

UP 460: *SUSTAINABLE* URBAN TRANSPORTATION AND LAND USE POLICY

Fall 2017, Department of Urban and Regional Planning, University of Illinois at Urbana-Champaign

CLASS MEETINGS: Tuesday and Thursday, 3:30 pm – 4:50 pm
Room DKH 223

INSTRUCTOR: Bumsoo Lee, bumsoo@illinois.edu
OFFICE HOURS: 2:30 pm – 3:20 pm on Tuesday and by appointment, TBH M206

COURSE OVERVIEW

Congestion in auto-oriented US cities has been worsening for decades. However, the government's ability to finance new transportation infrastructure has become increasingly constrained. Further, the climate change and energy crisis make any policy and public investment entailing more automobile uses unpopular. Instead, planners are increasingly turning to alternative policies that involve changing development patterns and land use to solve transportation problems. There is ample evidence that downtown workers and residents drive less and use more sustainable modes than suburban residents. If we design and develop suburban neighborhoods like downtown neighborhoods – with higher density, mixed land uses, and transit and pedestrian friendly street layouts, – would people drive less?

This course is designed to teach integrated perspectives and analytical frameworks for sustainable urban transportation and land use policies. It emphasizes the need to understand how the built environment and transportation interact. How new investments on transportation infrastructure – highway or transit – influence subsequent development patterns? How different forms of land uses and the built environment influence travel patterns? To address these questions, students will learn land use/transportation theories and models, review empirical studies, and compare different transportation/land use policies and planning techniques.

Topics to be covered in the course include:

1. Contemporary urban transportation and land use policy debates and issues
2. Theories of travel demand and behavior
3. Influences of urban form (land use) on travel patterns
4. Impacts of transportation on land use and urban form
5. Integrated transportation and land use planning and smart growth
6. Characteristics of alternative transportation modes: transit, bicycling, and walking
7. Transit oriented development (TOD)

This course will focus on the interaction between transportation and land use. Students who seek to learn more traditional theories and planning skills in the two fields are advised to take UP 430 Urban Transportation Planning, UP 447 Land Use Planning Workshop, and UP 546 Land Use Policy and Planning.

This course is research oriented, focusing on learning theories, analytical tools, and state of art practices from the most recent literature. UP 494 Active Transportation Workshop is more application oriented and will be a great complement to this course.

TEXTBOOK

Giuliano, Genevieve and Susan hanson eds. 2017. *The Geography of Urban Transportation*, 4th ed. New York, NY: The Guilford Press.

Levinson, David and Kevin Krizek. 2008. *Planning for Place and Plexus*, New York, NY: Routledge.

* Additional readings or the links to them will be posted on the Illinois Compass website.

** In most sessions, a lecture will be accompanied by discussion based on reading assignments. Students should read ALL reading assignments before coming to the class

EVLUATION

Class Participation/Attendance	20 %
Assignments	40 %
Final presentation (10%) and term paper (30%)	40 %

Random attendance checks will be taken. Poor attendance will not result in automatic failure, but 20% participation grade will be significant in your final grade. Class participation grade will also be affected by class distracting behaviors such as tardiness and texting. Laptops should be used only for note taking. **No web surfing! No texting!**

ASSIGNMENTS and TERM PAPER

Various assignments will be given throughout the semester in forms of short essays, case studies, and take home exercises. All homework assignments are due **by Noon** on due dates and late submission of homework assignments will be penalized by 20% per day.

Students are required to present and submit a term paper. The term paper must address a topic on sustainable transportation and land use policies. Students can do a case study, an empirical study, policy evaluation, or any other type of research or analysis on the topics covered in class. Detailed instructions about the term paper will follow. Besides the deadlines, students are encouraged to discuss with the instructor as often as needed about the research topic, methods, data sources, etc.

Schedule for term paper deadlines:

[Oct 3] One-page abstract including research questions and study plan and a list of at least five references.

