
UP 434: Pedestrian and Bicycle Planning

Department of Urban and Regional Planning

University of Illinois at Urbana-Champaign

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Instructor:	Dr. Lindsay Braun lmbraun@illinois.edu
Office Hours:	Tuesdays and Thursdays by appointment; please sign up at: https://calendly.com/lmbraun/meeting
Course Sessions:	Tuesdays and Thursdays 2:00–3:20 PM
Credit Hours:	3.00

Course Description

Walking and cycling are becoming increasingly important in efforts to promote health, sustainability, and livability in cities across the globe. Planning for pedestrian and bicycle transportation is complex: these modes of travel are influenced by micro-scale environmental characteristics such as sidewalks, bike lanes, traffic safety, and urban design, and by macro-scale conditions such as regional land use patterns. Supporting pedestrian and bicycle transportation therefore requires collaboration across multiple disciplines, including urban planning, civil engineering, design, public health, and others. UP 434 introduces key concepts and methods that will help this collaboration to take place in support of healthier, more sustainable communities. The course is divided into four major sections:

- *Section I. Introduction to Pedestrian and Bicycle Planning.* The first section of the course describes the context of pedestrian and bicycle planning in the United States, including its history, recent trends, and key policies and decision makers. This section also introduces foundational concepts such as the determinants of travel behavior, the diverse benefits of walking and cycling, and the value of a comprehensive approach to pedestrian and bicycle planning.
- *Section II. Design and Planning: Fundamentals and Innovations.* The second section of the course introduces the fundamentals of multimodal facility design and plan creation/evaluation. This section covers both basic design approaches and recent innovations, with a consideration of implementation costs.
- *Section III: Data Collection and Analysis.* The third section of the course focuses on technical issues in pedestrian and bicycle planning, including data collection, safety evaluation, and methods for assessing facility performance and user demand.
- *Section IV: Plan Implementation and Emerging Issues.* The final section of the course addresses issues of plan implementation, including funding and institutionalization, advocacy and outreach, and social equity. This section also introduces describes international approaches to facility design and explores the impacts of autonomous vehicles on pedestrian and bicycle planning.

Course Format

This course will be taught mostly online, with the possibility of two in-person, outdoor sessions if weather and public health conditions allow. Dates for these tentative in-person sessions are indicated in the course schedule (page 6). In-person participation for these outdoor sessions will be optional, and alternative participation options

will be provided for students who need or prefer to remain online. All other course sessions and activities will be conducted remotely through a combination of Zoom and Compass.

Lectures will be held synchronously via Zoom during the scheduled class time. Synchronous participation is strongly encouraged if at all possible. I understand, however, that some of you may face barriers to synchronous participation (e.g., different time zone, family care obligations, limited internet bandwidth). To accommodate students who cannot participate during the scheduled class time—either on a regular basis or for particular sessions (e.g., due to illness)—recordings of all lectures will be posted on Compass.

The synchronous sessions of the course will be interactive and taught through a combination of lectures and in-class activities (e.g., labs, discussions, debates). Additional opportunities for learning and engagement will come through group assignments and the class discussion board (see below). Students are expected and encouraged to actively engage in these activities, contributing their questions, ideas, and experiences to a rich discussion and application of the course content.

Course Objectives

By the end of the semester, students in this course will be able to:

- Summarize the benefits and challenges of planning for walking and cycling
- Describe the roles of plans, policies, and infrastructure in supporting walking and cycling
- Understand the fundamentals of pedestrian and bicycle facility design, as well as emerging innovations
- Implement methods to assess pedestrian and bicycle use, safety, and facility performance
- Explain the processes of creating, implementing, and evaluating plans and programs
- Recognize both national and international perspectives on planning and facility design

Course Requirements

Engagement. Active engagement with the course materials, with the instructor, and with other students in the class is essential for success in UP 434. Given the unique and mostly-online format of this course, engagement can be demonstrated in multiple ways. Part of the engagement grade will come from the class discussion board, in which students will react to discussion questions and to each other's comments at several selected points during the semester (specific instructions to follow separately). Additionally, students are expected to complete the assigned readings prior to class and to come to lectures and the discussion board prepared for thoughtful participation. Synchronous lectures will be interactive and students will be expected and encouraged to engage in active dialogue about key concepts and real-world examples. For students who must participate asynchronously, engagement can be demonstrated not only through participation in the discussion board, but through proactive communication with the instructor and group members.

