# FINAL MEMO #3: UNMET TRANSIT NEEDS AND TRANSIT-SUPPORTIVE DEVELOPMENT STRATEGIES

**TRANSIT DEVELOPMENT PLAN** 

WASCO COUNTY

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THE LINK

PUBLIC TRANSIT

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# INTRODUCTION

This memorandum identifies methods for integrating transit-supportive development strategies in Wasco County communities, along with locations within each community that could most easily benefit by becoming more transit supportive. Particular emphasis is placed on connecting incorporated cities.

The memo includes model code amendments to support transit-supportive development in each community, bus stop standards, and other transit-supportive land use strategies. It also identifies land use changes that support regional and local transit services and reduce personal vehicle dependency and vehicle miles travelled (VMT) within Wasco County through 2040.

# **POPULATION NEEDS**

The following section summarizes the potential transit-dependent populations and commute patterns explored in Memo #2: Existing System.

### **Potential Transit-Dependent Populations**

A transit-dependent population market is defined as people who have "no personal transportation, no access to such transportation, or are unable to drive."<sup>1</sup> These populations tend to be "people who are too young, too old, can't afford or do not have access to a personal automobile."<sup>2</sup> Memo #2: Existing System contains a demographic analysis of the service area, with an emphasis on populations that may be transit-dependent or would benefit from transit if it was available. Table 1 shows the percentage of residents in each community that fall into Title VI and potential transit-dependent population demographics.

In summary, it found that:

- Wasco County has a wide range of cities and communities, from The Dalles (population 15,448 as of 2019, the largest city and county seat) to Shaniko (population about 10).
- Wasco County has higher proportions of those under 18 years of age, over 65 years of age, Hispanic/Latino, and disabled than Wasco County and the State of Oregon as a whole.
- Due to its greater population and higher density, the City of The Dalles contains the county's highest concentration of potential transit-dependent populations in the County. However, there are high proportions of potential transit-dependent populations and populations that might benefit from transit in the county's rural areas. Notably, Maupin has a relatively high proportion of people who are over 65 years of age and of people with disabilities. The rural nature of these areas (low-density land use and limited roadway connections) makes efficient transit service difficult.

Community	Total Population	Minority Population	Hispanic, any race	Population under 18	Population over 65	Population below poverty line	Populations with disability	Households without access to vehicle		
Wasco County	26,130	25.4%	18.2%	22.5%	20.2%	11.6%	18.2%	6.6%		
The Dalles	15,448	25.5%	1 <b>9.6</b> %	23.2%	20.7%	10.7%	20.5%	9.3%		
Mosier	455	36.5%	34.5%	18.5%	14.5%	3.5%	10.8%	1.0%		
Maupin	508	3.0%	0%	18.1%	26.0%	3.7%	<b>20.9</b> %	3.4%		
Dufur	572	3.7%	0.7%	21.0%	18.7%	4.2%	18.2%	0.8%		
Antelope	~50	Estimates	Estimates for small communities have large margins of error due to low sample sizes for the							
Shaniko	~10	ACS. Demographic estimates for the communities of Antelope and Shaniko are not included in this table due to very large margins of error (greater than 30%).								

### Table 1: Title VI and Potential Transit-Dependent Populations

Source: 2019 ACS 5-Year Estimates Data Profiles

<sup>&</sup>lt;sup>1</sup>https://smartech.gatech.edu/bitstream/handle/1853/60639/jian\_pang\_modeling\_transit\_dependency\_index.pdf?sequence=1&is Allowed=y#:~:text=American%20Public%20Transportation%20Association%20(APTA,or%20are%20unable%20to%20drive. <sup>2</sup> https://www.its.ucla.edu/wp-content/uploads/sites/2/2014/05/0304Papandreou\_GISProject3.pdf

### Commute Patterns

Memo #2: Existing System also addressed existing commute patterns in Wasco County. In summary:

- A significant portion of Wasco County residents commute relatively long distances to get to their workplaces.
  - Approximately 44% commute less than 10 miles from home to work, while 34% commute more than 50 miles from home to work.
  - The Dalles and Chenoweth (an unincorporated community adjacent to The Dalles) contain the primary concentrations of homes and jobs within Wasco County, with additional concentrations in Hood River (just outside Wasco County), Pine Hollow, Dufur, and Maupin.
  - Wasco County residents tend to either live and work in or around The Dalles or commute long distances to reach employment sites farther away.
- Most smaller communities reflect the countywide commute findings, with commutes generally to The Dalles, Chenoweth, Hood River, and Portland.
  - Few commute trips occur between rural communities in Wasco County, given the low populations of many areas.
  - Key commute pairs with high amounts of commute trips between the larger communities and cities include Hood River – The Dalles (Columbia Area Transit fixed-route transit available)<sup>3</sup>, The Dalles – Mosier (Columbia Area Transit stop at Mosier upon request)<sup>3</sup>, and The Dalles – Maupin (The LINK weekly shuttle, or demand-response upon request).

# EXISTING LAND USE CONDITIONS AND FUTURE NEEDS

This section summarizes the existing land uses and planned future growth of Wasco County communities, focusing on the incorporated cities. Its intent is to inform the Plan by describing existing and future land uses that may influence transit demand.

### Land Use Patterns

This section summarizes the existing and future development of incorporated communities in Wasco County, based on Portland State University (PSU) Population Research Center's population forecasts, planning documents from the communities, and other available data. For each community, this memorandum discusses the existing development and land use patterns and what is known or can be surmised about future development, including housing, employment, and other key destinations.

The communities discussed in this memorandum are shown on Figure 1.

<sup>&</sup>lt;sup>3</sup> Starting in October 2021, there are plans for The LINK to take over CAT's weekday service between Hood River and The Dalles. Service to Mosier would likely be served in both directions without need for calling ahead. CAT will continue to run the route on the weeks, with stops at Mosier upon request.



### Figure 1. Incorporated Communities in Wasco County with Adopted Planning Documents

### Wasco County

- **Existing Conditions.** The Dalles is Wasco County's largest population and employment center, containing over 60% of the county's residents and 7,450 jobs. A significant amount of Wasco County's population lives outside urban areas in unincorporated rural communities: about 8,770 individuals, or 33% of the population.
- Future Growth. Overall, the Portland State University (PSU) Population Forecast expects the County to continue its decades-long trend of slow growth at 0.5% per year on average, largely due to net in-migration slightly outpacing natural population decrease in the County. More of this growth is expected to occur inside urban growth boundaries (UGBs) than elsewhere in the County, with the overall share of population outside UGBs decreasing from 33.1% today to 30.9% in 2045. Future development is expected to occur largely in the cities within Wasco County, as described below.

