

TRANSPORTATION EVALUATION CRITERION DEFINITION

The following is a narrative defining the transportation evaluation criteria used in the process of evaluating alternatives associated with this project. Some of these criteria are qualitative in nature, while other evaluation criteria are quantitative (have a measured value) in nature. These criteria were used for each alternative to be able to equally evaluate and compare the alternatives to one another. Please refer to the detailed alternative narratives later in this handout to see how each transportation evaluation criteria applied to the individual alternatives.

AUTO SAFETY

Safety is a qualitative evaluation method, meaning there is no easy way to measure the effects each alternative has on potential safety hazards or existing safety deficiencies using calculated methods. Rather, each alternative is evaluated based on the perceived impact (good or bad) it may have on the safety of the corridor. The safety component has been separated into two categories: Auto and Pedestrian. The auto safety is being evaluated on potential conflict points at signalized and unsignalized intersections, as well as the potential for increased or decreased vehicle volumes on a corridor.

PEDESTRIAN SAFETY

Pedestrian safety is a quantitative evaluation method, meaning there is a way to measure the effects each alternative has on potential pedestrian safety using calculated methods. The primary pedestrian safety components used were the number of signalized pedestrian crossings, implementation of signalized crossings at existing high motor vehicle/pedestrian collisions, crossing distance for pedestrians, and sidewalk widths along W Burnside. All of these components can be measured or quantified and compared between alternatives.

VEHICLE OPERATIONS

Vehicle operations are a quantitative evaluation method. Operations can be measured and easily compared between alternatives. The measures of effectiveness used for evaluation were travel times (from 2nd Avenue to 24th Place), travel speeds, level-of-service at intersections (based on delay), and volume-to-capacity ratios (how congested an intersection is). In addition to these measures, the potential for diversion was also measured. This is the number of vehicles potentially pushed away from W Burnside and ending up on the surrounding roadway network and the ability for that surrounding network capacity to accept this diversion from Burnside.

VEHICLE ACCESS/CIRCULATION

The vehicle access and circulation that was evaluated focused primarily on the ability to make left turns (or not), and the potential for out of direction (round the block) circulation for property access. This was a mixture of quantitative (number of left turn opportunities) and qualitative (potential for out of direction travel) comparison.

TRANSIT OPERATIONS

The transit operations evaluation is a mixture of quantitative and qualitative analysis that focuses on providing adequate operations at intersections on W Burnside where future light-rail will cross (5th and 6th Avenues) as well as where current streetcar crosses (10th and 11th Avenues). In addition, consideration is made where in lane transit stops are occurring where there is only one through lane in comparison to two travel lanes where other vehicles have an opportunity to pass transit.

BICYCLE MOBILITY

Bicycle mobility was determined by the ability to provide for safe bicycle crossings of W Burnside because the corridor itself is not designated for bicycle facilities (lanes).

DIVERSION ACCEPTABILITY

Part of the evaluation of each alternative focuses on the potential diversion (amount of vehicles that would leave traveling on W Burnside and select another parallel surrounding roadway). The measurement of diversion is not only important to gauge from the number of vehicles that could divert, but also to the ability of the surrounding roadway network to accept the diversion based on the available capacity.

ASSUMPTIONS FOR EVALUATION

The following is a description on the key assumptions in place for evaluation of the alternatives related to the Burnside/Couch couplet alternatives analysis.

REGIONAL MODEL

The regional travel demand model was used for higher level (macro) diversion analysis for the various alternatives. The diversion study area is comprised of 27 transportation analysis zones. Additional details within the regional model are land use, mode choice, types of vehicles and potential growth in traffic. All of these factors are described in more detail below.

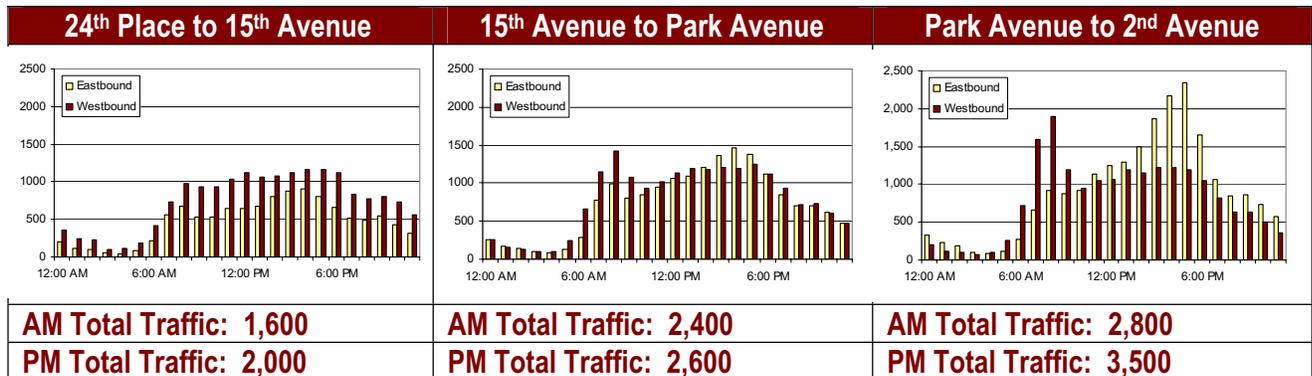
MODE SPLIT

The regional model has assumptions in place for mode split (the percentage of person trips to/from and area using specific types of travel). These choices are determined at the start of the modeling process, and are consistent with the Regional Transportation Plan (RTP). Any additional modifications to mode choice as a base assumption would need to be processed through the regional modeling agency (Metro) and go through a public input and review process for consensus. These tables provide the base year (2000) and future year (2020) mode choice that the model has in place for the downtown study area.

