SAN JOSÉ STATE UNIVERSITY
URBAN AND REGIONAL PLANNING DEPARTMENT

URBP 256: TRANSPORTATION PLANNING: LOCAL ISSUES
URBP 156: INTRODUCTION TO LOCAL TRANSPORTATION PLANNING

SPRING 2015

Instructor: Eduardo C. Serafin, PE, AICP
Office location: Washington Square 216A
Telephone: 510-375-3997
Email: eduardo.serafin@yahoo.com
Office hours: Thursday, 6:00PM – 7:00PM (by appointment only)
Class days/time: Thursday, 7:30PM – 10:00PM
Classroom: Clark Building 205
Class website: https://sjsu.instructure.com/
Prerequisites: URBP 256: None
 URBP 156: Upper division standing or instructor consent.
Units: URBP 256: 4 units
 URBP 156: 4 units

Course Catalog Description
URBP 256: Transportation Planning: Local Issues
Examination of transportation planning issues addressed at the neighborhood and municipal level. Not to substitute for transportation engineering. Course may be repeated for credit when topic changes.

URBP 156: Introduction to Local Transportation Planning
Examination of transportation planning issues addressed at the neighborhood and municipal level such as bicycle and pedestrian planning, traffic calming, and parking policy. Prerequisites: Upper division standing or instructor consent.

Course Description and Course Learning Objectives
This course introduces students to key transportation planning issues dealt with at the municipal level. Students will gain an understanding of the role multimodal transportation planning plays in the U.S. today and the processes that are used to achieve planning objectives, including how data is collected and used in multimodal transportation analyses. Students will gain an understanding of how environmental analyses and public participation fit within the multimodal transportation
planning process, including key impacts on existing networks, legal requirements, and how to resolve conflicts of multimodal transportation projects.

As students learn about these different transportation planning topics, the course will also teach a number of key skills critical to any transportation planner, including multi-modal approach to infrastructure planning and addressing the needs of all users of the roadway infrastructure, including pedestrians, bicyclists, people with ADA issues, and vulnerable populations, among others.

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

1. Describe a full range of treatments for pedestrian and bicycle movement alongside a successful movement of vehicles, including bus priority considerations and success stories throughout the country, with a focus on available tools and design techniques in harmony with the complete streets mentality

2. Describe the key design and operational strategies to improve the safety and mobility of bicyclists in a multimodal environment and gain an understanding of which bikeway design options are appropriate for which land use contexts

3. Explain about the effects of parking considerations and how they influence modal choice and healthy economic development

4. Explain how the various transit modes are essential components of well-planned communities from big cities to suburbs to small towns

5. Describe key planning, design, and operational elements pertaining to light rail transit (LRT) and bus rapid transit (BRT) in a multimodal operational environment

6. Explain how to better integrate public transit modes with each other, with other modes of surface transportation, and with land use

7. Explain about parallel relationships of multimodal measures on arterial and collector streets for proper freeway operation and multimodal interactions, as they meet over critical junctions such as signalized intersections

8. Describe the basic principles of highway operations, the latest innovations in freeway multimodal functions, and how to relate regional travel pricing policies to successful multimodal operations

9. For graduate students, describe the different opportunities that local agencies may have to shape transportation infrastructure and local travel behavior in more environmentally sustainable ways

Copyright Disclosure: The course description and course learning objectives above have largely been based on the course TE-40 – Multimodal Transportation Planning and Engineering, which has been developed by the Technology Transfer Program (Tech Transfer) of the Institute of Transportation Studies at the University of California, Berkeley and is solely owned by the UC Regents. Permission has been granted by Tech Transfer for the exclusive use of said course materials for this SJSU class only for this semester. Use of these course materials for any other class at SJSU is not allowed. (c) UC Regents, 2015
Planning Accreditation Board (PAB) Knowledge Components

This course partially covers the following PAB Knowledge Components: 1d, 1e, 2b, 2c, 3c, 3d, and 3e.

A complete list of the PAB Knowledge Components can be found at http://www.sjsu.edu/urbanplanning/courses/pabknowledge.html.

