

Transportation Policy & Planning  
**Shared Mobility: From Buses to Ridehail**

Location: 2355 Public Affairs Building

Days, times: Tuesdays and Thursdays, 11:00 AM to 12:20 PM

Instructor: Brian Taylor

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Contact: With questions about course content, lectures, and class discussions.

Office Hours: Make appointments at <https://briantaylorappts.youcanbook.me/>

TA: Hao Ding

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Contact: With questions about the quizzes and course writing assignments.

Office Hours: Thursdays 2-3pm, additional appointments can be made via email

Assistant: Isabel Sheng

E-mail: [isabelsheng03@ucla.edu](mailto:isabelsheng03@ucla.edu)

Contact: With questions about course readings, returned assignments, and the class website.

### Course Description

This course explores the many dimensions of shared personal mobility. While this term has been used recently to describe things like Lyft, Uber, scooter-share, and ZipCar, trips on buses and rail, as well as those on airplanes are also forms of shared mobility. While inter-city bus, rail, and air travel are important parts of the transportation system, we will focus primarily on intra-urban shared mobility in this course. Shared mobility is important because (1) many forms of shared mobility are disproportionately used by poor and BIPOC travelers, (2) it is typically a less resource-intensive way to move people, (3) it is a form of mobility over which urban planners and transportation policy analysts exercise significant control, (4) it is evolving rapidly, and (5) it was especially hard hit by the COVID-19 pandemic.

The course begins with an overview of the shared mobility policy and planning context, followed by an introduction to transportation planning and project evaluation processes, and

how they are affected by experiences and perceptions. We then devote a little over half of the course to public transportation policy and planning, from broad policy issues related to equity and subsidies, as well as the nuts and bolts of performance evaluation and service planning. Finally, in the last part of the course we examine specialized forms of shared mobility: school transportation, paratransit, taxis and ride-hailing, and car-, bike-, and scooter-share, and their implications for the years ahead.

By the end of this course you will learn: (1) who uses public transit and how this is changing, (2) what the most significant current shared mobility policy and planning issues in the U.S. are, (3) basic techniques for evaluating the performance and cost-effectiveness of shared mobility systems, (4) the fundamentals of public transit performance evaluation and planning, (4) the waxing social service equity role played by shared mobility post-pandemic, (5) the quickly evolving policy and regulatory issues relating to innovative forms of shared mobility, (6) techniques for effective analytical writing in policy and planning practice, and (7) techniques for effective public presentation of your work. To accomplish these things, the readings, lectures, assignments, quizzes, and an oral final examination will investigate various aspects of shared mobility policy and planning practice.

## Topics Covered

The specific topics covered in this course are as follows:

### **Part One: Course overview**

Topic 1: *Introduction to the course - 9/28*

### **Part Two: Perceptions, data, finance, and analyses of shared mobility**

Topic 2: *What do you know? How do perceptions affect planners and planning? - 10/3*

Topic 3: *Evaluating transport projects and performance - 10/5 (Hao Ding)*

### **Part Three: Traditional forms of shared mobility within cities**

Topic 4: *Putting shared mobility, cities, and equity in context - 10/10*

Topic 5: *What is public transit, and why is it losing riders? - 10/12*

Topic 6: *Who uses public transit, why, and how is this changing? - 10/19*

Topic 7: *How do different riders experience public transit? - 10/24*

Topic 8: *Public transit performance and management - 10/24, 10/26*

Topic 9: *Comparative evaluation of public transit systems - 10/26*

Topic 10: *Investing in bus versus rail transit - 10/31*

Topic 11: *Public transit operations - 11/2*

Topic 12: *Route and service planning - 11/7*

Topic 13: *Newer, greener transit - 11/9 (Lance MacNiven)*

#### **Part Four: Receding and emerging forms of shared mobility within cities**

- Topic 14: *Established and emerging forms of school transportation* - 11/14  
Topic 15: *The ADA, transit, and paratransit* - 11/16  
Topic 16: *What's become of taxicabs?* - 11/16  
Topic 17: *The rise of ridehail* - 11/21  
Topic 18: *Taxis and TNCs: Labor and regulation issues* - 11/21  
Topic 19: *Who uses ridehail? Examining race, gender, income, and neighborhoods* - 11/28  
Topic 20: *Comparing ridehail in Dhaka and LA* - 11/30  
Topic 21: *Micro-mobility and the future of public transit* - 12/5 (Joshua Schank)

#### **Part Five: Looking Ahead**

- Topic 22: *Closing the circle: The future of public transit and shared mobility* - 12/7

### **Course Requirements**

There are six parts to the course: (1) lectures and class attendance, (2) reading assignments, (3) weekly reading quizzes, (4) a performance evaluation problem set, (5) a writing assignment, and (6) an oral final examination. These parts are intended to reinforce and not duplicate one another.

Lectures. Most of the class time will be devoted to in-person lectures by the instructor, visitors, and the TA. To the extent possible given the size of the class, these will be complemented by Q&A and class discussions.

Class Attendance. It has been said that 80 percent of success in life is showing up, and this applies to graduate courses in public transit and shared mobility as well. While I am not going to take attendance in this class, I do strongly encourage you to come to class as much as you can.

Readings. The lectures will not cover all of the material in the reading, so it is *essential* that you do all of the required reading. The weekly quizzes (more on that below) will help you keep up with the reading as we move through the course. A complete list of course topics and readings is below. All of the required readings and most of the supplementary readings will be posted on the course website. Note that many of the readings can only be accessed on campus through the UCLA WiFi or remotely by using the UCLA VPN. For deeper coverage of each topic and to do background reading for a written assignment, you can peruse the supplementary readings as well.

In addition I recommend that you consider purchasing the following books for your electronic or paper library, which contain materials relevant to transportation planning and thus are useful references:

Giuliano, Genevieve and Susan Hanson, Editors. 2017. *The Geography of Urban Transportation*, 4th Edition. New York: The Guilford Press.

Walker, Jarrett. 2011. *Human Transit: How clearer thinking about public transit can enrich our communities and our lives*. Washington, DC: Island Press.

Weekly Quizzes. To help you keep up with the reading, we will have ten 10-minute in-class quizzes. The quizzes will be completed during the first 10 minutes of class, so be sure to be on time to class on quiz days. These quizzes will be completed via a mobile device (laptop, tablet, phone, etc.) on the BruinLearn course website; if you don't have access to a mobile device, please email Brian Taylor and Hao Ding at least 48 hours prior to the first quiz. Eight of these quizzes will count toward your final grade. If you complete nine or ten quizzes, the eight highest scores will be counted. You have the option to skip two of the quizzes without penalty: Should you be under the weather, unable to make it to class on a quiz day, if you just didn't get through the reading on a given week, you can choose to opt out of the quiz without penalty. If you miss more than two quizzes, you can request the option of completing an additional writing assignment to make up for the quizzes missed. The quizzes will ask you questions about the *required* reading listed under the topics for each week. There will be five questions for each quiz, and the questions will test your grasp of important concepts and main arguments of the reading materials. The quiz schedule is as follows:

1. Topics 2 & 3: Tuesday 10/3
2. Topics 4 & 5: Tuesday 10/10
3. Topics 6 & 7: Thursday 10/19 (no class on Tuesday 10/17)
4. Topics 8 & 9: Tuesday 10/24
5. Topics 10 & 11: Tuesday 10/31
6. Topics 12 & 13: Tuesday 11/7
7. Topics 14, 15, & 16: Tuesday 11/14
8. Topics 17 & 18: Tuesday 11/21
9. Topics 19 & 20: Tuesday 11/28
10. Topics 21 & 22: Tuesday 12/5

Field Trip. In lieu of there being no class held on Tuesday, October 17th, we will have an all-day class field trip on Friday, November 17th from approximately 9:00 am to 5:00 pm. The trip will allow us to meet with public transit planning and operations professionals to learn more about their work. Details on the specific itinerary and logistics will be available closer to the field trip date. This field trip is required, so please plan ahead in order to attend. For those students unable to attend, they will need to complete an additional written assignment for the course.

Writing Assignments. You are required to complete (1) the *Project Evaluation Assignment* on your own, and (2) any one *Analytical Memorandum* assignment with a partner. Your choices for the latter assignment are outlined below; the *Project Evaluation Assignment* will be distributed in class in conjunction with Topic 3. The *Analytical Memoranda* are designed so that

in many cases you can use the Los Angeles transportation system as a laboratory rather than relying entirely upon the library or the Internet for your research. All of the assignments must be submitted via BruinLearn before the due date and time.

Oral Final Examination. Planners must regularly present their work, analyses, conclusions, and proposals in public settings, and they must entertain public comments on and questions about their work as well. Accordingly, the final examination is designed to prepare you to deliver such presentations.

The oral final examination will take place in groups of three during 60 minute blocks to be scheduled during finals week. While I will aim to hold the exams on days and at times that will work for everyone, you are not guaranteed to get your preferred day and time. The purpose of this exam is to (1) help you synthesize the wide array of material presented in this course and (2) practice presenting your work orally. At the conclusion of the 9<sup>th</sup> week of class, we will distribute (1) a set of about ten questions for which you should prepare oral responses and (2) a query asking you to rank your preferences from among the exam slots.

You will be asked to give a presentation on one of these questions (drawn at random) and to respond to questions about your presentation from two other classmates. You will also query your two classmates on their presentations. The exams will be graded on both the content and effectiveness of your presentations, questions, and responses.