Assignments. Students will complete four assignments designed to provide an enhanced understanding of planning, data analysis, and facility design. Three of these assignments will be one-time submissions (**A1**, **A2**, **A3**), while the final assignment will be a semester-long project (**SP**). These assignments are described in the table below; peer evaluations of individual contributions will form part of the grade for each group assignment.

Assignment		Purpose	Format
A1	<i>Make the Case</i>	Summarize the benefits of walking and cycling	Group (oral)
A2	<i>Act Fast</i>	Analyze and plan interim design strategies	Group (report)
A3	<i>Dig in the Data</i>	Analyze local pedestrian and/or bicycle data	Individual (report)
SP	<i>Design a Change</i>	Design improvements to a campus intersection	Group (presentation + report)

Note: Graduate students will serve as group leaders for the semester-long project (SP), and the specific requirements for Assignment 3 (A3) will differ for undergraduate and graduate students.

Labs. Students will complete four labs during the course of the semester. For students who are able to participate in the synchronous sessions, these labs will be completed in small breakout groups during class. For students who are unable to participate synchronously on lab days, work may be completed either individually or in self-arranged small groups outside of class. All students will upload their completed lab documents to Compass on the Sunday following the lab session for a basic check of completion and understanding.

Grading

Weights. Course requirements will be weighted in the final grade as follows:

Course Requirements	Weight (%)
Engagement	10
A1: <i>Make the Case</i> (group)	10
A2: <i>Act Fast</i> (group)	15
A3: <i>Dig in the Data</i> (individual)	20
SP: <i>Design a Change</i> (group)	35
Labs	10

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 are no required textbooks for this course; all readings will be posted on Compass. Readings for each session are listed at the conclusion of this syllabus.

Course Policies and Other Items/Resources

Attendance. “Attendance,” defined this semester as active engagement with the course material and activities, is necessary for adequate performance in this course. It is the instructor’s decision as to when a student’s “absences” (e.g., missed deadlines, non-participation in discussion board, lack of engagement), 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 the Department of Urban and Regional Planning, 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.

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 online via email or discussion board 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.
- When making follow-up comments, summarize the parts of the message to which you are responding.
- Avoid repeating what has already been said; needless repetition is ineffective communication.
- Cite appropriate references whenever using someone else's ideas, thoughts, or words.

Course Schedule

(Subject to revision)

Week	Date	Topic	Notes
Section I. Introduction to Pedestrian and Bicycle Planning			
1	Jan 26	Course Overview and Motivations	
	Jan 28	History, Institutions, and Key Trends	
2	Feb 2	Pedestrian and Bicycle Travel Behavior	
	Feb 4	Pedestrian and Bicycle Travel Behavior (continued)	
3	Feb 9	Land Use, Connectivity, and Urban Design	
	Feb 11	Making the Case: Benefits of Walking and Cycling	A1 due
Section II. Design and Planning: Fundamentals and Innovations			
4	Feb 16	Pedestrian Design	
	Feb 18	Pedestrian Design (continued)	
5	Feb 23	Bicycle Design	
	Feb 25	Bicycle Design (continued)	
6	Mar 2	Multimodal Design	
	Mar 4	Multimodal Design (continued)	Lab 1
7	Mar 9	Anatomy of a Pedestrian/Bicycle Master Plan	
	Mar 11	Connections with Other Plans and Policies	Lab 2
Section III. Data Collection and Analysis			
8	Mar 16	Data Sources and Collection Methods	
	Mar 18	Pedestrian and Bicycle Demand Estimation	A2 due
9	Mar 23	Pedestrian and Bicycle Safety	
	Mar 25	SP Work Session (benchmark: context + existing conditions)	
10	Mar 30	Facility Analysis Tools: Audits and Measures	
	Apr 1	Facility Analysis Tools: Audits and Measures (continued)	Lab 3*
Section IV. Plan Implementation and Emerging Issues			
11	Apr 6	Funding and Institutionalization	
	Apr 8	Advocacy, Outreach, and Social Equity	
12	Apr 13	NO CLASS – University Break	
	Apr 15	SP Work Session (benchmark: design recommendations)	
13	Apr 20	Autonomous Vehicles	
	Apr 22	International Approaches	A3 Due
14	Apr 27	Addressing Common Misconceptions/Concerns	Lab 4*
	Apr 29	SP Presentations	
15	May 4	SP Presentations	
—	May 12	SP Report Due at 4:30 PM CT	SP due

* denotes sessions that may be held in person (outdoors), if weather and public health conditions allow

Readings

Course Overview and Motivations

- Buehler, R., Gotschi, T., and M. Winters. (2016) “Moving Toward Active Transportation: How Policies Can Encourage Walking and Bicycling.” *Active Living Research Review*.
<https://www.activelivingresearch.org/ActiveTravelreview>.

