Walking and bicycling are essential components of a sustainable transportation system. In response to growing concerns about personal mobility and safety, public health, air quality, community sustainability, and related issues, many government agencies are developing plans to improve pedestrian and bicycle transportation.

Pedestrian and bicycle transportation are influenced by micro-scale elements of the built environment (e.g. sidewalks, bicycle lanes, traffic speeds, and roadway crossings) and macro-scale characteristics (e.g. community pathway systems and regional land use patterns.) Walking and bicycling issues thus bridge the fields of urban planning and design and civil engineering.

This graduate-level course introduces students to essential information about current practices in the pedestrian and bicycle transportation field. It will cover historical and institutional frameworks, benefits and obstacles to pedestrian and bicycle planning, policy development, perceived and actual safety, facility design, network development, and practical methods of estimating demand and evaluating walking and bicycling conditions. Students will be challenged to evaluate the existing methods critically and develop ideas for improving pedestrian and bicycle planning practices. The course will focus mainly on practices in the United States, though it will include examples of innovative international strategies.

The course will include lectures and presentations, guest speakers, field observations, and several assignments. Most classes will include a presentation by the course instructor. References from the reading list will also be discussed in class. To encourage student mastery of course topics, hone presentation skills, and facilitate class discussions, students will serve individually or in teams as class “experts” on particular topics in specific classes. Guest speakers provide a practice-based perspective on the issues discussed in class.

Acknowledgements: This syllabus draws on and adapts course materials and ideas shared by Robert Schneider, Kari Watkins, the IBPI at Portland State, and the FHWA PBIC.
Course Objectives

- Understand role of bicycle and pedestrian modes in larger context of personal travel
- Gain insight into how key federal, state, and local policy can shape provision of bicycle and pedestrian facilities and programs
- Become familiar with the public actors & stakeholders involved in bicycle and pedestrian planning and the connections to broader transportation planning issues
- Learn about current practices for planning, project treatments, and interventions to improve and enhance bicycle and pedestrian travel
- Evaluate existing pedestrian and bicycle planning and design methods critically and develop ideas for improving practice and treatments in the local context

Reference Texts


Course Requirements and Grading

1. Public meeting analysis (15%)
2. Data collection & analysis assignment (20%)
3. Expert presentations (20%)
4. Final project: Infrastructure / site analysis (35%)
5. Class attendance, participation, engagement (10%)

Final grades will be determined on the following basis. To ensure fairness, all numbers are absolute, and will not be rounded up or down at any stage. Thus a B- will be inclusive of all scores of 80.000 through 83.999. The University does not recognize the grade of A+.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Score Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>94-100</td>
</tr>
<tr>
<td>A-</td>
<td>90-93</td>
</tr>
<tr>
<td>B+</td>
<td>87-89</td>
</tr>
<tr>
<td>B</td>
<td>84-86</td>
</tr>
<tr>
<td>B-</td>
<td>80-83</td>
</tr>
<tr>
<td>C+</td>
<td>77-79</td>
</tr>
<tr>
<td>C</td>
<td>74-76</td>
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<tr>
<td>C-</td>
<td>70-73</td>
</tr>
<tr>
<td>D</td>
<td>65-69</td>
</tr>
<tr>
<td>F</td>
<td>&lt; 65</td>
</tr>
</tbody>
</table>

Updated: Mar. 19, 2017
1. Planning Meeting Analysis Memo

Students will attend a local transportation meeting and submit a memo that provides an effective meeting summary and analysis. The meeting analysis will account for both the substance of the issues taken up and on the processes that students observe unfolding at the meeting.

2. Data collection & analysis assignment

Students familiarize themselves and the class with potential data sources describing bicycle and pedestrian travel, behavior, and characteristics. You will summarize and analyze pedestrian and/or bicycle data for a city, region, or geography of your choice, using the data to tell a story about cycling / walking / those who do it in a specific context, or about a specific aspect of cycling and walking.