### The Dalles

• Existing Conditions. The Dalles (Figure 2) is Wasco County's largest city, with a population of 15,448 as of 2019. The Dalles contains significant industrial and other employment land in the north along the Columbia River, and a commercial core just south of Interstate 84 (I-84). Residential land generally rings the city boundary to the south, with pockets of vacant and partially vacant land in the south and southeast. The most significant land uses and areas of development in The Dalles include the following:

- Commercial areas that are regional hubs for commerce and employment (e.g., Fred Meyer, The Home Depot, Safeway, Oregon Cherry Growers, hospitality industry)
- Industrial uses such as Amerities and Google datacenters
- The Dalles Dam facility and associated substations (adjacent to the city)
- Public uses such as Wasco County Court, Wasco County Administrative Offices, the North Wasco School District, and The Dalles City Hall
- **Future Growth.** The City of The Dalles is projected to grow by roughly 2,700 people through 2045. The City has recently conducted planning work to evaluate the available residential and employment land to accommodate this growth, including the residential buildable lands inventory shown in Figure 3. Yellow and green areas on this map are identified as having capacity for future residential growth; these are generally residential zoned lands along the southern and western edges of the city.
  - Enterprise Zone. The City of The Dalles contains an Enterprise Zone as shown in Figure 4. Enterprise zones are a financial tool that provide property tax abatements to promote business investment and job creation in economically distressed areas. The Dalles has used this tool consistently, resulting in new and expanded businesses, new jobs, and higher wages. The new Wasco County Joint Enterprise Zone brings this financial tool to additional areas of Wasco County.

### Figure 2. City of The Dalles



Source: © 2021 Google

Figure 3. Residential Buildable Lands Inventory, The Dalles, 2016



Source: www.ci.the-dalles.or.us/sites/default/files/imported/public\_docs/PDFs/thedalles\_bli\_memo\_draft\_120516\_clean.pdf



### Figure 4. The Dalles Enterprise Zone

Source: http://thedalles.org/EnterpriseZone

### Figure 5: Existing Walking Facilities



Source: The Dalles TSP, 2017

### Figure 6: Existing Biking Facilities



Source: The Dalles TSP, 2017

- Street Network. The Dalles is 6.94 square miles, making it the largest incorporated community in Wasco County. The street network in The Dalles generally operates in a grid system with two-way streets, however there are several breaks in the grid. Three streets travel east-west through the extents of The Dalles: 10<sup>th</sup> Street, 2<sup>nd</sup> Street, and 6<sup>th</sup> Street. Union Street is the primary north-south route through The Dalles, connecting from 14<sup>th</sup> Street to 1<sup>st</sup> Street. Highway 30 is a couplet; eastbound traffic is served by 3<sup>rd</sup> Street and westbound traffic is served by 2<sup>nd</sup> Street. The Dalles is served by five interchanges along I-84, which travels west to Mosier, Hood River, and Portland, and east to Biggs Junction and Pendleton. Highway 197 to the south is the primary access route to most rural Wasco County communities. Highway 197 to the north crosses the Columbia River to intersect Highway 14, which provides access to communities on the north (Washington State) side of the river.
- **Transit Network.** As noted previously, the Dalles has the highest concentration of potential transitdependent populations in the County. The Dalles is currently served by the LINK's dial-a-ride, deviated fixed-route, and shuttle and shopping bus services. It is also served by intercity/express services run by CAT, by a connecting fixed-route service run by MATS, and by Sherman County Community's bus services that connect to The Dalles for shopping and medical appointments.
- Walking and Biking Network. Figure 5 and Figure 6 show the existing walking and biking facilities mapped in The Dalles Transportation System Plan (TSP). As shown, much of the downtown core in The Dalles has sidewalk on both sides of the street and a multi-use trail travelling along the Columbia River waterfront. There are gaps in sidewalk in western and eastern The Dalles, including a gap at Seufert Park and Lone Pine/DMV stop.

### Mosier

- Existing Conditions. The City of Mosier (Figure 7) currently has a population of roughly 464 people and is expected to grow to 574 in 2045. As shown in Figure 7 below, Mosier is bounded on the north by I-84 and the Columbia River, and on the south by steep slopes and the foothills of Mt. Hood. Commercial uses and a small school lie along Highway 30, which travels through Mosier.
- Future Growth. The Mosier zoning map is shown in Figure 8. The city's commercial core is located near the interchange of Highway 30 and I-84, surrounded by public and higher-density residential (R-5) designations. Lower-density residential (R-10) lies to the east, south, and west of the city center.
  - Future Residential Development. Vacant or partially developed land appears to be generally located in areas with steeper slopes that are more difficult and costly to serve with infrastructure, suggesting that future residential development will likely occur as infill in the vicinity of 3<sup>rd</sup> Street.
  - Other Future Growth. The 2018 Mosier Strategic Plan<sup>4</sup> identifies priorities that may produce transit-supportive uses in the future, including:
    - Gorge Hubs project. A Mosier Hub is planned as part of a Gorge-wide system of community-centered rest stops for cyclists. The hub was envisioned at the triangular intersection of the Historic Columbia River Highway, Oregon Street, and 2<sup>nd</sup> Avenue, the "Mosier Triangle". The hub would include a bike fix-it station, bike parking, informational and wayfinding signage, and other amenities.
    - Downtown revitalization, including the Union Pacific Railroad (UPRR) site and a future civic center/joint use facility shown as the "Mosier Triangle" in Figure 9.

<sup>&</sup>lt;sup>4</sup> <u>https://cityofmosier.com/wp-content/uploads/2018/04/final-strategic-plan-2018.pdf</u>

• Enterprise Zone. The Mosier enterprise zone is shown in Figure 10.





Source: © 2021 Google





Figure 9. Location of Potential Downtown Revitalization Sites, City of Mosier

Figure 10. Mosier Enterprise Zone



Proposed Enterprise Zone

Mosier		
Zone	Sq Miles	Acres
С	0.041	25.8
I	0.086	54.9

Source: http://thedalles.org/EnterpriseZone

- **Street Network.** Mosier, a small, incorporated area of 0.62 square miles, is located in the northwest corner of Wasco County. Highway 30 and 3<sup>rd</sup> Avenue are the two primary east-west streets. The north-south streets connect to Highway 30 and all streets in the network serve bi-directional traffic. The community is served by one interchange on I-84.
- Transit Network. Mosier is currently served by the LINK's dial-a-ride service, and by the rural intercity/express route between Hood River The Dalles.
- Walking and Biking Network. There are limited dedicated walking and biking facilities in Mosier. According to a review of Google Satellite Imagery, there are sidewalks located along segments of 3<sup>rd</sup> Avenue and bike lanes located on segments of 3<sup>rd</sup> Avenue, 5<sup>th</sup> Avenue, and Maya Way.