History, Institutions, and Key Trends

- FHWA. (2016). “Strategic Agenda for Pedestrian and Bicycle Transportation.” FHWA-HEP-16-086.
https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/strategic_agenda/ (read pages 8-21).
- Pucher, J., R. Buehler, and M. Seinen (2011). “Bicycling Renaissance in North America? An Update and Re-Assessment of Cycling Trends and Policies.” *Transportation Research Part A* 45 (6), 451-474.

Pedestrian and Bicycle Travel Behavior

- Schneider, R.J. (2013). “Theory of Routine Mode Choice Decisions: An Operational Framework to Increase Sustainable Transportation.” *Transport Policy* 25, 128-137.
- Dill J. and N. McNeil. (2016). “Revisiting the Four Types of Cyclists: Findings from a National Survey.” *Transportation Research Record* 2587, 90-99.
- Safe Routes to School National Partnership. (2018). “The 6 E’s.”
<https://www.saferoutespartnership.org/healthy-communities/101/6Es>.

Land Use, Connectivity, and Urban Design

- Frank, L., Kavage, S., and T. Litman. (2006). “Promoting Public Health through Smart Growth.” Vancouver, BC: SmartGrowthBC. http://www.vtpi.org/sgbc_health.pdf (read “Land Use Impacts on Travel Behavior,” pages 10-20).
- Ewing, R., and R. Cervero. (2010). “Travel and the Built Environment: A Meta-Analysis.” *Journal of the American Planning Association* 76(3), 265-294 (skim).
- McConville, M.E., Rodriguez, D.A., Clifton, K., Cho, G., and S. Fleischhacker. (2011). “Disaggregate Land Uses and Walking.” *American Journal of Preventive Medicine* 40(1), 25-32.

Making the Case: Benefits of Walking and Cycling

- Group presentations; see Assignment 1 prompt for suggested readings for your group’s specific benefit.

Pedestrian Design

- Zegeer, C.V., Sandt, L., Scully, M., Ronkin, M., Cynecki, M., and P. Lagerwey. (2008). “How to Develop a Pedestrian Safety Action Plan.” https://safety.fhwa.dot.gov/ped_bike/ped_focus/docs/fhwasa0512.pdf (read pages 54-67).
- Thomas, L., Thirsk, N., and C.V. Zegeer. (2016). “Application of Pedestrian Crossing Treatments for Streets and Highways.” NCHRP Synthesis 498. <http://www.trb.org/Publications/Blurbs/175419.aspx> (read pages 35-60).
- McGrane, A., and M. Mitman. (2013). “An Overview and Recommendations of High-Visibility Crosswalk Marking Styles.” Pedestrian and Bicycle Information Center.
http://www.pedbikeinfo.org/resources/resources_details.cfm?id=4874.
- Zegeer, C.V., Stewart, J.R., Huang, H., Lagerwey, P., Feaganes, J., and B.J. Campbell. (2005). “Safety Effects of Marked Versus Unmarked Crosswalks at Uncontrolled Locations.” FHWA-RD-04-100.
<https://www.fhwa.dot.gov/publications/research/safety/04100/04100.pdf> (read pages 1-11, 51-61).

Bicycle Design

- AASHTO. (2012). “AASHTO Guide for the Planning, Design, and Operation of Bicycle Facilities.” Fourth Edition (read “Chapter 4: Design of On-Road Facilities”).
- NACTO. (2011). “NACTO Urban Bikeway Design Guide.” <https://nacto.org/publication/urban-bikeway-design-guide/> (browse designs).
- 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.
- APBP. (2015). “Essentials of Bike Parking.” http://c.ymcdn.com/sites/www.apbp.org/resource/resmgr/Bicycle_Parking/EssentialsofBikeParking_FI_NA.pdf.
- FHWA. (2015). “Separated Bike Lane Planning and Design Guide.” FHWA-HEP-15-025. https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/separated_bikelane_pdg/page0_0.cfm (read pages 11-18, 25-34; skim other sections).

