Course Number | PLAN 580  
Course Credit(s) | 3.0  
Course Title | Urban Transportation Planning  
Term | 2017-2018 – Winter Term 2  
Day/Time | Thursday 2:00 to 5:00pm  

Instructor | Lawrence Frank  
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Telephone | (604) 822-5387  
Email | Lawrence.frank@ubc.ca  
Office Hours | Meetings available by request  

Short Course Description

Urban Transportation Planning introduces students to the fundamentals of urban transportation planning and the types of skills and knowledge that transportation planners need. It further familiarizes students with contemporary transportation planning issues and methods of analysis. The course is highly relevant regardless if students intend to focus on transportation itself, or other aspects of urban planning. The course can be taken stand alone, or as the first in a sequence of courses in SCARP’s Urban Design and Transportation Concentration.

This course requires no prior work in transportation. Some knowledge of basic statistical concepts and analytical methods is recommended.

This course is not eligible for Credit/D/Fail grading.

Course Format

This course is structured around weekly class lectures that will integrate both readings, led by students, and a topical lecture, led by the instructor or visiting guests. It is essential that you prepare for each class by reading the papers that are assigned each week. Readings will be distributed by email at least one week prior to the class.

Please note that this class does not use an online learning management system, and all course material will be provided (e.g. there is no required textbook).
Course Overview, Content and Objectives

Transportation decisions impact many aspects of urban life. Young and old alike are affected by the viability and relative ease of traveling to destinations on foot, by bike, transit, or reliance on private vehicles. Transportation investments are arguably the single largest shaper of urban spaces and of development patterns. The safety, speed, and comfort for a particular mode of travel are a function of the investments that have been made in specific types of travel options. Regions, and parts of regions, vary considerably in terms of their supportiveness of traveling in ways that are health promoting (active) and environmentally sustainable.

Transportation planning is experiencing a re-awakening. The connections between transportation, land use, air pollution, greenhouse gas emissions, physical activity, and obesity are becoming better understood. Considerable media attention in recent years has been devoted to the impacts of the built environment on climate change and the environment. Attention has also been focused on the economic impacts of transportation investments and more recently on how transportation impacts physical activity and health. Many are concerned about the impacts of urban sprawl on overall sustainability and on how transportation investments can create or help to reduce sprawl. These and other issues provide some context and backdrop for this class.

Set within the Vancouver region, we are fortunate to have many forward thinking experts on creating a livable region and the role of transportation within this context. We will learn from the perspectives of a variety of experts in our region who are engaged in making transportation planning decisions. Additionally, this class will introduce students to newly evolving theories and approaches to addressing emerging transportation problems. Relationships between transportation and urban land use systems and new tools to address environmental and quality of life impacts of transportation will be presented.

The following topics will be covered in this class:

1. Major Components of Urban Transportation Systems
2. The Transportation Planning Process
3. Regional Spatial Structure, Land Use, and Relative Costs Across Modes
4. Social Dimensions of Transportation Planning
5. Transportation Planning in an Era of Climate Change
6. Transit Planning
7. The Public Health Impacts of Transportation Investment
8. Site Design and Street Design Standards
9. Travel Preferences, Attitudinal Predisposition, and Causation
10. Strategies for Reducing Travel Demand within the Transportation Planning Process and Policy Issues
11. Transportation Plan Making – Regional Scale
**Learning Outcomes**

After completing this course, students should be familiar with contemporary transportation planning issues. Additionally, students should expect to know different methods of analysis and transportation planning tools. Students should also expect to become comfortable analyzing statistical outputs frequently used by transportation planners.

**Attendance**

Attendance is not mandatory, but your attendance in class (and participation in reading discussions) will be a component of your participation grade (see below).

**Evaluation Criteria and Grading**

You will be graded on a numeric (percentage) basis according to your grades in four assignments (see below). Grades will be as follows:

- 90-100 A+
- 85-89 A
- 80-84 A-
- 76-79 B+
- 72-75 B
- 68-71 B-
- 64-67 C+
- 60-63 C
- 55-59 C-
- 50-54 D
- 0-49 F (Fail)

**Course Assignments**

Your grade in this course will be derived from an essay paper, a take home exam and a final project. Students will also be evaluated based on their participation in class (see table below). Students will be responsible for the discussion of questions and may be asked to assist the professor with the photocopying/distribution of readings on the class period indicated with their name on the schedule.

**Table 1: Course assignments**

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Description</th>
<th>Percent of your final grade</th>
<th>Due date TBD</th>
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<tbody>
<tr>
<td>Essay Paper 1</td>
<td>Essay focusing on the needs of a specific population (elderly, youth, poor, female, etc.) and how specific transportation decisions helps or hinders their access to opportunities</td>
<td>25%</td>
<td>TBD</td>
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<tr>
<td>Take Home Exam</td>
<td>Open book review of basic transportation planning concepts. This exam is written (word processed) and should be sent to the instructor by email.</td>
<td>30%</td>
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<tr>
<td>Final Project</td>
<td>Details TBD</td>
<td>35%</td>
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<tr>
<td>Class Participation</td>
<td>Attending and participating in lectures and conducting reading review for a selected week.</td>
<td>10%</td>
<td>N/A</td>
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**Required Readings and Videos**
Students will be required to read a selection of journal articles and policy reports, which will be finalized by the first week of class and will be distributed to students in the course.

There is no required textbook for this course.

