

## **PLAN 636: Urban Transportation Planning**

Fall 2014

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TA Office Hours: TBA

Course Meetings: Tuesday & Thursday 2:00-3:15pm, New East 102

### **Course Description**

This course in transportation planning provides a broad overview of the field and is intended for students intending to concentrate in transportation planning or those who want a broad overview of the field. The course is divided into 3 sections.

- *Key Issues:* The first section analyzes past, present, and future travel patterns in the United States with a special emphasis on understanding how demographics and land use influence travel behavior and identifying the key challenges for transportation planners.
- *Institutions:* This section provides a broad introduction to the institutional structure of transportation planning, particularly the interaction between federal, state, and regional decision makers and policy.
- *Analytic Tools:* Transportation planning relies heavily on the rational planning model. This section will introduce you to the common analysis techniques used in transportation and consider their effectiveness. This section provides a strong skill basis for any students interested in pursuing careers in transportation consulting firms or municipalities (or anyone who plans to be involved with the development process).

### **Course Objectives**

At the end of this course, you will be able to perform analyses common in the practice of transportation planning, including parking and travel demand analysis, traffic impact assessment. Furthermore, you will be able to discuss authoritatively the key policy issues in current transportation planning debates.

### **Course Requirements:**

**Projects:** Students will complete projects that require the use of analytical techniques common in transportation planning.

- Travel Patterns
- Public Meeting Analysis

- MPO Plan Analysis
- Finance Analysis
- Parking Analysis
- Traffic Impact Analysis
- Travel Demand Models

**Final Exam:** A synthetic final exam covering lecture materials and readings will be held during exam period. There will be no make-up exams. If you miss the exam due to an excused absence (illness, family emergency), there will be no make-up. When the exam is missed for an excused absence, the other course requirements will be re-weighted and the final exam will not be considered in your course grade. If you miss the final for an unexcused absence, you will receive a grade of 0 for the final exam.

With the instructor’s permission, graduate students may write a 25 page research paper on a topic related to the class rather than taking the final exam. Any graduate students interested in doing this must submit a proposal by the Tuesday before Fall Break.

**Participation:** Participation in the class and effective collaboration with your classmates is essential in this course.

**Grading**

Assignments	Due (dates subject to change)	Points
1. Travel Patterns Analysis	September 9, 5pm	12
2. MPO Plan Analysis	October 2, 5pm	12
3. Public Meeting Analysis	October 30, 5pm	12
4. Finance Analysis	October 21, 5pm	12
5. Parking Analysis	November 11, 5pm	12
6. Traffic Impact Analysis	November 20, 5pm	12
7. Travel Demand Models	December 2, 5pm	12
8. Final Exam	TBA	12
9. Attendance/Participation		4

**Late Assignments**

Each student has 5 ‘late days’ to use at their own discretion. If an assignment is turned in after the due date but before 24 hours have passed, that would be one day late and a student could opt to use a ‘late day’ to avoid grade penalties. Late days are not subdividable. A paper that is 2 hours late is the same as a paper that is 23 hours late.

Any assignments turned in late (i.e. after allowances for the 5 late days) will incur a penalty of a half-grade (letter graded assignments) or half the standard deviation (numeric graded assignments). For example if a paper is a day late, the grade would change from a B to a B-. If the paper were two days late, the grade would change from a B to a C+.

**Readings**

Readings for each session are detailed in the remainder of the syllabus. Many of them will be available on Sakai. Several books are on reserve at the House Undergraduate Library including:

- Guiliano & Hanson, Geography of Urban Transportation
- Meyer, M. Urban Transportation Planning: A Decision-Oriented Approach
- Ortuzar & Willumsem, Modeling Transport
- Southworth & Ben-Joseph, Streets and the shaping of towns and cities
- Boarnet & Crane, Travel by Design: The Influence of Urban Form on Travel

**Honor Code**

The UNC Honor Code states: “It shall be the responsibility of every student at The University of North Carolina at Chapel Hill to obey and to support the enforcement of the honor code, which prohibits lying, cheating, or stealing when these actions involve academic processes or University, student or academic personnel acting in an official capacity.”

