ECI 165 - Transportation Policy  
CRN 53435

University of California, Davis  
Department of Civil and Environmental Engineering  
Fall 2017 • TTh 1:40-3 PM • 26 Wellman Hall

Instructor: Daniel Sperling  
Office: 1715 Tilia St, Room 1109  
Office Hours: Monday & Wednesday 2-3:30 or by appointment

TAs: Aria Berliner  
Office: 1590 Tilia St, Next to Room 1113  
Office Hours: Monday, 9:00am – 12:00pm or by appointment

Jinpeng Gao  
Office: 1715 Tilia St, ITS Graduate Student Workspace  
Office Hours: Thursday, 9:00am – 12:00pm or by appointment

Course Description

This course will introduce students to the complex world of transportation policy in an era of shrinking federal funding, suburbanization, and environmental pressures. The course is designed for advanced undergraduate students in engineering, environmental planning and policy and related majors who wish to understand the role of transportation in U.S. society, the design and effectiveness of transport policy, current technology, land use, and environmental challenges, and tools for addressing them. It provides an in depth look at key policy issues in the transportation of people and goods and the institutional context in which transportation policy is made. Major course themes include the evolution of transportation systems and urban development; transportation usage patterns; mobility contributions of different modes; transportation governance and finance; the relationship between transportation and climate change; and wider linkages between transportation and urban land use, technology, social equity, and the economy.

Course Goals

- Understand evolving demand for movement of people and goods
- Articulate key issues and challenges in the provision of transportation
- Evaluate relative role of various policies and applications for addressing these challenges
- Improve analytical skills for interpreting information, thinking and writing
Assignments and Grading

Grade Calculation:
• Three (3) quizzes (30%) – dates in syllabus
• Two (2) short papers (40%)
• Final exam (30%)

1. Required Reading

All readings assignments are available on Canvas, organized according to course topics as presented in the syllabus.

2. Three Quizzes

The quizzes will cover assigned readings and lectures.
Quiz 1: 10/12/2017
Quiz 2: 11/2/2017
Quiz 3: 11/21/2017

3. Two Short Papers

Students will prepare two papers, each less than two pages single-spaced, selecting from a forthcoming list of topics in transportation policy (or a relevant topic of student’s choosing, if approved by instructor). You should use relevant required readings as a starting point, but must utilize additional sources identified independently (with guidance available from the instructor and TAs).

Term Paper 1: Due 10/31 by 1:40pm
Term Paper 2: Due 11/30 by 1:40pm

4. Final Exam

The final exam, scheduled for Tuesday December 12, 2017 from 1:00pm – 3:00pm, will account for 30 percent of the course grade.

5. Late Assignment Policy

• Late submission of the papers will receive a one grade point deduction for each day after the due date.
• Quizzes – Missed quizzes cannot be made up unless prior notice has been received and approved (see below).
• Final Exam – The final exam cannot be made up unless prior notice has been received and approved (see below).
• Acceptable reasons for missing a quiz or rescheduling the final exam:
  o Treatment by a physician- a doctor's note must be provided.
  o Personal or family crisis- must be approved beforehand by Professor Sperling
Important Information about Academic Honesty

Now as students and later as practicing engineers, policymakers, planners and scholars, you will frequently consult the analyses, research, and ideas produced by others. Indeed, we often count on using others’ findings to inform our own work for a given assignment or task. This is expected and desirable; it means knowledge is being shared and applied. However, a very bright line separates the appropriate use and acknowledgement of another’s work from plagiarism – the inappropriate presentation of another’s work or ideas as one’s own. With the availability of full text reports, articles, presentations, and more on the internet, it is increasingly easy to borrow another’s words and ideas inappropriately. Be aware that the same technology that makes such inappropriate borrowing easy also makes it easy to detect.

The U.C. Davis Code of Academic Conduct states that it is the student’s responsibility to “[k]now what plagiarism is and take steps to avoid it. When using the words or ideas of another, even if paraphrased in your own words, you must cite your source. Students who are confused about whether a particular act constitutes plagiarism should consult the instructor who gave the assignment.” http://sja.ucdavis.edu/cac.html

Proper use of quotations and proper citation of sources is the way to avoid problems with plagiarism. The Turabian Guide for citing references is one commonly used style. Please see: http://www.press.uchicago.edu/books/turabian/turabian_citationguide.html.

