

URBP 226: REGIONAL TRANSPORTATION PLANNING

URBP 178: INTRODUCTION TO TRANSPORTATION AND URBAN PLANNING

FALL 2010

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Office hours:	Tuesdays, 6:00-7:00 p.m.
Class days/time:	Tuesdays, 7:15-10:00 p.m.
Classroom:	Dudley Moorhead Hall 347
Prerequisites:	Upper division or graduate standing

Course Catalog Description:

URBP 226: Overview of the evolution of key transportation institutions and policies at the metropolitan, state, and federal levels. Assessment of the current challenges facing regional transportation systems and evaluation of different planning and policy approaches proposed to improve the performance of regional transportation systems. Prerequisite: Instructor consent.

URBP 178: Overview of urban transportation as a social essential. Technical, operational, social, environmental, land use, economic and fiscal aspects of urban transportation systems of all modes. Course may be repeated for credit when topic changes. Prerequisite: Upper division standing or instructor consent.

Course Description and Objectives:

This course examines planning for transportation systems and policy, with particular attention to urban and regional transportation. We will consider both theory and practice, as well as the wide gap that exists between them. The historical evolution and development of key transportation institutions, policies, and methods are analyzed, using examples from California and beyond. The many roles of transportation planning – technical, mediating, advocacy, and political – are examined. Passenger and urban transportation planning and policy are emphasized, but there will be some

attention given to intercity and freight modes. Many sessions and readings are devoted to understanding current transportation planning issues and policy debates.

This course is intended to help prepare students for employment as a transportation planner or a transportation policy analyst. There are a growing number of such positions with local, regional, and central governments, private consulting firms as well as with firms providing transportation services. This course alone will not, however, prepare students for more specialist transportation positions such as computer modeler or traffic engineer. For students interested in working in such specialist positions, additional course work would be required.

Our main focus throughout the course is on urban transportation policy and planning for several reasons. At least one-half of humanity now lives in cities, a remarkable development given that the urban population was never more than a tenth of the world's population before the 19th century. Suddenly, urban transportation is a personal concern to most of humanity.

Moreover, the overriding economic rationale of cities is that they save transportation costs – in urban areas, complementary economic actors and resources are within close proximity to one another. Not surprisingly then, cities are the predominant location of congestion on transportation networks, as too many people, goods and vehicles attempt to be in one place at one time for economic purposes. The most expensive and contentious transportation investments are those that serve urban areas.

Upon successful completion of the course, each student will be able to:

1. Discuss many of the critical mobility issues confronting the Bay Area and other metropolitan areas
2. List and understand relationships between the primary elements of transportation systems, such as modes, networks, controls and users
3. Understand the nature of travel demand and its relationship with travel supply and the operation of transportation systems
4. Appreciate the history of transportation planning and institutions, as well as the evolution of transit, street and highway systems
5. Be aware of the scope of transportation and its environmental impact; analysis and mitigation of impacts.
6. Understand the ongoing role of project financing in transportation
7. Appreciate the role of national, regional and local planning in establishing transportation policies and priorities
8. Work as a transportation planner or a transportation policy analyst.

Course Subject Matter

The main subject areas of this course include:

- Elements of transportation systems: vehicles, networks, controls – and users
- The nature of demand for travel and transportation
- History of transportation planning and institutions
- History of street and highway systems
- Dimensions of travel and the transportation sector
- Current travel and freight transportation trends
- The problem of congestion
- Patterns of travel behavior: the peaking problem
- Overview of transportation modeling and forecasting
- Critical analysis of transportation modeling and forecasting
- Transportation and its environmental impact; analysis and mitigation of impacts
- Travel demand, land use and urban design
- Transportation Plans: National, Regional and Local
- Planning and financing street and highway systems
- Planning and financing public transportation
- Planning and financing other modes
- Transportation planning and emerging technologies
- Current issues in transportation policy

Course Prerequisite:

Upper-division or graduate standing. Previous course work in urban geography and/or urban economics is helpful, as is familiarity with urban or transportation history. Knowledge of basic mathematics (statistics, algebra, and geometry) is assumed.

