's Comprehensive Plan to be consistent with the TDMP.*
- » *The City of Molalla should review and refine suggested model transit-supportive regulatory language in Appendix B and consider future code amendments that can further support transit in the City.*
- » *For jurisdictions to which SCTD service is proposed to extend, confirm and refine policy concepts in this memorandum and identify upcoming comprehensive plan (policy) and development code update opportunities as supportive measures to implement the TDMP.*

# Appendix A TRANSIT-SUPPORTIVE POLICY LANGUAGE

## GENERAL

1. The South Clackamas Transportation District Transit Development and Master Plan provides policy and implementation direction for transit planning in jurisdictions within the District's service area, including route development, financing, and physical improvements necessary to maintain and improve public transit service for jurisdiction residents, businesses, and visitors.
2. The [City/County] will facilitate provision of transit service to its community members, with particular attention to members who may be "transit-dependent" due to factors such as age, income, or disabilities.
3. The [City/County] will work to improve safety for transit customers through measures such as providing or requiring development to provide enhanced roadway crossings and coordinating with the transit service provider regarding the location of transit stops and driveways near transit stops.

## ACCESSIBILITY & CONNECTIVITY

4. The [City/County] will provide or will require development to provide transportation system-related improvements such as pedestrian and bicycle connections to transit stops, including ADA-accessible improvements.
5. The [City/County] will collaborate with the transit service provider to improve access to education, employment, health, and community services.

## COORDINATION

6. The [City/County] will invite transit service providers to participate in the review of land use applications that may have implications for transit service.
7. The [City/County] will require development or will facilitate coordination between development and the transit service provider to provide transit-related improvements such as shelters and lighting to complement transit service and encourage higher levels of transit use. Transit stop improvements will be coordinated with the transit service provider and must be consistent with adopted transportation and transit plans.
8. The [City/County] will help facilitate connections between transit and other transportation services and options.

## SUSTAINABILITY

9. The [City/County] will support improved access to active transportation options and health-supporting destinations.
10. The [City/County] will support strategies to reduce single-occupancy vehicle trips and greenhouse gas emissions.

# Appendix B TRANSIT-SUPPORTIVE DEVELOPMENT CODE LANGUAGE

## COORDINATION WITH TRANSIT AGENCIES

### 1. Pre-Application Conference and/or Application Review

Pre-application requirements:

The [City/County Community Development/Planning Director/City Manager or designee] shall invite [City/County] staff from other departments to provide technical expertise applicable to the proposal, as necessary, as well as other public agency staff such as transportation and transit agency staff.

For applications that involve administrative review with notice (e.g., Type II procedures) and quasi-judicial review (e.g., Type III procedures):

Referrals [requests to review and comment on the application] shall be sent to interested and affected agencies. Interested agencies include but are not limited to [City/County] departments, police department, fire district, school district, utility companies, and applicable City, County, and State agencies. Affected agencies include but are not limited to the Oregon Department of Transportation and Rogue Valley Transportation District.

### 2. Hearing Notice

Notice of a pending quasi-judicial public hearing shall be given by the [City/County Community Development/Planning Department] in the following manner:

A. At least [twenty] days prior to the scheduled hearing date, notice shall be sent by mail to:

Any governmental agency or utility whose property, services, or facilities may be affected by the decision. Agencies include and are not limited to: [list of agencies appropriate to jurisdiction, e.g., counterpart County or City Planning/Community Development, ODOT, ODOT Rail, ODOT Transit, railroad, Port, school district, other transit/transportation service providers] and Rogue Valley Transportation District.

## ACCESS TO TRANSIT AND SUPPORTIVE FACILITIES

### Site Access

### 3. Access Between the Site and the Street

#### Pedestrian Access and Circulation

Standards. Developments shall conform to the following standards for pedestrian access and circulation:

- A. Continuous Walkway System. A pedestrian walkway system shall extend throughout the development site and connect to adjacent sidewalks, if any, and to all future phases of the development, as applicable.

#### **4. Access to the Transit Stop and Supportive Facilities**

*Note: These requirements can be modified so that development is not required to provide the physical improvements (if the transit district is providing them) for the transit stop but is required to provide the space and/or easements for the improvements and the connection to the stop.*

##### **Transit Access and Supportive Facilities**

Development that is proposed adjacent to an existing or planned transit stop, as designated in an adopted transportation or transit plan, shall provide the following transit access and supportive facilities in coordination with the transit service provider:

- A. Reasonably direct pedestrian connections between the transit stop and primary entrances of the buildings on site. For the purpose of this Section, "reasonably direct" means a route that does not deviate unnecessarily from a straight line or a route that does not involve a significant amount of out-of-direction travel for users.
- B. The primary entrance of the building closest to the street where the transit stop is located that is oriented to that street.
- C. A transit passenger landing pad that is ADA-accessible.
- D. An easement or dedication for a passenger shelter or bench if such an improvement is identified in an adopted plan.
- E. Lighting at the transit stop.
- F. Other improvements identified in an adopted plan.