3. Topic Expert

Each student will serve as the class expert for one of the topics covered in a specific class. Students will have an opportunity to sign up for specific topics and will consult with the instructor about how to prepare for their role. Students will prepare a PowerPoint presentation and supporting material synthesizing appropriate research or information and serve as class discussant on the topic.

4. Site / Intersection/ Corridor Analysis

Students will conducted this assignment in small groups and use a mix of planning, design, and engineering skills. The objective of the assignment is to recommend, illustrate, and justify a set of pedestrian and bicycle improvements for a specific intersection/corridor segment in the Austin region. Students will choose from a set of potential sites identified by the instructor.

5. Class Attendance, Participation, and Engagement

A different topic from the pedestrian and bicycle planning field will be covered over single or grouped sessions. The readings listed under each topic below are required readings. Readings will be available on Canvas. All students are expected to read all the required readings before class and to participate actively in the discussion. Supplemental “Recommended Readings” may be noted as well.

Active participation in class is an important component of this course. Being able to express concepts and opinions clearly and ask good questions are critical skills in the professional world. Class attendance will be recorded on a sign-in sheet. However, class participation grades are based on the quality of active participation in class discussion, not simply on attendance. In the interest of promoting a productive learning environment for all, please:

- Arrive on time and stay for the duration of class.
- Turn off or mute audible mobile devices for the duration of class.
- Refrain from accessing the internet or engaging in behaviors that detract from class learning.

Important Course Dates:

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friday, Jan. 20</td>
<td>Official add/drop period ends</td>
</tr>
<tr>
<td>Wed., Feb. 1</td>
<td>12th Class Day</td>
</tr>
<tr>
<td>Monday, Apr. 3</td>
<td>Last chance to change registration or grading basis</td>
</tr>
<tr>
<td>Thursday, Apr. 6</td>
<td>No Class Meeting</td>
</tr>
<tr>
<td>Friday, May 5</td>
<td>Last Class Day</td>
</tr>
</tbody>
</table>

After this date, contact Robin Dusek for changes in registration.

Last day to add a course or drop with a refund.

Last day a grad student may change registration in a class to or from the credit/no credit basis.

