# San José State University
# Lucas Graduate School of Business
# Master of Science in Transportation Management
# MTM 201: Transportation Systems and Society
# Fall A 2025

## Course and Instructor Contact Information

| | |
|---|---|
| **Instructors:** | Dr. Kevin Fang \| fangk@sonoma.edu<br>Dr. Jamey Volker \| jvolker@ucdavis.edu |
| **Office Hours:** | See appointment sign-up links on Canvas |
| **Class Day/Time:** | Tuesdays, 5:30 – 9:30 pm, on July 29, August 5, August 12, August 19, August 26, September 2, September 9, September 16, September 23, and September 30 |
| **Course website:** | Canvas (http://sjsu.instructure.com) |

## Course Format

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.

Students attend class sessions online using Zoom, SJSU's online meeting application.

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/)

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: https://www.sjsu.edu/learnanywhere/how-tos/zoom/index.php

# Course description

Core transportation knowledge and systems thinking. Characteristics of travel modes and infrastructural elements that produce transportation systems; public, private, and nonprofit actors involved in transportation; transportation systems as levers toward achieving economic vitality, social equity, environmental sustainability, and community goals; and key challenges transportation system managers will face in the coming decade. Note: this course satisfies the GWAR for the MSTM program.

# MSTM Program Learning Goals:

(*Note:* Not all program learning goals are covered in every course)

**Goal 1: Transportation Systems and Society:** Craft management decisions that integrate knowledge of multi-modal transportation, social, and, environmental systems

**Goal 2: Innovation:** Develop innovative solutions to transportation management challenges

**Goal 3: Leadership:** Develop high-impact leadership styles and competencies (traits, skills, behaviors)

**Goal 4: Communications:** Communicate effectively with a diverse workforce and citizenry

**Goal 5: Analytical skills:** Identify and evaluate transportation management issues using appropriate data and methods

# Course Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Describe the primary modes of transportation and their functions, current levels of use, and likely levels of use in the future

2. Explain how "the transportation system" functions as interacting systems of infrastructure, services, and travel modes

3. Explain how transportation system performance is influenced by natural and man-made environments

4. Explain how transportation systems serve as tools to achieve fundamental social goals such as equity, economic vitality, and environmental health

5. Describe the roles of the many actors in the "transportation ecosystem," including public agencies from the local to federal and international levels, private sectors firms providing transportation services and infrastructure, and individual travelers and shippers

6. Describe the key challenges facing transportation managers in the coming decade, including automated/connected, shared, and electric vehicles, and management strategies to respond to this new world

7. Describe the importance of innovation in technology and in organizational management practices in the transportation sector

8. Use library and online resources to identify relevant professional and scholarly literature on transportation topics

# Required Texts/Readings

Article readings will be posted as links (see Course Schedule below or Canvas) or files on the course Canvas site.

**Writing Handbook**

We will also utilize the following writing handbook that will be of use throughout the program.

Kate L. Turabian. *A Manual for Writers of Research Papers, Theses, and Dissertations.* 9th ed. Chicago: University of Chicago Press, 2018.

New copies can be purchased for about $15.

# Library Liaison

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

# Course Requirements and Assignments

This course is taught as a seminar. Students are expected to engage with the course material and participate in class discussions. Please be respectful of your classmates during class and be aware of what is captured by your camera and microphone. Students course grades will be weighted based on the following assignments:

| Task | % of Course Grade | Learning Objectives Addressed | Due Date |
|---|---|---|---|
| **Discussion and Skills Assignments** | 30% | | |
| 1) Streets of the World | | 1, 2, 3, 4 | Tuesday, August 5 (by start of class) |
| 2) Intro to the Turabian Citation Style | | 8 | Friday, August 22 by 11:59pm |
| 3) Travel Behavior Interviews | | 1, 3, 4, 5 | Tuesday, August 26 (by start of class) |
| 4) Finding Scholarly Literature | | 8 | Friday, September 5 by 11:59pm |
| 5) End of Semester Reflections | | 1, 2, 3, 4, 5, 6, 7 | Tuesday, October 7 by 11:59pm |
| **Presentation** | 10% | 2, 3, 4, 5, 6, 7 | Variable dates |
| **Problems/Solutions Paper** | 20% | 2, 3, 4, 5, 8 | Friday, September 26 by 11:59pm |
| **Exams** | 40% | | |
| **Test 1** | | 1, 2, 3, 4, 5, 6, 7 | Tuesday, August 27 |
| **Test 2** | | 1, 2, 3, 4, 5, 6, 7 | Tuesday, September 24 |

**Determination of Grades**

Letter grades for the course will assigned based on the cumulative total of points earned on assignments and the final exam according to the following table:

**Final grade determination**

| Percentage | Grade |
|---|---|
| 93.33% and above | A |
| 89.5% to 93.32% | A- |
| 86.67% to 89.49% | B+ |
| 83.33% to 86.66% | B |
| 79.5% to 83.32% | B- |
| 76.67% to 79.49% | C+ |
| 73.33% to 76.66% | C |
| 69.5% to 73.32% | C- |
| 66.67% to 69.49% | D+ |
| 63.33% to 66.66% | D |
| 59.5% to 63.32% | D- |
| Below 59.5% | F |

**Late papers**

Late papers are accepted with a 10% deduction once late, plus an additional 5% deduction per additional business day an assignment is late, with a maximum deduction of 40%.

# University Policies

Per University Policy S16-9 http://www.sjsu.edu/senate/docs/S16-9.pdf), information relevant to all courses, such as academic integrity, accommodations, dropping and adding, consent for recording of class, etc. is available on Office of Graduate and Undergraduate Programs' Syllabus Information web page at http://www.sjsu.edu/gup/syllabusinfo/. Make sure to visit this page, review, and be familiar with these university policies and resources.

