

# GEO 230: Transportation Geography

Autumn 2013 | Department of Geography | DePaul University  
LSP Learning Domain: Self, Society, and Modern World (SSMW)

Time: Tue/Thurs 1:00-2:30 pm

Location: Levan 408

## Instructor

Sungsoon (Julie) Hwang (email: shwang9@depaul.edu; phone: (773) 325-8668; office: 990 W Fullerton Room# 4513; Office hour: MWF 2-3 and by appointment)

## Course Description

The course is an introduction to the subfield of transportation geography. Studying transportation and transportation-related phenomena from a spatial-analytic perspective, the course builds upon theories and methods of transportation geography. Systematic study of select case studies at the local and regional level provides opportunities for application of principles.

This course is organized into three parts— contexts of, themes of, and debates in transportation geography. The first part introduces **historical contexts of transportation geography**. We will examine how transportation technologies or different modes of transportation have competed with each other and evolved particularly since the Industrial Revolution. We will examine how this evolution has shaped places (think about the role of transportation that plays in shaping Chicago) and influenced urban form (think about the link of interstate highway to urban sprawl). We will also look at changes that containerization brought about in freight transportation and global economies.

In the second part, we will look into **implications of transportation for three pillars of sustainability**—that is, economic development, environmental protection and social equity. Investment in transportation is often adopted as an economic development strategy, but not all strategies yielded desired outcomes. We will look at different cases surrounding this proposition, and discuss under what circumstances such proposition is valid. As sustainability has been embraced as overarching policy goals since 90's, environmental protection and social equity (in addition to economic development) came to the fore in a policy landscape. In regard to this, we will review how transportation intersects energy, the environment and social equity.

We will deepen discussion on sustainable transportation by debating **efficacy of land use policies designed to reduce a need to travel by vehicle**. One way to achieve sustainability is to reduce vehicle miles traveled (VMT). Planners often argue that VMT can be reduced by designing the built environment that promotes non-motorized modes of transportation (walking, bicycling) and public transportation. We will critically assess this argument by reviewing case studies from different perspectives.

## Learning Goals

- Distinguish different transportation technologies and describe how they have evolved
- Understand how transportation shapes land use and urban form
- Comprehend the role of transportation in economic development
- Review the environmental impact of transportation
- Discern implications of transportation for social equity
- Understand principles of sustainable transportation

**Learning Outcomes**—by completing all requirements of GEO 230, you should be able to

- Describe the role of transportation technologies in shaping places
- Articulate how transportation intersects three pillars of sustainability
- Assess effectiveness of land use policies designed to influence travel demand

## Readings

- Jean-Paul Rodrigue, Claude Comtois, and Brian Slack (2013) *The Geography of Transport Systems*, Third Edition, Routledge (ISBN: 978-0-415-82254-1)—required, available at college bookstore
- Richard Knowles, Jon Shaw, and Iain Docherty (2008) *Transport Geographies: Mobilities, Flows and Space*, Blackwell (ISBN: 978-1405153232)—required, available at college bookstore
- Additional readings in PDF are posted on D2L > Content > Reading.

## Outlines of Topics and Tentative Schedules\*

Week	Date	Topic	Readings
1	9/12	Course overview	Syllabus
<b>Part I. Contexts: transportation technologies in space and time</b>			
	9/17	Introduction to transportation geography	[1] Knowles 1:3-9 [2] Rodrigue 1:1-8
2	9/19	Historical geography of transportation	[3] Rodrigue 2:42-65
	9/24	Transportation and urban form Transportation and Chicago Watch video on Chicago/transportation	[4] Hanson & Giuliano 3:59-85 [5] Cronon 2:55-93 PBS 2004
3	9/26	Modes of transportation	[6] Rodrigue 4:127-149
	10/1	Intermodalism Containerization	[7] Rodrigue 4:1469-152 [8] Levinson 1:1-15
4	10/3	Bring homework 1 draft and solicit feedback	
	10/8	Present <b>HW1</b> : story about how transportation shapes place	
<b>Part II. Themes: transportation and three pillars of sustainability</b>			
5	10/10	Transportation and economic development	[9] Knowles 2:10-28 [10] Rodrigue 7: 226-236
	10/15	Land use impact of transportation investment	[11] Hanson & Giuliano 9:237-173
6	10/17	International trade and freight distribution	[12] Rodrigue 5:158-173
	10/22	Transport and the environment Transport and energy	[13] Rodrigue 8:255-261 [14] Rodrigue 8:261-269
7	10/24	Transport and social justice Transport and sustainability Watch video on Curitiba/sustainability	[15] Knowles 4: 49-61 [16] Rodrigue 8:269-274 Del Bello 2007
	10/29	Bring homework 2 draft and solicit feedback	
8	10/31	Present <b>HW2</b> : lessons from sustainable transportation initiatives around the world	
<b>Part III. Debates: land use-transportation connection and sustainability policies</b>			
	11/5	Does land use-transportation link matter?	[17] Giuliano 1995 [18] Cervero and Landis 1995
9	11/7	Do smart growth policies work?	[19] Downs 2005 [20] Handy 2005
	11/12	Form debate groups {planners vs. economists} and prepare debates in group	
10	11/14	Prepare debates in group	
	11/19	Conduct <b>Debate</b> on land use/transportation link and sustainability policies	
	11/21	<b>Take-home exam</b> due on D2L by midnight	

