PLAN 636: Urban Transportation Planning

Fall 2020

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919-962-4781
noreen@unc.edu

Office Hours: Monday-Thursday 1:30-4:30,
detailed availability/ sign-up at https://go.unc.edu/mcdonaldappt

Grader: Lindsay Oluyede

Course Meetings: Tuesday & Thursday 3:00-4:15, TBD
https://zoom.us/j/93910067591
Meeting ID: 939 1006 7591

Course Description
This course prepares students to be effective practitioners and informed citizens at a time when rapid advances in technology are rapidly changing the transport field. We’ll focus on three aspects:

- **Understanding the Transport System**: How does transportation work? How do people and goods travel? What are new mobility options and how might they reshape transportation planning?
- **Challenges**: What are the key issues in the transport field? The section focuses on understanding current travel patterns (and their links to demographics and land use) as well as identifying key challenges and opportunities for the transport field (congestion, freight, air quality, shared mobility, and autonomous vehicles). How do transportation systems impact equity?
- **Planning**: This section provides a broad introduction to the institutional structure and technical tools of transportation planning in the US. We look at the federal, state, and local levels. This section will also introduce you to the common analysis techniques used in transportation and consider their effectiveness. This section provides a strong skill basis for any students interested in pursuing careers in transportation consulting firms or municipalities (or anyone who plans to be involved with the development process).

Course Objectives
At the end of this course, you will be able to understand and perform analyses common in the practice of transportation planning authoritatively discuss the key policy issues in current transportation planning debates.
**Course Requirements:**

*Essays:* Undergraduate students must complete 3 essays; Graduate students must complete 4 essays. Several essay assignments will be given on topics covered in the course.

*Debate:* Students will work in groups and present on topical subjects related to transportation, innovation, and technology.

*Final Exam:* A synthetic final exam covering lecture materials and readings will be held during the exam period. According to UNC policy, “an absence may be excused for severe health problems leading to the student’s placement on the Infirmary List by either Campus Health Services or Counseling and Psychological Services, for significant personal or family circumstances, for religious observances required by the student’s faith, for a scheduling conflict involving multiple examinations at the same time, or when a student has three or more final examinations scheduled in 24 hours.” Excuses can only be issued by the director of Campus Health Services or your academic dean. If you missed the exam for an excused absence, you will receive a grade of AB and will have the opportunity to make up the exam. If your absence is unexcused, you will not have an opportunity to make up the exam and will receive a 0 for the exam.

With the instructor’s permission, graduate students may write a 25-page research paper on a topic related to the class rather than taking the final exam. Any graduate students interested in doing this must submit a proposal by the Tuesday before Fall Break.

*Participation:* Participation in the class and effective collaboration with your classmates is essential in this course.

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<thead>
<tr>
<th>Grading Assignments</th>
<th>Undergraduate Students</th>
<th>Graduate Students</th>
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<tr>
<td>1. Essay #1</td>
<td>20</td>
<td>15</td>
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<td>2. Essay #2</td>
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<td>3. Essay #3</td>
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<td>4. Activity #1</td>
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<td>7. Final Exam</td>
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<td>8. Participation</td>
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**Late Assignments**

Any assignments turned in late (i.e. after allowances for the 3 late days) will incur a penalty of a half-grade (letter graded assignments) or half the standard deviation (numeric graded assignments). For example if a paper is a day late, the grade would change from a B to a B-. If the paper were two days late, the grade would change from a B to a C+.

**Readings** Most readings are available on Sakai or through Library Course Reserves page.
Honor Code

1. All students are expected to follow the guidelines of the UNC honor code. In particular, students are expected to refrain from “lying, cheating, or stealing” in the academic context. If you are unsure about which actions violate that honor code, please see me or consult honor.unc.edu. (source: Department of Asian Studies)

2. Students are bound by the Honor Code in taking exams and in written work. The Honor Code of the University is in effect at all times, and the submission of work signifies understanding and acceptance of those requirements. Plagiarism will not be tolerated. Please consult with me if you have any questions about the Honor Code. (source: syllabus from section of HIST 486 offered in 2015)

3. The University of North Carolina at Chapel Hill has had a student-administered honor system and judicial system for over 100 years. The system is the responsibility of students and is regulated and governed by them, but faculty share the responsibility. If you have questions about your responsibility under the honor code, please bring them to your instructor or consult with the office of the Dean of Students or the Instrument of Student Judicial Governance. This document, adopted by the Chancellor, the Faculty Council, and the Student Congress, contains all policies and procedures pertaining to the student honor system. Your full participation and observance of the honor code is expected (honor.unc.edu). (source: syllabus from section of GEOG 67 offered in 2015)

Accommodations

The University of North Carolina at Chapel Hill facilitates the implementation of reasonable accommodations, including resources and services, for students with disabilities, chronic medical conditions, a temporary disability or pregnancy complications resulting in difficulties with accessing learning opportunities.

All accommodations are coordinated through the Accessibility Resources and Service Office. See the ARS Website for contact information: https://ars.unc.edu or email ars@unc.edu.

Relevant policy documents as they relate to registration and accommodations determinations and the student registration form are available on the ARS website under the About ARS tab.

(source: https://ars.unc.edu/faculty-staff/syllabus-statement)

Community Standards in Our Course and Mask Use.

This fall semester, while we are in the midst of a global pandemic, all enrolled students are required to wear a mask covering your mouth and nose at all times in our classroom. This requirement is to protect our educational community — your classmates and me — as we learn together. If you choose not to wear a mask, or wear it improperly, I will ask you to leave immediately, and I will submit a report to the Office of Student Conduct. At that point you will be disenrolled from this course for the protection of our educational community. Students who have an authorized accommodation from Accessibility Resources and Service have an exception. For additional information, see Carolina Together.

