
UP 230
Transportation Planning: Fundamentals and Innovations
Department of Urban and Regional Planning
University of Illinois at Urbana-Champaign
Spring 2022

Instructor:	Dr. Lindsay Braun lb Braun@illinois.edu M208 Temple Buell Hall (TBH)
Office Hours:	Tuesdays and Wednesdays by appointment; please sign up at https://calendly.com/lmbraun/office_hours
Course Sessions:	Tuesdays and Thursdays 9:30–10:50 AM, TBH 223
Credit Hours:	3.00

Course Description

Transportation planning is undergoing a major revolution. From emerging technologies and travel modes to new waves of societal impacts, the field faces an ever-evolving set of challenges and opportunities. In light of these shifts, UP 230 will prepare students to think critically about the following types of questions: What does our transportation system look like today, and how did we get here? Who makes decisions about transportation infrastructure and how are projects funded? What are the impacts of transportation on congestion, the environment, safety, health, and equity? How can we design streets and places that are safe for users of all travel modes, ages, and abilities? Will autonomous vehicles simply encourage more driving, or can they be harnessed to support community goals? The course is divided into four major sections that address these and other critical questions:

- *Section I: Transportation Planning Foundations.* The first section of the course provides a foundational knowledge base about transportation planning, focusing primarily on the U.S. context. Students will learn about travel patterns and trends, future projections about travel, major phases in transportation history, and the structure of transportation planning (e.g., who makes decisions, how transportation investments are funded). This section also introduces important concepts such as the distinction between mobility and accessibility and the relationship between transportation and land use.
- *Section II: Transportation System Impacts.* The second section of the course explores several major impacts of the transportation system, including congestion, the environment, safety, public health, and social equity. Students will learn about these impacts through a combination of interactive lectures and student-led case study presentations, which will consider how major U.S. cities have handled each type of impact through planning and policy actions.
- *Section III: Planning for Multiple Modes.* The third section of the course provides an overview of planning for multiple modes of transportation, highlighting key considerations for pedestrians, bicyclists, public transit, parking, and street design. Students will learn about policy and design strategies that can support a modal shift away from the automobile and toward more sustainable modes of transportation.

- *Section IV: Anticipating the Future.* The final section of the course explores the future of transportation planning with an emphasis on autonomous vehicles. Students will examine new developments and prepare a “call to action” for how planners can make decisions in an ever-shifting environment.

Course Objectives

By the end of the semester, students in UP 230 will be able to:

- Explain how transportation systems and travel behavior have evolved over time
- Recognize major decision-makers and funding sources in the field of transportation planning
- Understand the major impacts of transportation systems and explain how cities have addressed these impacts through policy, planning, and design approaches
- Describe innovative ways to plan for all modes of transportation
- Summarize the challenges and opportunities associated with connected and autonomous vehicles
- Engage in meaningful dialogue about key policy issues and current events in transportation planning

Course Format

This course will be taught through a combination of lectures and in-class activities (e.g., labs, discussions, debates). Students are expected and encouraged to actively engage in both lectures and in-class activities, contributing their questions, ideas, and experiences to a rich discussion of the course content.

Due to COVID, **class sessions during the first three weeks of the semester will be held online.** We will meet synchronously over Zoom during our regular class time for these sessions. In-person instruction is expected to begin during the week of February 7 as long as public health conditions allow. We may need to meet virtually on occasion after that point for reasons related to COVID; if this becomes the case, students will be notified as soon as possible.

Course Requirements

The table below summarizes the course requirements and how they will be weighted in calculating the final course grade. Detailed descriptions of these requirements are provided on the following page.

