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SUBJECT: Task 5: First/Last Mile Transit Service Opportunities Criteria and Methodology  
PROJECT NAME: Community Connector Transit Study

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This memorandum documents the proposed methodology for identifying areas within the Portland Metro region with gaps in access to transit. This methodology and criteria will help to establish “opportunity areas” where community connector transit service could be an appropriate solution to address unmet travel needs. In this study, the term “community connector” refers to generic fixed- or flex-route transit service that provides first- and last-mile connections to the greater regional Portland transit networks, as well as non-specialized trips (i.e., without special eligibility requirements) to key destinations within the communities in which it operates.

Gaps in access to transit services within the region, both geographically and temporal (i.e., service gaps related to time of day/night) will be considered. The study is focusing on evaluating gaps in access to transit for travel to/from areas beyond the regional fixed route networks.

It is important to note that this study is focused narrowly on where and when community connector services may be appropriate, cost-effective, and beneficial in addressing regional mobility gaps aligned with regional goals. This study is not engaged in planning for the fixed-route light rail and/or bus networks operated by TriMet or SMART; these agencies have separate planning processes such as Forward Together and the Transit Master Plan, respectively, which plan for the future of the regional fixed-route network. This study is complementary to these efforts and focused on opportunities in areas either unserved or underserved by fixed-route services but potentially supportive of community connector type transit solutions.

## Methodology

The proposed methodology relies on a mix of quantitative data, best practices, findings from prior study work, and qualitative assessment to arrive at potential opportunity areas. This phase of work will identify the potential opportunity areas, while later phases of work will prioritize areas for investment and identify possible transit strategies. Outcomes from this analysis will include:

- An understanding of potential geographic areas where new or expanded community connector transit service could provide benefit.
- Potential temporal gaps in access to transit that could be addressed by new or expanded community connector service.
- Opportunities to serve regional parks with community connector services.

The overall process includes the following steps, explored in greater detail in the subsequent sections below:

- Identify first/last mile access to transit gaps in the region. This step will combine previously-identified community connector service needs from local plans with a broad assessment to determine areas of the metro region that represent gaps in terms of ability to access transit



- Of the gaps and areas of need identified, determine whether these areas would be supportive of community connector transit services (today or in the future). This step further refines the gap areas to understand if there is potentially a market for transit services
- Identify potential opportunity areas. This step will identify what the potential market for transit services is, and where a given area might connect (e.g., connections to the nearest light rail stop). This third step will result in “opportunity areas” that will be further refined through engagement and later work on the project

## First/last mile access to transit gaps

For the purposes of this study, access to transit gaps are geographic areas, or times of day, when people cannot reasonably access transit to meet their travel needs. The first step in this process will be to inventory community connector services planned or proposed by agency partners. Much work has been completed in the region on this subject, such as prior ideas from TriMet’s Service Enhancement plans, plans for expanded community connector services in Washington County’s Transit Study and Transit Development Plan<sup>1</sup>, as well as “community job connector” areas identified in the Regional Transportation Plan (RTP) Transit Vision (Figure 2.34). These services will be mapped, either as lines/routes where there is a specific route or as polygons where there is a particular service area.

Second, the project team will identify potential additional gaps with respect to the existing transit network (TriMet Forward Together 1.0, SMART services as identified in its 2023 Transit Master Plan (TMP), and existing community connector services) and future transit network (Forward Together 2.0 Strategic Transit Vision for TriMet fixed-route and light rail services, and the Metro RTP Transit Vision for other services). The following approach will be used to identify initial broad areas of interest for further refinement:

- All areas of the region that are more than 0.5 miles away from a high capacity transit station or a frequent transit network stop, or 0.25 miles from other fixed route stops or community connector transit service in the region. The team will use “network distance” based on existing roadways
- The locations of key community destinations *beyond the reach of the fixed-route transit network*, including the following based on the Metro Community Places data layer:
  - City halls
  - Community centers
  - Fire stations
  - Hospitals
  - Libraries
  - Schools
  - School sites

Additionally, key community destinations will include:

- Parks
- Affordable housing
- Grocery stores
- Social services
  - Community colleges and universities

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<sup>1</sup> <https://www.washingtoncountyor.gov/lut/planning/washington-county-transit-study>;  
<https://www.washingtoncountyor.gov/lut/transit-development-plan>

- Locations of any housing above approximately 4 units per acre that are more than 0.5 miles from fixed-route transit networks

The resulting maps (existing and future) from layering these data will show areas of the region without transit access and the areas of opportunity identified in other local plans.

**Temporal gaps** will focus on access to employment for jobs with non-traditional work hours. These gaps will be identified through employment data on concentrations of jobs with shift work, as well as through Transit Working Group (TWG), public, and partner feedback.

Details/assumptions for this step:

- Largest employer sites (pulled from the Internet or from past projects) will be mapped as points, with metadata that includes the number of employees, and whether there are likely to be shift workers there who work second, third, or alternative shifts. (Note that some large employers have multiple locations. Propose working with partners to rely on past work that identifies key employment locations and shift times)
- The existing fixed-route transit network will be the planned full implementation of the Forward Together 1.0 network, as defined by TriMet, and the full implementation of SMART fixed-route network as defined in the 2023 TMP. The future network will use the fixed route bus and light rail network in TriMet's Strategic Transit Vision (Forward Together 2.0) and other planned elements of the transit system found in the RTP Transit Vision).