Grading. Course grades will be based on the following:

●	Project Evaluation Assignment	10
percent		
●	Quizzes (8 * 5%)	40 percent
●	Analytical Memorandum	25 percent
●	Oral Final Examination	<u>25 percent</u>
Total		100 percent

On-time delivery. Because meeting statutory and administrative deadlines is part-and-parcel of professional work in planning, public policy, and engineering, one of the objectives of this course is to help you plan ahead, allow for contingencies, and meet deadlines. Accordingly, late papers will be accepted, but with a small, compounding late grade penalty of 1/3 grade (an A becomes an A-, a B+ becomes a B, and so on) applied to any papers turned in after the due date as follows:

- Up to 24 hours late:  $\frac{1}{3}$  grade penalty (A > A-)
- Up to 7 days late:  $\frac{2}{3}$  grade penalty (A > B+)
- Up to 30 days late: 1 grade penalty (A > B)
- Up to 12 months late:  $1\frac{1}{3}$  grade penalty (A > B-)
- Over 1 year late:  $1\frac{2}{3}$  grade penalty (A > C+)

These grade penalties can only be waived with a note requesting a waiver from a UCLA official (such as from the Center for Accessible Education) or medical professional (such as from the Ashe Center). The penalties are minor early on and compound to keep late work from piling up over time.

No laptops, tablets, etc. during lectures and discussion. Like many of you, I *love* my mobile device, and spend a lot (too much!) of time looking at it. But given that we are all going to such lengths to have an in-person class experience, I would like everyone to put these devices away except when completing the in-class quiz. While I understand that many students like to refer to the course readings, previous lectures, and take notes on their devices during class, past experience suggests that the temptation for distracted multi-tasking – checking email, Instagram, X, etc. – can be overwhelming. So for our precious few minutes together twice each week, I ask that you go device free (that includes texting with your device in your lap!). There is support in the literature for this policy, as suggested by this [article](#). If you would like to request an exception to this policy (for example, due to a condition that requires the use of electronic devices during class), please discuss this with me outside of class.

Inclusion and accommodation. I aspire for this class to be one that affirms identities and perspectives, including age, ancestry, citizenship, color, ethnic origin, gender, gender expression, gender identity, genetic information, marital status, medical condition, mental disability, national origin, physical disability, political ideology or affiliation, pregnancy, race, religion, participation in the uniformed services, sex, sexual orientation, or transgender status. Regardless of background, all students have the right to an equitable education. Because of the multi-faceted and complex nature of identity and perspective, we should all aim to respect one another's identities and viewpoints. I hope that we can all embrace and learn from the diversity in this class, school, and university, and will not tolerate discrimination, harassment, or other forms of hateful transgressions. Please let me know if you have suggestions on how to foster inclusivity in our class.

With respect to accommodations for a disability, if you are already registered with the Center for Accessible Education (CAE), please request your Letter of Accommodation on the Student Portal. If you are seeking registration with the CAE, please submit your request for accommodations via the CAE website. Please note that the CAE does not automatically send accommodation letters to instructors - you must request that I view the letter in the online

Faculty Portal. Once you have requested your accommodations via the Student Portal, please confirm that I have viewed your letter.

Students with disabilities requiring academic accommodations should submit their request for accommodations as soon as possible, as it may take up to four weeks for the CAE to review and act on the request. For more information, please visit the CAE website ([www.cae.ucla.edu](http://www.cae.ucla.edu)) or call (310) 825-1501.

Academic honesty. Planners work together in teams, and much of the work in engineering, policy, and planning is collaborative. Indeed, I encourage you to work in groups on your analytical assignments, in discussing the readings, and in preparing for the examination. But whether work for a grade is done collaboratively or individually, academic and professional integrity are absolutely essential. This applies not only to your work submitted in graduate school, but in your professional work after graduation. In this age of frequent film remakes, music mash-ups, the voluminous and instantaneous information available on the Internet, and of course the rise of AI, the line between plagiarism and creative reinterpretation has surely blurred. But academic policy at UCLA regarding plagiarism is clear: the sources of all ideas, text, pictures, or graphics that are not your (or your team's) own must be fully cited, all passages copied from other sources must be in quotation marks with the source cited, and you absolutely cannot submit materials that have previously been submitted by other students in previous iterations of this course, even if you have reworked this material for your submission. Should you have any questions about UCLA's academic integrity policies, [click here](#).

## Course Readings

All of the readings are either:

- 1) Open access
- 2) VPN required (denoted with \*)
- 3) PDF attached on course website (no hyperlink)

Instructions on how to set up the UCLA Library VPN can be found [here](#).

## Part One: Course overview

Topic 1: *Introduction to the course* - 9/28

Required Reading

None

Supplemental Reading

Attoh, Kafui Ablode. 2011. "[The Bus Hub](#)," *ACME: An International E-Journal for Critical Geographies*, 10(2): 281-285.

## Part Two: Perceptions, data, finance, and analyses of shared mobility

Topic 2: *What do you know? How do perceptions affect planners and planning?* - 10/3

### Required Reading

Dumbaugh, Eric, Jeffrey Tumlin, and Wesley E. Marshall. 2014. "[Decisions, Values, and Data: Understanding Bias in Transportation Performance Measures](#)," *ITE Journal*, 84(8): 20-25.\*

Brand, Anna Livia, Kate Lowe, and Em Hall. 2020. "[Colorblind transit planning: Modern streetcars in Washington, DC, and New Orleans](#)," *Journal of Race, Ethnicity and the City*, published online.\*

### Supplemental Reading

Sanchez, Thomas W. 2008. "[Poverty, Policy, and Public Transportation](#)," *Transportation Research Part A: Policy and Practice*, 42(5): 833–841.\*

Karner, Alex and Richard Duckworth. 2019. "['Pray for transit': Seeking transportation justice in metropolitan Atlanta](#)," *Urban Studies*, 56(9): 1882–1900.\*

Ralph, Kelcie and Alexa Delbosc. 2017. "['I'm multimodal, aren't you? How egocentric anchoring biases experts' perceptions of travel patterns](#)," *Transportation Research, Part A: Policy and Practice*, 100: 283-293.

Topic 3: *Evaluating transport projects and performance* (Hao Ding) - 10/5

### Required Reading

Meyer, Michael D. and Eric J. Miller. 2013. "Chapter 8: Transportation System and Project Evaluation," in *Urban Transportation Planning: A Decision-Oriented Approach*, Third Edition. Modern Transportation Solutions.

Buchanan, Mary and Natalee Rivera. 2020. "[What transit agencies get wrong about equity, and how to get it right](#)," Perspectives, Kinder Center, Rice University. August.

The Transit Center. 2021. "[Going Above and Beyond: Advice to USDOT on Measuring Transportation Equity](#)," *The Transit Center Blog*, 25 August.

Schofer, Joseph and Raymond Chan. 2014. "[We Can Learn Something from That! Promoting an Experimental Culture in Transportation](#)," *Access*, 44: 28-34.



### Supplemental Reading

Bills, Tierra, and Joan Walker. 2017. "[Looking beyond the mean for equity analysis: Examining distributional impacts of transportation improvements](#)," *Transport Policy*, 54: 61-69.

Wachs, Martin. 2004. "[Reflections on the Planning Process](#)," in *The Geography of Urban Transportation*, Third Edition, Susan Hanson and Genevieve Giuliano, Editors. New York: The Guilford Press. Pages 141-162.

Toole, Jennifer, Tamika L. Butler, and Jeremy Chrzan. 2020. "[How to Place Equity at the Center of Our Work](#)," *ITE Journal*, 90(2): 37-41.

Taylor, Brian D., Eugene J. Kim, and John E. Gahbauer. 2009. "[The Thin Red Line: A Case Study of Political Influence on Transportation Planning Practice](#)," *Journal of Planning Education and Research*, 29(2): 173-193.\*

## **Part Three: Traditional forms of shared mobility within cities**

Topic 4: *Putting shared mobility, cities, and equity in context - 10/10*

### Required Reading

Spieler, Christof. 2020. "[Racism has shaped public transit, and it's riddled with inequities](#)," Perspectives, The Kinder Institute, Rice University. August.

Reft, Ryan. 2015. "[From Bus Riders Union to Bus Rapid Transit: Race, Class, and Transit Infrastructure in Los Angeles](#)," *KCET, History and Society*, 14 May.

Butler, Tamika. 2020. "[To tackle pandemic racism, we need to take action, not just take to social media](#)," Perspectives, The Kinder Institute, Rice University. September.

Dasmalchi, Eric and Brian D. Taylor. 2022. "[Examining Shifts in the Balance of Riders and Bus Service Before and During the Pandemic in Boston, Houston, and Los Angeles](#)," *Findings*, April.

### Supplemental Reading

Cruz, Jessica, Natalee Rivera, and David Bragdon, with Tom Pera and Stephanie Lotshaw. 2022. [Who Rules Transit? An Analysis of Who Holds Power in Transit Agency Decision Making and How It Should Change](#). New York: The Transit Center. January.

Paul, Julene and Brian D. Taylor. 2022. "[Pandemic transit: Examining transit use changes and equity implications in Boston, Houston, and Los Angeles](#)," *Transportation*, published online.

