Harris School of Public Policy
University of Chicago
PPHA 32150

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Winter 2025: Transportation Policy PPHA 32150
Syllabus: As of January 5, 2025

Information about this course

Background

The U.S. transportation network moves millions of people and tons of goods over short and long distances. While the United States has long enjoyed the use of some of the world's finest, high-quality transportation infrastructure, recent years have seen underinvestment in new assets and deferred maintenance of old ones; limited efforts to improve our infrastructure's resilience to threats from climate change, cyber-attacks, and old-fashioned geo-political conflict; increased concerns about the equity impacts of the type, location, and operation of transport facilities; and a collective and consistent unwillingness to identify and secure consistent funding needed for public transportation investments. Recent federal infrastructure investments have moved the needle somewhat, but challenges remain across the board.

This class will use applied tools of microeconomics and simple data analysis to analyze transportation policy choices, past and future, in the United States. We will consider surface transportation (roads, bridges, tunnels); airports and other aviation facilities; water transport (via inland waterways and coastal ports and harbors); intercity rail and bus; and public transit facilities. We will focus on policy impacts on efficiency (e.g., travel times, congestion, reliability), equity (e.g., fairness of service provision, funding), safety (e.g., injuries, fatalities, property damage), and the environment (e.g., carbon emissions). Class sessions will include lectures, small group activities, and student-led discussions.

Goals of class

Use applied tools of microeconomics and simple data analysis to analyze provision and consumption of transportation services in the United States. Become conversant with asset ownership, service provision, funding, pricing, safety, and other aspects of transportation via surface, rail, and water.

Students completing this course will be able to:

- Describe the basic features of each transportation sector in the U.S.
- Assess and analyze efficiency and equity consequences of levels of provision, pricing, quality of service, procurement, and so on.
- Recognize, discuss, and analyze challenges coming from climate change, geopolitical instability, and increasing demands for fairness in the provision of transportation services.
- Distill and communicate insights and analyses from recent research papers.

- Using publicly available datasets, explore transportation issues, and prepare simple graphs to communicate findings and patterns, thereby improving ability to create and interpret meaningful graphs and tables.

Prerequisites

Pre-requisites for the courses are the two-quarter core sequence in microeconomics, PP32300 and PP32400, or their equivalent. Students are also expected to have basic proficiency with Microsoft Office (Word, Excel, PowerPoint) and either R or Stata for data analysis.

Class Schedule and Special Dates

- We will meet in person, twice weekly, for nine weeks: Tuesday and Thursday mornings, 11:00 am to 12:20 pm, in Keller 0023.
- The class LATE MIDTERM EXAM is scheduled for Thursday, February 20, at 11 am.

Class Policies and Plans

- Unless directed by the Dean of Students to accommodate students with disabilities, I will not record class sessions.
- Class time will be devoted to lectures, working through examples of problems, in-class activities, and outside speakers TBD. Outside of class, students will be expected to review lecture notes and read selected articles and policy briefs.
- Each week, I will post a README page in the relevant Canvas module; that file will contain links to readings, the exact schedule for the week, lecture notes, and any needed links to other materials. These README pages will be the basic way I communicate our plans and announce any needed adjustments during the term.
- I will hold regular office hours and will post my schedule on Canvas.

Use of electronics in class

In keeping with the Harris School's emphasis on creating engaged classrooms and supporting professionalization throughout its programs, I ask that all students refrain from using laptops, phones, tablets, and/or other smart devices (thinking about you, Garmins and Apple Watches!) while in class. That means turning all devices to "silent" or "do not disturb" mode and keeping them out of sight during class. Students with documented disabilities requiring or permitting the use of such devices should email me to discuss arrangements.

Readings and topics

A separate reading list and schedule will be provided for students. That said, here is the basic list of topics we will cover:

- Introduction to Transportation in the United States
    - Setting the Stage
    - First Look at Benefit-Cost Analysis

    - Modeling Congestion
- Surface Transportation: Roads, Bridges, Tunnels
    - Building More (capacity, congestion)
    - Charging More (fuel taxes, road use charges, congestion charging)
    - Regulating and/or Competing More (electrification, ride-hailing)
- Public Transit: Rail, Bus, and Related Services
    - Losing Riders and Funding (COVID and the "Fiscal Cliff")
    - Improving Opportunity (free/reduced fares)
- Shipping of Goods: Harbors, Ports, and International Trade
    - Understanding Derived Demand
    - Optimizing Quantity and Quality
- Shipping of Goods: Inland Waterways
    - Funding: Who Should Pay?
    - Networks and Scale Economies: How Do They Fit In?
- Shipping of Hazardous Materials: Rail and Pipelines
    - Regulating Safety: How Much?
- High Speed & Intercity Passenger Rail
    - Applying Benefit-Cost Analysis
- Costs, Procurement, and Public-Private Partnerships
    - Funding vs. Financing
    - PPPs in Aviation, Transit, and/or Surface Transportation
- New Technologies, Innovative Data, and Artificial Intelligence
    - What's New?