Required Course Readings:

Textbook

Susan Hanson and Genevieve Giuliano, Eds. *The Geography of Urban Transportation* (New York: Guilford Publications, Third Edition, 2004). ISBN 1-59385-055-7

This textbook will be available at the SJSU Campus Bookstore.

Other Readings

These will either be provided in class or via the Internet. The lectures will **not** cover all of the material in the readings, so it is essential that you keep up with the required readings. Some of the readings have been assembled into a reader available from the instructor. For the group project and

the research paper you will be responsible for seeking out additional readings, and providing copies of key readings to your colleagues. The instructors will provide assistance with these tasks.

A Guide to the Readings

Before commenting on several of the supplemental readings (i.e., beyond the text), a few basic definitions are in order:

Transportation is a mediating process. Its primary purpose is to bring people and goods together for beneficial results. Demand for transportation is thus a *derived* demand; transportation is not generally desired for its own sake, but because it brings us (or brings us to) something desirable. The journey to work is not a good in itself, but it enables us to make a living, and that is the primary good. Bananas, not banana boats, are what people crave. Springtime in Paris is what is valuable and memorable -- the Boeing 747 is merely a convenient means to that end.

- **Travel demand** is the desire for travel or transport not necessarily fulfilled or expressed. When it is expressed via use of a transportation system, it is referred to as **traffic**.
- The basic elements of any transportation system include: (first and foremost) **passengers / customers** demanding transportation for themselves or their goods; and, on the supply side, **vehicles, routes and controls**.
- **Planning** is the reasoned application of available knowledge and tools to shape the future. Urban planning is concerned with planning for relatively dense areas (e.g., cities and dependent suburban and ex-urban areas), which are the locus of the majority of population and economic activities in both industrialized and developing societies.
- **Policy** consists of laws, rules and guidelines designed to ensure that the defined goals of an organization (public or private) or society as a whole are realized. **Policy Analysis** is bringing knowledge – which can take many forms – to bear in the process of policy making.

We have just defined transportation as a derived demand, rather than something desired for its own sake. We must immediately qualify this definition. Most transportation models and analyses assume transportation to be a bundle of costs (time, money, discomfort, etc.) to be avoided or minimized in pursuit of goods and activities at the destination. For most routine types of transport, this is valid.

Yet travel is not always onerous. The concept of a holiday, a positive experience we pay for (handsomely), has become synonymous with travel (“getting away”). Certainly, those marketing a travel mode or service often stress the intrinsic value of the trip itself, along with the allure of the destination. There is something inherently appealing about travel and transportation technology, and this should be borne in mind throughout your reading and the course as a whole. There is pleasure in and romance about transport. Such emotional aspects can complicate, even undermine

transportation analysis, but for these very reasons they should not be forgotten or denied. Indeed, making transportation pleasurable is one of the key goals of transportation planning.

Notes on Individual Background Readings

Introduction and Overview Section

Thomson, J.M. 1974. *Modern Transportation Economics*. Chapter One: Desire for Movement. Penguin Books. pp. 15-36.

Basic reasons for why people travel and transportation goods; key concepts of transportation economics, including both freight and passenger transport.

Hanson, S. 1995. *The Geography of Urban Transportation* (Susan Hanson, ed.), 2nd Edition. Chapter One: Getting There – Urban Transportation in Context. The Guildford Press. pp. 3-25.

You may skim this earlier edition of your text, which reviews key concepts such as accessibility vs. mobility; aggregate versus disaggregate measures of accessibility, and how changing urban geography interplays with changing urban travel demands.

Heilbrun, J. 1987. *Urban Economics and Public Policy – Third Edition*. Chapter 8: The Economics of Urban Transportation. St. Martins. pp. 173-206.

Basic microeconomic principles applied to urban transport. Pay particular attention to Heilbrun's distinction between private and social costs of transportation (and transportation congestion). You should also gain an understanding of some major economic rationales for congestion pricing and public transportation subsidy, as well as the elements of intermodal cost comparisons and of cost-benefit analysis.

