

# **Travel Demand Modeling System Design Focusing on Implementing PRT Services**

By

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Final report for FY17 PRT Service, DCTR 422314, Task 1794-8

This project was the response to the FY 2017 Research Program Request for Proposals. The project statement was “Can a Travel Demand Modeling System Design Focusing on Implementing PRT Services be Developed from Time-of-Day Person Schedules?”. This project was undertaken in two separate projects.

The first project converted the schedules of over 20,000 UD students for a single semester into an Origin – Destination style matrix that could be used in travel demand modeling. The second project developed a PRT system model for the entire UD campus and looked at issues like service times, number of vehicles needed, etc. In addition to student schedules, data for student housing was also needed. Numbers of students who were commuting, living in apartments near campus and those living in the residence halls were essential since these locations represent a student’s morning start point. Also, the commuters and graduate populations might be using their personal vehicles and would start their UD day in a campus parking lot.

The O-D matrices were developed for one hour periods for each day of the week. For classes beginning on the hour (say 1 pm), it was assumed that the student began travelling to the building where their class would be held no more than 30 minutes before class (12:30 pm). Students completing a class at 1 pm would either be travelling to their next class, remaining on campus if they had a class the following hour (2 pm) or could return to their dorm depending on the rest of their schedule. The mode (walking or PRT) would depend on the distance to their next destination.

The OD matrix work was the Master’s Thesis of Benjamin Fisher and is included with this report.

The VISSIM model of the PRT system was the Master’s These of Yun Tang and is also included with this report. The excel sheets for the OD matrices and the VISSIM model are available from the PI.

This serves as the final report for this project.

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