Grengs, Joe. 2002. "[Community-Based Planning as a Source of Political Change: The Transit Equity Movement of Los Angeles' Bus Riders Union](#)," *Journal of the American Planning Association*, 68(2): 165–178.\*

Topic 5: *What is public transit, and why is it losing riders?* - 10/12

### Required Reading

Schweitzer, Lisa. 2017. "Mass Transit," in *The Geography of Urban Transportation*, 4th Edition, Genevieve Giuliano and Susan Hanson, Editors. New York: The Guilford Press. Pages 187-196.

Walker, Jarrett. 2011. "Chapter 1: What Transit is, and Does," *Human Transit: How clearer thinking about public transit can enrich our communities and our lives*. Washington, DC: Island Press. Pages 13-21.

Mallett, William J. 2022. [Public Transportation Ridership: Implications of Recent Trends for Federal Policy](#). Washington, DC: Congressional Research Service. November.

### Supplemental Reading

Gregory D. Erhardt, Jawad Mahmud Hoque, Vedant Goyal, Simon Berrebi, Candace Brakewood, and Kari E. Watkins. 2022. "[Why has public transit ridership declined in the United States?](#)" *Transportation Research Part A: Policy and Practice*, 161: 68-87.

Wasserman, Jacob and Brian D. Taylor. 2022. "[Transit Blues in the Golden State: Regional Transit Ridership Trends in California](#)," *Journal of Public Transportation*, 24: 100030.

Grava, Sigurd. 2003. "Buses," *Urban Transportation Systems: Choices for Communities*. New York: McGraw-Hill. Pages 301-381.

Grava, Sigurd. 2003. "Bus Rapid Transit," *Urban Transportation Systems: Choices for Communities*. New York: McGraw-Hill. Pages 383-420.

Grava, Sigurd. 2003. "Trolleybuses," *Urban Transportation Systems: Choices for Communities*. New York: McGraw-Hill. Pages 421-436.

Grava, Sigurd. 2003. "Streetcars and Light Rail Transit," *Urban Transportation Systems: Choices for Communities*. New York: McGraw-Hill. Pages 437-513.

Grava, Sigurd. 2003. "Monorails," *Urban Transportation Systems: Choices for Communities*. New York: McGraw-Hill. Pages 515-535.

Grava, Sigurd. 2003. "Heavy Rail Transit (Metro)," *Urban Transportation Systems: Choices for Communities*. New York: McGraw-Hill. Pages 537-615.

Grava, Sigurd. 2003. "Commuter Rail," *Urban Transportation Systems: Choices for*

*Communities*. New York: McGraw-Hill. Pages 617-671.

Grava, Sigurd. 2003. "Automated Guideway Transit," *Urban Transportation Systems: Choices for Communities*. New York: McGraw-Hill. Pages 673-719.

Grava, Sigurd. 2003. "Waterborne Modes," *Urban Transportation Systems: Choices for Communities*. New York: McGraw-Hill. Pages 721-764.

Grava, Sigurd. 2003. "Special Modes," *Urban Transportation Systems: Choices for Communities*. New York: McGraw-Hill. Pages 765-777.

Grava, Sigurd. 2003. "Intermodal Terminals," *Urban Transportation Systems: Choices for Communities*. New York: McGraw-Hill. Pages 779-799.

Topic 6: *Who uses public transit, why, and how is this changing?* - 10/19

#### Required Reading

Schweitzer, Lisa. 2017. "Mass Transit," in *The Geography of Urban Transportation*, 4th Edition, Genevieve Giuliano and Susan Hanson, Editors. New York: The Guilford Press. Pages 206-213.

Walker, Jarrett. 2011. "Chapter 2: What Makes Transit Useful? Seven Demands and How Transit Serves Them," *Human Transit: How clearer thinking about public transit can enrich our communities and our lives*. Washington, DC: Island Press. Pages 23-37.

Paul, Julene and Brian D. Taylor. 2021. "[Who Lives in Transit-friendly Neighborhoods? An Analysis of California Neighborhoods over Time](#)," *Transportation Research Interdisciplinary Perspectives*, 10: 100341.

#### Supplemental Reading

Glaeser, Edward L., Matthew E. Kahn, and J. Rappaport. 2008. "[Why Do the Poor Live in Cities? The Role of Public Transportation](#)," *Journal of Urban Economics*, 63(1): 1-24.

Schouten, Andrew, Brian D. Taylor, and Evelyn Blumenberg. 2021. "[Who's on Board? Examining the Changing Characteristics of Transit Riders Using Latent Profile Analysis](#)," *Transportation Research Record: Journal of the Transportation Research Board*, 2675(7): 1-10.\*

Schouten, Andrew, Evelyn Blumenberg, and Brian D. Taylor. 2021. "[Rating the Composition: Deconstructing the Demand-Side Effects on Transit Use Changes in California](#)," *Travel Behaviour & Society*, 25: 18-26.

Manville, Michael, Brian D. Taylor, Evelyn Blumenberg, and Andrew Schouten. 2022. "[Vehicle access and falling transit ridership: Evidence from Southern California](#)," *Transportation*, 50(1): 303-329.

Brown, Anne, Evelyn Blumenberg, Brian D. Taylor, Kelcie Ralph, and Carole Turley Voulgaris. 2016. "[A Taste for Transit? Analyzing Public Transit Use Trends Among Youth](#)," *Journal of Public Transportation*, 19(1): 49-67.

Wasserman, Jacob and Brian D. Taylor. 2023. "[State of the BART: Analyzing the Determinants of Bay Area Rapid Transit Use in the 2010s](#)," *Transportation Research, Part A: Policy and Practice*, 172: 103663.

Topic 7: How do different riders experience public transit? - 10/24

### Required Reading

Scott, Janis. 2020. "[What transit equity means to a transit-dependent rider in a car-centric city](#)," Perspectives, Kinder Center, Rice University. September.

Walker, Jarrett. 2011. "Chapter 3: Five Paths to Confusion," *Human Transit: How clearer thinking about public transit can enrich our communities and our lives*. Washington, DC: Island Press. Pages 39-46.

Iseki, Hiroyuki, Michael Smart, Brian D. Taylor, and Allison Yoh. 2012. "[Thinking Outside the Bus](#)," *Access*, 40: 9-15.

Loukaitou-Sideris, Anastasia. 2023. "['Pssst, Babe, Will You Ride the Bus with Me?' Sexual harassment in transit environments](#)," *Transfers*, 10: 1-7, January.

Loukaitou-Sideris, Anastasia, Madeline Brozen, Miriam Pinski, and Hao Ding. 2020. "[Increasing transit safety without policing](#)," Lewis Center for Regional Policy Studies, UCLA.

### Supplemental Reading

Bliss, Laura. 2020. "[Public Transit Faces Its Own Police Reckoning](#)," Bloomberg CityLab, 26 June.

Johnson, Lallen T. and Evelyn J. Patterson. 2021. "[The policing of subway fare evasion in postindustrial Los Angeles](#)," *Punishment & Society*, published online.\*

Loukaitou-Sideris, Anastasia, Madeline Brozen, Miriam Pinski, and Hao Ding. 2020. "[Documenting #MeToo in Public Transportation: Sexual Harassment Experiences of University Students in Los Angeles](#)," *Journal of Planning Education and Research*, published online 25 September.\*

Schweitzer, Lisa. "[Planning and Social Media: A Case Study of Public Transit and Stigma on Twitter](#)," *Journal of the American Planning Association*, 80(3): 218-238.\*

Le, Huyen T.K., Andre K. Carrel, and Mingfeng Li. 2020. "[How much dissatisfaction is too much for transit? Linking transit user satisfaction and loyalty using panel data](#)," *Travel Behaviour and Society*, 20: 144-154.

Chakrabarti, Sandip and Genevieve Giuliano. 2015. "[Does service reliability determine transit patronage? Insights from the Los Angeles Metro bus system](#)," *Transport Policy*, 42: 12-20.

Ramos-Santiago, Luis Enrique. 2021. "[Towards a better account and understanding of bus/rapid-transit interactions: The case of Los Angeles](#)," *Case Studies on Transport Policy*, 9(3): 1167-1179.

Guo, Zhan. 2011. "[Mind the Map! The Impact of Transit Maps on Path Choice in Public Transit](#)," *Transportation Research, Part A: Policy and Practice*, 45(7): 625–639.

Iseki, Hiroyuki and Brian D. Taylor. 2010. "[Style versus Service? An Analysis of User Perceptions of Transit Stops and Stations](#)," *Journal of Public Transportation*, 13(3).

Fink, Camille Nanette Yayoi. 2012. [More Than Just the "Loser Cruiser"?: An Ethnographic Study of the Social Life on Buses](#), Department of Urban Planning, UCLA.

Topic 8: *Public transit performance and management* - 10/24, 10/26

#### Required Reading

Walker, Jarrett. 2011. "Chapter 10: Ridership or Coverage: The Challenge of Service Allocation," *Human Transit: How clearer thinking about public transit can enrich our communities and our lives*. Washington, DC: Island Press. Pages 117-134.

Walker, Jarrett. 2011. "Chapter 14: Be on the way! Transit implications of location choice," *Human Transit: How clearer thinking about public transit can enrich our communities and our lives*. Washington, DC: Island Press. Pages 181-204.

#### Supplemental Reading

Walker, Jarrett. 2011. "Chapter 11: Can Fares be Fair?," *Human Transit: How clearer thinking about public transit can enrich our communities and our lives*. Washington, DC: Island Press. Pages 135-146.

Smerk, George M. 1992. "Management of Public Transportation," George E. Gray and Lester A. Hoel, Editors, *Public Transportation*, Second Edition. Englewood Cliffs: Prentice-Hall. Pages 463-491.