### Maupin

• Existing Conditions. The City of Maupin, population 508, consists primarily of a grid of streets adjacent to Highway 197, with additional development uphill to the southwest (Figure 11). The city is a hub for river-related recreation, such as guided white-water rafting along the Deschutes River. Several small commercial establishments, a post office, and the Maupin Grade School lie adjacent to Highway 197.



Figure 11. City of Maupin

Source: © 2021 Google

• **Future Growth.** Figure 12 shows Maupin's comprehensive plan and zoning map. Large High Density Residential tracts are located north of the Highway but are generally undeveloped. Future development potential in Maupin is limited by the steeply sloping topography. However, there appears to be a significant amount of undeveloped land in the central portions of the city,

particularly near 3<sup>rd</sup> Street and Dufur Avenue as well as along Elrod Avenue. Much of this land is within the Enterprise Zone shown in Figure 13. According to the PSU Population Forecasts, Maupin is expected to add roughly 40 new residents by 2045.





### Figure 13. Maupin Enterprise Zone



Maupin		
Zone	Sq Miles	Acres
GC	0.01	6.9
	0.063	103.5
RC	0.162	40.5



Source: <a href="http://thedalles.org/EnterpriseZone">http://thedalles.org/EnterpriseZone</a>

- **Street Network.** Highway 197 travels directly through Maupin, a 1.43-square-mile incorporated community. 5<sup>th</sup> Street travels north-south through the community, while Highway 197, Dufur Avenue, and 6<sup>th</sup> Street/Staats Avenue travel east-west through the community. Highway 197 connects Maupin to Tygh Valley, Dufur, and The Dalles to the north, and to Highway 97 and Central Oregon to the south. Bakeoven Road connects to Shaniko. All streets in the network serve bi-directional traffic. OR 216, which intersects Highway 197 west of the city, provides connections to the Warm Springs Reservation and Mt. Hood.
- **Transit Network.** Maupin is currently served by the LINK's dial-a-ride and South County Shuttle services. As noted previously, Maupin has a relatively high proportion of people who are over 65 years of age and of people with disabilities. These populations may benefit from increased transit services.
- Walking and Biking Network. According to a review of Google Satellite Imagery there are sidewalks located along both sides of Highway 197 through the enterprise zone shown in Figure 13. No dedicated biking facilities are observed in the Google Satellite Imagery.

Dufur

• Existing Conditions. The City of Dufur (Figure 14) consists of a compact street grid adjacent to Highway 197, generally north of Fifteenmile Creek. The city has a population of 572. As shown in the figure, Dufur's schools and the Dufur Ranger Station are located at NE 5<sup>th</sup> and NE Court Streets, while the gas station, market, and post office are located near 1<sup>st</sup> and Main Streets.



Figure 14. City of Dufur

Source: © 2021 Google

• **Future Growth.** As shown on the City's Comprehensive Plan and Zoning Map (Figure 15), there is undeveloped residential land within the city limits and additional employment land (M-1 Industrial) east of Highway 197 within the Dufur UGB. At the northern end of the city, the zoning map shows undeveloped R-1 single-family zoned land, while there is also undeveloped R-2 multi-family zoned land south of Fifteenmile Creek. The map also shows the extensions of 1st, 2nd, 3rd, and 4th Streets in the vicinity of Heimrich Street/Dufur Valley Road. It is likely that topographical constraints, infrastructure constraints, and highway access issues will be limiting factors for new development in Dufur. PSU forecasts only about 20 new residents through 2045. The Dufur Enterprise Zone shown in Figure 16 identifies land east of Highway 197, the downtown core, and one small additional taxlot as priorities for future development.



### Figure 15. Comprehensive Plan and Zoning Map, City of Dufur

13.49

70.7

0.11



### Figure 16. Dufur Enterprise Zone



- Street Network. Dufur is 0.58 square miles in size and is located immediately west of Highway 197. • The street network forms a grid that carries bi-directional traffic. 1st Street travels east-west through the incorporated community and connects to Highway 197.
- Transit Network. Dufur is currently served by the LINK's dial-a-ride and South County Shuttle services.
- Walking and Biking Network. According to a review of Google Satellite Imagery there are • intermittent sidewalks are primarily located along Main Street, 4th Street. No dedicated biking facilities are observed in the Google Satellite Imagery.

### Antelope

Figure 18. City of Shaniko

The City of Antelope has a small population of about 50. There are not adopted land use codes or plans for the city, which consists mainly of large-lot residences, a post office, and a general store. Antelope contains 0.45 square miles and is located at the junction of OR 218 and OR 293. OR 218 travels directly through the center of the street network, which forms a grid serving bidirectional traffic. OR 218 connects north to Shaniko and east to Wheeler County. OR 293 connects west to Highway 97 and Madras.

Antelope is currently served by the LINK's dial-aride service.

No sidewalks or bike lanes were observed in Google Satellite Imagery in Antelope.

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Source: © 2021 Google

### Figure 17. City of Antelope



Source: © 2021 Google

### Shaniko

Shaniko has a small population of about 10 individuals. There are not adopted land use codes or plans for the city. Shaniko has a general store, hotel, and gas station that generally serve visitors.

Shaniko has 0.50 square miles and is located at the junction of OR 218 and Highway 97. Highway 97 travels directly through the center of the street network and connects Shaniko southwest to Central Oregon and north to Biggs Junction. The remaining streets are arranged in a grid and carry bi-directional traffic.

Shaniko is currently served by the LINK's dial-a-ride service.

Excluding a wooden path connecting to the intersection of 4<sup>th</sup> Street/D Street, no sidewalks or bike lanes were observed in Google Satellite Imagery in Shaniko.