\*Schedules are subject to change as the class progresses and if needed.

## References

- Rodrigue: *The Geography of Transport Systems*, Third Edition 2013, Routledge
- Knowles: *Transport Geographies: Mobilities, Flows and Space*, 2008, Blackwell
- Hanson & Giuliano ch3: Transportation and urban form: stages in the spatial evolution of the American metropolis in *The Geography of Urban Transportation*, 3rd Edition, 2004, Guilford
- Cronon: *Nature's Metropolis: Chicago and the Great West*, 1991, W. W. Norton & Company
- PBS 2004: *American Experience/ Chicago: City of Century* (DVD)
- Levinson: *The Box: How the Shipping Container Made the World Smaller and the World Economy Bigger*, 2008, Princeton University Press
- Hanson & Giuliano ch9: Land use impacts of transportation investments: highway and transit in *The Geography of Urban Transportation*, Third Edition, 2004, Guilford
- Del Bello 2007: *A Convenient Truth: Urban Solutions from Curitiba, Brazil* (DVD)
- Giuliano 1995: The weakening transportation-land use connection, *Access* 6:3-11
- Cervero and Landis 1995: The transportation-land use connection still matters, *Access* 7:2-10
- Downs 2005: Smart growth: why we discuss it more than we do it, *Journal of the American Planning Association* 71(4): 367-380
- Handy 2005: Smart growth and the transportation-land use connection: what does the research tell us? *International Regional Science Review* 28(2): 146-167

## Grading Scheme

<u>Grading Breakdown</u>		<u>Grading Scale</u>	
Reading review (20)	20%	A = 93-100%	C+ =77-79.99%
Homework (2)	30%	A- = 90-92.99%	C =73-76.99%
Debate	15%	B+ = 87-89.99%	C- =70-72.99%
Take-home exam	25%	B = 83-86.99%	D+ =60-69.99%
Participation	10%	B- = 80-82.99%	D =50-59.99%
			F =0-49.99%

**Reading review:** complete a reading review form (see p. 7) for each reading item listed in the Readings column in the schedule table above. Submit the completed review form on D2L by 5 pm a day before the class. A review form that demonstrates little evidence of reading an article will not be scored fully.

**Homework 1 (transportation and place):** write a story about the ways in which transportation shapes place and/or influences urban form in a place you're familiar with. Students from the previous quarter wrote papers on how containerization affects the Port of New York, how airports influence the emergence of Chicago, how railroads shaped Chicago, what change Elgin-O'Hare expressway has brought about in Chicago suburbs, role of interstate highway in growth of suburbs in Massachusetts, how Chicago became the center for intermodal traffic in the US, and effects of recent transit development in a Californian city. Submit a two-page essay on D2L by 5 pm a day before the 10/8 class, and present your story in the class. HW1 is due **10/7** (Monday) 5pm on D2L > Dropbox > HW1.