Fielding, J. Gordon. 1992. "Transit Performance Evaluation in the USA" in *Transportation Research A*, 26A(6): 483-491.

Yoh, Allison, Brian D. Taylor, and John Gahbauer. 2015. "[Does Transit Mean Business?](#)"

[Reconciling Economic, Organizational, and Political Perspectives on Variable Transit Fares,](#)” *Public Works Management & Policy*. Vol. 21(2): 157-172.\*

Topic 9: *Comparative evaluation of public transit systems* - 10/26

Required Reading

Deen, Thomas B. and Richard H. Pratt. 1992. "Evaluating Rapid Transit," George E. Gray and Lester A. Hoel, Editors, *Public Transportation: Planning, Operations, and Management*, Second Edition. Englewood Cliffs: Prentice-Hall. Pages 293-332.

Voulgaris, Carole Turley. 2019. [“Scaling the Summit: How De-emphasizing Transit Ridership Forecasts Inadvertently Improved Ridership Forecast Accuracy – An attempt to fix one planning problem solved an altogether different one,”](#) *Transfers*, 3: 22-26.

Karner, Alex and Aaron Golub. 2015. [“Comparison of Two Common Approaches to Public Transit Service Equity Evaluation,”](#) *Transportation Research Record: Journal of the Transportation Research Board*, 2531, 170–179.\*

Supplemental Reading

Wei, Ran, Xiaoyue Liu, Yongjian Mu, Liming Wang, Aaron Golub, and Steven Farber. 2017. [“Evaluating public transit services for operational efficiency and access equity,”](#) *Journal of Transport Geography*, 65: 70–79.

Ferreri, Michael G. 1992. “Comparative Costs,” George E. Gray and Lester A. Hoel, Editors, *Public Transportation*, Second Edition. Englewood Cliffs: Prentice-Hall. Pages 245-271.

Vuchic, Vukan R. 1992. "Comparative Analysis," George E. Gray and Lester A. Hoel, Editors, *Public Transportation: Planning, Operations, and Management*, Second Edition. Englewood Cliffs: Prentice-Hall. Pages 272-292.

Taylor, Brian D., Mark Garrett, and Hiroyuki Iseki. 2000. [“Measuring Cost Variability in Provision of Transit Service,”](#) *Transportation Research Record: Journal of the Transportation Research Board*, 1735: 101-112. \*

Topic 10: *Investing in bus versus rail transit* - 10/31

Required Reading

Schweitzer, Lisa. 2017. “Mass Transit,” in *The Geography of Urban Transportation*, 4th Edition, Genevieve Giuliano and Susan Hanson, Editors. New York: The Guilford Press. Pages 198-206.

Walker, Jarrett. 2011. “Chapter 8: The Obstacle Course: Speed, Delay, and Reliability,” *Human Transit: How clearer thinking about public transit can enrich our communities and our lives*. Washington, DC: Island Press. Pages 97-108.

Walker, Jarrett. 2011. "Chapter 9: Density Distractions," *Human Transit: How clearer thinking about public transit can enrich our communities and our lives*. Washington, DC: Island Press. Pages 109-115.

Hidalgo, Darío. 2017. "[Are Trains Better Than Bus Rapid Transit Systems? A Look at the Evidence](#)," *The City Fix*, World Resources Institute. October.

Boarnet, Marlon, Andrew Eisenlohr, Raphael W. Bostic, Seva Rodnyansky, Evgeny Burinskiy, Hue-Tam Jamme, and Raúl Santiago-Bartolomei. 2021. "[Rich versus Poor, Near versus Far from Transit: Who Travels More? With appropriate policies, TODs can solve both environmental and equity goals simultaneously](#)," *Transfers Magazine*, Spring.

### Supplemental Reading

Taylor, Brian D. and Eric A. Morris. 2015. "[Public transportation objectives and rider demographics: Are transit's priorities poor public policy?](#)" *Transportation*, 42(2): 347-367.\*

Richmond, Jonathan. 2005. "Evaluating the Promise and Performance of Rail," in *Transport of Delight: The Mythical Conception of Rail Transit in Los Angeles*. Akron: The University of Akron Press. Pages 32-90.

Brown, Jeffrey and Gregory Thompson. 2009. "Express Bus versus Rail Transit: How the Marriage of Mode and Mission Affects Transit Performance," *Transportation Research Record*, 2110: 45-54.

Hess, Daniel B., Brian D. Taylor, and Allison Yoh. 2006. "[Light Rail Lite or Cost-Effective Improvements to Bus Service? Evaluating Costs of Implementing Bus Rapid Transit](#)," *Transportation Research Record: Journal of the Transportation Research Board*, 1927: 22-30.\*

Topic 11: *Public transit operations - 11/2*

### Required Reading

Schweitzer, Lisa. 2017. "Mass Transit," in *The Geography of Urban Transportation*, 4th Edition, Genevieve Giuliano and Susan Hanson, Editors. New York: The Guilford Press. Pages 196-198.

Walker, Jarrett. 2011. "Chapter 6: Peak or All Day?," *Human Transit: How clearer thinking about public transit can enrich our communities and our lives*. Washington, DC: Island Press. Pages 73-84.

Walker, Jarrett. 2011. "Chapter 7: Frequency is Freedom," *Human Transit: How clearer thinking about public transit can enrich our communities and our lives*. Washington, DC: Island Press. Pages 85-96.

### Supplemental Reading

Transit Cooperative Research Program Report 165 (2013). NCHRP Transit Capacity and Quality of Service Manual [Chapter 4](#) (pp. 1-41)

Topic 12: *Route and service planning - 11/7*

### Required Reading

Walker, Jarrett. 2011. "Chapter 4: Lines, Loops, and Longing," *Human Transit: How clearer thinking about public transit can enrich our communities and our lives*. Washington, DC: Island Press. Pages 47-58.

Walker, Jarrett. 2011. "Chapter 5: Touching the City: Stops and Stations," *Human Transit: How clearer thinking about public transit can enrich our communities and our lives*. Washington, DC: Island Press. Pages 59-71.

Walker, Jarrett. 2011. "Chapter 12: Connections or Complexity?," *Human Transit: How clearer thinking about public transit can enrich our communities and our lives*. Washington, DC: Island Press. Pages 147-161.

Walker, Jarrett. 2011. "Chapter 13: From Connections to Networks to Places," *Human Transit: How clearer thinking about public transit can enrich our communities and our lives*. Washington, DC: Island Press. Pages 163-179.

Walker, Jarrett. 2011. "Chapter 15: On the Boulevard," *Human Transit: How clearer thinking about public transit can enrich our communities and our lives*. Washington, DC: Island Press. Pages 205-210.

### Supplemental Reading

Black, Alan. 1995. "Planning Transit Networks," *Urban Mass Transportation Planning*. New York: McGraw-Hill, Inc. Pages 178-204.

Dai, Tinaxing and Brian D. Taylor. 2022. "[Three's a Crowd? Examining Evolving Public Transit Crowding Standards Amidst the COVID-19 Pandemic Public Transport](#)" *Public Transport*, Published online.

Topic 13: *Newer, greener, post-pandemic transit (Lance MacNiven, WFP) - 11/9*

### Required Reading

Walker, Jarrett. 2011. "Epilogue: Geometry, Choices, and Freedom," *Human Transit: How clearer thinking about public transit can enrich our communities and our lives*. Washington, DC: Island Press. Pages 39-46.



King, Hannah, Jacob Wasserman, and Brian D. Taylor. 2023. "[Terra Incognita: Transit Agency Perspectives on Demand, Service, and Finance in the Age of COVID-19](#)," *Transportation Research Record: Journal of the Transportation Research Board*.

#### Supplemental Reading

Wachs, Martin and Brian D. Taylor. 2020. "[Improving Transit Equity in L.A. During the Pandemic](#)," *Streetsblog LA*, 28 July.

The Transit Center. 2021. "[Three Challenges Facing Transit Agencies Emerging From the Pandemic](#)," *The Transit Center Blog*, 8 July.

Siddiq, Fariba, Jacob Wasserman, Brian D. Taylor, and Samuel Speroni. 2023. "[Transit's Financial Prognosis: Findings from a Survey of U.S. Transit Systems during the COVID-19 Pandemic](#)," *Public Works Management & Policy*.

## **Part Four: Receding and emerging forms of shared mobility within cities**

Topic 14: *Established and emerging forms of school transportation - 11/14*

#### Required Reading

Vincent, Jeffrey M., Carrie Makarewicz, Ruth Miller, Julia Ehrman, and Deborah L. McKoy. 2014. "[Beyond the Yellow Bus: Promising Practices for Maximizing Access to Opportunity through Innovations in Student Transportation](#)." UC Berkeley: Center for Cities & Schools, Read pages 4–16 and 32–41, skim pages 17–31.

Schoenberg, Corrie, Kwane Wyatt, and Ruth Farfel. 2021. "[Not in Service: Why Public Transit Must Aim to Serve Students](#)." Baltimore: Fund for Educational Excellence, Read pages 2–11, 21, 23–28 and choose at least one student story to read from pages 12–22.

#### Supplemental Reading

Kontou, Eleftheria, Noreen C. McDonald, Kristen Brookshire, Nancy C. Pullen-Seufert, and Seth LaJeunesse. 2020. "[U.S. active school travel in 2017: Prevalence and correlates](#)," *Preventive Medicine Reports*, 17(101024), 1–8.

