

University of Alberta, Department of Economics
ECONOMICS 561-A2: TRANSPORTATION ECONOMICS

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Office Hours: Tuesday 11:00-12:00, Thursday 13:00-15:00 and by appointment.

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Fall 2009

Tu/Th 9:30 - 11:00

Room: T1 - 104

COURSE CONTENT AND OBJECTIVES

Economics 561 has two primary goals. One is to train students in the concepts and tools required to undertake research on transportation-related problems and to help advise policymakers. A second goal is to apply microeconomic theory to the field of transportation economics in order to gain a better appreciation of how economic principles work in a particular sector of the economy and how transportation economics complements transportation engineering and other disciplines. Part II of the course covers travel demand and Part III covers transport costs. These two parts are brought together in Part IV to study efficient pricing and investment decisions, as well as policies to address traffic congestion and other market failures.

TEXTBOOK

Small, K.A. and E.T. Verhoef (2007), The Economics of Urban Transportation, London: Routledge.

MAJOR REFERENCES

Gómez-Ibáñez, J.A., W.B. Tye and C. Winston, eds. (1999), Essays in Transportation Economics and Policy: A Handbook in Honor of John R. Meyer, Brookings Institution.

Button, K.J. (1993), Transport Economics, Edward Elgar.

Boyer, K.D. (1998), Principles of Transportation Economics, Reading, Mass: Addison Wesley Longman.

Quinet, E. and R. Vickerman (2004), Principles of Transport Economics, Cheltenham and Northampton, Mass: Edward Elgar.

Winston, C. (1985), "Conceptual developments in the economics of transportation: An interpretive survey", Journal of Economic Literature XVIII(1), 57-94.

Calculation of Course Grade – Grading System

Component	Date	Weight
Midterm Exam (80 minutes, closed book)	Thursday, October 15	20%
In-class presentations	To be determined on individual basis	10%
Essay	Thursday, December 3 (last class) by 16:30	30%
Final Exam (2.5 hours, closed book)		40%
Deferred Final Exam. Must be applied for at the student's Faculty office. Will be written in the Department offices; report to 8-14 Tory Building.	To be determined	40% unless midterm exam or essay missed with valid excuse.

Midterm exam

The midterm exam will be closed book. No notes may be consulted and no electronic devices other than calculators may be used. Excuse for missing the midterm exam will be granted only on presenting a medical certificate or a police report (e.g. because of a traffic accident). If you miss the midterm for legitimate reasons the 20 percent weight will be transferred to the final exam.

Essays

Guidelines for essays will be provided in a separate document. Essays are due by 16:30 on December 3, the last day of class. They can be submitted before the due date. You can put them in my mail box in Tory 8-14 during department office hours (8:30-12:00, 13:00-16:30) or push it under the door of my office, Tory 9-10. There is no need to knock first! A penalty of 10% points will be imposed for each day or fraction of a day (including weekends) that essays are late. Essays must be typed and hard copies must be submitted. Electronic submissions by e-mail or FAX are not permitted.

Class presentations and discussion

Format, rules & grading of class presentations & discussion are explained in a separate document.

Final exam

Similar to the midterm exam the final exam will be closed book. No notes may be consulted, and no electronic devices other than calculators may be used. **The final exam will be cumulative although emphasis will be placed on material that was covered since the midterm exam.** The format of the midterm and final exams will be similar to the format of exams given in past years that will be posted on WebCT. (Use of WebCT is described below.) You should keep your midterm exam and essay until final grades have been posted in case marks were not recorded correctly. If this happens you can present your work and receive proper credit.

Course grade

The course grade will be calculated on a percentage basis. It will then be translated to the University 4-point grading system. A particular distribution (e.g. a normal distribution) will **not** be used. Final course grades are determined according to the *University calendar §23.4*. Grades reflect judgments of student achievement made by instructors. These judgments are based on a combination of absolute achievement and relative performance in a class. The distribution of final grades has to be approved by the chair of the department. Grades will be released by the university in due course. **Grades will not be divulged by the instructor.**

Grading in Graduate Courses		
<i>Descriptor</i>	<i>Letter Grade</i>	<i>Point Value</i>
Excellent	A+	4.0
	A	4.0
	A-	3.7
Good	B+	3.3
	B	3.0
	B-	2.7
Satisfactory	C+	2.3
Failure	C	2.0
	C-	1.7
	D+	1.3
	D	1.0
	F	0

Use of E-Learning services

The course will use E-Learning services. The following material will be available on the course website: this course outline, guidelines & suggested topics for essays, lecture notes, selected readings, and midterm exam and answer key. In addition, midterm and final exam questions and answers from previous years will be posted as well as a guide that lists questions by topic in the order that the topics are covered in the course.

