University of Oregon
Department of Planning, Public Policy and Management
Oregon Leadership in Sustainability Program

OLIS 612: Sustainable Transportation
Winter 2013
Mondays & Wednesdays, 8:00-9:50am
Knight Library 42
Instructor: Ann Scheerer, annscheerer@gmail.com
Assistant Instructor: Larisa Varela larisavarela@gmail.com
Office hours by appointment

Background
Until recently, automobile-based travel has been central to the planning of cities in the United States. Over the past 50 years, this has resulted in urban sprawl and traffic congestion, which in turn has caused serious social, economic and environmental problems. The concept of sustainable transportation has emerged in sustainable city planning and design to address these problems and improve the long-term sustainability of cities and regions. A key strategy has been to develop a highly accessible city that reduces the need to travel by car. With the aim of understanding how transportation fits into the overall design and planning of sustainable cities, this course introduces a broad range of sustainable transportation and land use planning and design concepts to enable students to:

- Understand how land use and transportation planning addresses traffic congestion and vehicular travel, and best practices such as Smart Growth, Complete Streets, Context-Sensitive Design, Scenario Planning, and Transit-Oriented Development (TOD).
- Become familiar with innovative initiatives that are transforming urban transportation, such as car sharing, bike sharing, electric vehicles, and intelligent transportation systems.
- Understand data, analytic tools and performance measures used in local transportation decision-making.
- Become familiar with exemplar sustainable transportation cases in the U.S. and the factors that influence success.
- Be able to critically analyze sustainable transportation policies and programs.
- Apply what is learned to an actual sustainable transportation project in Eugene.

Course Requirements
The course is a combination of instructor lectures, guest lectures, your participation as discussion facilitators, two quizzes, an analytical policy brief and a team project.

Readings are to be completed prior to the class period in which they are listed. Students are expected to have obtained, read, and retained the readings for each week and to come to class prepared to discuss their content and implications.

The course website is located on the university’s Blackboard system (blackboard.uoregon.edu).
The class syllabus, announcements, readings (except for the Tumlin text, which students are required to purchase), and other materials will be posted on the blackboard site. Please check the course website frequently for updates. In addition, make sure that the University Registrar has your correct email address. We will use this email address to communicate with you.

**Instructor**
Ann Scheerer is an Adjunct Instructor at the University of Oregon. She is currently completing her PhD in Urban Design and Planning from the University of Colorado College of Architecture and Planning in Denver. Ann has a Master of Public Administration from the University of Washington and a Master of Science in Strategic Leadership towards Sustainability from Sweden’s Blekinge Institute. She worked for seven years with the City of Kirkland, WA Public Works Department as an Engineering Manager and five years with Sustainable Cities Consulting in Seattle, where her clients included non profits and local governments.

**Assignments and Grading Policy**

**Participation**
Students are required to attend each class. The course will include lectures by the instructor and some guest lecturers where thoughtful participation is encouraged. Participation will also be assessed throughout all aspects of the course as described below.

**Summary of Readings and Discussion Facilitation**
Each student will be responsible for leading a class discussion during the quarter. I will bring a sign up sheet to class the first week and ask that you self select which topic you would like to summarize and facilitate a discussion on by Wednesday, January 9. As a facilitator, the student will prepare a summary of the readings and thought provoking questions to encourage group discussion.

**Quizzes (2)**
The quizzes consist of short-answer questions (paragraph length answers) on individual topics and one essay question that requires you to integrate material from the various topics covered to date.

**Policy Brief (1)**
With the goal of preparing students to articulate their ideas in a balanced and critical way to a decision-making audience, students will prepare a policy brief on a sustainable transportation issue of their choice due . Policy brief is to be addressed to a “city council/transportation board” of your choice. For example, you may have a transportation project you would like to see implemented in your hometown that could be the basis for your brief. Guidelines and expectations for this assignment will be provided to students on Monday, January 14.

**Team Projects**
Students will also engage in real-world group projects with local transportation clients in Eugene. You are to apply what you learn in the course and from the client organization to the deliverables of your final group project. Students will rank their preferences for the projects (a draft of which is at the end of this document), and small teams (3-6) will be formed. Detailed guidelines for the team project will be presented at the first class period on Monday, January 7.
There will be periodic check ins throughout the quarter to ensure students are progressing effectively based on the client’s goals and expectations.

**Assignment %**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation</td>
<td>20%</td>
</tr>
<tr>
<td>Quizzes (2x10%)</td>
<td>20%</td>
</tr>
<tr>
<td>Discussion Facilitation</td>
<td>15%</td>
</tr>
<tr>
<td>Policy Brief</td>
<td>15%</td>
</tr>
<tr>
<td>Team Project</td>
<td>30%</td>
</tr>
</tbody>
</table>

Grades for the course will be based on the following grading scale: A 94-100; A- 90-93.9; B+ 85-89.9; B 80-84.9; B- 75-79.9; C+ 70-74.9; C 65-69.9; C-60-64.9; D 55-59.9; F less than 55

Please note that assignments must be completed on time. Since you have ample warning of due dates, no extensions will be granted unless the circumstances are exceptional.

