

San José State University
Lucas Graduate School of Business
Master of Science in Transportation Management
MTM 250 – Transportation and the Environment
Fall B - 2018

Course and Instructor Contact Information

Instructor:	Joseph Kott, PhD, AICP, PTP
Office Location:	210 N. Fourth Street, 4 th Floor
Telephone:	650-814-0961
Email:	Joseph Kott, PhD, AICP, PTP
Office Hours:	By appointment
Class Day/Time:	Mondays, 5:30 pm – 9:30 pm
Classroom:	Join class at specified video-conferencing locations or via SJSU's online Zoom videoconferencing (For in-person class locations, contact the MSTM Program Coordinator, Michelle Waldron, at michelle.waldron@sjsu.edu .) For those who use Zoom, the meeting URL is as follows: https://sjsu.zoom.us/j/254575625
Course website:	SJSU Canvas site for MTM 250, Fall B 2018

Course Format

Attending Class Sessions

Students attend class sessions by going in person to one of the MTM program videoconferencing sites or by joining online using Zoom, SJSU's online meeting application.

MTM Class Videoconferencing Sites:

Videoconference sites are located at the SJSU Lucas School of Business, Caltrans district offices, and at other participating agencies. For information about these options, contact the Program Coordinator, Michelle Waldron, at michelle.waldron@sjsu.edu.

Online Access via Zoom:

You can join class using SJSU Zoom from any location, as long as you:

- Are in a quiet room without distractions (e.g., no family members or colleagues walking through or asking questions)
- Have stable internet access
- Use a video camera and good quality microphone so that you are seen as well as heard
- Follow good "meeting etiquette" principles (one such list: <https://blog.gotomeeting.com/7-rules-virtual-meeting-etiquette-every-professional-know/>)

To access class sessions by Zoom, click on the following link from your computer or tablet:

<https://sjsu.zoom.us/j/254575625>

Plan to join at least ten minutes before 5:30 pm, to make sure you are ready when class begins. (The very first time you join from a computer or device, allow extra time for set-up.)

The university has many useful tutorials on how to use Zoom here: <http://www.sjsu.edu/ecampus/teaching-tools/zoom/index.html>

Other Matters

Course materials such as syllabus, handouts, notes, and assignment instructions can be found on the course site on SJSU Canvas. You are responsible for regularly checking this site to learn of any updates.

Students must have regular access to email and the internet to communicate with the instructor, submit assignments, and engage in other class activities.

Students attend class sessions via live video conferencing at the site most convenient to them, with sites at the San Jose State Lucas Graduate School of Business, Caltrans District headquarters, and other participating agencies.

Students must have regular access to email and the internet in order to communicate with the instructor, submit assignments, and engage in other class activities.

Course Description

Students will be introduced to the complexities in the relationship of transportation and the environment. An important theme of this class is that real world trade-offs are inherent in addressing transportation as an important cause of environmental degradation. Solutions considered have technical, socio-economic, and cultural impediments. Students will learn from case studies of success in creating more environmentally-benign

forms of access and mobility. Students will contribute their own ideas in class discussions and a term paper on innovation in transportation policy to address environmental concerns.

MSTM Program Goals:

Goal One: Management of Transportation Organizations

Develop a system-level and global perspective on the management of transportation organizations.

Goal Two: Transportation Policy

Develop an awareness of the transportation policy environment, including fiscal mechanisms, legislative structures, and intergovernmental coordination.

Goal Three: Leadership

Develop potential for leadership in transportation organizations.

Goal Four: Communication Skills

Develop written and oral communication skills and techniques.

Goal Five: Analytical Skills

Develop ability to analyze management issues and situations using appropriate conceptual approaches.

Goal Six: Information Technology

Develop basic understanding of commonly used information technology applications used by the transportation industry.

Course Learning Outcomes

Upon completion of the course, students will be able to do the following:

1. Explain the connection between transportation system, air quality, water quality, human health, and the livability of communities.
2. Describe how motorized transportation, despite its many social and economic benefits, comes at the cost of environmental (and, arguably, socio-economic) sustainability.
3. Discuss the importance of land use in relation to the environmental impacts of transportation.
4. Explain the concept of environmental justice as it applies to the effects of transport system.
5. Evaluate the effectiveness of a variety of measures to reduce the environmental impacts of transport.
6. Envision policy innovations that point the way to more sustainable transport systems, cleaner air and water, more livable communities, and hence more sustainable cities and regions.
7. Evaluate the relationship between our transportation systems, natural resources, urban land use, and human health and well-being.