Reading Assignments

1: Course Overview: Why Transport Policy (9/28)

2: History of Transportation and Land Use (10/3)

3: Moving People: Patterns and Trends (10/5)

4: **Transportation Finance**

Guest Lecture: Aria Berliner


Further reading:


5: **Public Transportation**

**Quiz #1**

• Lave (1994), It Wasn’t Supposed to Turn Out Like This. *Access*
• Steve Polzin and D. Sperling, Upgrading Transit for the Twenty-First Century, Ch 5 in *Three Revolutions*. [Pages 1-5]

Further reading:


6: **Public Transportation: A Local Real-World Perspective**

Guest Speaker: Anthony Palmere, Unitrans (ret.)

7: **Air Quality, Energy, Greenhouse Gas Emissions**


8: **Vehicle Technology and Fuels**

Guest Lecture: Dr. Scott Hardman, ITS-Davis
• Sperling, D. & Gordon, D. (2009). *Two Billion Cars*. New York: Oxford University Press. **Chapter 4:** In Search of Low-Carbon Fuels (pp. 79-111)
• Sperling, Electric Vehicles: Approaching the Tipping Point, Ch 2 in *Three Revolutions*

9, 10, 11:  **Transition to Shared and Automated Vehicles** *(10/26, 10/31, 11/2)*
Guest Speaker (10/26): Austin Brown, UC Davis Policy Institute for Energy, Environment, and the Economy
• Sperling, Susie Pike, and Robin Chase, Will the Transportation Revolutions Improve Our Lives—or Make Them Worse?, Ch 1 in *Three Revolutions*
• Shaheen (2018), Shared Mobility: The Potential of Ride Hailing and Pooling, Ch 3 in *Three Revolutions*
• Sperling, Ellen van der Meer, and Susan Pike (2018), Vehicle Automation: Our Best Shot at a Transportation Do-Over?, Ch 4 in *Three Revolutions*
• Polzin and Sperling, Upgrading Transit for the Twenty-First Century, Ch 5 in *Three Revolutions*, pp. 5-14.

**Term Paper 1 Due**  10/31

**QUIZ #2**  11/2 (Inclusive of readings through 11/2)

12:  **California Transportation Greenhouse Gas Policy** *(11/7)*
• D. Sperling and Mary Nichols, California’s Pioneering Transportation Strategy, Issues in Science and Technology, Winter 2012, pp. 59-66

13:  **History of Federal and metropolitan transportation planning** *(11/9)*
Guest Lecture: James Corless, Exec Director, SACOG

14:  **Changing Land Use to Reduce VMT** *(11/14)*
Guest Lecture: Susie Pike, UC Davis
• John Pucher & Ralph Buehler (2017): Cycling towards a more sustainable transport future, *Transport Reviews*.

Further Reading:
• Committee on Transitions to Alternative Vehicles and Fuels (2013) *Transitions to Alternative Vehicles and Fuels* [Chapter 6]. National Academies Press

15: **California’s Sustainable Communities Act (SB375): Success or Failure?** *(11/16)*
   • Chapter 4 (The Sustainable Communities and Climate Protection Act (SB 375) in *Achieving California’s Greenhouse Gas Goals: A Focus on Transportation* (2015), pp.46-66

16: **Local efforts to reduce transportation emissions** *(11/21)*
   Guest lecture: Rob Davis, Mayor of City of Davis
   **Quiz #3**

17: **Transportation Equity** *(11/28)*
   • Michael Manville and Emily Goldman, Would Congestion Pricing Harm the Poor? Do Free Roads Help the Poor?, *Journal of Planning Education and Research*, 1–16, 2017
   **Further Reading:**

18: **Economics of Transportation** *(11/30)*
   • Robert Poole, Interstate Tolling: New Support—and Old Misconceptions, *Surface Transportation Innovations*, Issue 164, June 2017

**Term Paper 2 due – 11/30 by 1:40PM**

19: **Sustainable Freight Transportation** *(12/5)*
   • TBD

20: **Summary and Review: Failures and Successes** *(12/7)*
Final Exam: December 12, 2017, 1:00PM- 3:00PM, 26 Wellman