**Required Textbook**


**Other required readings** are listed in the course outline below and are accessible on Blackboard. Please note that some readings are yet to be determined. Please check Blackboard often for updates of this syllabus and to access required readings.

**PROFESSIONAL PRACTICE**

In order to create a classroom in which students are comfortable expressing their opinions and perspectives, we ask that students please approach the readings and others’ contributions with both an open mind and a willingness to question one’s own assumptions and biases.

This course is a core course in the OLIS graduate certificate program. As such, students are expected to behave in a professional manner at all times:

- Students should treat each other and the instructor with the professional courtesy and respect expected in a workplace.
- All communications relating to this course and all work turned in for this course should reflect professional standards in tone, presentation, formatting, and spelling.
- The classroom is a place of focused learning. This requires that students arrive on time, stay until the end of the class period, do not disrupt the class by leaving the room temporarily, and refrain from non-learning activities. Students who fail to adhere to these guidelines will be asked to leave for the remainder of the class session.
- We expect all course assignments to be completed using a word processor. Some assignments will require use of a spreadsheet program for data analysis and graphing. Some familiarity with a spreadsheet program (e.g. Excel), as well as basic concepts in mathematics and algebra at the high school level will be used when we cover the analytic components of the material.
You will also be required to use PowerPoint for a presentation at the end of the term on your final project.

**Policies**

Late Assignment: If you are unable to make it to class on the day an assignment is due, you may mail, email, or fax your assignment to me prior to the class time and date that assignment is due. Late assignments receive only partial credit. If an answer key is posted to the website, however, no late homework assignments are accepted (no credit).

Missed Class: If you miss a class, please arrange to get class notes from a classmate. Instructor lecture notes are not available.

Incomplete: Students are expected to behave in a professional manner and to turn in all materials at the designated time. In accordance with university regulations, an incomplete will only be given when “the quality of work is satisfactory but a minor yet essential requirement of the course has not been completed for reasons acceptable to the instructor.”

Academic Misconduct: You are expected at all times to do your own work. Copying content from other students and submitting it as your own work is grounds for failing the class. The University Student Conduct Code (available at conduct.uoregon.edu) defines academic misconduct. Students are prohibited from committing or attempting to commit any act that constitutes academic misconduct. By way of example, students should not give or receive (or attempt to give or receive) unauthorized help on assignments or examinations without express permission from the instructor.

Plagiarism: Students should properly acknowledge and document all sources of information (e.g. quotations, paraphrases, ideas) and use only the sources and resources authorized by the instructor. If there is any question about whether an act constitutes academic misconduct, it is the students’ obligation to clarify the question with the instructor before committing or attempting to commit the act. Additional information about a common form of academic misconduct, plagiarism, is available at: www.libweb.uoregon.edu/guides/plagiarism/students.

**Writing Lab**

This is a writing intensive course. If you struggle with writing, we strongly encourage you to use the services of the Writing Lab. The Writing Lab begins week two of the term and closes at 5:00pm the Wednesday of finals week. Free tutors are available. Upper-division and graduate student tutors are available on a drop-in basis or by appoint. (You must come to the Writing Lab to schedule your appointment.) 9:00am–5:00pm, Monday–Friday, 72 PLC (Prince Lucien Campbell).

**Documented Disabilities**

Students who have a documented disability and anticipate needing accommodations in this course should make arrangements to see the instructor as soon as possible. They should also request that the Counselor for Students with Disabilities send a letter verifying the disability.

**Inclusion Statement**
The School of Architecture and Allied Arts is a community that values inclusion. We are committed to equal opportunities for all faculty, staff, and students to develop individually, professionally, and academically regardless of ethnicity, heritage, gender, sexual orientation, ability, socio-economic standing, cultural beliefs and traditions. We are dedicated to an environment that is inclusive and fosters awareness, understanding, and respect for diversity. If you feel excluded or threatened, please contact your instructor and/or department head. The University Bias Response Team is also a resource that can assist you. Find more information at their website (bias.uoregon.edu) or by phoning 541-346-2037.

COURSE OUTLINE

Week 1: A Highly Mobile Planet and Its Challenges: Automobile Dependence, Equity and Inequity
Mon, 1/7: Introductions. Course Overview. Projects.