Required Course Texts

All the course readings and supplemental course materials will be available at the Canvas folder for the class:

https://sjsu.instructure.com/

Students will be given permission to the Canvas class folder at the first class meeting, if their registration is complete. After the first class meeting, pls contact me if you cannot access the Canvas folder after 24 hours of completing your registration for the class.

Course Assignments and Grading Policy

For graduate students, your final grade for the course will be based on the following assignments and graded activities:

<table>
<thead>
<tr>
<th>Assignments &amp; Graded Activities</th>
<th>Percent of Course Grade</th>
<th>Course Learning Objectives Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Class Participation:</strong> Engagement in class discussion and completion of course evaluation of training modules on a weekly basis on the various topics covered in class</td>
<td>5%</td>
<td>1 - 8</td>
</tr>
<tr>
<td><strong>Midterm Exam 1:</strong> Choice of essays by student to describe student’s analysis and recommendations for the given Planning scenario; conducted online during scheduled exam period; no meeting in person in the classroom; student must work independently</td>
<td>22.5%</td>
<td>1 - 8</td>
</tr>
<tr>
<td><strong>Midterm Exam 2:</strong> Choice of essays by student to describe student’s analysis and recommendations for the given Planning scenario; conducted online during scheduled exam period; no meeting in person in the classroom; student must work independently</td>
<td>22.5%</td>
<td>1 - 8</td>
</tr>
<tr>
<td><strong>Engagement Unit (EU) Project:</strong> Includes two preparatory team homework assignments, an interim team project report, a final team project report, a group presentation by teams</td>
<td>25%</td>
<td>1 - 2</td>
</tr>
<tr>
<td>Assignments &amp; Graded Activities</td>
<td>Percent of Course Grade</td>
<td>Course Learning Objectives Covered</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-------------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td><strong>Individual Paper</strong>: Independent research and analysis by student comparing two cities of student’s choice with respect to sustainability of local transportation planning practices and policies</td>
<td>20%</td>
<td>9</td>
</tr>
<tr>
<td><strong>Paper Presentation</strong>: Brief oral presentation in class to highlight key results of student’s individual paper</td>
<td>5%</td>
<td>9</td>
</tr>
</tbody>
</table>

For **undergraduate students**, your final grade for the course will be based on the following assignments and graded activities:

<table>
<thead>
<tr>
<th>Assignments &amp; Graded Activities</th>
<th>Percent of Course Grade</th>
<th>Course Learning Objectives Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Class Participation</strong>: Engagement in class discussion and completion of course evaluation of training modules on a weekly basis on the various topics covered in class</td>
<td>5%</td>
<td>1 - 8</td>
</tr>
<tr>
<td><strong>Midterm Exam 1</strong>: Choice of essays by student to describe student’s analysis and recommendations for the given Planning scenario; conducted online during scheduled exam period; no meeting in person in the classroom; student must work independently</td>
<td>35%</td>
<td>1 - 8</td>
</tr>
<tr>
<td><strong>Midterm Exam 2</strong>: Choice of essays by student to describe student’s analysis and recommendations for the given Planning scenario; conducted online during scheduled exam period; no meeting in person in the classroom; student must work independently</td>
<td>35%</td>
<td>1 - 8</td>
</tr>
<tr>
<td><strong>Engagement Unit (EU) Project</strong>: Includes two preparatory team homework assignments, an interim team project report, a final team project report, a group presentation by teams</td>
<td>25%</td>
<td>1 - 2</td>
</tr>
</tbody>
</table>

Preliminary instructions for completing each assignment are included within this syllabus. Additional details on each assignment will be posted on the course Canvas website. Attached to this syllabus is a *Course Summary* document that provides additional detailed information on the assignments, graded activities, and course requirements listed in the tables above. This document will be updated regularly to reflect the development and conduct of the course in real time and will be posted on the Canvas folder for the course.
Calculation of Final Course Letter Grade

