TDM Inventory
Needs and Opportunities Assessment

Client: Metro
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Content

Introduction

Background

The Metro Regional Travel Options (RTO) Program is a regional approach to transportation demand management (TDM) that aims to change travel behavior through programs and outreach.

In 2018, the RTO Strategy was updated to include a series of equity goals and objectives aimed at expanding service coverage and offerings to better serve communities of color, older adults, and youth populations. This update was also consistent with Metro's Strategic Plan to Advance Racial Equity, Diversity and Inclusion, a plan that outlines goals and objectives for Metro's programs, policies, plans and venues to work to achieve racial equity in the region.

In 2018, Steer was contracted by Metro to assist in the development of a regional TDM inventory (Phase I). This involved collecting data on active TDM programs within the Metro jurisdiction and mapping them, helping to develop a better picture of how TDM programs and services are distributed across the region.

The program and spatial information assembled by Steer was used by Metro staff to build a master TDM geodatabase and an ESRI Storymap (**Figure 1**), an open resource, to share information about TDM activities with partners, potential partners and the public.

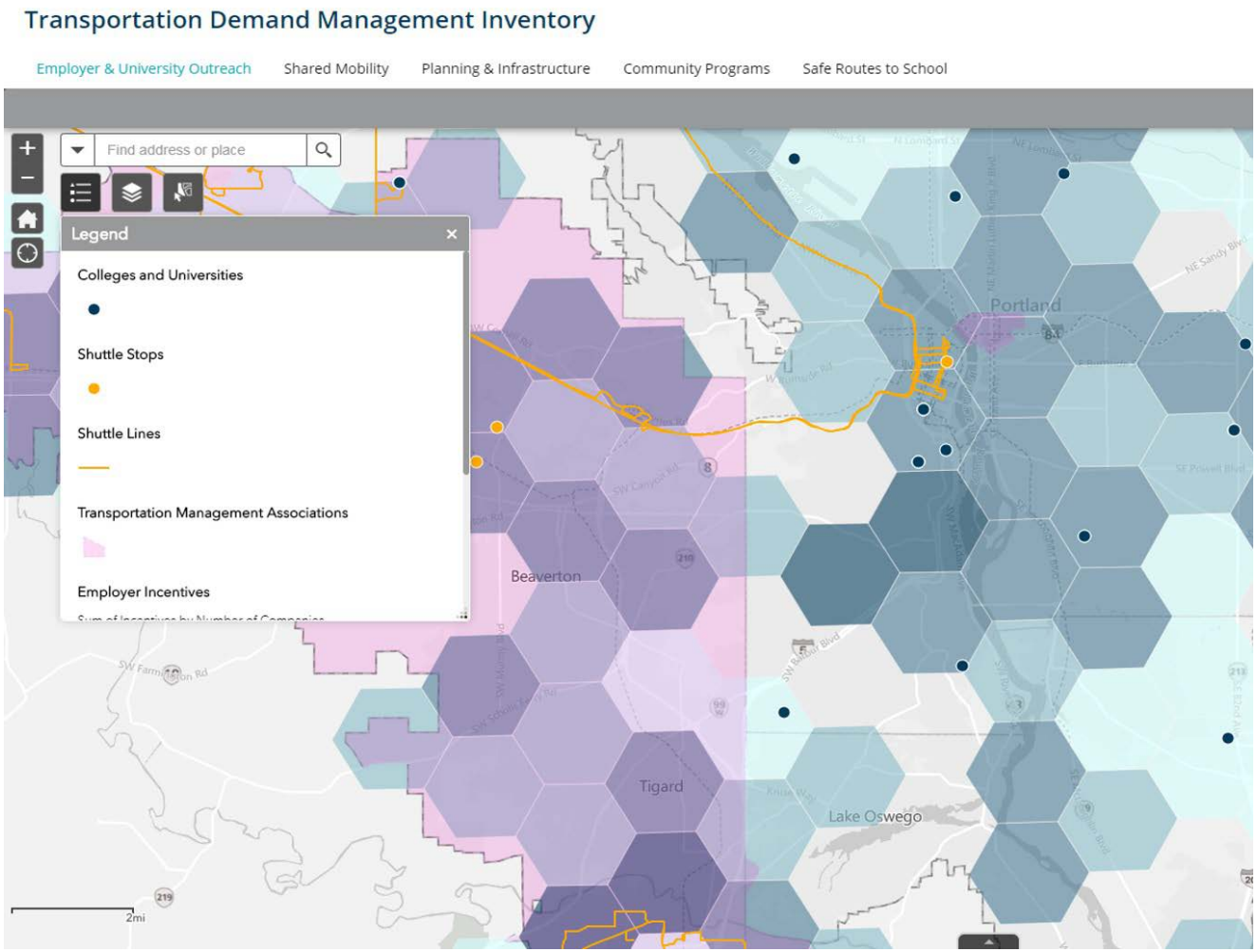

Figure 1. Snapshot of the final Transportation Demand Management Inventory Storymap, available as an open resource to partners, planners and the public.

Introduction

TDM In the Region

As shown in the TDM Inventory Storymap, the Metro Portland region features an impressive level of TDM programming that includes employer outreach, shared mobility, community programs, Safe Routes to School (SRTS), planning and infrastructure.

Metro's jurisdiction encompasses portions of Washington, Clackamas and Multnomah counties and 24 cities, including the City of Portland.

According to the American Commuter Survey (2017), residents in the Metro Portland region make about 70 percent of their work trips and 40 percent of non-work trips by car.

Walking, carpool, transit and bike trips account for a considerable amount of transportation, thanks in part to efforts made by the state and region to reduce single-occupancy vehicle (SOV) commutes. Oregon's Employee Commute Options (ECO) Program, in addition to Metro's support for diverse travel options through RTO, have contributed to increased non-SOV travel modes.

Purpose of this Study

This study builds on the work of the TDM Inventory Phase I, synthesizing information about the spatial distribution of TDM programs and services, infrastructure, new mobility options, and strategic partners in the region.

The findings of this study can be used to compare geographic areas of relative need and opportunity with respect to future TDM program.

The goal is to identify gaps in TDM programming and areas for improvement. This analysis will be used to develop recommendations for actions to be implemented by Metro, a roadmap to meeting the goals and objectives established in the 2018 RTO Strategy:

- **Goal 2:** Reach existing and new participants by expanding the RTO program and working with new partners.
- **Objective 2.1:** Build partners' travel options capacity and expertise regionally.
- **Objective 2.2:** Allocate RTO resources in a way that prioritizes and impacts communities of color, older adults, youth, people with disabilities, and low-income households.

To do that, a comprehensive definition of need and opportunity was required. These definitions were informed by criteria significant to Metro, other strategic planning documents, and agency values.

Structure and Contents

This report contains three sections:

- Defining Need and Opportunity: An explanation of how Need and Opportunity was defined and developed into a meaningful framework
- Needs and Opportunities Assessment Results: The outcome of analysis, areas of high need and opportunity and how both are distributed spatially in the region
- Recommendations and Community Profiles: A summary of eight areas of high need and/or opportunity with recommendations for TDM improvements.

Defining Needs and Opportunities

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Developing an Assessment Framework

Overview

The goal of the Needs and Opportunities Assessment was to use quantitative and spatial data to understand present levels of TDM programming across the region and identify gaps and areas of improvement.

- Where are the areas of greatest need for TDM?
- Where are the areas of greatest opportunity for TDM improvements?

Need and opportunity are subjective terms that reflect an agency's values and goals. Steer collaborated with Metro to define the concept of need and opportunity and build an assessment framework that best served the agency's immediate planning needs and long-term strategic vision.

Developing a Assessment Framework

The process of developing a Needs and Opportunities Assessment Framework appropriate for the Metro context included the following steps:

1. Identify primary datasets to best understand TDM need and opportunity in Metro region
2. Define TDM needs and opportunities with respect to these datasets, in alignment with Metro's strategic goals and objectives
3. Map data inputs across the region at the census tract and block group level
4. Create a framework based on need and opportunity definitions and score each block group based on data inputs
5. Compare scores for each block group to understand where there are the highest levels of need and opportunity and mismatches

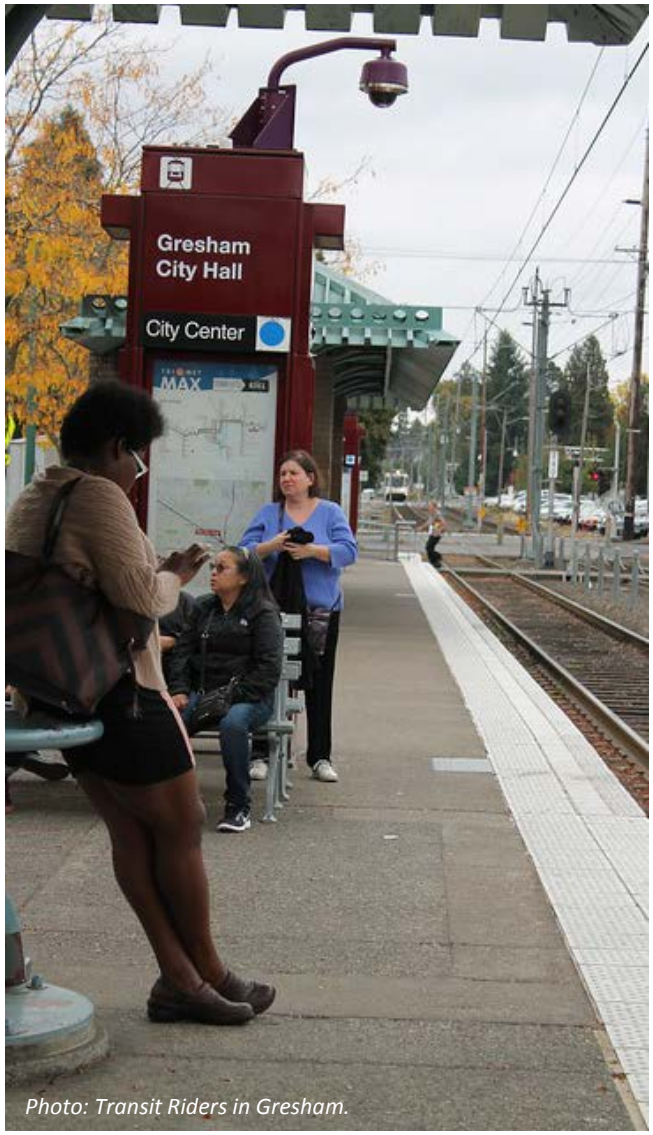


Photo: Transit Riders in Gresham.

Definition of TDM Need

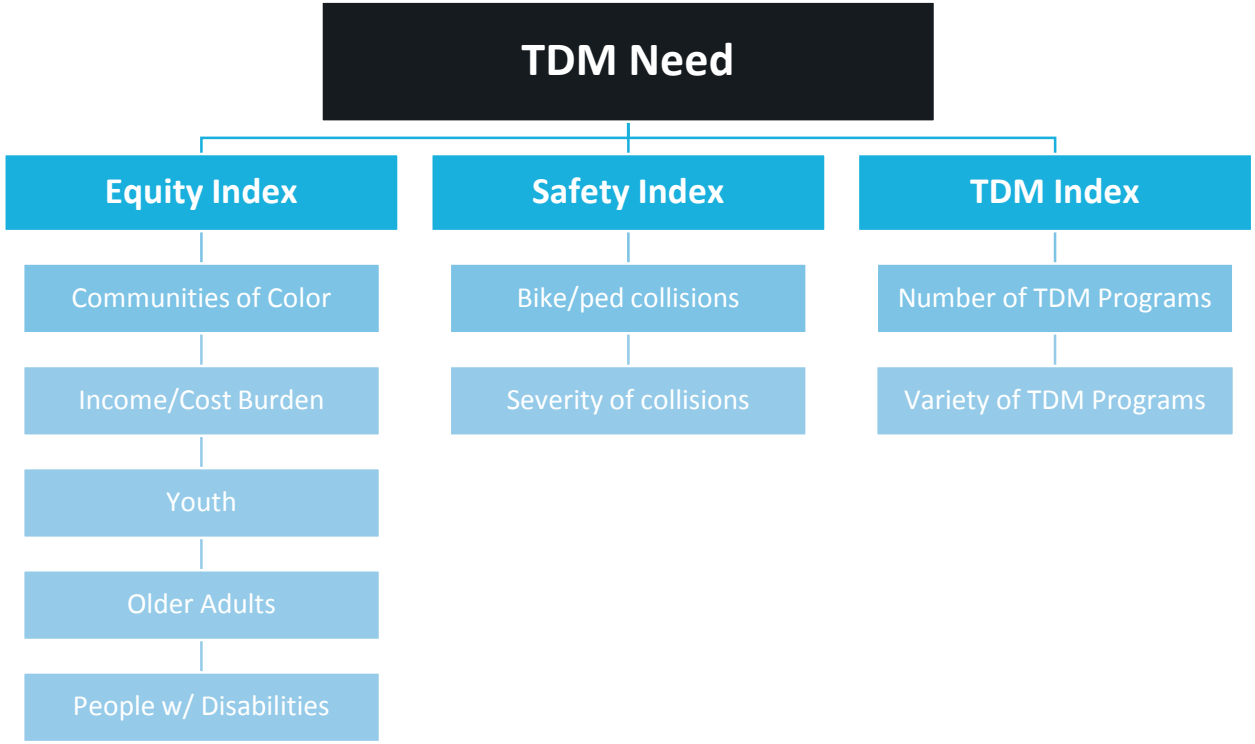
Needs and Opportunities Assessment Framework

In cooperation with Metro, Steer created three indices to identify areas that may be in need of TDM programming based on demographics, safety, and current TDM activities. Each category had a range of scores from 0 (lowest need) to 3 (highest need).

The Equity Index incorporated demographic data from various public datasets to understand which areas of the region contain higher concentrations of residents with unique needs, preferences, and barriers related to travel options.

Safety outcomes were also important to Metro. The Safety Index was created to understand which areas might need more investment to reduce bike and pedestrian involved collisions.

Finally, information regarding the type and spatial distribution of existing TDM programs and services was incorporated into a TDM Index. For the purpose of this assessment, the distribution of programs and services (rather than performance) was used to understand how TDM resources are allocated and compare with other indications of need.



Need = Equity Index (0-3) + Safety Index (0-3) + TDM Index (0-3)

Definition of TDM Need

Where are historically underserved groups?

The Equity Index establishes a way to identify concentrations of historically underserved groups including communities of color, low-income/cost-burdened households, people with disabilities, older adults, and youth.

Where are there negative safety outcomes?

This analysis focused exclusively on bike and pedestrian collisions, as these modes are within the purview of RTO's Strategy.

Safety data used in the Regional Transportation Plan (2018) regarding number and severity of collisions was also used for this Index.

What is the level of TDM programming and services?

The TDM Index was developed using the outputs from Phase I of the TDM Inventory and the Oregon Department of Environmental Quality's Employee Commute Options (ECO) Program. This index analyzed the number of TDM programs available in each block group as well as the coverage across several categories of TDM support such as employer programs, campus TDM, Safe Routes to School, and others.

Equity Index

Where are historically underserved groups?

Demographic datasets in this Index were updated and expanded starting from the Regional Transportation Plan's Equity Analysis (2018), and were also directed by the RTO Strategy (2018) and Metro's Strategic Plan to Advance Racial Equity, Diversity and Inclusion (2016). Metro and partners are working to improve travel options programming and engagement with these demographic groups, and in particular communities of color. Metro's Travel and Awareness Survey and Mosaic's research show that communities of color have high participation rates and interest in travel options.

Table 1 presents brief descriptions of each of these datasets.

Data

Multiple variables and datasets were used as inputs in the Equity Index.

- American Community Survey 5-Year Estimates (2017)
- National Center for Education Statistics Common Core (NCES)

For a more detailed description of datasets used as inputs into each Index, refer to **Appendix A: Methodology**.