No Class Meeting

Last day a grad student may, with required approvals, drop a class (Q/F drop).
<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Class</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tues.</td>
<td>Jan. 17</td>
<td>1</td>
<td>Class Introduction</td>
</tr>
<tr>
<td>Thur.</td>
<td>Jan. 19</td>
<td>2</td>
<td>Environmental Benefits of Pedestrian &amp; Bicycle Transportation</td>
</tr>
<tr>
<td>Tues.</td>
<td>Jan. 24</td>
<td>3</td>
<td>Public Health Benefits of Pedestrian &amp; Bicycle Transportation</td>
</tr>
<tr>
<td>Thur.</td>
<td>Jan. 26</td>
<td>4</td>
<td>Pedestrian and Bicycle Institutional Framework</td>
</tr>
<tr>
<td>Tues.</td>
<td>Jan. 31</td>
<td>5</td>
<td>Pedestrian and Bicycle Trends</td>
</tr>
<tr>
<td>Thur.</td>
<td>Feb. 2</td>
<td>6</td>
<td>Travel Behavior Theory &amp; Evidence on Walking and Bicycling</td>
</tr>
<tr>
<td>Tues.</td>
<td>Feb. 7</td>
<td>7</td>
<td>Pedestrian Design Fundamentals; Walk Austin (Angela Richter)</td>
</tr>
<tr>
<td>Thur.</td>
<td>Feb. 9</td>
<td>8</td>
<td>Confirmed: Class Facilities Tour. Rain Date: Thurs. Feb 23.</td>
</tr>
<tr>
<td>Tues.</td>
<td>Feb. 14</td>
<td>9</td>
<td>Pedestrian Design Fundamentals</td>
</tr>
<tr>
<td>Thur.</td>
<td>Feb. 16</td>
<td>10</td>
<td>Bicycle Design Fundamentals; Bike Austin (Miller Nuttle).</td>
</tr>
<tr>
<td>Tues.</td>
<td>Feb. 21</td>
<td>11</td>
<td>Pedestrian Design Fundamentals</td>
</tr>
<tr>
<td>Thur.</td>
<td>Feb. 23</td>
<td>12</td>
<td>Class field exercise: Pedestrian audit (Teams of 3)</td>
</tr>
<tr>
<td>Tues.</td>
<td>Feb. 28</td>
<td>13</td>
<td>Engineer’s Perspective</td>
</tr>
<tr>
<td>Thur.</td>
<td>Mar. 2</td>
<td>14</td>
<td>Collection of Pedestrian and Bicycle Data</td>
</tr>
<tr>
<td>Tues.</td>
<td>Mar. 7</td>
<td>15</td>
<td>Bike Facilities (con’t from Class 10)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Collection of Pedestrian and Bicycle Data</td>
</tr>
<tr>
<td>Thur.</td>
<td>Mar. 9</td>
<td>16</td>
<td>Anatomy of Bicycle and Pedestrian Master Plans</td>
</tr>
<tr>
<td>Tues.</td>
<td>Mar. 21</td>
<td>17</td>
<td>Pedestrian and Bicycle Demand Estimation</td>
</tr>
<tr>
<td>Thur.</td>
<td>Mar. 23</td>
<td>18</td>
<td>Pedestrian and Bicycle Data Sources; Ass. 2 Presentations</td>
</tr>
<tr>
<td>Tues.</td>
<td>Mar. 28</td>
<td>19</td>
<td>Pedestrian and Bicycle Safety</td>
</tr>
<tr>
<td>Thur.</td>
<td>Mar. 30</td>
<td>20</td>
<td>Pedestrian and Bicycle Safety/ Tentative: Team field exploration</td>
</tr>
<tr>
<td>Tues.</td>
<td>Apr. 4</td>
<td>21</td>
<td>Land Use, Connectivity, and Urban Design</td>
</tr>
<tr>
<td>Thur.</td>
<td>Apr. 6</td>
<td>22</td>
<td>Tentative: Field exploration</td>
</tr>
<tr>
<td>Tues.</td>
<td>Apr. 11</td>
<td>23</td>
<td>Bikesharing</td>
</tr>
<tr>
<td>Thur.</td>
<td>Apr. 13</td>
<td>24</td>
<td>International Pedestrian and Bicycle Transportation</td>
</tr>
<tr>
<td>Tues.</td>
<td>Apr. 18</td>
<td>25</td>
<td>International Pedestrian and Bicycle Transportation</td>
</tr>
<tr>
<td>Thur.</td>
<td>Apr. 20</td>
<td>26</td>
<td>Education, Enforcement, Encouragement</td>
</tr>
<tr>
<td>Tues.</td>
<td>Apr. 25</td>
<td>27</td>
<td>Public Participation and Coalition Building</td>
</tr>
<tr>
<td>Thur.</td>
<td>Apr. 27</td>
<td>28</td>
<td>In-Class Presentations of Class Projects/Course Wrap-Up</td>
</tr>
<tr>
<td>Tues.</td>
<td>May 2</td>
<td>29</td>
<td>In-Class Presentations of Class Projects/Course Wrap-Up</td>
</tr>
<tr>
<td>Thur.</td>
<td>May 4</td>
<td>30</td>
<td>LAST CLASS</td>
</tr>
</tbody>
</table>

**Course and University Policies**

**Student Accommodations**

Students with a documented disability may request appropriate academic accommodations from the Division of Diversity and Community Engagement, Services for Students with Disabilities: [http://diversity.utexas.edu/disability/about/](http://diversity.utexas.edu/disability/about/)

I want to make this class inclusive, accessible and welcoming for all students. Please notify me as soon as possible if you require any accommodations, if you have trouble with class material not being accessible for you, or if physical space is difficult for you.
Expectations on Academic Honesty

The University of Texas Honor Code binds all of us in this class and obligates us to follow standards of academic integrity that are essential for a successful class.

