Transportation systems are a web made of vehicles, networks and terminals. In addition, land use and urban design play important roles in determining the cost and scope of transportation systems. This course takes a holistic approach to transportation planning weaving together the day-to-day mobility needs of people at the neighborhood level with transportation infrastructure.

As much as possible in a survey course, there is a focus on skills and tools needed to effectively plan transportation projects—both directly through planning skills and indirectly through managing consultants. These skills will be highlighted in each class through presentations by guest speakers and application of readings to specific scenarios in “speed planning” exercises.

Course Objectives-- At the end of the course students will understand the profession of transportation planning including the institutions, professionals and citizen groups that impact transportation policy. The course will look at:

- Urban transportation from the perspective of economic and environmental efficiency.
- Professional disciplines and sub-disciplines of urban transportation planning including walking, street design, bicycling, transit and car-management policy tools.
- Transportation problems and solutions presented within the context of social change, technological advancement and environmental constraints.
- Physical and institutional contexts of transportation planning including the nexus between funding, policy and the built environment.
- Social contexts of transportation including: disadvantaged communities, affordable housing and livable streets.

This is a survey course. We will be examining transportation broadly. Students will be expected to research their own specialty and interest areas as part of two major projects in the course. For efficiency’s sake you should try to ascertain what areas you are interested in and focus on as early as possible in the course. This will facilitate your independent research to gain depth in at least one particular area (more on that below).
Each class will cover a major theme of urban transportation planning. With some variation, the general format of each class will have two parts: The first half will be a lecture/slide show- overview of a major transportation topic. The second half of the class will involve either a presentation by transportation professional or will focus on technical skills related to the subject area at hand.

**Grades**

Student grades will be based on class participation (15%), a neighborhood transportation survey (15%), a mid term exam (30%), and a final presentation (10%) and paper (30%). Please submit all work electronically (*no paper please!*). These are described in more detail below:

**Class participation (15%)**: Arrange your schedule so you can make it to **ALL** the classes. Coming late to more than two classes will also count against your participation grade. Participating in class discussions is also a key element of class participation. As you do the readings think about questions or provocative ideas that are brought up in the readings and be prepared to talk about these in class. If you are a sit-back-and-watch student, you need to push yourself to participate in class discussion.

Each class will begin with a small presentation by one or two students in the class on items-in-the-news that are related to the class topic for that day. Please read over the syllabus and pick a few classes that you are interested in leading this discussion on.

**Neighborhood Transportation Survey 15%**

This exercise helps you to apply class concepts to a neighborhood or business district that you care about. Pick a geographic area to analyze that includes at least one intersection and a section of street (100 to 300 yards). Keep a journal on *Google Documents* that includes an analysis of the street (share this with me). For each class through class 7 (Streetscape Design) apply class concepts to this area. Consider the following concepts:

- Networks/ Nodes and Vehicles for each mode of transportation that we cover. What are the assets and deficiencies that you observe for each mode.
- You will need to measure with a roller tape (provided by instructor) critical dimensions of your street including but not limited to building to building and curb to curb dimensions along with space allocated to each mode of transportation. A cross section with dimensions for each major element of the street (sidewalk through zone, furniture zone, parking, bike, car, transit infrastructure (if any). The goal is for you to critique and optimize the space serving different modes and discuss trade-offs in design choices that you make to improve the situation.
- Social impacts--> consider the young old and infirm among others.
- Are there opportunities in your study area for social interaction?
- Do you notice any environmental impacts: noise or air pollution that impacts the area?
Aesthetics: is this area beautiful when considered from each modes viewpoint?
What modes are missing? Is it a problem that they are missing or is the mode inappropriate for the segment that you are analyzing?

Suggest Improvements and/or Solutions to deficits. Address where relevant the following:
Costs, political barriers and allies who might help to implement change
Other issues and opportunities that you noticed

Note: You do not need to cover each of the above for every journal entry, but relevant areas should be touched on when appropriate.

Midterm exam (30%): This is a take home exam that is comprised of the following question: Tell me succinctly in (1200 to 1500 words) what elements of transportation planning most directly impact a policy or planning issue that you are concerned about. Your challenge is to communicate clearly the nature of the problem, the most cost effective and important solutions and policies that can help remedy the situation, and political, economic or social barriers to implementation. A key element here is writing an extremely tight paper. If you have concerns about your writing skills, be sure to get help editing from your good-writing-editing friends and/ or the Tufts Writing Lab.