Table 1. Equity Index Descriptions

Descriptions	
Low-income households	Low-income households were defined as falling below the regional (Metro area) median household income. Thresholds were set to align with national poverty indicators.*
Cost-burdened	The cost burden index was used to identify the percentage of households that spend more than 30 percent of income on housing.
Communities of Color	Communities of color were characterized using data about race and ethnicity from the Census and the NCES Common Core. Non-white people and students included anyone who identified as Hispanic/Latino, Asian, black, and two or more races/ethnicities.
English Language Proficiency	Census data about Limited English Proficiency (LEP) and English Language Learner (ELL) students in schools were included in the analysis of communities of color to help capture a bigger range of ethnic groups.
Youth	Census data was used to calculate the percentage of residents under age 18 by block group.
Older Adults	Census data was used to calculate the percentage of residents over age 65 by block group. In addition, a Metro spatial dataset showing the distribution of retirement housing facilities was used to calculate the number of retirement units per block group.
People with disabilities	Census data was used to calculate the number of people who identify as having a disability by block group. This included all disability types: cognitive, hearing, visual, ambulatory, and independent living impairments.

*U.S. Department of Housing and Urban Development's (HUD) considers families at 80 percent of the area median income level to be "low income" and families at 50 percent of the area median income level to be "very low income." https://www.ocpp.org/poverty/2014-median-income/

Equity Index

Application

Table 2 shows the mean, minimum and maximum scores for each composite variable used in the Equity Index.

Each variable was used to calculate a Raw Score for each block group.

These Raw Scores were assigned an Input Score (0-3) based on quartiles. Only median household income was scored differently, with a score of 0 corresponding to the highest raw score (highest income levels) and a score of 3 corresponding to the lowest raw score (lowest income levels).

Table 2. Range and average input scores used for Equity Index

Variable	Mean	Minimum	Maximum
Percent non-white individuals (ACS)	31%	0%	95%
Average percent non-white students (NCES)	45%	0%	98%
Percent LEP individuals (ACS)	3%	0%	38%
Percent ELL students (NCES)	11%	2%	29%
Number of people with disability (ACS)	587.43	0%	1,886.00
Total number of retirement units (Metro RLIS)	121.89	2.00	692.00
Median household income (ACS)	$73,154.35	$9,720.00	$220,903.00
Percent cost burdened households (ACS)	37%	0%	64%
Percent over age 65 (ACS)	14%	0%	83%
Percent under age 18 (ACS)	20%	0%	49%

Safety Index

Where are the negative safety outcomes?

The Safety Index analyzes the safety outcomes of block groups by comparing the relative number of bike or pedestrian-involved collisions and the severity of those collisions. Nearly all of the collisions reported as bike or pedestrian-involved resulted in serious injury, which is indicative of underreporting for active transportation collisions with low levels of injury. Therefore, collisions were given extra weight if the injury was classified as fatal.

Data

Oregon Department of Transportation (DOT) Crash Data (2011-2015) was used to assess the safety outcomes.

Variables:

- Number of bike/ped involved collisions
- Severity of bike/ped involved collisions (fatal)

Application

Total number of bicyclist and pedestrian involved collisions was used to identify where in the region the highest level of safety concern for active trips based on frequency. This score was multiplied by the percent of active trip collisions that were fatal to prioritize the areas that are the most deadly to those on foot and on bike.

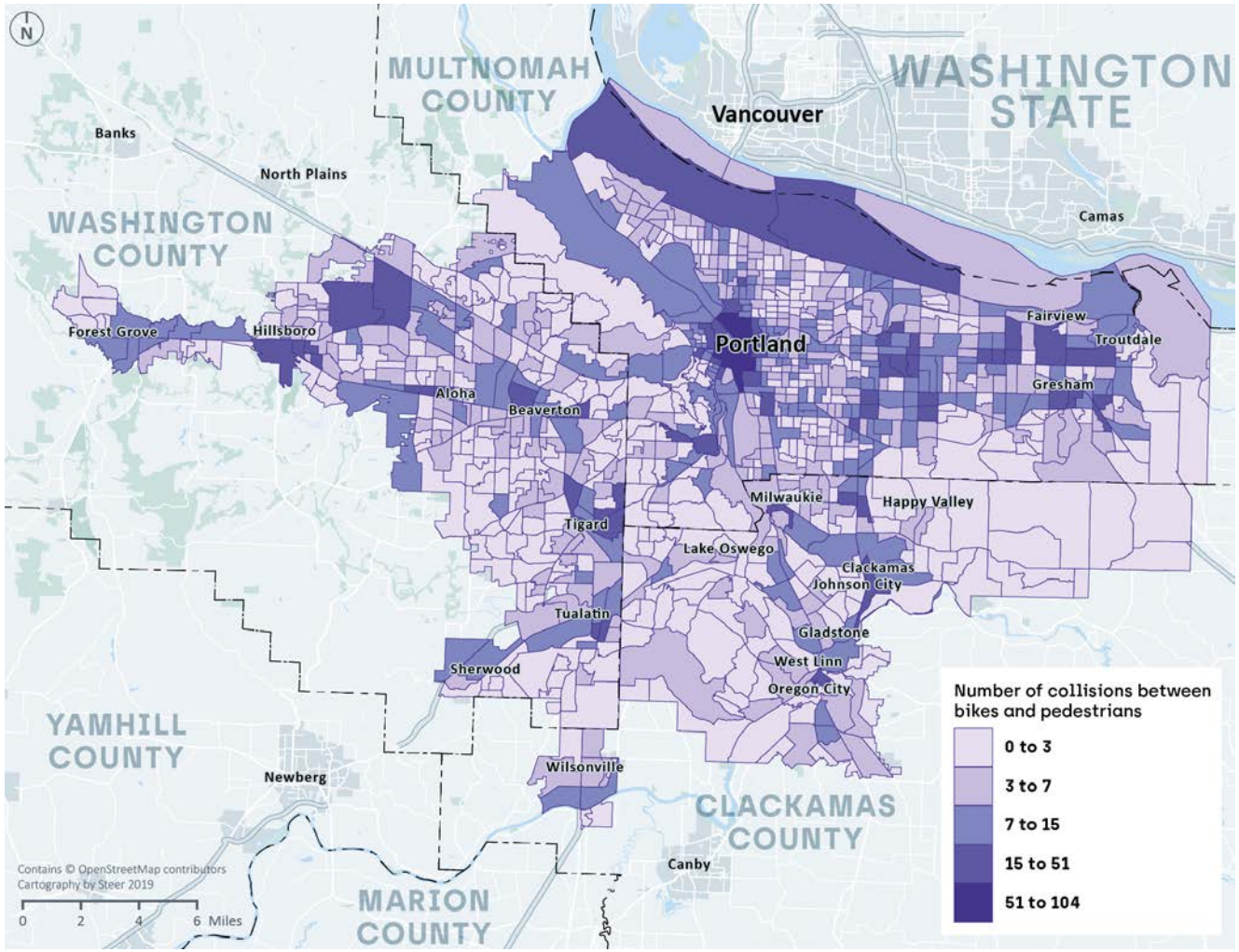


Figure 2. Percentage of Bicycle and Pedestrian-Involved Collisions Throughout the Metro Region by Census Block Group

TDM Index

What is the level of TDM programming?

Two factors contributed to the TDM Index score: the number of TDM programs per block group and the coverage across nine distinct subcategories.

Data

- TDM Inventory Geodatabase
- Employee Commute Options Program Dataset

TDM Inventory Phase I Geodatabase

The TDM Index incorporated the outputs from the Phase I TDM Inventory geodatabase to identify levels of TDM programming across the Metro region.

The TDM Index includes all strategies that were classified in the Major Category TDM Programs and Support. Each of these strategies were also assigned to up to two subcategories (A and B), including:

- Employer outreach
- Commute trip reduction/incentives
- Safe Routes to School
- Marketing/communications/education
- TMA service area
- Special event TDM/campus TDM

The TDM Index did not incorporate Infrastructure or New Mobility services, which were used separately in the Opportunity portion of the analysis. Note: There may be other TDM projects that are not included in the geodatabase due to lack of available data from partners.

Employee Commute Options (ECO)

Employer-based programs account for a large portion of TDM programming in the region and elsewhere. The Oregon Department of Environmental Quality's ECO program requires that employers of a certain size offer commuter benefits to employees to encourage use of alternative modes and reduce drive-alone trips.

The ECO program dataset was used to calculate the number of participating employer programs per block group to determine level of employer-based programs. This was then included as an additional category in the TDM index. To avoid skewing the Index in favor of employer-based programs, the maximum number of ECO Program points was capped at 10.

Application

Each block group was assigned a raw TDM score based on the number of TDM programs per block group multiplied by the number of subcategories (0-9). These raw scores were then assigned final scores (0-3) based on quartiles shown in **Table 3**, where the highest level of TDM programming received a 0 (least amount of need) and the lowest levels received a 3 (greatest need). Raw scores ranged from minimum of 22.76 to maximum of 61.41. **Figure 3** shows the distribution of Final Scores.

Table 3. TDM Index Quartiles and Index Scores

Quartiles		Score
Q1	27.65	3
Q2	29.65	2
Q3	35.29	1
Q4	61.41	0

Figure 3. Distribution of Final TDM Scores, showing the number of block groups out of 965 that scored 0-3 on the TDM Index.

Definition of TDM Opportunity

Needs and Opportunities Assessment Framework

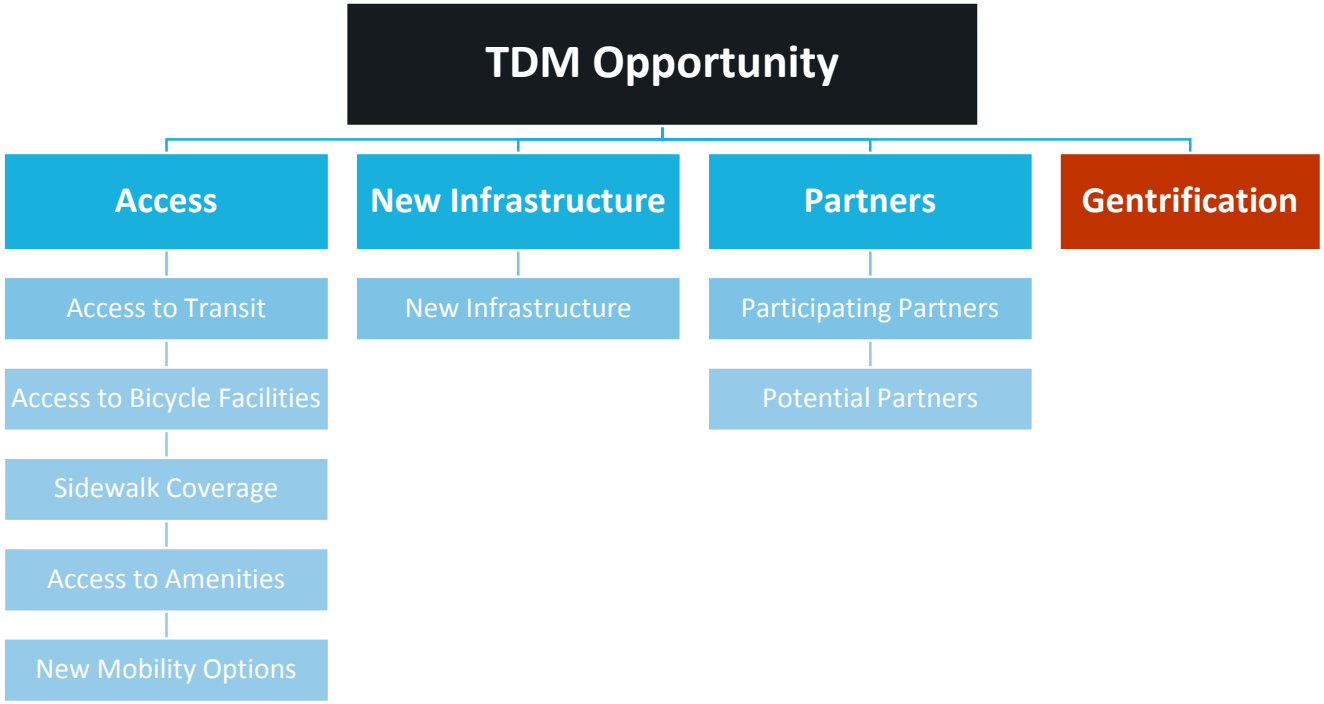
For this analysis, the concept of Opportunity was based on three criteria: access to high-quality alternatives to driving, introduction of new infrastructure or improvements to the active transportation network, and the presence of established partner relationships or potential partner relationships. As with Need, each index had a range of 0 (lowest opportunity) to 3 (high opportunity).

The Access Index was assembled from multiple spatial datasets to quantify levels of accessibility to active transportation networks, including transit, new mobility services, and key destinations.

The New Infrastructure Index was concerned with whether infrastructure improvements, such as transit/bike integration, new bicycle facilities, or safety enhancements, might be leveraged to encourage behavior change.

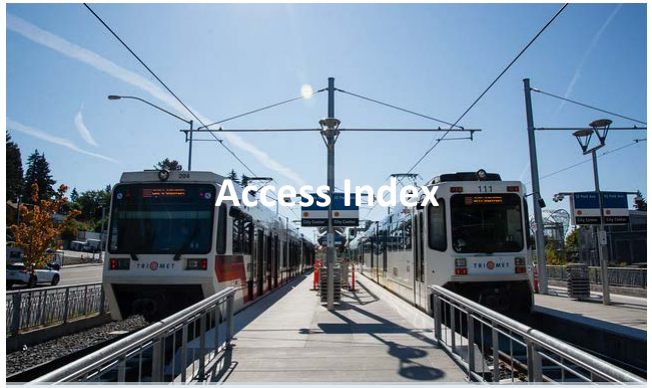
Finally the Partners Index assessed the number of participating partners and potential partners currently operating in that area that could facilitate future TDM programming.

A Gentrification Index (counted as a balancer) was also applied to correct for areas that might be experiencing high levels of investment driven by neighborhood change and new development.



Opportunity = Access Index (0-3) + New Infrastructure Index (0-3) + Partners Index (0-3) – Gentrification (0-3)

Definition of TDM Opportunity



Where is there access to high quality driving alternatives?

The Access Index was assembled primarily using data from Metro's Context Score. These maps and associated datasets show the level of accessibility to various alternative modes, including transit, sidewalks, bicycle facilities and destinations and amenities.

In addition, the access to New Mobility service areas derived from analysis of the TDM Inventory Geodatabase, was incorporated into the Index.

Where can new infrastructure improvements be leveraged?

Infrastructure improvements, such as increases in transit service, the addition of a new protected bike lane, or signals at crosswalks, make it easier for people to access and use active transportation alternatives safely. The completion of an infrastructure project can be an opportune time to encourage people to try alternatives to driving.

The New Infrastructure Index was developed to assess where there are known new improvements to infrastructure.

Where are participating and potential partners?

The RTO program relies on strategic partnerships with local agencies, governments and community-based organizations to help deliver TDM programs and services to communities.

The Partner Index quantified the number of partners and potential partners operating within a given block group.

Credit: Jonathan Maus/BikePortland

Access to High Quality Alternatives

Are there adequate alternatives to driving alone?

The context score is an existing Metro analysis and index that identifies areas with high access to services that increase the opportunity to travel by modes other than SOVs. This is evaluated by looking at both access to high quality alternatives as well as access to nearby destinations that makes using alternative modes more feasible. This analysis also took into account the availability of new mobility services.

Data

Context Score is a Metro tool used to assess access to various high quality driving alternatives.

Variables

- Bike path access
- Sidewalk density
- Access to transit
- Access to urban amenities
- New mobility options (TDM Geodatabase)

Application

Block groups were spatially joined to context scores and new mobility data and received score for each on how that area score compared to other block groups in the region. The Context Score dataset was provided as a raster (**Figure 4**). Each indicator score corresponded to its value based on the raster.