##### **Area Access**

#### **5. Access to Transit Stops from Beyond the Site**

Access ways:

##### **Pedestrian and Bicycle Access Ways**

The [decision body] in approving a land use application with conditions may require a developer to provide an access way where the creation of a street is infeasible and the creation of a cul-de-sac or dead-end street is unavoidable. An access way connects the end of the street to another right-of-way or a public access easement. An access way shall be contained within a public right-of-way or public access easement, as required by the [City/County]. An access way shall be a minimum of [10]-feet-wide and shall provide a minimum [6]-foot-wide paved surface or other all-weather surface approved by the [City/County decision body]. Design features should be considered that allow access to emergency vehicles but that restrict access to non-emergency motorized vehicles.



Block length:

**Street Connectivity and Formation of Blocks.** In order to promote efficient vehicular and pedestrian circulation throughout the city, subdivisions and site developments shall be served by an interconnected street network, pursuant with the standards in subsections (a) through (d) below (distances are measured from the edge of street rights-of-way). Where a street connection cannot be made due to physical site constraints, approach spacing/access management requirements, or similar restrictions, where practicable, a pedestrian access way connection shall be provided pursuant to [ \_\_\_\_ ].

- A. Residential zones: Minimum of [200] foot block length and maximum of [600] length; maximum [1,400] feet block perimeter
- B. [Downtown/Central Commercial] zone: Minimum of [200] foot length and maximum of [400] foot length; maximum [1,200] foot perimeter
- C. [General Commercial zone and Light Industrial zone]: Minimum of [100] foot length and maximum of [600] foot length; maximum [1,400] foot perimeter
- D. Not applicable in General Industrial zone

## OTHER TRANSIT-RELATED DEVELOPMENT CODE PROVISIONS

### *Vehicle Parking*

#### **6. Transit-Related Uses in Parking Areas**

Parking spaces and parking areas may be used for transit-related uses such as transit stops and park-and-ride/rideshare areas, provided minimum parking space requirements can still be met.

#### **7. Carpool/Vanpool Parking**

Parking areas that have designated employee parking and more than 20 automobile parking spaces shall provide at least 10% of the employee parking spaces (minimum two spaces) as preferential carpool and vanpool parking spaces. Preferential carpool and vanpool parking spaces shall be closer to the employee entrance of the building than other parking spaces, with the exception of ADA-accessible parking spaces.

#### **8. Maximum Parking Requirements**

**Maximum Number of Off-Street Automobile Parking Spaces.** The maximum number of off-street automobile parking spaces allowed per site equals the minimum number of required spaces, pursuant to Table [ \_\_\_\_ ], multiplied by a factor of:

- A. [1.2] spaces for uses fronting a street with adjacent on-street parking spaces; or
- B. [1.5] spaces, for uses fronting no street with adjacent on-street parking; or
- C. A factor determined according to a parking analysis.

## 9. Shared Parking

Shared parking. Required parking facilities for two or more uses, structures, or parcels of land may be satisfied by the same parking facilities used jointly, to the extent that the owners or operators show that the need for parking facilities does not materially overlap (e.g., uses primarily of a daytime versus nighttime nature; weekday uses versus weekend uses), and provided that the right of joint use is evidenced by a recorded deed, lease, contract, or similar written instrument establishing the joint use. Shared parking requests shall be subject to review and approval through Site Plan Review.

## 10. Reduced Parking Requirements

### Modification of Off-Street Parking Requirements

The applicant may propose a parking space standard that is different than the standard in Section [ ], for review and action by the [Community Development Director] through a [variance procedure], pursuant to [ ]. The applicant's proposal shall consist of a written request, and a parking analysis prepared by a qualified professional. The parking analysis, at a minimum, shall assess the average parking demand and available supply for existing and proposed uses on the subject site; opportunities for shared parking with other uses in the vicinity; existing public parking in the vicinity; transportation options existing or planned near the site, such as frequent transit service, carpools, or private shuttles; and other relevant factors. The [Community Development Director] may reduce the off-street parking standards for sites with one or more of the following features:

- A. Site has a transit stop with existing or planned frequent transit service (30-minute headway or less) located adjacent to it, and the site's frontage is improved with a transit stop shelter, consistent with the standards of the applicable transit service provider: Allow up to a 20 percent reduction to the standard number of automobile parking spaces;
- B. Site has dedicated parking spaces for carpool/vanpool vehicles: Allow up to a 10 percent reduction to the standard number of automobile parking spaces;
- C. Site has dedicated parking spaces for motorcycle and/or scooter or electric carts: Allow reductions to the standard dimensions for parking spaces and the ratio of standard to compact parking spaces;
- D. Available on-street parking spaces adjacent to the subject site in amounts equal to the proposed reductions to the standard number of parking spaces.
- E. Site has more than the minimum number of required bicycle parking spaces: Allow up to a 10 percent reduction to the number of automobile parking spaces.

