Land Use and Transportation Planning

Instructor

Dr. Mike Lowry, PE
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Class Location and Meeting Times

Class time: Tuesdays and Thursdays 9:30 am – 10:45 am
Class location: McClure Hall 315
Instructor's office hours: M, Th, F 11:00 – 12:00
Or you can email me and I will set aside time.

Course Description and Learning Objectives

Concepts and methods of transportation planning, including travel demand forecasting and systems evaluation of multi-modal transportation. 3 credits, prerequisite: permission from the instructor. A successful student will be able to:

- Describe how travel patterns have changed over the past 100 years in the US and Europe.
- List key federal transportation laws and their impact on the US transportation system.
- Explain the role of federal, state, and local government in the transportation planning process.
- Describe and model travel behavior (activity choice, destination choice, mode choice, and route choice).
- Explain how travel behavior is influenced by urban form (density, diversity, and design).
- Use data from travel behavior surveys and traffic monitoring for transportation planning.
- Assess bikeway and walkway quality for bicycle and pedestrian travel.
- Calculate the expected change in travel demand using elasticity equations.
- Forecast travel demand for different travel modes using the Four Step Model.

The syllabus and all class materials are subject to change until the instructor indicates otherwise.
http://www.webpages.uidaho.edu/~mlowry/Teaching/planning.pdf

Required Readings, Videos, and Podcasts

There is a required reading, video, or podcast due every Tuesday and there may be a quiz. Click here: Readings.zip

Quiz	Reference	Min	Link
1	Buehler, R. (2014) "9 Reasons the U.S. Ended Up So Much More Car-Dependent Than Europe", *The Future of Transportation*, CityLab.	10	Readings.zip
2	Meyer, M. (2009) "Module 1: Planning and Public Policy", The Professional Transportation Planner Certification, ITE.	40	Readings.zip
3	Muller, P. (2017) "Transportation and Urban Form: Stages in the Spatial Evolution of the American Metropolis"	80	Readings.zip
4	City Beautiful: How to design a great street	10	https://youtu.be/xov7Ao_fPwQ
4	Janette Sadik-Khan: New York's streets? Not so mean any more.	13	https://youtu.be/LujWrkYsl64
5	Peter Calthorpe: 7 principles for building better cities.	15	https://youtu.be/IFjD3NMv6Kw
5	Jeff Speck: The walkable city	17	https://youtu.be/Wai4ub90stQ
6	City Beautiful: Why do so many U.S. cities have gridded streets?	4	https://youtu.be/KUDVP6aRS1Y
6	City Beautiful: The Reason Our Streets Switched to Cul-De-Sacs	8	https://youtu.be/d9vDcfH03gs
7	"Why Is the U.S. So Good at Killing Pedestrians?", Freakonomics podcast.	45	https://freakonomics.com/podcast/why-is-the-u-s-so-good-at-killing-pedestrians/
8	"Should Traffic Lights Be Abolished?", Freakonomics podcast.	55	https://freakonomics.com/podcast/should-traffic-lights-be-abolished-replay/
9	Buehler, R., & Pucher, J. (2012). "Demand for public transport in Germany and the USA: an analysis of rider characteristics."	75	Readings.zip
10	Furth, P. (2012) "Bicycling Infrastructure for Mass Cycling: A Transatlantic Comparison", *City Cycling*, MIT Press	75	Readings.zip
11	Lowry, M. (2024). "Multimodal experience as a predictor and catalyst of travel behavior." Travel Behaviour and Society, Vol. 34.	30	Readings.zip
12	Handy, S. (2002) "Accessibility vs. mobility enhancing strategies for addressing automobile dependence in the US"	90	Readings.zip
13	Meyer, M. (2009) "Module 5: System Evaluation", The Professional Transportation Planner Certification, ITE.	60	Readings.zip
14	Meyer, M. (2009) "Module 6: Environmental Analysis", The Professional Transportation Planner Certification, ITE.	90	Readings.zip