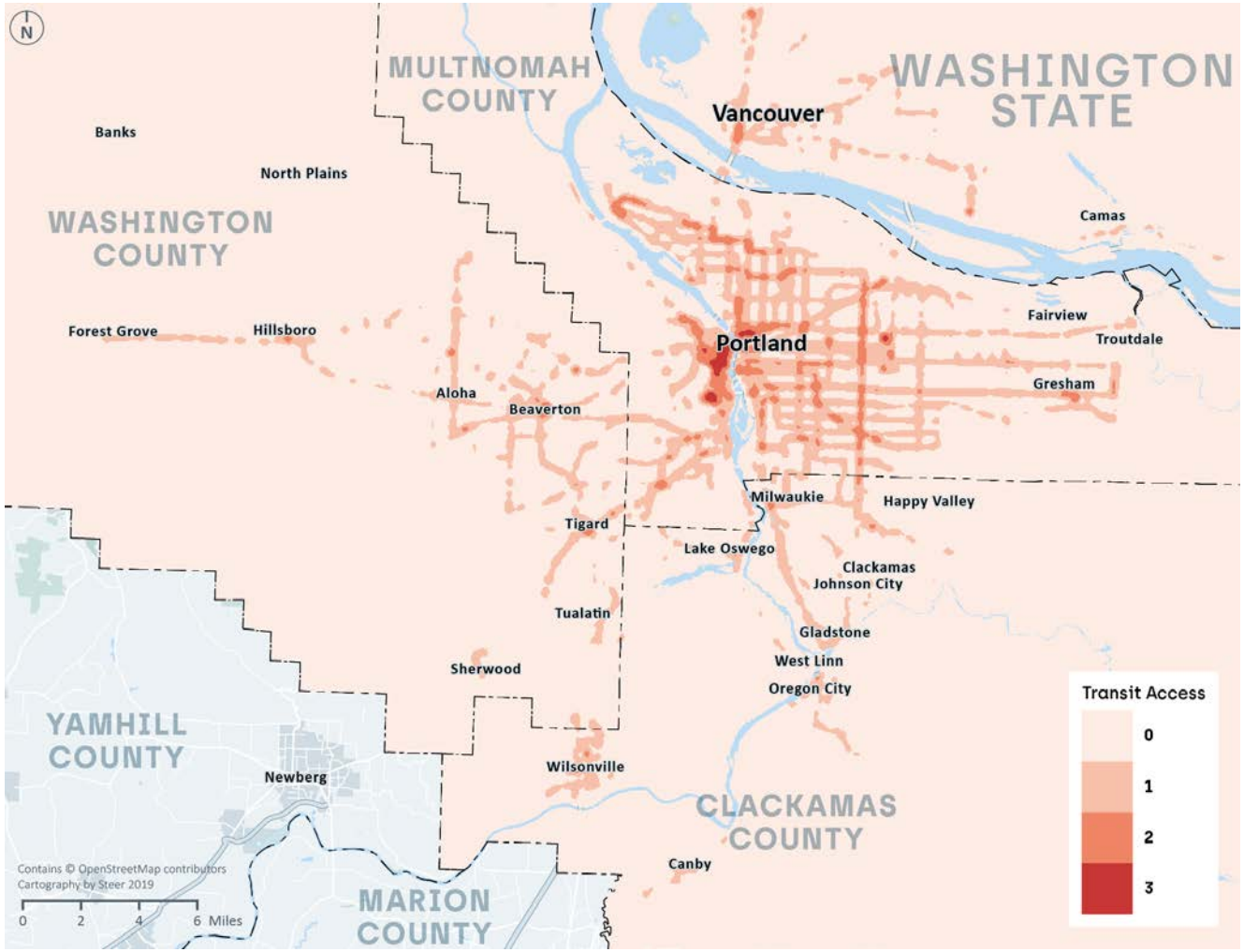


Figure 4. Example of Access to Transit Raster from the Context Score dataset that was converted to a final Access Score by block group.

New Infrastructure Index

Where can new infrastructure improvements be leveraged?

The New Infrastructure Index projects include existing or planned improvements that were assigned project completion dates within the 2016-2021 period. This encompasses a variety of facilities and service improvements designed to make walking, biking and riding transit safer, easier and more accessible.

Data

The New Infrastructure Index was developed using outputs from the TDM Inventory Geodatabase, specifically all projects that were assigned to Major Category Infrastructure, including safety improvements, active transportation improvements, transit service improvements and others.

The geodatabase includes projects listed the Regional Transportation Improvement Plan (RTIP), the Metropolitan Transportation Improvement Plan (MTIP), city Capital Improvement Programs, and other local Active Transportation Plans where applicable.

It is important to note that additional infrastructure projects may not included in the geodatabase due to lack of available data from jurisdictional partners.

Application

Raw scores for each block group were calculated from the number of new infrastructure projects in each block group. The minimum number of projects per block group ranged from zero to six. **Table 4** shows the range of projects and the number of block groups that fell within that range.

There were many block groups (884) that had zero projects. This was expected given the length of time and resources required to implement infrastructure projects.

These raw scores were converted to Index Scores (0-3) based on natural breaks.

Table 4. Number of block groups with new infrastructure projects (max =6)

Number of Projects	Number of Block Groups
0	884
1	24
2	46
3	4
4	5
5	1
6	1
Total	965

Partners Index

Where are participating and potential partnerships?

The Partners Index used outputs from the TDM Inventory Geodatabase to determine the level of opportunity for strategic partnerships, either with established TDM providers or new local governments, community-based organizations, or agencies.

Participating Partners were defined as any organization currently in the TDM Inventory, and therefore project owner of a relevant TDM strategy.

Potential Partners were defined as organizations or municipalities within the Metro region not currently listed in the TDM Inventory, but with a potentially overlapping focus or mission.

Data

Two separate spatial datasets were used for the creation of this index. The TDM inventory provided spatial information about where Participating Partners were currently operating. In addition, a new spatial dataset was created for approximately 40 potential partners not currently in the TDM Inventory using input from Metro.

Variables:

- Number of participating partners (unique organizations) per block group
- Number of potential partners per block group

Application

The level of participating partners was calculated by counting the number of unique organizations currently operating within each block group. There were 108 unique organizations (Project Owners) in the TDM Inventory Geodatabase.

The level of potential partners was calculated by counting the number of unique organizations whose jurisdiction, service area or address intersected with each block group. There were approximately 40 potential partners identified by Metro.

The number of participating and potential partners in each block group were added to achieve a Raw Score for each block group. These Raw Scores were then converted to Index Scores based on quantiles.

Photo: Participating partner Biketown, a shared mobility provider.

Gentrification Analysis

The gentrification analysis compares demographic data from 2000 and 2017 to help RTO better understand where neighborhood transformations are occurring and to identify areas that are vulnerable to gentrification and displacement. Without this layer of analysis, areas that are gentrified or gentrifying may receive a higher need score than is reflective of the present or near future population, or a higher opportunity score due to recent or planned investments.

Data

Several variables were used in this analysis, gathered from ACS datasets for 2000 and 2017 related to tenure, race, ratio of income to poverty, educational attainment, median gross rent and median gross income. **Table 5** shows the variables used to indicate disadvantaged neighborhoods and gentrified neighborhoods respectively.

Application

Gentrification analysis is applied to balance the opportunity score to recognize the effects of gentrification on the region's communities using a two-step process which identifies (1) areas that are disadvantaged and (2) areas that display population change indicators for gentrification.

Table 5. Variables used to determine eligibility for disadvantaged and gentrified neighborhoods

Scoring	Qualifier – Disadvantaged Neighborhood	Indicators – Gentrified Neighborhood
Variables	• Percent of low income households > regional median • Percent of college educated < regional median • Percent of renters > regional median • Percent of nonwhite > regional median	• Change in Percent of college-educated greater than region • Change in Percent of non-Hispanic white greater than region • Change in median household income greater than region • Change in median gross rent greater than change in region
Eligibility	Meets at least 3 out of 4 indicators to qualify	• 0-1 indicator: Final Score 0 • 2 indicators: Final Score -1 • 3 indicators: Final Score -2 • 4 indicators: Final Score -3

The methodology used for the gentrification analysis was modelled after research conducted through the Urban Displacement Project . Source: Chapple and Loukaitou-Sideris. Developing a new methodology for analyzing potential displacement (2017).

Needs and Opportunities Assessment Results

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Analysis of TDM Need

Areas of Greatest TDM Need

Out of 965 block groups, 57 ranked highest in terms of Need with scores of 8 to 9. This constitutes less than 6 percent of total Metro block groups.

The final scores followed a fairly even distribution as shown in **Figure 5**, with scores ranging from 0 to 9 and most scores falling in the mid-range.

Figure 6 presents a map of the areas of need on a scale of 0-9. As shown in the map, there are visible high need clusters in Clackamas, Washington and Multnomah Counties and across 10 cities in the region.

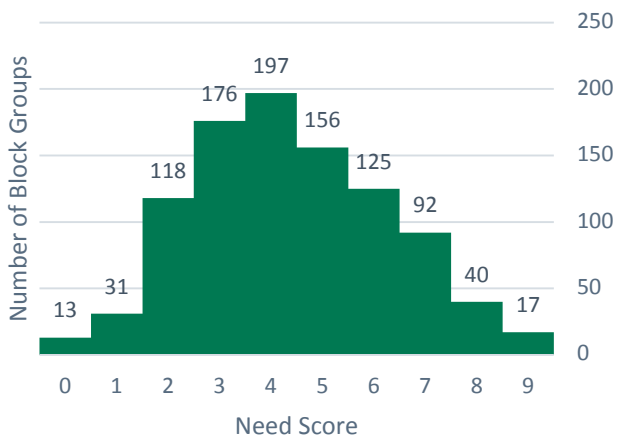

Figure 5. Distribution of Need Scores

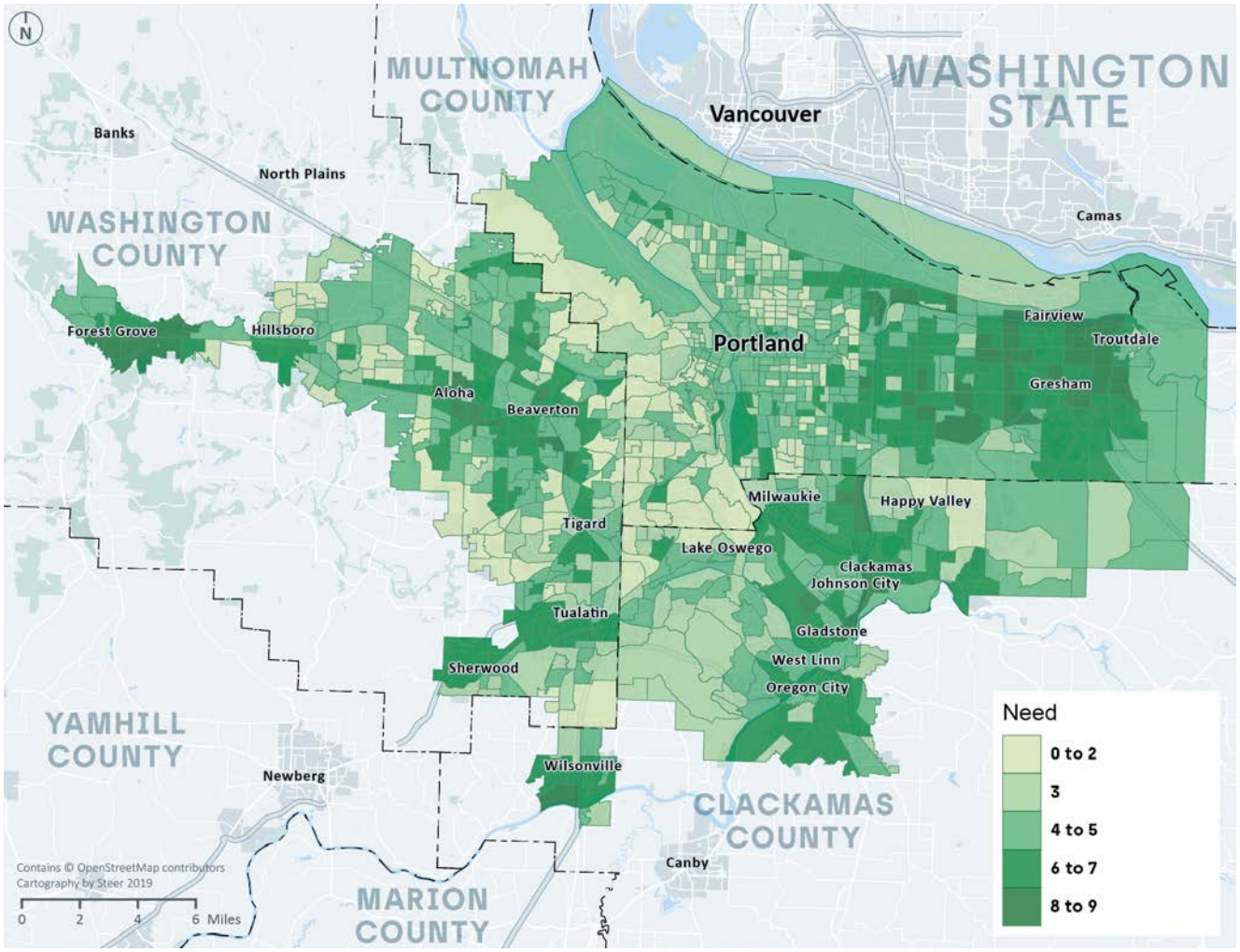

Figure 6. Map of Need Scores in the Metro Region

Analysis of TDM Need

Counties

The majority of high need (score of 8-9) block groups are concentrated in Multnomah County. **Figure 7** shows the percentage of high need block by county:

- Multnomah County has the most high need block groups with a total of 54 percent (31 of 57). These high need block groups make up 6% of all block groups in Multnomah County.
- Washington County has nearly 32% of high need block groups (18 of 57). These high need block groups make up 6.2% of all block groups in Washington County.
- Clackamas County has the least amount of high need block groups with 14% (8 of 57). These high need block groups make up 5.1% of all block groups in Clackamas County.

The average score among high need block groups across the three counties is relatively similar, ranging from 8.23 to 8.38.

Cities

High need block groups appear in ten cities and unincorporated areas throughout the region, as shown in **Figure 8.**

Gresham, Portland, and Beaverton have the largest quantities of high-need block groups. Six high need block groups fall within unincorporated areas of Clackamas and Washington counties.