Required Texts/Readings

Textbooks

Course readings will consist of two reports be purchased online in hard copy form. may be downloaded from the MTM 250 class site on Canvas in pdf format.

Urban Land Institute. (July 2009). *Moving cooler: An analysis of transportation strategies for reducing greenhouse gas emissions*. Washington, D.C.: Urban Land Institute. ISBN 9780874201185

Cambridge Systematics (March 2013). *of the built environment on transportation: energy use, greenhouse gas emissions, and other factors.*: Cambridge Systematics.

Other Readings

All the articles and one of reports above will be uploaded to the course web site for students to download. All course materials will be accessible to the extent possible. If you have any questions or concerns about the accessibility of course readings and other course-related materials, please contact the instructor as soon as possible so that your needs can be met.

Bennett, V., Smith, W., & Betts, M. (2011). *Toward Understanding the Ecological Impacts of Transportation Corridors*, 1-17. Washington, DC: US Department of Agriculture, Forest Service. Pacific Northwest Research Station.

Cambridge Systematics (March 2013). *Effects of the built environment on transportation: energy use, greenhouse gas emissions, and other factors*. Cambridge, MA: Cambridge Systematics.

Falconer, R. & Newman, P. (2008). Transport policy for a fuel constrained future: An overview of options. *World Transport Policy & Practice* 14(3), 32-47

Gallagher, S. & Collantes, G. (2008). *Analysis of policies to reduce oil consumption and greenhouse-gas emissions from the U.S. transportation sector*. Cambridge, MA: John F. Kennedy School of Government, Harvard University.

Hankey, S. & Marshall, J.D. (2010). Impacts of urban form on future US passenger-vehicle greenhouse gas emissions. *Energy Policy* 38, 4880–4887.

Lee S. and Lee, B. (2014). The influence of urban form on GHG emissions in the U.S. household sector. *Energy Policy* 68, 534–549.

Litman, T. (2017). *Smart transportation emission reduction strategies*. Victoria, B.C.: Victoria Transport Policy Institute.

Litman, T. (2017). *If health matters: Integrating public health objectives in transportation planning*. Victoria, B.C.: Victoria Transport Policy Institute.

Maizlish, N., Woodcock, J., Co, S.; Ostro, B., Fanai, A. and Fairley, D. (2013). Health co-benefits of transportation-related reductions in greenhouse gas reductions in the San Francisco Bay Area. *American journal of public health*, 103(4), 703-9.

Marcantonio, R., Golub, A, Alex Karner, A., and Nelson, L. (2017). Confronting Inequality in Metropolitan Regions: Realizing the Promise of Civil Rights and Environmental Justice in Metropolitan Transportation Planning. *Fordham Urban Law Journal*, 44(4), 1017-1077.

Nevue Ngan Associates & Sherwood Design Engineers. (2009). *San Mateo County sustainable green streets and parking lots design guidebook*.

Newman, P. & Kenworthy, J. (2006). Urban design to reduce automobile dependence. *Opolis* 2(1), 35-52.

Nixon, H. & Saphores, J.D. (2007). *Impacts of motor Vehicle operation on water quality in the United States – Clean-up costs and policies*. Irvine, CA: University of California Irvine.

Reyna, J., Chester, M., Ahn, S. and Fraser, A. (2015) Improving the accuracy of vehicle emissions profiles for urban transportation greenhouse gas and air pollution inventories. *Environmental science & technology* 49, 369–376.

Library Liaison

The Library Liaison for the Lucas Graduate School of Business is Christa Bailey (christa.bailey@sjsu.edu).

Course Requirements and Assignments

Students are required to complete several assignments in MTM 250. These included two Reading Memos, a Mid-term Examination, a Final Examination, and a Term Paper. Timely completion of these assignment is expected of all student. Class participation is highly encouraged.