Requirements	Weight in Final Grade (%)
<i>Engagement Components</i>	
Participation	10
Labs (x4)	12
Transportation News Brief	5
<i>Assignment Components</i>	
Assignment 1 (individual, written)	15
Assignment 2 (group, oral)	15
Assignment 3 (group, written)	15
<i>Exam Components</i>	
Study Guides (x2)	8
Final Exam	20
Total	100%

Engagement Components

Participation. Active engagement with the course materials, with the instructor, and with other students in the class is essential for success in this course. In addition to strong attendance (with exceptions for illness and quarantine periods when class is being held in person), engagement can be demonstrated in multiple ways. Students are expected to complete the assigned readings prior to class and to come to lectures prepared for thoughtful participation. Lectures will be interactive and students will be expected and encouraged to engage in active dialogue about key concepts and real-world examples. Additionally, all students can demonstrate engagement through proactive communication with the instructor and classmates. Note that regularly engaging in distracting behaviors (e.g., repeated tardiness, texting, laptop use unrelated to class) will result in a lower participation grade.

Labs. Students will complete four labs over the course of the semester, collaborating in small groups during class but submitting individual work. Students who miss class on designated lab days will be expected to complete the work outside of class (collaboration with classmates is still allowed). Individual lab submissions will be due to Canvas the Friday after each lab session for a check of completion and understanding.

Transportation News Brief. Staying engaged in the “real world” of transportation planning is essential to making informed arguments and decisions. To bring this engagement into the classroom, we will devote the beginning of selected class sessions to **brief** (5 minutes maximum) student updates about recent news items related to transportation planning. News items may include events, policy decisions, planning efforts, projects, studies, or any other updates relevant to the course content.

Each student will provide a news brief once during the semester (sign-ups during second week of class). News briefs should be **informal**, consisting of a single PowerPoint slide that includes a link to the article and conveys (1) concise background information, (2) a description of the event, decision, effort, project, study, etc., (3) a summary of the major implications for transportation planning, and (4) 1-2 discussion questions for the class. To keep the discussion current, students should focus on a news item that occurred in the week prior to their update. Students should send a link to an online article about their news item to the instructor via email (imb Braun@illinois.edu) **by 5:00 PM the day before their update.**

Assignment Components

Assignments. Students will complete three assignments that apply concepts learned in class to real-world examples in practice. One of the assignments will be completed individually and two will be completed in small groups. The assignments will cover the following topics:

Assignment	Format	Deliverable
A1 City Profile: Travel Patterns and Trends	Individual	Report
A2 Case Study Presentation: Transportation Impacts	Group	Presentation
A3 City Profile: “Alternative” Modes and Policies	Group	Report

Exam Components

Study Guides. To help with ongoing preparation for the final exam (see below), students will be asked to submit two study guides during the course of the semester. In these study guides, students will use information from readings, lectures, and other course activities to respond to questions provided by the instructor. (A third study guide will be provided for the final section of the course, but submission will be optional.)

Final Exam. A cumulative final exam covering lecture materials and course readings will be held during the official University final exam period. The University policy on deferred, missed, and make-up exams will be followed (please see <http://studentcode.illinois.edu/article3/part2/3-201/>).

Grading

Grading Scale. Numeric grades will be converted into letter grades using the scale outlined below. The course will not be graded on a curve, and **there will be no rounding** applied to numeric grades.

A+: 97.0–100.0	B+: 87.0–89.99	C+: 77.0–79.99	D+: 67.0–69.99	F: Less than 60.0
A: 94.0–96.99	B: 84.0–86.99	C: 74.0–76.99	D: 64.0–66.99	
A-: 90.0–93.99	B-: 80.0–83.99	C-: 70.0–73.99	D-: 60.0–63.99	

Detailed instructions for completing each assignment will be provided. Submitted assignments will be graded and returned promptly with detailed feedback. The general grading rubric is as follows:

- An “A” assignment demonstrates original thought and synthesis of ideas and sophisticated, cogent analysis. It is clearly written and presented. Outstanding work.
- A “B” assignment includes above average analysis with appropriate evidence to support ideas. It is clearly written and presented. Good work.
- A “C” assignment shows a basic level of understanding, with analysis limited to obvious arguments. Writing is competent. Developing but adequate work.
- A “D” assignment misunderstands or misrepresents the material, or is so poorly written or presented as to obscure the analysis. Inadequate work.

