THE OHIO STATE UNIVERSITY Winter Quarter 2003
City and Regional Planning Professor Philip A. Viton

City and Regional Planning 794 — Introduction to Transportation Planning

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Credits:	4 hours
Sequence No.:	04419–5
Meeting:	270 Brown Hall
Time:	Thursday 11:30 – 1:30
Instructor's Office:	289B Brown Hall
Office Hours:	Thursday, 2:00 – 4:00 pm or by appointment
E-mail:	`viton.1@osu.edu`

Email list: If you wish to be notified about materials availability, etc, you should send email to `viton.1@osu.edu` asking to be added to the 794 mailing list.

Course Description and Objectives

This course is an elementary introduction to concepts and issues in urban transport planning, presenting a broad overview of our current knowledge, and introducing students to methods used in applying that knowledge.

By the conclusion of the course the student will have developed and understanding of :

- the organization of urban transport in the US, including its history and finance
- the physical characteristics of the highway system and of the principal modes of urban transport
- the comparative costs of the various modes, and how to study them using available data
- the main determinants of travel demand, and how to use statistical packages to study those determinants
- the principal negative impacts of patterns of travel, and the costs they impose on the community
- the principles of investment in transportation infrastructure
- the determinants of the behavior of public institutions connected with urban transportation

Course Organization

Lectures.

Evaluation

The only requirement for the class is a paper, which can be on any aspect of transportation (not necessarily on a topic covered in class). The principal constraint here is that the paper *must contain a contribution of your own*: a paper which simply repeats or summarizes someone else's work is not acceptable. (However, the paper could be an intelligent, *original* critique of someone else's work).

The paper is due on my mailbox in Brown 109 by noon on the Friday of Exam Week. No late papers will be accepted.

Course Website

I've set up a small website for the course, at

`http://facweb.arch.ohio-state.edu/pviton/courses2/crp794`

There may be occasional notes posted there (these will also be announced in class). One feature of the webiste is that there will be an HTML copy of the syllabus, with live links to those readings which may be found on-line. (There will also be a PDF version, but the links will not be live).

Texts

Many of the books on the reading list will be on reserve in the Science and Engineering Library. Offprints of articles will be available for in the C&RP 794 Vertical File: ask at the Circulation Desk. In addition, the HTML copy of the syllabus on the course website (see above) has live links to those materials which are available on-line.

Course Outline and Reading List

1 Introduction

Overview of the state of transportation and urban transportation in particular: institutions, mode shares, trip purposes, transport finance.

Michael D. Meyer and Eric J. Miller. *Urban Transportation Planning: A Decision-Oriented Approach*. McGraw-Hill Book Company, New York, NY, 1984, Chs. 1, 2.

Kenneth D. Boyer. *Principles of Transportation Economics*. Addison Wesley Longman, Inc., Reading, Mass., 1997, Ch. 1.

Vukan R. Vuchic. *Urban Public Transportation: Systems and Technology*. Prentice-Hall, Englewood Cliffs, N.J., 1981, Ch.1

Clifford M. Winston and Chad Shirley. *Alternate Route: Toward Efficient Urban Transportation*. Brookings Institution, Washington D. C., 1998, Ch. 2.

2 Some Recent Issues

John F. Kain. "The urban transportation problem: A reexamination and update". In Jose Gómez-Ibañez, William B. Tye, and Clifford Winston, editors, *Essays in Transportation Economics and Policy*, pages 359–402. Brookings Institution Press, Washington, D. C., 1999.
ebook version: `http://www.netlibrary.com/ebook_info.asp?product_id=4905`

Don Pickrell. "Transportation and land use". In Jose Gómez-Ibañez, William B. Tye, and Clifford Winston, editors, *Essays in Transport Economics and Policy*, pages 403–436. Brookings Institution Press, Washington D. C., 1999.
ebook version: `http://www.netlibrary.com/ebook_info.asp?product_id=4905`

Maureen O'Regan and John M. Quigley. "Accessibility and economic opportunity". In Jose Gómez-Ibañez, William B. Tye, and Clifford Winston, editors, *Essays in Transport Economics and Policy*, pages 437–468. Brookings Institution Press, Washington D. C., 1999.
ebook version: `http://www.netlibrary.com/ebook_info.asp?product_id=4905`

3 The Highway Network

Overview and history; classification of roads; introduction to models of traffic flow; construction and maintenance costs.

E. K. Morlok. *Introduction to Transportation Engineering and Planning*. McGraw-Hill, New York, 1978, Ch. 5.

Kenneth D. Boyer. *Principles of Transportation Economics*. Addison Wesley Longman, Inc., Reading, Mass., 1997, Ch. 6, (read pp. 127–133).

Kenneth A. Small, Clifford M. Winston, and Carol Evans. *Road Work*. The Brookings Institution, Washington, D.C., 1989, Chs. 2, 3.