Bierbaum, Ariel H., Alex Karner, and Jesus M. Barajas. 2020. "[Toward Mobility Justice: Linking Transportation and Education Equity in the Context of School Choice](#)," *Journal of the American Planning Association*, 87(2), 197–210.\*

National School Transportation Association. 2013. "[The Yellow School Bus Industry](#)." 42 pages.

Schlossberg, Marc, Page Paulsen Phillips, Bethany Johnson, and Bob Parker. 2005. "[How do they get there? A spatial analysis of a 'sprawl school' in Oregon](#)." *Planning Practice & Research*, 20(2): 147–162.\*

Banerjee, Dipayan, and Karen Smilowitz. 2019. "[Incorporating equity into the school bus scheduling problem.](#)" *Transportation Research Part E: Logistics and Transportation Review*, 131, 228–232.

Topic 15: *The ADA, paratransit, and transit access - 11/16*

#### Required Reading

Brumbaugh, Stephen. 2018. [Travel Patterns of American Adults with Disabilities.](#) Washington, DC: Bureau of Transportation Statistics. 10 pages.

Bezyak, Jill L., Scott A. Sabella, and Robert H. Gattis. 2017. "[Public Transportation: An Investigation of Barriers for People With Disabilities,](#)" *Journal of Disability Policy Studies*, 28(1), 52–60.\*

Wright, Steve. 2020. "[Access Denied: Micromobility has the potential to be an urban asset, but planners must act quickly to ensure people with disabilities are not left behind,](#)" *Planning Magazine*, (March): 32–39.

Cochran, Abigail and Melanie Curry. 2020. "[Pandemic Underscores Difficulties Accessing Transportation for People with Disabilities,](#)" *Streetsblog California*, 21 April.

#### Supplemental Reading

Cochran, Abigail L. 2020. "[Impacts of COVID-19 on access to transportation for people with disabilities,](#)" *Transportation Research Interdisciplinary Perspectives*, 8: 100263. 00263.

Cochran, Abigail L. and Daniel G. Chatman. 2021, "[Use of app-based ridehailing services and conventional taxicabs by adults with disabilities,](#)" *Travel Behaviour and Society*, 24: 124–131.

Cochran, Abigail L. 2022. "[How and why do people with disabilities use app-based ridehailing?](#)" *Case Studies on Transport Policy*, 10(4): 2556-2562.

Martens, K. 2018. "[Aging, impairments, and travel: Priority setting for an inclusive transport system,](#)" *Transport Policy*, 63: 122–130.

Wright, Steve and Heidi Johnson-Wright. 2018. "[Inclusive Mobility,](#)" *Planning Magazine*, American Planning Association, February.

Teal, Roger F. 2016. "Technology Changing Market Feasibility," in *Paratransit: Shaping the Flexible Transport Future*, Corinne Mulley, John D. Nelson, Editors. *Transport and Sustainability, Volume 8*: Emerald Group Publishing Limited. Pages 333- 356.

Grava, Sigurd. 2003. "Paratransit," *Urban Transportation Systems: Choices for Communities*. New York: McGraw-Hill. Pages 233-272.

Topic 16: *What's become of taxicabs?* - 11/16

#### Required Reading

Grava, Sigurd. 2003. "Taxis," *Urban Transportation Systems: Choices for Communities*. New York: McGraw-Hill. Pages 273-299.

Schaller, Bruce. 2015. "[Taxi, Sedan, and Limousine Industries and Regulations](#)," *Between Public and Private Mobility: Examining the Rise of Technology-Enabled Transportation Services*, Transportation Research Board Special Report 319. Washington, DC: National Academies Press.

#### Supplemental Reading

Gilbert, Gorman. 1982. *The Taxicab: An Urban Transportation Survivor*. Chapel Hill, NC: University of North Carolina Press. Chapters 5, 8, and 10.

Wyman, Katrina Miriam. 2013. "[Problematic Private Property: The Case of New York Taxicab Medallions](#)," *Yale Journal on Regulation*, 30(1): 125-187.

Topic 17: *The rise of ridehail* - 11/21

#### Required Reading

Shaheen, Susan. 2018. "Shared Mobility: The Potential of Ride Hailing and Pooling," in *Three Revolutions: Steering Automated, Shared, and Electric Vehicles to a Better Future*, Daniel Sperling, Editor. Pages 55-76.

Clelow, Regina R. 2019. "[Disruptive Transportation: The Adoption, Utilization, and Impacts of Ride-Hailing in the United States](#)," *Transfers Magazine*, Spring.

Lazarus, Jessica and Susan Shaheen. 2021. "[To Pool or Not To Pool? Heavy users of Uber and Lyft could be convinced to pool more. That's a good thing](#)," *Transfers*, 8: 1-6.

#### Supplemental Reading

Sperling, Dan and Austin Brown. 2019. "[How Lyft and Uber Can Fix — Not Cause — Congestion: Ride-hail pooling is one of the most important innovations for achieving sustainable transportation](#)," *Transfers*, 8: 1-4.

Kim, Anna Joo, Anne Brown, Marla Nelson, Renia Ehrenfeucht, Nancy Holman, Nicole Gurran, Jathan Sadowski, Mara Ferreri, Romola Sanyal, Marta Bastos and Klaas Kresse. 2019. "[Planning](#)

[and the So-Called 'Sharing' Economy / Can Shared Mobility Deliver Equity?/ The Sharing Economy and the Ongoing Dilemma about How to Plan for Informality/ Regulating Platform Economies in Cities – Disrupting the Disruption?/ Regulatory Combat? How the 'Sharing Economy' is Disrupting Planning Practice/ Corporatised Enforcement: Challenges of Regulating AirBnB and Other Platform Economies/ Nurturing a Generative Sharing Economy for Local Public Goods and Service Provision,](#)” *Planning Theory & Practice*, 20(2): 261-287.

Topic 18:       Taxis and Ridehail: Labor and regulation issues - 11/21

Schaller Consulting. 2018. [“The New Automobility: Lyft, Uber and the Future of American Cities,”](#) 25 July. Read pages i-3, skim pages 4-37.

Oestreich, Herbert H. and George L. Whaley. 2001. “A Brief History of Transit Labor Relations,” in *Transit Labor Relations Guide*, Mineta Transportation Institute Report 01-02. Pages 5-36.

Paget-Seekins, Laurel, with Chris Van Eyken and Hayley Richardson. 2023. [People First: How a more strategic approach to human resources can help transit agencies attract and retain the talent they need to run great service,](#) The Transit Center, July. 66 pages. [Read pages 7-22 and 59-63; skim pages 23-57]

#### Supplemental Reading

Palm, Matthew, Steven Farber, Amer Shalaby, and Mischa Young. [“Equity Analysis and New Mobility Technologies: Toward Meaningful Interventions,”](#) *Journal of Planning Literature*, published online 10 September.

Irwin, Neil. 2019. [“Maybe We’re Not All Going to Be Gig Economy Workers After All: Companies like Uber are hitting the turbulence of government regulation, worker resistance and labor market reality,](#) The Upshot, *New York Times*, 15 September.

Dubal, Veena. 2022. [“Essentially Dispossessed,”](#) *South Atlantic Quarterly*, 121(2): 285–296.\*

Taylor, Brian D., Katherine Kortum, and Stephen Godwin, with Ryan Chin, Jennifer Dill, Lester A. Hoel, Michael Manville, Steve Polzin, Bruce Schaller, Susan Shaheen, Daniel Sperling, Marzia Zafar, Susan Zelinski. 2015. [“Chapter 4: Economic Framework for Regulation of Shared Mobility,”](#) *Between Public and Private Mobility: Examining the Rise of Technology-Enabled Transportation Services*, Transportation Research Board Special Report 319. Washington, DC: National Academies Press. Pages 66-81.

Topic 19:       Who uses ridehail? Examining race, gender, income, and neighborhoods - 11/28

#### Required Readings

Young, Mischa, and Steven Farber. 2019. "[The Who, Why, and When of Uber and Other Ride-Hailing Trips: An Examination of a Large Sample Household Travel Survey](#)," *Transportation Research Part A: Policy and Practice*, 119: 383–392.

Brown, Anne. 2019. "[The Equalizer: Could Ride-Hailing Extend Equitable Car Access? – Can the rise of ride-hail increase mobility equity?](#)," *Transfers*, 7: 1-7.

Barajas, Jesus M. and Anne Brown. 2020. "[Not Minding the Gap: Does ride-hailing serve transit deserts?](#)" *Journal of Transport Geography*, 90.

### Supplemental Readings

Shaheen, Susan and Adam Cohen. 2018. "[Equity and Shared Mobility](#)," *ITS Berkeley Policy Briefs*, 2018(06).

Brown, Anne E. 2019. "[Prevalence and Mechanisms of Discrimination: Evidence from the Ride-Hail and Taxi Industries](#)," *Journal of Planning Education and Research*, published online 30 August.\*

Ge, Yanbo, Christopher R. Knittel, Don MacKenzie, and Stephen Zoepf. 2020. "[Racial Discrimination in Transportation Network Companies](#)," *Journal of Public Economics*, 190, published online 1 October.

Brown, Anne and Rik Williams. 2023. "[Equity Implications of Ride-Hail Travel during COVID-19 in California](#)," *Transportation Research Record*, 2677(4), 1–14.

Brown, Anne, Michael Manville, and Alexandra Weber. 2021. "[Can mobility on demand bridge the first-last mile transit gap? Equity implications of Los Angeles' pilot program](#)," *Transportation Research Interdisciplinary Perspectives*, 10, published online June.

