URBS 4/571 Urban Transportation Planning, Spring, 2010

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Course Purpose and Objectives
Metropolitan transportation systems are currently under great stress as reflected in several transportation indicators such as the increasing levels of congestion, global warming & air pollution, growing suburban sprawl, etc. Since transportation investments should be a “catalyst for elevating the quality of the urban environment,” (Irving Hand), metropolitan planners are exploring a wide variety of new and innovative strategies. This course will explore transportation policies, planning techniques, and development principles that aim to produce sustainable cities and regions.

Learning outcomes of the course will include:
- An appreciation of the need for a multi-modal transportation system
- An understanding of the linkage between transportation systems and land use
- An understanding of past and present public policies in the transportation field
- Knowledge of transportation planning principles and techniques
- Knowledge of transit planning and management principles
- Knowledge of application of environmental and sustainability principles to transportation
- Experience in communication in written and oral formats.

Course Requirements and Structure
The required course assignments will include:
- Chapter Summary Memos – At each class meeting, students will submit 2 page single spaced summaries of the assigned readings and participate in a class discussion of readings (see Course Schedule for list of readings). These summaries will be written in memo format and are due on the date the chapters are assigned. Late papers will not be accepted. The topic of these papers should be a highlight of the main issues raised in the chapter readings and your opinions of the issues raised in the assigned chapters (you may agree or disagree with the author). At beginning of each class, the summaries will form the basis for the class discussion
- Transportation Field Project/Research Paper – Graduate students will form two-person teams and examine either a field project topic (involving transportation implementation) or examine a research paper topic involving a current significant issue facing transportation. The field project/research report should be approximately 15 double-spaced pages, include table of contents, references, cover page, etc. and include a formal 10 minute Power-Point oral presentation of findings on the due date.
- Two Examinations - The course will have one mid-term and one final examination. The exams will be in-class essay format and study questions will be provided in advance.

Grade breakdown will be based on the following allocation:
GRADUATE STUDENTS: Field/Research Project (35%), Chapter Summary Memos (30%) Exams (25%) Presentation and participation (10%). UNDERGRAD. STUDENTS: Chapter Summary Memos (50%), Exams (40%), Presentation & participation (10%)
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<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Required Readings and Assignments*</th>
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<td>Introduction to the Course: Participants, Concepts, Requirements</td>
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<td>1/19</td>
<td>Spatial Evolution of American Cities and Transportation Systems</td>
<td>Hanson, Ch. 3, Dittmar, Ch. 1</td>
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<td>1/26</td>
<td>Evolution of Federal Transportation Policy-From 1956 – Present, Trends in U.S. Travel Patterns</td>
<td>Hanson, Ch. 1, Dittmar, Ch. 2</td>
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<td>2/2</td>
<td>Sustainable Transportation, Impacts of Highway and Transit Investment</td>
<td>Hanson, Chs. 9 (pp.252-273), Dittmar, Ch. 4</td>
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<td>2/9</td>
<td>Transportation Case Studies Discussion</td>
<td>Dittmar, Ch. 7-9</td>
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<td>2/16</td>
<td>Mid-Term Exam</td>
<td>MID-TERM EXAM</td>
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<td>2/23</td>
<td>Urban Transportation Planning Process (UTPP) in Metro. Areas</td>
<td>Hanson, Ch. 5</td>
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<td>3/2</td>
<td>Transportation Demand Management (TDM) and Transportation System Management (TSM)</td>
<td>Hanson, Ch. 6</td>
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<td>No Class-Spring Break</td>
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<td>3/16</td>
<td>Social and Environmental Justice Issues in Transportation</td>
<td>Hanson, ch. 12 &amp; 13</td>
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<td>Transit Planning</td>
<td>Hanson, Ch. 8</td>
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<td>3/30</td>
<td>Transit Management</td>
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<td>4/6</td>
<td>Transit-Oriented Development (TOD) Case Studies Discussion</td>
<td>Dittmar, Chs. 10 &amp; 11</td>
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<td>4/13</td>
<td>Transportation Planning Field Trip – Mankato</td>
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<td>4/27</td>
<td>Future of Urban Transportation</td>
<td>Hanson, Ch. 14</td>
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<td>5/4</td>
<td>Final Exam</td>
<td>FINAL EXAM</td>
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*Required Readings include: (1) Susan Hanson and Genevieve Giuliano. THE GEOGRAPHY OF URBAN TRANSPORTATION (3rd ed.)- Available at MSUM bookstore (3) Hank Dittmar. THE NEW TRANSIT TOWN-Available at MSUM bookstore

Supplemental Readings (available at MSUM Library: (1) Vukan Vuchic. TRANSPORTATION FOR LIVABLE CITIES. (2) Newman and Kenworthy. SUSTAINABILITY AND CITIES (3) Bernick & Cervero. TRANSIT VILLAGES IN THE 21st CENTURY. (4) Alan Black. URBAN MASS TRANSPORTATION PLANNING (5) B. Pushkarev. PUBLIC TRANSPORTATION AND LAND USE POLICY, (6) Robert Cervero. TRANSIT METROPOLIS.
URBS 4/571 : Transportation Planning  
Graduate Field Project/Research Paper Assignment and Topics (Spring 2010)

The Assignment: Breaking into teams of two students, graduate students will conduct an investigation of a transportation issue. This study can examine a current highway or transit project (field paper) or examine a current issue facing transportation in metropolitan areas (research paper). Each team will produce a 15 page, double-spaced report (including a cover page, table of contents, and references) and make a 10 minute oral PowerPoint presentation. Generally, the team report will consist of the following sections:

1. Background: Provide history and context for issue. Why is it important in transportation planning? How has the issue evolved and changed over time?
2. Current Issue: What are your findings as to the current dimensions of the issue? What planning, research and analysis has been done and what were the findings? What are the perspectives of key actors involved in this issue?
3. Project Research: Identify what aspects of the project you investigated and how (e.g. data gathering, survey, mapping, interviews, etc.)
4. Recommendations: Based on your research, what are your conclusions and recommendations?