All assignments and graded activities will be given a score using a 10-point scale. Final grades will be assigned using a composite 10-point score system based on the following scale and using the weight percentages described in the previous section:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>9.70 - above</td>
</tr>
<tr>
<td>A</td>
<td>9.40 – 9.69</td>
</tr>
<tr>
<td>A-</td>
<td>9.00 – 9.39</td>
</tr>
<tr>
<td>B+</td>
<td>8.70 – 8.99</td>
</tr>
<tr>
<td>B</td>
<td>8.40 – 8.69</td>
</tr>
<tr>
<td>B-</td>
<td>8.00 – 8.39</td>
</tr>
<tr>
<td>C+</td>
<td>7.70 – 7.99</td>
</tr>
<tr>
<td>C</td>
<td>7.40 – 7.69</td>
</tr>
<tr>
<td>C-</td>
<td>7.00 – 7.39</td>
</tr>
<tr>
<td>D+</td>
<td>6.70 – 6.99</td>
</tr>
<tr>
<td>D</td>
<td>6.40 – 6.69</td>
</tr>
<tr>
<td>D-</td>
<td>6.00 – 6.39</td>
</tr>
<tr>
<td>F</td>
<td>Below 6.00</td>
</tr>
</tbody>
</table>

Below is a sample calculation of the final grade for an undergraduate student and a graduate student.

<table>
<thead>
<tr>
<th>Undergraduate Joe</th>
<th>Assignment &amp; Graded Activity</th>
<th>% Weight</th>
<th>10-pt Score</th>
<th>Portion of Final Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Participation</td>
<td>5%</td>
<td>9.50</td>
<td>0.48</td>
<td></td>
</tr>
<tr>
<td>Midterm Exam #1</td>
<td>35%</td>
<td>8.25</td>
<td>2.89</td>
<td></td>
</tr>
<tr>
<td>Midterm Exam #2</td>
<td>35%</td>
<td>7.75</td>
<td>2.71</td>
<td></td>
</tr>
<tr>
<td>Engagement Unit Project</td>
<td>25%</td>
<td>8.50</td>
<td>2.13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>Final Score</td>
<td>8.21</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Final Grade</td>
<td>B-</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Graduate Jane</th>
<th>Assignment &amp; Graded Activity</th>
<th>% Weight</th>
<th>10-pt Score</th>
<th>Portion of Final Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Participation</td>
<td>5%</td>
<td>9.75</td>
<td>0.49</td>
<td></td>
</tr>
<tr>
<td>Midterm Exam #1</td>
<td>22.5%</td>
<td>8.75</td>
<td>1.97</td>
<td></td>
</tr>
<tr>
<td>Midterm Exam #2</td>
<td>22.5%</td>
<td>8.75</td>
<td>1.97</td>
<td></td>
</tr>
<tr>
<td>Engagement Unit Project</td>
<td>25%</td>
<td>9.50</td>
<td>2.38</td>
<td></td>
</tr>
<tr>
<td>Individual Paper</td>
<td>20%</td>
<td>9.50</td>
<td>1.90</td>
<td></td>
</tr>
<tr>
<td>Paper Presentation</td>
<td>5%</td>
<td>9.25</td>
<td>0.46</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>Final Score</td>
<td>9.17</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Final Grade</td>
<td>A-</td>
<td></td>
</tr>
</tbody>
</table>

Other Grading and Assignment Issues

To be given credit for class participation, students should sign in using the attendance sheet to be distributed at each class, contribute to the discussion in a meaningful way, and complete an online course evaluation of the training modules presented in class.

For the Midterm Exams conducted online, the exam questions in essay format will be released online via Canvas no later than the beginning of the scheduled class session. The essay length...
requirements for undergraduate students will be about half as long as those for graduate students. Students are encouraged to select a city of their choice early on to use as examples in answering the essay questions. Students need to submit their essays in Canvas by the end of the scheduled class session.

Course Workload

Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of forty-five hours over the length of the course (normally 3 hours per unit per week with 1 of the hours used for lecture) for instruction or preparation/studying or course-related activities including but not limited to internships, labs, clinical practicum events. Other course structures will have equivalent workload expectations as described in the syllabus.