Heilbrun, J. 1987. *Urban Economics and Public Policy – Third Edition*. Chapter 9: Urban Transportation Policy. St. Martins. pp. 107-138.

A range of urban transportation policy proposals, derived from the preceding chapter's economic analysis, are presented and critiqued, using mainly US case studies. Pay particular attention to the arguments for, and difficulties with, two particular policy proposals: congestion tolls and subsidies for public transportation (or "transit" as public transportation is called in North America).

Dunn, W.N. 1994. *Public Policy Analysis: An Introduction*. Chapter One: Introduction: Policy Analysis in the Policy-Making Process. Prentice Hall. pp. 1-29.

The principles and elements of policy analysis: Dunn's concept of "critical multiplism" – looking at policy problems from multiple angles – should be understood.

Altshuler, A.A. 1979. *The Urban Transportation System*. Chapter Three: Politics and Innovation. The MIT Press, Inc. pp. 85-100.

In an introductory chapter to a very influential book, Alan Altshuler outlines four categories of transportation innovation (which can be applied to either policy or technological innovations) in terms of acceptability and prospects for success, given a market economy and a representative democratic form of government. They are worth thinking about.

Altshuler, A.A. 1979. *The Urban Transportation System*. Chapter Four: Criteria for System and Policy Innovation, MIT Press, Inc. pp. 103-123.

Here, Altshuler outlines nineteen different criteria for evaluating urban transportation system performance, as well as for evaluating strategies for improving urban transport.

Transportation Modeling

Beimborn, E.A., R. Kennedy, R., and William Schaefer, n.d., Inside *the Blackbox, Making Transportation Models Work for Livable Communities*, Center for Urban Transportation Studies, University of Wisconsin-Milwaukee/Citizens for a Better Environment.

The authors' stated intent for this primer is to explain how the urban transportation modeling process works, the assumptions made and the steps used to forecast travel demand for urban transportation planning in metropolitan areas. This is done both to explain the process and its implications and to help people to interpret and comment on its results. The primer is written in plain language so it can be used by local or regional planning commissioners, elected officials and interested citizens who have to react to transportation plans.

Transit and Highway Investments and Transportation Finance

Litman, T. 2009. "Smart Congestion Reductions: Reevaluating the Role of Highway Expansion for Improving Urban Transportation"

http://www.vtpi.org/cong_relief.pdf

This paper evaluates claims that highway capacity expansion is a cost effective and desirable solution to urban traffic congestion problems. Litman identifies what he perceives as errors in proponents' analysis that overestimate the congestion reduction impacts and economic benefits of roadway capacity expansion, overlook negative impacts of induced travel, and ignore cost effective alternatives. (Summary based on author's abstract)

Litman, T. 2009. "Smart Congestion Reductions II: Reevaluating the Role of Public Transit for Improving Urban Transportation" http://www.vtpi.org/cong_reliefII.pdf

Litman reviews several articles critical of urban transit investments on the grounds that they are wasteful and ineffective at reducing traffic congestion. This paper evaluates this criticism

and investigates the role that transit can play in reducing traffic congestion and achieving other transportation improvement objectives. (Summary based on author's abstract).

Transportation Plans: National, Regional and Local (U.S. and Int'l Perspectives)

Lee, R.W., and Rivasplata, C.R. 2001. *Metropolitan Transportation Planning in the 1990s: Comparisons and Contrasts in New Zealand, Chile, and California*. Transport Policy 8, 47-61.

This article reviews major events and trends in metropolitan transportation planning and policy in three quite different jurisdictions: New Zealand, Chile and California. Major metropolitan areas saw rising car ownership, congestion, and privatization of transportation services. There has also been devolution of planning authority and funding responsibility to metropolitan government. (Summary based on author's abstract)

Banister, D. 2002. *Transport Planning, Chap. 6 and 7 (pp. 126-206)*, London: Spon Press.

This book describes the evolution of transport policies and planning, linking the past with contemporary and future debates. It includes both a retrospective analysis of past planning, as well as a comparative analysis of experiences in different parts of the world. For this class, we are most interested in the constraints of transportation planning, as well as transportation planning practices in Europe.

