

FYSP 072 – Transportation and the City Syllabus

Course Meets: Mon., Wed., Fri., 10 – 10:50 am, King 235.

Contact Details

Instructor: Prof. Ron Cheung (Department of Economics) [he/him]

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Office: Rice Hall 229

Office Hours:

1. **Zoom office hours.** Schedule an appointment at <https://calendly.com/prof-ron-cheung>. You will automatically be given a Zoom invitation. If a group of you would like to meet with me over Zoom, have one of you create the appointment and then share the link with the others. **Do not use the class's permanent Zoom link below for office hours.**
2. **In-person office hours.** Mondays and Fridays, 11 am – 12 pm. No appointment necessary; just drop in (first come, first served).
3. None of the times above work for you? Please email me and we'll schedule an alternative time.

Remote Accessibility

This information is subject to change depending on the situation.

- *3 October to 22 December 2021*
 - The course is a traditional class with in-person attendance expected. If we ever have to have a virtual class, please use the permanent classroom link below.
- *3 January to 14 January 2022*
 - The course will be *remote-only*. Here is the permanent Zoom link that we will be using:
 - <https://oberlin.zoom.us/j/83749839679?pwd=NIhvQzIEa0FoZWRR2cjgrTjdKb0pYdz09>
 - Or use Meeting ID: 837 4983 9679; Passcode: 428811
 - This link is also available on the course Blackboard page.

Course Description and Learning Goals

The development of cities necessitates the development of transportation – the moving of people and goods around. Transportation networks have been around for millennia, arising both spontaneously and through careful planning. In modern cities, we benefit from the ever-increasing amount of data generated on traffic flows, transit usage, pollutant emissions, and so on.

In this seminar, we will explore ways in which quantitative and qualitative data can be used to (1) pinpoint problems that arise when moving vast amounts of people and goods around; (2) design more efficient and equitable transportation networks; and (3) better manage public and private resources.

Learning goals include:

- Thoughtful reading of literature from different sources, including academic and popular literature, paying particular attention to how data is presented, analyzed and consumed.
- Sourcing, organizing, manipulating and interpreting data in different contexts.
- Developing a sense of how data and information can lead to good policy making and problem-solving.
- Learning how to report analytical findings in written, tabular, graphic and oral forms.

Prerequisites

There are no prerequisites for this seminar, and no prior background in mathematics, statistics or economics is required beyond high school level math.

This course does not count towards the eight required courses for the economics major.

Course Materials

Books. We will be reading multiple chapters from two books, so I have made them required for this seminar:

- *The Geography of Urban Transportation*, 4th edition, edited by Genevieve Giuliano and Susan Hanson. The Guilford Press, 2017.
- *Traffic: Why We Drive the Way We Do (and What It Says About Us)* by Tom Vanderbilt. Vintage Books, 2008.

Both of these are located in the campus bookstore and are also widely available on the web.

Articles. Most of the readings in this class take the form of academic and non-academic articles and reports. Either the links to the articles are included in this syllabus, or the article has been posted on the Blackboard page to the course. Please read the syllabus carefully as sometimes I will only ask you to read certain pages from a reading.

Excess to Microsoft Excel. Several of the exercises that you will do rely on the use of a spreadsheet program. To ensure that we are all using the same terminology and methodology, I ask everyone use *Microsoft Excel*, as opposed to, say, Google Sheets. Please download the latest version of Excel 365 onto your computer for free by going to <https://www.oberlin.edu/cit/software-downloads>. Excel is also available on all of the campus computer labs.

Grading

Reading Log (15%)

For each reading on the reading list, starting on Friday, October 8, I expect you to write a short response (1 to 2 pages, double spaced) on it. Please complete this before the class we cover the reading, and bring the response to class (hard-copy or on your laptop).

In the response, you must answer all the following questions:

- Two things you liked about the reading. This is intended to be broad; you can like any aspects of the paper, including the methodology, data, analysis, charts, policy implications, etc.
- One question that you have afterwards. This could be something unclear, or it could be something that you think should be discussed in later work on the topic.
- Briefly discuss one piece of data that stood out to you. A piece of data can be a table or a part of a table, a chart, a graph or map, a variable, an equation, etc. Was it effective in getting its point across, or did it lack something?

