San José State University  
Lucas Graduate School of Business  
Master of Science in Transportation Management  
Contemporary Issues in Transportation Management  
MTM 236  
Spring-A 2021

Course and Instructor Contact Information

Class Day/Time: Monday, 5:30 – 9:30 pm  
Classroom: Zoom  
Course website: Canvas (http://sjsu.instructure.com)

Instructor: Andrea Broaddus  
Office Location: Contact instructor  
Email: Andrea.Broaddus@sjsu.edu  
Office Hours: By appointment

Instructor: Gurmeet Naroola  
Office Location: BT 563  
Email: Gurmeet.Naroola@sjsu.edu  
Office Hours: By appointment
Course Format

This class will meet via live video conferencing using Zoom (https://sjsu.zoom.us/). 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/)

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

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: (link)

Course Materials

Course materials such as syllabus, handouts, notes, assignment instructions, etc. can be found on the Canvas Learning Management System course login website at http://sjsu.instructure.com. Students are responsible for regularly checking with the messaging system through MySJSU at http://my.sjsu.edu (or other communication system as indicated by the instructor) to learn of any updates.

Course Description

Transportation system management challenges are posed by five technological trends: electrification, vehicle automation, connected vehicles and infrastructure, car sharing and ride sharing, and mobility as a service. Topics include: impacts on infrastructure, financing, and labor; managing technologies to support environmental, equity, and economic efficiency policy goals; and supporting collaboration between public agencies and private sector firms.

In this course we will consider emerging transportation technologies and services and the management challenges they pose to public agencies. Students will explore changes in travel behavior and system operations expected as a result of five current technological trends: electrification, vehicle automation, connected vehicles and infrastructure, car sharing and ride sharing, and mobility as a service. How can transportation agencies identify and prepare for changing infrastructure, financing, and labor needs? How can new technologies contribute toward environmental, equity, and economic efficiency policy goals? The course emphasizes the role of start-up companies in transportation innovation, and students will be expected to propose their own start-up idea. The course will include significant content via guest speakers from start-ups, the traditional transportation industry, and government.
Lucas College and Graduate School of Business Program Learning Goals
(Note: Not all program learning goals are covered in every course)

Goal 1: **Business Knowledge**: Understand basic business principles and demonstrate discipline-specific competencies as applied to local and global environments.

Goal 2: **Communication**: Communicate ideas clearly, logically, and persuasively in oral and written format, using technology appropriately.

Goal 3: **Ethical Awareness**: Recognize, analyze, and articulate solutions to ethical issues that arise in business.

Goal 4: **Leadership, Teams and Diversity**: Comprehend the challenges and opportunities of leading and working in diverse teams and environments.

Goal 5: **Critical Thinking**: Comprehend, analyze, and critically evaluate complex and unstructured qualitative and quantitative business problems, using appropriate tools and technology.

Goal 6: **Innovation**: Recognize, analyze, and articulate strategies for promoting creativity and innovation.

MSTM Program Learning Goals:
(Note: Not all program learning goals are covered in every course)

Goal 1: **Transportation Systems and Society**: Develop a systems-savvy and global perspective on solving transportation management challenges

Goal 2: **Transportation Policy**: Develop solutions to transportation management challenges that integrate knowledge of the transportation policy environment

Goal 3: **Leadership**: Identify and analyze leadership styles and traits

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 characteristics and drivers of five technological trends which are impacting the transportation system: electrification, automation, connected vehicles and infrastructure, car and ride sharing, and mobility as a service.

2. Understand the business perspective of emerging transportation companies and identify the key technology application, revenue model, and target customers of a start-up.

3. Describe the changes in travel behavior and systems operations which are expected as a result of these technology trends and start-up companies.

4. Identify potential positive and negative impacts on infrastructure, labor, and system performance resulting from technological change and new private sector transport services.
5. Describe potential policy approaches for public transportation agencies to manage the impacts of new technologies and services, including strategies for engaging the private sector and the public in addressing system management challenges.

Required Texts/Readings

All assigned readings will be provided on the course Canvas site. Due to the rapidly changing nature of contemporary transportation issues, formal studies are quickly outdated. Therefore, in addition to the required course readings, students are encouraged to regularly follow the news on course topics.

Course Requirements and Assignments

There are five requirements for completion of the course: (1) Class participation during class and online, (2) Weekly reflections and comments on the course website in response to assigned readings and the news, (3) Three assignments building skills towards developing a start-up idea, (4) Developing a pitch deck in the role of a transportation start-up, (5) Negotiating an agreement with a start-up in the role of a public agency and jointly developing a final presentation. All written assignments must be submitted by uploading them to Canvas (they will not be accepted by email).

Note: Instructors will provide further guidance on grading criteria and assignment examples.

1. Class participation
Students are expected to attend all classes and contribute to the in-class discussion, as well as at least two comments to the weekly online discussion, and to work together in project teams. Students who attend and participate will receive 100 points.

