13. MODEL LIMITATIONS AND THOUGHTS ON FUTURE IMPROVEMENTS

The non-motorized connectivity tools and model developed as part of this project provide a new set of resources for transportation planners in the region to understand how pedestrian and bicycle improvements can positively affect transit. As noted earlier, the tools and model were developed using data from frequent transit stops and major transit centers in the Central Puget Sound Region. The tools have been calibrated and applied to a variety of transit stops and stations in the region including frequent bus stops, Link light rail, and Sounder commuter rail stations.

However, given the data sources used to develop the regression model in particular, the project team advises caution on applying the results to low-ridership stops in low-density areas. The model may tend to over-state the percent change in ridership in more auto-dependent and exurban areas with more limited transit service. The logarithmic nature of the model helps to reduce the tendency to overstate ridership gains, but caution should be used in these areas. The connectivity tools and maps should be equally applicable throughout the region and in other areas.

Another limitation to reiterate is the regional nature of the model. Given the need to unify data from more than 20 jurisdictions, some of the more detailed non-motorized data, such as sidewalk width, pavement condition, and street lighting could not be included in the model. Additionally, in order to ensure accuracy across the entire study area, the model tends to be sensitive to larger-scale changes in connectivity. Research indicates that some smaller-scale projects could be important in terms of how people access transit. The case study examples above described some recommended practices to identify these smaller-scale improvements, particularly those that would complement major non-motorized investments.

Looking forward, the project team has identified several items that could enhance both this effort and other non-motorized access evaluations in the region:

- Develop a uniform non-motorized GIS dataset: As noted earlier, the primary challenge to this project was collecting and organizing data from more than 20 jurisdictions in a form that was usable for this study. The need to run a network analysis (to understand the paths of travel to/from a transit station) was key to this study. This requires that a complete and connected network of facilities be developed. None of the jurisdictions in the study area had non-motorized datasets that lent themselves to a network analysis. The project team recommends that a road/non-motorized centerline file be developed for the region to aid in this type of analysis. Each jurisdiction can update the centerline file as they see fit, but a uniform starting point will make the combination of data much easier.
- Include additional non-motorized facility data: As more jurisdictions collect more detailed non-motorized data in the future, these data can be incorporated into the connectivity analysis. Many of the tools developed for this project are generic and could be easily updated to summarize additional information like sidewalk width or presence of a landscape buffer. New regression modeling will have to be performed to understand the significance of these variables to transit ridership.