Course Description

This course provides a broad overview of urban transportation planning in the United States, including the historic and emerging issues faced in this field and the tools that are available to address these challenges. The course is designed for students who intend to specialize in transportation planning or who would like an introduction to the field. The course is divided into three major sections:

- **Context, History, and Foundational Concepts:** The first section analyzes past, present, and future travel patterns in the United States, with a particular emphasis on understanding how demographics and urban form influence travel behavior and identifying key challenges for transportation planners. This section also introduces several concepts that are foundational to understanding transportation systems in the United States, including metropolitan spatial structure, the relationship between transportation and land use, and perspectives on traffic congestion.

- **Institutions and Impacts:** The second section provides a broad introduction to the institutional structure of transportation planning in the United States, particularly the interaction between federal, state, and regional decision makers. This section outlines the transportation planning process and its key actors; considers past, present, and future mechanisms for financing transportation investments; and provides a framework for understanding the full social/external costs of transportation. Additionally, this section explores several key impacts of the transportation system, including environmental justice and equity, safety and security, and public health.

- **Standards and Analytical Tools:** The final section introduces common analytical techniques used in transportation planning and considers their effectiveness. This section provides a strong skill basis for students interested in pursuing careers in transportation planning (both public and private sector), as well as for anyone who plans to be involved with the development process.

Course Objectives

At the end of this course, students will be able to perform analyses common in the practice of urban transportation planning, including assessment of planning processes and outputs (e.g., plans); parking, traffic, and travel demand analyses; and evaluation of transportation financing options. Furthermore, students will be able to authoritatively discuss key policy issues in current transportation planning debates.
Course Requirements

Projects. Students will complete five projects that require the use of analytical techniques common in the field of transportation planning. Four of the projects will be completed on an individual basis; discussion among students about these projects is allowed (and encouraged), but each student must turn in his or her own work. One project will be completed in small groups assigned by the instructor. The five projects will cover the following topics/techniques:

- Project 1 (individual): Travel Patterns/Trends Analysis
- Project 2 (individual): MPO Plan Analysis
- Project 3 (individual): Public Meeting Analysis
- Project 4 (group): Parking Analysis
- Project 5 (individual): Traffic Impact Analysis

Final Exam. A synthetic, in-person final exam covering lecture materials and course readings will be held during the University exam period. There will be no make-up exams. For students who miss the exam due to an excused absence (illness, family emergency) with proper documentation, there will be no make-up exam; the other course requirements will be re-weighted and the final exam will not be considered in the course grade. Students who miss the exam for an unexcused absence will receive a grade of zero for the final exam.

Attendance/Participation. Active participation in class and effective collaboration with classmates is essential in this course. Students are expected to complete the assigned readings prior to class and to come prepared for thoughtful discussion. Lectures will be interactive and students will be encouraged to engage in active dialogue about key concepts and real-world examples.

Transportation News Briefs. Staying engaged in the “real world” of transportation planning is essential to making informed arguments and decisions. To bring this engagement into the classroom, we will devote the beginning of each class session to brief (2–3 minutes maximum) student updates about recent news items related to transportation planning. News items may include events, policy decisions, planning efforts, projects, studies, or any other updates relevant to the course content.

Each student will provide a news brief twice throughout the semester (sign-ups on the first day of class). News briefs should be informal (no PowerPoint presentations needed) and designed to convey (1) concise background information, (2) a description of the event, decision, effort, project, study, etc., and (3) a summary of the major implications for transportation planning, potentially with the student’s critique. To keep the discussion current, students should focus on a news item that occurred in the week prior to their update. Students giving updates during the same class period should coordinate in advance to make sure they cover different news items. Students should also send a link to an online article about their news item to the instructor for dissemination to the class.

Below is a list of organizations that often feature transportation planning news (feel free to share others with the class):

- Transportation For America
- Smart Growth America
- CityLab
- Planetizen
- Next City
- Mobility Lab
- Shared-Use Mobility
Grading

Course projects, the final exam, attendance/participation, and transportation news briefs will be weighted in the final course grade as outlined below. All projects are due by 5:00 PM on the due date. Late assignments will receive a penalty of ten percentage points per day; students who do not expect to meet an assignment deadline should alert the instructor in advance.