Course Assignments and Grading Policy:

Your grade for the course will be based primarily on the following components:

Component Title	Percent of Total Grade
Assignment 1: Tracking Travel Behavior	15%
Lecture Attendance/Participation	10%
Midterm Exam	25%
Group Project/Seminar/Topic Outline	15%
Final Paper	35%

Other grading/assignment issues

The required work (listed above) will be due on the following dates/times:

- Assignment 1: Tuesday, September 21st at 7:00 p.m.
- Mid-term Exam: Wednesday, November 3rd at 9:00 p.m.
- Group Summary: Saturday, November 13th or 20th at 7:00 p.m.
- Topic Outline: Tuesday, November 23rd at 7:00 p.m.
- Final Paper: Wednesday, December 7th at 7:00 p.m.

Late work will be marked down. If received within the first 24 hours after the scheduled deadline, it will be marked down 1/3 of a grade (e.g., from A- to B+, from B to B-, etc.). Thereafter, it will be marked down according to the following schedule:

1-4 days late: 2/3 of a grade

4-7 days late: 1 full grade

7-10 days late: 2 full grades

Extra credit is not available, except where mentioned on Assignment 1 and the Mid-term Exam.

Seminar Structure and Requirements

The final month of the course will be largely devoted to student-led seminars on major transportation planning issues and policy debates facing transportation planners today. Each seminar will consist of a set of student presentations on a common theme, followed by a group discussion. Transportation planners and policy-analysts commonly present their work in public meetings and hearings; these seminars are intended to give you experience in presenting complex policy issues in a small, informal forum. The schedule and requirements for this aspect of the course are as follows:

- 1 By Week 2 we will divide into “interest groups” of two to four students each.
- 2 By Week 3 groups should meet with us to discuss your topic and readings.
- 3 Not later than the Sunday before you present (November 13th or 20th), each group must distribute a 3-5-page summary of its topic, plus one or two key readings (e.g., articles), to all students.
- 4 On the appointed day (November 16th or 23rd), you will present your topic (with your group) to the class and help lead the discussion that follows. These group seminars will include consist of a 15-minute presentations from each student, and another 15 minutes for class discussion. Each student should also turn in a one to two-page summary of a specific aspect of the group topic, which she/he will develop into a final paper (see below).
- 5 By December 7th, the last day of class, a 20-page research paper (double-spaced), entailing a critical review of relevant literature and a policy analysis with recommendations for specific transportation planners or policy makers, must be delivered to the instructors. This paper will allow you to synthesize and extend knowledge gained in the group project, focusing on a specific area of interest to you. The paper should not require a great deal of additional research beyond your presentation preparation, but should respond to individual comments on your presentation.

Possible Subject Areas for Papers and Presentations

The broad subject areas you will be able to choose from include the following:

1. Sustainability and Transportation
2. Transportation, Land Use and Climate Change – the Challenge and Promise of SB 375
3. Improving Access at San José State and its Environs.
4. Policy Analysis of Gender, Aging and Other Demographic Transportation Issues
5. Analysis of the Prospects for Public Transportation in California and Its Cities
6. Analysis of the Prospects for High Speed Rail in California
7. Policy Analysis of Road and Parking Pricing Options
8. Getting More From Less: Management of Transportation Systems and Travel Demand
9. Land Use and Urban Form Policy in Relation to Travel Demand
10. The Future of the Automobile
11. The Future of Public Transit
12. Transportation and the Environment: Internalizing the Externalities
13. Telecommunications and Transportation
14. Other Subject Areas by Mutual Agreement.
15. The Regional Transportation Plan in the Bay Area

Academic integrity statement, plagiarism, and citing sources properly

SJSU's Policy on Academic Integrity states: "Your own commitment to learning, as evidenced by your enrollment at San Jose State University, and the University's Academic Integrity Policy requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the Office of Student Conduct and Ethical Development" (Academic Senate Policy S07-2). [The policy on academic integrity can be found at http://www.sjsu.edu/senate/S07-2.htm](http://www.sjsu.edu/senate/S07-2.htm).