This standard does not preclude discussions of assignments with other students. However, I expect that each person turns in their own work. You must also provide citations for any ideas that are not your own.

## Course Schedule

Class	Date	Topic	Assignments Due
1	8-19	Course Overview & Major Themes	
2	8-21	Travel Patterns	
3	8-26	Travel Patterns	
4	8-28	Transportation History	
5	9-2	Transportation History	
6	9-4	Urban Economics	
7	9-9	Transportation and Land Use: Modern Connections	Travel Patterns
8	9-11	Accessibility	
9	9-16	Congestion	
10	9-18	Transportation Planning Process	
11	9-23	Transportation Planning Process	
12	9-25	Environmental Impacts	
13	9-30	Environmental Impacts	
14	10-2	Transportation Finance: Current Status	MPO Plan
15	10-7	Transportation Finance: Future Alternatives	
16	10-9	Public Transit Finance	
17	10-14	Full Costs of Transportation	
	10-16	<b>Fall Break</b>	
18	10-21	Goods Movement	Finance
19	10-23	Safety & Security	
20	10-28	Equity & Environmental Justice	
21	10-30	Street Design	Public Meeting
22	11-4	Parking	
23	11-6	Traffic Impact	
24	11-11	New Approaches to Traffic Impact	Parking
25	11-13	Site Review	
26	11-18	Introduction to 4-Step Modeling	
27	11-20	Four-Step Details & Critiques	Traffic Impact
28	11-25	Catch-up	
	11-27	<b>Thanksgiving</b>	
29	12-2	The Future & Exam Review	Travel Demand
	TBA	<b>Final Exam</b>	

## Readings

\*\* Indicates required reading.

### Overview & Major Themes

Bertolini, L., F. le Clercq and T. Straatemeier. 2008. Urban transportation planning in transition. In *Transport Policy*, Vol. 15, No. 2, pp. 69-72.

Banister, D. (2008) The Sustainable Mobility Paradigm. *Transport Policy* 15(2): 73-80.

TRB's Critical Issues in Transportation 2013

<http://www.trb.org/publications/Blurbs/169945.aspx>

### Travel Patterns

\*\*(skim) Santos, A. et al Summary of Travel Trends: 2009 National Household Travel Survey. <http://nhts.ornl.gov/2009/pub/STT.pdf>

Pisarski. Commuting in America III, Executive Summary & Commuters in the Nineties. <http://onlinepubs.trb.org/onlinepubs/nchrp/CIAM3.pdf>

Puentes, R. and A. Tomer. 2008. *The Road ... Less Traveled: An Analysis of Vehicle Miles Traveled Trends in the US*.

[http://www.brookings.edu/~media/Research/Files/Reports/2008/12/16%20transportation%20to%20mer%20puentes/vehicle\\_miles\\_traveled\\_report.PDF](http://www.brookings.edu/~media/Research/Files/Reports/2008/12/16%20transportation%20to%20mer%20puentes/vehicle_miles_traveled_report.PDF)

Crane, R. 2007. "Is There a Quiet Revolution in Women's Travel?" *Journal of the American Planning Association*.

Chatman, D. and N. Klein. 2009. "Immigrants and Travel Demand in the United States: Implications for Transportation Policy and Future Research." *Public Works Management & Policy* 13(4): 312-327.

Thompson, D. and J. Weissmann. 2012. "The Cheapest Generation." *The Atlantic* August 22, 2012. <http://www.theatlantic.com/magazine/archive/2012/09/the-cheapest-generation/309060/>

### Transportation History

#### Day 1: Walking City and the Rise and Fall of Transit

\*\*Morris. 2007. "From Horse Power to Horsepower". Access 30

<http://www.uctc.net/access/30/Access%2030%20-%202002%20-%20Horse%20Power.pdf>

\*\*Muller, Peter O. 2004. "Transportation and Urban Form: Stages in the Spatial Evolution of the American Metropolis," in *The Geography of Urban Transportation*, Third Edition, Susan Hanson and Genevieve Giuliano, Editors. New York: The Guilford Press.