4 Vehicle Characteristics

Overview of physical characteristics of urban transport vehicles: speeds, energy usage, capacities, costs.

Vukan R. Vuchic. *Urban Public Transportation: Systems and Technology*. Prentice-Hall, Englewood Cliffs, N.J., 1981, Ch. 2.

Kenneth D. Boyer. *Principles of Transportation Economics*. Addison Wesley Longman, Inc., Reading, Mass., 1997, Ch. 7.

E. K. Morlok. *Introduction to Transportation Engineering and Planning*. McGraw-Hill, New York, 1978, Ch. 9.

5 Traffic Congestion

Traffic congestion is widely perceived to be the principal problem of urban transportation.

Kenneth D. Boyer. *Principles of Transportation Economics*. Addison Wesley Longman, Inc., Reading, Mass., 1997, Ch. 10.

Herbert Mohring. "Congestion". In Jose Gómez-Ibañez, William B. Tye, and Clifford Winston, editors, *Essays in Transportation Economics and Policy*, pages 181–222. Brookings Institution Press, Washington, D.C, 1999.
ebook version: `http://www.netlibrary.com/ebook_info.asp?product_id=4905`

Theodore E. Keeler and Kenneth A. Small. "Optimal peak-load pricing, investment and service levels on urban expressways". *Journal of Political Economy*, 85(1):1–25, 1977.
j-stor version: `http://www.jstor.org/browse/00223808/di950979?config=jstor&frame=noframe&userID=a46bd095@ohio-state.edu/01cc99331a0050594560 &dpi=3`

"Managing Our Mobility as We Grow": selected materials from Columbus Congestion Summit, 2000.

Philip A. Viton: "Congestion: An Economist's View", working paper, 2000.

6 Air Pollution, Noise, Developmental Impacts of Urban Transport

Other impacts of urban transportation.

Kenneth A. Small and Camilla Kazimi. "On the costs of air pollution from motor vehicles". *Journal of Transport Economics and Policy*, 29:7–32, January 1995

Kenneth D. Boyer. *Principles of Transportation Economics*. Addison Wesley Longman, Inc., Reading, Mass., 1997, Ch. 14, pp. 375–397

E. K. Morlok. *Introduction to Transportation Engineering and Planning*. McGraw-Hill, New York, 1978, Ch. 13.

Arnold M. Howitt and Alan Altshuler. "The politics of controlling air pollution". In Jose Gómez-Ibañez, William B. Tye, and Clifford Winston, editors, *Essays in Transportation Economics and Policy*, pages 223–256. Brookings Institution Press, Washington D.C., 1999.
ebook version: `http://www.netlibrary.com/ebook_info.asp?product_id=4905`

7 Urban Travel Demand

T. Domencich and D. McFadden. *Urban Travel Demand: A Behavioral Analysis*. North-Holland, New York, 1975, Chs. 3, 4.
An online version, of possibly poor quality, is available from `http://elsa.berkeley.edu/users/mcfadden/travel.ht` at UC Berkeley.

Kenneth D. Boyer. *Principles of Transportation Economics*. Addison Wesley Longman, Inc., Reading, Mass., 1997, Ch. 8.

Kenneth A. Small and Clifford Winston. "The demand for transportation: Models and applications". In Jose Gómez-Ibañez, William B. Tye, and Clifford Winston, editors, *Essays in Transportation Economics and Policy*, pages 11–56. Brookings Institution Press, Washington, D.C., 1999.
ebook version: `http://www.netlibrary.com/ebook_info.asp?product_id=4905`

Philip A. Viton, "Getting Started With Limdep for Windows", working paper, 1999.

8 Investment in Transport Facilities

Principles for the determination of appropriate levels for investment in roads, vehicles, and systems; long-range planning.

Michael D. Meyer and Eric J. Miller. *Urban Transportation Planning: A Decision-Oriented Approach*. McGraw-Hill Book Company, New York, NY, 1984, Ch. 9.

Kenneth D. Boyer. *Principles of Transportation Economics*. Addison Wesley Longman, Inc., Reading, Mass., 1997, Ch. 9.

E. K. Morlok. *Introduction to Transportation Engineering and Planning*. McGraw-Hill, New York, 1978, Ch. 15

9 Institutional Behavior

Determinants of the decisions of public bodies concerned with urban transportation.

Daniel McFadden. "The revealed preferences of a government bureaucracy: Empirical evidence". *Bell Journal of Economics*, 7(1):55–72, 1976.
j-stor version: http://www.jstor.org/browse/0361915x/di010128?config=jstor&frame=noframe&userID=a46bd095@ohio-state.edu/01cc99331a0050594560&dpi=3

Clifford M. Winston and Chad Shirley. *Alternate Route: Toward Efficient Urban Transportation*. Brookings Institution, Washington D. C., 1998, Ch. 5.