ENVS 196: Sustainable Transportation in Santa Cruz
(Senior Seminar)
Winter 2016, T/Th 11.40-3.05, ISB 455

Instructor
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Sign up for an appointment here: https://goo.gl/X7vFOD

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For use only on field visits or during fieldwork (in an emergency or if you get lost)

Course Description

This course will consider how urban transportation projects can encourage alternatives to the private car, improve safety, and reduce air pollution and greenhouse gas emissions. We will examine new innovations in transit planning, parking policy and bicycle and pedestrian design, and then apply these concepts to Santa Cruz and the UCSC campus. We will work on team projects that collect field data and develop new designs for transit service or street design. We will work in close collaboration with city and/or campus decision makers to design real-world projects that can make our local transportation system more sustainable, equitable and efficient.

Course Goals

After completing this course, you should be able to:

- Understand some key policies and design principles that can improve urban transportation in a city, and make it more sustainable
- Critically evaluate the merits of different approaches to designing streets, transit systems, parking management and urban development
- Understand the opportunities and constraints that affect a city or university's ability to improve transportation systems
- Develop technical abilities in mapping, data collection and analysis, and/or professional report writing
- Develop team-working and project management skills

Textbook

There is no textbook for this course. All required readings will be posted on Canvas.

Field Visits

Field visits are an integral component of the course. They will help you connect what you observe on the ground with the theories discussed in class, and help inform your own judgments about the theories and readings. We will have several (required) field visits to projects in Santa Cruz during class time, and an optional field trip to San Jose or San Francisco on a Friday or Saturday (date TBD).

Class Participation and Leadership

This is a small seminar, and your active participation is essential to making this course successful and enjoyable. This class is also a unique opportunity to help improve transportation in Santa Cruz. Neither the professor nor the city and campus staff that we'll be working with have all the answers (if we did, we wouldn't be running this class), and we are relying on you to bring your ideas, skills, experiences and energy.

For most of the classes, one student will be responsible for leading the discussion. (You can also pair up and lead two sessions if you prefer.) This entails:

- In advance of class, synthesizing discussion questions and comments posted by other students on Canvas
- Providing a 5-minute introduction to that day's topic based on the readings
- Initiating and helping to facilitate the discussion

Sign up for a slot during the first week of class.

In addition, before each class, all students should post to Canvas 1-2 brief discussion questions and/or comments on the readings for that class. These are due at 5PM the day before (i.e. Monday at 5PM for a Tuesday class, or Wednesday at 5PM for a Thursday class). These posts might include a question that was sparked by one of the readings, a broad comment on or reaction to the readings, or an example that further illustrates a concept from the readings.

Course Schedule (subject to change)

We will meet on Tuesdays and Thursdays, 11.40-3.05pm. We will normally use the first hour and a half for the case study presentation and to discuss the substantive topic and readings, and the remainder of the time to work in teams on your projects. We will end early some days, but you must keep the entire 11.40-3.05 slot free (i.e., don't schedule any sections or work commitments during that time).

Class	Date	Topic	Required Readings
1	Sep 28	Introduction Transportation patterns and trends Walking tour of central campus	Barber et al. 2017
2	Oct 3	Designing streets (i) Introduction to Trello	Steuteville 2016 Sadik-Khan 2016, Ch. 1 Eckerson 2012 and 2015 (videos)
3	Oct 5	Designing streets (ii) The Existing Conditions report *Bike to work day!*	Sadik-Khan 2016, Ch. 4 NACTO 2013 Eckerson 2015 and 2017 (videos) Skim the existing conditions reports
	Oct 8	*Open Streets in Santa Cruz!*	
4	Oct 10	Promoting cycling **Survey and sampling plan due**	NACTO 2014 Handy et al. 2012 Brett 2017 Sadik-Khan 2016, Ch. 8
	Oct 12	*No class – fieldwork on projects*	
	Oct 17	*No class – fieldwork on projects*	
5	Oct 19	Field visit: Santa Cruz Metro Transit	Metro 2013
6	Oct 24	Transit planning (i): service design	Walker 2012 Ch 7, Ch 10 Amin 2016
7	Oct 26	Transit planning (ii): speeding up buses The bus vs rail debate	Walker 2012 Ch 8 Jaffe 2015 Schmidt 2017
8	Oct 31	Transit-oriented development	Loukaitou-Sideris 2013 Wang 2017 Chapple 2017 Schweitzer 2017
9	Nov 2	Field visit: Rail Trail and Delaware Addition	
10	Nov 7	Parking (i): Affordable housing or affordable parking?	Gabbe & Pierce 2017 Manville 2014 Jaffe 2015
11	Nov 9	Parking (ii): The management toolkit **Existing Conditions report due**	Jaffe 2014 Litman 2008 Rhodes 2009
12	Nov 14	Possible field visit: TBD	
13	Nov 16	Equity and environmental justice in transportation	Butler 2016 Walker 2017 Transform 2017
14	Nov 21	CEQA: friend or foe? Level of Service reform **Public meeting reflection paper due**	Hernandez 2015 Jaffe 2011 and 2014
	Nov 23	*No class – Thanksgiving*	
15	Nov 28	Possible field visit: TBD	
16	Nov 30	High Speed Rail or Hyped-erLoop	Fallows 2014 Poon 2017
17	Dec 5	Autonomous vehicles and the future Dry run of presentations	Millard-Ball 2016 Milakis et al. 2017
18	Dec 7	Final presentations **Final report due**	

