PLAN 637 Public Transportation Strategy and Planning  
Spring 2015  
New East Hall, Room 102  
Tuesday, 2:00-4:45pm

Daniel A. Rodríguez  
Office: New East, Room 317  
Office Hours: Friday, 9:00-11:00AM.  
Please sign up via http://danrod.youcanbook.me/  
TA: Kyle Onda

DESCRIPTION
This course focuses on public transportation planning, with an emphasis on the long-term importance of how land development can be leveraged to improve the efficiency and effectiveness of transit service. The course is divided into three sections: 1. Introduction to transit planning; 2. Short and medium-term planning and analysis; 3. Land development planning generally as a long-term strategic choice for the success of transit. The first two sections of the course cover the historical development of transit, organizational structure, ridership trends, performance measures, and forecasting methodologies. The third section of the course examines how different types of transit service can impact land development, and how land development can be used to support transit service with a specific emphasis on transit-oriented development.

COURSE OBJECTIVES
This course will provide expertise in three core areas: measurement and analysis of transit performance, the transit cost and ridership impacts of urban form at the site, corridor, and regional levels, and connecting transit service and land use policy. By the end of the course, students will be able to:

- Identify contemporary forces influencing the provision and effectiveness of public transportation services in North America, with comparisons drawn from Europe and Latin America;
- Assess the performance of public transportation systems using different methodological approaches;
- Forecast the short-term effects of transit service expansions on transit ridership and revenue;
- Predict the influence of various settlement patterns on transit service performance;
- Identify relevant land development strategies (a mix of land management instruments, market assessments, and corridor studies) to encourage development patterns supportive of mass transit service;
- Discuss why transit-supportive urban development is the most suitable long-term strategy for the success of mass transit in contemporary urban areas.
CONNECTIONS TO OTHER COURSES
Students taking this course are expected to have taken an introductory course in urban and regional transportation and a methods course that allows them to be comfortable with using spreadsheets and interpreting output from regression analyses. The course has important conceptual links, but minimum overlap, with courses on transportation and land use planning, pedestrian and bicycle planning, and real estate finance and housing policy.

FORMAT
This course combines lectures and discussions. Local guest-speakers with significant related experience will be invited to guest lecturer. Students taking this class should expect to develop original work (a literature review or a research paper) on a transit-related issue.

REQUIREMENTS AND GRADING
Students will prepare two individual assignments, two group assignments, and a final paper (and presentation). Additional handouts will describe the assignments in detail.

Assignment 1, 10%: TRB (Individual)
Assignment 2, 20%: Transit agency performance analysis (Group)
Assignment 3, 20%: Ridership forecasting assignment (Individual)
Assignment 4, 20%: Cost estimation assignment (Individual)
Paper + Pres., 20%: Final paper + Presentation (Group)
Professionalism and Participation, 10%: (Individual)

Unless a doctor’s note is provided, late assignments will be penalized by 10 points for every day they are late.

READINGS
Required readings include significant excerpts from three books, as well as numerous reports and articles from academic researchers, consultants, and development banks. The three required books are:


Other required and optional readings are available electronically through the course’s website. Readings are organized by course sections (Parts 1-3) and within sections by week.
READINGS BY TOPIC

I. Introduction to Transit Planning

1. Issues in Transit Planning: Overview and Questions

Optional


Transit Service Characterization – Key Points

2. Evolution of Transit

Optional

Main Transit Modes

Optional

3. Service Design: Network and Route Types

Transit Service Performance Measurement

4. Transit Service Performance Measurement

Transit Service Standards

II. Transit Service Short and Medium-Term Planning and Analysis

5. Data Availability, Data Collection Techniques, and APTS

Optional

Methods for Estimating Ridership Impacts of Service Changes

Optional


6. **Costs of Providing Transit Service**


Optional


7. **Organizational Arrangements for Providing Transit Service**


Optional


**Financing Transit**

III. A Long-term Transit Strategy: Focus on Land Use

8. The Connection between Transit and Land Use


Impact of High-Capacity Transit Systems on Land Development

TCRP Report 128, Effects of TOD on Housing, Parking and Travel, National Academy Press, Washington DC.