[Nov 7] Three-page progress report documenting what has been and to be done, expected findings, and expected content in the final paper.

[Dec 5, 7 & 12] Research presentation. PPT file is due by noon on your presentation day.

[Dec 18] Term paper due by Noon.

POLICIES

SPECIAL ACCOMMODATIONS

This course will accommodate students with documented disabilities. Please refer to <http://disability.illinois.edu/disability-resource-guide> for more information and provide the appropriate documentation at the beginning of the semester.

ACADEMIC INTEGRITY

This course follows the guidelines set forth by the University student code. See http://studentcode.illinois.edu/article1_part4_1-401.html for specific guidelines, examples, and punishment associated with academic dishonesty.

CLASS CLIMATE

The Department of Urban and Regional Planning (DURP) is committed to creating an environment of inclusion and opportunity that is rooted in the very goals and responsibilities of practicing planners. Conduct that interferes with the rights of another or creates an atmosphere of intimidation or disrespect is inconsistent with the environment of learning and cooperation that the program requires. By enrolling a course in the Department of Urban and Regional Planning, students agree to be responsible for maintaining a respectful environment in all DURP activities, including lectures, discussions, labs,

projects, and extracurricular programs. We will be governed by the University Student Code. See Student Code Article 1—Student Rights and Responsibilities, Part 1. Student Rights: §1-102 In the Classroom.

EMERGENCY RESPONSE RECOMMENDATIONS

The Department of Homeland Security and the University of Illinois at Urbana-Champaign Office of Campus Emergency Planning recommend the following three responses to any emergency on campus: **RUN > HIDE > FIGHT**
For more information, <http://police.illinois.edu/emergencyplanning/general/>

COUNSELING CENTER

The Counseling Center is committed to providing a range of services intended to help students develop improved coping skills in order to address emotional, interpersonal, and academic concerns. The Counseling Center provides individual, couples, and group counseling. All of these services are paid for through the health services fee. The Counseling Center offers primarily short term counseling, but they do also provide referrals to the community when students could benefit from longer term services.
<https://counselingcenter.illinois.edu/>

COURSE SCHEDULE

* indicates optional readings.

INTRODUCTION

WEEK 1

Aug 29

Introduction and Course Overview

Aug 31

[Assignment #1 due]

Contemporary Issues and Debates – land use and travel connection [discussion session]

Giuliano, Genevieve. 1995. The weakening transportation-land use connection. *Access* (6):3-11.

Cervero, Robert, and John Landis. 1995. The transportation-land use connection still matters. *Access* (7):2-11.

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

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

*Moore, A., S. Staley, and R. Poole. 2010. The role of VMT reduction in meeting climate change policy goals. *Transportation Research A* 44 (8), 565–574.

*Winkelman, S. and A. Bishins. 2010. Planning for economic and environmental resilience. *Transportation Research A* 44 (8), 575–586.

TRAVEL DEMAND AND LAND USE (URBAN FORM) IMPACTS

WEEK 2

Sep 5

The context of urban travel and travel demand (2 sessions)

Hanson, Susan. Ch.1 Introducing Urban Transportation. In Giuliano & Hanson (2017).

Levine J, Grengs J, Shen Q, Shen Q, 2012, "Does Accessibility Require Density or Speed?" *Journal of the American Planning Association* 78: 157-172.

Sep 7

Levinson and Krizek (2008) Ch2. Diamond of Action.

Miller, Harvey. Ch. 5 Theories and Models in Transportation Planning. In Giuliano & Hanson (2017).

* Cervero, R. 2003. Are induced-travel studies inducing bad investments? *Access*, 22, 22-27.

* Levinson and Krizek (2008) Ch6. Scheduling.

WEEK 3

Sep 12

Transportation, Energy, and the Environment

Greene, David. Ch.12 Transportation and energy, Le Vine & Lee-Gosselin. Ch. 11 Transportation and environment impacts and policy. In Giuliano & Hanson (2017).