Foster, Mark. 1981. *From Streetcar to Superhighway: American City Planners and Urban Transportation, 1900-1940*. Philadelphia: Temple University Press.

Leroy, S. and J. Sonstelie. 1983. Paradise Lost and Regained: Transportation Innovation, Income and Residential Location. *Journal of Urban Economics* 13: 67-89.

America on the Move, Smithsonian. <http://americanhistory.si.edu/onthemove/index.html>

Wells, Christopher W. 2006. The Changing Nature of Country Roads: Farmers, Reformers, and the Shifting Uses of Rural Space, 1880-1905. *Agricultural History* 80(2): 143-166.

## **Day 2: The Rise of the Auto**

\*\*Muller, Peter O. 2004. "Transportation and Urban Form: Stages in the Spatial Evolution of the American Metropolis," in *The Geography of Urban Transportation*, Third Edition, Susan Hanson and Genevieve Giuliano, Editors. New York: The Guilford Press.

\*\*Brown, Jeffrey, Eric A. Morris, and Brian D. Taylor. 2009. Paved with Good Intentions: Fiscal Politics, Freeways and the 20th Century American City. *Access* 35  
[http://uctc.net/access/35/access35\\_Paved\\_with\\_Good\\_Intentions\\_Fiscal\\_Politics\\_.pdf](http://uctc.net/access/35/access35_Paved_with_Good_Intentions_Fiscal_Politics_.pdf)

Baum-Snow, N. 2007. Did Highways Cause Suburbanization? *Quarterly Journal of Economics* 122(2): 775-805.

Altshuler, A. and D. Luberoff. 2003. *Mega-Projects: The Changing Politics of Urban Public Investment*. Brookings Institution Press.

Lynch, L. 1981. *Good City Form*. Cambridge: MIT Press.

Glaeser, E. and J. Kohlhase. 2004. Cities, regions and the decline of transport costs. *Papers in Regional Science* 83(1):197-228.

Wachs, M. 2013. Turning cities inside out: transportation and the resurgence of downtowns in North America. *Transportation* 40(6).

## **Urban Economics**

\*\*O'Sullivan, A. Introduction to Land Rent and Land Use and Land Use in a Monocentric City. *Urban Economics*.

Pickrell, D. 1999. Transportation and Land Use. *Essays in Transportation Economics and Policy*. Washington DC: Brookings Institution Press.

Leroy, S. and J. Sonstelie. 1983. Paradise Lost and Regained: Transportation Innovation, Income and Residential Location. *Journal of Urban Economics* 13: 67-89.

Glaeser, Edward L., Matthew E. Kahn, and Jordan Rappaport. 2008. Why do the poor live in cities? The role of public transportation. *Journal of Urban Economics* 63, no. 1: 1-24.

Alonso. *Location and Land Use*.

Glaeser, Edward L. and Janet E. Kohlhase. Cities, Regions, and the Decline of Transport Costs. 2003. <http://www.economics.harvard.edu/pub/hier/2003/HIER2014.pdf>

## Transportation and Land Use: Modern Connections

\*\*Ewing, R. and Cervero, R. 2010. Travel and the built environment: A meta-analysis. *Journal of the American Planning Association* 76 (3):265-294.

\*\*Guerra, E. and R. Cervero. 2012. Transit and the “D” Word. *Access* 40.  
[http://www.uctc.net/access/40/access40\\_transitanddensity.pdf](http://www.uctc.net/access/40/access40_transitanddensity.pdf)

TRB SR 298 Driving and the Built Environment: The Effects of Compact Development on Motorized Travel, Energy Use, and CO2 Emissions. Summary  
<http://onlinepubs.trb.org/Onlinepubs/sr/sr298.pdf>

Bruegmann, Robert. 2008. “Point: Sprawl and Accessibility,” *Journal of Transport and Land Use*, 1(1): 5-11.(<https://www.jtlu.org/index.php/jtlu/article/view/30>)

Crane, Randall. 2008. “Counterpoint: Accessibility and Sprawl,” *Journal of Transport and Land Use*, 1(1): 13-19.(<https://www.jtlu.org/index.php/jtlu/article/download/56/21>)