The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the University is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community.

Ethical standards are also central to the codes of conduct that will bind us as practicing planners and related professionals: https://www.planning.org/ethics/ethicscode.htm

As students now and as practicing planners, policymakers, and engineers later you will frequently consult analyses, research, and ideas produced by others. It is expected and desirable that we use others’ findings to inform our own work for a given assignment or task. This means knowledge is being shared and applied. However, a 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 full text reports, articles, and presentations available on the internet, it is easy to borrow another’s words and ideas inappropriately, whether inadvertently or deliberately. Technology makes plagiarism easy to do and easy to detect.

Please familiarize yourself with The University Honor Code and its provisions. The following link is a place to start: http://deanofstudents.utexas.edu/conduct/academicintegrity.php It is the individual’s responsibility to know what “scholastic dishonesty” is and to take steps to avoid it. If you are unsure of these rules or their application, please do not hesitate to contact me to discuss them—with no prejudice. The rules can be complicated when put into practice, and it is useful to consider them together.

University Resources for Students

Graduate school can be a challenging time, as you adjust to a new location and environment; face expectations for more advanced, independent, and original work; consider your future career path; and also continue to meet your own personal commitments outside the classroom.

The University has many resources to support student learning and development in this process:

- University Writing Services - Graduate Writing Services – (http://uwc.utexas.edu/grad/)
- Architecture & Planning Library (http://www.lib.utexas.edu/apl/)
- University of Texas Libraries (http://www.lib.utexas.edu/)
- Information Technology @ UT (http://it.utexas.edu/)
- UT Counseling and Mental Health Center (https://cmhc.utexas.edu/)
- UT Counseling and Mental Health Center 24/7 Crisis Line: (512) 471-CALL (2255)
- Student Emergency Services (http://deanofstudents.utexas.edu/emergency/)
- School of Architecture’s Career Services (http://soa.utexas.edu/resources/career-services)
- Vick Center for Strategic Advising & Career Counseling (http://ugs.utexas.edu/vick/career)
Readings

Class 1 (1/17)  Introduction

Class 2 (1/19)  Environmental Benefits of Pedestrian & Bicycle Transportation

Class 3 (1/24)  Public Health Benefits of Pedestrian & Bicycle Transportation

Class 4 (1/26)  Pedestrian and Bicycle Institutional Framework

Class 5 (1/31)  Pedestrian and Bicycle Trends

Class 6 (2/02)  Travel Behavior Theory
**Class 7 (2/07) Pedestrian Master Plan & Design Fundamentals**  
**GUEST SPEAKER: Angela Richter, Walk Austin**


**Recommended:**

**Class 8 (2/09) FIELD TRIP: Facilities Tour with Mike Schofield, Active Transportation Planning and Design, City of Austin Transportation Department**

- Pedestrian and Bicycle Information Center. “Facility Design.” Web page, Available online: [http://www.pedbikeinfo.org/planning/facilities.cfm](http://www.pedbikeinfo.org/planning/facilities.cfm), 2015. Read sections under (a) Bicycle Facilities (all sections); (b) Crossings (select sections: Bicycle Signal Heads; Bicycle Detection)

**Class 9 (2/14) Pedestrian Design Fundamentals**

- Pedestrian and Bicycle Information Center. “Facility Design.” Web page, Available online: [http://www.pedbikeinfo.org/planning/facilities.cfm](http://www.pedbikeinfo.org/planning/facilities.cfm), 2015. Read sections under (a) Pedestrian Facilities (all sections: Sidewalks and Walkways; Curb Ramps; Shared-Use Paths/Sidewalks; and Shared Streets) and (b) Crossings (select sections: Crosswalks; Curb Extensions; Crossing Islands; Overpasses/Underpasses; Advance Stop Lines/Yield Markings; Pedestrian Signals; RTOR Restrictions; Improved Right Turn Slip-Lane Design)

**Class 10 (2/16) Bicycle Design Fundamentals**  
**GUEST SPEAKER: Miller Nuttle, Bike Austin**

- City of Austin, Bicycle Master Plan.