<table>
<thead>
<tr>
<th>Assignments</th>
<th>Due Date (5:00 PM)</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project 1 (individual): Travel Patterns/Trends Analysis</td>
<td>February 9</td>
<td>10</td>
</tr>
<tr>
<td>Project 2 (individual): MPO Plan Analysis</td>
<td>March 3</td>
<td>15</td>
</tr>
<tr>
<td>Project 3 (individual): Public Meeting Analysis</td>
<td>March 31</td>
<td>15</td>
</tr>
<tr>
<td>Project 4 (group): Parking Analysis</td>
<td>April 19</td>
<td>15</td>
</tr>
<tr>
<td>Project 5 (individual): Traffic Impact Analysis</td>
<td>April 28</td>
<td>15</td>
</tr>
<tr>
<td>Final Exam</td>
<td>April 29 (12:00 PM)</td>
<td>15</td>
</tr>
<tr>
<td>Attendance/Participation</td>
<td>—</td>
<td>10</td>
</tr>
<tr>
<td>Transportation News Briefs</td>
<td>Various</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

- Undergraduate grading scale: A (93–100%); A- (90–92%); B+ (87–89%); B (83–86%); B (80–82%); C+ (77–80%); C (73–76%); C (70–72%); D+ (67–70%); D (63–66%); D (50–52%); and F (<50%)
- Graduate grading scale: H (90–100%); P (65–89); L (50–64) and F (<50%)

Readings

Readings for each session are listed in the remainder of the syllabus. The majority of readings are available on Sakai. Three books are on reserve at the House Undergraduate Library or through electronic reserves (see the “Library Reserves” tab on our Sakai site), including:


Honor Code

The UNC Honor Code states: “It shall be the responsibility of every student at The University of North Carolina at Chapel Hill to obey and to support the enforcement of the honor code, which prohibits lying, cheating, or stealing when these actions involve academic processes or University, student or academic personnel acting in an official capacity.” This standard does not preclude discussion of individual assignments with other students. However, each student is expected to turn in his or her own work (with the exception of group assignments). Students must also provide appropriate citations for any ideas that are not their own.

Honor Code violations are treated very seriously. Students are encouraged to read and become familiar with the Honor Code guidelines available at [https://studentconduct.unc.edu/](https://studentconduct.unc.edu/). The UNC Writing Center also offers helpful advice for avoiding plagiarism; in particular, see [http://writingcenter.unc.edu/handouts/plagiarism/](http://writingcenter.unc.edu/handouts/plagiarism/). Learning to properly attribute words and ideas that are not your own is an essential skill for both academic and professional settings. Students are encouraged to contact the instructor with any questions about the Honor Code and proper citations.
Electronic Devices

Research shows that students who use laptops in the classroom are distracting not only to themselves, but also to the students around them (Sana, Weston, and Cepeda, 2013). Furthermore, students who take notes by hand tend to retain information better than those who take notes by laptop (Mueller and Oppenheimer, 2014). To create a mutually beneficial learning environment, **students are encouraged not to use their laptops in class**. However, recognizing that everyone learns differently, I will allow laptops for classroom purposes only; all other programs, including Internet browsers and email, **must be turned off** before class begins. Students who use their laptops for non-classroom purposes will be asked to stop using them during class time. Additionally, students must silence or turn off their cell phones before the beginning of class.

Disability

Students who have a documented disability that may require assistance should contact UNC Accessibility Resources and Services (ARS) to coordinate academic accommodations. More information can be found on the ARS website: [https://accessibility.unc.edu/](https://accessibility.unc.edu/). Please contact me to discuss any accommodations that may be required to satisfy your needs.

University Resources

My goal is to help you to succeed in this learning environment. Students are always encouraged to ask questions about their understanding and progress, either in class, during office hours, or during scheduled appointments. For students who need further assistance beyond the help of the instructor, the following on-campus resources are available:

- Writing Center: [http://writingcenter.unc.edu/](http://writingcenter.unc.edu/)
- Learning Center: [http://learningcenter.unc.edu/](http://learningcenter.unc.edu/)
- Counseling and Wellness Services: [https://campushealth.unc.edu/](https://campushealth.unc.edu/)
Course Schedule  
(Subject to revision)