Late Assignments. Students are expected to turn in all deliverables (assignments, labs, etc.) on time. However, I understand—**now more than ever**—that challenges, unanticipated obligations, and illnesses will arise. If you are unable to meet a particular deadline, it is your responsibility to **make prior arrangements** with me regarding the deliverable. Otherwise, work submitted past the deadline will receive a five-percentage-point deduction, and work submitted later than five days past the deadline may not be considered for grading unless consent has been given by the instructor. Please communicate with me proactively about any challenges, illnesses, or emergencies that arise—I am here to work with you and help you do your best!

Readings

There is no required text for this course. All readings will be posted on Canvas and/or available through the University of Illinois library. Readings for each session are listed at the conclusion of this syllabus.

Course Policies and Other Items/Resources

Attendance. Attendance and active participation are necessary for adequate performance in this course. This is not a “normal” semester, and flexibility will be given for absences related to illness and quarantine (when class is being held in person). However, students are expected to **notify the instructor in advance** of any sessions that will be missed. It is the instructor’s decision as to when a student’s absences, without proactive communication with the instructor, become excessive and should be reported. If in the opinion of an instructor the attendance of a student becomes so irregular that their scholarship is likely to be impaired, the instructor may submit an irregular attendance form to the Associate Dean of the student’s college. A copy is forwarded to the student, who should contact the instructor immediately to work out a solution. If irregular attendance continues without excuse, the instructor may request the student be

withdrawn from the course. This request for withdrawal would result in a grade of E for the course. Extenuating circumstances will always be considered when supporting evidence is presented. See Rule 1-501 and Rule 1-502 in the Student Code for more information.

Academic Accommodations. This course will accommodate students with documented disabilities. To obtain disability-related academic adjustments and/or auxiliary aids, students should contact both the instructor and the Disability Resources and Educational Services (DRES) as soon as possible. You can contact DRES at 1207 S. Oak Street, Champaign, by phone at (217) 333-1970, or via email at disability@illinois.edu.

Academic Integrity. This course follows the guidelines set forth by the University Student Code. See http://www.admin.uiuc.edu/policy/code/article_1/a1_1-401.html for specific guidelines, examples, and punishment associated with academic dishonesty. In written work, any ideas that are not your own must be properly cited. The consequences for plagiarism may include receiving no credit for an assignment or, at the discretion of the instructor, failure of the course.

Counseling. The University Counseling Center is committed to providing a range of services intended to help students develop improved coping skills in order to address emotional, interpersonal, and academic concerns. The Counseling Center provides individual, couples, and group counseling. All of these services are paid for through the health services fee. The Counseling Center offers primarily short term counseling, but they do also provide referrals to the community when students could benefit from longer term services. <https://counselingcenter.illinois.edu/>.

Class Climate. The Department of Urban and Regional Planning (DURP) is committed to maintaining a learning environment that is rooted in the goals and responsibilities of professional planners. By enrolling in a class offered by DURP, students agree to be responsible for maintaining an atmosphere of mutual respect in all DURP activities, including lectures, discussions, labs, projects, and extracurricular programs. See Student Code Article 1-Student Rights and Responsibilities, Part 1. Student Rights: §1-102.

Safety and Security in the Classroom. Emergencies can happen anywhere and at any time. It is important that we take a minute to prepare for a situation in which our safety or even our lives could depend on our ability to react quickly. When we're faced with any kind of emergency—like fire, severe weather, or if someone is trying to hurt you—we have three options: run, hide, or fight. For more information please refer to the General Emergency Response Recommendations at <http://police.illinois.edu/emergency-preparedness/run-hide-fight/resources-for-instructors/>.