Multimodal Design

- 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).
- Thomas, L. (2013). “Road Diet Conversions: A Synthesis of Safety Research.” Pedestrian and Bicycle Information Center. http://www.pedbikeinfo.org/resources/resources_details.cfm?id=4873.
- AASHTO. (2012). “AASHTO Guide for the Planning, Design, and Operation of Bicycle Facilities.” Fourth Edition (read “Chapter 5: Design of Shared Use Paths”).

Anatomy of a Pedestrian/Bicycle Master Plan

- Roughton, C., van Hengel, D., Duncan, A., Weigand, L., and M. Birk. (2012). “Creating Walkable & Bikeable Communities: A User Guide to Developing Pedestrian and Bicycle Master Plans.” Initiative for Bicycle and Pedestrian Innovation. Center for Transportation Studies, Portland State University. https://ppms.trec.pdx.edu/media/project_files/IBPI%20Master%20Plan%20Handbook%20FINAL.pdf.

Connections with Other Plans and Policies

- Aytur, S.A., Rodriguez, D.A., Evenson, K.R., Catellier, D.J., and W.D. Rosamond. (2007). “Promoting Active Community Environments through Land Use and Transportation Planning.” *Health Promotion* 21(4), 397-407.
- Additional readings assigned as part of in-class activity/lab

Data Sources and Collection Methods

- Nordback, K., O’Brien, S., and K. Blank. (2018). “Bicycle and Pedestrian Count Programs: Summary of Practice and Key Resources.” Pedestrian and Bicycle Information Center. http://www.pedbikeinfo.org/resources/resources_details.cfm?id=5101.
- FHWA. (2016). “Strategic Agenda for Pedestrian and Bicycle Transportation.” FHWA-HEP-16-086. https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/strategic_agenda/ (read pages 24-25).
- Zegeer, C.V., Sandt, L., Scully, M., Ronkin, M., Cynecki, M., and P. Lagerwey. (2008). “How to Develop a Pedestrian Safety Action Plan.” https://safety.fhwa.dot.gov/ped_bike/ped_focus/docs/fhwasa0512.pdf (read pages 26-37).

Pedestrian and Bicycle Demand Estimation

- Aoun, A., Bjornstad, J., DuBose, B., et al. (2015). “Bicycle and Pedestrian Forecasting Tools: State of the Practice.” Pedestrian and Bicycle Information Center. http://www.pedbikeinfo.org/resources/resources_details.cfm?id=4931.
- Clifton, K.J., Singleton, P.A., Muhs, C.D., and R.J. Schneider. (2016). “Representing Pedestrian Activity in Travel Demand Models: Framework and Application.” *Journal of Transport Geography* 52, 111-122.
- Schneider, R.J., T. Henry, M.F. Mitman, L. Stonehill, and J. Koehler. (2012). “Development and Application of the San Francisco Pedestrian Intersection Volume Model.” *Transportation Research Record* 2299, 65-78.

Pedestrian and Bicycle Safety

- Zegeer, C.V., Sandt, L., Scully, M., Ronkin, M., Cynecki, M., and P. Lagerwey. (2008). “How to Develop a Pedestrian Safety Action Plan.” https://safety.fhwa.dot.gov/ped_bike/ped_focus/docs/fhwasa0512.pdf (read pages 38-53).
- Jacobsen, P.L. (2003). “Safety in Numbers: More Walkers and Bicyclists, Safer Walking and Bicycling.” *Injury Prevention* 9, 205-209.
- 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.
- Ferrier, K., Shalum, L., Gag, L., and S. Thompson. (2017). “Vision, Strategies, Action: Guidelines for an Effective Vision Zero Plan.” <https://visionzeronet.org/project/roadmapforaction/>.
- (optional) Poole, B., Johnson, S., and L. Thomas. (2017). “An Overview of Automated Enforcement Systems and Their Potential for Improving Pedestrian and Bicyclist Safety.” Pedestrian and Bicycle Information Center. http://www.pedbikeinfo.org/resources/resources_details.cfm?id=4779.