2. Weekly reflections and lead discussant
Using the Discussion section of the course website, students will post a short weekly reflection in response to in-class discussions, assigned readings, and the news. These can be short (1-2 paragraphs), and should focus on key takeaway points and implications for the transportation system. Students are encouraged to include links to relevant news articles in their comments, and to pose questions inspired by the reading. You will not be able to see posts by your peers until you have submitted your reflections. After you have submitted your reflections, you should read and respond to at least two peer posts. This assignment is due 48 hours before class (Saturday at 5:30). Both your reflections and comments must be submitted by that time for full credit. Since others are dependent on your reflections to do their comments, and you upon theirs, it is advised that you upload your reflections earlier in the week, and then come back later to do your comments. Students will each select one week to serve as lead discussant for the in-class discussion, which is worth 50 points. For each week reflections are not submitted, or are submitted late, 10 points will be deducted.

3. Assignments
Students will be assigned three exercises designed to prepare students for developing a start-up company pitch deck. The first is focused on strategy, the second on market forces, and the third on finances. These will be introduced in class and are due on the dates noted in the course schedule. Each assignment is worth 50 points. Any part completed late will be deducted 10 points.

4. Start-up pitch deck
For this assignment, students will develop an idea for a start-up company, develop a pitch deck, and present it to the class. You may be as creative as you like, but the start-up should include an application of one of the five key technology trends discussed in class. The pitch deck should communicate what
problem is being solved, what is the key technology application, the revenue model, target customer, and opportunities for partnerships with public agencies. Written instructions with more details and examples will be given in class. This assignment is worth 100 points. Any part completed late will be deducted 10 points.

This assignment is due in stages as follows:

1) February 8. Draft pitch deck due on Canvas. Schedule a meeting with Professor Naroola for feedback and refinement. (50% grade weight)

2) February 22. Submit your final pitch deck on Canvas and email it to your assigned negotiation partner. (50% grade weight)

5. Public agency response and final presentation deck
Each student will serve in the role of a public transportation agency impacted by the start-up pitched by another student. You may decide what kind of agency you would like to represent (e.g. a regulator, a competitor, or a system manager), in consultation with the instructors. You will review a start-up pitch deck from the public agency perspective and prepare a few slides with questions and concerns in preparation for meeting with the start-up. This response deck should communicate how you anticipate the company will impact your operations and revenues, what regulatory and legal barriers you foresee, what benefits toward your policy goals you foresee, and identify opportunities for partnerships. You will then meet with the start-up company, discuss your response, and negotiate a mutually beneficial arrangement (e.g. a partnership, a permit, datasharing, etc). During/after the meeting jointly prepare one or two slides describing the partnership that you have negotiated. This assignment is worth 100 points. Any part completed late will be deducted 10 points.

This assignment is due in stages as follows:

1) March 1. Draft response deck is due on Canvas. Schedule a meeting with Professor Broaddus for feedback. Schedule a meeting with your negotiation partner during the week of March 8. (25% grade weight)

2) March 8. Submit your final response on Canvas and email it to your negotiation partner before your scheduled meeting. During the negotiation meeting, each party will review their slides and questions for the other party, and negotiate an agreement that benefits both the start-up and the public good. For example, the agreement should allow the start-up to experiment with new mobility technologies while providing value and progress towards public sector energy, equity, and efficiency goals. (25% grade weight)

3) March 15. During/after the meeting jointly prepare one or two slides describing the arrangement that you have negotiated. The final presentation deck including all slides (pitch + public agency response) is due March 15 on Canvas. Each team will present their negotiated agreement in class. (50% grade weight)

Week of March 9. Meet with your negotiation partner. Both parties will present their slides and questions for the other party. Negotiate a mutually beneficial partnership arrangement. During/after the meeting jointly prepare one or two slides describing the partnership that you have negotiated. The final presentation deck including all slides is due March 18 on Canvas. (40% grade weight)
During the final class on March 16, each student will present their pitch deck and response deck together with their partner, including what agreement was reached during the negotiation meeting. (30% grade weight)

**Grading Information**

The five course requirements will be weighted in the final grade as follows:

<table>
<thead>
<tr>
<th>Task</th>
<th>Percent of Course Grade</th>
<th>Course Learning Objectives Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class participation</td>
<td>10%</td>
<td>1,2,3,4,5</td>
</tr>
<tr>
<td>Weekly reflections</td>
<td>15%</td>
<td>1,2,3,4,5</td>
</tr>
<tr>
<td>Three Assignments</td>
<td>15%</td>
<td>1,2</td>
</tr>
<tr>
<td>Start-up pitch</td>
<td>25%</td>
<td>2,3</td>
</tr>
<tr>
<td>Public agency response</td>
<td>25%</td>
<td>4,5</td>
</tr>
<tr>
<td>Final presentation</td>
<td>10%</td>
<td>1,2,3,4,5</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

**Determination of Grades**

Grades for each assignment, and for the course, will be assigned based upon the scores on the scale below. There are a potential of 500 points to be earned by meeting the five course requirements, which are weighted according to the policy above. A student may calculate their final grade by summing up the total points earned for each requirement, multiplying it by the weight, and summing the results. For example: \((100\times0.10)+(100\times0.15)+(80\times0.15)+(80\times0.25)+(100\times0.25)+(90\times0.10)=91\), which equates to an A-.