Final Project (30%): Students will work in teams or alone towards a final presentation and paper that will highlight either a specific transportation mode, technology or problem, or focus on the intersection of transportation and their particular focus or interest area at UEPP. You must have a project outline to me by October 4th. Please contact me before September 27th if you are having trouble coming up with a project. The paper length is approximately 2,500 to 3,000 words-- but if your project is design heavy contact me about word count (designs can substitute for words).

Both the midterm and final project grades are based on the following criteria. The paper must:

- Address an important transportation policy issue (25%)
- Include citations or original data that back up your findings (25%)
- Have a clear introduction, problem definition &/ or research statement (15%)
- Close with a summary of the research and findings (15%)
- Have crisp sentence/ paragraph structure with few grammatical errors (20%)

Final Project Presentation (10%): This takes place during the last class. You will present your final project to the class using whatever tools or media you choose.

Please submit all work electronically (no paper please!).

Textbooks
There are two text books for the class along with many on-line resources: Human Transit and City Cycling. Both are quite inexpensive by textbook standards. Human Transit is available as an E-book at the Tufts Library. If you
want to save some money, check out that option first. In either case, please order these books on-line as soon as you are sure you are taking the class. At the end of the semester I will buy the City Cycling book for half price (rounded up to nearest $5) to distribute to students in next year’s class. *If you intend to sell me your books at the end of the semester, do not write in them!*

**Class Schedule**

**Class 1 (9/6) INTRODUCTORY CLASS**

The wonderful world of transportation-- student interests and what this class will cover.

Review of format of class, grading and getting the most from the class

Mind map of classmates interests in transportation

For next class: Bring street dimensions and photos of your Neighborhood Transportation Survey area on thumb drive or laptop.

Order Human Transit and City Cycling if you are sure you are taking the class.

**Class 2 (9/13) PEDESTRIAN PLANNING BASICS**

Walking: the oldest and most important mode of transportation.

Order Human Transit and City Cycling if you are sure you are taking the class. Human Transit may be available for free via Tufts Library as an e-book.

Please use your measuring wheel to measure your streets and take some pictures of your survey area-- email these to yourself or bring on a flash drive to class.

**Readings (on Trunk)**

Hamilton-Baillie, Benjamin. Home Zones - Reconciling People, Places and Transport

Nelson\Nygaard Consulting Associates Safe Routes to Transit (Pedestrian section); Institute for Transportation and Development Policy

Read the NACTO Urban Street Design Guide on sidewalks. Be sure to expand and read all “More info” tabs to get the full content of the “Discussion” and “Critical” sections (ask me or another student if you are confused about this).


**Neighborhood Surveys**
Measure your streets!

St. Louis School of Public Health/ Audit Tool (Use this as a guide in looking at your neighborhood survey area). You don't need to do a complete audit. Just use it to identify resources and missing pieces in your survey.

Visit the website Walkscore.com and apply it to your Neighborhood Transportation Survey Area? Does Walkscore reflect well your Neighborhood? What elements of WalkScore aren’t accounted for?

Class 3 (9/20) STREETSCAPE DESIGN I

If you haven’t done so, order Human Transit and City Cycling. Human Transit may be available for free via Tufts Library as an e-book.

Speaker: Brad Rawson, City of Somerville, Director of Transportation & Infrastructure

Readings

Jan Gehl, Cities for people, 2010, Island Press. Read chapter 1:

ITE Designing Walkable Thoroughfares: A Context Sensitive Approach. This is a big document:

Skim Chapters 1-4 paying particular attention to the following sections:

"Introduction to CSS" from bottom of page 4 through page 6 (using the numbering in the document/ not the pdf page number). Although we're focusing on the design components of CSS be sure to understand Tables 1.1 and 1.2.

Read Chapters 5-7 and understand all Terms in Glossary on page 216.


NACTO Urban Street Design Guide: Read the following:
Street Design Principles- read carefully the introductory sections and become familiar with basic urban street types listed on this page;
Street design elements. In particular examine the sections on Lane Width and Curb Extension;
Intersection design elements: including Crosswalks and Crossing, Design Radii and Visibility and Sight Distance;
Design Controls and all subsections;

Which of these guides is most useful for you in terms of solving challenges you
have identified in your Neighborhood Transportation Survey.

If you have not done so already you should have recorded dimensions of your neighborhood survey area including no more than 6 photos that show well the challenges and opportunities facing your street.

