USC Price
Sol Price School of Public Policy

PPD 531L Planning Studio (VKC 209)
Bicycle Transportation Planning
FALL 2015 | THURSDAYS 6:00 PM – 9:20 PM

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Hours: By Appointment

Introduction and Purpose of Course
Design and Operation of a Campus Area Bike Share System

The Bicycle Transportation Planning Studio course will frame bikeway planning in a local historical context and introduce key concepts in bikeway planning. In order to stimulate critical thinking on how best to integrate bikeway planning with other modes of transportation, we will spend some time understanding the macro-level policies that drive traditional transportation planning practice, then compare transportation planning practice in the US with Northern Europe (Netherlands, Denmark). Once students have developed their thinking around how bicycle transportation fits in with other traditional modes (rail, auto, pedestrian, etc), we will then introduce the broader concept of shared mobility (bike share, car share, ride share) and have students discuss how these more recent innovations may impact the way we plan and design our transportation networks.

Finally, we will focus on Metro's planned Regional Bike Share Program for Los Angeles County, and initiate development of a detailed implementation plan for eventually expanding the Downtown LA bike share system (tentatively scheduled for full implementation by Fall 2016) to better serve the USC campus. Elements of the USC Area Bike Share Implementation Plan will include: (1) data collection; (2) modeling of temporal bike flows on and off campus, (3) a system rebalancing plan, (4) a fare structure and business model, (5) a discussion and quantification of benefits of bike share for the USC community, and an (6) evaluation of City and USC campus policies that would need to be modified or updated to best support a successful bike share system.

Group collaboration is an essential part of this studio experience, in which students will apply and integrate various disciplines including transportation planning, urban design, policy analysis and program development. The class will include lectures, discussions, site visits, guest lectures, and technical and "how-to" workshops. The **readings are integral to the class** and create a foundation for class discussions and the planning exercise. They include the history of transportation technology and policy; guidelines and standards for bikeway design in the U.S. and Europe; the socioeconomics of bicycle transportation; transportation data collection methods; and transportation performance metrics.

The class structure is part lecture-part seminar/discussion or workshop. Typically, in classes prior to the mid-term, the first half of the class consists of a recap and discussion of the assigned readings for that week followed by a lecture, presentation or work-session on the week's topic. Students are expected to have completed the readings before the class to be able to participate in discussions and periodic written exercises based on the readings. After a short break there will be discussion about the topic of

the week, in the context of applying the lessons to the study area, in several cases these will involve practitioners discussing and demonstrating particular analytical methods and community and stakeholder strategies. Students should be prepared to offer thoughts on the assigned readings or outside experiences they have had than can help the class as a whole get a fuller understanding of economic development issues. For each topic, students should develop a thoughtful question based on the readings and be prepared to participate in the class discussion.

Course Requirements

Class Discussion	20%
Writing Assignments	25%
Midterm Project : Plan Outline + Methodology	25%
Final Project | Bike Share Plan + Presentation	30%

Grade Breakdown

Percent	Letter Grade
94-100	A
90-93	A-
87-89	B+
83-86	B
80-82	B-
77-79	C+
73-76	C
70-72	C-
67-69	D+
63-66	D
60-62	D-
<60	F

Students are expected to attend all classes and to participate in oral and written exercises and discussions. Oral and written exercises are intended to help develop presentation skills, essential for practicing planners and tested as part of the School's comprehensive examinations. The class also integrates various sub-elements of planning practice, including land use, transportation, and social/ community planning along with community participation and sustainable practices. Late assignments will be graded down substantially, and a passing grade will not be assigned unless all assignments have been completed and submitted. While allowance will be made for medical or personal emergencies, unexcused absences will be penalized. Late work will not be accepted, nor will make-up work be allowed, except on a case-by-case basis at the discretion of the instructor.

COURSE READINGS (All readings available electronically)

Week #1 – "Bike Boom" (1890s-1920s)

1. League of American Wheelmen: The Gospel of Good Roads. New York, NY, 1891
2. League of American Wheelmen: "Good Roads Magazine (Volume 5)" New York, NY, 1894
3. O'Connor, Mary: "Imagining the Great California Cycle-way 2.0" Outside Magazine, Santa Fe, NM, May 9, 2013
   http://www.outsideonline.com/1918111/imaging-great-california-cycle-way-20
4. Merchant, Brian: "In 1897, a Bicycle Superhighway Was the Future of California Transit" Motherboard, May 3, 2013

http://motherboard.vice.com/blog/in-1897-a-bicycle-superhighway-was-the-future-of-california-transit