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Guest Speaker / Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jan 12</td>
<td>NO CLASS – TRB Annual Meeting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jan 14</td>
<td>Course Overview and Major Themes</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Jan 19</td>
<td>Travel Patterns and Trends</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jan 21</td>
<td>Transportation History (Part 1)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Jan 26</td>
<td>Transportation History (Part 2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jan 28</td>
<td>Transportation and the American Metropolis</td>
<td>Tony Sease, PhD</td>
</tr>
<tr>
<td>4</td>
<td>Feb 2</td>
<td>Land Use Impacts of Transportation Investments</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Feb 4</td>
<td>Built Environment and Travel Behavior</td>
<td></td>
</tr>
<tr>
<td>5.1</td>
<td>Feb 9</td>
<td>Congestion</td>
<td>Project 1 Due</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.2</td>
<td>Feb 11</td>
<td>Transportation Planning Process (Part 1)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Feb 16</td>
<td>Transportation Planning Process (Part 2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Feb 18</td>
<td>Environmental Impacts (Part 1)</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Feb 23</td>
<td>Environmental Impacts (Part 2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Feb 25</td>
<td>Transportation Finance: Current Status</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Mar 1</td>
<td>Transportation Finance: Future Alternatives</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mar 3</td>
<td>Public Transit Finance</td>
<td>Project 2 Due</td>
</tr>
<tr>
<td>9</td>
<td>Mar 8</td>
<td>Full Costs of Transportation + Finance Summary</td>
<td>In-Class Exercise</td>
</tr>
<tr>
<td></td>
<td>Mar 10</td>
<td>Goods Movement/Freight</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Mar 15</td>
<td>NO CLASS – Spring Break</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mar 17</td>
<td>NO CLASS – Spring Break</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Mar 22</td>
<td>Equity and Environmental Justice</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mar 24</td>
<td>Safety and Security</td>
<td></td>
</tr>
<tr>
<td>12.1</td>
<td>Mar 29</td>
<td>Public Health</td>
<td></td>
</tr>
<tr>
<td>12.2</td>
<td>Mar 31</td>
<td>Street Design</td>
<td>Project 3 Due</td>
</tr>
<tr>
<td>13</td>
<td>Apr 5</td>
<td>Parking</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Apr 7</td>
<td>Traffic Impact Analysis</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Apr 12</td>
<td>Station Area Planning for LRT in Chapel Hill</td>
<td>David Bonk, Town of CH</td>
</tr>
<tr>
<td></td>
<td>Apr 14</td>
<td>Innovative Planning in North Carolina</td>
<td>Dean Ledbetter, NCDOT</td>
</tr>
<tr>
<td>15</td>
<td>Apr 19</td>
<td>Introduction to Transportation Modeling</td>
<td>Project 4 Due</td>
</tr>
<tr>
<td></td>
<td>Apr 21</td>
<td>Critiques of Forecasting</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Apr 26</td>
<td>The Future and Exam Review</td>
<td>Project 5 Due *</td>
</tr>
<tr>
<td></td>
<td>Apr 29</td>
<td>FINAL EXAM – 12:00 PM</td>
<td></td>
</tr>
</tbody>
</table>

* can be submitted up until April 28 at 5:00 PM
Readings

Course Overview and Major Themes


Travel Patterns and Trends

- Polzin, S., et al. (2013). Executive Summary (pages 6-38) of “Commuting in America 2013.”
  American Association of State Highway and Transportation Officials.

Transportation History (Part 1): The Walking City and the Rise and Fall of Transit

- Smithsonian. (browse) “America on the Move.” http://americanhistory.si.edu/onthemove/index.html

Transportation History (Part 2): The Rise of the Automobile


Transportation and the American Metropolis

Land Use Impacts of Transportation Investments


Built Environment and Travel Behavior


Congestion


Transportation Planning Process (Part 1): The Federal Role

Transportation Planning Process (Part 2): Metropolitan Planning Organizations


Environmental Impacts (Part 1): The NEPA Process and Air Quality Conformity


Environmental Impacts (Part 2): Transportation and Greenhouse Gas Emissions


Transportation Finance: Current Status and Challenges


Transportation Finance: Future Alternatives

Public Transit Finance


Full Costs of Transportation


Goods Movement


Equity, Environmental Justice, and Travel of Disadvantaged Groups


Safety and Security

Public Health


Street Design


Parking


Traffic Impact Analysis

- Institute of Transportation Engineers. (2006). “Transportation Impact Analyses for Site Development.”
Transportation Modeling


Critiques of Transportation Forecasting and Alternate Approaches


The Future