Echenique, M., et al. 2012. Growing Cities Sustainably: Does Urban Form Really Matter? *Journal of the American Planning Association* 78(2):121-137. 10.1080/01944363.2012.666731

<http://environmentalresearchweb.org/blog/2012/05/does-urban-form-really-matter.html>

<http://www.theatlanticcities.com/design/2012/07/new-research-finds-urban-form-plays-little-role-sustainability/2680/>

<http://blog.metrotrends.org/2012/08/simulating-sprawl-reduction-england/>

<http://www.newgeography.com/content/002934-questioning-messianic-conception-smart-growth>

Boarnet, M. 1996. The Direct and Indirect Economic Effects of Transportation Infrastructure.  
<http://www.uctc.net/papers/340.pdf>

Guiliano, G. Land Use Impact of Transportation. *The Geography of Urban Transportation*, 3<sup>rd</sup> Ed.

Salon, Deborah, Marlon G. Boarnet, Susan Handy, Steven Spears, and Gil Tal. 2012. How do local actions affect VMT? A critical review of the empirical evidence. *Transportation Research Part D: Transport and Environment* 17(7): 495–508.

Bento, A.M., Cropper, M.L., Mobarak, A.M., Vinha, K., 2005. The Effects of Urban Spatial Structure on Travel Demand in the United States. *The Review of Economics and Statistics* 87: 466–478.

Ewing, R., K. Bartholomew, etc. 2007. *Growing Cooler: The Evidence on Urban Development and Climate Change*. Washington: Urban Land Institute.

Brownstone, D. 2008. Key Relationships Between the Built Environment and VMT. SR 298: Driving and the Built Environment: The Effects of Compact Development on Motorized Travel, Energy Use, and CO2 Emissions.

Crane, Randall (1998). “Travel by Design?” *Access*, 12, 2-7.  
<http://www.uctc.net/access/access12.shtml>

Melia, S., G. Parkhurst, H. Barton. 2011. The paradox of intensification. *Transport Policy* 18(1): 46-52.

Mohring, H. "Land Values and the Measurement of Highway Benefits." *J Polit Econ* 69 (1961): 236-249.

Muro, M. and R. Puentes. "Investing in a Better Future: A Review of the Fiscal and Competitive Advantages of Smarter Growth Development Patterns." Center on Urban and Metropolitan Policy, Brookings Institution, 2004

## **Accessibility**

TBA

## **Congestion**

\*\*Downs. "Why Traffic Congestion Is Here to Stay...and Will Get Worse. Access 25.

<http://www.uctc.net/access/25/Access%2025%20-%2004%20-%20Traffic%20Congestion%20is%20Here%20to%20Stay.pdf>

\*\*Taylor. "Rethinking Traffic Congestion." Access 21.

<http://www.uctc.net/access/21/Access%2021%20-%2003%20-%20Rethinking%20Congestion.pdf>

Varaiya. "What We've Learned About Highway Congestion" Access 27.

<http://www.uctc.net/access/27/Access%2027%20-%2002%20-%20What%20We%27ve%20Learned.pdf>

Cervero. "Are Induced-Travel Studies Inducing Bad Investments?" Access 22.

<http://www.uctc.net/access/22/Access%2022%20-%2004%20-%20Induced%20Travel%20Studies.pdf>

Small. Unnoticed Lessons From London. Access 26.

<http://www.uctc.net/access/26/Access%2026%20-%2003%20-%20Road%20Pricing%20and%20Public%20Transit.pdf>

Harsman, B. and J. Quigley. 2011. Political and Public Acceptability of Congestion Pricing: Ideology and Self-Interest in Sweden. Access 38.

[http://www.uctc.net/access/38/access38\\_congestion\\_pricing\\_sweden.pdf](http://www.uctc.net/access/38/access38_congestion_pricing_sweden.pdf)

## **Transportation Planning Process**

\*\*Wachs, M. Geography of Urban Transportation, Ch. 6

\*\*Handy, S. 2008. Regional transportation planning in the US: An examination of changes in technical aspects of the planning process in response to changing goals. *Transport Policy* 15: 113-126.