Readings:
- Tumlin, Ch. 1: Introduction
- Tumlin, Ch. 2: Sustainable Transportation

Week 2: Why Sustainable Transportation is Vital to Cities
Mon, 1/14: Land Use and Transportation Planning
Readings:
- Tumlin, Ch. 4: The City of the Future

Team Project Selection

Wed, 1/16: Smart Growth and the Compact City
Readings:


Week 3: More Sustainable Transportation Strategies: Transportation Demand Management and Scenario Planning
Mon, 1/21: Holiday – Martin Luther King, Jr. Day

Wed, 1/23:
Guest Lecturer
Readings:
- Tumlin Ch. 13: Transportation Demand Management

Week 4: Multi-Modal Transportation System Design
Mon, 1/28: Walking cities.
Readings:
- Tumlin, Ch. 5: Streets
- Tumlin, Ch. 6: Pedestrians
- Complete streets – Reading TBD. Check Blackboard.
- Institute of Transportation Engineers (ITE) (2010). Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities: An ITE Proposed Recommended Practice.

Wed, 1/30: Biking cities.
Guest Lecturer
Readings:
- Tumlin, Ch. 7: Bicycles

Quiz 1

Week 5: Multi-Modal Transportation System Design (continued)
Mon, 2/4: Motor Vehicles and Transit.
Readings:
- Tumlin, Ch. 8: Transit
- Tumlin, Ch. 9: Motor Vehicles

Team Project Check-in
Policy Brief Check-in

Wed, 2/6: Transit-Oriented Development (TOD)
Guest Lecturer
Readings:
- Tumlin, Ch. 12: Stations and Station Areas

Week 6: Transportation and Public Health
Readings:
- Tumlin, Ch. 3: Transportation and Public Health

Guest Lecturer
Readings:
- NEPA/Clean Air Act/Clean Water Act – Readings TBD. Check Blackboard.
- More readings TBD – check Blackboard
Quiz 2

Week 7: Transportation Economics and Investment Strategies
Readings:

Wed, 2/20: Economic Opportunities
Guest Lecturer
Readings:

Week 8: Innovations in Sustainable Transportation
Mon, 3/4: Collaborative consumption models: car sharing, bike sharing.
Readings:
- Tumlin, Ch. 11: Car Sharing

Policy Brief Due

Wed, 3/6: Behavior change strategies
Guest Lecturer
Readings:
- Mandatory policies e.g. gas tax, parking fees, tolls
- Voluntary programs e.g. social marketing strategies (incentives, prompts, social norming, social diffusion, communication)
- PAYD Auto insurance
Week 9: Performance Measurement

Readings:
- Tumlin, Ch. 14: Measuring Success

Wed, 2/27: Performance Reports.
Guest Lecturer
Readings TBD:
- Sustainability (VMT, Mode Share, Housing + Transportation Cost Index)
- Accessibility (Walk Score)
- Pedestrian Environmental Quality Index PEQI
- Bicycle Environmental Quality Index BEQI
- Driver Experience (Travel Time on Select Routes)

Week 10: Cities with Exemplar Sustainable Transportation Systems

Wed, 3/11:
Readings: TBD (case studies of Boulder, Portland, Vancouver?)

Wed, 3/13:
Readings: TBD (case studies of Curitiba, Copenhagen?)

FINALS WEEK
Wed, 3/20:
10:15am-12:00pm - *Team Project Presentations*

**SUSTAINABLE TRANSPORTATION TEAM PROJECTS**

1. Reduction in Eugene Gas & Diesel Consumption
Eugene’s community gas and diesel consumption has seen a significant decline over the last eight-year period. While statewide per capita gas and diesel consumption has declined by roughly one percent, the community of Eugene’s consumption has declined by 15 percent while vehicle miles traveled (VMT) has remained flat. The adjacent Springfield community has seen a decline of five percent over the same time period. Students will be tasked with investigating potential explanations for this decline in gas and diesel consumption.
Students will start the project by coming up with a list of possible explanations through research. Then students will evaluate DMV data that Matt McCrae has procured. This data will need to be decoded, sorted and analyzed. From this point, students will go down two potential pathways, the data provides enough detail to tell a clear story or it is clear more investigation needs to be done. If there is a clear story, students will draft a memo of findings detailing what is taking place in Eugene and what lessons other communities might learn from Eugene. Findings will be presented to Matt McRae. If more investigation is needed, students will determine what next steps are and present ideas to Matt McRae.

Students are to write a 10-15 page policy analysis report including description of the conundrum: steady VMT while reductions in fuel consumption. Include a description of your research methods into the data behind VMT and/or fuel consumption. Students will present to City of Eugene and the class. Clients: City of Eugene. Contacts: Matt McRae, Climate and Energy Action Coordinator, City of Eugene. Project Advisor: Larisa Varela.

