

USP 411/511
Pedestrian and Bicycle Planning Lab
Course Information ▪ FALL 2011

Meeting Time	Tuesdays, 12:00 – 1:50 pm	Location	URBN 270
Instructors	Mike Rose mwrose@pdx.edu Mike Tresidder tresma@pdx.edu 503.230.9862	Office Hours	By Appointment

Course Description

Topic: In groups no larger than 4 people, students will identify and work with TriMet on selected transit centers to develop an access improvement plan.

Original Research: Students may not select a location which they have already researched, presented, or that they are working on for another class.

Group Work: In the “real world” effectively working in groups is essential to your success. All assignments for this lab will be completed in groups.

Grading

An explanation of letter grades can be found in your student handbook. We consider a B to be indicative of good graduate level work and an A to represent work which is exceptional. The participation points will be evenly divided between instructor evaluation (10 pts) and peer evaluation (10 pts).

Task	Points
Working Paper #1	10
Working Paper #2	15
Presentation #1	10
Final Plan	25
Presentation #2	20
Participation	20

COURSE SCHEDULE & ASSIGNMENTS

Date	Topic	Assignments
9/27	Introduction and overview. Discussion about the components of successful transit access and project overviews. Discussion of strengths and weaknesses that you bring to the table.	Visit the various potential sites if desired. Examine potential opportunities and constraints. Identify your top 2 project choices. Email Top 2 project choices by noon 10/3
10/4	Project selection. Discuss Working Paper #1. Continue discussion of data collection. Review examples of desired data.	Working Paper #1
10/11	Discuss field observations and data collection date. Walk through components of WP #2.	Working Paper #1 DUE Working Paper #2 / Presentation #1
10/18	Class time for fieldwork, work on WP #2. Mikes available during class time for questions.	
10/25	Presentation #1	Working Paper #2 DUE
11/1	Initial solution concept discussion. Cost estimating discussion. Developing selection criteria.	Final Report / Final Presentation
11/8	Project development, mapping, layout. Class held at Alta. Each team to work with a designer /planner to refine solutions.	
11/15	Work with Alta planners on technical analysis and needs analysis approach and progress.	
11/22	Happy Thanksgiving! Work on Projects	
11/29	In-class work on cost estimates, presentation, questions. Sample presentation of final project.	
12/6	Final Presentations	Final Report due by 12/9

ACCESS TO TRANSIT STUDY

PSU Pedestrian & Bicycle Planning Lab Fall 2011

Task 1 - Project Initiation

1.1 - Working Paper #1 - Project Understanding

Groups will have an in-class meeting with PSU instructors and TriMet staff to review the available project locations, identify components of a successful transit access project, identify available data, establish communication channels, and discuss the project goals and objectives.

1.2 - Collect Base Mapping Data and Information

PSU and TriMet will make available existing data to groups to be used in preparing existing conditions base maps. Groups should identify all (to the extent possible) of their data needs at this time, as groups may need to request additional data from either PSU or TriMet; those requests should be made in writing to PSU instructors.

Once project locations are selected, each group will develop a working paper that will serve as the introduction to the project. This working paper should contain (at a minimum) a problem statement, any relevant project history, and an overview of the location and significance in the region. Working Paper #1 should also contain a data needs memo as an Appendix.



Task 1 Products

- **Working Paper #1: Project Understanding**
- **Data Needs Memo Appendix**

Task 2 - Working Paper #2 - Existing Conditions

2.1 - Field Investigation

After reviewing the existing data, groups will conduct a field review of their site. Field investigations will be documented at key locations using field notes, taking field measurements, and using digital photography. This will help groups to further evaluate the setting, identify system opportunities and constraints, and record site-specific information such as level of use, facility condition, and key gaps or obstacles. Items that may need to be reviewed include:

- a. Location, mileage and begin and end points of existing bikeways and trails
- b. General description of sidewalks, crosswalks, and other features
- c. Cross-sections of (at selected locations)
- d. Description of typical roadways and crossings
- e. List and map of support facilities such as bicycle racks and lockers at selected destinations
- f. Substandard sections, gaps, and bottlenecks
- g. Bicycle, trail, and walkway access to transit
- h. Description of typical advisory, directional, and regulatory signs
- i. Description of typical pavement markings

- j. Description of typical traffic signals and signal detectors
- k. Number and type of vehicle lanes (at selected locations)
- l. Presence of drainage grates, narrow shoulders, and other visual or physical hazards (at selected locations)
- m. Description of biking and walking activity
- n. Locations of schools, parks, transit stops, and other generators

2.2 - Existing Conditions Base Maps/Graphics

Based on field investigations and data provided, groups will prepare base map(s) and graphics of their site. The maps will be developed at an appropriate graphic scale to communicate existing conditions and for incorporation into the existing conditions report. Depending on available (and necessary) data, the base maps will include:

- jurisdictional boundaries
- existing transit routes/stops
- Existing transportation infrastructure
- Existing bicycle and pedestrian facilities
- Major business and residential sites
- Schools and institutions
- Parks, open space, and recreation areas

2.3 - Working Paper #2 - Existing Conditions and Opportunities/Constraints Report

A key product of this phase is to identify bicycle and pedestrian deficiencies and opportunities and constraints.

Each group's site will be analyzed in terms of (a) connectivity and access to destinations, including residential areas (b) quality and comfort level, (c) support facilities and amenities, (d) usability—coherence of the system to the average user attempting to reach an unfamiliar destination, and (e) safety.

Working Paper #2 will include a written and graphic summary of existing conditions based on fieldwork, an inventory of existing bicycle, pedestrian and transit facilities and a description of opportunities and constraints.

2.4 Presentation

Each group will develop and present a 20 minute presentation on their first 2 working papers.



Task 2 Products

- **Working Paper #2: Existing Conditions and Opportunities/Constraints Report**
- **Presentation #1**

Task 3 - Access to Transit Plan

Groups will prepare a final report for improving access to transit at their site. The final report will be composed of tasks and deliverables completed up to this point, as well as the tasks identified below.

3.1 - Bicycle/Pedestrian Demand and Benefits Analysis

Groups will develop specific projections on existing and future daily bicycle and pedestrian trips for use in air quality and funding applications, based on Alta's Bicycle and Pedestrian Demand Model methodology that has been accepted throughout the country and is being used by FHWA. Groups will also utilize Alta's benefits models to estimate reductions in vehicle trips, vehicle miles traveled, and related items such as air quality improvements and carbon emissions reductions.

3.2 - System Recommendations

The recommended system will also be based on the existing conditions and opportunities and constraints identified in Working Paper #2. Network development will also take into account issues such as grades, directness of route, barriers, and system connectivity. This network will include a variety of bikeways, sidewalk improvement projects, and other bicycle/pedestrian improvement projects (e.g., traffic calming, bicycle parking, education and encouragement programs, etc.). The recommendations will also incorporate previously proposed and planned facilities.

3.3 - Project List and Cost Opinions

Supplementing the recommendations, groups will develop a project list with planning-level cost opinions. The cost opinions will include estimated construction costs, planning, design, engineering and contingency costs (typically reflected as a proportion of the original project cost).

3.4 - Project Evaluation/Prioritization Criteria

The recommended bicycle and pedestrian improvements will be ranked according to general planning criteria. A Decision Matrix will be used to attach weights to each criterion and determine which recommendations meet the highest number of criteria listed.



Task 3 Products

- **Access to Transit Plan**

Task 4 - Final Presentation

4.1 - Presentation of Access to Transit Study

Each group will develop and present a 20 minute presentation on their Access to Transit study, focusing on the recommendations.



Task 4 Products

- **Final Presentation**

