

PPD 422: Transportation Technology and the Future of Mobility **Spring 2021**

Location: Zoom

Time: Mondays, 6:00 – 9:20 pm

Instructor 1: Lilly Shoup

Office Hours: 1 hour prior to class by appointment

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Instructor 2: Julia Thayne

Office Hours: 1 hour prior to class by appointment

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Catalog Description

Introduction of the role that technology will play in facilitating shared mobility, disrupting transportation markets, and reshaping multi-modal urban transportation systems; analyses of governance issues; the interaction between private markets and regulators; changes in the nature of infrastructure and urban planning required to accommodate the wired future of transportation.

Course Summary

Technology is transforming mobility and cities. This course will introduce students to a distinctly urban view of the role that technology will play in facilitating shared mobility, disrupting transportation markets, and reshaping multimodal transportation systems. The class will include analyses of governance issues, the interaction between private providers and regulators, and changes in the planning, design, and operations of infrastructure and land use planning that will be required to facilitate a safe, equitable, and sustainable transportation system in the future.

At the end of this course, you should expect to have learned about transportation technology and the future of urban mobility from the multiple perspectives of the people responsible for implementing and shaping them:

- A policymaker anticipating and collaborating on transportation technology deployment
- A business designing and deploying a new urban mobility product or solution
- The public, who influence the transportation networks of today and tomorrow
- Other stakeholders, such as city planners and urban designers, non-profit organizations, or universities, who react to or anticipate their outcomes

You should also expect to gain a preliminary technical understanding of the predominant products/solutions in transportation technology today, as well as demonstrate a critical understanding of the urban design, equity, accessibility, and sustainability implications of transportation technology in city environments.

Learning Objectives

At the end of the course you should expect to have the following skills:

1. Understand the technology innovations that are part of the ACES revolution
2. Evaluate the impacts of transportation technology policy frameworks on urban sustainability, equity, and access
3. Present complex policies in a concise and compelling way to a range of audiences

Grading Breakdown

To receive an “A” grade, students must complete all work on time and submit work of superior quality throughout the course. Work must address all aspects of the required assignments, exceed the minimum requirements and demonstrate critical and creative thinking.

Students must consistently contribute to class discussion. In-class assignments will be evaluated based on the thoughtful completion of the assigned activity. Activities in class may include guest speaker discussions, debates, and presentations.

A – Work of excellent quality exceeding requirements and exceeding expectations

B – Work of good quality meeting requirements and meeting expectations

C – Work of fair quality

D – Work of minimum passing quality

F – Failure to adequately complete coursework.

Assignment	Percentage
Writing Assignments	25%
Midterm Exam	25%
Group Presentation	25%
Final Exam Essay	25%

Grading Scale

Course final grades will be determined using the following scale

A	95-100
A-	90-94
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D+	67-69
D	63-66
D-	60-62
F	59 and below

Assignments

Assignments will be evaluated based on the thoughtful completion of the assigned activity.

Writing Assignments: Students will be responsible for individually completing three (3) one-page policy memos. The memos, directed to the mayor of a city, will each describe:

- What the new technology is;
- What the key policy issues are at the federal, state and local levels; and
- What key messages about the technology and proposed policies are for future speaking events and media interviews

Midterm Exam: Partway through the course, students will complete individually and during class a short answer and multiple choice midterm exam. The mid-term exam questions will reference both readings and lectures. Students who need additional time or other accommodations should request so at least three (3) weeks in advance of the midterm exam.

Group Presentation: At the beginning of the course, students will sign up in groups of 2 or 3 to present on a selected topic. There will be two class days devoted to presentations during the course. Presentations must be:

- 10 minutes in length
- Accompanied by a slide deck
- Include a separate, signed description of which student did what to prepare for the presentation

Final Exam Essay: The final exam is an in-class essay. Students who need additional time or other accommodations should make the request at least three (3) weeks in advance of the final exam.

Class Policies

Late work: Late work will be accepted with a 25% penalty for one week after the assignment due date. Late work will not be accepted after one week and must be turned in before the last day of class.

Technology in Class: Electronic devices are allowed in class, but please use laptops and phones for learning purposes only. Your use can't be distracting to other student's ability to learn and participate in class and students may be asked to leave.

Communication: We are here for you! Please feel free to email us at any point to ask a question, provide feedback, or arrange an office hours appointment. Please use an USC email address to make sure we see it and put the course number in the subject line. We will respond to your email within 48 hours.

Research Assistance: Need to do research but don't know where to start? Searching for a book, article, or data to support your argument? Not sure how to cite a source in your bibliography? Ask a librarian! Research help is available:

- By phone, chat and email at Ask a Librarian
- Through research guides and FAQs
- By contacting your subject librarian

Religious Absences: University policy grants students excused absences from class for observance of religious holy days. However, you must contact us IN ADVANCE to request such an excused

absence. You will be given an opportunity to make up missed work because of religious observance.

Students with Disabilities: Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me as early in the semester as possible. DSP is open 8:30 a.m.–5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776.