**Homework 2 (transportation and sustainability):** pick a transportation initiative around the world, and critically assess the initiative in terms of sustainability. You need to make well-supported arguments on whether the initiative contributes to advancing sustainability, and if so how. Within the similar vein, you can discuss lessons learned from the initiative (why the initiative failed or succeeded) if applicable. Examples include transit-oriented development, promoting bicycling, setting growth boundaries, congestion pricing, Intelligent Transportation System (ITS), travel demand management, High-Occupancy Vehicle Lanes, and so on. Students from the previous quarter looked at congestion pricing, the Metra in Chicago, High Occupancy Vehicle (HOV) Lane, bicycling, the Central Artery/Tunnel

Project in Boston, and Amtrak's Acela (high speed train). Submit a two-page essay on D2L by 5 pm a day before the 10/31 class, and present your analysis in the class. HW2 is due **10/30** (Wednesday) 5pm on D2L > Dropbox > HW2.

Make sure that you cite at least three relevant sources (journal article, newspaper article, book chapter, archive, interview, survey) outside of class readings, and incorporate relevant information/knowledge from course readings into homework essays to get a full score. A well-written essay should demonstrate that arguments are well developed, and idea is well supported.

**Debate (efficacy of land use policies for sustainable transportation):** given the significance of transportation impact on 3E (economy, environment, and equity), it is reasonable to assume that transportation should be an important part of sustainability policies. Planners in particular have long argued that it is possible to build sustainable cities by designing the built environment that reduces automobile use. This is based on the assumption that the built environment influences travel behavior (e.g., people walk more in dense and pedestrian-friendly design). Some economists, however, are not in favor of this proposition on the ground that land use-transportation connection is not significant, and implementing land use initiatives are costly. We will review both sides of arguments on land use-transportation connection and land use policies for sustainability. After reviewing different positions, students decide which side they want to take and form two debate groups on 11/12. Debate groups will have a week to prepare debates. Groups will debate whether land use policies for sustainable transportation are worthwhile pursuing on 11/19. Debate groups should submit an essay that argues the position they take using at least three talking points, evidences that substantiate the argument (with at least six credible sources cited), and references by 5 pm a day before the debate on 11/19. Debate note is due **11/18** (Monday) 5 pm.

**Take-home exam:** One take-home final exam will be taken during a final exam week. The exam will be sent out via an email on the morning of November 20, and should be turned in through D2L by midnight on November 21.

**Participation:** assigned according to the criteria below

- A (9 - 10) = Student is present in all or nearly class meetings, and prepared, at all times, to respond to questions. Student is an active participant in small group activities, in and out of class, and in class-time activities stays on task.
- B (8 - 9) = Student participates as above, 75% of the time.
- C (6.5 - 8) = Student does not volunteer comments; responses demonstrate vague familiarity with course readings. Student is a passive member of small group activities and/or does not stay on task during class-time activities.
- D (5 – 6.5) = Student never volunteers, cannot respond to direct questions, keeps silent during class discussions and is unable to summarize readings if asked.
- F (0-5) = Student misses many class sessions and/or sits silently in classes when present, or is disruptive and non-participatory in the classroom.

**Late Work Policy:** Late work will NOT be accepted. However, extensions can be requested on a case-by-case basis, and can be granted at an instructor's discretion.

**Makeup Exam/Incomplete Grade Policy:** A makeup exam or an incomplete grade can be arranged or granted only when credible dire and documented medical or family situations arise and these circumstances are communicated in a timely fashion.

**Attendance/Absentee Policy:** Consistent with university's policy, all students are expected to attend class meetings. Unless absence is explained on medical or compassionate grounds (documentation is required), absence from any classes is grounds for a grade adjustment.

**Academic Honesty and Plagiarism:** Academic honesty and integrity are expected at all times. Academic dishonesty, such as cheating or copying during exams, will be punished severely. Plagiarism – using someone else's work without acknowledgment and, therefore, presenting their ideas or quotations as your own work – is strictly forbidden. DePaul University officials will be informed of any instance of academic dishonesty and notification will be placed in your file. Please read the DePaul Academic Integrity Resources page (<http://academicintegrity.depaul.edu/Resources/index.html>) for definitions and explanations of plagiarism and the University's Academic Integrity expectations for students. Cutting

and pasting text taken directly from a web-site without appropriate referencing and quotation marks is plagiarism and is forbidden. Submitting work that has any part cut and pasted directly from the internet is grounds for an automatic grade of zero.