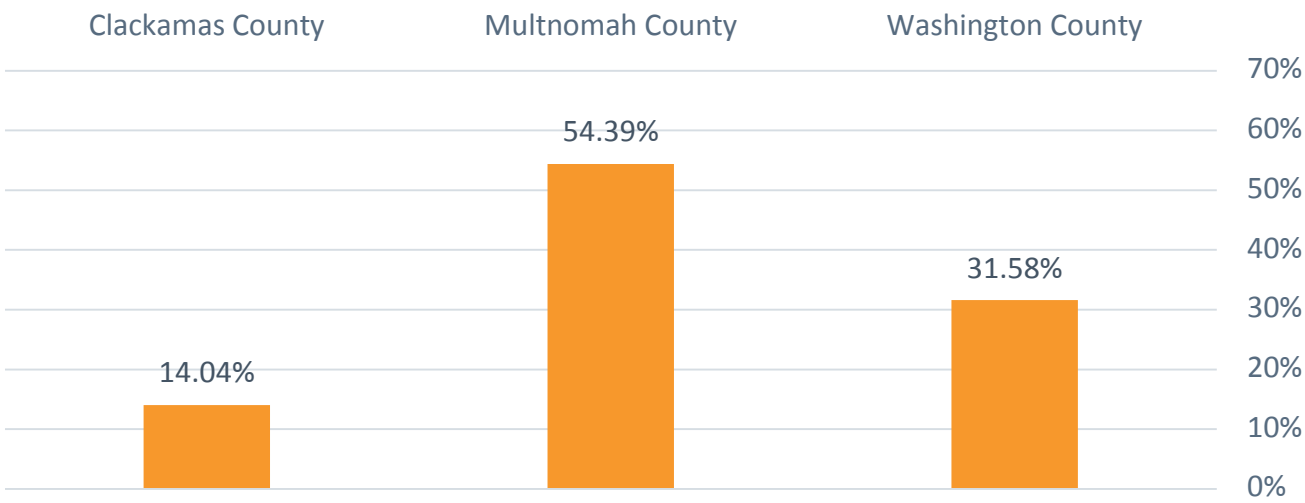

Figure 7. Percent of Total Block Groups that Rank High Need by County

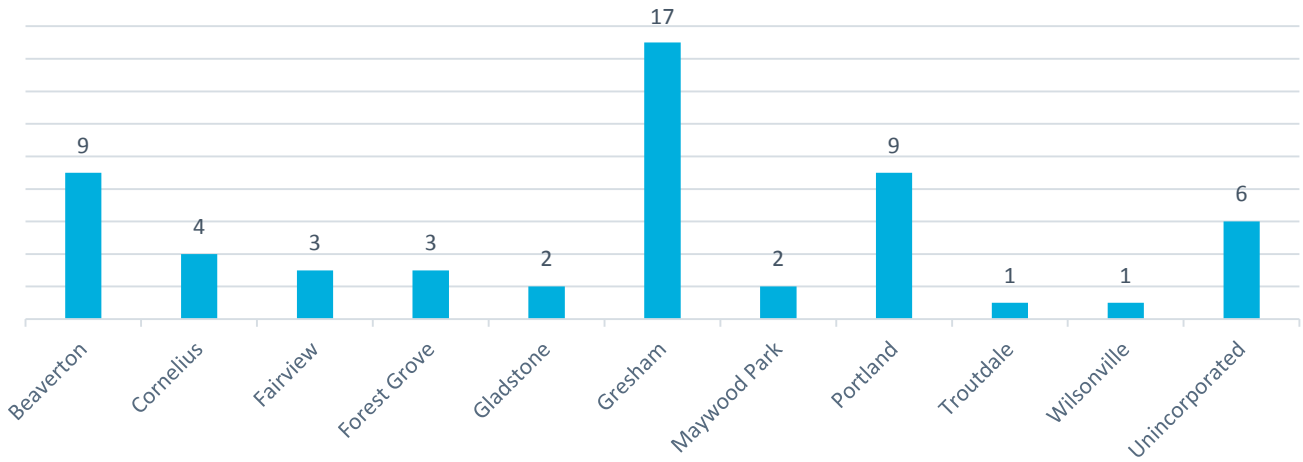

Figure 8. Number of High Need Block Groups by City

Analysis of TDM Opportunity

Areas of Greatest Opportunity

A total of 75 out of 965 block groups ranked highest in terms of opportunity, approximately 8 percent of total block groups. **Figure 10** presents a map of Opportunity Scores across the Metro region. Opportunity scores ranged from 0 to 8 (out of 9). The distribution (**Figure 9**) of Opportunity scores skews much more heavily, with the majority of block groups have very low scores.

Areas of greatest opportunity were disproportionately concentrated in Multnomah County. There were no high opportunity areas identified in Clackamas County and only one opportunity area in Washington County.

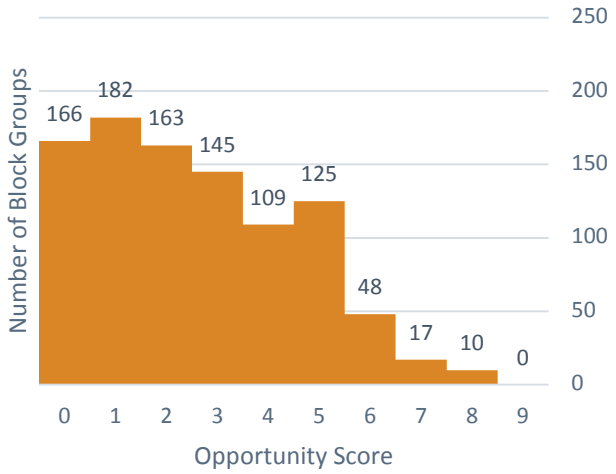

Figure 9. Distribution of Opportunity Scores

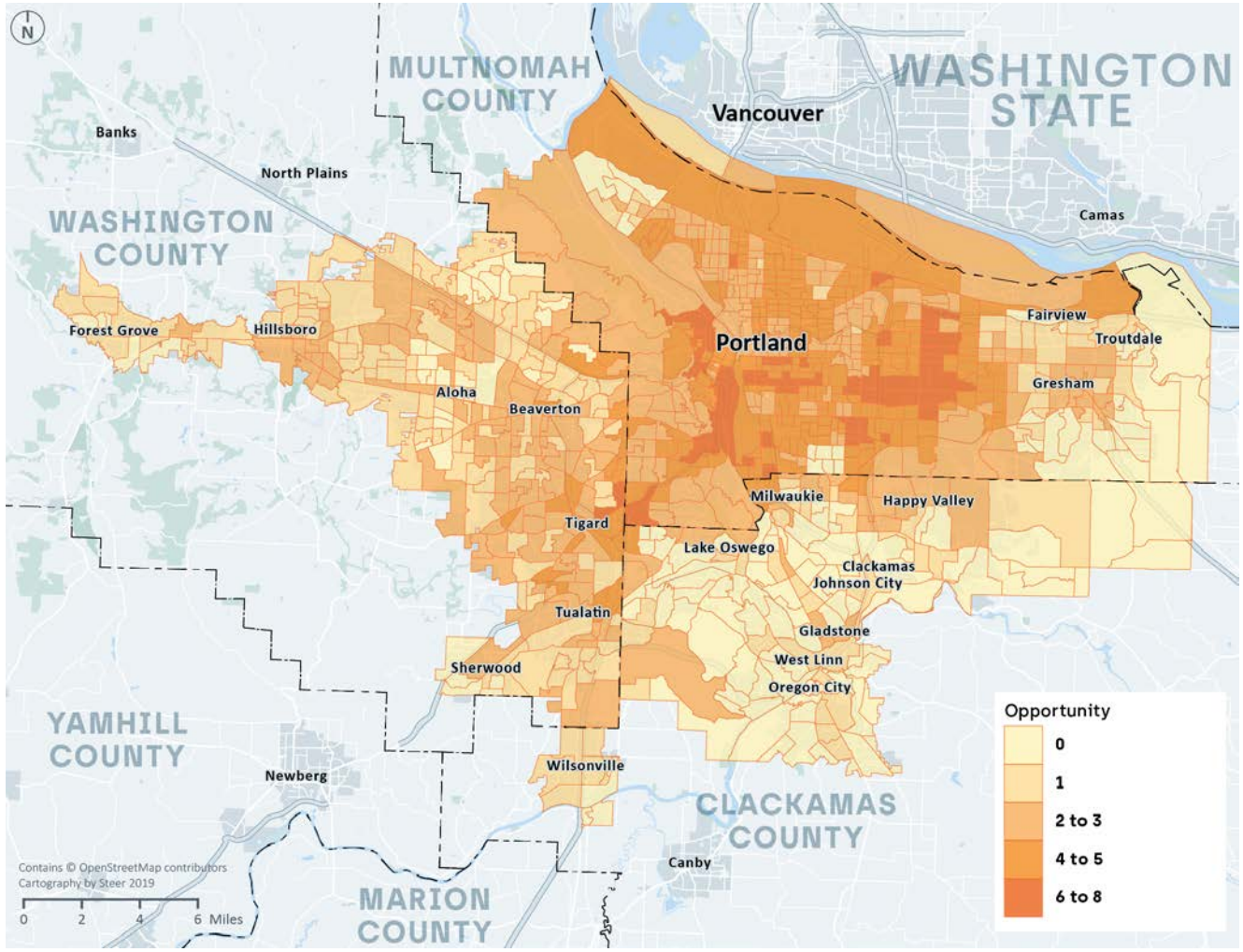

Figure 10. Map of Opportunity Scores in the Metro Region

Analysis of TDM Opportunity

The Opportunity Index is influenced by the greatest access to driving alternatives, number of known new infrastructure projects and the level of participating and potential partners. All of these factors are likely to be higher in more dense urban areas around the City of Portland.

Figure 11 shows the average scores for Access Index, Infrastructure Index, Partners Index, and Gentrification Balancer for each County.

Multnomah County has a significantly higher Access and Partner Index. All three counties have relatively low average New Infrastructure scores. Multnomah County also had the highest average Gentrification score, consistent with academic research and qualitative data indicating that Portland and immediately neighboring areas in Multnomah County are currently experiencing the most dramatic shifts in neighborhood demographics.

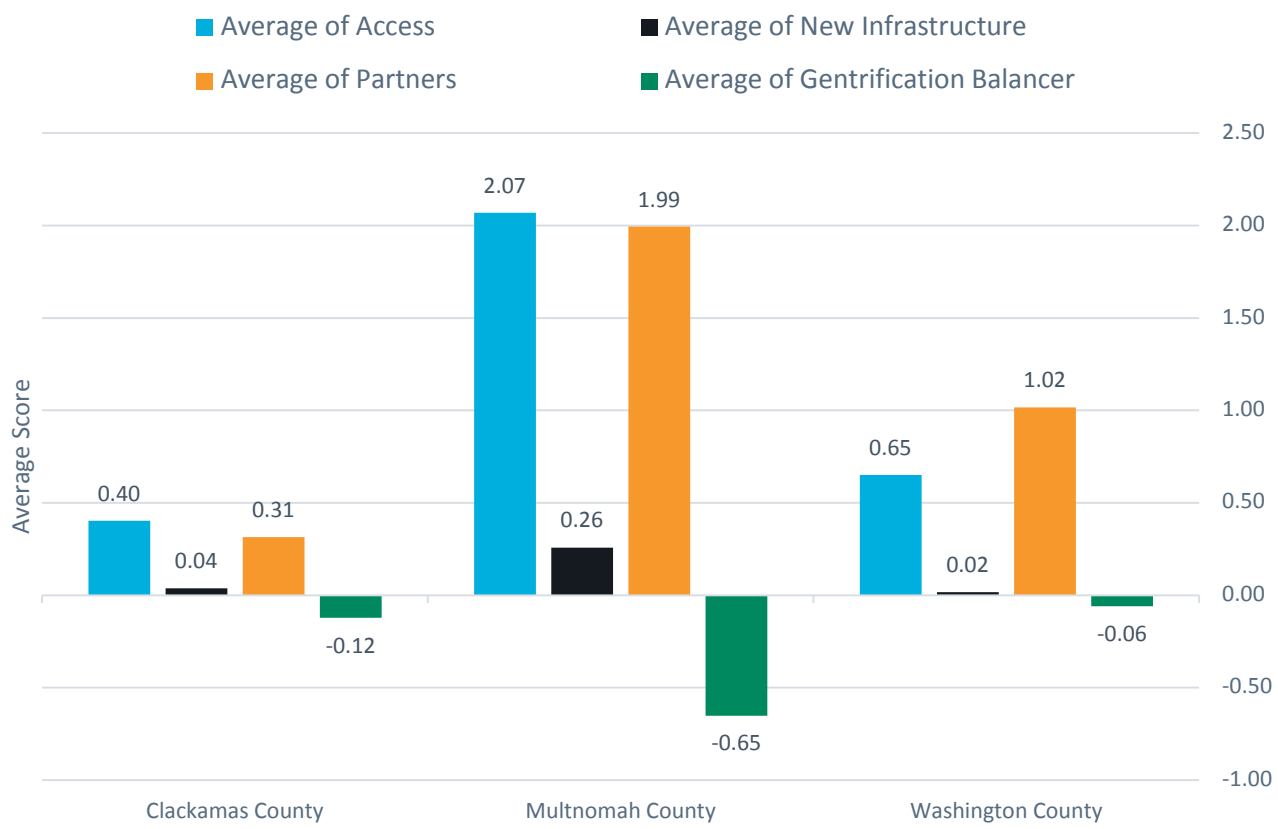

Figure 11. Average Access, Infrastructure, Partner and Gentrification Scores by County

Analysis of TDM Need-Opportunity

Areas of Greatest Need-Opportunity

A total of 93 block groups across the region ranked in the highest category of Need-Opportunity (scores 11 to 15), roughly 9.6 percent of all block groups.

Overall scores ranged from 1 to 15. The distribution, shown in **Figure 12**, is relatively normal with the largest portion of block groups falling in the middle range.

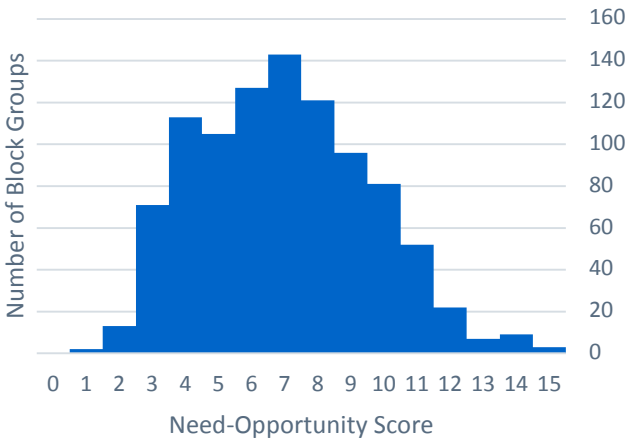

Figure 12. Distribution of Need-Opportunity Scores

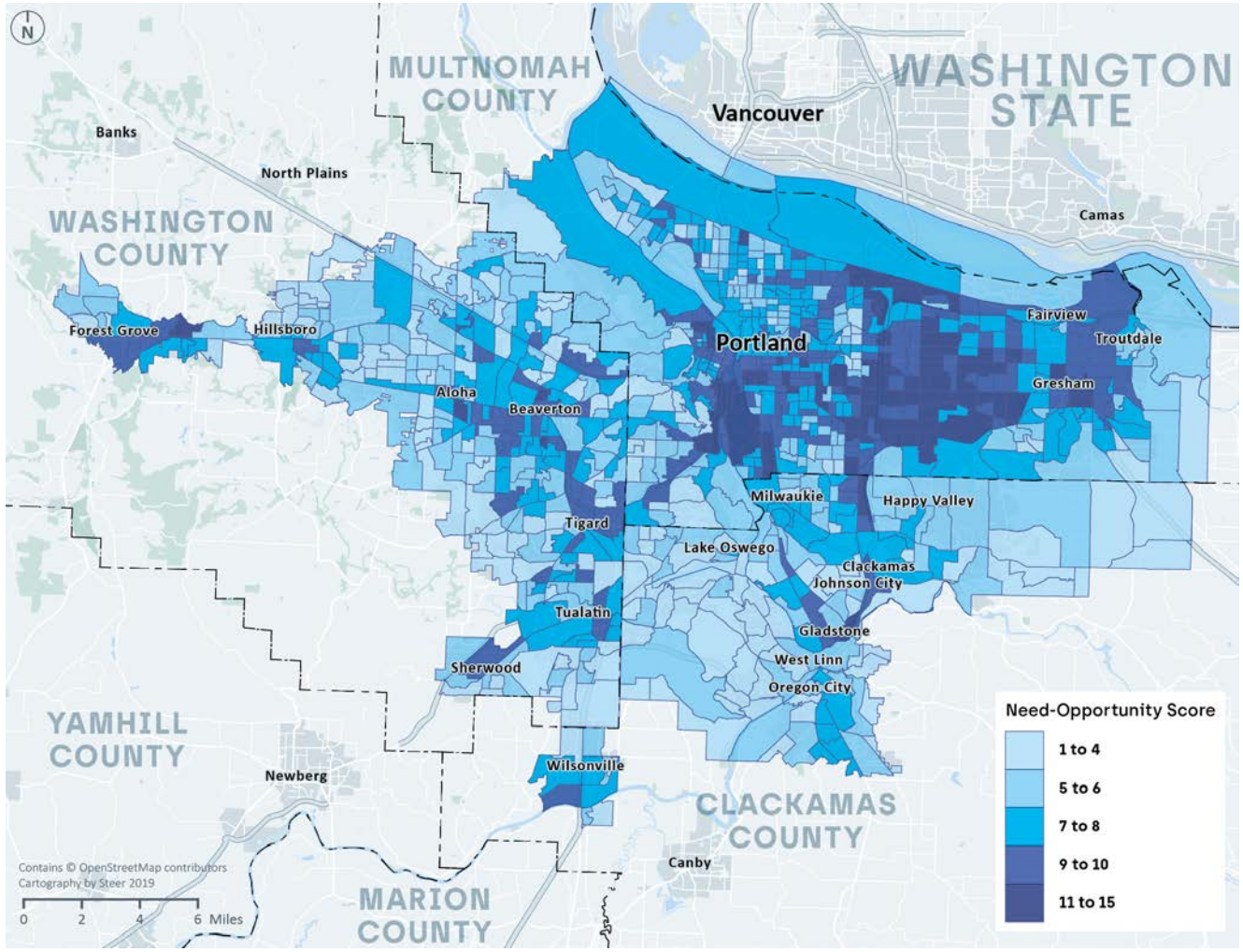

Figure 13. Map of Need-Opportunity Scores in the Metro Region

Analysis of TDM Need-Opportunity

There are visible concentrations of these block groups, shown in **Figure 13**, along key corridors and in cities and neighborhoods in the region.