**Course Schedule**

<table>
<thead>
<tr>
<th>Date</th>
<th>Topics Covered</th>
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<tbody>
<tr>
<td>January 3</td>
<td><strong>Introduction:</strong> Overview of the class, basic transportation planning terms, history of transportation planning, modes of travel, and their requirements.</td>
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<tr>
<td>January 10</td>
<td><strong>Major Components of Urban Transportation Systems:</strong> Specific modes of travel (roads, transit, ped/bike) and their spatial and fiscal requirements. What transportation planners do and how they interact with other parts of city government. Overview of approaches and methods used to predict travel patterns.</td>
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<td>January 17</td>
<td><strong>The Transportation Planning Process:</strong> Historical overview of the development of the Vancouver Region and critical moments in its transportation history (Part I). Detailed methods to predict where people go and how they get there (needs and deficiencies), responding to land development decisions and regional growth patterns, tensions between investments in different modes of travel (winners and losers).</td>
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<tr>
<td>January 24</td>
<td><strong>Regional Spatial Structure, Land Use, and Relative Costs Across Modes:</strong> Relationships between transportation investments and development decisions. Theoretical explanations of urban spatial structure and the historical evolution of cities in relationship with transportation technology and its advancement. Impacts of relative costs in terms of time, convenience, comfort, and actual money spent across available modes on travel choice.</td>
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<tr>
<td>January 31</td>
<td><strong>Social Dimensions of Transportation Planning:</strong> Understanding the transportation needs of those that are traditionally underserved, spatial mismatch between jobs and housing for the poor, adverse economic and health impacts of transportation investments on the poor and disadvantaged, policies in Canada and elsewhere to better balance the benefits and burdens of investments across income and ethnicities.</td>
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<tr>
<td>February 7</td>
<td><strong>Transportation Planning in an Era of Climate Change:</strong> Environmental impacts of transportation decision-making, critical role of transportation within the global climate change debate, the role of technology versus demand management in reducing transportation related CO2 emissions, relative benefits of transit and non-motorized modes of travel.</td>
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<tr>
<td>February 14</td>
<td><strong>Transit Planning:</strong> Modes of public transportation, requirements of specific transit modes and their energy and cost implications, operations versus capital budgets, rights of way costs, and policies to promote public transportation, health benefits of public transportation.</td>
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<tr>
<td>February 21</td>
<td>No Class – Reading Week</td>
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<tr>
<td>February 28</td>
<td><strong>The Public Health Impacts of Transportation Investment:</strong> Brief overview of the safety to pedestrians, physical activity and obesity impacts of transportation investment decisions, and current evidence and policy recommendations to support healthy communities.</td>
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<tr>
<td>Date</td>
<td>Topic</td>
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<tr>
<td>March 7</td>
<td>Site Design and Street Design Standards: Site planning and analysis; Street Design Standards, Parking Supply and Location and Related Policies.</td>
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<td>March 14</td>
<td>Travel Preferences, Attitudinal Predisposition, and Causation: Understanding the relative effect of our preferences in shaping our travel patterns and the importance of separating out pre-disposition towards a particular travel mode (for or against) from the impact of the built environment (transportation investments and land use patterns) on the choice to use a given mode of travel.</td>
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<tr>
<td>March 21</td>
<td>Strategies for Reducing Travel Demand within the Transportation Planning Process and Policy Issues: Approaches to reduce travel demand and competitive approaches to make walking, transit, and carpooling rational choices to driving alone. Economic and environmental arguments for programmatic actions to reduce travel demand. The political context of Transportation Planning – regional, local and national priorities and tensions in decision making and project prioritization.</td>
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<tr>
<td>March 28</td>
<td>Transportation Plan Making – Regional Scale: Regional growth scenarios and transportation planning to support growth objectives and growth management strategies to link land use and transportation planning and case studies of success and failures</td>
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<td>April 4</td>
<td>Class presentations</td>
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**Special Needs**

Please inform the course instructor as soon as possible if you have special needs and require accommodation of any kind. Please visit http://www.students.ubc.ca/access/ for more information on campus resources.

**Academic Integrity**

1 Assistance with the creation of a course syllabus is available through the Centre for Teaching, Learning and Technology, [www.ctlt.ubc.ca](http://www.ctlt.ubc.ca) Resources related to the development of assessable learning outcomes can be accessed through [http://ctlt.ubc.ca/resources/webiography/course-designdevelopment/](http://ctlt.ubc.ca/resources/webiography/course-designdevelopment/) The academic enterprise is founded on honesty, civility, and integrity. As members of this enterprise, all students are expected to know, understand, and follow the codes of conduct regarding academic integrity. At the most basic level, this means submitting only original work done by you and acknowledging all sources of information or ideas and attributing them to others as required. This also means you should not cheat, copy, or mislead others about what is your work. Violations of academic integrity (i.e., misconduct) lead to the breakdown of the academic enterprise, and therefore serious consequences arise and harsh sanctions are imposed. For example, incidences of plagiarism or cheating may result in a mark of zero on the assignment or exam and more serious consequences may apply if the matter is referred to the President’s Advisory Committee on Student Discipline. Careful records are kept in order to monitor and prevent recurrences.

A more detailed description of academic integrity, including the University’s policies and procedures, may be found in the Academic Calendar at [http://calendar.ubc.ca/vancouver/index.cfm?tree=3,54,111,0](http://calendar.ubc.ca/vancouver/index.cfm?tree=3,54,111,0).