## Criteria to determine transit-supportive areas

This step will establish where there are transit supportive markets within the areas identified as transit access gaps. At this step, results will only be used to establish whether some level of transit service could be viable, but not which type of community connector service delivery model is appropriate. Areas that do not score well or meet agreed upon thresholds may not be suitable for transit service, or may be better suited for other types of transportation solutions.

Core metrics include:

- Minimum population density of 8 people per acre, using Census data or Transportation Analysis Zones (TAZs) from the regional travel model for existing and/or future population
- Top quartile of the TriMet Equity Index, which includes ten indicators of populations having social vulnerability, such as minority status, low-income, limited English speaking proficiency, seniors over 65, youth 21 or under, disability status, low access to a personal vehicle. Affordable housing, percentage of low-wage jobs, and density of available services round out the remaining indicators. The team will also identify areas in the top quartile of minority status and low-income.
- Major employers: existing locations of employers or employment sites exceeding a size threshold (could include classification of distance from transit and mode share)
- Alignment with Metro 2040 land use designations including regional centers, town centers, station communities, main streets, corridors, and employment land. Many of these areas will already have robust fixed-route transit; the goal here is to understand if any of these designations lie within the broad transit gap areas identified in the first step

The team will identify high capacity and frequent transit stop and park and ride locations proximate to the opportunity area as well as key destinations; these locations represent possible connection points for community connector transit service.

In addition to applying these criteria to refine opportunity areas, the project team will include opportunities identified from TWG or public feedback.

### Temporal gaps refinement

The team will identify areas with concentrations of shift workers, overlaid with the existing transit system (fixed and community connector transit) to understand where there could be temporal gaps in service (e.g., time-of-day gaps, or weekend service gaps, etc.), as discussed in the prior section. This information will be useful for discussions with the TWG and other groups to understand what gaps have been previously identified and what areas may warrant further investigation. In the case of night- or third-shift employment, the same transit planning principles apply; that is, if the transit propensity is low due to distance, density, or potential demand, other solutions besides community connector transit may be a better fit. Temporal gaps may also include understanding of whether there are certain days or times where additional transit service may be warranted.

### Identify potential opportunity areas

This step will identify the market or trip purposes served by potential community connector service to or in the areas identified in the prior step. Analysis will include the following:

- Whether there is support from local or regional plans for community connector transit services; identified opportunities from TWG and public feedback.
- Origin-destination travel demand derived from Metro's travel model to understand possible connection points for opportunity areas.
- Alignment with the markets for community connector service described in the best practices document, including serving low-density housing, regional parks, employment, and off-peak service.
- High-level assessment of potential pedestrian barriers influencing the need for service.

Opportunities will be sorted into four broad categories:

- (1) **Current:** areas that would address current and ongoing need for community connector services
- (2) **Temporary:** areas that demonstrate current and ongoing need for community connector services, but the service may be rendered obsolete in the future due to population growth, changes in land development, and planned fixed-route network expansions
- (3) **Future:** areas that do not meet a threshold to support community connector transit, but that are likely to emerge as such in the future due to anticipated changes in land use, population, and employment densities
- (4) **No opportunity:** some areas may not be suitable for community connector transit services today or in the future

### Access to recreation

There is a desire by Metro for a focused examination of access to regional parks, especially those that are at the periphery of the region and that have low or no access via transit today. Metro considers a "regional park" as one offering recreation activity opportunities including trails and/or water access, of a sizable nature (around 15 or more acres), and currently offering parking (indicating visitation is encouraged and frequent). These parks with features that indicate a major

regional draw, and therefore regional significance, were identified from Metro's Outdoor Recreation and Conservation Areas RLIS file. This analysis requires a slightly different approach than the broader opportunity areas process described previously. Best practices indicate that transit serving major parks with regional draw should connect to high density, highly transit-accessible bus stops or stations. This analysis will include input from existing transit providers about high ridership stops, particularly those that serve multiple bus routes or light rail lines that could be on a list for consideration.

Key criteria that will be considered include:

- Park visitation numbers, from Metro
- Parking availability
- Proximity to existing major fixed route/HCT stop locations
- Network distance from fixed route transit
- TWG and public feedback

Access to regional parks may have overlapping opportunity areas with other opportunity areas identified from the methodology described in previous sections. For a destination-based service such as this, the team will ensure service alternatives do not conflict with Federal Transit Administration charter bus service regulations.<sup>2</sup>

## Next steps

In the next phase of the project, the public and the TWG will provide feedback on a draft opportunity areas map, and regional priorities. Adjustments to opportunity areas based on feedback will result in an updated map of opportunity areas by priority.

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<sup>2</sup> <https://www.transit.dot.gov/regulations-and-guidance/access/charter-bus-service/charter-bus-service-regulations-0>