Optional


9. Impacts of Development on Transit Demand


Optional


10. Transit service and the poor


Optional case study: LA


11. Transit Oriented Developments


12. The Transit Metropolis


Optional


**Summary Schedule of Sessions and Topics**

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<thead>
<tr>
<th>No.</th>
<th>Date</th>
<th>Part 1. Introduction to Transit Planning</th>
<th>Part 2: Transit Service Short and Medium-Term Planning and Analysis</th>
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<tr>
<td>1</td>
<td>1/13</td>
<td>TRB Conference</td>
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<tr>
<td>2</td>
<td>1/20</td>
<td>Introduction and Transit service characterization</td>
<td>Assignment 1 due; Assignment 5 (final paper) out</td>
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<tr>
<td>3</td>
<td>1/27</td>
<td>Evolution of transit; Main transit modes</td>
<td>Assignment 2 out</td>
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<tr>
<td>4</td>
<td>2/3</td>
<td>Transit service design (networks and routes); Performance measurement introduction</td>
<td></td>
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<tr>
<td>5</td>
<td>2/10</td>
<td>Transit service performance measurement, standards, and monitoring</td>
<td>Paper topic due; Assignment 3 out</td>
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- **Part 2: Transit Service Short and Medium-Term Planning and Analysis**

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<tr>
<th>No.</th>
<th>Date</th>
<th>Part 1. Introduction to Transit Planning</th>
<th>Part 2: Transit Service Short and Medium-Term Planning and Analysis</th>
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<tr>
<td>6</td>
<td>2/17</td>
<td>Data availability and collection techniques; Ridership of transit service changes</td>
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<tr>
<td>7</td>
<td>2/24</td>
<td>Cost impacts of transit service changes; Student presentations (via Webex)</td>
<td>Assignment 2 due;</td>
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Organizational arrangements for service provision; financing transit  
Assignment 4 out

SPRING BREAK

Part 3. A Long-term Transit Strategy: Focus on Land Use

The connection between transit and land use; development impacts of transit  
Assignment 3 due

Impacts of development on transit use

Transit and the poor (recorded); guest lecture  
Assignment 4 due

Transit Oriented Development

The Transit Metropolis

Student presentations  
Final paper and PPT due

OTHER ACADEMIC BUSINESS

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.”

We are committed to treating Honor Code violations seriously and urge all students to become familiar with its terms set out at http://honor.unc.edu/honor/code.html. If you have questions it is your responsibility to ask the professor about the Code’s application. All written work, and other projects must be submitted with a signature that you have complied with the requirements of the Honor Code in all aspects of the submitted work.

Missing class

Students are permitted to miss class for EXCUSABLE absences only (for details about what an excused absence is, see UNC-Chapel Hill’s attendance policy below). Students are allowed one unexcused absence. If a student has two unexcused absences, their professionalism and collaboration grade will be affected.

Laptops and cell phones

Please turn off your cellphones before entering class. If you must have your phone on during class because of an extraordinary circumstance, please let me know beforehand. Laptops are permissible only for classroom purposes. You must turn off all other programs including web browsers, emails, instant messaging, etc. If laptops are used for anything other than taking notes, I will ask you stop using your laptop during class time.

Disability

If you have a documented disability that may require assistance, you may need to contact the Academic Services office that houses the Academic Success Program for coordination in your
academic accommodations. Please contact me to discuss any accommodations that may be required to satisfy your needs.

Resources
My purpose is to help you to excel in this learning environment. Should you need further assistance beyond the help of the professor, please consult the following on-campus resources:

- The Writing Center: http://www.unc.edu/depts/wcweb/
- Academic Success Program (for students with learning disabilities (LD) and/or attention-deficit/hyperactivity disorder (ADHD): http://www.unc.edu/depts/lds/
- Learning Center: http://www.unc.edu/depts/acadserv/learn.html
- Counseling and Wellness Services: http://campushealth.unc.edu
- UNC’s Attendance Policy: http://www.unc.edu/ugradbulletin/procedures1.html#class_attendance