These clustered block groups provide a focal point for further exploration and recommendations on ways to leverage existing resources to better deploy TDM program and services. However, additional analysis may be warranted for some of the isolated incidents of high need and/or opportunity.

Cities

- Portland
- Forest Grove
- Cornelius
- Gladstone
- Gresham
- Beaverton
- Troutdale

Neighborhoods

- Cully/Parkrose
- Sellwood/East-Moreland
- Foster/Powell

Corridors

- Division/Powell Corridor
- Southwest Barbur Corridor
- Southeast 122nd Corridor
- Burnside Corridor, Gresham

Photo: Livable Street examples in Downtown Portland.

Recommendations and Community Profiles

steer

Overview of Recommendations

Considerations

There were more than 90 block groups that ranked as both high need and high opportunity for TDM. This section provides focused recommendations for eight key areas or clusters in cities, neighborhoods and along major corridors in the Metro region.

The selection process included both quantitative and qualitative considerations, including:

1. Overall Need-Opportunity Scores,

2. Incidence of high Need-Opportunity clusters that fall within distinct neighborhoods or along key commercial corridors,

3. Desire for balance of areas both in and outside of Portland and Multnomah County,

4. Recognition that Metro's equity strategy compels the agency to build capacity and increase opportunity in areas of high Need but low Opportunity, and

5. Input from Metro staff about key areas of interest.

Table 6 presents a summary of these areas/clusters and relevant highlights.

Table 6. List of Key Areas for Consideration

Cluster/Area	Score	Highlights
Division/Powell Corridor	12.50	High equity and safety needs, with reasonable access to other modes and good potential for strategic partnerships.
Southwest Barbur Corridor	10.20	High safety need and moderate TDM need coupled with high opportunity indicators. There is a considerable amount of planning and investment in this area that could be leveraged for TDM deployment.
Southeast 122nd Corridor	12.75	One of the areas of highest equity and safety needs in the region, with good opportunities for strategic partnerships and capital streetscape improvements underway.
Gladstone	10.00	High safety and TDM needs, and one isolated block group in the City with high equity need. Underserved groups include youth, older adults and people with disabilities.
Cully/Parkrose	10.71	High equity needs driven by low-income and communities of color, with moderate TDM need. Only moderate opportunity scores, with largest emphasis on the number of strategic partners.
Foster/Powell	13.17	Highest need-opportunity score area in Portland with mid- to high equity and safety needs. High profile streetscape improvements and several potential partners.
Forest Grove/Cornelius	8.91	High need area across all indices with low opportunity scores, indicating that Metro resources could focus on improving access, infrastructure and local partnerships.
Troutdale/Fairview	9.50	High need across all indices particularly with respect to communities of color, English language learners, and cost-burdened households. Low infrastructure and partner scores.

Division/Powell Corridor Needs and Opportunities

Background

City: East Portland, Gresham

County: Multnomah County

Area Population: 19,362

School districts: Portland, David Douglas, Centennial, Gresham-Barlow

Understanding Needs

The Division/Powell Corridor is an east-west corridor in Portland, Oregon. A cluster of eight blocks emerged along the south corridor with overall Need-Opportunity Scores between 11-14. These scores are driven by high equity need, with average scores for communities of color, cost burden and limited English proficiency and disability above 2.5.

Safety is a also key concern, particularly in terms of the high number of bicyclist- and pedestrian-involved collisions. Three block groups ranked above a 2.0 in proportion of active transportation fatalities compared to the region.

The area scores mid-range on the TDM need scale indicating that there is presence of existing TDM investment. TDM programs range from personalized travel planning, Safe Routes to School, and active transportation planning and events. David Douglas and the City of Gresham currently operate local SRTS programs.

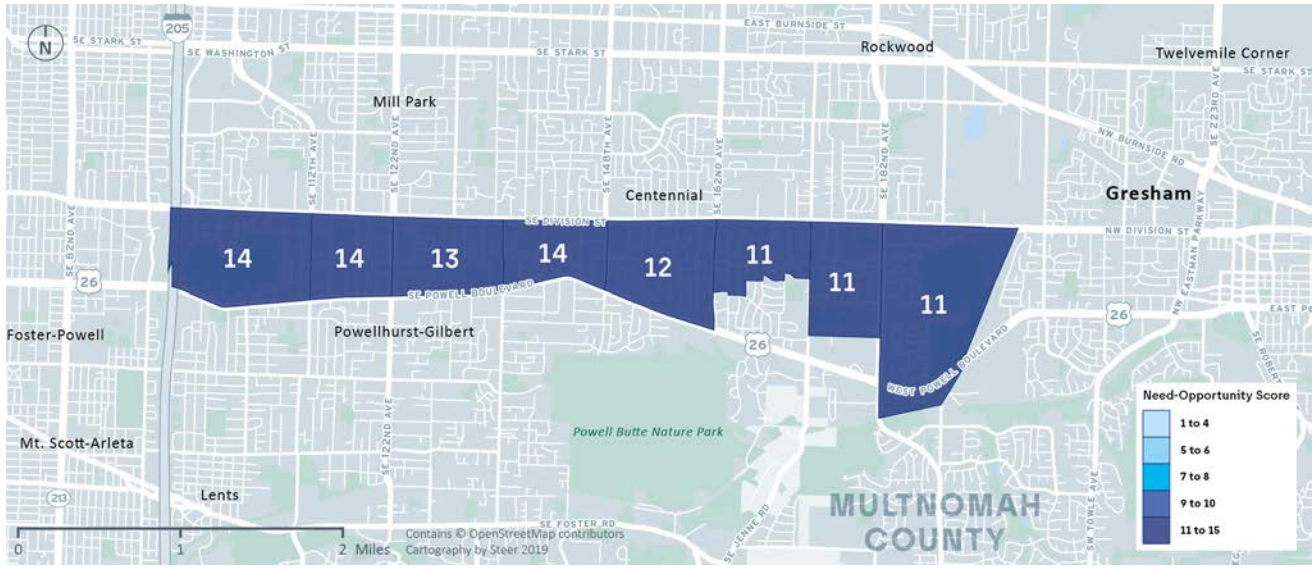

Figure 14. Division/Powell Corridor Need-Opportunity

Understanding Opportunities

The Division/Powell Corridor's opportunity score is relatively low. Access scores fall into the mid-range with access to transit and sidewalk coverage highest at 1.88. Access to amenities and new mobility are the lowest access both below 1.0.

Infrastructure scores were low, indicating few opportunities within the 2016-2021 window. However, two major projects are planned for completion by 2027. The Division Transit Project is underway will expand high capacity transit along the corridor. In addition, Complete Cleveland Street involves bike and pedestrian enhancements. Other transit enhancements are planned along the 122nd and SE Powell Blvd.

The area has a moderately high partner index, owing to the number of potential partners active along the corridor. Participating and potential partners include:

- Cities of Gresham and Portland
- Disability Rights of Oregon
- Immigrant and Refugee Community Organization (IRCO)
- Home Forward
- Central City Concern
- Latino Network
- Rosewood Initiative
- TriMet
- ODOT

Division/Powell Corridor Needs and Opportunities

Recommendations

TDM interventions in this area should focus on programming that addresses transportation equity, increased safety, comfort and ease-of-use for existing users and building new partnerships.

1. Expand SRTS activity in a coordinated, sustained effort and encourage new programs at Centennial, Portland Unified, David Douglas, and Gresham-Barlow School Districts by implementing creative programs that involve students in developing Action Plans for their schools. Incorporate program elements that specifically includes English Language Learners.
2. Conduct focus groups for people with disabilities and identify their priority needs: wayfinding, amenities, communication and outreach.
3. Consider a personalized trip planning project with trans-created marketing materials that incorporate culturally relevant branding and messaging, to focus on planned transit improvements.
4. Implement tactical urbanism interventions that improve safety at areas identified with high fatal collisions or to integrate safer walking and biking connections to planned transit improvements.

Photos: Livable Streets on Division.

Needs	7.50	Opportunities	5.00
Equity	**3.00**	**Access**	**1.63**
Communities of Color	2.63	Access to Transit	1.88
Students of Color	0.50	Access to Bicycle Facilities	1.75
Low-English Proficiency	3.00	Access to Amenities	1.88
Cost Burden	2.88	Sidewalk Connectivity	0.75
English Language Learners	3.00	New Mobility	0.88
Retirement Facilities	0.13		
Median Income	2.00		
Disability	2.88		
Youth	2.38		
Older Adults	1.25		
Safety	**3.00**	**Infrastructure**	**1.00**
TDM Index	**1.50**	**Partners**	**2.38**
		Gentrification	**0.00**

Southwest Barbur Corridor Needs and Opportunities

Background

City: West Portland

County: Multnomah County

Area Population: 8,576

School Districts: Portland

Understanding Needs

The Southwest Barbur Corridor is a north-south corridor in Portland, Oregon located in the Portland West Central City District. This includes five block groups that scored 10-11 in overall Need-Opportunity Score.

This corridor scored very low on the Equity Index; but high in terms of safety needs. Three of the block groups achieved 3.0 scores on the Safety Index due to the high number of bike- and pedestrian-involved collisions reported, although none of them fatal.

The TDM Index Score was moderate, a 1.4 out of 3.0. The most common subcategories of TDM programming include: Safe Routes to School (at the state, regional and district level), and various marketing and communications efforts.

Bike maps and access guides are available, although they may not be hyperlocal to the Barbur Southwest corridor.

Understanding Opportunities

This corridor achieved a high Opportunity based on Access, Infrastructure and Partners Index scores which were 2.0 or above.

Notably, there are four active transportation and safety infrastructure projects planned or underway that will be completed by 2021. This area also has a significant corridor plan. In general, the amount of planning and development activity along this corridor presents good opportunities to deploy TDM programming.

- OR 99W: SW 19th Avenue to 26th Avenue - Barbur Boulevard Demonstration Project
- Barbur Boulevard Safety Improvements (OR 99W)
- 20th Ave: Raleigh Upshur LID, NW
- Dolph Ct. & Spring Garden St. LID, SW

These block groups have a high average Gentrification balance (-0.4), indicating that collaboration with groups serving cost-burdened individuals may be warranted. Potential partners active in this area include:

- Portland Bureau of Transportation (PBOT)
- Portland Public School District
- Momentum Alliance
- Community Partners for Affordable Housing
- Home Forward
- Central City Concern
- 1000 Friends of Oregon
- Portland Community College Sylvania

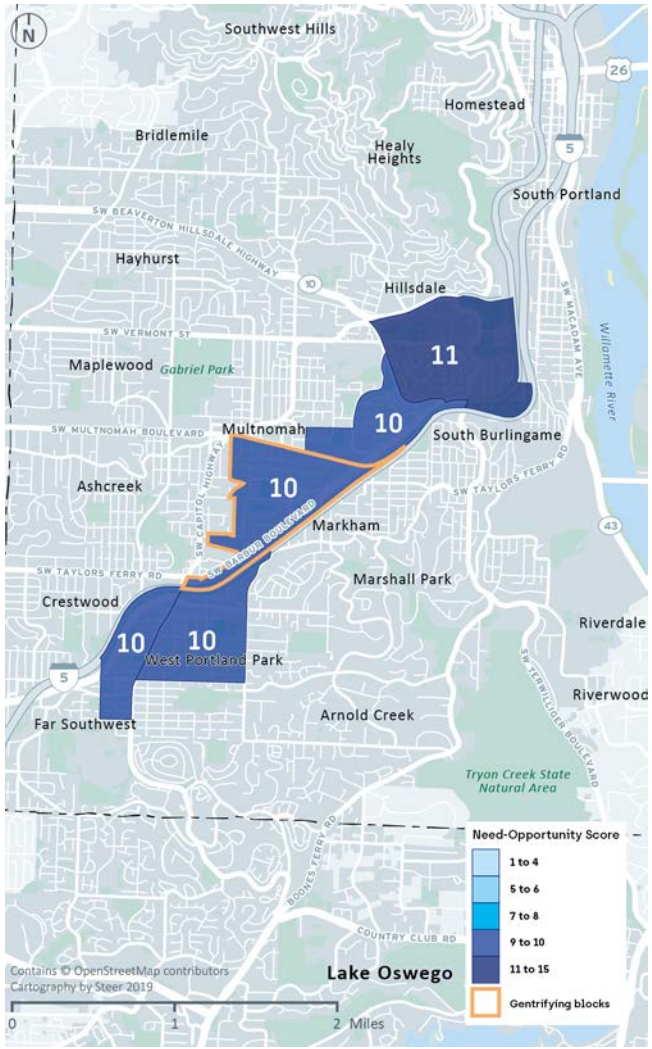

Figure 15. Southwest Barbur Corridor Need-Opportunity

Barbur Southwest Corridor Needs and Opportunities

Recommendations

Recommendations in this area focus predominantly on two sources of need: safety and diversity of TDM programs. Given the number of participating partners active in the region, Metro could enlist broad support for additional safety enhancements for pedestrians, bicyclists and transit users.

1. Leverage new active transportation and safety enhancements with safety campaigns aimed at drivers to promote infrastructure improvements and incorporate Vision Zero messaging.
2. Plan local walk audits to engage community in development of updated or hyperlocal walking maps that identify the safest walking routes in areas with poor sidewalk density. Consider partnering with a youth organization like Momentum Alliance or local public or community college district.
3. Engage the community and draw awareness to new infrastructure improvements by planning car-free or open streets events around activities like tree planting or public artwork. Focus on cost-burdened households and leverage relationships developed through corridor plan.
4. Given that some block groups are sensitive to Gentrification, work with housing groups to deliver transit incentives for people in affordable housing developments.

Photos: Barbur Blvd.

Needs	4.40	Opportunities	5.80
Equity	**0.80**	**Access**	**2.00**
Communities of Color	1.40	Access to Transit	2.60
Students of Color	0.60	Access to Bicycle Facilities	1.20
Low-English Proficiency	1.40	Access to Amenities	2.40
Cost Burden	1.80	Sidewalk Connectivity	0.20
English Language Learners	0.00	New Mobility	1.20
Retirement Facilities	0.40		
Median Income	1.40		
Disability	0.40		
Youth	1.20		
Older Adults	1.60		
Safety	**2.20**	**Infrastructure**	**2.20**
TDM Index	**1.40**	**Partners**	**2.00**
		Gentrification	**-0.40**

Southeast 122nd Corridor Needs and Opportunities

Background

City: East Portland, Gresham

County: Multnomah County

Population: 33,954

School districts: David Douglas, Parkrose, Reynolds

Understanding Needs

The Southeast 122nd Corridor includes a total of 12 block groups, ranking highest on the Equity Index, driven by high concentrations of people of color and limited English proficiency residents, as well as high concentrations of English Language Learners (ELL) in the local schools. The block groups along this corridor are also heavily cost burdened and have high number of people with disabilities.

The Safety Index is also high indicating that there is a disproportionate number of severe bike and pedestrian-involved crashes.

TDM need is relatively low compared to other areas; strategies mostly fall within SRTS and marketing and communications. There are some employer outreach programs, but this could be better developed. There are several SRTS programs active in these block groups. City of Portland operates Portland Public School District and the David-Douglas School District SRTS programs, funded by ODOT and Metro.

Understanding Opportunities

The SE 122nd Corridor also ranks highly in terms of Opportunity, most notably due to the planned future infrastructure investment and the presence of local partner organizations.

The Halsey Street Safety and Access to Transit project is an active transportation safety improvement project to be completed in 2021. PBOT has identified Halsey as part of a high crash network and therefore initiated several improvements to signals, intersections, bus stops, crossings, and the addition of new bikeways and a multiuse path.

