Prof. Mary Davis  
Urban and Environmental Policy and Planning  
Office location: 72 Professor’s Row 
mary.davis@tufts.edu; 617-627-4719; Skype: medavis129

Class Meetings
Tuesdays 10:30-11:45am (UEP white house classroom, 72 Professors Row)

Office Hours
Tuesdays 12-2pm

Course Description
This half-credit course will provide an overview of active transportation and public health topics relevant to planners and policymakers. Although the primary focus will be on public health and active transportation in U.S. cities, international comparisons and rural areas will also be addressed. We will pay particular attention to the active transportation needs of susceptible sub-populations, including the elderly, disabled, and children. We will review the scientific literature on active transportation, including topics such as health benefits, national and international trends, perceived and objective safety, social and behavioral determinants, built environment and foodscape challenges, and nature contact, among many other topics. We will identify measures of walkability and bikeability, and aspects of urban design that promote or impede active transportation. The homework tasks and design challenge will provide students the opportunity to apply these concepts to a real-world setting. Although this is not a design class, understanding the public health aspects of active transportation will provide a valuable perspective for students ultimately interested in pursuing design aspects of active transportation.

Prerequisites
Some of the assigned readings will be quantitative in nature, so a basic knowledge of statistics is required to take this course (UEP 254 or equivalent). Students are assumed to have a general understanding of the historical context of cities and urban sprawl in the United States, and so ideally will have taken the core Cities class (UEP 252); however, Cities is not a strict prerequisite for enrollment in this course. Knowledge of ArcGIS is also a plus but not required. The mapping tools discussed in class and applied in the weekly tasks will focus largely on accessible web-based tools for understanding the spatial context of active transportation. The use of ArcGIS to complete the weekly tasks and design challenge is encouraged for students that possess the relevant software skills.
Course Materials
All readings and course materials will be available on Trunk. There is no single required textbook for the course. Since this is a half credit course, the assigned readings are designed to take approximately two hours per week to finish. An optional reading list will be provided for students interested in learning more about a given topic outside the context of the course requirements.

Student Assessment and Grading Policy

<table>
<thead>
<tr>
<th>Graded Component</th>
<th>Score Alotted</th>
<th>Score Description</th>
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</thead>
<tbody>
<tr>
<td>Class participation</td>
<td>20%</td>
<td>15% in-class discussion participation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5% online discussion participation</td>
</tr>
<tr>
<td>Homework tasks</td>
<td>50%</td>
<td>10% for each task</td>
</tr>
<tr>
<td></td>
<td></td>
<td>late submissions will not be accepted</td>
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<tr>
<td>Design Challenge</td>
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<tr>
<td>Written Product</td>
<td>20%</td>
<td>5% draft</td>
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<tr>
<td></td>
<td></td>
<td>15% final</td>
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<tr>
<td>Presentation</td>
<td>5%</td>
<td></td>
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<tr>
<td>Peer Feedback</td>
<td>5%</td>
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Class participation
The class format will be discussion-based and it is essential that you come to class prepared and willing to actively participate. Please let me know in advance if you will not be able to attend class, as attendance and active contribution to the discussion represent approximately 10% of your final grade. The remaining 5% of your participation score will be determined by your contributions to the on-line discussion.

Homework Tasks
A series of five approximately bi-weekly written homework tasks will be posted online that require students to apply an active transportation topic covered in class to a real-world setting. Although some of these tasks will be written responses to topic-specific questions, others are intended to bring you out into your neighborhood to explore the public health challenges and opportunities of active transportation in daily living. These tasks will also require you to think about the health and safety aspects of active transportation from multiple perspectives, such as from the viewpoint of a child, disabled, or elderly person. In some cases, the task will consist of a diary of observations, and in others you will collect basic data on active transportation infrastructure (or lack thereof) or groundtruth existing data.

Students are responsible for posting their homework tasks to the designated discussion thread on Trunk by Sunday midnight before the Tuesday due dates noted on the outline below. This will allow sufficient time for everyone to read and comment on the posts within the discussion thread. Students are expected to constructively comment on the postings of others, which will be factored into the individual student class participation scores. Please note that there will be no credit given for late task postings.
**Design Challenge**
During the latter half of the course, students will participate in a Design Challenge to propose active transportation infrastructure in a location of their choice. Specific details related to the output of the design challenge will be provided mid-semester. Briefly, students will be required to produce a written product that clearly identifies, articulates, and documents the need for active transportation in their chosen location. Projects will apply the tools and information from the class readings, discussions, and tasks to replicate an existing design from the literature to their location that meets the needs of the population of users. Students will identify the public health benefits and costs, as well as the scale and feasibility of such a project in that location. In addition to the written document, students will present their ideas to the class in a 10 minute Power Point presentation. After the presentations, students will evaluate the designs of their fellow classmates and provide written feedback on the public health benefits, feasibility, creativity, and likely success of each proposed active transportation project.