To access the course go to <http://www.ualberta.ca/ELEARNING>. To resolve any problems with your ID or password, follow the instructions on the ELearning website.

READINGS

Except if indicated otherwise books are on reserve in Rutherford Library North. Many of the journal articles are available on-line through the university library (NEOS). Some readings will be uploaded to the course website.

COURSE OUTLINE AND READING LIST

* Highly recommended

I. Introduction

* Small and Verhoef (2007), Chapter 1.

*Winston, 57-61.

Quinet and Vickerman, Chapter 1.

Boyer, Chapter 1.

Button, Chapter 1, Section 2.1.

II. Travel demand

(a) Overview and modeling

*Small and Verhoef (2007), Chapter 2.

*Small, K.A. and C. Winston (1999), "The demand for transportation: Models and applications", in Gómez-Ibáñez, Tye and Winston, eds., 11-55.

*Winston, 69-78.

Bates, J. (2000), "History of demand modeling", in D.A. Hensher and K.J. Button, eds., Handbook of Transport Modelling 1. Oxford: Elsevier Science, 11-33. See also revised version in D.A. Hensher and K.J. Button, eds., Handbook of Transport Modelling 1, 2nd ed., Oxford: Elsevier Science, 11-34.

Quinet and Vickerman, Chapter 4.

Boyer, Chapters 2-4.

Button, Chapter 3.

(b) Theory of discrete choice

* Small and Verhoef (2007), Sections 2.2-2.4.

* De Palma, A., R. Lindsey and N. Picard (2006), "Urban passenger travel demand". In R. Arnott and D. McMillen, eds., The Blackwell Companion to Urban Economics, Oxford: Blackwell Publishing, Chapter 16, 261-280.

Ben-Akiva, M. and M. Bierlaire (1999), "Discrete choice methods and their applications to short term travel decisions", in R.W. Hall, ed., Handbook of Transportation Science,

Boston/Dordrecht/London: Kluwer Academic Publishers, 5-33.

Train, K. (2003), Discrete Choice Methods with Simulation, Cambridge University Press. Can be downloaded chapter-by-chapter at <http://elsa.berkeley.edu/books/choice2.html>.

Lam, T.C. and K.A. Small (2001), "The value of time and reliability: measurement from a value pricing experiment", Transportation Research E 37E, 231-251.

(c) Value of travel time and reliability

* Small and Verhoef (2007), Section 2.6.

Gunn, H.F. (2000), "An introduction to the valuation of travel-time savings and losses", in D.A. Hensher and K.J. Button, eds., Handbook of Transport Modelling, Oxford: Elsevier Science, 2000, 433-448. See also revised version in D.A. Hensher and K.J. Button, eds., Handbook of Transport Modelling 1, 2nd ed., Oxford: Elsevier Science, 503-517.

Wardman, Mark (2001), "A review of British evidence on time and service quality valuations", Transportation Research 37E, 107-128.

Bates, John, J. Polak, P. Jones, and A. Cook (2001), "The valuation of reliability for personal travel," Transportation Research 37E, 191-229.

Welch, M. and H. Williams (1997), "The sensitivity of transport investment benefits to the evaluation of small travel-time savings", Journal of Transport Economics and Policy 31(3), 231-254.

Redmond, L.S. and P.L. Mokhtarian (2001), "The positive utility of the commute: modeling ideal commute time and relative desired commute", Transportation 28(2), 179-205.

Richardson, A.J. (2003), "Some evidence of travelers with zero value of time", Transportation Research Record 1854, 107-113. [Hard copy available in Cameron library.]

(d) Travel demand elasticities

Small and Verhoef (2007), Section 2.1.5.

*Oum, T.H., W.G. Waters II and J-S. Yong (1992), "Concepts of price elasticities of transport demand and recent empirical estimates: an interpretative survey", Journal of Transport Economics and Policy 26(2), 139-154 and 164-169.

*Oum, T.H. and W.G. Waters II (2000), "Transport demand elasticities", in D.A. Hensher and K.J. Button, eds., Handbook of Transport Modelling 1, Oxford: Elsevier Science, 197-210. See also revised version: Oum, T.H., W.G. Waters II and X. Fu (2008), "Transport demand elasticities", in D.A. Hensher and K.J. Button, eds., Handbook of Transport Modelling 1, 2nd ed., Oxford: Elsevier Science, 239-255.