5. Pasadena Digital History Collaboration: Pasadena Cycleway Photo Archive http://cdm15123.contentdm.oclc.org/cdm/search/field/subjec/searchterm/Dobbins,%20Horace/mode/exact
6. Weingroff, Richard: " Highway Existence: 100 Years and Beyond" Public Roads Magazine (FHWA) Vol. 57 No. 2, Washington D.C., Autumn 1993 http://www.fhwa.dot.gov/publications/publicroads/93fall/p93au1.cfm

Week #2 – 1970s Oil Crisis/2nd "Bike Boom" and the Institutionalization of Bike Planning (1990s-present)

7. City of Santa Barbara: "Bicycle Master Plan" 1974
8. City of Tempe: "Bicycle Master Plan" 1974
9. Federal Highway Administration: "ACTION: Designation of Bicycle and Pedestrian Coordinators within State Departments of Transportation" Washington D.C. 1992 http://www.fhwa.dot.gov/environment/bicycle_pedestrian/legislation/desigcoord.cfm
10. City of Los Angeles: "General Plan Transportation Element" 1997 http://planning.lacity.org/cwd/gnlpln/transelt/index.htm
11. Los Angeles County Bicycle Coalition (LACBC): "Blueprint for a Bike-Friendly Los Angeles" 2001 http://la-bike.org/downloads/blueprint/Bike_Blueprint_2001.pdf
12. City of Los Angeles: "General Plan Mobility Element (Draft)" 2015 https://losangeles2b.files.wordpress.com/2012/12/mobilityplan2035_may2015.pdf

Week #3 – Urban Bicycle Transportation in the US & Abroad

13. Pucher, J and Buehler, R: "Analysis of Bicycling Trends and Policies in Large North American Cities: Lessons for New York" University Transportation Research Center. 2011 http://www.utrc2.org/sites/default/files/pubs/analysis-bike-final_0.pdf
14. Pucher, J and Buehler, R: "Big City Cycling in Europe, North America, and Australia," in City Cycling, Cambridge, Mass, MIT Press, October 2012, pp. 287-318
15. Furth, Peter: "Bicycling Infrastructure for Mass Cycling: A Transatlantic Comparison," in City Cycling, Cambridge, Mass, MIT Press, October 2012, pp. 105-140

Week #4 – Innovative Bicycle Facility Design: Policy and Standards

16. American Association of State Highway and Transportation Officials (AASHTO): "Supplemental Comments – Regulatory Review of Existing DOT Regulations (p. 1)" 2011
    [Note: this policy statement was subsequently rescinded but provides valuable context]
    http://www.aashtojournal.org/Documents/April2011/supplemental.pdf
17. AASHTO: Guide for the Development of Bicycle Facilities, 4th Edition. 2012
18. Federal Highway Administration (FHWA): Manual on Uniform Traffic Control Devices, Part 9 – Traffic Control for Bicycle Facilities. 2009 http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part9.pdf
19. CROW: Design Manual for Bicycle Traffic, English Version. 2007
    [Note: CROW is a not-for-profit organization described as the "national information and technology platform for infrastructure, traffic, transport and public space" in the Netherlands. It is similar to AASHTO, but with a broader mission regarding the design and operation of public space.]
20. National Association of City Transportation Officials (NACTO): Urban Bikeway Design Guide, 2nd Edition. 2014 http://nacto.org/publication/urban-bikeway-design-guide/

Week #5 – Analysis of the Impact of Transportation Impact Analysis

21. Henderson, J. (2011). "Level of service: the politics of reconfiguring urban streets in San Francisco, CA." Journal of Transport Geography 19(6): 1138-1144.
22. Milam, Ron: "Transportation Impact Analysis Gets a Failing Grade"
https://itunes.apple.com/us/book/los-gets-a-failing-grade/id566614973?mt=11
http://www.sanjoseca.gov/DocumentCenter/View/3320
23. Boarnet, M. and Handy, S., "Policy Brief on the Impact of Highway Capacity and Induced Travel on Passenger Vehicle Use and Greenhouse Gas Emissions; California EPA, 2014
http://www.arb.ca.gov/cc/sb375/policies/hwycapacity/highway_capacity_brief.pdf

Week #6 – Rethinking Transportation Metrics

24. CA Office of Planning & Research: "Preliminary Evaluation of Alternative Methods of Transportation Analysis' 2013
http://www.opr.ca.gov/docs/PreliminaryEvaluationTransportationMetrics.pdf
25. New York City Department of Transportation: "Measuring the Street: New Metrics for 21st Century Streets" 2012
http://www.nyc.gov/html/dot/downloads/pdf/2012-10-measuring-the-street.pdf
26. Furth, P.G. and M. Mekuria. "Network Connectivity for Low-Stress Bicycling." Transportation Research Board Annual Meeting Compendium of Papers, 2013.
http://transweb.sjsu.edu/PDFs/research/1005-low-stress-bicycling-network-connectivity.pdf