Plagiarism is the use of someone else's language, images, data, or ideas without proper attribution. It is a very serious offense both in the university and in your professional work. In essence, plagiarism is both theft and lying: you have stolen someone else's ideas, and then lied by implying that they are your own.

Plagiarism will lead to grade penalties and a record filed with the Office of Student Conduct and Ethical Development. In

severe cases, students may also fail the course or even be expelled from the university.

If you are unsure what constitutes plagiarism, it is your responsibility to make sure you clarify the issues before you hand in draft or final work.

Learning when to cite a source and when not to is an art, not a science. However, here are some examples of plagiarism that you should be careful to avoid:

- If you use a sentence (or even part of a sentence) that someone else wrote and don't reference the source, you have committed plagiarism.
- If you paraphrase somebody else's theory or idea and don't reference the source, you have committed plagiarism.
- If you use a picture or table from a webpage or book and don't reference the source, you have committed plagiarism.
- If your work incorporates data someone else has collected and you don't reference the source, you have committed plagiarism.

The University of Indiana has developed a very helpful website with concrete examples about proper paraphrasing and quotation. See in particular the following pages:

- [Overview of plagiarism at http://www.indiana.edu/~istd/overview.html](http://www.indiana.edu/~istd/overview.html)
- [Examples of plagiarism at http://www.indiana.edu/~istd/examples.html](http://www.indiana.edu/~istd/examples.html)
- [Plagiarism quiz at http://www.indiana.edu/~istd/test.html](http://www.indiana.edu/~istd/test.html)

If you still have questions, feel free to talk to me personally. There is nothing wrong with asking for help, whereas even unintentional plagiarism is a serious offense.

Citation style

It is important to properly cite any references you use in your assignments. The Department of Urban and Regional Planning uses Kate Turabian's "A Manual for Writers of Research Papers, Theses, and Dissertations, 7th edition" (University of Chicago Press, 2007, ISBN-10: 0-226-82336-9). Copies are available in the SJSU King Library. Additionally, the book is relatively inexpensive, and you may wish to purchase a copy. Please note that Turabian's book describes two systems for referencing materials: (1) "notes" (footnotes or endnotes), plus a corresponding bibliography, and (2) in-text parenthetical references, plus a corresponding reference list.

Accommodation for Disabilities

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 requires that students with disabilities requesting accommodations must register with the DRC (Disability Resource Center) to establish a record of their disability.

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TRANSPORTATION AND URBAN PLANNING
FALL 2009

TENTATIVE COURSE SCHEDULE

A Brief Overview - August 31

Introductions: Instructors and Students
Orientation, Review of University and Department Policy
Overview of Structure and Major Themes of the Course
Hand out: Syllabus and Assignment 1, Readings CD (“R-CD”)

A Deeper Overview – September 7

Readings: 1) TEXT: Preface;
2) R-CD: Begin “Introduction and Overview” readings.

- TOPIC 1.** Key Concepts of Transportation Planning
- Theories, processes and structures underlying passenger and freight transportation demand and supply.
- TOPIC 2.** Principles and Processes of *Planning* Applied to Transport
- Planning Public Policy and the Public Interest
 - Planning, Development and Transport
- TOPIC 3.** Transport-Related Areas of Regulation and Policy
- Transportation Economics
 - Land Use and Urban Development; Travel and Tourism; Trade and Commerce; Communications; Energy; and the Environment
 - Public vs. Private Transportation
 - Costs and Benefits – and whose are they?
- TOPIC 4.** Unifying Concepts in Urban Transportation Planning:
- *Accessibility* versus *Mobility*

History and Current Policy – September 14

Readings: 1) TEXT: Chapter 3: Muller, Peter. 2004. "Transportation and Urban Form: Stages in the Spatial Evolution of the American Metropolis."
2) CD-R: complete “Introduction and Overview” readings, through Altshuler.

