

UDP 450: Integrative Approach to Land Use and Transportation Planning

INSTRUCTOR CONTACT INFORMATION

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Office room / hours: Lewis Hall 310 / Tuesdays and Thursdays, 2:30 – 3:30 p.m. or by appointment

Class room / time: Lewis Hall 210 / Tuesday 9:00 a.m. – 12:20 p.m.

INTRODUCTION

Have you ever wondered why you have to drive so long to get to your favorite shopping malls? Have you ever wished that you could just walk to your school without worrying about traffic? There is no straightforward answer because our travel pattern and housing choices are interconnected. And these choices are greatly influenced by how our land use and transportation system are setup.

Welcome to the UPD 450 “Land Use and Transportation” class. In this course, you will learn a broad range of topics in integrative approach to land use and transportation planning. Transportation planning and land use planning each deserves a semester-long course, but the focus of this course is to help you understand some of the emerging topics that call for an integrative approach. Without understanding the relationship between land use and transportation, it would be impossible to propose any solutions that address complex issues involving both land use and transportation system.

COURSE OBJECTIVES AND ORGANIZATION

Given the broad topics in land use and transportation, we will go over some of the fundamental topics in land use and transportation planning regarding current problems, theories, and applications. The objectives of this course are three-folds:

1. To recognize various issues and problems with the current land use and transport environment
2. To learn core theories in land use and transportation planning
3. To understand opportunities and challenges in applying the theories into practice

In the first part of this course, we will examine various issues and problems with the current built environment and transportation system, and review some of the early effort to address these issues. We will then go over an overview of various theories in land use and transportation planning, and how they have evolved and contributed to the development of contemporary planning paradigm. The later part of this course will focus on examining important cases and examples that present both opportunities and challenges with the integrative approach. The individual essay and group project will help you get familiar with the topics we cover, and allow you apply the knowledge into developing a professional project. By the end of this course, you will have a better idea of the integrative approaches, and be able to understand how to apply them into practice.

REQUIRED TEXTS

Hanson, S. and G. Giuliano (2004) *The Geography of Urban Transportation*, 3rd edition. New York: Guilford Press.

Meyer, Michael D., and Eric J. Miller. (2001) *Urban transportation planning: a decision-oriented approach*. New York: McGraw-Hill.

COURSE ASSIGNMENTS AND GRADES

Assignments

Your final grade for the course will be based on the following five items:

- Course participation 20%
- Bi-weekly quiz 20%
- Mid-term research paper 30%
- Group project and presentation 30%

Course participation

You are expected to attend all class sessions and read the assigned readings before the class. **Reading is a critical piece for your learning in this class.** If you had little time to read before the class, at least do an intellectual skim. That way, you can get something out of the class and contribute to class discussion. I understand that some of you may feel uncomfortable speaking up, so I will reward those who give the best effort. Your participation grade is also based on attendance. In case you need to miss more than two sessions due to any special circumstances, please kindly inform me via email or let me know in person.

Bi-weekly quiz

For every two weeks, we will have a 5-minute quiz in the beginning of the class. The quiz will be based on both **your current and previous readings, as well as lecture materials.** The purpose is to have you memorize at least some fundamental concepts in land use and transportation planning. It is a closed book test, and the format will be a mix of multiple choice and short written questions, ranging from 3-5 questions.

Mid-term research paper

The purpose of this assignment is to help improve **your critical and analytical thinking as well as research ability.** To make your life easier, it is best to choose a topic that your group decides to focus on for the final project, but you are free to choose any topic within the scope of land use and transportation planning that has some contentious or conflicting views. The paper will consist of two main things: 1) literature review on the proposed topic; 2) your perspective on the proposed topic based on evidence from the literature. Your ability to find good literature is critical, and I encourage you to use academic literature as much as you can while avoid using any Wikipedia sources at all cost. Below are some examples

- Can congestion pricing policy, such as LA Metro's ExpressLane, be justified?
- What are some pros and cons of High Speed Rail investment?
- Who is responsible for maintaining local streets? Municipalities, states, or federal government?
- Is there a future in car-sharing or bike-sharing? Should government intervene?
- Can investment in public transit benefit everyone, vulnerable population, or not?