# NEEDS ESTABLISHED FROM OTHER PLANNING PROCESSES

The Wasco County Coordinated Human Services Public Transportation Plan identified needs for older adults and elders, low-income individuals, individuals with disabilities, and Limited English Proficiency (LEP) individuals residing in Wasco County. The following priorities were identified:

- Sustain Existing Transportation Services: Sustaining existing transportation services, including dial-aride transportation, shopping buses, and intercity service to Hood River and Portland via Columbia Area Transit (CAT).
- **Operations:** Maintaining and updating operations by replacing vehicles that exceed their useful life; exploring fleet electrification; maintaining affordable rates; training staff to meet the needs of those with LEP; diversifying transit staff and hiring Spanish-speaking drivers and dispatchers; and adopting transit technologies.
- Service Expansion: Expanding service to address employment transportation needs; identifying resources to provide affordable transportation service in the early morning hours, evenings, and weekends; continuing to expand fixed-route service; and seeking funding for a Gorge-to-Portland medical facilities service.
- **Stable Funding:** Maintaining stable funding by continuing to leverage all matches against state and federal grants; identifying and utilizing additional sources to support local operational funding or local match; and working with Coordinated Care Organization and Transportation Brokerage to increase the share of non-emergency medical transportation rides.
- Marketing/Education/Outreach: Improving marketing, outreach, and education by improving bilingual marketing and public awareness about The LINK's services; addressing safety and security concerns; connecting to natural community points; and developing targeted needs assessment, outreach, and travel training programs for specific populations including veterans, Native Americans, and people with disabilities.
- **Planning and Coordination:** Planning and coordinating with state agencies, and coordinating with local organizations, the Gorge TransLink Alliance, human service agencies, and Columbia Gorge Community College to improve service.

The Mid-Columbia Economic Development District (MCEDD) engaged in a collaborative process with transportation provider organizations and health and wellness organizations in the Gorge to identify and implement innovative transportation solutions to create improved mobility access to essential services and increase the quality of life in the Columbia Gorge. They found the following gaps to be the most prominent transportation barriers for vulnerable populations that are not able to drive or not able to get to public transportation services on their own:

- **Geography:** PDX- Gorge, rural Gorge, snow/elevation
- **Navigation:** Last mile to/from fixed route, transfers, confidence/education, weekends/afterhours/holidays, fare transactions
- **Communication and coordination:** Transfers, discharge from medical appointments, forum for seeing all maps and schedules in one place, language and literacy, transit/health communication and coordination
- Information/data users/need and services Gorge-wide: comprehensive resource list
- Door through door service: and there are unique challenges facing Oregon vs. Washington

The Oregon Department of Transportation Vision Around the Mountain developed a regional vision for public transportation to, from, and around Mt. Hood. The following priorities were identified:

- Roadway & Parking Congestion Reductions
- Access to Key Destinations
- Supports Economic Development and Community Vitality
- Improved Safety
- Equity for Users
- Environmental and Cultural Resource Protection

The plan includes 33 strategies to address the priorities, such ensuring convenient regional connections between transit providers and supporting regional travel with integrated trip planner for all operations.

CAT is in the beginning stages of developing a Transit Master Plan. Public outreach and needs identification for this plan are still in-process; from the Coordinated Transportation Plan they established the following needs:

- Increase service between the Dalles and Hood River
- Improve the ease of traveling between Hood River and The Dalles, especially for people not traveling beyond the transit centers
- Combine marketing efforts between CAT and The LINK to market the available transit services and make sure the materials are consistent, easy to understand, and available in English and Spanish

# CONSOLIDATED NEEDS AND TRANSIT MARKETS

Potential needs were primarily identified through considerations of gaps identified in the population and land use conditions analysis, previous planning processes, the existing service analysis conducted as part of *Memo #2: Existing Service*, and gaps identified through public involvement and outreach. Potential needs have been grouped by transit markets and service enhancements and efficiencies.

### Transit Markets

The transit markets identified for Wasco County include the following:

- Existing transit users within The Dalles: Many existing transit users were unfamiliar with the stops or were located far from fixed-route stops. Figure 19 compares existing stop locations to deviation requests, with blue and red shading used to indicate the density of deviation requests. Implementing additional stops could alleviate the deviation demand on the deviated fixed-route services. Figure 20 shows potential new stop locations and their ¼-mile buffer that could capture the origin and destinations of trip requests. As shown, there are still some trips outside of the ¼-mile range. In addition, steep grades and lack of sidewalks in some areas may make some deviations infeasible to be captured by a fixed-route stop.
- Increasing development inside The Dalles: Locations that are vacant or partially vacant, shown in Figure 3 and primarily along the eastern and western sides of The Dalles, are likely to grow as the city develops and may need transit service in the future.
- **Transit-dependent populations in rural areas:** High proportions of potential transit-dependent populations live in rural areas; many of these rural areas do not have access to fixed-route transit.

The rural nature (e.g., low-density land use, limited roadway connections) makes these populations hard to efficiently serve with transit services.

- **Growing populations inside UGBs:** Most growth in Wasco County is expected to occur inside UGBs; therefore, the market for intracity and intercity travel is likely to increase.
- Users making personal/miscellaneous and recreational trips: Trip purposes shifted during the COVID-19 pandemic. A higher percentage of trips were coded as "personal/miscellaneous" in 2019 than in 2020 and 2021. The share of trips with the purpose of "work" increased between 2019 and 2021. Riders are currently using transit services for more essential trips rather than recreational or personal trips. As riders begin using transit services for recreational and personal trips again, trip patterns and demand may change.
- Tourism and service industry: Tourists and local residents could use transit service to get to The
  Dalles and to travel from their hotels to restaurants and other tourist and service destinations in The
  Dalles. Hotel and service workers could also use transit service to access employment at these
  locations. However, no public late night and limited weekend services are available.<sup>5</sup> A private
  shuttle service operating within The Dalles recently started serving hotels, restaurants, and music
  venues from 6 p.m. 11 p.m. Thursday Saturday and reports success and high ridership.

### Service Enhancements and Efficiencies

The following improvements were identified as needs not specific to geographic or demographic transit markets. These improvements could help improve existing rider experience, draw new ridership, and improve efficiencies of partnerships and MCEDD's operations.

- Improving efficiency of route service: The two existing deviated fixed-routes today largely travel east-west in the clockwise direction. Adding more north-south connections and adding or shifting a route to serve counterclockwise travel could improve the efficiency of trips.
- Increase service frequency, extend service hours, and provide weekend service: The highestpriority improvements for survey respondents to Questionnaire #1<sup>6</sup> were increased frequency, extended service hours, and weekend service. Online respondents also ranked "service to more destinations" highly. Non-riders stated that they do not use transit services due to service coverage, frequency, and/or hours of operation.
- Bus stop amenities and access: Individual bus stops on the fixed-routes in The Dalles could be improved with amenities, sidewalk access, park-and-ride access, and more. The LINK will soon be operating the Hood River The Dalles service on weekdays, making the Mosier stop permanent instead of on-call. This stop is currently several blocks away from the Gorge Hubs project's Mosier Hub and the downtown Mosier revitalization areas.
- Update vehicle fleet: As of 2020, seven out of the eleven active vehicles were beyond their expected useful life (EUL) timelines; however, all vehicles were in "adequate" or "excellent" condition. Five new vehicles were purchased in 2021 and added to the fleet, while several older vehicles will be removed from the fleet and sold. Cleaner fuel sources, such as electrification, could be considered for future vehicle purchases and facilities.
- Education and marketing: Transit stops are not widely used by riders, in part due to The LINK operating as a dial-a-ride system for more than two decades and many riders unfamiliar with how to plan a trip using a fixed route. Respondents to Questionnaire #1 are generally aware of most