Netiquette. In any social interaction, certain rules of etiquette are expected and contribute to more enjoyable and productive communication. The following are tips for interacting via email or other online messages, adapted from guidelines originally compiled by Chuq Von Rospach and Gene Spafford (1995):

- Remember that the person receiving your message is someone like you, deserving and appreciating courtesy and respect.
- Be brief; succinct, thoughtful messages have the greatest effect.
- Your messages reflect on you personally; take time to make sure that you are proud of their form and content.
- Use descriptive subject headings in your emails.
- Think about your audience and the relevance of your messages.
- Be careful when you use humor and sarcasm; absent the voice inflections and body language that aid face-to-face communication, internet messages are easy to misinterpret.
- Cite appropriate references whenever using someone else's ideas, thoughts, or words.

Course Schedule

(Subject to revision)

Week	Date	Topic	Notes
Section I: Transportation Planning Foundations			
1	Jan 18	Course Overview and Major Themes	Online session
	Jan 20	Travel Behavior Part 1: Past + Present	Online session
2	Jan 25	Travel Behavior Part 2: Future + Measures	Online session; Lab 1
	Jan 27	History Part 1: Walking City + Transit	Online session
3	Feb 1	History Part 2: Rise of the Automobile	Online session
	Feb 3	Transportation and Land Use Connections	Online session
4	Feb 8	Transportation Planning Process	
	Feb 10	Transportation Finance	A1 due Friday
Section II: Transportation System Impacts			
5	Feb 15	Congestion Part 1: Fundamentals	
	Feb 17	Congestion Part 2: Case Study (New York City)	A2 due – Group 1
6	Feb 22	Environment Part 1: Fundamentals	
	Feb 24	Environment Part 2: Case Study (San Francisco)	A2 due – Group 2
7	Mar 1	Safety Part 1: Fundamentals	
	Mar 3	Safety Part 2: Case Study (Chicago)	A2 due – Group 3
8	Mar 8	Public Health Part 1: Fundamentals	SG1 due Friday
	Mar 10	Public Health Part 2: Case Study (Minneapolis)	A2 due – Group 4
9	Mar 15	NO CLASS – Spring Break	
	Mar 17	NO CLASS – Spring Break	
10	Mar 22	Social Equity Part 1: Fundamentals	
	Mar 24	Social Equity Part 2: Case Study (Los Angeles)	A2 due – Group 5
Section III: Planning for Multiple Modes			
11	Mar 29	Planning for Pedestrians	
	Mar 31	Planning for Pedestrians (continued)	Lab 2
12	Apr 5	Planning for Bicyclists	
	Apr 7	Planning for Bicyclists (continued)	
13	Apr 12	Multimodal Street Design	SG2 due Friday
	Apr 14	Multimodal Street Design (continued)	Lab 3
14	Apr 19	Planning for Public Transit	
	Apr 21	Planning for Parking	
Section IV: Anticipating the Future			
15	Apr 26	Autonomous Vehicles	
	Apr 28	Call to Action for Planners	Lab 4
16	May 3	Course Wrap-Up + Exam Review	A3 due
—	May 12	Final Exam (1:30–4:30 PM)	Final Exam

Readings

Course Overview and Major Themes

- U.S. Department of Transportation. (2015). “Introduction” (pages 1-6) and “Trends” (page 7) in *Beyond Traffic 2045*.

Travel Behavior Part 1: Past + Present

- U.S. Department of Transportation. (2015). “How We Move” (pages 8-24) and “Why Do People Travel” (pages 132-135) in *Beyond Traffic 2045*.
- McGuckin, N., and A. Fucci. (2018). “Overview” (pages 5-14) in *Summary of Travel Trends: 2017 National Household Travel Survey*. U.S. Department of Transportation, Federal Highway Administration.

Travel Behavior Part 2: Future + Measures

- McDonald, N. (2015). Are Millennials really the “go-nowhere” generation? *Journal of the American Planning Association* 81(2): 90-103.
- Manville, M., King, D.A., and M.J. Smart. (2017). The driving downturn: A preliminary assessment. *Journal of the American Planning Association* 83(1): 42-55.
- Jaffe, E. (2012). “What’s Your Mobility Biography?” Bloomberg CityLab. <https://www.bloomberg.com/news/articles/2012-06-18/what-s-your-mobility-biography>.