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
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<tbody>
<tr>
<td>94% and above</td>
<td>A</td>
</tr>
<tr>
<td>93% - 90%</td>
<td>A-</td>
</tr>
<tr>
<td>89% - 87%</td>
<td>B+</td>
</tr>
<tr>
<td>86% - 84%</td>
<td>B</td>
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<tr>
<td>83% - 80%</td>
<td>B-</td>
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<tr>
<td>79% - 77%</td>
<td>C+</td>
</tr>
<tr>
<td>76% - 73%</td>
<td>C</td>
</tr>
<tr>
<td>72% - 70%</td>
<td>C-</td>
</tr>
<tr>
<td>69% - 67%</td>
<td>D+</td>
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<tr>
<td>66% - 63%</td>
<td>D</td>
</tr>
<tr>
<td>62% - 60%</td>
<td>D-</td>
</tr>
<tr>
<td>below 60%</td>
<td>F</td>
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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 at http://www.sjsu.edu/gup/syllabusinfo/”
# Course Schedule

*Note: This schedule is subject to change with fair notice. Students will be informed of any changes via an email announcement on the course website.*

<table>
<thead>
<tr>
<th>Class Session</th>
<th>Class Topics</th>
<th>Readings</th>
<th>Assignments Due</th>
</tr>
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</table>
| 1 January 4 (Both) | Review the syllabus. Student introductions, interests and expectations. Overview technology trend topics. Introduction to Blue Ocean strategy framework and entrepreneurship in transportation. GenZe case study. | Students will be advised on specific areas to read in the following links: Sign up for email updates from:  
- Citylab Transportation, [https://www.citylab.com/transportation/](https://www.citylab.com/transportation/)  
- Shared Use Mobility Center, [http://sharedusemobilitycenter.org/](http://sharedusemobilitycenter.org/) |  |
*Critical Issues in Transportation 2019*, Transportation Research Board (2018) [Link](#). | Assignment # 1 due  
Weekly reflections |
| 3 January 18 (AB lead) | No class due to federal holiday Martin Luther King Jr. Day |  |  |
| 4 January 25 (AB lead) | Mobility on demand, ridesourcing, Transport Network Companies | *Mobility on Demand Planning and Implementation*, US DOT (2020) [Link](#).  
Weekly reflections |
<table>
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</table>
| 5 February 1  | Technology and innovation in transportation  
Case Studies: Bellhop, EasyMile, TIKD, Bridj, Vostok, StreetLight Data, RideOn, Mobility 4 All, Koloni, CLEVR  
Guest Speaker Dr Vish Palekar – Bloom Energy | Private Transit: Existing Services and Emerging Directions, TCRP Report 196 (2018), Link | Weekly reflections |
| 6 February 8  | Entrepreneurial strategy and financials for mobility start-ups  
Shared mobility – car sharing, bike sharing | Shared Mobility and the Transformation of Public Transit, TCRP Report 188 (2017) Link | Weekly reflections  
Draft pitch deck |
| 7 February 15 | Autonomous vehicles | Beyond Speculation: Automated Vehicles and Public Policy, Eno Center for Transportation (2017) Link  
The Employment Impact of Autonomous Vehicles, US Department of Commerce (2018), Link  
Assignment #3 |
Final pitch deck |
<table>
<thead>
<tr>
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<th>Class Topics</th>
<th>Readings</th>
<th>Assignments Due</th>
</tr>
</thead>
</table>
| 9 March 1 (GN lead) | Vehicle electrification, Renewable Energy & Infrastructure, Solar, Storage technologies, Charging Infrastructure  
Case Studies: ChargeIt, ChargePoint, Bloom,  
Guest Speaker – Oliver Risse CEO of Floatility | *Electric Vehicle Sales Forecast and Charging Infrastructure Required Through 2030*, Edison Foundation (2018) [Link](https://www.arb.ca.gov/msprog/zevprog/factsheets/technology_guide.pdf)  
[http://www.cpuc.ca.gov/zev/#Infrastructure](http://www.cpuc.ca.gov/zev/#Infrastructure)  
[https://www.chargepoint.com/](https://www.chargepoint.com/) | Weekly reflections  
Draft response deck |
| 10 March 8 (AB lead) | E-commerce and freight  
Case studies: Postmates, Doordash, Flexport | *Managing the Transition to Driverless Road Freight Transport*, International Transport Forum (2017) [Link](https://postmates.com/)  
[https://www.doordash.com/](https://www.doordash.com/)  
[https://www.flexport.com/](https://www.flexport.com/) | Weekly reflections  
Final response deck |
| 11 March 15 (Both) | Student presentations |  | Final presentation deck |