Graham, D.J. and S. Glaister (2002), "The demand for automobile fuel: a survey of elasticities", Journal of Transport Economics and Policy 36, 1-25.

Victoria Transport Policy Institute, "Transportation elasticities: How prices and other factors affect travel behavior, TDM Encyclopedia (<http://www.vtpi.org/tm/tm11.htm>).

(e) Public transport demand

*Small, K.A. and J.A. Gómez-Ibáñez (1999), “Urban transportation”, in P. Cheshire and E.S. Mills, eds., Handbook of Regional and Urban Economics 3, Amsterdam: North-Holland, Section 5.

Pucher, J. (2002), “Renaissance of public transport in the United States?”, Transportation Quarterly 56(1), 33-49.

O’Sullivan, A. (2003), Urban Economics, 5th edition, Boston: McGraw-Hill Irwin, Chapter 12.

(f) Substitutes for travel

Salomon, I. (2000), “Can telecommunications help solve transportation problems?”, in D.A. Hensher and K.J. Button, eds., Handbook of Transport Modelling, Oxford: Elsevier Science, 2000, 449-462. See also revised version by I. Salomon and P.L. Mokhtarian in D.A. Hensher and K.J. Button, eds., Handbook of Transport Modelling 1, 2nd ed., Oxford: Elsevier Science, 519-540.

Mokhtarian, P.L. and I. Salomon (2001), “How derived is the demand for travel? Some conceptual and measurement considerations”, Transportation Research A 35A, 695-719.

Chooi, S., P.L. Mokhtarian and I. Salomon (2005), “Does telecommuting reduce vehicle-miles traveled? An aggregate time series analysis for the U.S.”, Transportation 32, 37-64.

III. Costs

*Small and Verhoef (2007), Chapter 3.

*Braeutigam, R.R. (1999), “Learning about Transport Costs”, Chapter 3 in Gómez-Ibáñez, Tye and Winston, eds., 57-98.

Quinet and Vickerman, Chapter 5.

Button, Chapter 4.

Boyer, Chapters 5-8.

Winston, 61-69.

Pels, E. and P. Rietveld (2000), “Cost functions in transport”, in D.A. Hensher and K.J. Button, eds., Handbook of Transport Modelling 1, Oxford: Elsevier Science, 321-333. See also revised version in D.A. Hensher and K.J. Button, eds., Handbook of Transport Modelling 1, 2nd ed., Oxford: Elsevier Science, 381-394.

IV. Pricing, Congestion and other Transport Externalities

(a) Pricing

*Small and Verhoef (2007), Section 4.5.

*Winston, 78-81.

*Gómez-Ibáñez, J.A. (1999), “Pricing”, Chapter 4 in Gómez-Ibáñez, Tye and Winston, eds., 99-136.

Boyer, Chapters 10-11.

Parry, I.W.H., M. Walls and W. Harrington (2007), "Automobile externalities and policies", Journal of Economic Literature 45, 373-399.

(b) Congestion and congestion pricing

*Small and Verhoef (2007), Section 3.3, Chapter 4.

*Arnott, R. and K.A. Small (1994), "The economics of traffic congestion", American Scientist 82, Sept.-Oct., 446-455.

*Lindsey, R. and E.T. Verhoef (2001), "Traffic congestion and congestion pricing", in K.J. Button and D.A. Hensher, eds., Handbook of Transport Systems and Traffic Control, Oxford: Elsevier Science, 77-105.

* Parry, I.W.H. (2008), "Pricing urban congestion", Resources for the Future, Discussion Paper 08-35.

Arnott, R. and M. Kraus (2003), "Transport Economics", in R. W. Hall (eds.), Handbook of Transportation Science, Second Edition, International Series in Operations Research and Management Science 56, Dordrecht, The Netherlands: Kluwer. [Available via electronic access only at library.]

O'Sullivan, A. (2003), Urban Economics, 5th edition, Boston: McGraw-Hill Irwin, Chapter 11.

De Palma, A. and R. Lindsey (2000), "Transportation: Supply and congestion", International Encyclopedia of the Social & Behavioral Sciences, N.J. Smelser and P.B. Baltes, eds., Oxford: Pergamon, Vol. 23, 2001, 15882-8.

*Verhoef E., P. Nijkamp and P. Rietveld (1996), "Second-best congestion pricing: the case of an untolled alternative", Journal of Urban Economics 40, 279-302.