You will not be required to hand in each reflection, but you should place all your reflections into one electronic document that you'll hand in on the last day of class. [You may edit reflections after class discussion if you like, but it's not required.] The reading log will be graded on completeness (50%) and content (50%).

Suggestion: keep a Word document to which you add a new page break for every reading done.

Participation (15%)

Participation is vital to the success of this seminar. I expect you to come prepared by having done the readings and having thought about some comments you would like to raise. Please contribute to classroom discussion in an engaged, respectful and curious manner. In group activities, effort and collaboration are encouraged; shirking on responsibilities and monopolizing the floor are discouraged.

Your grade reflects both the quantity and the quality of your contributions. Quantity doesn't mean speaking for speaking's sake. As for quality, there will be no assessment of the correctness of students' ideas, comments or questions. Rather, can you contribute to a discussion that helps and other better understand the material?

Absenteeism Clause: You are expected to attend every class. A student is allowed at most three unexcused absences. I will decide what an excusable absence is on a case-by-case basis. Please send an email to open the discussion. Examples:

- Religious observances are generally excusable.
- If you're a member of an Oberlin sports team, and your athletic schedule will cause you to miss class, please inform me ASAP. Practice should not be scheduled during class time.
- Illness generally requires some documentation. (This documentation could be a note from Student Health, an email from ObieSafe, the Dean of Students office or the Office of Disability Services, among others.)

For each unexcused absence beyond the third, your final grade will be reduced by 8%.

Assignments (15%)

There will be short homework assignments, which will be posted on Blackboard and announced in class. Assignments are intended to be varied in emphasized concepts and approaches. Examples:

- Quantitative exercises, such as graphical or mathematical problems.
- Data-driven and spreadsheet-driven exercises.
- Research and writing exercises.

You will be told on each assignment whether you are expected to work on your own, or if you can work in a group. Unless cleared with me earlier, assignments handed in up to 24 hours late will incur a penalty of 25%. Exceptions can be made for documented and justifiable reasons.

Midterm Project (20%)

This will be a group project based on hedonic analysis – the analysis of how transportation amenities affect rents or property values. You will collect and analyze real-world data for this project; details will be provided later.

Final Project (25%)

Throughout this seminar we will be exploring transportation planning policies in real-world cities, using real-world data. But for your final project, I would like you to conceptualize a comprehensive transportation plan for a *fictional city* of your choice. This fictional city could come from literature, film, television, animation, gaming, etc. More information on this project will be provided later. The final project is due at **4pm ET, Saturday, 22 January 2022**.

Presentation for Final Project (10%)

On the last three classes, I will ask each of you to prepare a ten-minute presentation on your final projects.

Extension Policy

Part of the goal of a first-year seminar is to develop good time management practices. Committing to deadlines is important, but I understand that extenuating circumstances occur.

Each student is allowed one *no-questions-asked* extension (NQAE) of 48 hours for any assignment. All I ask is advance notification: just email me to say you are using your NQAE, any time up to the due date of the assignment.

Can I request an NQAE after the due date has passed?

- No. If you hand something in, a lateness penalty will apply. If you don't hand something in, you will receive a zero.

Can I get an extension after I've used my NQAE?

- *After you have used your NQAE*, if you require an extension on another assignment, please email me as soon as possible. Such an extension is generally granted only for special circumstances.

What if I need an extension on the midterm project?

- Because it is a group project, no extension is possible.

What if I need an extension on the final project?

- Because the due date of the project coincides with the registrar's date for a final exam, any extension beyond this date requires an *approved incomplete* from the AARC.

In-Class Ethics

- Please come to each class with the reading for the day. You may bring in a hard copy or you can reference it on your laptop. You may also use a laptop for note taking, although pen and paper are encouraged.
- Laptops and cell phones are not to be used for other purposes, such as e-mails, text messaging, social media, etc. I don't go out of my way to look for violations, but if I happen to spot you repeatedly using your devices for non-authorized purposes, I reserve the right to ask you to turn the device off or to leave the classroom.
- Please contribute to classroom discussion, but try not to disrupt other students' learning by arriving late, packing up early, leaving the classroom frequently, going off-topic with your comments, etc. I would appreciate your letting me know if you must arrive late or leave early.