<sup>&</sup>lt;sup>5</sup> The LINK has plans to try a new Saturday fixed-route service. The exact schedule and route of this service are still being determined. <sup>6</sup> Questionnaire #1 was a survey offered to the general public in an onboard and online format from July 5 to August 11, 2021. The full findings of this questionnaire are provided in the Survey #1 Summary memorandum.

transit services in the County with the exceptions of The Dalles Shopping Bus, South County Shuttle, and Celilo–Lone Pine Shuttle, with only 20-40% of respondents aware of those services. A lack of information about service is cited in non-riders' responses to Questionnaire #1 as a barrier to using transit service. Establishing trip-planning tools for users and marketing the availability of stops would help improve efficiency of The LINK's services.

• Update tools and technology: Tools that respondents felt would increase the convenience of their trips include more fare payment options, mobile trip-planning tools, real-time vehicle arrival information, and more bicycle racks. Difficulty planning trips was cited in non-riders' responses to Questionnaire #1 as a barrier to using transit service.



### Figure 19. Existing Stops and Deviation Requests



### Existing Stops and Deviation Requests Wasco County, OR

### Figure 20. Potential New Stop Locations



Potential New Stop Locations Wasco County, OR

# **PRIORITY TRANSIT CORRIDORS**

This section identifies appropriate service models to meet identified area and corridor needs based on the existing and future land use, demographic composition, travel demand, findings from other planning processes, and public involvement.

### Service Types and Characteristics

Public transportation service is generally designed with several factors in mind. These include:

- The characteristics and travel needs of potential riders (e.g., key origins and destinations within the service area);
- The trade-offs the community is willing to make in providing service (e.g., balancing geographic coverage and frequency); and
- The surrounding land use context and intensity of development (e.g., population and employment densities).

The service model may focus on one or several types of services, including:

- Local fixed-route services: These services tend to be the most visible and are increasingly costefficient as ridership increases. Local service provides connections within communities, generally with relatively closely spaced stops. Local service is suitable in areas with higher population and/or employment densities, such as those identified in the *Existing Land Use Conditions and Future Needs* section of this report. The Americans with Disabilities Act (ADA) requires complementary paratransit service within <sup>3</sup>/<sub>4</sub> mile of the fixed route during the hours that fixed-route service operates, which entails extra costs.
- Deviated fixed-route services: These services combine elements of fixed-route and demandresponse service (e.g., a route serves specific stops at specific times) but is allowed to deviate from the route to pick up and drop off passengers. Some small-city systems with relatively low ridership use flexible routes to eliminate the need for ADA paratransit service (as the ability to deviate serves some needs of people with limited mobility), with the trade-off that additional time must be provided in the schedule to accommodate these deviations. The LINK currently provides two deviated fixed-route services in The Dalles. Deviation areas can be defined and are not required to extend <sup>3</sup>/<sub>4</sub> mile from the route.
- **Demand-response services**: These services do not follow fixed routes or serve fixed stops and therefore can provide curb-to-curb service between origins and destinations. Passengers request rides (often over the phone or via a smartphone app), and the provider optimizes vehicle routing to serve passengers most efficiently. Transit accessibility is maximized, but per-trip costs can be significantly higher than other service types, as there are typically only one or two people traveling between any given

### Micro-Transit

Micro-transit is an increasingly popular service option for rural areas. It is typically run using a smaller-vehicle, but can operate as fixed-route, deviated fixed-route, or demand-response, providing flexibility and accessibility.

origin and destination. Non-ADA passengers may not be able to travel at their desired time in order to better match trips. The LINK currently provides demand-response services throughout Wasco County.

• **Shuttles**: This service is designed to serve regular trips to key local or regional activity centers such as commercial districts, grocery stores, or medical facilities. These routes may be the only regular or fixed-route service available within the area or times that they operate. Service models for

shuttles are typically deviated fixed-route or demand-responsive. The LINK currently provides shuttle services.

- **Vanpools**: Vanpools can be considered public transportation services. Vanpools are well-suited to commute trips between clustered residences and job locations, and vanpool fares can cover much of the expense of operating the program.
- **Rural intercity or commuter service**: This longer-distance fixed-route service typically connects cities, serving relatively few major stops at key activity or employment centers and connecting to local service with each city. Intercity frequency is based on market size and can be scaled to meet demand; some may operate every day, while others are "Lifeline" routes that operate once a week. They are not required to provide ADA paratransit service, which lowers the overall cost of providing service.
- Express service: This service typically is similar to rural intercity or commuter service in that it is a longer-distance fixed route service that connects two destinations. In addition, this service will only stop at the two major destinations on the route, skipping locations that may fall in between. This service may include intra-city routes with limited stops; for example, serving stops every mile as compared to non-express services serving every ¼ mile. This service type is most appropriate where there is considerable demand or commute patterns between two fixed locations.

In addition to their capital and operating costs, each of these services requires coordination with other transit providers, counties, cities, ODOT, or other organizations. For example, new transit services need to develop and provide their route information to adjacent providers and trip planning applications such as Google Transit. New services also need to use stops – existing transit centers, new stops, or improved existing stops -- that would then have more activity. Lastly, services need to consider the likely transfers to adjacent providers.

Table 2 shows estimates for the typical coverage area, route flexibility, vehicle size/capital cost, operating cost per hour, and rides per hour for the service types listed above. Generally, services using smaller vehicles or covering smaller geographic areas tend to be lower cost per hour. Those covering longer-distance or more fixed-route trips tend to have higher cost rides per hour than those serving more local, curb-to-curb needs. As The LINK's deviated fixed-route, demand-response, and shuttle services currently use similar vehicles, their operating cost per hour is roughly the same.