Reading Memos

These will cover readings for the past three weeks, including the week of the class by which the Reading Memo is due. I will look for evidence that you have not only done the readings but have reflected on their meaning. While you are free to agree or disagree with the author(s), I hope to see that you have added value to your reading through interpretation and discussion of what you have learned. I expect that these Reading Memos will not be longer than 2 pages, either double-spaced or with a space and a half between lines. Either 11-point or 12-point font is acceptable. These Reading Memos support all seven MTM 250 Learning Outcomes since they pertain collectively to all the subject matter in the course.

Term Paper

This comprises a term paper on one of the topics listed below. If you wish to write your term paper on another topic, discuss your idea with me in advance. The Term Paper will present an argument or thesis you wish to develop, the evidence for your position, and the implications for policy. Each paper should have a bibliography of readings upon which your work was based. These papers will typically be from 15 to 20 pages in length. The Term Paper will support one or more of the seven MTM 250 Learning Outcomes, the specific one(s) depending on Term Paper topic chosen.

The list of topics from which to choose is as follows:

- ❖ Low or no emissions vehicles: Alternatives and prospects
- ❖ Urban planning and design measures to reduce transportation-related air and water pollution
- ❖ Transit-oriented development
- ❖ Green streets, green parking lots: Applicability and prospects
- ❖ Issues in adaptation of the transportation system in response to climate change

- ❖ Car-free streets, districts, and cities: Examples and prospects
- ❖ Peak oil: Evidence and implications
- ❖ Post-carbon cities and regions: Alternatives and prospects
- ❖ Replacing physical travel with virtual presence: Examples and prospects
- ❖ Water pollution emissions from the transportation sector: Evidence and mitigation
- ❖ The health effects of transportation-related air emissions
- ❖ Ways to reduce the carbon footprint of travel by personal motor vehicle
- ❖ Public transit for livable cities: Bus rapid transit (BRT), light rail, streetcars, commuter rail, and metro systems
- ❖ Environmental justice implications of urban and regional transport policy

Students may select and research another topic with prior approval of the instructor.

Mid-Term Examination

The Mid-Term Examination will cover MTM 250 course material for the first half of the course. Students will choose four (4) out of six (6) Mid-Term Examination questions to answer. The answer to each question should be no more than one (1) to two (2) pages in length. The Mid-Term Examination will be available on the MTM 250 class site on Canvas. The Mid-Term Examination will support one or more of the seven MTM 250 Learning Outcomes, the specific one(s) depending on questions chosen.

Final Examination

Final Examination will cover MTM 250 course material for entire course but will emphasize material presented in the second half of the course. Students will choose four (4) out of six (6) Final Examination questions to answer. The answer to each question should be no more than one (1) to two (2) pages in length. The Final Examination will be available on the MTM 250 class site on Canvas. The Final Examination will support one or more of the seven MTM 250 Learning Outcomes, the specific one(s) depending on questions chosen.

Citation style

It is important to properly cite any references you use in your assignments. There are several good options, including *American Psychological Association (APA) Publication Manual*, Sixth Edition, *the Modern Language Association (MLA) Style Manual and Guide*, and the *Chicago Manual of Style*. The Purdue University Online Writing Lab (Purdue OWL) has excellent condensed guides to each citation method. See <https://owl.english.purdue.edu/owl/section/2/> for more information.

Grading Information

Grading rubrics will be posted on Canvas at least two (2) weeks before the due date for each assignment except for the Term Paper. The rubric for the Term Paper will be posted on Canvas at least four (4) weeks before the due date.

GRADE DISTRIBUTION

Task	% of Course Grade	Course Learning Objective(s)
MID-TERM EXAM	20%	CLO 1,2,4,5,6, and 7
FINAL EXAM	20%	CLO 1,2,3,4,5,6, and 7
TERM PAPER	40%	One or more of the 7 MTM 250 CLOs
READING MEMO #1	10%	CLO 1,2,4,5,6, and 7
READING MEMO #2	10%	CLO 1.2.3.4.5.6 and.7
TOTAL	100%	

Determination of Grades

- The letter grade calculation is shown in the table below:

Percentage	Grade
94% and above	A
90% - 93%	A-
87% - 89%	B+
84% - 86%	B
80% - 83%	B-
77% - 79%	C+
73% - 76%	C
70% - 72%	C-
67% - 69%	D+
63% - 66%	D
60% - 62%	D-
below 60%	F

Students who keep up with the readings will benefit most from the course.