Honor Code

The College requires that students sign an "Honor Code" for all submitted work. On each assignment that you submit, you must write "I have adhered to the Honor Code in this assignment" and sign your name in assent. What are some examples of possible Honor Code violations?

- Sharing answers for assignments, unless explicitly allowed, is dishonest. If you copy another student's answer, it is dishonest. But brainstorming or tutoring (explaining to another student how to get the answer) is not dishonest.
- Letting another student turn in your work as their own is dishonest.
- Not citing your sources (both electronic and written) is dishonest. Plagiarizing is very dishonest. If you are unfamiliar with property citation formats, please consult me, a reference library, a writing associate and/or a style manual. You cannot use unfamiliarity with proper procedures as a defense.

All suspected violations of the Honor Code will be investigated, reported and taken seriously. If you believe you have witnessed an Honor Code violation by another student, you are reminded of your responsibility to file a report to the Student Honor Committee.

Students with Disabilities

If you have specific physical, psychiatric or learning disabilities that may present barriers to your ability to participate and learn, please let me know early in the semester so that your needs may be appropriately met. You will need to provide documentation of your disability to the Office of Disability Resources in Peters 116-118.

Course Outline

The outline and the readings are subject to change.

Abbreviations in use:

- **GUT** = *The Geography of Urban Transportation* (book to be purchased)
- **TR** = *Traffic* (book to be purchased)
- **FOT** = *Future of Transportation*, CityLab's free e-book. I have placed a copy of it on Blackboard.
- **BB** = PDF copy available on Blackboard

Week 1: SYSTEM

Oct. 4 (M)

- Introduction to the FYSP and of the participants

Oct. 6 (W)

- Rodrigue, Jean-Paul, "Transportation and the Urban Form," Chapter 8.1 in *The Geography of Transport Systems*, available at:
<https://transportgeography.org/contents/chapter8/transportation-urban-form/>
As you are reading this article, please take a look at the graphs and maps in sections 8.1, 8.2 and 8.3, and pick out your favorite one. Try to get a sense of the message that the graph/map is trying to convey, the data used, the organization, and why they are intriguing to you.

Oct. 8 (F) – starting from this point, all readings need to be responded to in your reading log.

- **GUT**, Chapter 1, "Introducing Urban Transportation" by Susan Hanson – I have put a photocopy of this chapter on Blackboard in case you are still waiting for your books to arrive.

Week 2: URBANIZATION

Oct. 11 (M)

- **GUT**, Chapter 3, "Transportation and Urban Form: Stages in the Spatial Evolution of the American Metropolis" by Peter Muller – I have put a photocopy of this chapter on Blackboard in case you are still waiting for your books to arrive.

Oct. 13 (W)

- **BB** - Nechyba, Thomas J. and Randall P. Walsh, "Urban Sprawl," *Journal of Economic Perspectives*, Vol. 18, No. 4, p. 177-200. (The paper is only 20 pages long; the rest of the document is the bibliography.)

Oct. 15 (F)

- Elizabeth Sullivan from the library will visit us to discuss academic literature and how to use the library to find it.

Week 3: TRAFFIC

Oct. 18 (M)

- **TR**, Prologue (“Why I Became a Late Merger (and Why You Should Too)”) and Chapter 1 (“Why Does the Other Lane Always Seem Faster? How Traffic Messes with Our Heads”)

Oct. 20 (W)

- **TR**, Chapter 4, “Why Ants Don’t Get into Traffic Jams (and Humans Do): On Cooperation as a Cure for Congestion”.
- “Negative externalities,” article on Economics Online:
https://www.economicsonline.co.uk/Market_failures/Externalities.html.

Oct. 22 (F)

- **TR**, Chapter 5, “Why Women Cause More Congestion than Men (and Other Secrets of Traffic)”.
- Minneapolis Federal Reserve Bank, “Primer on congestion pricing,” available at:
<https://www.minneapolisfed.org/article/1996/primer-on-congestion-pricing>. There will likely be unfamiliar terminology here so feel free to skim over terms you don’t understand; we will work together to understand the terms.