Topic 20: *Comparing Dhaka and LA - 11/30*

### Required Readings

Tirachini, Alejandro. 2020. "[Ride-hailing, travel behaviour and sustainable mobility: an international review](#)," *Transportation*, 47 (4): 2011-2047.\*

Wadud, Zia. 2020. "[The effects of e-ridehailing on motorcycle ownership in an emerging-country megacity](#)," *Transportation research part A: policy and practice*, 137: 301-312.

Brown, Anne, Nicholas J. Klein, Michael J. Smart, and Amanda Howell. 2022. "[Buying Access One Trip at a Time: Lower-Income Households and Ride-Hail](#)," *Journal of the American Planning Association*, 88:4, 495-507.\*

### Supplemental Readings

Alemi, Farzad, Giovanni Circella, Susan Handy, and Patricia Mokhtarian. 2018. "[What influences travelers to use Uber? Exploring the factors affecting the adoption of on-demand ride services in California](#)," *Travel Behaviour and Society*, 13: 88-104.

Sourav, DS. 2021. "[How the pandemic has affected ridesharing services](#)," Dhaka Tribune, 6 May.

Brown, Anne. 2019. "[Redefining Car Access](#)," *Journal of the American Planning Association*, 85(2): 83-95.\*

Topic 21: *Micro-mobility and the future of public transit* (Joshua Schank, InfraStrategies) - 12/5

### Required Reading

Shaheen, Susan and Adam Cohen. 2014. "Car sharing," in *Encyclopedia of Transportation: Social Science and Policy*, Mark Garrett, Editor. Thousand Oaks, CA: SAGE Publications, Inc. Vol 3: 349-353.

Shaheen, Susan and Adam Cohen. 2014. "Bicycle Sharing," in *Encyclopedia of Transportation: Social Science and Policy*, Mark Garrett, Editor. Thousand Oaks, CA: SAGE Publications, Inc. Vol. 2: 271-275.

Brown, Charles, Devajyoti Deka, Aashna Jain, Anish Grover, and Qingyang Xie. 2019. "[Evaluating spatial equity in bike share systems](#)," Rutgers University. Read pages 1-5 and 51-56, skim pages 6-50.

Wang, Haoyun and Robert Noland. 2021. "[Changes in the Pattern of Bikeshare Usage due to the COVID-19 Pandemic](#)," *Findings*, January.

Uranga, Rachel. 2023. "[The \\$1 ride that costs Metro \\$43. Why some want to keep it going](#)," Los Angeles Times, 14 September.

### Supplemental Readings

Dill, Jennifer, and Nathan McNeil. 2020. "[Are Shared Vehicles Shared by All? A Review of Equity and Vehicle Sharing](#)," *Journal of Planning Literature*, published online 21 October.

Meng, Sian and Anne Brown. 2021. "[Docked vs. dockless equity: Comparing three micromobility service geographies](#)," *Journal of Transport Geography*, 96(26 October).

Mooney, Stephen J., Kate Hosford, Bill Howe, An Yan, Meghan Winters, Alon Bassok, and Jana A. Hirsch. 2019. "[Freedom from the Station: Spatial Equity in Access to Dockless Bike Share](#)," *Journal of Transport Geography*, 74(1 January): 91–96.

Brown, Anne, Nicholas J. Klein, Calvin Thigpen, and Nicholas Williams. 2020. "[Impeding Access: The Frequency and Characteristics of Improper Scooter, Bike, and Car Parking](#)," *Transportation Research Interdisciplinary Perspectives*, 4(March).

Jobe, Jeffrey, and Greg P. Griffin. 2021. "[Bike share responses to COVID-19](#)," *Transportation Research Interdisciplinary Perspectives*, 10.

## Part Five: Looking Ahead

Topic 22: *Closing the circle: The future of public transit and shared mobility - 12/7*

### Required Reading

Gahbauer, John, Juan Matute, and Brian D. Taylor. 2023. "[Transit & Traffic: A Primer – Imagine a Picture-Perfect Transit System](#)," UCLA Institute of Transportation Studies.

Circella, Giovanni and Mokhtarian, Patricia S. 2017. "Impacts of Information and Communication Technology." In *The Geography of Urban Transportation*, 4th Edition, Genevieve Giuliano and Susan Hanson, Editors. New York: The Guilford Press. Pages 86-109.

Schweitzer, Lisa. 2017. "Transit and the Future." In *The Geography of Urban Transportation*, edited by Genevieve Giuliano and Susan Hanson, 213-217. 4th ed. New York, New York: The Guilford Press.

Sperling, Daniel, Susan Pike, and Robin Chase. 2018. "Will the Transportation Revolution Improve Our Lives -- or Make Them Worse?," in *Three Revolutions: Steering Automated, Shared, and Electric Vehicles to a Better Future*, Daniel Sperling, Editor. Pages 1-20.

Boji: Transit's Best Friend. Washington Post Staff. 2021. "[Meet the Istanbul street dog who's become a sensation](#)," *The Washington Post*, 22 October.

### Supplemental Reading

Buehler, Ralph. 2018. "[Can Public Transportation Compete with Automated and Connected Cars?](#)," *Journal of Public Transportation*, 21(1): 7-18.

Manville, Michael, Brian D. Taylor, and Evelyn Blumenberg. 2018. "[Transit in the 2000s: Where Does It Stand and Where Is It Headed?](#)," *Journal of Public Transportation*, 21(1): 104-118.

Lutin, Jerome M. 2018. "[Not If, but When: Autonomous Driving and the Future of Transit](#)," *Journal of Public Transportation*, 21(1): 92-103.

Polzin, Steven E. 2018. "[Just Around the Corner: The Future of U.S. Public Transportation](#),"

*Journal of Public Transportation*, 21(1): 43-52.

Watkins, Kari. 2018. "[Does the Future of Mobility Depend on Public Transportation?](#)," *Journal of Public Transportation*, 21(1): 53-59.

## Writing Assignments

The two writing assignments for this course are described below. The purpose of these assignments is to allow you to delve deeply into some of the course topics, hone your analytical and critical thinking skills, and to improve your writing and graphical presentation skills. With respect to writing, we have posted two documents ([on good writing in planning](#) and [on writing memoranda](#)) on the course website to help guide your written work.

There is one homework and one writing assignment for this course: (1) a *project evaluation assignment* that will be distributed in the second week of class and (2) an *analytical memorandum*. For the project evaluation assignment, you will be provided with the data and will work individually. For the analytical memorandum, you and a partner are to gather information and data on a real world planning issue, analyze the information, and present your analysis and findings in a memorandum.

As you can see, you have plenty of choices on the memo topics. All memo assignments must be submitted in Word .docx format, not as .pdf or .pages on BruinLearn by their due date and time. The Project Evaluation Assignment will specify submission instructions. We suggest that you upload your assignments to BruinLearn in advance of the final deadline, as technical problems may delay your upload and cause you to incur a late penalty. Please note that late papers will be accepted, but a late grade penalty will be applied to any papers turned in after the due dates (as described above).

For your analytical memorandum, you should:

- edit your work carefully,
- cite *all* of your sources,
- include a title page clearly identifying both the authors and the assignment completed,
- include a short executive summary (which is a free-standing summary of your *entire* memorandum – particularly your principal findings and recommendations; it cannot double as an introduction to the paper),
- use graphs, tables, and pictures to make key points,
- include a bibliography, and
- put supporting data or other materials in appendices.

The body of your analytical memorandum should run about 2,500 to 3,500 words of text, excluding the title page, executive summary, bibliography, and any appendices. Planners and policy analysts are often required to synthesize substantial and extensive analyses into concise



reports, and even shorter executive summaries; you will need to do the same here. Papers that exceed the word limit by 10 to 19 percent will have their grade reduced by one-third (i.e. an A will become an A-); 20 to 29 percent by two-thirds, and so on.

The papers should be double-spaced with one-inch margins and 12-point type. Appendices are for supplementary material, and not pictures, graphs, etc. that are central to your analysis; in other words, do not make the reader hunt through the back of the document in search of key data. Your assignment grade will be determined in part by the degree to which your submitted materials conform with these style requirements. In other words, single-spaced papers submitted in 11-point type that are missing an executive summary (and so on), will be marked down accordingly.

Further, since the analytical memorandum asks you to *evaluate* the implementation/performance of urban transportation policies, programs, projects, or proposals, I strongly suggest that, prior to conducting your analyses, you carefully review the required readings on the evaluating transport projects and performance topic for information on conducting evaluations. The assignment is marked using a multi-dimensional rubric, which is attached to the back of this syllabus. You should review this rubric to get an idea of how we will be evaluating your paper.

## Project Evaluation Assignment

Will be distributed by Thursday, October 5th.

**Due:** Upload no later than Saturday, October 14th at 11:59 pm PDT.

## Analytical Memorandum

Select any one assignment below and conduct your work in teams of two.

**Due:** Upload no later than Saturday, November 25th at 11:59 pm PST.

### **OPTION 1: Understanding and enhancing the transit experience**

For the most part, people travel, not for the joy of the trip, but to do things at their destination. When deciding where, when, and how to travel, travelers trade the anticipated benefits of a trip against the generalized costs (time, money, risk/uncertainty) of travel. The monetary costs (fares, gas prices, etc.) are easy to understand, but other costs are harder to define and quantify. For example, psychological factors, such as safety, convenience, and the peace of mind that come with reliable transportation are important to travelers. All else equal, people like to use modes of travel that are safe, convenient, and reliable because doing so is less stressful than using modes that are unsafe, inconvenient, and unreliable. The risk and

uncertainty associated with transit travel was cast in the sharpest possible relief between March 2020 and March 2022 during the Covid-19 pandemic.