# Course Schedule and Readings

*Note*: This schedule is subject to change with fair notice. Changes will be noted in class and on Canvas.

## Class 1

**Introductions**
**Transportation Basics**
**Key transportation trends**

- US Department of Transportation - Bureau of Transportation Statistics, "Pocket Guide To Transportation," January 2014.
  https://data.bts.gov/stories/s/3wd5-w3z4 or https://rosap.ntl.bts.gov/view/dot/73054

## Class 2

**Transportation-Land Use Connection**
**Discussion: Streets of the world**
**Streets over time**

- Bryan Morris, "From Horse Power to Horsepower," *Access Magazine*, Spring 2007, https://www.accessmagazine.org/wp-content/uploads/sites/7/2016/07/Access-30-02-Horse-Power.pdf
- Reid Ewing and Robert Cervero. "Travel and the built environment: A meta-analysis." Journal of the American planning association 76, no. 3 (2010): 265-294.

## Class 3

**Introduction to Travel Behavior**
**Finding and Accessing Library Resources**
**Transportation Externalities: Natural environment**

- Giovanni Circella, Kate Tiedeman, Susan Handy, Farzad Alemi, and Patrica Mokhtarian. "What Affects U.S. Passenger Travel? Current Trends and Future Perspectives." Davis, CA: National Center for Sustainable Transportation, 2016. https://escholarship.org/uc/item/2w16b8bf (Pages 1-28)

## Class 4

**Transportation Externalities: Congestion**
**Safety, part 1**

- Transportation For America, "The Congestion Con," 2020. http://t4america.org/wp-content/uploads/2020/03/Congestion-Report-2020-FINAL.pdf
- Susan Handy and Marlon Boarnet, "Impact of Highway Capacity and Induced Travel on Passenger Vehicle Use and Greenhouse Gas Emissions." Sacramento, CA: California Air Resources Board, 2014. https://ww3.arb.ca.gov/cc/sb375/policies/hwycapacity/highway_capacity_brief.pdf
- Alissa Walker, "Oslo saw zero pedestrian and cyclist deaths in 2019. Here's how the city did it," *Curbed*, January 3, 2020. https://www.curbed.com/2020/1/3/21048066/oslo-vision-zero-pedestrian-cyclist-deaths
- David Zipper, "US Traffic Safety Is Getting Worse, While Other Countries Improve," CityLab, November 3, 2022. https://www.bloomberg.com/news/features/2022-11-03/why-us-traffic-safety-fell-so-far-behind-other-countries

# Class 5

**Discussion: Travel behavior interviews**
**Safety, part 2**
**Transportation Externalities: Road Building**

- Andrew Hawkins, "Truck Bloat is killing us, new crash data reveals," *The Verge, November 14, 2023,* https://www.theverge.com/2023/11/14/23960624/truck-suv-hood-height-pedestrian-death-report-iihs.
- Emma Fitzsimmons, "More Pedestrians and Cyclists are Dying in N.Y.C. Drivers are Often to Blame. March 15, 2020.

- David Phillips, "Hiring Managers Biased Against People Who Live Farther Away," *Harvard Business Review,* December 10, 2018, https://hbr.org/2018/12/research-hiring-managers-are-biased-against-people-with-longer-commutes.
- Michael Manville, "Longer View: The Fairness of Congestion Pricing," *Transfers Magazine*, Spring 2019. https://transfersmagazine.org/longer-view-the-fairness-of-congestion-pricing/

# Class 6

**Midterm Exam**
**Transit, part 1**

- Jarrett Walker, "Does Elon Musk understand urban geometry?," July 21, 2016, https://humantransit.org/2016/07/elon-musk-doesnt-understand-geometry.html.
- Robert Cervero, "Informal Transit. Learning from the Developing World," *Access*, 2021. http.s://www.accessmagazine.org/spring-2001/informal-transit-learning-developing-world/

# Class 7

**Transit, part 2**
**Transportation Revolutions, part 1: Electric Vehicles**

# Class 8

**Active Transportation**
**Transportation Revolutions, part 2: Ridehailing**

- Alta Planning and Design, "Understanding the "Four Types of Cyclists," August 10, 2017, https://blog.altaplanning.com/understanding-the-four-types-of-cyclists-112e1d2e9a1b
- Regina Clewlow, "Disruptive Transportation: The Adoption, Utilization, and Impacts of Ride-Hailing in the United States," *Transfers Magazine*, Spring 2019, https://transfersmagazine.org/disruptive-transportation-ride-hailing/

# Class 9

**Transportation Revolutions, part 3: Autonomous Vehicles**

- Bloomberg Philanthropies/Aspen Institute. "Taming the Autonomous Vehicle: A Primer for Cities." 2017. https://www.bbhub.io/dotorg/sites/2/2017/05/TamingtheAutonomousVehicleSpreadsPDF.pdf
- Tripp Mickle, Cade Metz, and Yiwen Lu, "G.M.'s Cruise Moved Fast in the Driverless Race. It Got Ugly", *The New York Times*, November 3, 2023.
- Vanessa Romo, "Judge says evidence shows Tesla and Elon Musk knew about flawed autopilot system," *NPR*, November 23, 2023. https://www.npr.org/2023/11/23/1214966530/judge-says-evidence-shows-tesla-and-elon-musk-knew-about-flawed-autopilot-system

# Class 10

**Final Exam**
**AI and Transportation**
**Course wrap-up discussion**