

PA 5234 Urban Transportation Planning and Policy (3 credits)

Lecture section: 2:30 - 3:45 pm Monday and Wednesday

Instructor: Tao Tao, taotao@umn.edu

Instruction mode: Completely online (Link in Canvas)

Office hour: 4:00 – 5:00 Monday (Link in Canvas) or by appointment

Course Description

This course introduces the theories and applications in transportation planning and policy. By the end of this course, the students will be able to comprehend the following aspects of knowledge.

- The interaction between land use and transportation
- Transportation planning process and demand forecasting
- Travel demand management instruments
- Transportation program evaluation and financing
- Social equity in urban transportation

Course assignments and Grading

Both group and individual homework will be assigned during the semester.

ADAM (group)	15%
Land use and travel (group)	15%
TOD (group)	15%
Group evaluation (individual)	10%
Term paper (individual)	35%
Participation (individual)	10%

Key deadlines:

Term paper problem statement	Feb 6
ADAM	Feb 27
Term paper progress report 1	Feb 27
Land use and travel	Mar 13
Term paper progress report 2	Mar 20
TOD	Mar 27
Group evaluation	Mar 27
Term paper draft	Apr 3
Term paper peer review comment	Apr 17
Term paper final version	Apr 24
Term paper presentation	Apr 26 and 28

Readings

We will use three books in this class, all of them are available online from the university library.

- L&K. Levinson, D. M., & Krizek, K. J. (2018). Metropolitan transport and land use: planning for plexus and place (2nd ed.). Routledge.
- G&H. Giuliano, G., & Hanson, S. (2017). The geography of urban transportation (7th ed.). Guilford Press.
- Shoup. Shoup, D. (2017). The high cost of free parking: Updated edition. Routledge.

Lecture Schedule

Week 1	Jan 19-22
Wednesday	Course introduction <ul style="list-style-type: none">• TRB. (2018). Critical Issues in Transportation 2018. Washington, D.C.: Transportation Research Board. https://doi.org/10.17226/25314 Supplement <ul style="list-style-type: none">• Van Wee, B., & Handy, S. (2016). Key research themes on urban space, scale, and sustainable urban mobility. International Journal of Sustainable Transportation, 10(1), 18–24. https://doi.org/10.1080/15568318.2013.820998• Boarnet, M. G. (2011). A broader context for land use and travel behavior, and a research agenda. Journal of the American Planning Association, 77(3), 197–213. https://doi.org/10.1080/01944363.2011.593483
Week 2	Jan 25-29
Monday	Land use and travel measures <ul style="list-style-type: none">• L&K Chapter 6: Scheduling• Forsyth, A. (2012). NEAT-GIS (Neighborhood Environment for Active Transport-Geographic Information Systems) Protocols. Retrieved from http://designforhealth.net/wp-content/uploads/2012/12/NEAT_GIS_V5_0_26Nov2010FIN.pdf Supplement <ul style="list-style-type: none">• Day, K., Boarnet, M., Alfonzo, M., & Forsyth, A. (2006). The Irvine–Minnesota Inventory to Measure Built Environments. American Journal of Preventive Medicine, 30(2), 144–152. https://doi.org/10.1016/j.amepre.2005.09.017
Wednesday	Residential location choice <ul style="list-style-type: none">• L&K Chapter 3: Home buying
Week 3	Feb 1-5
Monday	Firm location choice <ul style="list-style-type: none">• L&K Chapter 8: Sitting
Wednesday	Accessibility (Andrew Owen) <ul style="list-style-type: none">• L&K Chapter 2: Access• Geurs, K. T., & van Wee, B. (2004). Accessibility evaluation of land-use and transport strategies: review and research directions. Journal of Transport Geography, 12(2), 127–140. https://doi.org/10.1016/j.jtrangeo.2003.10.005