**Class 4 (9/27) STREETSCAPE DESIGN II**

Contact me if you are having issues with your midterm/ final paper topic!

If you haven’t ordered the textbooks by now, please do so!

**Readings**


Highway Safety Information System (HSIS), Evaluation of Lane Reduction "Road Diet" Measures and their Effects on Crashes and Injuries.

Massachusetts Highway Department; Street Design Manual, Chapter 16 Traffic Calming. Read through 16-7 and skim the rest.


**Disappearing Traffic? The Story So Far:** Skim this article for data on traffic reductions:

**Levels of Service and Travel Projections:** The Wrong Tools for Planning Our Streets? By Gary Toth for PPS

Measuring the Street, NYC DoT, 2012.

**Other Resources (Optional Reading):** Congress of New Urbanism Sustainable Street Network Principles:

http://issuu.com/newurbanism/docs/sustainable_street_network_principles_op

Abu Dhabi Street Design Manual:

Class 5 (10/4) BICYCLE PLANNING

Your final proposal for your term project is due today!
Your midterm is due in three weeks.

Bicycle Street Design and Policy

Readings

Watch this video:
http://www.streetfilms.org/from-the-netherlands-to-america-translating-the-worlds-best-bikeway-designs/

City Cycling, John Pucher & Ralph Buehler. Read through chapter 11, skipping chapters 5, 8 and 9. Pay particular attention to chapters 2, 4 and 6. Do not write in this book if you intend to sell it back to me at the end of class.


NACTO Bikeway Design Guide: http://nacto.org/cities-for-cycling/design-guide/
Read carefully the guidances on bikelanes and intersections including all of the sub-tabs


Other resources for future reference:

In the guide read only section 3.6 (bike section)

MUTCD Shared Lane Markings Guidance:
http://members.cox.net/ncutcdbtc/sls/slmtoncjan07.pdf

MUTCD: What is permitted currently for bike facilities by FHWA:
http://www.fhwa.dot.gov/environment/bikeped/mutcd_bike.htm

Cambridge Massachusetts Bicycle Parking Guidelines:

How Pavement Markings Influence Bicycle and Motor Vehicle Positioning: A Case Study in Cambridge Ma. Excellent paper on how bike lanes make bicycling safer:
http://www2.cambridgema.gov/cdd/et/bike/bike_hamp_study.pdf

Evaluation of Shared Lane Markings FHWA, December 2010
November 2011 Boston Bicycle Plan Presentation: On Blackboard

Alliance for biking & walking:  http://www.peoplepoweredmovement.org/site/

Class 6 (10/11)  TRANSIT PLANNING I

Your paper is due in two weeks!

Reading

Human Transit/ How Clearer Thinking About Public Transit Can Enrich Our Communities and Our Lives.  Don’t leave this until the night before class as it’s a lot of content.  It is easy reading though if you leave yourself enough time.

Resource: While Jarrett Walker’s book is accessible, transit has a lot of specific terminology.  When doing your reading reference this glossary as needed:  http://www4.uwm.edu/cuts/utp/glossary.pdf

Classes 7 (10/18)  Transit Planning II

Bus Rapid Transit

Your paper is due next week!

Guest Speaker: Christopher Van Eyken, Senior Planner, ITDP

Readings

Peruse the Embarq website with special attention to the Bus Rapid Transit sections:  http://www.embarq.org/our-work/topics/integrated-transport

ITDP, Better Rapid Transit for Greater Boston, The Greater Boston BRT Study Group, 2015.  Read this document carefully and be ready for questions for our speaker (above) who helped create this report.

ITDP Recapturing Global Leadership in Bus Rapid Transit, May 2011: Read through the end of Chapter 2. Skim the rest, but read carefully the critique of Boston on Page 46


Notes on Pushkarev and Zupan, Public Transportation and Land Use Policy, David Pritchard Bibliography,  http://davidpritchard.org/sustrans/PusZup77/index.html

Supplemental BRT Resources

Quantifying the Importance of Image and Perception to Bus Rapid Transit,
National Bus Rapid Transit Institute. Read executive summary and conclusions carefully and skim the rest of the document. Pay careful attention to all tables & exhibits.

BRT in Developing Countries:
http://www.itdp.org/index.php/program_areas/detail/developing_high_quality_low_cost_mass_transit/

Bus Rapid Transit Policy Center: http://www.gobrt.org/

FHWA BRT Guide:

Institute for Transportation & Development Policy: http://www.itdp.org/

Class 8 (10/25) Private & Informal Transportation Providers

Your midterm is due today!