There are several potential partners active along this corridor, including those who offer programming for historically underserved groups:

- OPAL/Bus Riders Unite
- Immigrant and Refugee Community Organization (IRCO)
- Latino Network
- Unite Oregon
- Adelante Mujeres
- Refugee Volunteer Organization

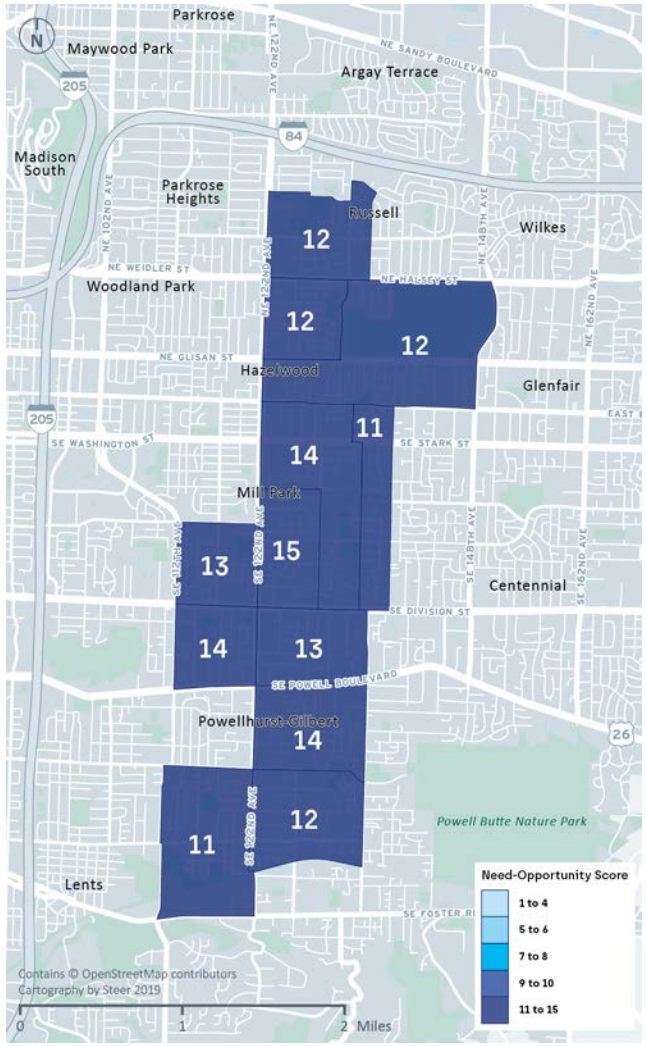

Figure 16. Southeast 122nd Corridor Need-Opportunity

Southeast 122nd Corridor Needs and Opportunities

Recommendations

This busy commercial corridor has some of the highest equity and safety scores, therefore recommendations should emphasize enhanced programming and accessibility for historically underserved user groups.

1. Connect with local groups serving immigrant groups (IRCO, Latino Network, and APANO) to develop outreach campaigns that provide travel education and assistance. This may include incentives for riding transit as well as training of organizational staff to provide personal travel planning assistance.
2. Given that this is part of a high-crash network, implement additional tactical urbanism interventions (temporary crosswalks, bulb-outs, protected lanes) to experiment with potential safety enhancements.
3. Expand the reach of existing programs to broader audiences. For example, partner with PBOT Portland by Cycle to develop trans-marketing materials that improve messaging to target audiences.
4. Conduct focus groups with people with disabilities and identify their priority needs: wayfinding, amenities, service improvements.

Photos: Transit riders in SE Portland.

Needs	6.75	Opportunities	6.00
Equity	**3.00**	**Access**	**1.67**
Communities of Color	2.75	Access to Transit	1.92
Students of Color	1.25	Access to Bicycle Facilities	2.00
Low-English Proficiency	2.92	Access to Amenities	1.42
Cost Burden	2.83	Sidewalk Connectivity	0.75
English Language Learners	3.00	New Mobility	1.00
Retirement Facilities	0.50		
Median Income	1.92		
Disability	2.92		
Youth	2.25		
Older Adults	1.00		
Safety	**2.50**	**Infrastructure**	**2.00**
TDM Index	**1.25**	**Partners**	**2.33**
		Gentrification	**0.00**

Gladstone Needs and Opportunities

Background

City: Gladstone

County: Clackamas

Population: 5,613

School District: Gladstone, Oregon City, North Clackamas

Understanding Needs

Three block groups in the small City of Gladstone ranked scored between 9-11 in Need-Opportunity indicating that this area has a high number of key user groups, poor safety outcomes and relatively few TDM programs and support with respect to the region.

Although the average Equity Scores among these block groups were low, one block group in particular had very high Equity Index scores (3.0). The demographic characteristics that influence this score the most include the number of youth and older adults, the number of retirement units/facilities, and the number of people with disabilities.

All three block groups also have poor safety outcomes, both in terms of number of bike- and pedestrian-involved collisions, as well as reported fatal collisions.

Finally, these block groups rank high on the TDM Index, indicating a relatively low number of TDM programs and support in the area.

Understanding Opportunities

Gladstone has moderate access to high quality driving alternatives, specifically transit service, bicycle facilities and access to amenities. Sidewalk connectivity was relatively low, as was access to shared mobility service areas.

There were no new infrastructure project scheduled for completion by 2021. However, the Trolley Trail Bridge project is currently underway to connect Gladstone to downtown Oregon City and will be finished by 2027. This and improvements to nearby McLoughlin Blvd. are a major part of the City's revitalization plan.

Finally, there were few participating and potential partners in the region. This is not to say that there are not promising candidates for future partnerships, but further research may be required to identify those organizations.

Oregon AARP is active throughout the region and could serve as a potential partner in reaching older adults. However, further inquiry is warranted to identify potential community based organizations who serve older adults, youth and the disabled community. Other local partners could include:

- City of Gladstone
- North Clackamas County School District
- Ride Connection
- Local retirement communities

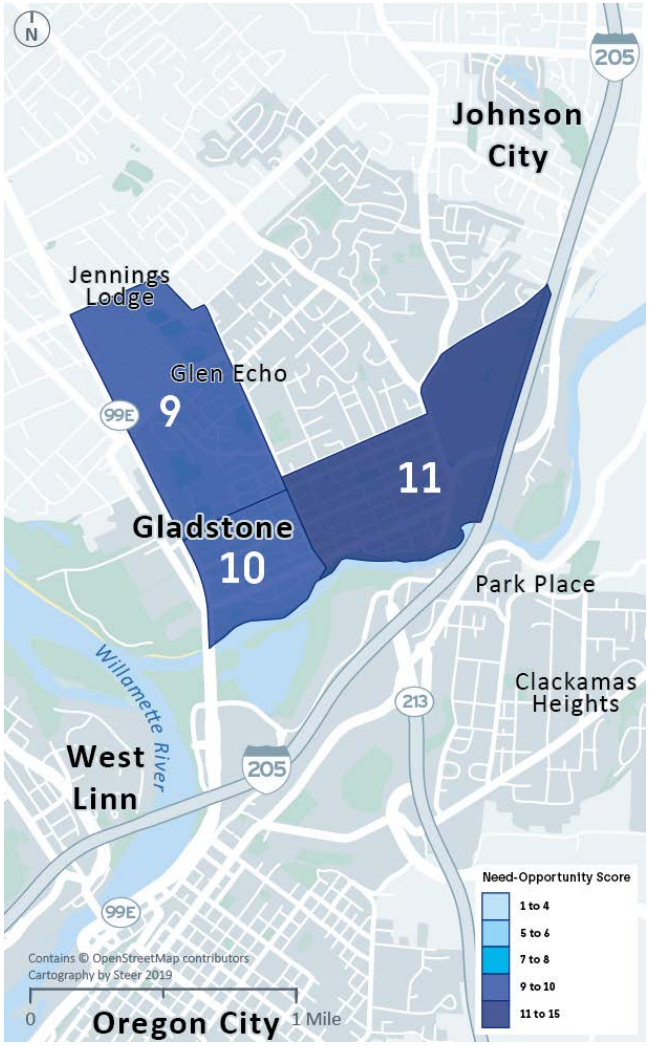

Figure 17. Gladstone Need-Opportunity

Gladstone Needs and Opportunities

Recommendations

Recommendations in this area focus predominantly on two sources of need: safety and diversity of TDM programs. Notably, none of the TDM programs operating in this region serve older adults or people with disabilities.

1. Expand potential partners outreach to include local retirement communities and faith-based organizations to compensate for deficit.
2. Develop an outreach program for older adults with a "Train the Trainer" component that helps to build capacity. Help local residents become ambassadors for aging in place in their community.
3. Convene focus groups for older adults and people with disabilities in the community to consider mobility challenges and develop programs that emphasize their mobility needs. Possibilities may include expanded service through existing providers (Ride Connection) or other on-demand pilot project.
4. Enlist youth and older adults in exploring ways to overcome safety and poor sidewalk connectivity by implementing tactical urbanism such as temporary high-visibility crosswalks near schools and retirement facilities, roundabouts and other street safety measures

Photo: M.O. Stevens, Wikipedia Commons.

Needs	7.67	Opportunities	2.33
Equity	**1.67**	**Access**	**2.00**
Communities of Color	1.00	Access to Transit	2.33
Students of Color	0.00	Access to Bicycle Facilities	2.00
Low-English Proficiency	0.67	Access to Amenities	2.33
Cost Burden	2.00	Sidewalk Connectivity	1.33
English Language Learners	0.00	New Mobility	0.00
Retirement Facilities	1.00		
Median Income	2.00		
Disability	1.67		
Youth	2.33		
Older Adults	2.00		
Safety	**3.00**	**Infrastructure**	**0.33**
TDM Index	**3.00**	**Partners**	**0.00**
		Gentrification	**0.00**

Cully/Parkrose Needs and Opportunities

Background

City: East Portland, Maywood Park

County: Multnomah County

Population: 23,458

School districts: Portland, Parkrose, Reynolds

Understanding Needs

The Cully and Parkrose area consists of 14 block groups with high needs scores driven by high equity and safety need. This area also shows a low level regionally of TDM programing.

A high Equity Index score reflects Cully/Parkrose communities of color, low English-proficiency, and cost-burden and number of people with disabilities.

Safety for bicyclists and pedestrians is a key concern highlighted by the need score, with a particularly high bicycle and pedestrian-involved collision score, and a mid-level fatality score.

A number of TDM programs that focus on individualized marketing, SRTS and active transportation campaigns and events are present in the area.

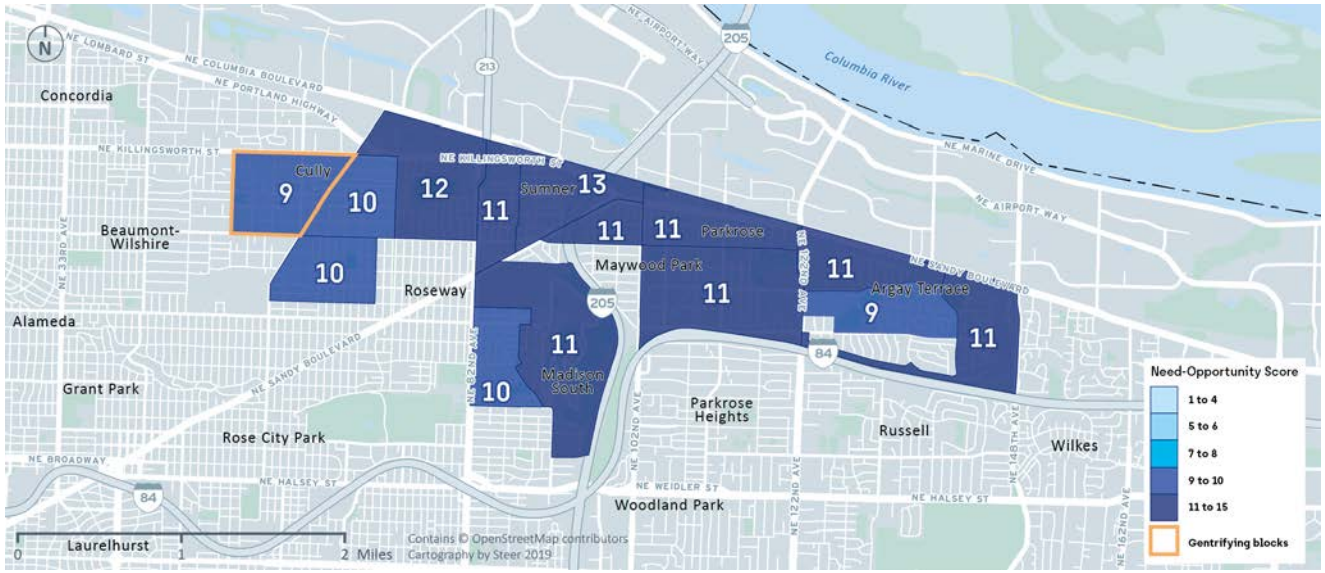

Figure 18. Cully/Parkrose Need-Opportunity

Understanding Opportunities

The opportunity score for Cully/Parkrose is mid-range, scoring highest in Access and Partner indices. Cully/Parkrose has high transit accessibility, sidewalk coverage, and access to amenities. Both access to bicycle facilities and new mobility services are moderate.

Active transportation safety improvement projects that will be completed in the near- and mid-term include:

- Cully Walking and Biking Parkway
- Sandy Blvd/86th/92nd NE Safety Improvements
- Enhanced Transit Corridor Projects (82/122nd)
- Connected Cully Phase I and II

The average gentrification score in this area is -0.17, due to one block group having a -3.0 gentrification balance.

Partners and potential partners active in this area include:

- Living Cully
- Unite Oregon
- Home Forward
- Central City Concern
- Latino Network
- IRCO
- Mt. Hood Community College
- TriMet
- Parkrose, Portland and Reynolds School Districts

Cully/Parkrose Needs and Opportunities

Recommendations

1. Leverage the high number of partners in Cully/Parkrose should be leveraged to implement more TDM programming. Work with partners that focus on identified population groups (people of color, LEP population, cost-burdened renters)
2. High transit access indicates that programs promoting transit use may be impactful, however current TDM efforts do not show a heavy focus on this. Delivering a transit incentive to residents or students through local partners can be of high value to cost-burdened populations.
3. When promoting active trips, identifying low-stress routes is essential because of road safety concerns. Multi-lingual marketing material that identifies safe, active routes to key destinations in the community could be a valuable resource that could also be used to improve existing SRTS programs.
4. Ensure the high number of existing TDM programs are accessible for LEP populations; focus on trans-creating marketing materials and programs to include other language communities.

Photo: Residents in Cully Neighborhood lead a walking tour.


© Jonathan Maus/BikePortland

Needs	6.93	Opportunities	3.79
Equity	**2.57**	**Access**	**1.71**
Communities of Color	2.64	Access to Transit	2.43
Students of Color	1.29	Access to Bicycle Facilities	1.64
Low-English Proficiency	2.64	Access to Amenities	1.43
Cost Burden	2.00	Sidewalk Connectivity	1.14
English Language Learners	1.86	New Mobility	1.50
Retirement Facilities	0.29		
Median Income	1.64		
Disability	1.57		
Youth	1.64		
Older Adults	1.21		
Safety	**2.43**	**Infrastructure**	**0.21**
TDM Index	**1.93**	**Partners**	**2.07**
		Gentrification	**-0.21**

Foster/Powell Needs and Opportunities

Background

City: Portland

County: Multnomah County

Area Population: 6,785

School Districts: Portland, David Douglas

Understanding Needs

The Foster/Powell area contains six block groups with a high average Need Score of approximately 6. The biggest factors contributing are Equity and Safety Indices. The area's Equity Index average is 2.33, with scores in mid to high range for communities of color, limited English Proficiency, cost burden, people with disabilities, and older adults.

The Safety Index score among these block groups is 2.33, indicating a higher percentage of bicycle and pedestrian-involved collisions. Only two of the block groups had fatal incidents.