History Part 1: Walking City + Transit

- Muller, P. (2017). “Transportation and Urban Form: Stages in the Spatial Evolution of the American Metropolis” (pages 57-69 only), Chapter 3 in *The Geography of Urban Transportation*, Fourth Edition, Genevieve Giuliano and Susan Hanson, Editors. New York: The Guilford Press.
- Morris, E. (2007). From horse power to horsepower. *Access* 30: 2-9.

History Part 2: Rise of the Automobile

- Muller, P. (2017). “Transportation and Urban Form: Stages in the Spatial Evolution of the American Metropolis” (pages 69-83 only), Chapter 3 in *The Geography of Urban Transportation*, Fourth Edition, Genevieve Giuliano and Susan Hanson, Editors. New York: The Guilford Press.
- Brown, J., Morris, E., and B. Taylor. (2009). Paved with good intentions: Fiscal politics, freeways and the 20th century American city. *Access* 35: 30-37.
- Bliss, L. (2021). “Can America’s Road Builders Break the Highway Habit?” Bloomberg CityLab. <https://www.bloomberg.com/news/articles/2021-04-15/the-coming-battle-over-building-better-highways?srnd=citylab-transportation>.

Transportation and Land Use Connections

- Giuliano, G. (1995). The weakening transportation-land use connection. *Access* 6: 3-11.
- Cervero, R., and J. Landis. (1995). The transportation-land use connection still matters. *Access* 7: 2-10.
- (skim) Ewing, R., and R. Cervero. (2010). Travel and the built environment: A meta-analysis. *Journal of the American Planning Association* 76(3): 265-294.
- Crane, R. (1998). Travel by design? *Access* 12: 2-7.

Transportation Planning Process

- Federal Highway Administration. (2018). “Part I: Overview of Transportation Planning” (pages 2-15), in *The Transportation Planning Process Briefing Book: Key Issues for Transportation Decisionmakers, Officials, and Staff*. U.S. Department of Transportation.
- Federal Transit Administration. (2017). “Metropolitan, Statewide & Non-Metropolitan Planning” (browse “Overview” page and other sub-tabs on the left), U.S. Department of Transportation. <https://www.transit.dot.gov/regulations-and-guidance/transportation-planning/metropolitan-statewide-non-metropolitan-planning>

Transportation Finance

- Kirk, R.S., and W.J. Mallett. (2019). “Funding and Financing Highways and Public Transportation.” Congressional Research Service.
- Sorenson, P. (2013). From fuel taxes to mileage fees. *Access* 43: 13-19.

Congestion Part 1: Fundamentals

- Downs, A. (2004). Why traffic congestion is here to stay...and will get worse. *Access* 25: 19-25.
- Taylor, B. (2002). Rethinking traffic congestion. *Access* 21: 8-16.
- Bellis, R. (2020). “The Congestion Con: How More Lanes and More Money Equals More Traffic.” Transportation for America.
- Harsman, B., and J. Quigley. (2011). Political and public acceptability of congestion pricing: Ideology and self-interest in Sweden. *Access* 38: 2-7.

Congestion Part 2: Case Study

- Readings/resources to be assigned by presenting students (Group 1)

Environment Part 1: Fundamentals

- U.S. Department of Transportation. (2010). Executive Summary (pages ES1-ES11) of “Transportation’s Role in Reducing U.S. Greenhouse Gas Emissions.” Report to Congress.
- Managan, E. (2020). “Driving Down Emissions: Transportation, Land Use, and Climate Change.” Smart Growth America, Transportation for America.
- Barbour, E., and E.A. Deakin. (2012). Smart growth planning for climate protection: Evaluating California’s Senate Bill 375. *Journal of the American Planning Association* 78(1), 70-86.
- Lutsey, N. (2012). New automobile regulations. *Access* 41: 2-9.