Sep 14

[Assignment #2 due]

Influences of Land Use (Urban Form) on Travel (3 sessions)

Cervero, Robert, and Kara Kockelman. 1997. Travel demand and the 3Ds: density, diversity, and design. *Transportation Research D* 2 (3):199-219.

*Litman, Todd. 2011. Land use impacts on travel: current state of knowledge. Planetizen Blog. <http://www.planetizen.com/node/50451>

WEEK 4

Sep 19

Ewing, R, and R Cervero. 2010. Travel and the built environment. *Journal of the American Planning Association* 76 (3).

Handy, S., X. Cao, and P. Mokhtarian. 2009. Self-selection and the effect of the built environment on active travel. Policy Brief for Active Living Research.

Sep 21

Boarnet, Marlon. Ch.7 Land use, travel behavior, and disaggregate travel data. In Giuliano & Hanson (2017).

Ewing, R., Bartholomew, K., Winkelman, S., Walters, J., & Anderson, G. 2008. Urban development and climate change. *Journal of Urbanism* 1(3): 201-216.

*Boarnet, M. G. 2011. A broader context for land use and travel behavior, and a research agenda. *Journal of the American Planning Association*, 77(3), 197-213.

TRANSPORTATION INVESTMENT AND URBAN DEVELOPMENT PATTERNS

WEEK 5

Sep 26

Impacts of Transportation Investments on Land Use (2 sessions)

Muller, Peter O. 2017. Ch.3 Transportation and urban form: Stages in the spatial evolution of the American metropolis. In Giuliano & Hanson (2017).

Giuliano, Genevieve. Ch.9 Land use impacts of transportation investments. In Giuliano & Hanson (2017).

*Moore, T. and P. Thorsnes. 2007. *The Transportation/Land Use Connection*, 2nd edition. Chicago, IL: American Planning Association. Ch. 2 Market forces in the history of urban land development.

Sep 28

[Assignment #3 due]

Landis, J. and Cervero, R. (1999). BART and urban development. *Access*, 14, 2-15.

Nelson, A. C. 2009. The new urbanity: The rise of a new America. *The ANNALS of the American Academy of Political and Social Science*, 626(1): 192-208.

SUSTAINABLE TRANSPORTATION AND LAND USE POLICIES

WEEK 6

Oct 3

[Term paper abstract due]

Traditional Transportation Planning Process

Miller, Harvey. Ch. 5 Theories and Models in Transportation Planning, Sciara & handy. Ch. 6 Regional Transportation Planning. In Giuliano & Hanson (2017).

*Levinson and Krizek (2008) Ch10. Diamond of evaluation.

*Federal Highway Administration. 2007. *The Transportation Planning Process: Key Issues*.

*US EPA. 2011. *Guide to Sustainable Transportation Performance Measures*.

Transportation Finance and Road Pricing (3 sessions)

Oct 5

Taylor, Brian D. 2004. Ch.10 The geography of urban transportation finance. In

Giuliano & Hanson (2017).

Moore, T. and P. Thorsnes. 2007. *The Transportation/Land Use Connection*, 2nd edition. Chicago, IL: American Planning Association. Ch.4 Framework for evaluation and Appendix F. Congestion pricing: case studies.

*Moore, T. and P. Thorsnes. 2007. *The Transportation/Land Use Connection*, 2nd edition. Chicago, IL: American Planning Association. Appendix C. Surface transportation: how it works.

WEEK 7

Oct 10

Levinson, D. 2010. Equity effects of road pricing: A review. *Transport Reviews* 30: 33-57.

*Small, K. 2005. Unnoted lessons from London: Road pricing and public transit. *Access* 26: 10-15.

Oct 12

No class due to ACSP Conference

WEEK 8

Oct 17

National Cooperative Highway Research Program. 2009. *Implementing strategies for shifting to direct usage-based charges for transportation funding*. Washington, D.C.: Transportation Research Board.