FHWA briefing book, Part 1 <http://www.planning.dot.gov/documents/briefingbook/bbook.htm>



A Citizen's Guide to Transportation Decision Making  
<http://www.fhwa.dot.gov/planning/decisionmaking/index.htm>

Chapple, K. and C. Makarewicz. 2010. Restricting new infrastructure. *Access* 36

Arnstein, Sherry R. 1969. "A Ladder of Citizen Participation," *Journal of the American Institute of Planners*. 35(4): 216-224. <http://lithgow-schmidt.dk/sherry-arnstein/ladder-of-citizen-participation.html>

Transportation 4 America. 2011. Transportation101: An Introduction to Federal Transportation Policy. <http://t4america.org/docs/Transportation%20101.pdf>

Cheat Sheet for MAP-21 <http://www.transportationissuesdaily.com/cheat-sheet-for-map21-new-federal-transportation-bill/>

MAP-21 Summaries and Reports <http://www.transportationissuesdaily.com/new-map-21-reports-and-summaries/>

Avin, U. 2012. "Tools for Building Scenarios: Sorting Out What to Use When." *Planning* December 2012.

## **Environmental Impacts**

\*\*Transportation Conformity: A Basic Guide for State and Local Officials  
[http://www.ampo.org/assets/25\\_bguide05.pdf](http://www.ampo.org/assets/25_bguide05.pdf)

\*\*FHWA Environmental Guidebook.  
<http://www.environment.fhwa.dot.gov/guidebook/index.asp>

\*\* (Skim) DOT Report to Congress  
[http://ntl.bts.gov/lib/32000/32700/32779/DOT\\_Climate\\_Change\\_Report\\_-\\_April\\_2010\\_-\\_Volume\\_1\\_and\\_2.pdf](http://ntl.bts.gov/lib/32000/32700/32779/DOT_Climate_Change_Report_-_April_2010_-_Volume_1_and_2.pdf)

Lutsey, Nic. 2012. "New Automobile Regulations." *Access* 41: 2-9.  
[http://uctc.net/access/41/access41\\_fueleconomy.pdf](http://uctc.net/access/41/access41_fueleconomy.pdf)

Schipper, Lee. 2009. Moving Forward With Fuel Economy Standards *Access* 34.  
<http://www.uctc.net/access/34/Access%2034%20-%202003%20-%20Fuel%20Economy%20Standards.pdf>

Practitioners Handbook. Using the transportation planning process to support the NEPA process. AASHTO.

CDOT. Chapter 2: National Environmental Policy Act and Implementing Regulations. CDOT NEPA Manual

American Assoc of State Highway and Transportation Officials (AASHTO) - AASHTO's Center for Environmental Excellence. <http://environment.transportation.org/>

AASHTOs – The NEPA Process.  
[http://environment.transportation.org/environmental\\_issues/nepa\\_process/](http://environment.transportation.org/environmental_issues/nepa_process/)

Council on Environmental Quality (CEQ). <http://www.whitehouse.gov/administration/eop/ceq>;  
[http://ceq.hss.doe.gov/nepa/Citizens\\_Guide\\_Dec07.pdf](http://ceq.hss.doe.gov/nepa/Citizens_Guide_Dec07.pdf)

Sierra Club – The Road to Better Transportation Projects: public Involvement and the NEPA Process. [http://www.sierraclub.org/sprawl/nepa/sprawl\\_report.pdf](http://www.sierraclub.org/sprawl/nepa/sprawl_report.pdf)

Energy Use by Mode (MJ Bradley & Associates May 2007)  
<http://www.buses.org/files/ComparativeEnergy.pdf>

## **Goods Movement**

\*\*Levinson, Marc. 2006. *The Box: How the Shipping Container Made the World Smaller and the World Economy Bigger*. Princeton, NJ. Chapter 1.