Student assignments and assessments

All of the following are individual assignments, with the exception of the in-class presentations. Grading weights and due dates are as follows:

- 15%: Analysis of funding sources for U.S. transportation subsectors: Friday January 24
- 15%: Analysis of one selected large transit agency: Friday February 14
- 35%: Late "Midterm" exam: Thursday February 20
- 30%: Presenting and leading class discussions: multiple dates throughout the term
- 5%: Attendance, engagement, and contributing to class discussions

Grading policies and procedures

- As a general matter, submitted student work may be evaluated in multiple domains, including but not limited to the responsiveness to the assignment prompt; writing style and mechanics; analytical depth; clarity and professional appearance of graphs and tables; and creativity and initiative. For more objective quizzes and the final exam, students will be evaluated on which analytical tools they use; how they apply them; and/or whether their analysis is correct.
- In general, students are expected to include full citations, using Chicago Manual of Style protocols, in any written work. Specific guidance will be provided in individual assignments. But PLEASE ask if you are uncertain about that!

- **Students taking the class pass/fail must complete all assignments and receive passing grades on all assignments to receive a "pass" grade for the course.**
- Student work must be uploaded via Canvas by the due date and time to receive full credit. Late submissions will be penalized by 10% if received within 24 hours of the due date and time and by 20% if received within 48 hours of the due date and time. No work will be accepted beyond the 48-hour threshold.
- **Students requesting regrade requests must submit requests by email to me and the TA no later than 7 days after the return of the graded work. In your request, please explain why the work should be reconsidered, comparing the work to any published solutions.**
- Assignments will be graded on a points basis (e.g., "37 out of 40 possible points"); weighted using the grading weights given above; and then summed for a final course score at the end of the term.
- Letter grades corresponding to those course scores will be based on an informal curve—more generous than the "usual" Harris curve for core classes, but reflecting some distinction in accomplishments. I would hope to assign very few, if any, grades of B- or lower in this class, but don't call my bluff here!

Teaching assistants

We are fortunate to have an excellent grading TA for this course: Amir Ali Rajani amrajani@uchicago.edu. Amir will hold office hours by Zoom, details on Canvas, and will be responsible for a significant share of the grading.

Communications preferences

I encourage the use of email and try to respond in a timely fashion. Please be direct and clear with the subject line of your messages! **And please do not use the Inbox/Messaging feature of Canvas to communicate with me.** I also do not text, tweet, or Facebook message regarding course matters, and I don't even use Slack! So please check your UNIVERSITY OF CHICAGO email and CANVAS regularly.

Harris School and University of Chicago Resources

- Harris School supports are described here: https://harris.uchicago.edu/student-life/dean-of-students-office/academic-support-programs
- From the home page of the University's Learning Remotely site, links to learning and health and well-being resources are provided: https://wellness.uchicago.edu/ and https://learningremotely.uchicago.edu/learning-resources/ .
- Students needing urgent mental health care can speak with clinicians over the phone 24/7 by calling (773) 702-3625.

Harris School and University of Chicago Policies

No surprises here, but all University and Harris School policies apply to this course. The best source of information is from the Harris School's Dean of Students Office: https://harris.uchicago.edu/student-life/dean-of-students-office. That page includes links to Harris School policies, University Academic Policies, and University General Policies. Some specific items to highlight:

Academic Integrity

All University of Chicago students are expected to uphold the highest standards of academic Integrity and honesty. Among other things, this means that students shall not represent another's work as their own, use un-allowed materials during exams, or otherwise gain unfair academic advantage.

- It is worth explicitly stating the University's approach: "It is contrary to justice, academic integrity, and to the spirit of intellectual inquiry to submit another's statements or ideas as one's own work. To do so is plagiarism or cheating, offenses punishable under the University's disciplinary system. Because these offenses undercut the distinctive moral and intellectual character of the University, we take them very seriously."
- Any students suspected of academic dishonesty will be reported to the Harris Dean of Students (Kate Shannon Biddle) for investigation and adjudication. The disciplinary process can result in sanctions up to and including suspension or expulsion from the University. In addition to those penalties, I reserve the right to assign a grade of "F" for any assignment for which a student is found to have committed academic dishonesty; in a subset of such cases, a student may also receive a grade of "F" for the course, earning zero credit.

Artificial Intelligence

I have prepared a separate document with policies regarding the use of generative artificial intelligence (GenAI) tools. But in a nutshell, the policy requires students to:

- Comply with existing University and Harris School policies, including those pertaining to academic integrity
- Review and confirm the both the accuracy and the ownership of AI-generated content
- Disclose the use of any and all AI-generated content
- Refrain from sharing any confidential or sensitive data or information with publicly available generative AI tools
- Understand that compliance is at the individual as well as group level in cases of group work