Because this is a four-unit class, you can expect to spend a minimum of nine hours per week in addition to time spent in class and on scheduled tutorials or activities. Special projects or assignments may require additional work for the course. Careful time management will help you keep up with readings and assignments and enable you to be successful in all of your courses. For this class, you will have to undertake additional activities outside the class hours such as the interviews and field site visits for the Engagement Unit class project. Details on how to complete these activities will be provided in this syllabus, the attached course summary, and materials posted in the Canvas course website.

Academic Integrity Statement, Plagiarism, and Citing Sources Properly

Your commitment, as a student, to learning is evidenced by your enrollment at San Jose State University. The University Academic Integrity Policy S07-2 at http://www.sjsu.edu/senate/docs/S07-2.pdf requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The Student Conduct and Ethical Development website is available at http://www.sjsu.edu/studentconduct/.

Plagiarism is the use of someone else's language, images, data, or ideas without proper attribution. It is a very serious offense both in the university and in your professional work. In essence, plagiarism is both theft and lying: you have stolen someone else's ideas, and then lied by implying that they are your own.

Plagiarism will lead to grade penalties and a record filed with the Office of Student Conduct and Ethical Development. In severe cases, students may also fail the course or even be expelled from the university.

If you are unsure what constitutes plagiarism, it is your responsibility to make sure you clarify the issues before you hand in draft or final work.

Learning when to cite a source and when not to is an art, not a science. However, here are some common examples of plagiarism that you should be careful to avoid:

- Using a sentence (or even a part of a sentence) that someone else wrote without identifying the language as a quote by putting the text in quote marks and referencing the source.

San José State University
Urban and Regional Planning Department
• Paraphrasing somebody else's theory or idea without referencing the source.
• Using a picture or table from a webpage or book without reference the source.
• Using data some other person or organization has collected without referencing the source.

The University of Indiana has developed a very helpful website with concrete examples about proper paraphrasing and quotation. See in particular the following pages:

• Overview of plagiarism at www.indiana.edu/~istd/overview.html
• Examples of plagiarism at www.indiana.edu/~istd/examples.html
• Plagiarism quiz at www.indiana.edu/~istd/test.html

If you still have questions, feel free to talk to me personally. There is nothing wrong with asking for help, whereas even unintentional plagiarism is a serious offense.

Citation style

It is important to properly cite any references you use in your assignments. The Department of Urban and Regional Planning uses Kate Turabian’s A Manual for Writers of Research Papers, Theses, and Dissertations, 8th edition (University of Chicago Press, 2013, ISBN 780226816388). Copies are available in the SJSU King Library. Additionally, the book is relatively inexpensive, and you may wish to purchase a copy. Please note that Turabian’s book describes two systems for referencing materials: (1) “notes” (footnotes or endnotes), plus a corresponding bibliography, and (2) in-text parenthetical references, plus a corresponding reference list. In this class, students should use in-text parenthetical references, plus a corresponding reference list.

Accommodation for Disabilities

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 at http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf requires that students with disabilities requesting accommodations must register with the Accessible Education Center (AEC) at http://www.sjsu.edu/ace to establish a record of their disability.

You can find information about the services SJSU offers to accommodate students with disabilities at the Accessible Education Center website at www.sjsu.edu/ace.

Accommodation to Students' Religious Holidays

San José State University shall provide accommodation on any graded class work or activities for students wishing to observe religious holidays when such observances require students to be absent from class. It is the responsibility of the student to inform the instructor, in writing, about such holidays before the add deadline at the start of each semester. If such holidays occur before the add deadline, the student must notify the instructor, in writing, at least three days before the date that he/she will be absent. It is the responsibility of the instructor to make every reasonable effort to honor the student request without penalty, and of the student to make up the work missed. See University Policy S14-7 at http://www.sjsu.edu/senate/docs/S14-7.pdf.

San José State University

Urban and Regional Planning Department
Consent for Recording of Class and Public Sharing of Instructor Material

Common courtesy and professional behavior dictate that you notify someone when you are recording him/her. For this class, no recording of any kind at any time shall be allowed.