| Mode | 2000 | 2025 |
|-------------------------|------|------|
| Walk/Bike | 18% | 25% |
| Transit | 20% | 22% |
| Single Occupant Vehicle | 42% | 35% |
| High Occupant Vehicle | 20% | 18% |

AM vs. PM PEAK HOURS

The PM peak hour was used for analysis due to the fact that volumes are higher along W Burnside during the PM peak hour (compared to the AM peak hour). The following diagram shows typical volume profiles over an average day (both eastbound and westbound for the three segments of W Burnside. These diagrams show the higher volumes during the PM peak hour, as well as the lower volumes eastbound on W Burnside to the west of I-405.



2025 PROJECTS

There are a number of projects assumed to occur over the next twenty years within the study area. This includes growth in land use, as well as physical infrastructure projects. The following table helps to summarize the land use changes from the existing base model assumptions (2000) to the future year model assumptions (2025). In addition, the bulleted items list the physical infrastructure projects that are expected to be funded and built, along or in the area adjacent to W Burnside.

| Land Use Inputs | 2000 | 2025 | Growth |
|----------------------|--------|--------|--------|
| Housing (units) | 10,600 | 17,350 | 6,750 |
| Retail Employees | 13,970 | 15,630 | 1,660 |
| Non-Retail Employees | 70,000 | 91,500 | 21,500 |

RTP Projects

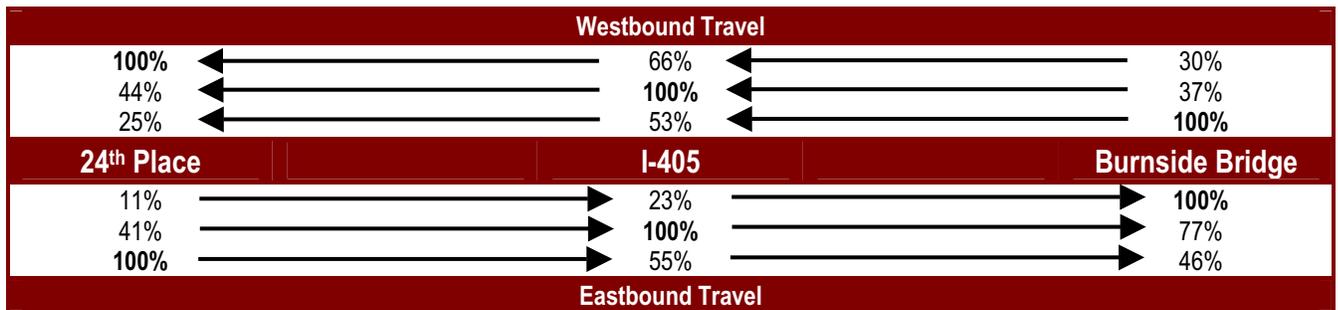
- W Burnside Street improvements from NW 15th Street to NW 23rd Avenue: Includes pavement reconstruction, wider sidewalks, curb extensions, safer crossings, traffic signals at W 20th PI and W 22nd, and traffic management to limit motorist delays.
- Light Rail Transit service along NW/SW 5th and 6th Avenues.

GROWTH IN TRAFFIC VOLUMES

The regional model was used to help estimate potential growth in vehicle traffic along W Burnside within the study area. The base (2000) model volumes were compared to the future (2025) model volumes to determine this growth rate. The growth rate that was determined was approximately ¼ percent per year. This is typical of a downtown built-out environment. To place this growth rate in perspective, a volume of approximately 1,200 vehicles per hour would grow over twenty years to a volume of approximately 1,260 vehicles per hour. This growth rate was applied to the existing volumes to determine a future baseline volumes, which then alternatives were compared against.

USERS OF BURNSIDE

The regional model was used to help ascertain who the users of W Burnside were within the study area. This is done in the model by selecting a specific location on a roadway and tracking the trips that travel on the roadway for their ultimate destination from their ultimate starting point. Findings indicate that W Burnside acts as local connecting roadway to help facilitate crossing I-405, as well as acting as a collector for the downtown area to cross the Willamette River. It does not however act as a major throughput roadway connecting vehicle trips west of NW 23rd Avenue to areas east of the Willamette River. The following diagram shows three locations where trips were tracked (24th Place, I-405 overpass and the Burnside Bridge). For each location the trips were tracked in both the eastbound and westbound direction.



FREIGHT USE

Existing freight use was counted along W Burnside and was calculated to be approximately 2% during the PM peak hour for single unit medium trucks (includes buses), and approximately 0.2% multi-unit large vehicles. It was assumed that this type of usage of W Burnside would stay consistent into the future because the nature of W Burnside is to act as a local delivery street for freight vehicles.