## 11. Parking Area Landscaping

Parking Lot Landscaping. All of the following standards shall be met for each parking lot or each parking bay where a development contains multiple parking areas:

- A. A minimum of [10] percent of the total surface area of all parking areas, as measured around the perimeter of all parking spaces and maneuvering areas, shall be landscaped. Such landscaping shall

consist of canopy trees distributed throughout the parking area. A combination of deciduous and evergreen trees, shrubs, and ground cover plants is required. The trees shall be planned so that they provide [a partial / # percent] canopy cover over the parking lot within [#] years. At a minimum, one tree per [12] parking spaces on average shall be planted over and around the parking area.

- B. All parking areas with more than [20] spaces shall provide landscape islands with trees that break up the parking area into rows of not more than [10-12] contiguous parking spaces. Landscape islands and planters shall have dimensions of not less than [48] square feet of area and no dimension of less than [6] feet, to ensure adequate soil, water, and space for healthy plant growth;
- C. All required parking lot landscape areas not otherwise planted with trees must contain a combination of shrubs and groundcover plants so that, within [2] years of planting, not less than [50-75] percent of that area is covered with living plants; and
- D. Wheel stops, curbs, bollards or other physical barriers are required along the edges of all vehicle-maneuvering areas to protect landscaping from being damaged by vehicles. Trees shall be planted not less than [2] feet from any such barrier.
- E. Trees planted in tree wells within sidewalks or other paved areas shall be installed with root barriers, consistent with applicable nursery standards.

**Screening Requirements.** Screening is required for outdoor storage areas, unenclosed uses, and parking lots, and may be required in other situations as determined by the [City/County decision body]. Landscaping shall be provided pursuant with the standards of subsections - , below:

- A. Parking Lots.** The edges of parking lots shall be screened to minimize vehicle headlights shining into adjacent rights-of-way and residential yards. Parking lots abutting sidewalk or walkway shall be screened using a low-growing hedge or low garden wall to a height of between [3] feet and [4] feet.

**Maintenance.** All landscaping shall be maintained in good condition, or otherwise replaced by the property owner.

## **12. Parking Area Walkway**

A walkway shall be provided through a parking area, connecting building entrances to adjacent sidewalks and streets, in parking areas that have more than 20 parking spaces.

Where a walkway crosses a parking area or driveway, it shall be clearly marked with contrasting paving materials (e.g., pavers, light-color concrete inlay between asphalt, or similar contrast). The crossing may be part of a speed table to improve driver-visibility of pedestrians. If crossings involve grade changes, the crossing shall include ADA-accessible ramps. Painted striping, thermo-plastic striping, and similar types of non-permanent applications are discouraged, but may be approved for lower-volume crossings of 24 feet or less.

## **Bicycle Parking**

### **13. Minimum Bicycle Parking Requirements**

#### **Bicycle Parking**

**A. Standards.** Bicycle parking spaces shall be provided with new development and where a change of use occurs, at a minimum, based on the standards in Table \_\_\_\_\_. Where an application is subject to Conditional Use Permit approval or the applicant has requested a reduction to an automobile-parking standard, pursuant with Subsection [ \_\_\_\_ ], the [City/County decision body] may require bicycle parking spaces in addition to those in Table \_\_\_\_\_.

Table ____		Long and Short Term Bicycle Parking
Minimum Required Bicycle Parking Spaces		
Use	Minimum Number of Spaces	(As % of Minimum Required Bicycle Parking Spaces)
<b>Multifamily Residential</b>  (required for 4 or more dwelling units)	2 spaces per 4 dwelling units	75% long term  25% short term
<b>Commercial</b>	2 spaces per primary use or 1 per 5 vehicle spaces, whichever is greater	25% long term  75% short term
<b>Industrial</b>	2 spaces per primary use or 1 per 10 vehicle spaces, whichever is greater	25% long term  75% short term
<b>Schools</b>  (all types)	2 spaces per classroom	50% long term  50% short term
<b>Institutional Uses and Places of Worship</b>	2 spaces per primary use or 1 per 10 vehicle spaces, whichever is greater	50% long term  50% short term
<b>Parks</b>  (active recreation areas only)	4 spaces	100% short term
<b>Transit Stops</b>	2 spaces	100% short term
<b>Transit Centers</b>	4 spaces or 1 per 10 vehicle spaces, whichever is greater	50% long term  50% short term
<b>Other Uses</b>	2 bike spaces per primary use or 1 per 10 vehicle spaces, whichever is greater	50% long term  50% short term