Public Transportation (2 sessions)

Oct 19

Schweitzer, Lisa. Ch.8 Mass Transit. In Giuliano and Hanson (2017).

Transit Cooperative Research Program. 2003. *Transit Capacity and Quality of Service Manual*, 2nd Edition. Part 3. Quality of Service, Chapters 1-2. Washington, D.C.: Transportation Research Board.

*American Public Transportation Association. 2012. *2012 Public Transportation Fact Book, 63rd Edition*. Washington, D.C.: APTA.

*Brown, J., D. B. Hess, and D. Shoup. 2003. Fare-free public transit at universities - An evaluation. *Journal of Planning Education and Research* 23 (1):69-82.

WEEK 9

Oct 24

Walker, Jarrett. 2012. *Human Transit*. Washington, D.C: Island Press. Ch. 5, 8, & 12.

Bike Planning (3 sessions)

Oct 26

Pucher, J., J. Dill, and S. Handy. 2010. Infrastructure, programs, and policies to increase bicycling: An international review. *Preventive Medicine* 50: 106-125.

*Dill J, Mohr C, Ma L, 2014, "How Can Psychological Theory Help Cities Increase Walking and Bicycling?" *Journal of the American Planning Association* 80 36-51.

WEEK 10

Oct 31

[Assignment #4 due]

Krizek, Kevin J., Gavin Poindexter, Gary Barnes, and Paul Mogush. 2007. Analyzing the benefits and costs of bicycle facilities via online guidelines. *Planning Practice and Research* 22 (2):197-213.

Nov 2

*Krizek et al. 2006. *Guidelines for Analysis of Investments in Bicycle Facilities*. National Cooperative Highway Research Program (NCHRP) Report 552. Transportation Research Board.

WEEK 11

Nov 7

[Progress report due]

Walkable Streets (2 sessions)

Vikas. 2008. Walkable streets: pedestrian behavior, perceptions and attitudes. *Journal of Urbanism* 1 (3): 217-245.

Boarnet, M., J. Kenneth, W. Siembab, W. Fulton, and M. Nguyen. 2011. Retrofitting the suburbs to increase walking. *Access* 39.

City of Los Angeles. 2008. *Walkability Checklist*.

Nov 9
[Assignment #5
due]

Guest lecture on “Walk Champaign: Champaign’s Pedestrian Plan”
Ben Leroy, Planner II, Planning & Development Department, City of Champaign

WEEK 12

Nov 14

Parking (2 sessions)

Manville, Michael and Donald C. Shoup. 2004. People, parking and cities. *Access* 25: 2-8.

Shoup. 1999. The trouble with minimum parking requirements. *Transportation Research Part A* 33: 549-574.

Nov 16

Shoup, Donald. 2007. Cruising for parking. *Access*, 30, 16-22.

*Pierce, Gregory and Donald Shoup. 2013. Getting the prices right. *JAPA* 79 (1): 67-81.

**Nov 21,
Nov 23**

Thanksgiving Holiday!

WEEK 13

Nov 28

Transit Oriented Development (TOD, 2 sessions)

Florida Department of Transportation. 2009. *Transit Oriented Development Design Guidelines*.

Center for Transit Oriented Development. *Transit-Oriented Development Strategic Plan*. Portland, OR: Metro.

Nov 30

Transit Cooperative Research Program. 2002. *Transit-Oriented Development and Joint Development in the United States: A Literature Review*. Washington, DC: Transportation Research Board. Ch. I Introduction and Ch. IV Implementation.

RESEARCH PRESENTATION

WEEK 14

Dec 5

RESEARCH PRESENTATION 1

PPT file is due by noon on your presentation day.

Dec 7

RESEARCH PRESENTATION 2

WEEK 15

Dec 12

RESEARCH PRESENTATION 3

FINAL PAPER due on Dec 18 Monday by NOON.