Week 4: PARKING

Oct. 25 (M)

- **BB** - Shoup, Donald. “A Great Planning Disaster”, Ch. 5 in *The High Cost of Free Parking*, American Planning Assoc., 2011, READ P. 127-153 (stop at “Paralysis by Parking Requirements”)

Oct. 27 (W)

- **BB** - Shoup, Donald. “A Great Planning Disaster”, Ch. 5 in *The High Cost of Free Parking*, American Planning Assoc., 2011, READ P. 153-175 (start at “Paralysis by Parking Requirements”)

Oct. 29 (F)

- **BB** - “Parking is Hell”, Freakonomics Radio ep. 118. A copy of the MP3 is on Blackboard. The audio file and a transcript are also available at <https://freakonomics.com/podcast/parking-is-hell-a-new-freakonomics-radio-podcast/>. The podcast is 35 minutes long.

Week 5: HIGHWAYS

Nov. 1 (M)

- **TR**, Chapter 6, “Why More Roads Lead to More Traffic (and What to Do About It)”.

Nov. 3 (W)

- Discussion of article in preparation for guest speaker – article to be announced and posted on Blackboard.

Nov. 5 (F) – **ZOOM MEETING**

- Guest speaker – Kendall Mahavier '16 (Volpe Center on Transportation Systems, US Department of Transportation) – topic TBA.

Week 6: BUS

Nov. 8 (M)

- **BB** - Chapters 1 (“What Makes People Choose the Bus?”) and 2 (“Make the Bus Frequent”) in Steven Higashide, *Better Buses, Better Cities: How to Plan, Run, and Win the Fight for Effective Transit*, Island Press, 2019, p. 15-37.

Nov. 10 (W)

- **BB** - Chapter 3 (“Make the Bus Fast and Reliable”) in Steven Higashide, *Better Buses, Better Cities: How to Plan, Run, and Win the Fight for Effective Transit*, Island Press, 2019, p. 39-57.
- “Basics: the Spacing of Stops and Stations,” Nov. 5, 2010, blog post on Human Transit : <https://humantransit.org/2010/11/san-francisco-a-rational-stop-spacing-plan.html>

Nov. 12 (F)

- **BB** - Chapter 5 (“Make the Bus Fair and Welcoming”) in Steven Higashide, *Better Buses, Better Cities: How to Plan, Run, and Win the Fight for Effective Transit*, Island Press, 2019, p. 77-91.

Week 7: TRANSIT BENEFITS

Nov. 15 (M)

- **GUT**, Chapter 9, “Land Use Impacts of Transportation Investments” by Genevieve Giuliano and Ajay Agrawal.

Nov. 17 (W)

- **BB** - Bae, Chang-Hee Christine, Myung-Jin Jun and Hyeon Park, "The impact of Seoul's subway Line 5 on residential property values," *Transport Policy* 10 (2003), p. 85-94.

Nov. 19 (F)

- **BB** – Gruber, Jonathan, "Cost-Benefit Analysis," Chapter 8 in *Public Finance and Public Policy* (4th ed.), Worth Publishers, p. 207-225.

Thanksgiving break: Nov. 22 – 26

Week 8: TRANSIT ACCESS

Nov. 29 (M)

- **GUT**, Chapter 13, "Social Equity and Urban Transportation" by Evelyn Blumenberg.
- Urban Institute, "Too Far from Jobs: Spatial Mismatch and Hourly Workers", <https://www.urban.org/features/too-far-jobs-spatial-mismatch-and-hourly-workers>

Dec. 1 (W)

- **BB** - Liu, Dong and Mei-Po Kwan, "Measuring spatial mismatch and job access inequity based on transit-based job accessibility for poor job seekers," *Travel Behaviour and Society*, 19 (2020), p. 184-193.