Week #7 – Introduction to Bike Share and Shared Mobility

27. US PIRG: "Millennials in Motion: Changing Travel Habits of Young Americans and Their Implications for Public Policy" 2014
http://www.uspirg.org/sites/pirg/files/reports/Millennials%20in%20Motion%20USPIRG.pdf
28. Hallock, L. and Inglis, J.: The Innovative Transportation Index: "The Cities Where New Technologies and Tools Can Reduce Your Need to Own a Car" US PIRG Education Fund. 2014
http://www.uspirg.org/sites/pirg/files/reports/Innovative_Transportation_Index_USPIRG.pdf

Week #8 – Bike Share System Planning and Siting

29. Institute for Transportation and Development Policy (ITDP): Bike-Share Planning Guide. New York, NY, 2013
https://www.itdp.org/wp-content/uploads/2014/07/ITDP_Bike_Share_Planning_Guide.pdf

Week #9 – Mid-Term Presentations

No assigned readings

Week #10 - Integration of Bicycling with Public Transit

30. Metro: First-Last Mile Strategic Plan: Path Planning Guidelines
31. Pucher J. and Buehler, R.: "Bicycle Integration with Public Transport," Springer Encylopedia of Sustainable Science and Technology, December 2012, pp. 806-821, with Ralph Buehler

Week #11- Bike Share Business Models and Fare Structure

32. Los Angeles County Metropolitan Transportation Authority: Regional Bike Share Implementation Plan. Los Angeles, CA, 2015
http://t.co/Eak0SMSQql

Week #12 – Bike Share and Equity

33. Metro: Enhanced Public Outreach Project for Metro's Bicycle Transportation Strategic Plan. 2006
http://media.metro.net/projects_studies/bikeway_planning/images/bicycle_final_report.pdf

Week 13-16 – Independent Research for Final Project

No assigned readings

Key Assignments

Certain specific assignments are required in this class; they are outlined below, keyed to class sessions, and repeated in the syllabus.

- Individual Writing Assignment – Why are you taking this class, what do you expect to learn, and how do you believe it will help you in your early career? (1-2 pages) – Week #2

- Team Presentation – Historical Comparisons: Compare and contrast arguments in favor of bicycle transportation as represented in the 1890s, 1970s, 1990s and today. Group presentations, visual aids expected. (10-15 mins each) - Due Week 3

- Team Presentation – Policy, Planning & Design Comparisons of the US & Abroad (10-15 minutes each) – Due Week 5

- Individual Writing Assignment #2: How do design standards and policy metrics impact bicycle transportation? What should we be measuring? Which "alternative" metrics are most promising? (3-5 pages) – Due Week 7

- **MID-TERM – Team Presentation** - Draft outline of plan and assign sections/tasks to team members. How will you estimate demand? Begin sizing and siting of bike share stations (using maps and/or field visits). – Due Week 9

- **FINAL -** Team Assignment – Bike Share Plan Document & Presentation – Due Week 16

Class Sessions

Class # - Date	Description	Readings and Assignments (due by date of class)
Week 1 August 27	***Class Overview + Historical Context: Bike Boom (1890s-1920s)*** Welcome, introductions, review of class purpose and goals, bibliography, readings, basis for grading, office hours/contact and expectations. Class Discussion (all participate): Introductions - Why did you take this class? What aspects are you most interested in? How do you hope to apply what you learn? Individual Writing Assignment #1: About you. Elaborate on class discussion questions above (1-2 pages). Presentation/discussion on the History of Bicycle Planning.	See Week #1 reading list in bibliography
Week 2 September 3	Individual Writing Assignment #1 due ***Historical Context Continued: 1970s Oil Crisis ("2nd Bike Boom") and the Institutionalization of Bike Planning (1990s-present)*** Class Discussion (based on week 1 & 2 readings): How has bicycle advocacy impacted our transportation system? How has the role of the bicycle in transportation planning changed over the years? How can this history inform how we plan for our future transportation system? Assign students to teams Team Working Session: Compare and contrast arguments in favor of bicycle transportation as represented in the 1890s, 1970s, 1990s and today. (10-15 mins each)	See Week #2 reading list in bibliography

Class # - Date	Description	Readings and Assignments (due by date of class)
Week 3 September 10	Team Presentations: Historical Comparison (10-15 mins each) **Bicycle Transportation in the US & Abroad** Presentation/discussion on factors influencing transportation policy and roadway design in the United States and abroad and how it impacts the viability and safety of bicycle transportation.	See Week #3 reading list in bibliography
Week 4 September 17	**Innovative Bike Facility Design: Policy and Standards** Presentation /discussion (Guest Speaker - TBD) Teams of 3-4 chosen by topic and geographic area (facilitated discussion) Topic / Geography (U.S./N.A. vs…) Policy / Other continents/ Metrics / countries Design Standards Team Working Session: Identify additional reference materials and develop a presentation on how policy, metrics and design standards impact bicycle transportation differently in the US and other countries.	See Week #4 reading list in bibliography
Week 5 September 24	Team Presentations: Policy, Planning & Design Comparisons of the US & Abroad (10-15 minutes each) **Analysis of the Impact of Transportation Impact Analysis** Presentation/discussion on the impact of transportation metrics on bicycling	See Week #5 reading list in bibliography
Week 6 October 1	**Rethinking Transportation Metrics** Presentation/discussion on new and emerging metrics (Carter Rubin, Great Streets Program Manager, City of LA Mayor's Office) Group Exercise : redefining transportation	See Week #6 reading list in bibliography