## **B. Design and Location**

1. All bicycle parking shall be securely anchored to the ground or to a structure.
2. All bicycle parking shall be well lighted [to specified lighting level].
3. All bicycle parking shall be designed so that bicycles may be secured to them without undue inconvenience, including being accessible without removing another bicycle. [Bicycle parking spaces shall be at least six (6) feet long and two-and-one-half (2 ½) feet wide, and overhead clearance in covered spaces should be a minimum of seven (7) feet. A five (5) foot aisle for bicycle maneuvering should be provided and maintained beside or between each row/ rack of bicycle parking.]
4. Bicycle parking racks shall accommodate locking the frame and both wheels using either a cable or U-shaped lock.
5. Direct access from the bicycle parking area to the public right-of-way shall be provided at-grade or by ramp access, and pedestrian access shall be provided from the bicycle parking area to the building entrance.
6. Bicycle parking shall not impede or create a hazard to pedestrians or vehicles, and shall not conflict with the vision clearance standards of Section [ \_\_\_\_ ].
7. All bicycle parking should be integrated with other elements in the planter strip when in the public right-of-way.
8. Short-term bicycle parking.
  - a. Short-term bicycle parking shall consist of a stationary rack or other approved structure to which the bicycle can be locked securely.
  - b. If more than 10 short-term bicycle parking spaces are required, at least 50% of the spaces must be sheltered. Sheltered short-term parking consists of a minimum 7-foot overhead clearance and sufficient area to completely cover all bicycle parking and bicycles that are parked correctly.
  - c. Short-term bicycle parking shall be located within 50 feet of the main building entrance or one of several main entrances, and no further from an entrance than the closest automobile parking space.
9. Long-term bicycle parking. Long-term bicycle parking shall consist of a lockable enclosure, a secure room in a building on-site, monitored parking, or another form of sheltered and secure parking.

**C. Exemptions.** This Section does not apply to single-family and duplex housing, home occupations, and agricultural uses. The [City/County decision-making body] may exempt other uses upon finding that, due to the nature of the use or its location, it is unlikely to have any patrons or employees arriving by bicycle.

**D. Hazards.** Bicycle parking shall not impede or create a hazard to pedestrians or vehicles, and shall be located so as to not conflict with the vision clearance standards of Section [ \_\_\_\_ ].

## ***Urban Form***

### ***14. Maximum Building Setbacks***

Development Standards.

Setback Requirements.

1. Minimum front yard setback: none
2. Maximum front yard setback: [0-10] feet

## 15. Pedestrian Amenities in Front Yard Setbacks

The [decision body] may allow a greater front yard setback when the applicant proposes extending an adjacent sidewalk or plaza for public use, or some other pedestrian amenity is proposed between the building and public right-of-way, subject to [Site Design/Development Review] approval.

## 16. Parking Between the Building and the Street

**Parking and Loading Area Development Requirements.** All parking and loading areas required under this ordinance, except those for a detached single-family dwelling on an individual lot or unless otherwise noted, shall be developed and maintained as follows:

- A. Location on site. Required yards adjacent to a street shall not be used for parking and loading areas unless otherwise specifically permitted in this ordinance. Side and rear yards that are not adjacent to a street may be used for such areas when developed and maintained as required in this ordinance.

### Definitions

Access way. A walkway or multi-use path connecting two rights-of-way to one another where no vehicle connection is made. OR Access way. Pedestrian and/or bicycle connections between streets, rights-of-way, or a street or right-of-way and a building, school, park, transit stop, or other destination.

Park and ride. A parking area at, adjacent, or near (within 500 feet of) a transit stop where automobiles, bicycles, and other vehicles and mobility devices can be parked by transit and rideshare users. Location and design are guided by the currently adopted transit master plan.

Rideshare. A formal or informal arrangement in which a passenger travels in a private vehicle driven by its owner. The arrangement may be made by means of a website or online app.

Transit center. A type of transit stop where multiple transit lines meet in order to facilitate transfers. A transit center may be developed with amenities including information boards, food and drink vendors, water fountains, and restrooms.

Transit improvements [or Transit amenities]. Transit stop-related improvements including, but not limited to, bus pullouts, shelters, waiting areas, information and directional signs, benches, and lighting. Improvements at transit stops shall be consistent with an adopted transit plan.

Transit-related uses or transit uses. Uses and development including, but not limited to, transit stop improvements and other uses that support transit, such as transit park and rides.

Transit stops. An area posted where transit vehicles stop and where transit passengers board or exit. The stop location and improvements at the transit stop shall be consistent with an adopted transit plan.