

Candidate Sorting Evaluation Methodology

The approach to sorting the URMD Pedestrian and Biking Improvement candidate list is based on previous URMD project selection criteria and a methodology developed for the Bicycle and Pedestrian Improvement Prioritization Project (<https://www.co.washington.or.us/LUT/Divisions/LongRangePlanning/PlanningPrograms/TransportationPlanning/bikeandped/index.cfm>) completed in 2012 by Washington County Department of Land Use & Transportation.

Staff performed a quantitative analysis (spatial modeling¹) to consider seven different factors, described below in Table 1. The methodology was recommended by staff based on the following considerations:

- Provides a higher degree of confidence in an objective and replicable approach; and
- Utilizes staff resources efficiently.

The evaluation is designed to identify “hot spots” to focus investments that would likely have the highest impact on the largest number of existing and potential users, and serve County social equity goals. Candidates were scored for the seven factors using low, medium and high scoring. The evaluation results are illustrated in the Candidate Evaluation list, sorted by average cumulative score.

Table 1. Evaluation factors

Factor	Objective	Mapped Element	Description
Essential Destinations	Identify key biking and walking supportive origins and destinations within urban area.	Schools	Schools are broken into three groupings: 1) public primary and secondary schools; 2) skill centers and alternative schools; 3) colleges and universities.
		Grocery Stores	Location of food establishments as compiled by the Oregon Department of Agriculture and categorized as Grocery Stores, Full-Service Supermarkets or Wholesale Stores using classifications based on Han et al. (2012). The list excludes convenience, discount, or specialty stores that may not stock a full array of staple items.
		Social Services	Location of social service centers as compiled by 211info. Includes community health, mental health and addiction, nutrition, and sexual and reproductive health services; school-based health centers; Vital Records; Disability, Aging and Veteran Services; and housing and family support.
		Libraries	Location of libraries in Washington County from Metro Regional Land Information System (RLIS).
		Hospitals	Location of hospitals in Washington County from Metro RLIS.
		City Hall	Location of government centers in Washington County from Metro RLIS.

¹ Analytical procedures applied with GIS. It is the set of procedures that simulates real-world conditions within a GIS using the spatial relationships of geographic features. Source https://www.webopedia.com/TERM/S/spatial_modeling.html

Factor	Objective	Mapped Element	Description
Employment	Identify employment centers within the urban area.	Commercial, Industrial, Office Land Uses	Metro's Place Palette scenario planning tool was used to identify plan designations (or place types) that currently, or potentially in the future, contain high concentrations of jobs. Projects received higher scores if they were located in those place types.
Transit Service	Identify locations where access to transit is a key consideration.	Rail Stations and Bus Lines	Measures the proximity to nearby transit, with higher scores for projects that are close to MAX and WES stations and bus lines, particularly frequent bus service (15 minutes all day). Rail lines are buffered from individual stop locations, while bus corridors are buffered along the entire line. In order to emphasize areas serviced by multiple routes – a raster (array of pixels with numeric values) for each mode is created.
Safety	Identify locations with documented safety issues.	Fatal and Severe Injury Crashes	Metro's High Injury Corridor dataset from the 2018 Regional Transportation Plan showing where the highest concentrations of fatal and severe injury crashes occur with an applied weighting for ped and bike involved crashes. Projects received higher scores if they were located along or accessing high injury corridors.
Connectivity	Identify areas with poor inter-connected street network.	Road Network Connectivity	Measures the number of connective nodes within a defined area (number of intersections per quarter mile). Projects received higher scores in they were located in areas with lower number of intersections.
		Road Density	Greater density of road network equals more options and opportunities for bikes and pedestrians. This factor measures the total length of the network (lineal length roadways) within a defined area divided by the area. Projects received higher scores in they were located in areas with lower road network density.
Equity	Identify areas with above average concentrations of historically vulnerable populations.	Communities of Color, English Language Learners, and Lower-Income Communities	Dataset from Metro's 2018 Regional Transportation Plan showing census tracts with higher than regional average concentrations and double the density of historically marginalized populations. The highest weight was given to projects in tracts where multiple demographic groups overlap, followed by tracts with greater low-income populations.
Environmental	Identify locations with resource constraints and within potential natural hazard areas.	Special Flood Hazard, Wetlands, Landslide Hazard, Stream Crossings	As a proxy for project cost and constructability, datasets from Federal Emergency Management Agency (FEMA), Metro, Oregon Department of Geology and Mineral Industries (DOGAMI), and Clean Water Services were used to denote the location of resource constraints and natural hazards relative to project locations. This criterion was not included in cumulative evaluation scores.