Environment Part 2: Case Study

- Readings/resources to be assigned by presenting students (Group 2)

Safety Part 1: Fundamentals

- Cambridge Systematics, and M. Meyer. (2008). Executive Summary (pages ES1-ES6) of “Crashes vs. Congestion: What’s the Cost to Society?” American Automobile Association.
- Smart Growth America. (2021). “Dangerous By Design 2021.” <https://smartgrowthamerica.org/dangerous-by-design/>.
- Dumbaugh, E., and R. Rae. (2009). Safe urban form: Revisiting the relationship between community design and traffic safety. *Journal of the American Planning Association* 75(3): 309-329.
- Vision Zero Network. (2018). “How Does Vision Zero Differ from the Traditional Approach to Traffic Safety?” <https://visionzeronetwork.org/how-does-vision-zero-differ-from-the-traditional-approach-to-traffic-safety/>

Safety Part 2: Case Study

- Readings/resources to be assigned by presenting students (Group 3)

Public Health Part 1: Fundamentals

- Frank, L., Kavage, S., and T. Litman. (2006). “Land Use and Transportation Impacts on Health Objectives,” pages 24-40 of PDF in “Promoting Public Health through Smart Growth: Building Healthier Communities through Transportation and Land Use Policies and Practices.” Smart Growth BC.
- Pucher, J., et al. (2010). Walking and cycling to health: A comparative analysis of city, state, and international data. *American Journal of Public Health* 100(10): 1986-1992.

Public Health Part 2: Case Study

- Readings/resources to be assigned by presenting students (Group 4)

Social Equity Part 1: Fundamentals

- Litman, T. (2019). “Evaluating Transportation Equity: Guidance for Incorporating Distributional Impacts in Transportation Planning” (read pages 2-15, skim rest). Victoria Transport Policy Institute.
- Blumenberg, E., and A.W. Agrawal. (2014). Getting around when you’re just getting by: Transportation survival strategies of the poor. *Journal of Poverty* 18(4): 355-378.
- Blumenburg, E., and G. Pierce. (2016). A driving factor in moving to opportunity. *Access* 48: 13-19.
- Bliss, L. (2021). “Like Basic Income, But for Transportation.” Bloomberg City Lab. <https://www.bloomberg.com/news/articles/2021-11-11/u-s-cities-test-effects-of-universal-basic-mobility?srnd=citylab-transportation>.

Social Equity Part 2: Case Study

- Readings/resources to be assigned by presenting students (Group 5)

Planning for Pedestrians

- Zegeer, C.V., Sandt, L., Scully, et al. (2008). “Planning and Designing for Pedestrian Safety: The Big Picture,” Chapter 1 (pages 7-18) in *How to Develop a Pedestrian Safety Action Plan*. https://safety.fhwa.dot.gov/ped_bike/ped_focus/docs/fhwasa0512.pdf.
- Zegeer, C.V., Sandt, L., Scully, et al. (2008). “Selecting Safety Solutions,” Chapter 5 (pages 54-116) in *How to Develop a Pedestrian Safety Action Plan*. https://safety.fhwa.dot.gov/ped_bike/ped_focus/docs/fhwasa0512.pdf.
- Jacobsen, P.L. (2003). “Safety in Numbers: More Walkers and Bicyclists, Safer Walking and Bicycling.” *Injury Prevention* 9, 205-209.
- Engel, A., and B. Freer. (2021). “Pedestrian Safety Doesn’t Have to Be a Nightmare.” Bloomberg CityLab. <https://www.bloomberg.com/news/articles/2021-10-27/how-to-end-the-u-s-pedestrian-safety-crisis-in-7-steps?srnd=citylab-transportation>.