The informal and entrepreneurial transportation in the US and Developing Countries

Readings

Nicole Stelle Garnett, The Road from Welfare to Work: Skim up to page 198. Read pp's 198 -229

A New Way to Go: The Transportation Apps and Vehicle Sharing Tools that are Giving More Americans the Freedom to Drive Less, USPIRG/ Frontier Group, 2013.


Dollar Vans:

Connecting Low Income People to Shared Mobility (2014). This link downloads the file on your computer.

Review the Bridj website

Classes 9 (11/1) CARS, PARKING & CONGESTION I

Note: No Class Next Week (Wednesday Evening Classes are on Tuesday) Next class is on November 15th!
Parking & Transportation Demand Management

Readings

Seattle Best Practices in TDM, read through the end of section 7-E.

Donald Shoup: High Cost of Free Parking (PDF on Trunk)

Donald Shoup: Cruising article (PDF on Trunk)


Planning Advisory Service; Carsharing: A Guide for Local Planners

Look over zipcar.com and getaround.com

Class 10 (11/15)
CARS, PARKING & CONGESTION II

Traffic modeling and simulations for better transportation planning

Note: I will be in Korea during this class; but I hope to patch in on WEBex. The class will be run by our TA: Nathaniel Fink.

Speakers: Tom Bertulis, PE, PTOE, Manager of Traffic Engineering Department, Design Consultants, Inc. (DCI) and Jason DeGray, PE, PTOE, Project Manager at Greenman-Pedersen, Inc.

Readings

In order to get the most out of speakers be sure to read the following:

CNU website Highways to Boulevards. Look at the Campaign Cities tab and look at some of their projects. Be sure to look at the Somerville tab as our speakers will be addressing that.


Bellingham: Read pages 1 through 3 and 14 through 16; skim the rest. (Trunk).

Litman, Todd (2014), LOS Alternatives Letter for environmental impacts under the California Environmental Quality Act (Trunk). Pay particular attention to table 3 and Litman’s conclusions and recommendations.

Watch the first 20 minutes of this video summarizing the latest on CEQA SB743 LOS Alternative development. Also watch Minute 26 to 29: Alternatives to LOS.
California Planning & Development Report: Bill to delay SB-743 Gains Traction

Optional readings (good stuff; but I didn’t want to overwhelm you)

Cervero, Kung and Shively (2007), From Elevated Freeways to Surface Boulevards: Neighborhood, Traffic, and Housing Price Impacts in San Francisco

ITDP (2012), Life and Death of Urban Highways (download the pdf at this site)

NCHRP 20-83 Long-Range Strategic Issues Facing the Transportation Industry


CLASS 11 (11/22) TRANSPORTATION FUNDING & MPO Process

Understanding the Federal/ State/ MPO funding process and funding categories-- getting the green for your projects

Broader Funding Opportunities: Congestion Pricing

Readings (All on Trunk unless hot-linked below)

Streetsblog; Fixing NYC’s Gridlock and Transit Shortfall in one Fell Swoop.


Boston Metropolitan Planning Organization (MPO) Transportation Improvement Program 2015- 2018: Read through Chapter 2/ skim the rest.

Read the executive summary and skim the rest of this document: 2015 Unified Planning Work Program (UPWP)

Class 12 (11/29) SOCIAL/ENVIRONMENTAL JUSTICE (EJ) & TRANSPORTATION

Guest Speaker: Rene Mardones, Somerville Community Corporation

Class preparation: Please bring to class two examples of environmental justice issues that you know about or have seen that exhibits one or more of the following characteristics:
• Lack of Public participation by EJ communities
• Negative impacts of transportation on EJ communities
• Poor service to EJ communities

Readings

Federal Highway Administration Website on Environmental Justice


Read this Opinion piece from the LA Times.

Watch the video dying on Bartlett Avenue: http://vimeo.com/8356035

Look over Los Angeles Bus Rider’s Union website

CLASS 13 (12/6) PRESENTATIONS

Student Presentations: You have 6 minutes!

Your presentation will be graded on the following criteria:

• Clear Introduction
• Concise Content
• Clear Conclusion
• Limited Text/ Good use of Graphics,
• Being on Time (7 minutes)

Final paper due Friday after this class

Readings

Read Presentation tips on Trunk!

CLASS PARTY: TBA