TDM programs include a mix of SRTS, marketing and communications, and employer outreach programs. In addition to state programs, the County and the Portland Public School District operate SRTS programs that include evaluating and auditing member schools. There are several examples of marketing and communications from events to maps to individualized marketing campaigns (Smart Trips).

Understanding Opportunities

The Foster/Powell area has very good access to high quality driving alternatives. These block groups have high average score for transit accessibility, sidewalk connectivity, and proximity to amenities.

Major streetscape improvements were completed along Foster Road in 2018. Projects scheduled for completion by 2027 include:

- 82nd Ave Corridor Safety Improvements
- Enhanced Transit Corridor 82nd/ Killingsworth/SE Hawthorne/Foster
- Outer Holgate Bike and Pedestrian Improvements

There is a gentrification balance applied to the area of -0.17. Although driven by a single block group, this may indicate the area may is sensitive to displacement.

The area scored moderately high in terms of opportunities for strategic partnerships. A few potential partners operate in the area that serve historically underserved groups, including: Latino Network, Home Forward, Central City Concern, Unite Oregon, APANO and Hacienda CDC.

Other partnerships could include:

- Green Lents
- Left Coast Bikes
- PBOT

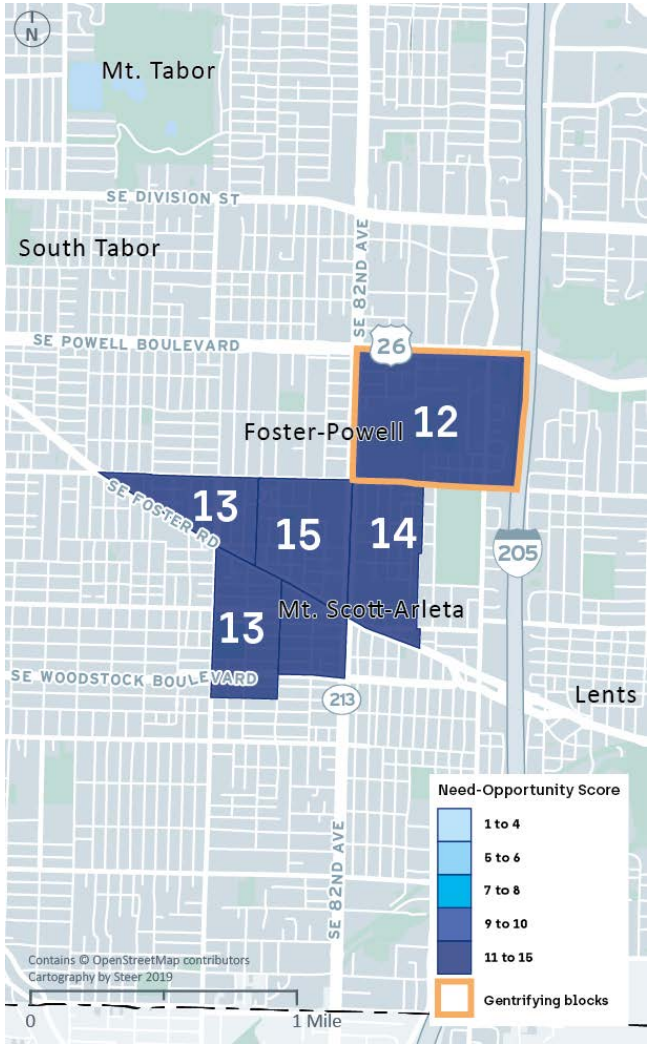

Figure 19. Foster/Powell Need-Opportunity

Foster/Powell Needs and Opportunities

Recommendations

Recommendations for Foster/Powell focus on reaching traditionally-underserved groups while leveraging local partners and infrastructure projects.

1. Consider a temporary car-free or open streets event to inaugurate the Enhanced Transit Corridor or 82nd Ave Corridor Safety Improvements completion and invite users.
2. Implement walk audits or focus groups focusing on accessibility for people with various disabilities including physical, cognitive, visual and hearing impairments to better understand need. Both Home Forward and Central City Concern assist individuals with disabilities find better housing and could be good partner candidates.
3. Consider reaching out to Unite Oregon and Latino Network and other groups that work with English language learners to help adapt marketing and communications materials for diverse language audiences (trans-creation of marketing materials).
4. Develop a door-to-door personalized trip planning project to leverage the high level of access to driving alternatives. This would be best applied if timed with the completion of the Enhanced Transit Corridor and/or other projects.

Needs	6.00	Opportunities	7.17
Equity	**2.33**	**Access**	**3.00**
Communities of Color	2.33	Access to Transit	2.83
Students of Color	0.67	Access to Bicycle Facilities	1.50
Low-English Proficiency	2.33	Access to Amenities	3.00
Cost Burden	3.00	Sidewalk Connectivity	2.83
English Language Learners	0.00	New Mobility	1.83
Retirement Facilities	0.50		
Median Income	1.83		
Disability	2.83		
Youth	0.67		
Older Adults	2.00		
Safety	**2.33**	**Infrastructure**	**1.67**
TDM Index	**1.33**	**Partners**	**2.67**
		Gentrification	**-0.17**

Forest Grove/Cornelius Needs and Opportunities

Background

Cities: Forest Grove, Cornelius

County: Washington County

Population: 24,085

School Districts: Hillsboro, Forest Grove

Understanding Needs

Although the Forest Grove/Cornelius area did not have one of the highest overall Need-Opportunity Scores (average 8.3), the area has a very high need driven by high Equity and Safety Index Scores. The area contains 11 block groups with high concentrations of communities of color, ELL students, youth and people with disabilities.

While the overall safety score was above 2.0, several of the block groups in this cluster do have the highest score of 3 for both percentage of bike- and pedestrian-involved collisions and fatal collisions.

The area also ranks high in terms of TDM Need. Existing TDM programs include state and Metro led SRTS programs, campus TDM through Pacific University, and communications and outreach.

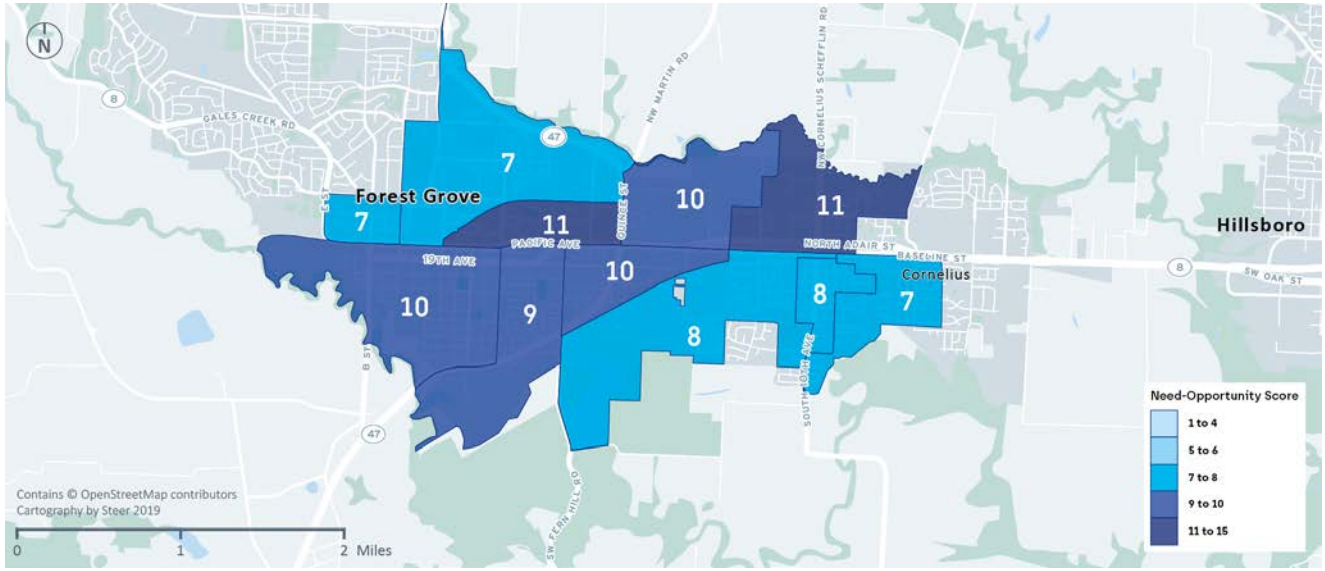

Figure 20. Forest Grove/Cornelius Need-Opportunity

Understanding Opportunities

Overall access to driving alternatives is poor relative to the region. This area has very low access scores for transit and new mobility as an average. Sidewalk connectivity and proximity to nearby destinations are slightly better.

Although there are no planned infrastructure projects at the moment within the 2016-2021 period; the following active transportation improvements are due to be completed by 2027:

- 19th/20th Avenue Improvements
- Council Creek Regional Trail (East-West)
- Davis Street Sidewalks and Bike Signage
- Pedestrian Crossing at OR8 and Quince St.

The block groups had low Partner Index scores relative to the region; however there are some key organizations operating in the region, including:

- Housing Authority of Washington County
- Virginia Garcia Clinic
- Centro Cultural
- Community Action of Washington County
- Community Partners for Affordable Housing
- Washington County Individuals with Disabilities, Aging and Veterans Services
- Grove Link by Ride Connection
- Pacific University
- Adelante Mujeres

Forest Grove/Cornelius Needs and Opportunities

Recommendations

Recommendations for Forest Grove/Cornelius focus on reaching traditionally underserved groups and creating opportunities to improve low access, infrastructure and partner scores.

1. Partner with Centro Cultural or Virginia Garcia Clinic (for non-emergency medical access) for education around transportation options. Transition existing Spanish-language PTP projects into long-term community-based transportation resources through training these partners to deliver individualized trip planning support.
2. Expand SRTS programming in Hillsboro and Forest Grove School Districts, ensure programing is inclusive for ELL student populations.
3. Consider providing free or subsidized transit passes to students via a partner with a youth leadership or employment program (Centro Cultural). Bus passes for summer employment for students can help young people learn to take the bus to other locations (beyond school).
4. Create micromobility zones to address gaps in transit access and first/last mile connections (Lyft, Uber, Grove Link by Ride Connection). Encourage or incentivize shared mobility providers to put scooters or bicycles in this area. Consider programs like low-income oriented electric car sharing.

Photos: Images of Forest Grove outdoor streetscape and wayfinding.

Needs	7.73	Opportunities	1.18
Equity	**2.73**	**Access**	**0.82**
Communities of Color	2.73	Access to Transit	1.00
Students of Color	0.55	Access to Bicycle Facilities	1.27
Low-English Proficiency	1.73	Access to Amenities	1.64
Cost Burden	1.36	Sidewalk Connectivity	1.00
English Language Learners	3.00	New Mobility	0.18
Retirement Facilities	0.91		
Median Income	2.00		
Disability	2.55		
Youth	2.27		
Older Adults	1.82		
Safety	**2.27**	**Infrastructure**	**0.00**
TDM Index	**2.73**	**Partners**	**0.36**
		Gentrification	**0.00**

Troutdale/Fairview

Background

City: Troutdale, Wood Village, Fairview, Gresham

County: Multnomah County

Area Population: 10,114

School Districts: Reynolds, Gresham-Barlow

Understanding Needs

The Troutdale/Fairview cluster includes four block groups that fall within four city jurisdictions that each have Need-Opportunity scores in the 9-10 range.

These block groups have a high Equity Index score (3.0) driven by communities of color, cost burden, English language learners, disability and youth scores all above 2.5.

Safety Index scores in these areas are also high, with based on the number of bike- and pedestrian-involved collisions. One block group showed higher than average bike/ped fatalities (2.0).

TDM programming levels also indicate a relatively high level of need (2.5). The City of Gresham and Multnomah County have SRTS programs, which are complemented by a regional program. Other examples of TDM include moderate levels of employer outreach through the ECO program, as well as regional marketing and wayfinding strategies.

Understanding Opportunities

Access Index scores in this area are low to moderate. While there is good access to local amenities (2.0), average access to transit, bike facilities, and new mobility services were below 1.25.

The Infrastructure Index score was low due to the absence of projects to be completed by 2021. However, several projects are found in the inventory with completion dates set for 2027:

- Arata Rd - 223rd - 238th (Fairview/Wood Village)
- Cleveland - Burnside to Stark: Complete Buildout
- NE 238th Street Freight and Multimodal Improvements
- NW 5th and NW 1st - from Gresham Fairview Trail to N Main Bicycle Improvements
- Reconstruct Halsey St. with Improvements

Partner Index scores were also low in these areas. Some participating and potential partners include:

- Cities of Gresham, Wood Village, and Fairview
- Multnomah County
- Gresham Area Chamber of Commerce
- TriMet
- Unite Oregon
- West Columbia Gorge Chamber of Commerce
- Reynolds School District

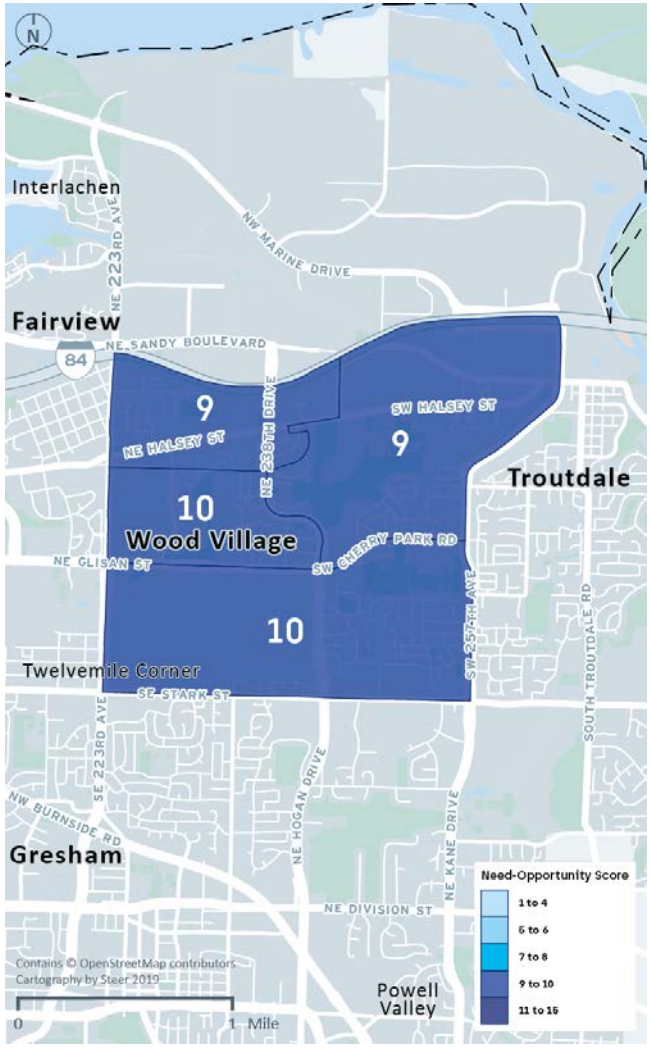

Figure 21. Troutdale/Fairview Need-Opportunity

Troutdale/Fairview

Recommendations

Troutdale/Fairview area is a multijurisdictional area with very high need driven by equity scores. Recommendations are intended to improve access to driving alternatives and build new partnerships for delivery of hyperlocal TDM programs.

1. Help to develop a SRTS program at Reynolds School District, building on resources at the county and regional level. Encourage the development of Action Plans at schools that involve students in improving safe walking and biking in their community.

2. Although infrastructure and bike access scores are low, there are several infrastructure projects on the horizon. Plan ahead for open streets events to advertise those successes to the community.

3. Due to high cost burden and low new mobility options, this would be another place to pilot a micromobility zone to address gaps in transit access and first/last mile connections (Lyft, Uber, Grove Link by Ride Connection). Encourage shared mobility providers to have incentives for low-income and unbanked users.

4. Expand the list of potential partners to include faith-based, health, and youth organizations and develop awareness of the RTO grant program to encourage new ideas and applications.