Verhoef, E.T. and K.A. Small (2004), "Product differentiation on roads: Constrained congestion pricing with heterogeneous users", Journal of Transport Economics and Policy 38(1), 127-156.

Small, K.A., C. Winston and J. Yan (2006), "Differentiated road pricing, express lanes, and carpools: Exploiting heterogeneous preferences in policy design", Brookings-Wharton Papers on Urban Affairs, 53-96.

Lindsey, R. (2006), "Do economists reach a conclusion on highway pricing?: The intellectual history of an idea", Econ Journal Watch 3(2), May, 292-379 (<http://www.econjournalwatch.org>).

Transport Canada (2006), *The Cost of Urban Congestion in Canada*, Ottawa: Transport Canada, Environmental Affairs. March 2006 (revised July 2007).

<http://www.tc.gc.ca/pol/en/acs/EconomicAnalysis/docs/summary.pdf> [August 12, 2009].

Lindsey, R. (2007), "Congestion relief: Assessing the case for road tolls in Canada", C.D. Howe Institute Commentary 248, May (<http://www.cdhowe.org>).

(c) Other externalities

Environmental externalities

Small and Verhoef (2007), Section 3.4.6, item (7).

Small K. and C. Kazimi (1995), “On the costs of air pollution from motor vehicles”, Journal of Transport Economics and Policy, 29(1), 7-32.

Accidents and Safety

Small and Verhoef (2007), Section 3.4.6, item (5).

Small, K.A. and J.A. Gómez-Ibáñez (1999), “Urban transportation”, in P. Cheshire and E.S. Mills, eds., Handbook of Regional and Urban Economics 3, Amsterdam: North-Holland, Section 4.

Savage, I. (2001), “Transport Safety”, in D.A. Hensher and K.J. Button, eds., Handbook of Transport Systems and Traffic Control 3, Oxford: Elsevier Science, 229-240.

Waters, W.G., II (2002), “Science and policy in the economic assessment of transport regulations”, in L. Jones, ed., Safe Enough? Managing Risk and Regulation, Vancouver, B.C.: The Fraser Institute, 53-72.

V. Investment and Information Technology

Infrastructure investment

*Small and Verhoef (2007), Section 3.5, Chapter 5.

Small, K.A., C. Winston and C.A. Evans (1989), Road Work: A New Highway Pricing and Investment Policy, Washington D.C.: Brookings Institution.

Winston, C. (1991), “Efficient transportation infrastructure policy”, Journal of Economic Perspectives 5(1), Winter, 113-127.

The Van Horne Institute (2004), “Calgary/Edmonton High-Speed Rail: An Integrated Region”, Pre-Feasibility Study, October (<http://www.vanhorne.info/publications>).

23.5.6 Absence from Exams (University Calendar §23.5.6)

When a student is absent from a term or final exam without acceptable excuse, a final grade will be computed using a raw score of zero for the exam missed.

Any student who is incapacitated because of illness, is suffering from severe domestic affliction or has other compelling reasons (including religious conviction) is advised not to sit for an exam. In such cases a student may apply for an excused absence for the missed exam. Excused absence for a missed exam is a privilege, not a right, and is granted at the discretion of the instructor (in the case of term exams) or the Faculty (in the case of final exams). Only those students who, because of incapacitating illness, severe domestic affliction or other compelling reasons (including religious conviction) have missed an exam are permitted an excused absence.

- (1) **Missed Term Exams Worth 20% or More:** To apply for an excused absence where the cause is incapacitating illness, a student must present a University of Alberta Medical Statement Form to the instructor within two working days following the missed term exam. The University of Alberta Medical Statement Form must be signed by the treating physician and indicate that the student was seen while ill or is under continuing care for a chronic illness. In other cases, including domestic affliction or religious conviction, adequate documentation must be provided within two working days following the term exam missed. If excusing a student's absence from a term exam, the instructor has the discretion either to waive the exam or require the student to write a make-up exam. For a waiver, the percentage weight allotted to the term exam missed is added to the percentage weight allotted to the final exam. For a make-up exam, the student is required to write an equivalent exam at a time set by the instructor. If the student does not write the assigned make-up exam at the prescribed time, a raw score of zero will be assigned for the missed term exam.
- (2) **Missed Final Exams:** A student who has missed a final exam because of incapacitating illness, severe domestic affliction or other compelling reason (including religious conviction) may apply for a deferred exam.
A deferred exam will not be approved if a student
 - a. has not been in regular attendance where attendance and/or participation are required, and/or,
 - b. excluding the final exam, has completed less than half of the assigned work.