You and your partner are transportation planners working for LA Metro. For this assignment, your task is to interview at least six, but no more than nine current public transit users in Los Angeles County and six to nine people who rarely if ever use transit (to broaden your circle of interviewees, try to interview people who do not know one another). Your goal is to learn what factors influence people to ride, or not ride, public transit -- based on their previous experience of the mode (for those who ride) or their perceptions of the mode (for those who do not). Supporting your arguments with readings for this course (including the relevant supplemental readings), use your interviews to draft a memo to your boss elucidating recommendations for improving the experience of transit riders in the LA region. You should address the following in your memorandum:

- What do people report as the most important factors in their decision to use transit or to not use transit? Traveling via transit involves considerable time outside of vehicles, walking, waiting, and transferring; how do people report on this in-vehicle and out-of-vehicle experiences? Are these factors the same for transit users and transit non-users? How about between more advantaged travelers (who usually have a car available for their trips) and disadvantaged travelers, who because of income or ability have fewer travel options?
- You should be sure to consider whether and to what extent (1) your interviewees' perceptions of these factors changed during the pandemic and (2), if so, whether these changes are persisting post-pandemic.
- Given your review of the literature and your interviews, what specific cost-effective changes to LA Metro transit service do you recommend to increase the attractiveness and use of public transit in LA County?

## **OPTION 2: Evaluating the public presentation of transit service data**

The way that people discover, use, and experience public transit options is defined at least in part by how transit agencies communicate with their riders. While this is true in normal times, it was especially the case during the COVID-19 pandemic. Accordingly, your assignment is for you and your partner to examine in detail how four different transit agencies (of your choosing) communicate with their riders.

In deciding which agencies to examine, you should select no more than two agencies that your initial scan suggests do a poor job of communicating with riders, and at least two that appear to do better in this regard. You may also want to choose agencies of varying service area sizes, ridership levels, and/or geographic regions; this is not a requirement, but it may help you in comparing and contrasting how different agencies communicate. Considering the relevant readings from the course, you should then develop a method by which you'll evaluate how

agencies communicate with riders and explain it in your memorandum. What information do riders want and need? When do they want and need it? Do agencies communicate differently to different types of riders based on mode, geography, race/ethnicity, language familiarity, or other traits? What else is important in how agencies communicate?

You should then analyze your four agencies' performances in addressing these needs through their communications. You should consider agency publications and websites, social media accounts, smartphone applications, information available at stops, and the like. You should describe each agency individually, include appropriate background information, and detail how it communicates with its riders. Include visual evidence both in the body of the memo where appropriate and more extensively in an appendix. Then, synthesize and describe any patterns or trends you observe. Describe communications measures you think each agency you reviewed should begin or cease, based on your evaluation of best practices, the other agencies, and the individual agency's situation. Finally, conclude with a discussion about what any transit agency should consider for improving communication with its riders and why.

### **OPTION 3: Performance audit of an LA County transit operator**

The Los Angeles Metropolitan Transportation Authority (LA Metro) is both the region's largest transit operator and the agency responsible for allocating federal, state, and local transit subsidy funds to all transit operators in Los Angeles County. While tax revenues have largely bounced back post-pandemic, ongoing depressed fare revenues are squeezing many transit operators as federal pandemic relief funds run out. But longer-term increases in federal or state transit subsidies for operations are not currently on the horizon. Given these uncertain longer-term financial forecasts, LA Metro is re-evaluating subsidy allocations to all public transit systems in the county.

To inform deliberations on possible subsidy cutbacks to the county's many non-LA-Metro operators, the LA Metro Board has asked you to prepare a "performance audit" of any one of LA County fixed-route, fixed-schedule transit operators that host at least 1 million annual boardings. The purpose of this audit is to compare recent pre-pandemic and post-pandemic operating performance, and based on this analysis to make recommendations to improve system performance in the coming years.

The board has specifically asked you to address the following questions:

- 1) What has been the long-term trend of revenues for your system, and how do these trends compare with similar transit operators nationwide? In addition, what has been the long-term trend of farebox recovery rates and how have these rates compared with peer operators over the years?
- 2) What has been the recent trend of revenues for your system, and how do these trends

compare with similar transit operators nationwide? In addition, what has been the more recent trend of farebox recovery rates and how have these rates compared with peer operators over the years?

- 3) Select and defend a series of performance measures you believe to be appropriate and analyze transit performance trends over time (remembering to control for the effects of inflation). Do these measures reveal improved or deteriorating performance leading up to the pandemic? What about since then?
- 4) If you lack adequate data to measure the dimensions of system performance as you see fit, what additional performance measures would you suggest be included in subsequent performance audits and what additional data would be required?
- 5) Given these trends in operating performance, what general recommendations can you make to improve both the efficiency and effectiveness of your system?

For this analysis you should:

- Review the relevant required and recommended course readings,
- Review the Transit Performance Evaluation Readings listed under the public transportation topic,
- Review the most recent *Short Range Transit Plan* and *Triennial Performance Audit* for your operator. These reports should be available from either the Maps and Government Information Division of the Young Research Library, the Los Angeles MTA Library, or directly from the operator,
- Review your system's operating statistics and nationwide operating averages for all U.S. transit operators in the [National Transit Database](#) compiled by the Federal Transit Administration.
- Obtain general comparative data from the [American Public Transit Association website](#).

In your analysis, organize descriptive detail into tables, graphs, and appendices as much as possible; use your text to interpret your findings and argue your recommendations. You should deal with all of the questions posed here (and any others you believe important), but feel free to address them in any order you like.

#### **OPTION 4: Comparative analyses of bus and rail transit systems**

The Los Angeles Metropolitan Transportation Authority (LA Metro) is well into an ambitious and expensive program of rail transit development in Southern California. This program includes heavy rail (the D (Purple) and B (Red) Lines) and light rail (the A (Blue, and Gold), C (Green), K (Crenshaw/LAX), and E (Expo and Gold) Lines), all of which are now in operation. In addition, the A (Blue) Line, the oldest in the network, was recently rehabilitated and upgraded, and the Regional Connector in downtown was recently completed. In addition, many more rail and

busway projects are in advanced planning stages or under construction, including the K (Crenshaw/LAX) Line, the Regional Connector, G (Orange) Line improvements, D (Purple) Line Extension, L (Gold) Line - now A Line - Foothill Extension, C (Green) Line Extension to Torrance, and the West Santa Ana Branch, among others.

However, lagging ridership on many of these lines leading up to the pandemic, and substantially reduced ridership during the pandemic, have raised questions about the wisdom of the LA Metro's ambitious (and expensive) rail transit program, given substantial uncertainty about the future of transit service demand. Concerned by critical media coverage and by calls from critics to revisit hard-fought political victories to fund the rail program – and especially by the claims that Los Angeles could be developing alternative transit systems that would provide high levels of service at far lower costs – as LA Metro has also developed busways on heavily traveled transit corridors in the form of the G (Orange) and J (Silver) Lines. The California Transportation Commission (CTC) has asked you, a respected transportation analyst, to prepare a “white paper” examining the relative performance of heavy rail, light rail, and busways in Los Angeles County.

You should carefully review the relevant required and supplemental course readings and, in addition, you should secure relevant cost and performance data on (1) the B and D Lines (heavy rail), (2) the A, C, E, and K Lines (light rail), and (3) the G and J Lines (busways) from LA MTA reports and documents, most of which are available on the web or the LA Metro Library. You should then define the criteria for your analysis and comparison as explicitly as possible, including any equity considerations you deem relevant. Using these data and criteria, compare the performance of these three different modal approaches to expanding transportation capacity with respect to your criteria. According to your analysis, which of these lines is delivering the most bang for the buck, and which the least? Accordingly, to which of these programs would you recommend that LA Metro devote its future resources? Your analysis should consider: (1) the techniques used to compare the cost-effectiveness of alternative transit modes, (2) the available data on the cost and performance of these modes in LA, and (3) the arguments of experts on the relative efficiency, effectiveness, and equity of busway facilities versus heavy rail transit facilities versus light rail facilities in places like Los Angeles.

#### **OPTION 5: Bus or Rail on the San Fernando Valley G (Orange) Line?**

Beginning in the 1980s, LA Metro began exploring plans to build a major public transportation investment along an old railroad east-west right-of-way in the San Fernando Valley, either bus or rail. After repeatedly encountering community opposition to the project, LA Metro settled in 1999 on bus rapid transit, BRT, which is sometimes called “light rail on rubber tires.” After prevailing over a lawsuit filed against the environmental impact report (EIR) for the project, the BRT project was constructed, opening in October 2005. It has been widely regarded as a success relative to other major transit investments, attracting, for example, more riders than the former Gold Line light rail between downtown Los Angeles and Pasadena at about one-third

the cost.

Ironically, the G (Orange) Line is now such a central part of transit infrastructure in the San Fernando Valley that LA Metro is actively considering whether to convert the successful busway to light rail. Part of the motivation for the conversion is to overcome “slow orders,” which require the vehicles on the busway to move very slowly through the signalized intersections; the orders were put into place shortly after the line opened in response to several bus versus motor vehicle crashes. Proponents say that the absence of slow-orders and higher passenger capacities on the light rail vehicles will enable faster rides for more passengers, while BRT defenders say that the slow-order is a policy that the LA Metro board could undo at any time, or one that could be extended to light rail transit as well.