Dec. 3 (F)

- Urban Institute, "The Unequal Commute", interactive article at <https://www.urban.org/features/unequal-commute>

Week 9: TRANSIT FINANCING

Dec. 6 (M)

- **GUT**, Chapter 8, "Mass Transit".
- **BB** - Guerra, Erick and Robert Cervero, "Transit and the 'D' Word", *Access*, https://www.accessmagazine.org/wp-content/uploads/sites/7/2016/01/access40_transitanddensity-1.pdf

Dec. 8 (W)

- **BB** - Chapter 8 ("Building a Transit Nation") in Steven Higashide, *Better Buses, Better Cities: How to Plan, Run, and Win the Fight for Effective Transit*, Island Press, 2019, p. 115-128.
- Elizabeth Sullivan from the Library will return to talk to us about resources that you can use as you approach the final project.

Dec. 10 (F)

- “Congestion Charging: Challenges and Opportunities”, International Council on Clean Transportation, 2010, available at https://theicct.org/sites/default/files/publications/congestion_apr10.pdf. READ Section III (Congestion Charging Example: London) ONLY.
- **BB** - Badstuber, Nicole, “London congestion charge: what worked, what didn’t, what next”, The Conversation, <https://theconversation.com/london-congestion-charge-what-worked-what-didnt-what-next-92478>

Week 10: ENVIRONMENT

Dec. 13 (M)

- **GUT**, Chapter 11, “Transportation and Environmental Impact and Policy” by Scott Le Vine and Martin Lee-Gosselin.

Dec. 15 (W)

- “Carbon Pricing 101”, explainer by Marc Hafstead, https://media.rff.org/documents/Carbon_Pricing_Explainer.pdf, optional explainer video at <https://www.rff.org/publications/explainers/carbon-pricing-101/>
- “Carbon Pricing 202: Pricing Carbon in the Transportation Sector”, explainer by Benjamin Leard, Joshua Linn and Kathryn Cleary, access at <https://www.rff.org/publications/explainers/carbon-pricing-202-pricing-carbon-transportation-sector/>

Dec. 17 (F)

- **BB** - Suarez, Pablo, William Anderson, Vijay Mahal, TR Lakshmanan, “Impacts of flooding and climate change on urban transportation: A system wide performance assessment of the Boston Metro Area”, *Transportation Research Part D* 10, 2005, p. 231-244

Week 11: BIKE & FEET

Dec. 20 (M)

- **BB** - McNeil, Nathan, Joseph Broach and Jennifer Dill, “Breaking Barriers to Bike Share: Lessons on Bike Share Equity,” ITE Journal Feb 2018, https://ppms.trec.pdx.edu/media/project_files/ITE_Journal_February_2018_Breaking_Barriers_to_Bike_Share_Lessons_on_Bike_Share_Equity.pdf

Dec. 22 (W) - **We will not meet, but you are responsible for reading the article and responding to it.**

- **BB** - Quercia, Daniele, Luca Maria Aiello, Rossano Schifanella, and Adam Davies, "The Digital Life of Walkable Streets," *WWW '15: Proceedings of the 24th International Conference on World Wide Web*, May 2015, p. 875-884.

Winter Break (Dec. 23 – Jan. 2)

Week 12 (REMOTE): TRAINS, UBER & TYING IT UP

Jan. 3 (M)

- **FOT**, p. 120-124, "Why Can't the United States Build a High-Speed Rail System?"
- **BB** - Albalade, Daniel and Germà Bel, "High-Speed Rail: Lessons for Policy Makers from Experiences Abroad," *Public Administration Review*, 72(3), p. 336-349.

Jan. 5 (W)

- **BB** - Willis, George and Emmanouil Tranos, "Using 'Big Data' to understand the impacts of Uber on taxis in New York City," *Travel Behaviour and Society* 22 (2021), p. 94-107.

Jan. 7 (F)

- **FOT**, p. 116-119, "The Next Century of Sustainable Communities Will Be Organized Around Transportation", John L. Renne, 29 April 2014.

Week 13 (REMOTE): PLANNING

Jan. 10 (M)

- Student presentations on their final project (part 1) – 6 students

Jan. 12 (W)

- Student presentations on their final project (part 2) – 5 students

Jan. 14 (F)

- Student presentations on their final project (part 3) – 5 students