Other Grading/assignment issues

Late assignments (those turned in after the due date) will not be accepted for full credit unless students have a compelling reason, for example illness or family emergency. A 10% grade reduction will be applied for assignments turned in up to 24 hours late, 20% for the second 24 hours late, and 30% for the third 24-hour period late. After that, no assignment will be accepted without a compelling reason for the lateness. If you

expect you will not be able to complete an assignment on time and you let me know well before the due date, it may be possible to make alternative arrangements that will reduce the grade penalty for lateness.

Grading Rubrics

Reading Memo -

Demonstrates

- 1) that the student's answer was informed (up to 3.75 points);
- 2) and pertinent (up to 3.75 points).
= up to 7.5 points.
- 3) that the student's answer was logical (up to 1.25 points);
- 3.) and well-written (up to 1.25 points).
= up to 2.5 points.

Mid-Term Examination -

For Each Question Answered:

Demonstrates

- 1) that the student's answer was informed (up to 1.75 points);
- 2) and pertinent (up to 1.75 points).
= up to 3.5 points.
- 3) that the student's answer was logical (up to 0.75 points);
- 4) and well-written (up to 0.75 points)
= up to 1.5 points.

Final Examination –

For Each Question Answered:

Demonstrates

- 1) That the student answer was well-informed (up to 1.5 points);
- 2) and pertinent (up to 1.5 points).
= up to 3.0 points.
- 3) That the student answer was logical (up to 0.5 points];
- 4) and well-written (up to 0.5 points).
= up to 1.0 points.

Term Paper –

Demonstrates

- 1) That the student paper was informed (up to 15 points);
- 2) and well-researched (up to 15 points).
= up to 30.0 points.
- 3) That the student paper was well-organized (up to 2.5 points),

- 4) And well-written (up to 7.5 points).
= up to 10.0 points.

Classroom Protocol for the Lucas College Graduate School of Business

<http://www.sjsu.edu/cob/Students/policies/index.html>

University Policies

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs' [Syllabus Information web page](http://www.sjsu.edu/gup/syllabusinfo/) at <http://www.sjsu.edu/gup/syllabusinfo/>"

Lucas College and Graduate School of Business Mission

We are the institution of opportunity in Silicon Valley, educating future leaders through experiential learning and character development in a global business community and by conducting research that contributes to business theory, practice and education.

Week-By-Week Course Schedule

MTM 250: Transportation and the Environment - Fall B 2017

The course schedule listed below is tentative and it is likely that it will be updated as the course progresses. Assignment deadlines, however, are unlikely to change.

Date (Semester Week)	Topic	Readings	Assignments Due
Oct 10 (Week 1)	Introductions; Course Overview; Viewing the Film <i>Sprawling from Grace</i>		
Oct 17 (Week 2)	Carbon Emission from Transport: Problem Definition and Policy Alternatives	Falconer, R. & Newman, P. (2008). Transport policy for a fuel constrained future: An overview of options. <i>World Transport Policy & Practice</i> 14(3), 32-47. Gallagher, S. & Collantes, G. (2008). <i>Analysis of policies to reduce oil consumption and greenhouse-gas emissions from the U.S. transportation sector</i> . Cambridge, MA: John F. Kennedy School of Government, Harvard University.	
Oct 24 (Week 3)	Carbon Emission from Transport: Problem Definition and Policy Alternatives (continued)	Urban Land Institute. (2009). <i>Moving cooler: An analysis of transportation strategies for reducing greenhouse gas emissions</i> . Washington, D.C.: ULI.	