Group project and presentation

The focus of the group project is to produce a professional report. After the second week of the class, you will be assigned into a group of 4 – 5 people, and each team member will play the role as a professional consultant. You may use your research paper as a basis for your group project, but **your group should decide which topic to focus early on.** If your group cannot decide on a topic by the end of week 4, please let me know and I will help facilitate your decision process. Your group may choose your own format, but your deliverable should look something like: executive summary; introduction (purpose and background); substantive section 1 (relevant literature and case study); substantive section 2 (relevant literature and case study); substantive section 3 (relevant literature and case study); conclusion and recommendation; references and appendices. We will have more detail discussion about the final group project during the course, and you will have opportunities to get feedbacks from me regarding the progress of your group project throughout the course.

STATEMENT FOR STUDENTS WITH DISABILITIES

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me (or to TA) as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m.–5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776.

STATEMENT ON ACADEMIC INTEGRITY

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. *Scampus*, the Student Guidebook, contains the Student Conduct Code in Section 11.00, while the recommended sanctions are located in Appendix A: <http://www.usc.edu/dept/publications/SCAMPUS/gov/>. Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: <http://www.usc.edu/student-affairs/SJACS/>.

EMERGENCY PREPAREDNESS/COURSE CONTINUITY:

In case of emergency, and travel to campus is difficult, USC executive leadership will announce an electronic way for instructors to teach students in their residence halls or homes using a combination of Blackboard, teleconferencing, and other technologies. Instructors should be prepared to assign students a "Plan B" project that can be completed at a distance. For additional information about maintaining your classes in an emergency please access: <http://cst.usc.edu/services/emergencyprep.html>

Please activate your course in Blackboard with access to the course syllabus. Whether or not you use Blackboard regularly these preparations will be crucial in an emergency. USC's Blackboard learning management system and support information is available at blackboard.usc.edu.

COURSE SCHEDULE

DATE	TOPICS	READINGS AND LOGISTICS
Sep. 17	Course overview	No reading.
Sep. 24	Basics and evolution of the US cities and transportation system Overview of land use and transportation policy	Quiz 1 Chapter 1 in Hanson and Giuliano, 2004 Chapters 1 & 2 in Meyer and Miller, 2001
Oct. 1	The problems with land use: Urban sprawl, urban decay,	Group assignment Chapter 1 in Crane and Boarnet 2000 Ewing et al 2003 Crane 2000
Oct. 8	The problems with vehicles: Air pollution and climate change AB 32, SB 375 CAFE standards	Quiz 2 Chapters 10 & 13 in Hanson and Giuliano, 2004 Dill 2004
Oct. 15	The problems with vehicles: Physical inactivity and obesity Walking and bicycling trends School children and low-income population	Group topic facilitation Chapter 1 in Frumkin 2004 Frank 2007 Galea 2000
Oct. 22	Transportation and land use: early debate between centrists vs decentrists	Quiz 3 Chapter Centrists, Decentrists and Compromisers: View on the Future of Urban Form in Burton et al 1996 Gordon & Richardson 1997 Ewing 1997
Oct. 29	Transportation and land use: theoretical background and recent development	Midterm paper due Chapter 3 in Crane an Boarnet, 2000
Nov. 5	Transportation and land-use: application of theories Success story: London, Curitiba Unsuccessful story	Quiz 4 Frausto 1999
Nov. 12	New ways of thinking about transportation: mobility, accessibility, and transportation equity	Group project discussion Deakin and Harvey 1996
Nov. 19	Travel demand management: Pricing, mileage charging, car-sharing	FHWA 2012

Nov. 26	Guest lecture: HOT lane, car-sharing	Quiz 5, Group project draft Loudon 2010
Dec. 3	Multimodal transportation planning: complete street movement, European case	Litman 2011 Dock et al 2012 Dowling et al 2008
Dec. 10	Class summary and debate: Technological solutions vs. pricing vs. land-use planning	No reading. Group project feedback and group meeting
Dec. 17	Final presentations Final group paper due by Dec 20.	No reading.

COMPLETE REFERENCE FOR READINGS

Atkinson, R. (2004) “An exchange on building US road capacity: The politics of gridlock,” Chapter 7 in R. Hanley, ed, *Moving People, Goods and Information in the 21st Century*. London: Routledge, 99-112.