2. Impacts of Bicycling on the Eugene Economy
Bicycling is not only a means of reducing carbon emissions by reducing Vehicle Miles Traveled (VMT), but it also can promote the Green Economy. The bicycle industry can be an important element in the economic base of a community. Studies like this have been done for Portland and other cities, but not for Eugene. There is also a wealth of information on employment in the Green Economy for Oregon, and other states to review.

Review the general literature on how the economic base of a city is described to assist in developing methods for this project. Research studies on the bicycle industry conducted by other cities and identify the methods they used to do the study. How have other cities done this, what data is collected, how is it presented e.g. indicators? Determine how best to measure the bike economy in Eugene. Background research could include: documenting the number of retail bicycle shops and bicycle manufacturers in town; designing and implementing a survey for retail bicycle shops in Eugene to obtain key information such as revenues, employment by NAIC category; review analyses done by Joe Cortright at Metro (how does using active transportation mean that people have more money in their pockets to spend on other things?).

Students are to write a 10-15 page (double-spaced) policy analysis report and present to City of Eugene and the class. Clients: City of Eugene. Contact: Rob Inerfeld, Transportation Planning Manager, City of Eugene. Project Advisor: Larisa Varela.

3. Eugene Development Requirements for Parking
This study would get at the issue of how much parking the City of Eugene requires for different kinds of development, how much is really needed, and how much should be required to support city policies and goals. One element of the study would look at
parking utilization rates in Eugene for different kinds of developments that have different characteristics. For example, maybe the same development on the outskirts of the city should have a different parking requirement than one that is closer in. Is it a one to one bedroom/parking space allocation in the university area and different in other areas? Background research could include: Eugene’s building/zoning codes and parking requirements for existing and new development; city development group - types of projects in construction, trends; interview developers to hear their opinion on types of development and parking. Include examples of best practice parking codes from other cities that could be applied in Eugene and proposed to the City of Eugene.

Students are to write a 10-15 page (double-spaced) policy analysis report including recommendations and alternatives for building/parking code revisions, which will also be presented to City of Eugene and the class. Clients: City of Eugene. Contacts: Rob Inerfeld, Transportation Planning Manager, City of Eugene. Project Advisor: Larisa Varela.

4. University of Oregon Transportation Strategies and Goals
Presently the University of Oregon Climate Action Plan does not have a set of goals, objectives and policies. Nor does the plan have specific carbon reduction targets for the transportation area. Although the university has a high rate of students and faculty who walk or bike to campus, campus officials wish to continue to improve in this area. There is also a desire to revisit UO’s operating regulations, which serve as policy documents in this area, and to revisit the mix of transportation programs for the campus to further support the goal of carbon neutrality.

Students will build on the work done by the OLIS fall quarter teams to come up with a draft transportation element for UO’s Climate Action Plan. They will identify goals, objectives, strategies and refine the budget information on existing university programs, to identify specific reduction targets given the existing programs and budget constraints. Research will also be done on funding mechanisms for sustainable campus transportation.


5. Bike Sharing Expansion Feasibility Study
University of Oregon is beginning a bike sharing program on campus with 4 stations. The staff of this have been working closely with the City of Eugene and Lane Transit District (LTD) to establish a program that can be eventually expanded into the city. The City of Eugene wants to learn more about the bike sharing program and if and how it could be extended throughout Eugene beyond the UO campus. Students would need to scope project after discussing the issues to be addressed with the clients. What are other
successful bike sharing programs in similar sized cities doing? This feasibility study will be used to help get funding for bike sharing via City of Eugene and LTD funding sources so should address budget, resources, timing and areas of expansion.

Students are to write a 10-15 page (double-spaced) policy analysis report and present findings to City of Eugene Transportation Planning, UO Bicycle Planning, and the class. Clients: City of Eugene, University of Oregon. Contacts: Rob Inerfeld, Transportation Planning Manager, City of Eugene; Brianna Orr, UO Bicycle Planner. Project Advisor: Ann Scheerer.

6. Pay As You Drive Insurance
A car insurance company that links the cost of automobile insurance to miles driven (pay as you drive) has recently located in Portland--MetroMile. Officials at the University of Oregon are interested in exploring the feasibility of a pilot program for university employees. A mutually beneficial (and replicable) public-private partnership could be explored. UO helps MetroMile by promoting its product to UO employees. MetroMile's pay-as-you-go insurance functions as an incentive to (or reward for) those who drive less. Since UO faculty and staff drive less they might be the perfect target market for this new approach.

Students would research the business needs of MetroMile; develop and analyze questions on potential demand as part of the commuter survey above; work with Human Resources to explore the feasibility of promoting such a program on-campus (and perhaps elsewhere in the Eugene-Springfield area); and produce a feasibility study and recommendations regarding this idea.

Students are to write a 10-15 page (double-spaced) policy analysis report and present findings to University of Oregon Offices of Sustainability and Human Resources and the class.