Students with two or more deferred exams outstanding from a previous term may be required to reduce the number of courses in which they are registered. Students needing to apply for a deferred exam must present themselves at their Faculty's Undergraduate (Graduate) Office. Such an application must be supported by a University of Alberta Medical Statement form in the case of incapacitating illness. The University of Alberta Medical Statement Form must be signed by the treating physician and indicate that the student was seen while ill or is under continuing care for a chronic illness. In other cases, including severe domestic affliction or religious conviction, adequate documentation must be provided to substantiate the reason for an absence. The application and the documentation pertaining to the absence must be presented to the Faculty within two working days following the scheduled date of the exam missed or as soon as the student is able, having regard to the circumstances underlying the absence.

Students with special needs (University Calendar §25.2):

Students with disabilities or special needs that might interfere with their performance should contact the professor at the beginning of the course with the appropriate documentation. Every effort will be made to accommodate such students, but in all cases prior arrangements must be made to ensure that any special needs can be met in a timely fashion and in such a way that the rest of the class is not put at an unfair disadvantage.

Exam arrangements: SSDS (Specialized Support and Disability Services) and the student, with the approval of the course instructor, determine exam accommodations. Assessments and/or documentation of the need for accommodation are required. At the beginning of each term, the student meets with instructors to review the exam arrangements which will be used. They provide a "Letter of Introduction" from SSDS verifying the nature of the accommodations required due to the disability. A few weeks before each exam, the student completes an "Exam Schedule" form, for SSDS, outlining scheduled exam dates, times, etc. The student then takes an "Exam Instructions and Authorization" form to the instructor. The instructor is asked to complete the form and enclose it with the exam and arrange to have it delivered or mailed to SSDS. In administering exams, SSDS follows university protocol and only makes accommodations as required due to the disability. Exams are usually set to overlap with the time the professor has set the in-class exams.

"Policy about course outlines can be found in ' 23.4(2) of the University Calendar." (GFC 29 SEP 2003).

The University of Alberta is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Code of Student Behaviour (online at www.ualberta.ca/secretariat/appeals.htm) and avoid any behaviour which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University. (GFC 29 SEP 2003)

<p>30.3.2(1) Plagiarism No Student shall submit the words, ideas, images or data of another person as the Student's own in any academic writing, essay, thesis, project, assignment, presentation or poster in a course or program of study.</p> <p>30.3.2(2) Cheating 30.3.2(2)a No Student shall in the course of an examination or other similar activity, obtain or attempt to obtain information from another Student or other unauthorized source, give or attempt to give information to another Student, or use, attempt to use or possess for the purposes of use any unauthorized material.</p> <p>30.3.2(2)b No Student shall represent or attempt to represent him or herself as another or have or attempt to have himself or herself represented by another in the taking of an examination, preparation of a paper or other similar activity. See also misrepresentation in 30.3.6(4).</p> <p>30.3.2(2)c No Student shall represent another's substantial editorial or compositional assistance on an assignment as the Student's own work.</p> <p>30.3.2(2)d No Student shall submit in any course or program of study, without the written approval of the course Instructor, all or a substantial portion of any academic writing, essay, thesis, research report, project, assignment, presentation or poster for which credit has previously been obtained by the Student or which has been or is being submitted by the Student in another course or program of study in the University or elsewhere.</p>	<p>30.3.2(2)e No Student shall submit in any course or program of study any academic writing, essay, thesis, report, project, assignment, presentation or poster containing a statement of fact known by the Student to be false or a reference to a source the Student knows to contain fabricated claims (unless acknowledged by the Student), or a fabricated reference to a source.</p> <p>30.3.6(4) Misrepresentation of Facts No Student shall misrepresent pertinent facts to any member of the University community for the purpose of obtaining academic or other advantage. See also 30.3.2(2) b, c, d and e.</p> <p>30.3.6(5) Participation in an Offence No Student shall counsel or encourage or knowingly aid or assist, directly or indirectly, another person in the commission of any offence under this Code.</p> <p>The Truth In Education (T*I*E) project is a campus wide educational campaign on Academic Honesty. This program was created to let people know the limits and consequences of inappropriate academic behavior. There are helpful tips for Instructors and Students. Please take the time to visit the website at: http://www.ualberta.ca/tie</p>
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