TOPIC 5. Urban Transportation and Transportation Planning Institutions

Current Trends and the Policy Dilemmas They Pose – September 21

Readings: 1) TEXT: Chapter 1, Hanson, Susan. 2004. “The Context of Urban Travel: Concepts and Recent Trends.”
2) Bureau of Transportation Statistics. “Pocket Guide to Transportation”
www.bts.gov.

TOPIC 6. Trends in Urban Travel

TOPIC 7. Demographic and Lifestyle Factors and Urban Travel Behavior

Travel Demand Modeling and Forecasting -- September 28

Readings 1) TEXT: Chapter 5, Johnston, R. 2004. “The Urban Transportation Planning Process,” *The Geography of Urban Transportation*.
2) CD-R, Beimborn et al, *Inside the Black Box*.

TOPIC 8. Transportation System Supply: Facility and System Capacity

TOPIC 9. Introduction to Travel Demand Modeling and Forecasting

TOPIC 10. Critiques of Travel Demand Modeling: The State of the Art

The Politics of Transportation Planning – October 5

Readings 1) TEXT: Chapter 6, Wachs, Martin, "Reflections on the Urban Transportation Planning Process"; Chapter 8: Pucher, John, “Public Transportation.” Handout on University Pre-paid transit programs (*Access 19 ‘Almanac’*).

TOPIC 11. Public Transportation and Politics in Silicon Valley and the Bay Area

Coping with Urban Transportation Congestion and Impacts: Alternative views, Alternative solutions – October 12

Readings: 1. TEXT: Chapters 9 (“Land Use”); Chapter 13 (“Environment”); and Chapter 14 (“Managing the Auto”).
2. Litman, T. 2009. "Smart Congestion Reductions" papers I and II.

- TOPIC 12.** Problematic Problem of Congestion
- TOPIC 13.** Transportation-related Environmental Impacts

Transportation Finance – October 19

- Readings:
1. TEXT, Chapter 11, B. Taylor, “Urban Transportation Finance”
 2. Brown, J. 2001. “Reconsider the Gas Tax: Paying for What You Get,” *Access*, No. 19, Fall.
 3. Wachs, M. 2003, “Local Option Transportation Taxes: Devolution as Revolution,” *Access*, No, 22, Spring.

- TOPIC 14.** Transportation Finance – Should users pay? Should others? How much?

Transportation Plans (U.S. Experience) – October 26

- TOPIC 15.** Transportation Plans: National, Regional and Local: the Challenge of Sustainability
- 1) Metropolitan Transportation Commission. 2009. Transportation 2035 Plan for the San Francisco Bay Area (Change in Motion), Chapters 1 and 5 (pp. 5-20, 81-85).
www.mtc.ca.gov/planning/2035_plan/index.htm
 - 2) Natural Resources Defense Council (NRDC) 2009. Communities Tackle Global Warming: A Guide to California’s SB 375 (Skim)
www.nrdc.org/globalwarming/sb375/files/sb375.pdf

MID-TERM by E-Mail: out 6 pm November 2, due 9 pm November 3

Transportation Plans (International Experience) – November 9

- 1) Lee, R.W. and Rivasplata, C.R. 2001. Metropolitan Transportation Planning in the 1990s: Comparisons and Contrasts in New Zealand, Chile, and California.
- 2) United Kingdom. Department for Transport. 2004. The Future of Transport (White Paper CM 6234), Executive Summary.
- 3) Banister, D. 2002. Transport Planning, Chapters 6 and 7 (pp. 126-206).
www.dft.gov.uk/about/strategy/whitepapers/previous/fot/executivesummarycm6234

*****STUDENT PRESENTATIONS – NOVEMBER 16 AND NOVEMBER 23*****

Transportation and the FUTURE – November 30

- TOPIC 16.** Transportation Disadvantaged: Shrinking Fringe or Growing Majority?
TOPIC 17. Transportation and Communications Technology – The 3-Edged Sword
TOPIC 18. Transportation and Sustainability: From Global to Local and Back

Readings: TBA

Course wrap-up and student perspectives – December 7

Note: This schedule is subject to change, e.g., to accommodate special events and guest lecturers. Any changes will be discussed in class with as much notice as possible.

Revised September 21, 2010