Week 4	Feb 8-12
Monday	Transportation planning process <ul style="list-style-type: none">• G&H Chapter 6: Regional transportation planning
Wednesday	Travel demand forecast <ul style="list-style-type: none">• G&H Chapter 5: Theories and models in transportation planning
Week 5	Feb 15-19
Monday	ADAM lab <ul style="list-style-type: none">• Lab handout
Wednesday	Travel demand forecast (Jonathan Ehrlich)
Week 6	Feb 22-26
Monday	Demographics of urban travel <ul style="list-style-type: none">• Renne, J., & Bennett, P. (2014). Socioeconomics of Urban Travel: Evidence from the 2009 National Household Travel Survey with Implications for Sustainability. <i>World Transport Policy & Practice</i>, 20(4). Retrieved from http://www.eco-logica.co.uk/pdf/wtpp20.4.pdf• Blumenberg, E. (2009). Moving in and moving around: immigrants, travel behavior, and implications for transport policy. <i>Transportation Letters</i>, 1(2), 169–180. https://doi.org/10.3328/TL.2009.01.02.169-180
Wednesday	Land use and travel <ul style="list-style-type: none">• G&H Chapter 7: Land use, travel behavior and disaggregated travel data• Tao, T., Wu, X., Cao, J., Fan, Y., Das, K., & Ramaswami, A. (2020). Exploring the Nonlinear Relationship between the Built Environment and Active Travel in the Twin Cities. <i>Journal of Planning Education and Research</i>. https://doi.org/10.1177/0739456X20915765
Week 7	Mar 1-5
Monday	Travel management <ul style="list-style-type: none">• L&K Chapter 13: Administering, pp. 248-252• L&K Chapter 12: Assembling, pp. 208-215, 219-220 Supplement <ul style="list-style-type: none">• Cao, X., Wongmonta, S., & Choo, S. (2013). Examining the adaptation process of people’s behavioral response to high gasoline costs. <i>KSCE Journal of Civil Engineering</i>, 17(4), 815–823. article. https://doi.org/10.1007/s12205-013-0208-1
Wednesday	MnPass express lane system (Brad Larsen)
Week 8	Mar 8-12
Monday	Congestion pricing (Lee Munnich) <ul style="list-style-type: none">• FHWA. (2006). Congestion pricing: A primer. Washington, D.C. Retrieved from https://ops.fhwa.dot.gov/publications/congestionpricing/congestionpricing.pdf
Wednesday	Transportation investments and development

- G&H Chapter 9: Land use impact of transportation investments

Week 9 Mar 15-19

Monday **Transit Oriented Development**

- Reconnecting America. (2008). TOD 202: Station Area Planning. Oakland, CA. Retrieved from <http://reconnectingamerica.org/assets/Uploads/tod202.pdf>

Wednesday **Green Line extension development activities (David Lindahl)**

Week 10 Mar 22-26

Monday **Transportation finance**

- G&H Chapter 10: The geography of urban transportation finance
- Taylor, B. D., Morris, E. A., & Brown, J. R. (2019). Paved with Good Intentions: Fiscal Politics, Freeways and the 20th Century American City. Access Magazine. Retrieved from <https://www.accessmagazine.org/fall-2009/paved-good-intentions-fiscal-politics-freeways-20th-century-american-city/>

Wednesday **Value capture for transportation finance (Michael Iacono)**

- Iacono, M., Levinson, D., Zhao, Z. (Jerry), & Lari, A. (2009). Value Capture for Transportation Finance: Report to the Minnesota Legislature. Minneapolis, Minnesota. Retrieved from <https://conservancy.umn.edu/handle/11299/97658>

Week 11 Mar 29-Apr 2

Monday **Parking policy**

- Shoup Chapters 2, 5, 9, 16, 17 and 20

Wednesday **UMN parking land use (Ross Allanson)**

Week 12 Apr 5-9

Spring break

Week 13 Apr 12-16

Monday **ICT impacts**

- G&H Chapter 4: Impacts of Information and Communication Technology

Wednesday **Autonomous Vehicle (Frank Douma)**

Week 14 Apr 19-23

Monday **Equity planning**

- L&K Chapter 10: Evaluation
- G&H Chapter 13: Social equity and urban transportation

Wednesday **Transportation, energy, and environment**

- G&H Chapter 11: Transportation and environment impacts and policy
- G&H Chapter 12: Transportation and energy

Week 15	Apr 26-30
Monday	Presentation Part 1
Wednesday	Presentation Part 2
Week 16	May 3
Monday	Wrap up
	<ul style="list-style-type: none">• G&H Chapter 14: Look into the future

Student Conduct Code

The University seeks an environment that promotes academic achievement and integrity, that is protective of free inquiry, and that serves the educational mission of the University. Similarly, the University seeks a community that is free from violence, threats, and intimidation; that is respectful of the rights, opportunities, and welfare of students, faculty, staff, and guests of the University; and that does not threaten the physical or mental health or safety of members of the University community.