Graded Assignments

Team project	Sampling and survey plan		5%
	Existing conditions report		20%
	Final report	(draft report)	10%
		(final report)	25%
		(presentation)	5%
Individual work	City case study		15%
	Reflection on public meeting		10%
	Class participation		10%

Team Project

Working in teams, you will provide analysis and recommendations regarding a sustainable transportation project in Santa Cruz. More detailed guidance on the format of each assignment will be distributed early in the quarter.

Sampling and survey plan

Due: October 10, before start of class

The sampling and survey plan sets out what data you will collect, and how you will collect and analyze it. It will be your work plan for the remainder of the quarter.

Existing Conditions report

Due: November 9, before start of class

The Existing Conditions report compiles your data collection and analysis. The format and precise contents will vary between teams, but it should allow the reader to understand the nature of the problem and the constraints and opportunities, and include text, photographs, and maps and charts of your data.

Final report

Draft due: November 30, before start of class
Final due: December 7, before start of class

The final report includes your existing conditions analysis (revised in response to comments), and your analysis and recommendations.

Individual assignments

City Case Study

Due: One week after your class presentation (sign up for a slot during Week 1 of class).

You will develop a case study of a sustainable transportation project or planning effort in another city. What are the specific practices, policies or projects that other places can learn from and emulate? What are the most important lessons learned, and what are the implications for planning in Santa Cruz? You will submit a written report and also present your case study in class. Potential case study locations and more detailed guidance on the format and topics to be covered in each case study will be distributed in Week 1.

Reflection on Public Meeting

Due: November 21, before start of class

You should attend a meeting of the City Council or Transportation and Public Works Commission, or a similar meeting. A list of potential meetings will be provided on Canvas. Submit a 2-page reflection paper. More details will be provided early in the quarter.

Class Participation

Your class participation grade will include attendance and active participation in class, and discussion leadership. Two absences will be allowed with no deduction, but repeated absences will reduce your participation grade. Your questions and comments on the readings, as posted on Canvas, will also contribute to your participation grade.

Late Submission of Assignments

Students can make a formal request to the professor for special consideration for an extension to an assignment due date. This request should be received at least 48 hours before the due date.

Otherwise, **ten percent** will be deducted for every 24-hour period an assignment is late. *Due at the start of class means 11.40am sharp, so an assignment handed in at noon will incur a 10% deduction.*

Academic Integrity

Students are expected to adhere to the UCSC policy on academic integrity - http://www.ucsc.edu/academics/academic_integrity/. All assignments should be written individually and be original works for this class. All academic integrity violations (e.g. plagiarism, cheating, multiple submissions, facilitating dishonesty) will be prosecuted if encountered. Please talk with Prof. Millard-Ball IN ADVANCE if you are unsure about citation styles or what may violate the academic integrity policy.

Accessibility and Disabilities

If you have any mobility or other limitations that may affect participation in field visits, please contact Prof. Millard-Ball before the quarter starts. This will help inform planning for transportation and field visit activities.

If you qualify for classroom accommodations because of a disability, please submit an Accommodation Authorization from the Disability Resource Center (DRC) to Prof. Millard-Ball **within the first two weeks of the quarter**. You may submit these outside of class (e.g., office hours) to ensure anonymity. Contact DRC at 831-459-2089 (voice), 831-459-4806 (TTY), or http://drc.ucsc.edu for more information on the requirements or process.