Title IX Resources
Any student who is impacted by discrimination, harassment, interpersonal (relationship) violence, sexual violence, sexual exploitation, or stalking is encouraged to seek resources on campus or in the community. Please contact the Director of Title IX Compliance (Adrienne Allison – Adrienne.allison@unc.edu), Report and Response Coordinators in the Equal Opportunity and Compliance Office (reportandresponse@unc.edu), Counseling and Psychological Services (confidential), or the Gender Violence Services Coordinators (gvsc@unc.edu; confidential) to discuss your specific needs. Additional resources are available at safe.unc.edu.
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<td>History of Innovation in Transport Technology: 1500-1945</td>
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<td>History of Innovation in Transport Technology: 1945-today</td>
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<td>Prep: Impacts of COVID on Transportation System</td>
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<td>Prep: Enforcement and Road Safety</td>
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<td>Environment: Climate Change and Air Pollution</td>
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<td>Transportation Planning Process 1</td>
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<td>Transportation Planning Process 2</td>
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<td>Travel Demand Modeling</td>
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<td>Transportation Finance: Current Status</td>
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<td>Transportation Finance: Future Alternatives</td>
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<td>Traffic Impact 1</td>
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<td>Traffic Impact 2 &amp; Course Wrap-up</td>
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<tr>
<td>TBD</td>
<td><strong>Final Exam</strong></td>
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Readings
** Indicates required reading.

Course Overview
- TRB’s Critical Issues in Transportation 2019

Travel Patterns
- **2017 Summary of Travel Trends Presentation**
- Pisarski, Commuting in America, 2013.

History of Innovation in Transport Technology
- Stevens, Mark R. 2017. Does compact development make people drive less? JAPA 83(1). [and responses]
- O’Sullivan, Ch 7 & 8

Shared Mobility
- **What is Shared-Use Mobility?** [http://sharedusemobilitycenter.org/what-is-shared-mobility/](http://sharedusemobilitycenter.org/what-is-shared-mobility/)


**Autonomous Vehicles**


**Goods Movement**


Container Podcast, Alex Madrigal, https://www.flexport.com/blog/alexis-madrigal-containers-podcast/

NCFRP 23.

**Congestion**


Social Justice & Equity

Transport & Health

Gender and Travel

**Road Safety**
- **Hauer, E. 2019.** Engineering Judgement and Road Safety. *Accident Analysis and Prevention* 129.

**Environment: Climate Change and Air Pollution**
- **Transportation Sector. National Climate Assessment.**  
  [https://nca2018.globalchange.gov/chapter/12/](https://nca2018.globalchange.gov/chapter/12/)
- **EPA, Carbon Pollution from Transportation** [https://www.epa.gov/air-pollution-transportation/carbon-pollution-transportation](https://www.epa.gov/air-pollution-transportation/carbon-pollution-transportation)
- **EPA, Transportation, Air Pollution, and Climate Change** [https://www.epa.gov/air-pollution-transportation](https://www.epa.gov/air-pollution-transportation)
- **Overview of Air Pollution from Transportation** [https://www.epa.gov/air-pollution-transportation/learn-about-air-pollution-transportation](https://www.epa.gov/air-pollution-transportation/learn-about-air-pollution-transportation)
- **TRB SR 298 Driving and the Built Environment: The Effects of Compact Development on Motorized Travel, Energy Use, and CO2 Emissions. Summary**  

**Transportation Planning Process**
- **Handy, S. and G. Sciara.** Geography of Urban Transportation, Ch. 5, Regional Transportation Planning.
- **Frick. K. 2014.** Pursuing the Technological Sublime: How the Bay Bridge Became a Megaproject. *Access* 44
- **Flyvbjerg, Bent. 2014.** What you should know about megaprojects and why: an overview. *Project Management Journal.*
- **FHWA briefing book, Part 1**  
A Citizen’s Guide to Transportation Decision Making
http://www.fhwa.dot.gov/planning/decisionmaking/index.htm

Travel Demand Modeling
- **Miller, H. Theories and Models in Transportation Planning. Geography of Urban Transportation**

Transportation Finance: Current Status and Challenges
- **Taylor, B. 2017. Geography of Urban Transportation Finance. Geography of Urban Transportation.**
- (Skim)National Surface Transportation Policy and Revenue Study Commission Report http://www.transportationfortomorrow.org/final_report/

Transportation Finance: Future Alternatives

Streets

• Saelens, et al. 2003. Environmental correlates of walking and cycling: findings from the transportation, urban design, and planning literatures. *Annals of behavioral medicine.*

**Parking**

• **Pierce and Shoup. 2013.** “SFPark: Pricing Parking by Demand.” *Access* 43.

• **Millard-Ball et al. 2016.** Cruising for Parking: Lessons from San Francisco. *Access* 49.


• *Access* 49. Focus on Parking.

**Traffic Impact**


• **Handy, S. R. Schneider, K. Shafizadeh.** Trip Generation for Smart Growth Projects. *Access* 45.


• Institute of Transportation Engineers. *Transportation Impact Analyses for Site Development.*

• NCHRP 08-51 Enhancing Internal Trip Capture Estimation for Mixed Use Developments http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_684.pdf

• Effect of TODs on Housing, Parking, and Travel http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_128.pdf

• (Skim) City of Charlotte, Planning and Designing Signalized Intersections using Multi-Modal Level-of-Service Standards http://charmeck.org/city/charlotte/Transportation/PlansProjects/Documents/ALOSStandardsAppendixApril05.pdf

• U.S. Environmental Protection Agency. Smart Growth: Trip Generation Tool for Mixed-Use Developments, 2011. https://sakai.unc.edu/access/content/group/36f426f2-e19f-4eb0-8c5c