

**School of Community and Regional Planning (SCARP)
University of British Columbia
DRAFT COURSE OUTLINE**

Course Number	580
Course Credit(s)	3
Course Title	INTRODUCTION TO URBAN TRANSPORTATION PLANNING
Term	2018-2019 Winter Term 2
Day	Thursday

Instructor	Prof. Lawrence (Larry) Frank
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Office Hours	Tuesdays 2-5 pm / Office Hours by Appointment

Course Format

Lectures, including guest lectures

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. Driverless cars are emerging as a viable technology and rapidly approaching the marketplace. This is a game changer and will transform our travel choices and likely our urban environments as well. Car and bike sharing along with Uber have all taken off as viable approaches to mobility in recent years. Translink and other regional agencies are embarking on mobility pricing schemes designed to impact when and how people travel. These emerging technological solutions will be discussed in class. To the extent possible, our discussions will consider ways in which students can position themselves most strategically given these known advancements are taking place.

The course 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.

Newly evolving theories and approaches to addressing emerging transportation problems will be central to the class:

- Relationships between transportation and urban land use systems and new tools to address environmental and quality of life impacts of transportation are presented.

- Transportation investment decisions (or lack thereof) have been held accountable for increased economic prosperity or spiraling economic decline. Transportation infrastructure (roads, rail lines, etc.) is extremely costly even when compared with other services that are capital intensive (sewers, storm-water drainage, etc.). Therefore, transportation decisions made today can impact a region for generations to come.

Attendance and Grading

- Essay Paper I 30% - 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.
- Short Take Home Exam 25% - Open Book Review of Basic Transportation Planning Concepts
- Final Project 35% - To Be Announced
- Class Participation 10% - attending and participating in lectures and conducting reading review for a selected week

Recommended Readings

1. Week 1: Readings – Car sharing and personal vehicle services: worldwide market developments and emerging trends (2013); Hanson and Guliano The Geography of Urban Transportation (2017) Chapter 1 – Intro to Urban Transportation; Meyer The Transportation Planning Handbook (2016) Chapters 1 – Introduction to Transportation Planning
2. Week 2 Readings -- Meyer (2016) –Travel Characteristics and Data; Goulias Chapter 1-1 – Transportation Systems Planning;
3. Week 3 Readings: Hanson and Guliano Chapter 5 – Theories and Models in Transportation Planning; Chapter 6 – Regional Transportation Planning; Meyer Chapter 6 – Travel Demand and Network Modeling
4. Week 4 Readings: Hanson and Guiliano Chapter 3 – Transportation and Urban Form; Meyer Chapter 3 – Land Use and Urban Design
5. Week 5 Readings: Hanson and Guiliano – Chapter 13 - Social Equity and Urban Transportation; Bullard, Just Transportation; Schaeffer and Sclar, Access for All;
6. Week 6- Readings: Hanson and Guiliano – Chapter 11 – Transportation and Environmental Impacts and Policy; Chapter 12 – Transportation and Energy; Meyer Chapter 4 – Environmental Considerations; Ewing et al: Growing Cooler – Chapters 1-3.
7. Week 7: Readings: Hanson and Guiliano – Chapter 12 – Mass Transit; Meyer – Chapter 8 – Transit Planning; Kennedy: A comparison of the sustainability of public and private transportation systems: Study of the Greater Toronto Area in Transportation
8. Week 8 Readings: Meyer – Chapter 13: Pedestrian and Bike Planning; Devries et al – The Health Effects of Transit Investment: Implications for Vancouver’s Broadway Corridor – Executive Summary; Frank and Kavage – The Hidden Health Costs of Transportation Investment (APHA Report 2010); Promoting Public Health Through Smart Growth (Smart Growth BC report).
9. Week 9 Readings: Tolley - Chapter 36 – Segregation or Integration of Cycling in the Road System & 46 – Best Practices in Pedestrian Facility Design and Chapter 47 – Designing Streets for People; Litman – TDM toolbox – Parking Strategies <http://www.vtapi.org/tdm/index.php#parking>
10. Week 10 Readings: Frank LD, Saelens B, Powell KE, Chapman J. (2007). “Stepping Towards Causation: Do Built Environments or Individual Preferences Explain Walking, Driving, and Obesity?” Social Science and Medicine. Schwanen, T., & Mokhtarian, P.L. (2005a). What affects commute mode choice: neighborhood physical structure or preferences toward neighborhoods? Journal of Transport Geography, 13, 83-99

11. Week 11 Readings: Puentes and Katz: Taking the High Road: A Metropolitan Agenda for Transportation Reform. Chapter 1; Cervero and Kockelman - Travel demand and the 3Ds: density, diversity, and design; Litman – Incentives to use alternative modes and reduce driving: <http://www.vtpi.org/tdm/index.php#incentives>
12. Week 12 Readings: Hanson and Giuliano – Chapter 14: Looking to the Future; Meyer – Chapter 16: Metropolitan Planning; Chapter 24: Public Participation and Engagement

Course Schedule

1. Week 1 Introduction (JAN 4): Overview of the class, basic transportation planning terms, history of transportation planning, modes of travel, and their requirements.
2. Week 2 Major Components of Urban Transportation Systems (JAN 11): 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
3. Week 3: The Transportation Planning Process (JAN 18)- 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).
Invited Guest / Expert – TBA - History of Vancouver
4. Week 4 Regional Spatial Structure, Land Use, and Relative Costs Across Modes (JAN 25) - 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.
5. Week 5 Social Dimensions of Transportation Planning (FEB 1)-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.
Invited Guest / Expert – TBA – Transportation and Equity in Vancouver
6. Week 6 Transportation Planning in an Era of Climate Change (FEB 8)-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.
7. Week 7 Transit Planning (FEB 15)- Modes of public transportation, requirements of specific transit modes and their energy and cost implications, operations versus capital budgets, rights of way costs, policies to promote public transportation, health benefits of public transportation.
Invited Guest / Expert TBA
8. Week 8 The Public Health Impacts of Transportation Investment (MAR 1)- 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.
9. Week 9 Site Design and Street Design Standards (MARCH 8) Site planning and analysis; Street Design Standards, Parking Supply and Location and Related Policies.
Invited Expert / Guest – Street Design Standards for Non-Motorized Transport
10. Week 10 Travel Preferences, Attitudinal Predisposition, and Causation (MARCH 15)Understanding the relative effect of our preferences in shaping our travel patternsand 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.

11. Week 11: Strategies for Reducing Travel Demand within the Transportation Planning Process and Policy Issues (MARCH 22) - 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.

Invited Guest / Expert – Carole Jolly – UBC TREK program

12. Week 12 Transportation Plan Making – Regional Scale (MARCH 29) 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

Invited Guest Lecturer/ Expert: Ken Cameron (to be confirmed)

13. Week 13 Class Summary and Student Presentations (APRIL 5)

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

UBC has numerous research, pedagogical and health resources available to students. These include The centre for Teaching and Academic Growth (TAG), the Irving K. Barber Learning Centre, the Writing Centre, Student Health Services and student Counselling Services. Please make use of these resources or contact the instructor if you have any questions. Students new to UBC are especially encouraged to become familiar with the broad spectrum of resources that UBC provides.