Course Schedule: A Weekly Breakdown

This tentative schedule provides the topics, reading, and assignments for each class. It is expected that all readings are completed before class. Assignments are due at the start of class. Any changes to the schedule will be announced in class and noted on Blackboard.

	Topic	Readings	Assignments
Week 1 (1/25)	Transportation , Technology, and Cities	<ul style="list-style-type: none"> Shoup, Lilly, "Transportation 101" Transportation for America. 2011. pp. 14-22. Thayne, Julia, "The Agile City." Unpublished draft. 2020. 	
THEME 1. TRANSPORTATION TECHNOLOGY AND POLICY IN THE 21ST CENTURY			
Week 2 (2/1)	Shared Mobility	<ul style="list-style-type: none"> Shared Use Mobility Center. Shared Mobility Action Plan 2017 Scorecard. 	
Week 3 (2/8)	Electric Vehicles	<ul style="list-style-type: none"> Transportation for America. Driving Down Emissions. 2020. 	Writing Assignment due
Week 4 (2/22)	Automation	<ul style="list-style-type: none"> NACTO. Blueprint for Autonomous Urbanism. 2019. pp. 10-25. 	Writing Assignment due
THEME 2. THE IMPACTS OF MOBILITY INNOVATION			
Week 5 (3/1)	Equity	<ul style="list-style-type: none"> Cohen, Stuart and Sahar Shirazi. "Policy Brief: Can We Advance Social Equity with Shared, Autonomous and Electric Vehicles?" ITS Davis. 3 Revolutions. 2017. 	Writing Assignment due
Week 6 (3/8)	Land Use	<ul style="list-style-type: none"> Reid Ewing & Robert Cervero (2010) Travel and the Built Environment, Journal of the American Planning Association, 76:3, 265-294, 	
Week 7 (3/15)	Streets, Sidewalks, and Curbs	<ul style="list-style-type: none"> Thayne, Julia and Camilla Siggaard Andersen. "Streets Ahead." Gehl, May 2017. Shoup, Lilly and Lauren Grabowski. "Future Proofing Complete Streets." CalPlanner Magazine. pp. 4-5. 	
Week 8 (3/22)	Midterm Exam		
THEME 3: REGULATING AND FUNDING FUTURE MOBILITY			
Week 9 (3/29)	How Cities Permit New Mobility	<ul style="list-style-type: none"> Clelow, Regina, "A Practical Guide to Mobility Data Sharing." Forbes. Aug. 28, 2019. 	

Week 10 (4/5)	Partnership & Procurement	<ul style="list-style-type: none"> Office of Extraordinary Innovation. "2019 OEI Innovation Portfolio." 	
Week 11 (4/12)	Group Presentations		
Week 12 (4/19)	Group Presentations		
THEME 4: CATALYSTS IN DRIVING TRANSFORMATION			
Week 13 (4/26)	LA28		
TBC	Final Exam		

Statement on Academic Conduct and Support Systems

Academic Integrity:

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. Scamps, the Student Guidebook, contain the Student Conduct Code in Section 11.00, while the recommended sanctions are located in Appendix A: <http://www.usc.edu/dept/publications/SCAMPUS/gov/>. Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: <http://www.usc.edu/student-affairs/SJACS/>.

Academic Conduct:

Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Part B, Section 11, "Behavior Violating University Standards" policy.usc.edu/scampus-part-b. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, policy.usc.edu/scientific-misconduct.

Support Systems:

Student Health Counseling Services - (213) 740-7711 – 24/7 on call
engemannshc.usc.edu/counseling

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

National Suicide Prevention Lifeline - 1 (800) 273-8255 – 24/7 on call
suicidepreventionlifeline.org

Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

Relationship and Sexual Violence Prevention Services (RSVP) - (213) 740-4900 – 24/7 on call

engemannshc.usc.edu/rsvp

Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

Office of Equity and Diversity (OED) | Title IX - (213) 740-5086

equity.usc.edu, titleix.usc.edu

Information about how to get help or help a survivor of harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants. The university prohibits discrimination or harassment based on the following protected characteristics: race, color, national origin, ancestry, religion, sex, gender, gender identity, gender expression, sexual orientation, age, physical disability, medical condition, mental disability, marital status, pregnancy, veteran status, genetic information, and any other characteristic which may be specified in applicable laws and governmental regulations.

Bias Assessment Response and Support - (213) 740-2421

studentaffairs.usc.edu/bias-assessment-response-support

Avenue to report incidents of bias, hate crimes, and microaggressions for appropriate investigation and response.

The Office of Disability Services and Programs - (213) 740-0776

dsp.usc.edu

Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs.

USC Support and Advocacy - (213) 821-4710

studentaffairs.usc.edu/ssa

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

Diversity at USC - (213) 740-2101

diversity.usc.edu

Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call

dps.usc.edu, emergency.usc.edu

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-120 – 24/7 on call

dps.usc.edu

Non-emergency assistance or information.