Photos: Cyclists on I-84 path, Downtown Troutdale

Needs	8.25	Opportunities	1.25
Equity	**3.00**	**Access**	**1.00**
Communities of Color	2.75	Access to Transit	1.25
Students of Color	1.00	Access to Bicycle Facilities	1.00
Low-English Proficiency	2.25	Access to Amenities	2.00
Cost Burden	3.00	Sidewalk Connectivity	1.00
English Language Learners	3.00	New Mobility	0.00
Retirement Facilities	0.75		
Median Income	2.00		
Disability	2.50		
Youth	2.75		
Older Adults	0.75		
Safety	**2.50**	**Infrastructure**	**0.00**
TDM Index	**2.75**	**Partners**	**0.25**
		Gentrification	**0.00**

Areas for Further Study

Beaverton

The City of Beaverton has a cluster of 19 block groups that rank above 9 in Need-Opportunity score. The total population of these block groups is more than 35,000. Average Equity Index scores in these block groups are very low, indicating few historically underserved user groups. However, the area achieves high Access and Partner Scores.

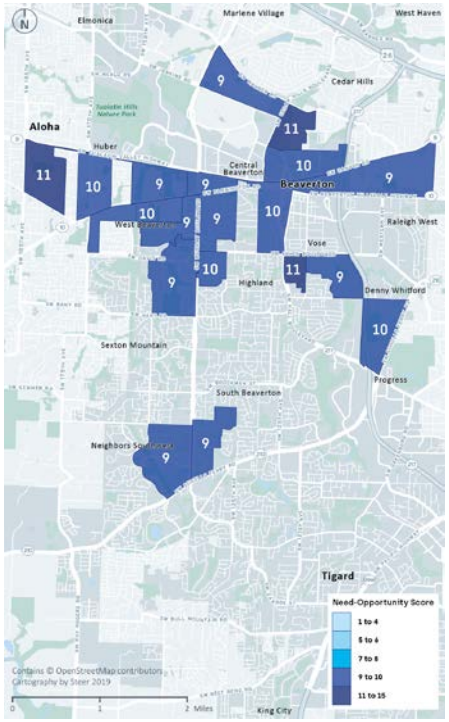

Figure 22. Beaverton Need-Opportunity

Sellwood/East Moreland

The Sellwood, East Moreland and adjacent areas of South Portland also have a cluster of block groups with high need-opportunity scores driven by Equity and TDM need. The area has low Access and Partner Scores comparatively, indicating that Metro resources could be used to increase access, infrastructure planning and partner relationships.

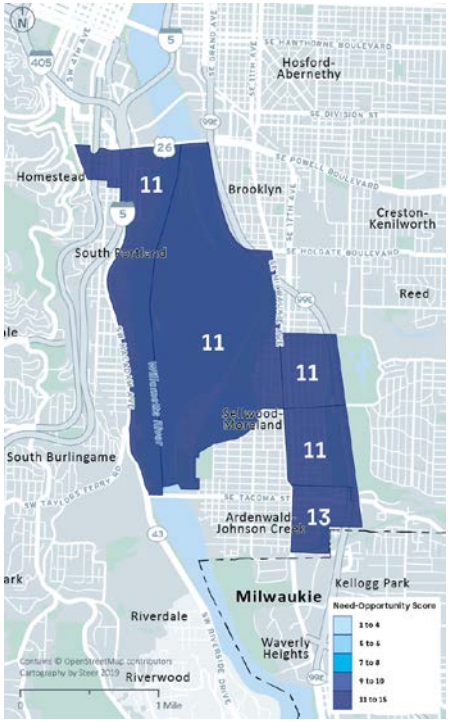

Figure 23. Sellwood/ East Moreland Need-Opportunity

Burnside Corridor, Gresham

There are a several areas in Gresham with high Need-Opportunity block groups, but in particular a string of five block groups along the Burnside Corridor might invite further study. This area ranks very high in Equity, Safety and TDM need, but low in opportunity indicators.

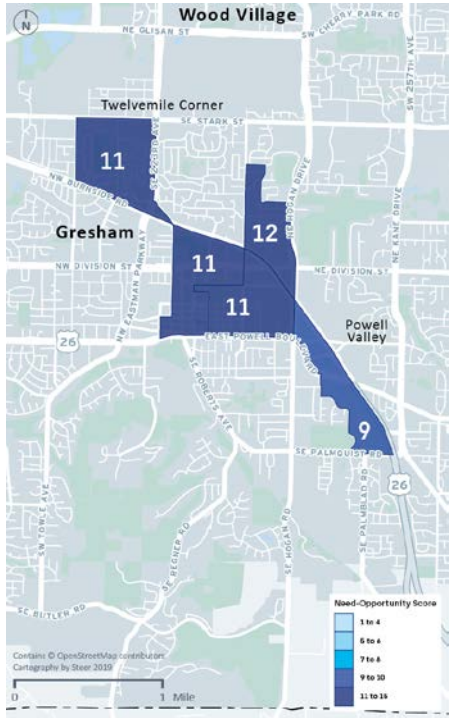

Figure 24. Burnside/Gresham Need-Opportunity

Recommendations for the Metro Portland Region

Although recommendations for the previous eight areas have focused on unique index scores and hyperlocal conditions, several themes have emerged across the recommendations that should be applied generally.

1. **Expand networks and develop relationships** to include retirement communities, healthcare providers, faith-based organizations and others who advocate for quality of life improvements in communities and have strong ties to historically underserved groups. See RTO Strategy Goal 2.
2. Where new approaches are suggested, work to **test these new concepts and build plans for continuation or expansion where successful**. For example, Metro could focus on the older adults outreach campaign in Gladstone, build support and capacity there locally, and recruit members of that community in deploying a similar campaign in other areas.
3. In areas identified as high safety need and low accessibility, **focus on low-cost, temporary changes to the built environment** that demonstrate and experiment with safety enhancements.
4. Dedicate resources for partners to implement **Personalized Trip Planning** (PTP) services and incentivize those programs.
5. Develop strategies and tools for partners and local jurisdictions to **gather and share data about TDM programs, projects and policies** to continually improve and promote future TDM work in the region. See RTO Strategy Goal 4.
6. **Develop regional TDM activities** to address gaps in TDM programming and demonstrate proof of concept actions. Allocate resources in ways that address areas with highest need and create and leverage new opportunities.

Photo: Tactical urbanism through the 2014 Better Block program. Credit: Jonathan Maus/Bike Portland.

Considerations for a Comprehensive Regional TDM Program

Regional TDM program activities can be expanded from grant administration and evaluation to focus **additional, direct programming** on alleviating barriers for traditionally underserved groups, improving safety conditions, balancing the distribution of TDM programs in the region, and creating new opportunities for TDM interventions.

The Phase I TDM inventory compiled data about known TDM activities in the region. The exercise revealed gaps as well as accomplishments in TDM programs that could be used to create a more well-rounded and effective regional TDM program.

Policies and Plans

By comparison to other categories, data was lacking about TDM supportive policies and plans for land use, parking management, restricted vehicles areas and housing, parking supply bonuses or maximums, and MMLOS ratings. RTO can provide guidance for governments and agencies to help implement policies and understand how efforts will affect single-occupancy vehicle use.

Infrastructure

RTO has limited control over how and when jurisdictions can implement infrastructure improvements.

However, RTO can assist local partners in prioritizing and demonstrating the value of street improvements, safety enhancements and other physical interventions by supporting low cost demonstration projects through the region. These efforts should focus on areas with high safety need and low accessibility.

TDM Programs and Support

The delivery of TDM programs and support at the regional scale requires coordination among transportation agencies, city governments, transportation management associations (TMAs), large employers, and community partners. RTO can provide direction or resources to make levels of TDM programming consistent among geographic areas and demographic groups. Some potential strategies include:

- Education and encouragement campaigns specifically aimed at traditional underserved groups.
- Deployment of financial incentives for cost-burdened and housing vulnerable populations.
- Resources and guides for navigating cities and neighborhoods that focus on mobility for older adults, people with disabilities (and various impairments), and youth in particular.

New Mobility

Metro's newly created Emerging Technology Strategy provides opportunity to increase access to new mobility options through the RTO program. RTO can create new opportunities to implement TDM as it relates to new mobility and help advance the Emerging Technology Strategy by supporting projects where travel options and new mobility overlap.

Summary of Need and Opportunity Scores

Table 7. Average Need and Opportunity Scores by Clusters

Cluster	Equity	Safety	TDM	Need	Access	Infrastructure	Partners	Gentrification	Opportunity	Need-Opportunity
Southeast 122nd Corridor	3.00	2.50	1.25	6.75	1.67	2.00	2.33	0.00	6.00	12.75
Foster/Powell	2.33	2.33	1.33	6.00	3.00	1.67	2.67	-0.17	7.17	13.17
Cully/Parkrose	2.57	2.43	1.93	6.93	1.71	0.21	2.07	-0.21	3.79	10.71
Division/Powell Corridor	3.00	3.00	1.50	7.50	1.63	1.00	2.38	0.00	5.00	12.50
Gladstone	1.67	3.00	3.00	7.67	2.00	0.33	0.00	0.00	2.33	10.00
Southwest Barbur Corridor	0.80	2.20	1.40	4.40	2.00	2.20	2.00	-0.40	5.80	10.20
Forest Grove/Cornelius	2.73	2.27	2.73	7.73	0.82	0.00	0.36	0.00	1.18	8.91
Troutdale/ Fairview	3.00	2.50	2.75	8.25	1.00	0.00	0.25	0.00	1.25	9.50

Summary of Recommendations

Table 8. Summary of Recommendations with Cost and Timeline Estimates**

Cluster/Area	Recommendations	Cost	Timeline
Division/Powell Corridor	Expand SRTS activity in a coordinated, sustained effort and encourage new programs at Centennial, Portland Unified, David Douglas, and Gresham-Barlow School Districts by implementing creative programs that involve students in developing Action Plans for their schools. Incorporate program elements that specifically includes English Language Learners.	Medium	Mid-Term
	Conduct focus groups for people with disabilities and identify their priority needs: wayfinding, amenities, communication and outreach.	Low	Short-term
	Consider a personalized trip planning project with trans-created marketing materials that incorporate culturally relevant branding and messaging, to focus on planned transit improvements.	Medium-High	Mid- and Long-term
	Implement tactical urbanism interventions that improve safety at areas identified with high fatal collisions or to integrate safer walking and biking connections to planned transit improvements.	Medium-High	Mid- and Long-term
Barbur Southwest Corridor	Leverage new active transportation and safety enhancements with safety campaigns aimed at drivers to promote infrastructure improvements and incorporate Vision Zero messaging.	Medium	Mid-term
	Plan local walk audits to engage community in development of updated or hyperlocal walking maps that identify the safest walking routes in areas with poor sidewalk density. Consider partnering with a youth organization like Momentum Alliance or local public or community college district.	Medium	Mid-term
	Engage the community and draw awareness to new infrastructure improvements by planning car-free or open streets events around activities like tree planting or public artwork. Focus on cost-burdened households and leverage relationships developed through corridor plan.	Medium	Mid- and Long-term
	Given that some block groups are sensitive to Gentrification, work with housing groups to deliver transit incentives for people in affordable housing developments.	Medium	Long-term

**Costs are based on gross estimates. Timeline is based on short-term (within two years); medium term (within five years); and long-term (more than five years).

Summary of Recommendations

Cluster/Area	Recommendations	Cost	Timeline
Southeast 122nd Corridor	Connect with local groups serving immigrant groups (IRCO, Latino Network, and APANO) to develop outreach campaigns that provide travel education and assistance. This may include incentives for riding transit as well as training of organizational staff to provide personal travel planning assistance.	Medium	Mid-term
	Given that this is part of a high-crash network, implement additional tactical urbanism interventions (temporary crosswalks, bulb-outs, protected lanes) to experiment with potential safety enhancements.	Medium – High	Mid- and Long-term
	Expand the reach of existing programs to broader audiences. For example, partner with PBOT Portland by Cycle to develop trans-marketing materials that improve messaging to target audiences.	Medium	Mid- and Long-term
	Conduct focus groups with people with disabilities and identify their priority needs: wayfinding, amenities, service improvements.	Low	Short-term
Gladstone	Expand potential partners outreach to include local retirement communities and faith-based organizations to compensate for deficit.	Low	Short-term
	Develop an outreach program for older adults with a “Train the Trainer” component that helps to build capacity. Help local residents become ambassadors for aging in place in their community.	Medium	Mid-term
	Convene focus groups for older adults and people with disabilities in the community to consider mobility challenges and develop programs that emphasize their mobility needs. Possibilities may include expanded service through existing providers (Ride Connection) or other on-demand pilot project.	Low	Short-term
	Enlist youth and older adults in exploring ways to overcome safety and poor sidewalk connectivity by implementing tactical urbanism such as temporary high-visibility crosswalks near schools and retirement facilities, roundabouts and other street safety measures	Medium-High	Mid- and Long-term

Summary of Recommendations

Cluster/Area	Recommendations	Cost	Timeline
Cully/Parkrose	Leverage the high number of partners in Cully/Parkrose to implement more TDM programming. Work with partners that focus on identified population groups (people of color, LEP population, cost-burdened renters).	Low	Short-term
	High transit access indicates that programs promoting transit use may be impactful, however current TDM efforts do not show a heavy focus on this. Delivering a transit incentive to community members through local partners can be of high value to cost-burdened population.	Medium	Short-term
	When promoting active trips, identifying low-stress routes is essential because of road safety concerns. Multi-lingual marketing material that identifies safe, active routes to key destinations in the community could be a valuable resource that could also be used to improve existing SRTS programs.	Medium	Mid-term
	Ensure the high number of existing TDM programs are accessible for LEP populations; focus on trans-creating marketing materials and programs to include other language communities.	Medium	Mid-term
Foster/Powell	Consider a temporary car-free or open streets event to inaugurate the Enhanced Transit Corridor or 82nd Ave Corridor Safety Improvements completion and invite users.	Medium - High	Mid-term
	Implement walk audits or focus groups focusing on accessibility for people with various disabilities including physical, cognitive, visual and hearing impairments to better understand need. Both Home Forward and Central City Concern assist individuals with disabilities find better housing and could be good partner candidates.	Low – Medium	Mid-term
	Consider reaching out to Unite Oregon and Latino Network and other groups that work with English language learners to help adapt marketing and communications materials for diverse language audiences (trans-creation of marketing materials).	Medium	Mid-term
	Develop a door-to-door personalized trip planning project to leverage the high level of access to driving alternatives. This would be best applied if timed with the completion of the Enhanced Transit Corridor and/or other projects.	Medium - High	Mid-term and Long-term

Summary of Recommendations

Cluster/Area	Recommendations	Cost	Timeline
Forest Grove/Cornelius	Partner with Centro Cultural or Virginia Garcia Clinic (for non-emergency medical access) for education around transportation options. Transition existing Spanish-language PTP projects into long-term community-based transportation resources through training these partners to deliver individualized trip planning support.	Medium	Short-term
	Expand SRTS programming in Hillsboro and Forest Grove School Districts, ensure programing is inclusive for ELL student populations.	Medium	Mid-term
	Consider providing free or subsidized transit passes to students via a partner with a youth leadership or employment program (Centro Cultural). Bus passes for summer employment for students can help young people learn to take the bus to other locations (beyond school).	High	Mid-term
	Create micromobility zones to address gaps in transit access and first/last mile connections (Lyft, Uber, Grove Link by Ride Connection). Encourage or incentivize shared mobility providers to put scooters or bicycles in this area. Consider programs like low-income oriented electric car sharing.	Low-Medium	Mid-term
Troutdale/Fairview	Help to develop a SRTS program at Reynolds School District, building on resources at the county and regional level. Encourage the development of Action Plans at schools that involve students in improving safe walking and biking in their community.	Medium	Mid-Term
	Although infrastructure and bike access scores are low, there are several infrastructure projects on the horizon. Plan ahead for open streets events to advertise those successes to the community.	Medium	Long-term
	Due to high cost burden and low new mobility options, this would be another place to pilot a micromobility zone to address gaps in transit access and first/last mile connections (Lyft, Uber, Grove Link by Ride Connection). Encourage shared mobility providers to have incentives for low-income and unbanked users.	Low-Medium	Mid-term
	Expand the list of potential partners to include faith-based, health, and youth organizations and develop awareness of the RTO grant program to encourage new ideas and applications.	Low	Short- and Mid-term

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