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A few readings are from "*The Professional Transportation Planner Certification Course Book*" which can be purchased for $25 ($20 for ITE members): http://ecommerce.ite.org/IMIS/ItemDetail?iProductCode=PD-024
To join ITE: https://www.ite.org/membership/become-a-member/join-ite/

Schedule

Unit		Date	Discussion Topic	Quiz	Assignment Due
Transportation Policy and Urban Planning	T	22-Aug	The "price" to drive a car in USA	Quiz 1	
	Th	24-Aug	What is Transportation Planning?		
	T	29-Aug	Federal Laws and History	Quiz 2	
	Th	31-Aug	Federal Planning Process		
	T	5-Sep	State and Local Planning Process	Quiz 3	HW1 Travel Diary
	Th	7-Sep	Urban Design and Urban Planning		
	T	12-Sep	Introduction to GIS	Quiz 4	HW2 Transportation Policy
	Th	14-Sep	Geoprocessing with GIS		
	T	19-Sep	Urban Growth and Urban Form	Quiz 5	HW3 GIS Mapping
	Th	21-Sep	GIS Lab time		
	T	26-Sep	Movie: Urbanized	Quiz 6	HW4 Urban Form
	Th	28-Sep	**Exam 1**		
Assessing Travel Modes	T	3-Oct	Travel Behavior Surveys	Quiz 7	
	Th	5-Oct	Traffic Monitoring		
	T	10-Oct	Automobile	Quiz 8	HW5 Surveys and Monitoring
	Th	12-Oct	Transit		
	T	17-Oct	Bicycles	Quiz 9	HW6 Traffic Engineering
	Th	19-Oct	Pedestrians		
	T	24-Oct	Movie: Taken for a Ride	Quiz 10	HW7 Bike/Ped/Transit
	Th	26-Oct	**Exam 2**		
Travel Demand Modeling and Impact Assessment	T	31-Oct	Supply and Demand	Quiz 11	
	Th	2-Nov	Travel Demand Management		
	T	7-Nov	Transportation Impact Study	Quiz 12	HW8 Supply and Demand
	Th	9-Nov	Trip Generation and Trip Distribution		
	T	14-Nov	Mode Split and Route Assignment	Quiz 13	
	Th	16-Nov	Environmental Impact Analysis		
	T	21-Nov	*No class: Fall Recess*		
	Th	23-Nov	*No class: Fall Recess*		
	T	28-Nov	What is Transportation Planning?	Quiz 14	HW9 Demand Models
	Th	30-Nov	**Exam 3**		
	T	5-Dec	Movie or Vistor		
	Th	7-Dec	Movie or Vistor		HW10 Public Meeting Summary

Assignments

HW1_Travel Diary
HW2_Transportation Policy
HW3 GIS Mapping
HW4 Urban Form
HW5 Surveys and Monitoring
HW6_Traffic Engineering
HW7_Bike Ped Transit
HW8 Supply and Demand
HW9_Demand_Models
HW10 Public Meeting

Grading Criteria

Participation	2%
Assignments	35%
Reading Quizzes	13%
Exams	50%

Land Use and Transportation Planning

Handouts and Supplemental Material

Learning Objectives

Part_1_Learning_Objectives.pdf
Part_2_Learning_Objectives.pdf
Part_3_Learning_Objectives.pdf

Handouts

Moscow's_Zoning_Map.pdf
Moscow's_AADT_Map.pdf
Traffic_Calming_Examples.pdf
Trip_Generation_Manual_General_Office_710.pdf
Transportation_Lobbyists_and_Advocacy_Groups.pdf

Fundamentals of Engineering Exam

FE_Review_Capacity_and_Planning.pdf
FE_Transportation_Equations.pdf
FE_Trip_Distribution.mp4
FE_Mode_Split.mp4