Planning for Bicyclists

- FHWA. (2019). “Bikeway Selection Guide.” U.S. Department of Transportation.
- Boldry, J., Anderson, M., and M. Roskowski. (2017). “Defining Connected Bike Networks.” Pedestrian and Bicycle Information Center. http://www.pedbikeinfo.org/resources/resources_details.cfm?id=5083.
- NACTO. (2011). “NACTO Urban Bikeway Design Guide.” <https://nacto.org/publication/urban-bikeway-design-guide/> (browse designs).
- Marshall, W.E. and N.W. Garrick. (2011). “Evidence on Why Bike-Friendly Cities Are Safer for All Road Users.” *Environmental Practice* 13(1), 16-27.

Multimodal Street Design

- Dumbaugh, E., and M. King. (2018). Engineering livable streets: A thematic review of advancements in urban street design. *Journal of Planning Literature* 33(4): 451-465.
- Surico, J. (2021). "Anatomy of a Bad Road." Bloomberg CityLab. <https://www.bloomberg.com/news/features/2021-12-08/how-to-fix-brooklyn-s-worst-intersection?srd=citylab-transportation>.
- NACTO. (2013). "NACTO Urban Street Design Guide." <http://nacto.org/publication/urban-street-design-guide/> (browse designs).
- FHWA. (2014). "Road Diet Informational Guide." FHWA-SA-14-028. https://safety.fhwa.dot.gov/road_diets/guidance/info_guide/rdig.pdf (read pages 1-12, 19-20; skim rest).
- MacDonald, E. (2007). The intersection of trees and safety. *Access* 31: 20-26.
- Southworth, M., and E. Ben-Joseph. (2004). Reconsidering the cul-de-sac. *Access* 24: 28-33.

Planning for Public Transit

- Schweitzer, L. (2017). "Mass Transit," Chapter 8 in *The Geography of Urban Transportation*, Fourth Edition, Genevieve Giuliano and Susan Hanson, Editors. New York: The Guilford Press.
- Guerra, E., and R. Cervero. (2012). Transit and the D word. *Access* 40: 2-8.
- (skim) Hughes-Cromwick, M., and M. Dickens. (2017). "2017 Public Transportation Fact Book." American Public Transportation Association.
- Joshua, J. (2021). "Public Transit Use Must Double to Meet Climate Targets, City Leaders Warn." Bloomberg CityLab. <https://www.bloomberg.com/news/articles/2021-11-10/transit-use-must-double-to-meet-1-5-c-goal-mayors-warn>.

Planning for Parking

- Shoup, D. (1997). High cost of free parking. *Access* 10: 2-9.
- Shoup, D. (2007). Cruising for parking. *Access* 30: 16-22.
- Ewing, R. et al. (2017). "Empty Spaces: Real Parking Needs at Five TODs." Smart Growth America.

Autonomous Vehicles

- Freemark, Y., Hudson, A., and J. Zhao. (2019). Are cities prepared for autonomous vehicles? Planning for technological change by U.S. local governments. *Journal of the American Planning Association* 85(2): 133-151.
- Anderson, J.M., et al. (2016). "Autonomous Vehicle Technology: A Guide for Policymakers" (read Chapters 1 and 2). RAND Corporation.
- Sandt, L., and J.M. Owens. (2017). "Discussion Guide for Automated and Connected Vehicles, Pedestrians, and Bicyclists." Pedestrian and Bicycle Information Center.
- Zipper, D. (2021). "The Dangerous Promise of the Self-Driving Car." Bloomberg CityLab. <https://www.bloomberg.com/news/articles/2021-10-12/the-dangerous-promise-of-the-self-driving-car?srd=citylab-transportation>

Call to Action for Planners

- Speck, J. (2017). "Ten Rules for Cities about Automated Vehicles." Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2017/10/16/ten-rules-cities-about-automated-vehicles>.
- Links to policy statements on autonomous vehicles:
 - [Human Factors and Ergonomics Society](#) (HFES)
 - [National Association of City Transportation Officials](#) (NACTO)
 - [Institute of Transportation Engineers](#) (ITE)
 - [Association of Pedestrian and Bicycle Professionals](#) (APBP)