Services	Typic Coverage	al e Area	Flexibility		Vehicle Size and Capital Cost		Typical Operating	Rides per	
	Regional	Local	Fixed- Route	Deviated Fixed-Route	Demand- Response	Lower	Higher	Cost per Hour	Hour
Fixed-Route	Х	Х	Х				Х	\$90/hour	8-10
Deviated Fixed- Route		Х		Х			Х	\$85/hour	6-8
Demand-Response		Х			Х	Х		\$85/hour	2-4
Shuttles		Х	Х	Х	Х	Х		\$85/hour	4-6
Vanpools	Х		Х	Х	Х	Х		\$90/hour	4-6
Rural Intercity Service	Х		Х	Х		Х	Х	\$95/hour	6-8
Express Service	Х	Х	Х			Х	Х	\$110/hour	6-8

### Table 2. Service Type Specifications

Different service types are appropriate based on existing land use. Table 3 summarizes appropriate transit service types by land use type and density, including typical service models and service frequencies. Based on existing land uses, the majority of Wasco County can be considered "Low Density" except The Dalles, which is best described as "Mixed Neighborhoods." Wasco County does not currently have "urban mixed-use" or "neighborhood & suburban mixed-use" densities, although parts of The Dalles could develop these higher densities in the future.

### Table 3. Local Transit Service Design Guidance Summary

Lanc	d Use		Transit		
Land Use Type	Households per Acre	Jobs per Acre	Appropriate Types of Transit	Frequency of Service	
Urban Mixed-Use	15+	15+	Bus Rapid Transit Rapid Bus Local Bus	10–15 minutes (64+ trips per day)	
Neighborhood & Suburban Mixed-Use	6–15	10–15	Local Bus	15–30 minutes (32+ trips per day)	
Mixed Neighborhoods	4–6	5–10	Local Bus On-Demand	30–60 minutes or on-demand (16+ trips per day)	
Low Density	1–4	2–5	On-Demand Rideshare	60+ minutes or on-demand (<16 trips per day)	

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

### **Recommended Service Models**

From the above service types and design guidance, Table 4 summarizes existing and potential future service types to address transit market needs.

### Table 4. Service Types to Address Transit Market Needs

Transit Market	Local Fixed- Route	Shuttle/ Deviated Fixed-Route	Intercity/ Express	Vanpool	Demand-Response <sup>1</sup>		
Evicting Transit Llears	Potential	Existing	-	-	Existing		
within The Dalles	The potential new stop locations could support transition from deviated-fixed route to fixed-route without deviations (or with fewer deviations than it currently makes).						
	Potential	Existing	-	-	Existing		
Increasing Development inside The Dalles	Upcoming development in The Dalles can be generally served by the same routes. New stops could be added to existing routes and/or new routes could be added to serve developing areas of The Dalles.						
Transit-Dependent	-	Existing	-	-	Existing		
Populations in Rural Areas	Continuing to like	provide shuttle servic ely the most efficient	es and demand way to meet th	d-response se e needs of th	rvices to rural areas is is market.		
	-	Existing	Existing (CAT)	Potential	Existing		
Growing Populations inside UGBs	Partnering with other agencies in the Gorge TransLink Alliance to expand transit services between populations within UGBs and encouraging use of vanpools can help serve growing populations in these areas.						

Transit Market	Local Fixed- Route	Shuttle/ Deviated Fixed-Route	Intercity/ Express	Vanpool	Demand-Response <sup>1</sup>		
Users Making	Potential Existing Existing (private				Existing		
Personal/Miscellaneous and Recreational Trips	Adding stop locations and expanding service hours for existing services can improve access for users who want to make personal/miscellaneous and recreational trips to locations within Wasco County outside of typical working hours.						
	Potential	Existing (private)	Existing (CAT)	-	Existing		
Tourism and Service Industry	There is curr provides servic and intercity neec	rently an existing prive ce to The Dalles from services to connect t Is for these markets a	ate shuttle betw Portland and Ho ourists and work nd support a "So	een hotels ar ood River. Add ers in the indu afe Ride Hom	nd restaurants. CAT ditional shuttle service ustry could meet the ie'' program.		

<sup>1</sup> The LINK's demand-response dial-a-ride service technically serves all markets, however it can be difficult to use dial-a-ride for trips that occur daily (like work) or for trips that occur spontaneously (like travelling to a restaurant) due to the need to schedule trips in advance and the limited number of vans and drivers.

# TRANSIT-SUPPORTIVE POLICIES AND DEVELOPMENT REQUIREMENTS

Linking local policies and development requirements to transit planning objectives and recommendations is critical for successfully implementing a transit plan, including expanding transit service and ridership. This section of the memorandum introduces potential transit-supportive policies and development requirements that could increase future development's ability to support transit. Model language is included in Appendix A that provides an example of how transit-supportive guidance and requirements could be integrated into locally adopted documents. *Memo #6: Updated Goals, Policies, and Practices* will take this work a step further, evaluating adopted policies and development requirements in Wasco County, The Dalles, Mosier, Dufur, and Maupin for consistency with the recommended policy and regulatory approaches that are appropriate to each community's size and context; and making recommendations for local policy and development regulation changes accordingly.

### **Transit-Supportive Policies**

Goal statements have been developed by drawing on "best practices" policies from other Oregon transit plans and the objectives established for this planning process. These goals are presented below and can provide general guidance for the TDP and the transit service providers Wasco County and MCEDD. These goal areas also provide the framework for model comprehensive plan policies for jurisdictions in the service area.

- Goal 1: Customer-Focused Services Provide services that are safe, attractive, and convenient for all riders.
- Goal 2: Accessibility and Connectivity Improve access and connections within and between communities in the service area as well as key destinations outside the service area.
- Goal 3: Coordination Collaborate with public and private partners to maximize services.
- **Goal 4: Health** Foster public health by reducing vehicle emissions, increasing people's use of active travel, and improving access to healthcare,
- **Goal 5: Sustainability** Foster environmental, economic, and fiscal sustainability through transit investments.

Comprehensive plan policies direct local jurisdictions' land use and transportation system planning, as well as the implementation of these plans. Model comprehensive plan policies have been developed consistent with the TDP objectives and the goal statements above. The model policies are presented in Appendix A and will be used to evaluate locally adopted comprehensive plan policies in Wasco County, The Dalles, Mosier, Dufur, and Maupin and, where necessary, to guide policy revisions to be adopted into local plans to strengthen the transit system in each community.

### Transit-Supportive Development Requirements

Local development requirements are a key component to implementing the TDP over time, through the development approval process. Local land use codes and ordinances should be updated to ensure future development will support transit — particularly access to transit and coordination with the transit service provider. Transit-supportive code or ordinance concepts and "model" language have evolved through transit master planning processes throughout the state, drawing on sources such as the Oregon Public Transportation Plan, Oregon Transportation Planning Rule (TPR), and the State of Oregon Transportation and Growth Management Model Development Code for Small Cities, 3rd Edition.

Transit-supportive concepts that can be locally codified are as follows.