\*\*Glaeser, Edward L. and Janet E. Kohlhase. Cities, Regions, and the Decline of Transport Costs. 2003. <http://www.economics.harvard.edu/pub/hier/2003/HIER2014.pdf>

Feuer, A. 2012. On the waterfront, rise of the machines. *New York Times* September 28, 2012. <http://www.nytimes.com/2012/09/30/nyregion/in-new-yorks-port-the-rise-of-the-machines.html?pagewanted=all>

Ogden, Kenneth. 1992. *Urban Goods Movement: a Guide to Policy and Planning*. Brookfield, Vt. Chapter 1.

Woudsma, Clarence. 2001. Understanding the Movement of Goods, Not People: Issues, Evidence and Potential. *Urban Studies* 38(13): 2439-2455.

Hesse, Markus and Jean-Paul Rodrigue. 2004 The Transport Geography of Logistics and Freight Distribution. *Journal of Transport Geography* (12)3.

Leinbach, Thomas. 2004. City Interactions: The Dynamics of Passenger and Freight Flows?, in *The Geography of Urban Transportation*, Third Edition, Susan Hanson and Genevieve Giuliano, Editors. New York: Guilford Press. Pages 30-58.

Erie, Steven P. 2004. Weathering Storms at the Ports. in *Globalizing L.A.: Trade, Infrastructure, and Regional Development*. Stanford, CA.

Department of Transportation, Federal Highway Administration. 1997 Federal Highway Cost Allocation Study Final Report. Executive Summary.

## **Transportation Finance: Current Status and Challenges**

\*\*Wachs, M. 2011. “Transportation, Jobs and Economic Growth.” *Access* 38. [http://www.uctc.net/access/38/access38\\_transportation\\_growth.pdf](http://www.uctc.net/access/38/access38_transportation_growth.pdf)

\*\* (Skim) 2009. Paying Our Way: A New Framework for Transportation Finance. [http://financecommission.dot.gov/Documents/NSTIF\\_Commission\\_Final\\_Report\\_Mar09FNL.pdf](http://financecommission.dot.gov/Documents/NSTIF_Commission_Final_Report_Mar09FNL.pdf)

(Skim)National Surface Transportation Policy and Revenue Study Commission Report  
[http://www.transportationfortomorrow.org/final\\_report/](http://www.transportationfortomorrow.org/final_report/)

Taylor, B. 2000. When Finance Leads Planning: Urban Planning, Highway Planning and Metropolitan Freeways. *Journal of Planning Education and Research*. 20 (2): 196-214

CRS Report for Congress. 2004. Federal-Aid Highway Program: “Donor-Donee” State Issues  
[http://burgess.house.gov/UploadedFiles/Federal-Aid%20Highway%20Program%20Donor-  
Donee%20State%20Issues.pdf](http://burgess.house.gov/UploadedFiles/Federal-Aid%20Highway%20Program%20Donor-Donee%20State%20Issues.pdf)

Abrantes & Wardman. 2011. Meta-Analysis of UK Values of Travel Time: An Update.  
*Transportation Research Part A* 45(1): 1-17. <http://dx.doi.org/10.1016/j.tra.2010.08.003>

Sciara, Gian-Claudia. 2012. Peering Inside the Pork Barrel. *Access* 41.  
<http://uctc.net/access/41/access-41-pork.pdf>

### **Transportation Finance: Future Alternatives**

\*\* (Skim) 2009. Paying Our Way: A New Framework for Transportation Finance.  
[http://financecommission.dot.gov/Documents/NSTIF\\_Commission\\_Final\\_Report\\_Mar09FNL.pdf](http://financecommission.dot.gov/Documents/NSTIF_Commission_Final_Report_Mar09FNL.pdf)

\*\*Sorenson. 2013. “From Fuel Taxes to Mileage Fees.” *Access* 43.

Wachs. “Local Option Transportation Taxes: Devolution as Revolution.” *Access* 22.  
<http://www.uctc.net/access/22/Access%2022%20-%2002%20-%20Local%20Option%20Transportation%20Taxes.pdf>

Taylor, B. and L. Schweitzer. 2010. Just Road Pricing. *Access* 36.