Class # - Date	Description	Readings and Assignments (due by date of class)
	system efficiency Individual Writing Assignment #2: How do design standards and policy metrics impact bicycle transportation? What should we be measuring? Which "alternative" metrics are most promising? (3-5 pages)	
Week 7 October 8	<u>Individual Writing Assignment #2 due</u> **Introduction to Bike Share & Shared Mobility** Presentation/discussion: What campus-related issues can be addressed through a bike share program? What obstacles will have to be overcome? Which entities will be most critical to the success of the system (USC, other private property owners, the City of Los Angeles, Metro, etc.)? Select teams for mid-term and final project Group working session (Mid-Term Project): What will be the goals of your bike share system plan? What campus area problems do you expect to solve or address through this effort?	See Week #7 reading list in bibliography
Week 8 October 15	**Bike Share System Planning and Siting** (Rubina Ghazarian, LADOT Bike Program) Group working session (Mid-Term Project): Draft outline of plan and assign sections/tasks to team members. How will you estimate demand? Begin sizing and siting of bike share stations (using maps and/or field visits).	See Week #8 reading list in bibliography
Week 9 October 22	**<u>Mid-Term Project Presentations</u>** (20-30 minutes each) • Overall goals of your project • Scope of work / report outline • List resources you used to develop the scope/outline • Describe obstacles and constraints and how you plan to overcome them • Introduce an organizational chart with	No readings, prepare for Mid-Term Presentations

Class # - Date	Description	Readings and Assignments (due by date of class)
	the project team describing each member's role • Task-based time budget per person	
Week 10 October 29	**Integration of Bicycling with Public Transit** Presentation and discussion on bike-transit integration (Guest speaker TBD) Group working session (Final Project): How will the integration of bike share with public transit be addressed in your plan?	See Week #10 reading list in bibliography
Week 11 November 5	**Bike Share Business Models and Fare Structure** (Guest Speaker – Alex Rixey, TBD) Group working session (Final Project): Which business model and fare structure will you recommend and why?	See Week #11 reading list in bibliography
Week 12 November 12	**Bike Share and Equity** (Guest Speaker, Metro Staff; Laura Cornejo, Avital Shavit, or Julia Salinas, TBD) Group working session (Final Project): How will your plan address equity issues?	See Week #12 reading list in bibliography
Week 13 November 19	**Bike Share Operations and Performance Metrics** (Guest Speaker, Alison Cohen or Josh Squire, TBD) Group working session (Final Project): What metrics do you propose to evaluate the performance of bike share operations?	No readings, prepare Final Project & Presentations
Week 14 November 26	**THANKSGIVING DAY – NO CLASS**	No readings, prepare Final Project & Presentations
Week 15 December 3	**Working sessions – review of draft presentations**. Resolution of any issue regarding final project.	No readings, prepare Final Project & Presentations

Class # - Date	Description	Readings and Assignments (due by date of class)
Week 16 December 10	**Group Presentation of Final Campus Bike Share + Delivery of Final Documents** (presentations 30-45 minutes each)	No readings, prepare Final Project & Presentations

Syllabus Revision

The instructor will regularly assess progress and solicit student feedback regarding the course. If necessary the syllabus will be revised mid-semester to make it more suitable and/or relevant to the class.

Statement on Academic Conduct and Support Systems

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 Section 11, *Behavior Violating University Standards*https://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions/. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, http://policy.usc.edu/scientific-misconduct/.

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the *Office of Equity and Diversity* http://equity.usc.edu/ or to the *Department of Public Safety* http://capsnet.usc.edu/department/department-public-safety/online-forms/contact-us. This is important for the safety whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person. *The Center for Women and Men* http://www.usc.edu/student-affairs/cwm/ provides 24/7 confidential support, and the sexual assault resource center webpage sarc@usc.edu describes reporting options and other resources.

Support Systems

A number of USC's schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the *American Language Institute* http://dornsife.usc.edu/ali, which sponsors courses and workshops specifically for international graduate students. *The Office of Disability Services and Programs* http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.htmlprovides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, *USC Emergency Information http://emergency.usc.edu/*will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.