Therefore, implement the project by forming a team, pick one topic below and, as soon as possible, schedule a 10 minute meeting with the instructor to discuss your topic and approach to the investigation.

Possible Field Project Topics:
1. Highway 14 from Mankato to Owatonna. What is status of this project, why is it needed and what have been issues involved in planning and implementation?
2. St. Peter’s Highway 169 upgrading in downtown St. Peter: What is rationale for this project? To what extent will it include traffic calming/complete streets? What are your recommendations for this corridor?
3. Bicycle Planning in Minnesota: Where are existing bike routes in Mankato and on MSU campus? What is needed to integrate these routes into a “system?”
4. Transit Implementation in Mankato: Critique existing bus system (e.g. routes, schedules, equipment, fares) and identify alternatives for improving the system and attracting new riders.
5. Bus Rapid Transit Planning in Twin Cities: What are proposals for BRT on Cedar Avenue, 35W and in other areas of Twin Cities? Why BRT over LRT - what are costs and benefits?
6. Central Corridor LRT planning connecting downtown Mpls. and St. Paul. What are funding, political, and technical issues raised by residents, merchants, U.of M., etc.? What are estimates of costs and ridership?
7. Northstar Commuter Rail Service: What are funding, political, technical issues involved in implementing the new Northstar Commuter Rail from Downtown Minneapolis to Big Lake? What are ridership projections and how is commuter rail preferable over BRT or LRT?
8. Mid-Town Bicycle Greenway (running east and west on 29th Street in Minneapolis: How has this Greenway served bicycle commuters, recreational users, transfers to bus/LRT?

Possible Research Topics:
9. Car-Sharing: Around the U.S., private companies (e.g. Zipcar, HOURCAR) have been created to facilitate car-sharing as an alternative to auto ownership. Some car-sharing companies have developed cooperative agreements with transit systems to coordinate short-term rental of cars in metropolitan areas with transit service. What is the status and the potential for car-sharing?
10. Boston’s Big Dig/Central Artery: This massive tunnel project through the heart of downtown Boston has greatly exceeded the budget and is now estimated to cost over $14 billion! Describe this transportation mega-project and explain its rationale. Does this project integrate transit or is it totally a highway project? What are the projected costs and benefits?
11. Bike and Ride: Around the country, transit systems (including MetroTransit) have provided bike parking at park & ride stations and have added bike racks to buses. What have been the lessons learned from these facilities and have we seen an increase in bike and ride as a result? How can we encourage more bike and ride use and integrate bicycle with pedestrian, auto and transit?
12. Crime, Homeland Security and Transit. What are crime prevention and security strategies that transit systems have implemented around the country? What are recommendations for improving the safety and security of transit systems?
URBS 4/571 Transportation Web Resources

Twin Cities/Minnesota Transportation Organizations/Agencies

- Metro Council: [www.metrocouncil.org](http://www.metrocouncil.org) (go to “transportation” section)
- Center for Transportation Studies at Uof M: [www.cts.umn.edu](http://www.cts.umn.edu)
- Minnesota Department of Transportation: [www.dot.state.mn.us](http://www.dot.state.mn.us)
- MnDOT-Office of Transit: [www.dot.state.mn.us/transit](http://www.dot.state.mn.us/transit)
- Minnesota Transportation Alliance – [www.transportationalliance.com](http://www.transportationalliance.com)
- St. Cloud Area Planning Organization - [www.stcloudapo.org](http://www.stcloudapo.org) – St. Cloud Metropolitan 2035 Transportation Plan
- Central Corridor LRT: [www.centralcorridor.org](http://www.centralcorridor.org) – see Draft E.I.S.
- Northstar Commuter Rail: [www.northstartrain.org](http://www.northstartrain.org)
- Duluth transit system: www.duluthtransit.com
- Metro Transit: [www.metrotransit.org](http://www.metrotransit.org)
- Southwest Transit: [www.swtransit.org](http://www.swtransit.org)
- Transit for Livable Communities: [www.tlcminnesota.org](http://www.tlcminnesota.org)

National Transportation Organizations/Agencies

- American Assoc. of State Highway Transportation Officials: [www.transportation.org](http://www.transportation.org)
- American Public Transportation Association: [www.apta.com](http://www.apta.com)
- Surface Transportation Policy Partnership: www.transact.org
- Rail-volution: [www.railvolution.com](http://www.railvolution.com)
- Portland, Oregon Transit [www.tri-met.org](http://www.tri-met.org)
- Congress for New Urbanism: www.cnu.org