**Students with Disabilities**
Students with disabilities are assured that the Student Accessibility Services (SAS) office will work with each student individually to create access to all aspects of student life. Tufts is committed to providing equal access and support to all qualified students through the provision of reasonable accommodations so that each student may fully participate in the Tufts experience. If you have a disability that requires reasonable accommodations, please contact the Student Accessibility Services office at accessibility@tufts.edu or 617-627-4539 to make an appointment with an SAS representative to determine appropriate accommodations. Please be aware that accommodations cannot be enacted retroactively, making timeliness a critical aspect for their provision.
## Abbreviated Course Outline and Due Dates

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Assignment Due*</th>
<th>Required Readings</th>
<th>Additional Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 26</td>
<td>Introduction to Active Transportation and Public Health</td>
<td></td>
<td>Frumkin 2010 (Ch3) Research and data (handout)</td>
<td></td>
</tr>
<tr>
<td>February 2</td>
<td>Public Health Effects of Inactivity</td>
<td>Task #1</td>
<td>Hamilton et al. 2008 Lee et al. 2012 Pucher et al. 2010a</td>
<td>US DHHS 2008 WHO 2010</td>
</tr>
<tr>
<td>February 23</td>
<td>Mapping Tutorial</td>
<td>Task #2</td>
<td></td>
<td></td>
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<tr>
<td>March 8</td>
<td>Walking and ‘Walkability’</td>
<td></td>
<td>Saelens and Handy 2008 Saelens et al. 2003b</td>
<td>Besser and Dannenberg 2005</td>
</tr>
<tr>
<td>March 22</td>
<td>NO CLASS – SPRING BREAK</td>
<td></td>
<td></td>
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<tr>
<td>April 12</td>
<td>Design for Active Transportation: Guest Lecture Mark Chase</td>
<td></td>
<td>Schlossberg et al. 2013</td>
<td>TBD</td>
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<tr>
<td>April 19</td>
<td>Design for Sensitive Sub-Populations</td>
<td>Design Challenge (draft)</td>
<td>AARP 2009 (Chapter 4) Staunton et al. 2003 Imrie and Kumar 1998</td>
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<tr>
<td>Final exam period TBD</td>
<td>Design Challenge Presentations</td>
<td>Design Challenge (final)</td>
<td></td>
<td>Pucher et al. 2010b</td>
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*Task must be posted by Sunday midnight before the Tuesday class to provide sufficient time for comments*
Detailed Course Outline (all readings available on Trunk)

January 26 Introduction to Active Transportation and Public Health
In this class we will review the syllabus and course expectations, and provide a brief introduction to the active transportation topics that will be covered in this module. We will review basic public health science concepts relevant to understanding the active transportation literature, which are also described in the additional readings for the week (no required readings for the first class period).

Additional Readings

(Handout) Issues Related to Research Design and Data

February 2 Public Health Effects of Inactivity
Task #1 Due
The three required readings provide an overview of the relationship between inactivity and human health. We will explore the major risk factors related to inactivity, how these differ across parts of the world, and the unique vulnerabilities of sensitive sub-populations. We will explore the science of obesity and its wide ranging health implications. The additional readings provide general US and international guidelines for healthy activity levels.

Required Readings


Additional Readings

February 9  Understanding Trends in Inactivity
The two assigned readings explore general trends in physical activity in the US and globally, while the optional readings provide additional focus on a number of important sub-populations. We will identify underlying drivers of these trends, and explore the reasons for increasing inactivity and differences across various segments of the population. What aspects of these trends may be easier to change and what will require more time? How is the US different than other parts of the world?

Required Readings


Additional Readings


February 16  Benefits of Nature Contact
The week’s required readings consist of two journal articles and one textbook chapter that summarize the literature supporting the health benefits of human contact with nature. We will explore the environmental psychology literature, and provide an overview of the public health implications of access to nature and green space on mental and physical health, as well as attention and focus. We will identify the physiological and emotional basis for these health benefits, and understand how they impact health inequalities.

Required Readings


**Additional Readings**


**February 23  Mapping**

Task #2 Due

In this class we will review basic online mapping tools for understanding the built environment, including Policy Map and Social Explorer. Students will be provided with a tutorial and handout that will allow them to access these tools for use in their homework tasks and class project. Students are encouraged to substitute GIS software if they possess the relevant skill set.

**Required Readings**

Handouts with software tutorials will be provided.

**March 1  Role of the Built Environment**

Task #3 Due

The required readings explore built environment features that encourage or impede active transportation, while the series of optional readings provide additional context for students interested in exploring this topic in greater detail. We will identify the strength of the evidence supporting various design features, as well as how these variables are identified and measured in the scientific literature. This background material will allow us to develop and explore walking and biking as separate modes of transportation in the subsequent lectures.

**Required Readings**


**Additional Readings**


**March 8 and 15 Walking and Walkability**

We will build upon the previous readings and lectures to focus explicitly on walking and measures of ‘walkability’. We will explore built environment features and land uses relevant to walking, and identify how they are captured and measured in the current literature. We will explore the costs and benefits of walking as a form of active transportation, and its relationship to other modes of transportation as well as air quality.

**Required Readings 3/8**


Required Readings 3/15


Additional Readings


March 29 and April 5  Biking and Bikeability  Task #5 Due (Apr 5)
We will build upon the previous readings and lectures to focus explicitly on biking and measures of ‘bikeability’. We will explore built environment features and land uses relevant to biking, and identify how they are captured and measured in the current literature. We will explore the costs and benefits of walking as a form of active transportation, and focus specifically on safety and infrastructure challenges as they relate to increasing the bike modeshare.

Required Readings 3/29


Required Readings 4/5

**Additional Readings**


**April 12  Design for Active Transportation**

In this guest lecture by Mark Chase, we will review the principles of design for active transportation.

**Required Readings**


**Additional Readings**

TBD
April 19  Design for Sensitive Sub-Populations  D.C. Draft Due
We will follow up on the guest lecture by Mark Chase to identify various aspects of built-environment design for sensitive subpopulations, such as the elderly, children, and disabled populations.

Required Readings


April 26  Interventions to Promote Activity
In this final class period, we will explore various intervention strategies to promote active transportation. We will evaluate these initiatives from an economic and policy perspective, and draw lessons from existing and past programs.

Required Readings


Additional Readings