Date (Semester Week)	Topic	Readings	Assignments Due
Oct 31 (Week 4)	<p>Ecological Impacts of Transportation Corridors</p> <p>Air Pollution from Ground Transportation</p> <p>Video clips on <i>Banff Wildlife Crossing, Highway Crossing Structures for Wildlife in Utah, Animal Bridges: Lifesaving Wildlife Crossings, and China's Toxic Smog Problem</i></p> <p>Quiz #1 (take home) uploaded to Canvas</p>	<p>Bennett, V., Smith, W., & Betts, M. (2011). Toward Understanding the Ecological Impacts of Transportation Corridors, 1-17.</p> <p>Reyna, J., Chester, M., Ahn, S. and Fraser, A. (2015) Improving the accuracy of vehicle emissions profiles for urban transportation greenhouse gas and air pollution inventories. <i>Environmental science & technology</i> 49, 369–376.</p>	
Nov 7 (Week 5)	Transportation Emissions Reductions Strategies	<p>Newman, P. & Kenworthy, J. (2006). Urban design to reduce automobile dependence. <i>Opolis</i> 2(1), 35-52.</p> <p>Litman, T. (2017). <i>Smart transportation emission reduction strategies</i>. Victoria, B.C.: Victoria Transport Policy Institute.</p>	Reading Memo #1 Due via upload to MTM 250 class site by 11:59 pm on SJSU Canvas by Wednesday, November 7 th

Date (Semester Week)	Topic	Readings	Assignments Due
Nov 14 (Week 6)	Land Use, Urban Design, and Greenhouse Gas Emissions	<p>Cambridge Systematics (March 2013). <i>Effects of the built environment on transportation: energy use, greenhouse gas emissions, and other factors</i>. Cambridge, MA: Cambridge Systematics.</p> <p>Hankey, S. & Marshall, J.D. (2010). <i>Impacts of urban form on future US passenger-vehicle greenhouse gas emissions</i>, 4880–4887.</p> <p>Lee, S. & Lee, B. (2014). <i>The influence of urban form on GHG emissions in the U.S. household sector</i>, <i>Energy Policy</i> 68, 534–549.</p>	Take Home Mid-Term Due via upload to MTM 250 class site on SJSU Canvas by 11:59 pm on Wednesday, November 21 st
November 21 (Week 7)	THANKSGIVING WEEK – NO CLASS		
Nov 28 (Week 8)	Water Pollution and Storm Water Runoff	<p>Nevue Ngan Associates & Sherwood Design Engineers. (2009). <i>San Mateo County sustainable green streets and parking lots design guidebook</i>.</p> <p>Nixon, H. & Saphores, J.D. (2007). <i>Impacts of motor Vehicle operation on water quality in the United States – Clean-up costs and policies</i>.</p>	Reading Memo #2 Due via upload to MTM 250 class site on SJSU Canvas by 11:59 pm on Wednesday, November 28 th

Date (Semester Week)	Topic	Readings	Assignments Due
Dec 5 (Week 9)	Transportation and Public Health / Transportation and Environmental Justice	<p>Litman, T. (2017). <i>If health matters: Integrating public health objectives in transportation planning</i>. Victoria, B.C.: Victoria Transport Policy Institute.</p> <p>Maizlish, N., Woodcock, J., Co, S.; Ostro, B., Fanai, A. and Fairley, D. (2013). Health co-benefits of transportation-related reductions in greenhouse gas reductions in the San Francisco Bay Area, <i>American journal of public health</i>, 103(4), 703-9.</p>	
December 12 (Week 10)	<p>Transportation and Environmental Justice</p> <p>Video lecture by Robert B. Bullard on <i>The Quest for Environmental Justice: Human Rights</i></p>	<p>Marcantonio, R., Golub, A, Alex Karner, A., and Nelson, L. (2017). Confronting Inequality in Metropolitan Regions: Realizing the Promise of Civil Rights and Environmental Justice in Metropolitan Transportation Planning. <i>Fordham Law Journal</i>, 44(4),1017-1077.</p>	Final Exam Due via upload to MTM 250 class site on SJSU Canvas by 11:59 pm on M 12 th Wednesday, December 12 th
December 19 (Week 11)	Summing Up	Review of Course Readings	Term Paper Due on Wednesday, December 19, 2018 by 11:59 pm via upload to MTM 250 site on SJSU Canvas

Disclaimer

This syllabus is intended as a class guide and is designed to be as accurate as possible. It is likely, however, that this syllabus may change during the semester as class needs change. Any changes will be discussed in class with as much notice as possible. Since our course only meets once per week, e-mail and the class web site in Canvas will be used as the primary form of communication. If you have difficulty with e-mail, or limited access, please let me know so that we can arrange an alternative means of communication.