Burton, Elizabeth, Mike Jenks, Katie Williams. *The compact city: a sustainable urban form?*. Routledge, 1996.

Burwell, D. (2004) “An exchange on building US road capacity: Metropolitan transportation politics,” Chapter 8 in R. Hanley, ed, *Moving People, Goods and Information in the 21st Century*. London: Routledge, 113-122.

Crane, Randall and Marlon Boarnet (2000). *Travel by Design: The Influence of Urban Form on Travel*. New York: Oxford University Press.

Crane, Randall. 2000. “The Influence of Urban Form on Travel: An Interpretive Review,” *Journal of Planning Literature*, 15(1): 3-23.

Deakin, E. and G. Harvey (1996). *Transportation pricing strategies for California: An assessment of congestion, emissions, energy, and equity impacts: Final report*. Sacramento: California Air Resources Board.

Dill, J. (2004). “Estimating emissions reductions from accelerated vehicle retirement programs.” *Transportation Research D* 9 (1): 87-106.

Dock, Frederick C., Ellen Greenberg, and Mark Yamarone. (2012) "Multimodal and Complete Streets Performance Measures in Pasadena, California." *ITE Journal* 82.1.

Dowling, Richard Gerhard, and David Reinke. (2008) *Multimodal level of service analysis for urban streets*. Vol. 616. Transportation Research Board.

Ewing, Reid (1997), “Is Los Angeles-Style Sprawl Desirable?” *Journal of the American Planning Association*, 63 (1): 107-126.

Ewing, Reid, Rolf Pendall, and Don Chen. 2003. *Measuring Sprawl and Its Impact*. Washington, DC: Smart Growth America.

FHWA (2012) *Integrating Demand Management into the Transportation Planning Process*. Federal Highway Administration. US Department of Transportation.

Frank, Lawrence Douglas, Saelens, B. E., Powell, K. E., & Chapman, J. E. (2007). Stepping towards causation: do built environments or neighborhood and travel preferences explain physical activity, driving, and obesity? *Social science & medicine* (1982), 65(9), 1898-914.

Frausto, M. E. (1999). "Planning theories and concepts, implementation strategies, and integrated transportation network elements in Curitiba." *Transportation Quarterly* 53 (1): 41-55.

Galea S, Freudenberg N, Vlahov D. Cities and population health. *Social Science and Medicine*. 2005 60(5):1017-1033

Giuliano, G. (2007) "The changing landscape of transportation decision-making," *Transportation Research Record*, 2036, 5-12 (2007 Deen Lectureship).

Gordon, Peter and Harry W. Richardson (1997), "Are Compact Cities a Desirable Planning Goal?" *Journal of the American Planning Association*, 63 (1): 95-106.

Hanson, S. and G. Giuliano (2004) *The Geography of Urban Transportation*, 3rd edition. New York: Guilford Press.

Howard Frumkin, Lawrence Frank and Richard Jackson. (2004) *Urban Sprawl and Public Health: Designing, Planning, and Building for Healthy Communities*. Island Press.
<http://www.ops.fhwa.dot.gov/publications/fhwahop12035/fhwahop12035.pdf>

Krizek, Kevin, and David Levinson. (2005) "Teaching Integrated Land Use-Transportation Planning Topics, Readings, and Strategies." *Journal of Planning Education and Research* 24.3: 304-316.
Levinson, David M., and Kevin J. Krizek. *Planning for place and plexus: metropolitan land use and transport*. Routledge, 2007.

Litman, Todd. (2011) "Introduction to Multi-Modal Transportation Planning." Victoria Transport Policy Institute.

Loudon, William R., Jienki Synn, and Harlan Miller. "Consideration of congestion pricing and managed lanes in metropolitan transportation planning." *Transportation Research Record: Journal of the Transportation Research Board* 2187.1 (2010): 60-67.

Meyer, Michael D., and Eric J. Miller. (2001) *Urban transportation planning: a decision-oriented approach*. New York: McGraw-Hill.

United States Dept of Energy, Office of Energy Efficiency and Renewable Energy (2002) "Clean cities fact sheet: Alternative fuels and vehicles offer solutions to imported oil, air pollution, climate change." Washington, D.C.: The Department.