Facility Analysis Tools

- Boldry, J., and R. Davies. (2019). “Using Connectivity Measures to Evaluate and Build Connected Bicycle Networks.” Pedestrian and Bicycle Information Center. http://www.pedbikeinfo.org/resources/resources_details.cfm?id=5173.
- Dowling, R., D. Reinke, A. Flannery, et al. (2008). “Multimodal Level of Service Analysis for Urban Streets.” NCHRP Report 616. <http://www.trb.org/Publications/Blurbs/160228.aspx> (read pages 82-91).
- Mekuria, M.C., Furth, P.G., and H. Nixon. (2012). “Low-Stress Bicycling and Network Connectivity.” Mineta Transportation Institute, Report 11-19, <http://transweb.sjsu.edu/PDFs/research/1005-low-stress-bicycling-network-connectivity.pdf> (read pages 1-29).

Funding and Institutionalization

- FHWA. (2015). “Bicycle and Pedestrian Funding, Design, and Environmental Review: Addressing Common Misconceptions.” https://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/misconceptions.cfm.
- Roughton, C., van Hengel, D., Duncan, A., Weigand, L., and M. Birk. (2012). “Creating Walkable & Bikeable Communities: A User Guide to Developing Pedestrian and Bicycle Master Plans.” Initiative for Bicycle and Pedestrian Innovation. Center for Transportation Studies, Portland State University. https://ppms.trec.pdx.edu/media/project_files/IBPI%20Master%20Plan%20Handbook%20FINAL.pdf (read pages 69-76).
- Zegeer, C.V., Sandt, L., Scully, M., Ronkin, M., Cynecki, M., and P. Lagerwey. (2008). “How to Develop a Pedestrian Safety Action Plan.” https://safety.fhwa.dot.gov/ped_bike/ped_focus/docs/fhwasa0512.pdf (read pages 117-124).

Advocacy, Outreach, and Social Equity

- Roughton, C., van Hengel, D., Duncan, A., Weigand, L., and M. Birk. (2012). “Creating Walkable & Bikeable Communities: A User Guide to Developing Pedestrian and Bicycle Master Plans.” Initiative for

Bicycle and Pedestrian Innovation. Center for Transportation Studies, Portland State University.
https://ppms.trec.pdx.edu/media/project_files/IBPI%20Master%20Plan%20Handbook%20FINAL.pdf
(read pages 31-39).

- Zegeer, C.V., Sandt, L., Scully, M., Ronkin, M., Cynecki, M., and P. Lagerwey. (2008). “How to Develop a Pedestrian Safety Action Plan.” https://safety.fhwa.dot.gov/ped_bike/ped_focus/docs/fhwasa0512.pdf (read pages 141-143).
- League of American Bicyclists. (2014). “The New Majority: Pedaling Towards Equity.” https://bikeleague.org/sites/default/files/equity_report.pdf (skim).
- People For Bikes and Alliance for Biking and Walking. (2015). “Building Equity: Race, Ethnicity, Class, and Protected Bike Lanes: An Idea Book for Fairer Cities.” <https://peopleforbikes.org/wp-content/uploads/2017/07/EquityReport2015.pdf> (skim).

Autonomous Vehicles

- Sandt, L., and J.M. Owens. (2017). “Discussion Guide for Automated and Connected Vehicles, Pedestrians, and Bicyclists.” Pedestrian and Bicycle Information Center.
http://www.pedbikeinfo.org/resources/resources_details.cfm?id=5082.
- Millard-Ball, A. (2018). “Pedestrians, Autonomous Vehicles and Cities.” *Journal of Planning Education and Research* 38 (1), 6-12.
- Combs, T., Sandt, L., Clamann, M., and N. McDonald. (2019). “Automated Vehicles and Pedestrian Safety: Exploring the Promise and Limits of Pedestrian Detection.” *American Journal of Preventive Medicine* 56 (1), 1-7.
- Schlossberg, M., et al. (2018). “Rethinking the Street in an Era of Driverless Cars.” *Urbanism Next*.

International Approaches

- Fischer, E.L., Rousseau, G.K., Turner, S.M., et al. (2009). “International Scan Summary Report on Pedestrian and Bicyclist Safety and Mobility.”
http://www.pedbikeinfo.org/data/international_scantours.cfm.
- Pucher, J. and R. Buehler. (2008). “Making Cycling Irresistible: Lessons from the Netherlands, Denmark, and Germany.” *Transport Reviews* 28, 1-56.

Addressing Common Misconceptions/Concerns

- No readings; review Lab 4 document before class