Sorensen and Taylor. “Paying for Roads: New Technology for an Old Dilemma.” *Access* 26.  
<http://www.uctc.net/access/26/Access%2026%20-%2002%20-%20New%20Technology%20for%20an%20Old%20Dilemma.pdf>

TR News Special Issue on Public Private Partnerships, May-June 2011.

TRB SR 303, 2011. Equity of Evolving Transportation Finance Mechanisms.  
<http://onlinepubs.trb.org/onlinepubs/sr/sr303.pdf>

Taylor, B., Wachs, M., et al. 2006. Transportation Pricing and Finance Options for California.  
<http://www.dot.ca.gov/newtech/researchreports/2002-2006/2006/ca06-0590.pdf>

Kahn & Levinson.  
[http://www.brookings.edu/~media/Research/Files/Papers/2011/2/highway%20infrastructure%20kahn%20levinson/02\\_highway\\_infrastructure\\_kahn\\_levinson\\_paper.PDF](http://www.brookings.edu/~media/Research/Files/Papers/2011/2/highway%20infrastructure%20kahn%20levinson/02_highway_infrastructure_kahn_levinson_paper.PDF)

Devolution <http://www.transportationissuesdaily.com/insights-into-devolving-federal-transportation/>

### **Public Transit Finance**

\*\*Hess, Daniel Baldwin and Peter A. Lombardi. "Governmental Subsidies for Public Transit: History, Current Issues, and Recent Evidence," *Public Works Management & Policy* 10(2), 2005, pp. 138–156.

TCRP Report 129. 2009. Local and Regional Funding Mechanisms for Public Transportation. [http://books.nap.edu/catalog.php?record\\_id=14187](http://books.nap.edu/catalog.php?record_id=14187), especially Section 2.

\*\*Guerra, E. and R. Cervero. 2012. Transit and the "D" Word. *Access* 40. [http://www.uctc.net/access/40/access40\\_transitanddensity.pdf](http://www.uctc.net/access/40/access40_transitanddensity.pdf)

Iseki, Hiroyuki, Michael Smart, Brian D. Taylor, and Allison Yoh. 2012. Thinking Outside the Bus *Access* 40. [http://www.uctc.net/access/40/access40\\_outsidethebus.pdf](http://www.uctc.net/access/40/access40_outsidethebus.pdf)

Brown, Jeffrey. 2005. "Paying for Transit in an Era of Federal Policy Change." *Journal of Public Transportation* 8(3): 1–32.

Taylor, Brian D., Mark Garrett, and Hiroyuki Iseki. 2000. Measuring Cost Variability in the Provision of Transit Service. *Transportation Research Record* 1735: 101–112.

Wachs, Martin, 1989. "U.S. Transit Subsidy Policy: In Need of Reform," *Science* 244: 1545–1549.

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O'Regan & Quigley. 1998. Cars for the Poor. *Access* 12. <http://www.uctc.net/access/access12.shtml>

### **Full Costs of Transportation**

\*\*Delucchi 2000. Should we try to get the prices right? *Access* 16:10-14.

Delucchi Environment Externalities of Motor-Vehicle Use in the US. *Journal of Transport Economics and Policy* 34(2): 135-168.

Delucchi. 2007. Do motor vehicle users in the US pay their way? *Transportation Research Part A* 41: 982-1003.

Levinson, David (2012) [Accessibility Impacts of High Speed Rail Journal of Transportation Geography](#) pp. 288-291 [doi]

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Chester, Mikhail and Arpad Horvath. 2010. Life-cycle Environmental Assessment of California High Speed Rail. *Access* 37 [http://www.uctc.net/access/37/access37\\_assessing\\_hsr.pdf](http://www.uctc.net/access/37/access37_assessing_hsr.pdf)

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## **Safety & Security**

\*\*Cambridge Systematics and Meyer, M. 2008. Crashes vs. Congestion: What's the Cost to Society? AAA.

<http://www.aaanewsroom.net/Assets/Files/20083591910.CrashesVsCongestionFullReport2.28.08.pdf>

\*\*Zeeger, C. and M. Bushell. 2012. Pedestrian Crash Trends and Potential Countermeasures from around the World. *Accident Analysis and Prevention* 44(1):3-11  
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