**Class 11 (2/21) Bicycle & Pedestrian Design Fundamentals**

Class 12 (2/23) Field Exercise: Pedestrian Audit

- Clifton, K. J., Smith, A. D. L., & Rodriguez, D. A. *Pedestrian Audit Scoresheet* (Familiarize yourself with all form features / questions.)

Class 13 (2/28) Engineer’s Perspective

- [optional] For those who want to consider the engineer’s perspective further, this video from Portland’s bicycle / traffic engineer Peter Koonce [can FF to minutes 38:00 to 52:00 for good examples] [https://www.youtube.com/watch?v=jVLBXFN1GTY](https://www.youtube.com/watch?v=jVLBXFN1GTY)

Class 14 (3/02) Pedestrian and Bicycle Data Collection


Recommended:


Class 15 (3/07) Collection of Bike Ped Data, continued; Bicycle Facilities, continued

Class 16 (3/09) Anatomy & Analysis of a Pedestrian / Bicycle Master Plan


- One municipal-level bicycle/and or pedestrian master plan of your choosing. (See folder on Canvas or upload & read one that you have identified.)

Required for class:

Carefully review one of the bicycle or pedestrian plans included in the list provided on Canvas. Some of the plans are uploaded to Canvas, and others are available via URL. In most cases, reading the plan from cover to cover is not advised; some plans are over 100 or even 200 pages. Instead, familiarize yourself...
with the plan and its components. Which components are most/least important? Why? Read more closely those sections you think are more important.

In class we will discuss the plans and their various strengths and weaknesses. Your task is to review the plan thoughtfully and to take notes that will allow you to share your observations with the class.

When reviewing the plan and taking notes, consider the following. Planning research has shown that “good” or “high quality” plans can be more likely to influence local government decisions (Burby & Dalton, 1994). How would you assess the plan? Consider how well it presents existing conditions in the community (its “fact basis”); the effectiveness of its goals or statements of aspirations and values; its policies, or actions, to guide decisions; and its ability to effectively communicate key principles and ideas, as well as to energize, engage, and inspire community support.

Additional questions for discussion in class will include:
- Why did the agency develop the plan? (What motivated them to develop the plan?)
- What were the major elements of the plan?
- What in your view were the strongest parts of the plan? What stand to make the biggest difference? Why?
- What in your view were weaker part(s) of the plan, or components less likely to make a difference? Why?

Class 17 (3/21) Pedestrian and Bicycle Demand Estimation

Recommended:

Class 18 (3/23) Pedestrian and Bicycle Data Sources
- Class presentations for Assignment #2. No reading this session.

Class 19 (3/28) Pedestrian and Bicycle Safety
- Buehler, Ralph, and John Pucher. "Trends in walking and cycling safety: recent evidence from high-income countries, with a focus on the United States and Germany." American journal of public health 0 (2017): e1-e7
**Class 20 (3/30) Pedestrian and Bicycle Safety**


**Recommended:**


**Class 21 (4/04) Land Use, Connectivity & Urban Design**


**Recommended**


**Class 22 (4/06) Tentative: Field Exploration**

**Class 23 (4/11) Bikesharing**


**Recommended**


**Class 24 (4/13) International Pedestrian and Bicycle Transportation**


**Class 25 (4/18) International Pedestrian and Bicycle Transportation**

Class 26 (4/20) Education, Enforcement, Encouragement


• Max Marck, Smart Cycling: https://vimeo.com/39910032


Class 27 (4/25) Public Participation, Advocacy, and Coalition Building


Class 28 (4/27) Class Presentations

Class 29 (5/02) Class Presentations

Class 30 (5/04) Final Class: Wrap Up