**Accommodations:** Any student who requires assistance is asked to contact the Center for Students with Disabilities (Phone 773/325-1677, TTY 773/325-7296, Fax 773/325-7396, <http://studentaffairs.depaul.edu/csd/>). They will be able to assist both student and faculty. If you have a condition that requires accommodation from the Productive Learning Strategies program (PLuS Program) please contact them at the Student Center room 370 (Phone 773/3251677 or online: <http://studentaffairs.depaul.edu/plus/>)

**University Center for Writing-Based Learning:** Collaborates with writers from all disciplines, backgrounds, levels of expertise, and roles within the University community. Their goal is to help develop better writers along with better writing and reflection through continual revision. If you need assistance with writing assignments, they can be contacted at: 773.325.4272 (LPC) or [wcenter@depaul.edu](mailto:wcenter@depaul.edu)

## **Appendix A. Department of Geography Learning Goals**—goals relevant to GEO 230 are highlighted

Courses in the Department of Geography teach students:

- 1. Understand spatial patterns and processes of modification of the Earth’s physical and cultural landscapes**
  - (a) **As social constructions.**
  - (b) **As systems that link the Earth with human society in interdependent, dialectical relationships, and**
  - (c) Through mapping and visualization.
- 2. Understand the concept of scale as a spatial phenomenon that ties the local, the regional, the national, the transnational, and the global in a system of interaction.**
3. Understand the phenomenology of the discipline of Geography—most importantly, “space”, "place", "landscape," "region," and "location".
4. Distinguish that spaces, places, and so on, may have both objective and subjective/symbolic dimensions.
- 5. Develop research and writing competences that would allow you to:**
  - (a) **Formulate a cogent research question about the spatial character of a physical, socio-cultural, or environment-societal phenomenon,**
  - (b) **Write about it in ways that reflect analytical and critical thinking, and**
  - (c) **Ethical concern over social and environmental justice, consistent with the University’s social mission.**
6. Engage competently in qualitative and quantitative spatial analysis, and with exercises that are concerned with explaining spatial regularities (for example, the spatial calculus behind the location of retail commerce in Chicago, or transnational flows of capital).
7. Learn the basic utility and use competently one or more of the information technologies that are now redefining the logistical limits of spatial analysis: geographic information systems (GIS) and remote sensing.
- 8. Achieve greater general knowledge of the world, its regions, its physical systems, its cultures, and political-territorial divisions.**

## Appendix B. Self, Society & Modern World Learning Outcomes

SSMW courses should demonstrate at least one learning outcome in each category.

### Substantive Learning Outcomes:

1. Students will use the constructs of power, diversity, and/or culture to describe examples of where, why and how inequities exists in modern society.
2. Students will be able to frame a theory about the relationship between individuals and modern society.
3. Students will be able to analyze central institutions and/ or underlying social structures and their impact on the larger society.

### Methodological & Critical Thinking Learning Outcomes:

1. Students will be able to articulate an argument based on theory and empirical evidence regarding the modern world.
2. Students will be able to analyze critically research and arguments about the modern world.

### Personal/Reflective Learning Outcomes:

1. Students will be able to reflect, in writing, upon their role in the modern world, including their relationship to their own and/or other communities.
2. Students will be able to analyze social problems and public policies on the basis of ethics and values.

### Writing Expectations:

Students in SSMW Learning Domain courses will demonstrate that they have mastered one or more of the learning outcomes through writing. It is expected that the equivalent of ten pages (which may be distributed across a series of assignments including papers, exams, journals, problem-sets and in-class writing assignments) will be required. At least five of those pages must be written outside class.

Instructor's note: GEO 230 meets all of learning outcomes above.

## Reading Review Form

Complete this form for each reading assignment, and submit it on D2L > ReadingReview# by 5 pm a day before the class when this item is to be discussed. Reading assignments are listed in the tentative schedule table in p. 2 of this syllabus.

Name:

Date:

Author/Title:

Summarize: State the theme of this reading in two sentences or less.

Sum up the reading in a motto, a bumper sticker, or a T-shirt slogan.

New Empirical Evidence: List some facts/description/terms from the text that were new to you.

1)

2)

3)

New Concepts: List and briefly explain at least two new concepts, ideas, or opinions raised by this reading.

1)

2)

3)

Posing Questions: What particulars seem especially significant or puzzling to you? Prepare questions about these items to ask in a discussion. "How" or "Why" questions are particularly good.

1)

2)

3)

Overall, how does this paper enhance your understanding of the course?