

UP 460: SUSTAINABLE URBAN TRANSPORTATION AND LAND USE POLICY

Fall 2018, 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 307

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 issues 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. Soft transportation policy measures
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 and focuses on learning theories, analytical tools, and state of art practices from the most recent literature.

TEXTBOOK

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

* 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

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|---|------|
| Class Participation/Attendance | 10 % |
| Assignments | 50 % |
| 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 2] One-page abstract including research questions and study plan and a list of at least five references.

[Nov 6] Three-page progress report documenting what has been and to be done, expected findings, and expected content in the final paper.

[Nov 29, Dec 4, 6 & 11] Research presentation. PPT file is due by noon on your presentation day.

[Dec 17] 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/>

INTRODUCTION

WEEK 1

Aug 28

Introduction and Course Overview

Aug 30

[Assignment #1 due]

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

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.

WEEK 2

Sep 4

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).

TRAVEL DEMAND AND THEORIES

Sep 6

The context of urban travel

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

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

* McDonald, N. C. (2015). Are Millennials Really the “Go-Nowhere” Generation? *Journal of the American Planning Association*, 81(2), 90-103.

WEEK 3

Sep 11

Theories of travel demand

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

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

* Dill et al. 2014. How can psychological theory help cities increase walking and bicycling? *Journal of the American Planning Association* 80: 36-51.

* Schneider, Robert J. 2013. Theory of routine mode choice decisions: An operational framework to increase sustainable transportation. *Transport Policy* 25: 128-137.

INFLUENCES OF LAND USE (URBAN FORM) ON TRAVEL (4 sessions)

Sep 13

[Assignment #2 due]

Handy, S. L. 1996. Understanding the link between urban form and nonwork travel behavior. *Journal of Planning Education and Research*, 15, 183-198.

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

WEEK 4

Sep 18

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

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

Sep 20

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*.

Ewing, R., R. Pendall, and D. Chen. 2003. Measuring sprawl and its transportation impacts. *Transportation Research Record* 1931:175-183.

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- * Lee, S. and B. Lee. Toward sustainable urban form: Does urban spatial structure matter more than neighborhood-scale land use? Submitted to *Landscape and Urban Planning*.
 - * Cao, Xinyu, and Daniel Chatman. 2016. "How will smart growth land-use policies affect travel? A theoretical discussion on the importance of residential sorting." *Environment and Planning B: Planning and Design* 43 (1): 58-73.

WEEK 5

Sep 25

- Ewing, R., Bartholomew, K., Winkelman, S., Walters, J., & Anderson, G. 2008. Urban development and climate change. *Journal of Urbanism* 1(3): 201-216.
- Ewing R & Hamidi S, 2015, "Compactness versus Sprawl: A Review of Recent Evidence from the United States" *Journal of Planning Literature* 30(4): 413-432.
- * Lee, S., & Lee, B. (2014). The influence of urban form on GHG emissions in the U.S. household sector. *Energy Policy*, 68(0), 534-549.
- * Boarnet, Marlon. Ch.7 Land use, travel behavior, and disaggregate travel data. In Giuliano & Hanson (2017).
- * Hamidi S, Ewing R, 2014, "A longitudinal study of changes in urban sprawl between 2000 and 2010 in the United States" *Landscape and Urban Planning*, 128: 72-82.

TRANSPORTATION INVESTMENT AND URBAN DEVELOPMENT

Sep 27

[Assignment #3 due]

- 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.

WEEK 6

Oct 2

[Term paper abstract due]

- Landis, J. and Cervero, R. (1999). BART and urban development. *Access*, 14, 2-15.
- Suzuki, H., R. Cervero, and Iuchi, K. 2013. *Transforming Cities with Transit*. The World Bank. Overview (pp. 1-23) and Ch. 2 Lessons from sustainable transit-oriented cities (pp. 49-91).
- * 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.
- * Lee, H. Are Millennials Coming to Town? Residential Location Choice of Young Adults. *Urban Affairs Review*, 0(0).