- **Coordination** Coordination between jurisdictions and transit service providers at the time new development is proposed is critical to ensuring that transit system needs are considered when new growth and re-development occurs. The periods when 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 transit-supportive improvements Providing safe and convenient access to transit and furnishing stops with supportive improvements (e.g., lighting and seating) makes transit easier to access and more attractive for the user.<sup>7</sup> In addition to requiring "site access" (direct and safe routes from buildings on a site to an existing or planned transit stop), transit-supportive access also consists of "area access" by ensuring that the transportation network is sufficiently connected that potential users can easily reach transit stops by walking and rolling (e.g., biking, scooting, and mobility devices). Development regulations can promote this connectivity through maximum block length standards and by requiring non-motorized access through long blocks.
- **Parking** Local off-street parking requirements can impact 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 that also supports transit. Transit-supportive development standards include those that minimize the distance between buildings and the transit street, allow

<sup>&</sup>lt;sup>7</sup> Transit stop design guidance is not typically codified. At a minimum, guidance will be provided in the TDP regarding design best practices, bus pullouts, stop location, and improvements appropriate for a stop's ridership and level of activity. See the next section "Transit Stop and Facilities Design Guidance" as a preview of what may be included in the TDP. Local codes and ordinances can be updated to refer to the TDP's guidance.

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 ordinances and codes should include transit-related definitions in order to clarify and support transit-supportive development provisions.

Table 5 presents an overview of model development requirement concepts that support transit. The concepts span the categories described above and are fleshed out in model language in Appendix B.

### Table 5. Overview of Transit-Supportive Development Requirement Concepts

	Development	Notes
	Requirement Concept	
Coo	rdination with Transit Agen	cies
1.	Pre-application conference and/or complete application notice	Require transit provider involvement in pre-application conference and/or development application reviews
2.	Hearing notice	Require notice of development application hearings be sent to transit provider
Acc	ess to Transit and Supportiv	ve Improvements
	Site Access	
3.	Access between the site and the street	Require pedestrian connections between primary building entrances and the sidewalk/street (on streets with existing or planned transit)
4.	Access to transit stop and transit-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 TDP or other document(s) indicated, as applicable
	Area Access	
5.	Access to transit stops	Block length: Establish maximum block length standards
	from beyond the site	Accessway through long blocks: Require non-motorized accessways through blocks over a specified size
Othe	er Transit-Related Provision	S
	Vehicle Parking	
6.	Transit facilities in parking areas	Allow for redevelopment of existing parking areas to accommodate transit-related uses (e.g., park-and-rides, transit-oriented buildings), granted other minimum parking standards can be met and the location of the use is appropriate and safe
7.	Preferential parking for employee ridesharing	Require rideshare (carpool) parking to be located closest to primary entrance, aside from Americans with Disabilities Act (ADA)-accessible parking

	Development Requirement Concept	Notes
8.	Maximum parking requirements	Reduce existing parking maximums (e.g., set maximum at 50% of minimum required parking)
9.	Reduced parking requirements	Establish reductions for locations within specified distance of transit
10.	Shared parking	Allow shared use of parking areas for uses that have different peak usage
11.	Parking area landscaping	Set minimum standards for perimeter landscaping, landscaping islands, and walkways through parking lots
12.	Parking area walkways	Set minimum standards for perimeter landscaping, landscaping islands, and walkways through parking lots
	Bicycle Parking	
13.	Minimum space and design requirements	Establish minimum bicycle parking space and design requirements
	Urban Form	
14.	Maximum building setbacks	Establish maximum setbacks, e.g., no minimum setback and maximum 10-foot setback
15.	Pedestrian amenities in front yard setbacks	Allow for greater front setback when pedestrian space (seating, etc.) is provided (e.g., up to 20-foot setback for up to 50% of building face)
16.	Parking between the	Prohibit parking and circulation in front setback
	building and the street	(Provision related to maximum front setback)
	Definitions	
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

Model development requirement language for all the concepts in Table 5 is provided in full in Appendix B. Proposed model language can be modified and adopted into service area jurisdictions' local development ordinances or codes. The development regulations most universally needed and impactful are those regarding coordination, site access to transit, and transit stop improvements. Note that for unincorporated Wasco County and the Cities of Mosier, Dufur, and Maupin, where populations are small (roughly 500 people in each of the cities), development regulations related to parking and urban form may not be appropriate or applicable. As noted earlier, evaluations of existing development requirements and recommendations for potential ordinance or code updates will be made specific to each jurisdiction in Memo #6.

### **Transit Stop and Facilities Design Guidance**

Facilities improvements include transit centers and major stops, bus stops, bicycle and pedestrian amenities, park-and-ride lots, and other bus and administrative facilities. Safe and comfortable facilities

can improve the ridership experience and increase ridership by improving stop visibility, providing protection from poor weather, and improving access to transit. The following sections describe the activity thresholds, site and location guidance, potential implications and high-level cost estimates for facility improvements, but do not include ridership estimates as these vary significantly by provider and community. Many cost estimates are based on *Transit in Small Cities*: A *Primer for Planning, Siting, and Designing Transit Facilities in Oregon.*<sup>8</sup>

### **Transit Centers and Major Transit Stops**

Transit centers provide a transfer point for bus routes, while major transit stops are typically provided at major activity centers. In addition to providing greater passenger amenities that improve rider comfort, transit centers and major transit stops provide visibility for the transit service, reminding residents and visitors of the availability of the service within their community. Currently, the only designated transit center is at The LINK Transit Center. The Veteran's Services office, Water's Edge, Mid-Columbia Medical Center, and Columbia Gorge Community College could be considered major bus stops. As service and ridership increase, The LINK could consider enhancing other bus stops to improve rider experience. The following key concepts should be considered when constructing transit centers or major transit stops:

- The location of the stop or transit center should consider pedestrian access to nearby destinations, ease of access by bus that reduces out-of-direction travel and allows for safe bus operations, and a location that is highly visible, both to publicize the service and to enhance rider safety and security.
- The stop or transit center should be sized to accommodate planned 20-year growth, both in terms of the number of buses accommodated and the size of rider amenities, such as a passenger shelter.
- Materials used should consider life-cycle costing, which usually points toward high-quality, longlasting materials that have lower ongoing maintenance costs. This feature is especially important in communities that are subject to high winds (e.g., the Gorge), heavy rains, and/or salt air.
- The stop or transit center design should use Crime Prevention Through Environmental Design (CPTED) principles to improve rider security. CPTED principles include maintaining clear sight lines into and across the station, eliminating "hiding" spots, and providing adequate lighting.
- Public art should be considered for transit centers. Art has been shown to discourage vandalism and can also be used to involve the local art community in the transit center project. Regulations now require that public art funded through the Federal Transit Administration (FTA) be "functional." Art associated with railings, benches, pavement, windscreens, or any other element of the shelter would meet the FTA requirement. Free-standing art, such as a sculpture, would not.
- Information cases should be located at transit centers and at some major stops to provide general schedule and overall system information.