As a student at the University you are expected to adhere to Board of Regents Policy: Student Conduct Code. To review the Student Conduct Code, please see:

https://regents.umn.edu/sites/regents.umn.edu/files/2019-09/policy_student_conduct_code.pdf

Note that the conduct code specifically addresses disruptive classroom conduct, which means "engaging in behavior that substantially or repeatedly interrupts either the instructor's ability to teach and/or a student's ability to learn." The classroom extends to any setting where a student is engaged in work toward academic credit or satisfaction of program-based requirements or related activities.

Scholastic Dishonesty

You are expected to do your own academic work and cite sources as necessary. Failing to do so is scholastic dishonesty. Scholastic dishonesty means plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; altering, forging, or misusing a University academic record; or fabricating or falsifying data, research procedures, or data analysis. (Student Conduct Code: https://regents.umn.edu/sites/regents.umn.edu/files/2019-09/policy_student_conduct_code.pdf) If it is determined that a student has cheated, the student may be given an "F" or an "N" for the course, and may face additional sanctions from the University. For additional information, please see: <https://policy.umn.edu/education/instructorresp>.

Sexual harassment, sexual assault, stalking and relationship violence

The University prohibits sexual misconduct, and encourages anyone experiencing sexual misconduct to access resources for personal support and reporting. If you want to speak confidentially with someone about an experience of sexual misconduct, please contact your campus resources including the Aurora Center, Boynton Mental Health or Student Counseling Services (<https://eoaa.umn.edu/report-misconduct>). If you want to report sexual misconduct, or have questions about the University's policies and procedures related to sexual misconduct, please contact your campus Title IX office or relevant policy contacts.

Instructors are required to share information they learn about possible sexual misconduct with the campus Title IX office that addresses these concerns. This allows a Title IX staff member to reach out to those who have experienced sexual misconduct to provide information about personal support resources and options for investigation. You may talk to instructors about concerns related to sexual misconduct, and they will provide support and keep the information you share private to the extent possible given their University role.

https://regents.umn.edu/sites/regents.umn.edu/files/2019-09/policy_sexual_harassment_sexual_assault_stalking_and_relationship_violence.pdf

Equity, Diversity, Equal Opportunity, and Affirmative Action

The University provides equal access to and opportunity in its programs and facilities, without regard to race, color, creed, religion, national origin, gender, age, marital status, disability, public assistance status, membership or activity in a local commission created for the purpose of dealing with discrimination, veteran status, sexual orientation, gender identity, or gender expression. For more information, please consult Board of Regents Policy: https://regents.umn.edu/sites/regents.umn.edu/files/2019-09/policy_equity_diversity_equal_opportunity_and_affirmative_action.pdf.

Disability Accommodations

The University views disability as an important aspect of diversity, and is committed to providing equitable access to learning opportunities for all students. The Disability Resource Center (DRC) is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations.

- If you have, or think you have, a disability in any area such as, mental health, attention, learning, chronic health, sensory, or physical, please contact the DRC office on your campus (UM Twin Cities - 626.1333) to arrange a confidential discussion regarding equitable access and reasonable accommodations.
- Students with short-term disabilities, such as a broken arm, can often work with instructors to minimize classroom barriers. In situations where additional assistance is needed, students should contact the DRC as noted above.
- If you are registered with the DRC and have a disability accommodation letter dated for this semester or this year, please contact your instructor early in the semester to review how the accommodations will be applied in the course.

- If you are registered with the DRC and have questions or concerns about your accommodations please contact your (access consultant/disability specialist).

Mental Health and Stress Management

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance and may reduce your ability to participate in daily activities. University services are available to assist you. You can learn more about the broad range of confidential mental health services available on campus via the Student Mental Health Website: <http://www.mentalhealth.umn.edu>.

Reference

Cao, J. (2019). PA 5234 Urban Transportation Planning and Policy Syllabus (2020 Spring). University of Minnesota.

University of Minnesota (2020). Recommended Policy Statements for Syllabi. Retrieved from: <https://policy.umn.edu/education/syllabusrequirements-appa>