You and your partner are staff to a new member of the LA Metro governing board and they have asked you to analyze the current operation of the G (Orange) Line busway and consider the pros and cons of converting it to light rail. To conduct this analysis you and your partner should first review the required and supplementary readings on *Comparative evaluations of public transit systems* and *Investing in bus versus rail transit*. Second, you should search for publicly available data and reports on the operation of, patronage on, and currently planned modifications to the G (Orange) Line busway. Third, you and your partner should ride the busway from end to end to get a first-hand feel for how it operates. Fourth, you should review publicly available LA Metro analyses of the possible conversion of the line from bus to rail, [such as this early example](#). Your Director is particularly concerned about expending substantial resources on upgrading the G (Orange) Line when there are so many other transit needs in LA County, so they are particularly interested in comparing the costs of rail conversion against the benefits, and in particular whether upgrading the current busway (such as by better signal timing coordination and suspension of the slow order) might deliver more bang for the buck.

#### **OPTION 6: Public transit route evaluation**

Transit planners consider a variety of factors in planning and scheduling routes. Severe peaking of demand on transit often requires high levels of service on particular days and times, in particular areas, and in particular directions, and providing peak hour service usually has high marginal costs. On the other hand, most transit operators try to provide a minimal level of service on days, times, in areas, and in directions with relatively low levels of demand – yet providing service at low demand times and in low demand areas usually attracts few riders and very little revenue.

Your task is to evaluate a current line on any local transit system, and make recommendations for improving its service effectiveness. You and your partner can choose any line you wish. To start, you should ride the entire line at least once during a peak period and at least once during an off-peak period. You may also wish to interview people who regularly ride the line, as well as some of the operators who drive the line (be careful not to disturb them; they may be most

willing to speak with you at time stops or turnarounds at the end of the line). Finally, you should go to the transit operator's website to see if you can find any line-specific data to analyze. Given the information you gather, you and your partner's analysis should include all of the following:

- Describe the line's service characteristics (routing, stops, days and time of service, headways, total round trip time, operating speed, total passengers, etc.).
- Estimate the allocation of passengers by time of day (AM peak, midday, PM peak, evening) for each service day type (full-service weekday, full-service Saturday, etc.).
- Estimate the line's service effectiveness (peak to off-peak bus ratio, passengers by service day type, passengers per vehicle service hour, passengers per vehicle service mile, load factor, etc.).
- Describe who you see using the line at different times and directions, and consider how this may or may not change coming out of the pandemic.
- Identify the major trip generators, trip attractors, and trip types served by the line. Do you think that these may have changed post-pandemic?
- Identify the major temporal, spatial, and directional patterns of travel demand. Do you think that these are likely to have changed as a result of the pandemic?
- Identify any service strengths and weaknesses (inadequate peak hour capacity, awkward routing, excessive or inadequate stops, etc.).
- Make specific recommendations for improving the line (routing, stops, headways, etc.) without increasing the total number of vehicle service hours on the line. Specifically consider how you think demand may change as a result of the pandemic.

To prepare for your analysis, you and your partner should carefully review the relevant required and recommended course readings, and in particular the required and supplemental transit service planning readings in the syllabus. The analysis should organize descriptive detail into tables, graphs, and appendices as much as possible; use your text to interpret your findings and argue your recommendations. You should deal with all of the questions posed here (and any others you believe important), but feel free to address them in any order you like.

#### **OPTION 7: Americans with Disabilities Act and public transit**

The goal of this assignment is to help you think holistically about transit access and travel for

those with various forms of physical limitations. Unless you are already a wheelchair user, you and your partner should borrow or rent a wheelchair for one day. Select an origin and destination for a trip of at least ten kilometers (6.2 miles) one-way (say, UCLA to LAX or your home to the County Museum of Art) and plan a transit trip from origin to destination that requires at least one transfer. Leave your origin with one student sitting in the wheelchair, and the second serving as an escort. For your own safety and out of respect for others, stay in character the entire time; do not at any point in the trip give the impression that you do not need to use a wheelchair, unless you need to do so as a matter of safety.

You and your partner should travel from your trip origin (inside a building) to the nearest bus stop and complete the trip to your destination using the wheelchair lift on the bus and the tie-down devices to secure the wheelchair. Having reached your destination, you should, in a private spot, reverse your roles - the escort taking the chair and the person previously in the chair becoming the escort. Return to the origin, also by transit. Along the way take note (and pictures) of the experience of using the wheelchair to enter and exit buildings, on city streets and sidewalks, using the lifts on buses, and traveling about Los Angeles in a wheelchair. Take note of the attitudes of bus drivers and passengers during your journey. Take note of whether any buses pass you by and/or any wheelchair lifts are out of order, and be sure to take pictures along the way.

Having had the experience of traveling as a wheelchair user, prepare a memorandum drawing on all of the course readings relevant to this assignment and on your field experience in directly assessing “accessible transit” in Los Angeles. Please note that your review of these readings is an important part of this assignment. What specific changes would you recommend be made (recognizing that we are in an era of limited public budgets) to improve the experience for wheelchair-using travelers on your specific itinerary? And, more generally, based on the readings and this experience, what do you think that transportation planners should know about accessible transportation planning that they may not currently understand?



<b>Name:</b>		<b>Assignment:</b>		<b>Grade:</b>	
<b>Understanding of topic</b>	<b>Evidence-based analysis</b>	<b>Critical thinking</b>	<b>Logic/organization</b>	<b>Presentation</b>	<b>Writing</b>
Exceptional understanding of all issues relevant to question; impressively well informed and aware of complexities	Engagement with the literature demonstrates a deep understanding of a breadth of sources and a critical, interpretive eye; data from a variety of sources effectively supports analysis	Outstanding, critical insight with evidence of original thought; excellent integration of concepts and theories with evidence relevant to the question at hand	Argument(s) logically structured and fully developed with exceptional clarity, coherence, and fluency throughout	Exceptionally clear, polished, and attractive presentation; the text, sections and subsections, charts, and pictures are of the highest quality and very effectively advance the analysis and arguments	Exceptionally well written. Crisp and elegant prose, clear voice, free of jargon and technically polished.
Very good understanding of topic and question; well aware of nuances and complexities	Very good use of and engagement with a wide ranging literature sources, as well as appropriate data, tables, and/or charts to support the work	Very well constructed arguments with very good use of concepts and theories; clear evidence of independent thought	Argument(s) very well structured and developed; ideas clearly presented throughout	Very clear, polished, and attractive presentation; the text, sections and subsections, charts, and pictures are very good quality and effectively advance the analysis and arguments	Very good writing; clear, concise, with few, if any, flaws.
Thorough, clear treatment of issues; demonstrates an understanding of the question, arguments, and context	Good use of and engagement with literature sources, as well as appropriate data, tables, and/or charts to support the work	Solid critical analysis with appropriate use of concepts and theories; some critical engagement with the literature	Argument(s) are for the most part clearly structured and logically developed throughout	Generally clear, polished, and attractive presentation; the text, sections and subsections, charts, and pictures are of relatively good quality and for the most part advance the analysis and arguments	Good writing; conveys information effectively, but has some flaws and lacks the polish and sophistication of outstanding writing.
Demonstrates a reasonably sound, but not always rigorous understanding of the topic and surrounding issues	Competent use of literature sources and supporting data, but not always with nuance or rigor	Largely appropriate engagement of concepts and theories; some evidence of critical analysis	Argument(s) are either well-developed but poorly organized, or well-organized but underdeveloped	Adequate presentation, though less than professional quality; some effective organization, charts, pictures, etc. that generally, if not always effectively, advance the analysis and arguments	Competent writing that would benefit from better organization and editing.
Work demonstrates some understanding of question and issues, but not in a sophisticated or nuanced way	Insufficient treatment of the literature, and only partially effective use of supporting data, tables, or graphs	Marginal use of concepts and theories; largely descriptive analysis lacking in nuance and rigor	Argument(s) undeveloped and not always clear; the conclusion is not well supported by the body of the work	Generally sloppy, ineffective presentation that is well below standards of professional quality; organization, charts, pictures, etc. are poorly developed, difficult to understand, and/or missing	Fair writing; generally conveys information, but would be far more effective with better organization and editing.
Demonstrates a partial, incomplete understanding of the topic; makes a few relevant points, but misses many others	Treatment of literature is incomplete and not always accurately interpreted; use of supporting data is lacking or inaccurately applied	Only partially ties works to relevant concepts or theories; entirely descriptive and lacking in critical insight	Argument(s) undeveloped and often confused; conclusion is lacking, incomplete, and/or unconvincing	Very poor presentation; sloppy, poorly organized prose with poor or absent use of supporting charts, pictures, and the like	Poor writing that needs significant improvement; you may wish to consult with a writing instructor for ways to improve your writing.
Understanding of topic is seriously deficient; largely fails to address the issue(s) at hand	Little or no use of relevant literature or data to support arguments	No evidence of relevant concepts or theories in work; wholly descriptive with many errors and/or omissions	Little or no structure, argument, or conclusion	Completely inadequate organization and presentation of material on all counts	Extremely poor writing; see the instructor, TA, Reader, or writing instructor about addressing problems with your writing