Current bus stops that have more than ten boardings a day should be considered major stops, and merit consideration for a higher level of improvement (relative to the base level amenities found at all bus stops), such as a shelter or information case. Final decisions about transit center locations and other stop improvements will depend on the final service network.

### Bus Stops

Waiting at a bus stop is generally the first part of a rider's journey on a fixed-route transit system, and a comfortable and safe stop helps enhance the transit system. The cost for building a new bus stop with

<sup>&</sup>lt;sup>8</sup> <u>https://www.oregon.gov/lcd/Publications/Transit\_for\_SmallCities\_2013.pdf</u>

an ADA compliant landing pad and space for a shelter is approximately \$15,000 per location. Designated bus stops have the following advantages:

- They provide awareness of the service, improving the visibility of The LINK in the community.
- The stop can be located to assure safe bus and passenger access.
- The stop can include a paved, ADA compliant landing pad, to facilitate access by riders needing to use the bus lift or ramp.
- They can consolidate access, reducing the number of stops a bus makes.
- They can help communicate service if information such as route numbers are included on the signs.

A new bus stop signage and pole, installed, can range from \$300 to \$1,000, depending on the material and the installation conditions. It is recommended that route names be placed on the signs to assist riders in identifying the service. Bus stop displays with specific route, schedule, and fare information can also be very helpful, though they require updating when there are services or fare changes, which adds to operating cost. If service and fare changes are relatively infrequent, providing more-specific rider information at high-use bus stops is recommended. This option is especially important in areas where visitors tend to use The LINK service, because they are less likely to be familiar with the fares, routes, and schedules.

Bus stops should be located to allow for safe bus and passenger access. Where possible, bus stops would be located at locations that have existing or planned sidewalks or other pedestrian connections, and that allow for safe pedestrian crossing of the street. On major roadways with speeds of 35 mph or more, such as state highways, transit agencies may consider bus stops that should allow for the bus to stop out of the traffic lane to avoid rear-end collisions and to discourage unsafe passing of the bus by motorists<sup>9</sup>. At intersections, locating a bus stop on the far side of the street helps maintain pedestrian visibility at crosswalks and allow buses to reenter the travel lane more easily. Major bus stops should have some lighting and provide bicycle parking accommodations such as racks.

### Shelters

Passenger shelters add to the comfort of using transit and are generally very popular with riders. An "offthe-shelf" passenger shelter (there are several companies that provide them) typically costs approximately \$6,000 plus installation. In addition to initial capital costs, passenger shelters will incur maintenance costs, both for routine ongoing cleaning and repair and replacement as needed. The primary maintenance issues for shelters, apart from the routine cleaning, are vandalism and fading/clouding of the windscreen. For routine cleaning, trash receptacles, if included, would dictate the frequency that the shelter should be serviced. If trash receptacles are not provided, the regular cleaning and servicing of shelters can be as low as once per month.

Passenger shelters must be designed to meet the requirements of the Americans with Disabilities Act (ADA) and should be located so as to provide safe and convenient pedestrian connections with nearby destinations. Coordination of shelter placement with sidewalk and other pedestrian improvements projects planned by Oregon Department of Transportation (ODOT) or local agencies is encouraged. In addition to the overhead protection (roof), shelter amenities can include:

<sup>&</sup>lt;sup>9</sup> Source: https://nacto.org/publication/transit-street-design-guide/stations-stops/stop-configurations/curbside-pull-stop/

- Windscreens
- Benches
- Trash receptacles
- Passenger information

Passenger shelters are recommended at high-use stops and all transit centers. The condition of existing shelters at these locations should be reviewed and additional amenities considered, although the final prioritization will depend on the future service plan.

There is a tradeoff between the level of wind/weather protection provided through the use of windscreens and an open shelter design, without a windscreen, that reduces maintenance costs. If vandalism is not a major problem for The LINK, windscreens are recommended for The LINK shelters both to address winds and because the infrequent service can lead to longer wait times which suggests the need for a higher level of protection from the weather. Glass in lieu of acrylic should be considered to address weathering and fading issues.

### Benches

An alternative to a shelter for a stop that has less ridership is a bench. Benches should be considered for stops with at least three boardings per day, although other factors, such as the proximity to senior housing and nearby businesses willing to contribute to the costs, should be factored into the decision a well. Benches that attach to the bus stop pole, such as the Simmi-Seat (see Figure 21) take up very little space, have low maintenance, and are relatively inexpensive. Benches with backs and wider seating can be more comfortable for elderly and people with disabilities. Installed benches vary in price from \$500 to \$1,500, depending on materials, the quality of the product, and the installation conditions.



Figure 21. Simmi Seat © 2015 Simme LLC

### **Bicycle and Pedestrian Infrastructure and Amenities**

Bicycle and pedestrian access are very important to transit. Virtually every bus rider is also a pedestrian, and bicycles provide an important "last mile" option for transit, particularly for a system such as The LINK which serves residents that may be fairly dispersed. While The LINK is not able to provide safe and convenient pedestrian access to transit stops on its own, The LINK can work with local cities, Wasco County, and ODOT to prioritize pedestrian improvements that serve transit stops. In addition, pedestrian improvements in the immediate vicinity of a transit center or shelter can sometimes be funded by other projects.

It is of particular importance and a legal requirement to provide for access by persons with disabilities. Transit centers, shelters, and new or relocated bus stops should be designed to meet the requirements of the ADA. It is recommended that cities, the county, and ODOT prioritize street corners near transit centers and shelters for ADA ramps.

The bicycle/transit connection can be facilitated by providing for bike parking at transit centers and, space permitting, transit shelters. All The LINK buses have the capability to carry bikes, and the agency should make this information more prominent on its website and other promotional materials.

### Park-and-Ride Lots

Park-and-ride lots are typically feasible in situations where there is either a parking charge or parking shortages at the rider's destination, or if there is a substantial savings in travel cost or time by using transit. Without one or more of these factors, park-and-ride use is generally very low. The LINK currently provides park-and-ride space at The LINK Transit Center, which has high use by residents of the transitional housing near the Port of The Dalles, which does not allow parking near the housing. This location also allows use by those using intercity services, such as those provided by CAT, MATS, and Greyhound.

# **CONCLUSION AND NEXT STEPS**

This memorandum was reviewed with the Project Management Team (PMT) and the Advisory Committee (AC). The revised memorandum will be used to inform the Transit Development Plan by establishing unmet needs and strategies to address these needs.