Travel Diary

NHTS2017_Recruitment_Letter_and_Survey.pdf
NHTS2017_TravelLog_3Days.pdf

GIS Data

GIS_Introduction.pdf
GIS_Geoprocessing.pdf
ITD_ArcGIS_Online.pdf

Moscow_GIS_Data.zip
Moab_GIS_Data.zip

Bike Ped Transportation

WABSA_Description.pdf
WABSA Bicycle_Suitability_Assessment_Form.pdf
WABSA Walking_Suitability_Assessment_Form.pdf

HCM_BLOS Description.pdf
HCM_Method_Ped&Bike.pdf

LTS_Description.pdf
LTS_Method_Bike.pdf

AARP_Walk_Audit_Description.pdf
AARP_Walk_Audit_Worksheet.pdf

Transportation Impact Study

ITD_Transportation_Impact_Study_Requirements.pdf

Student Conduct and Policies

Each student is expected to assist in maintaining a classroom environment that is conducive to learning. In order to assure that all students have the opportunity to gain from time spent in class, unless otherwise approved by the instructor, students are prohibited from engaging in any other form of distraction. Inappropriate behavior in the classroom shall result, minimally, in a request to leave class.

- **Attendance.** Attendance at all course activities is expected. Missing more than one class period is considered excessive. You are expected to arrive to class on time.
- **Deadlines**. Assignments must be turned in by the due date and time unless prior arrangements have been made. I will not accept late assignments or exam rescheduling without documentation from the Dean of Students or a medical professional. Requests for exam rescheduling must be made prior to the day of the exam.
- **Extra or Alternative Credit**. I will not accept extra or alternative work to replace assignments or improve grades.
- **Classroom Engagement.** Use of personal phones, music players, tablets, iStuff, etc. is not permitted in class. This includes texting. Please place your ringer on silent before entering class. Reading or working on other materials while in this class is strongly discouraged.
- **Student Conduct**: All students are expected to honor the UI Student Code of Conduct. Violations include, but are not limited to: copying homework assignments completed by others, plagiarism, and cheating. Please be aware that any violation of the UI Student Code of Conduct may result in a course grade of "F". http://www.uidaho.edu/DOS/judicialaffairs/studentcodeofconduct
- **Plagiarism**: Plagiarism occurs when you use but do not cite someone else's work, even if it is re-worded, or by not indicating that a passage (paragraph, sentence, or even a small part of sentence) is directly quoted even if the reference is cited. Following the structure or organization of someone else's work is also plagiarism. Students caught plagiarizing will be given a grade of "F".
- **Cheating**. Using assignments, projects, or exams from previous semesters to study for exams, to help complete your assignments, or for any other purpose whatsoever is strictly prohibited. Violators will be failed.

University of Idaho Classroom Learning Civility Clause

It is expected that everyone in this course will be treated with mutual respect and civility, with an understanding that all of us (students, instructors, professors, guests, and teaching assistants) will be respectful and civil to one another in discussion, in action, in teaching, and in learning. Should you feel our classroom interactions do not reflect an environment of civility and respect, you are encouraged to meet with your instructor during office hours to discuss your concern. Additional resources for expression of concern or requesting support include the Dean of Students office and staff (885-6757), the UI Counseling & Testing Center's confidential services (5-6716), or the UI Office of Human Rights, Access, & Inclusion (885-4285).

Disability Support Services

If you believe that you require disability-related academic adjustments for this class (including pregnancy-related disabilities), please contact Center for Disability Access and Resources (CDAR) to discuss eligibility. A current accommodation letter from CDAR is required before any modifications, above and beyond what is otherwise available for all other students in this class will be provided. Please be advised that disability-related academic adjustments are not retroactive. CDAR is located at the Bruce Pitman Building, Suite 127. Phone is 208-885-6307 and e-mail is cdar@uidaho.edu. For a complete listing of services and current business hours visit https://www.uidaho.edu/cdar