SUSTAINABLE TRANSPORTATION AND LAND USE POLICIES

Oct 4

Integrated Transportation and Land Use Planning

- Moore, T. and P. Thorsnes. 2007. *The Transportation/Land Use Connection*, 2nd edition. Chicago, IL: American Planning Association. Ch. 5 Achieving a balanced transportation/land use connection. Appendix G. Institutions and agents of the transportation/land use connection.

WEEK 7

Oct 9

Public Transportation (2 sessions)

- 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.
- * 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.

Oct 11

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

WEEK 8

Oct 16

Travel Demand Management

- Arizona DOT. 2012. *Travel Demand Management: A Toolbox of Strategies to Reduce Single-Occupant Vehicle Trips and Increase Alternate Mode Usage in Arizona*. Final Report 654.

- Garling, T. and G Schuitema. 2007. Travel demand management targeting reduced private car use: Effectiveness, public acceptability and political feasibility. *Journal of Social Issues* 63(1): 139-153.
- * Zhang, W., & Zhang, M. 2017. Incorporating land use and pricing policies for reducing car dependence: Analytical framework and empirical evidence. *Urban Studies*

Oct 18 *Transportation Finance and Road Pricing (3 sessions)*

- Taylor, Brian D. 2017. 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 9

Oct 23

- 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 25

No class due to ACSP Conference!

WEEK 10

Oct 30

[Assignment #4 due]

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

Nov 1

Parking Policy (2 sessions)

- Manville, Michael and Donald C. Shoup. 2004. People, parking and cities. *Access* 25: 2-8.
- Shoup, D. 1999. The trouble with minimum parking requirements. *Transportation Research Part A* 33: 549-574.
- * Li, F., & Guo, Z. (2014). Do parking standards matter? Evaluating the London parking reform with a matched-pair approach. *Transportation Research Part A*, 67, 352-365.

WEEK 11

Nov 6

[Progress report due]

- Shoup, D. 2007. Cruising for parking. *Access*, 30, 16-22.
- Pierce, Gregory and Donald Shoup. 2013. Getting the prices right. *JAPA* 79 (1): 67-81.
- * Gabbe, C. J., & Pierce, G. 2017. Hidden Costs and Deadweight Losses: Bundled Parking and Residential Rents in the Metropolitan United States. *Housing Policy Debate*, 27(2), 217-229.

Nov 8

Transit Oriented Development (4 sessions)

TOD—definition, impacts & design principles

- 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.
- Center for TOD 2008 TOD202 Station area planning: How to make great transit-oriented places
- * Florida Department of Transportation. 2009. *Transit Oriented Development Design Guidelines*.
- * Zamir et al. 2014. Effects of transit-oriented development on trip generation, distribution, and mode share in Washington, D.C., and Baltimore, Maryland. *Transportation Research Record* 2413: 45-53.

WEEK 12

Nov 13

- TOD—Strategic planning, regional planning & corridor planning*
- City of Denver 2014 *Transit Oriented Development Strategic Plan*.
- Center for TOD 2011 TOD204 Planning for TOD at the regional scale.
- Center for TOD 2011 TOD203 Transit corridors and TOD: Connecting the dots.

Nov 15

TOD—Tools, finance & affordable housing

- Transit Cooperative Research Program. 2002. *Transit-Oriented Development and Joint*

Development in the United States: A Literature Review. Washington, DC:
Transportation Research Board. Ch. IV Implementation.
Center for TOD 2009 TOD201 Mixed income housing near transit: Increasing affordability
with location efficiency.
* Reconnecting America. 2011. *2010 Inventory of TOD Programs.*

Nov 20 & Nov 22 *Thanksgiving Holiday!*

WEEK 13

Nov 27

TOD—Case studies

Federal Transit Administration. 2014. *Planning for Transit-Supportive Development: A Practitioner's Guide. Section 5: Local Planning and Transit Supportive Development.* FTA Report No. 0057.

RESEARCH PRESENTATION

Nov 29

RESEARCH PRESENTATION 1

PPT file is due by noon on your presentation day.

WEEK 14

Dec 4

RESEARCH PRESENTATION 2

Dec 6

RESEARCH PRESENTATION 3

WEEK 15

Dec 11

RESEARCH PRESENTATION 4

*FINAL PAPER due on **Dec 17 Monday** by **NOON.***