Library Liaison

The SJSU Library Liaison for the Urban and Regional Planning Department is Ms. Toby Matoush. If you have questions, you can contact her at toby.matoush@sjsu.edu or 408-808-2096.

SJSU Writing Center

The SJSU Writing Center is located in Clark Hall, Suite 126. All Writing Specialists have gone through a rigorous hiring process, and they are well trained to assist all students at all levels within all disciplines to become better writers. In addition to one-on-one tutoring services, the Writing Center also offers workshops every semester on a variety of writing topics. To make an appointment or to refer to the numerous online resources offered through the Writing Center, visit the Writing Center website at http://www.sjsu.edu/writingcenter. The SJSU Writing Center is located in Room 126 in Clark Hall.

SJSU Counseling Services

The SJSU Counseling Services is located on the corner of 7th Street and San Fernando Street, in Room 201, Administration Building. Professional psychologists, social workers, and counselors are available to provide consultations on issues of student mental health, campus climate or psychological and academic issues on an individual, couple, or group basis. To schedule an appointment or learn more information, visit Counseling Services website at http://www.sjsu.edu/counseling.

Dropping and Adding

Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Refer to the current semester’s Catalog Policies section at http://info.sjsu.edu/static/catalog/policies.html. Add/drop deadlines can be found on the current academic year calendars document on the Academic Calendars webpage at http://www.sjsu.edu/provost/services/academic_calendars/. The Late Drop Policy is available at http://www.sjsu.edu/aars/policies/latedrops/policy/. Students should be aware of the current deadlines and penalties for dropping classes.

Information about the latest changes and news is available at the Advising Hub at http://www.sjsu.edu/advising/.

Classroom Protocol

Students should attend all classes, arrive on time, and participate fully in discussions and class activities, as these are critical to learning and mastering the course content. If you know that you will have to miss all or part of a class, please let me know in advance. Please also follow common rules of courtesy to keep from disrupting the class: e.g., do not arrive late, and turn off cell phones and pagers. Students should not use laptops during class (unless specifically allowed by the Instructor) or do any kind of texting. Also, please do not have any sidebar conversation during the lectures, class discussions, student presentations, or guest speaker lectures.

San José State University
For any questions on this course, please e-mail me first. If I don’t respond by the end of the following business day, pls feel free to call my cell phone for a follow-up. If I don’t pick up, pls leave me a detailed message, and I will return your call within one business day.

Although my office hours on campus are rather limited, please feel free to contact me at any time (per the protocol above), and I will do my best to provide you feedback on any issue or concern you may have. My goal is to be very accessible to all my students.
URBP 256: TRANSPORTATION PLANNING: LOCAL ISSUES  
URBP 156: INTRODUCTION TO LOCAL TRANSPORTATION PLANNING  

SPRING 2015  

COURSE SCHEDULE

The course schedule below is subject to change with fair notice. I will announce any changes in class and/or via e-mail in the Canvas course website. Any changes to the course schedule will be discussed in class with as much notice as possible. The Course Summary document, which describes in detail all the class activities, readings, and assignments, will be updated as needed throughout the semester to reflect the latest details of upcoming classes and activities. Students are advised to check the Canvas course website regularly to stay informed.

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Class Activity</th>
<th>Assignment Due</th>
</tr>
</thead>
</table>
| 1    | Jan 22 | Self-Introductions  
Course Overview & Requirements  
Introductory Concepts | Complete Registration |
| 2    | Jan 29 | Engagement Unit (EU)* Class Session 1  
Bicycling Safety Assessment (BSA) Guidebook  
EU Project: Bicycle Safety Assessment for the SJSU Campus | Student Information Survey  
EU Project: Formation of Teams |
| 3    | Feb 5 | Module A: The Multimodal Transportation Planning Process and Legal Framework (Serafin)  
Module B: Data Collection, Quantitative Analysis, and Travel Forecasts (Serafin) | Paper: Choice of City Pair for Comparison |
| 4    | Feb 12 | EU Class Session 2  
Module C: Multimodal Auditing Techniques and Walking Tour (Serafin) | EU Project: Team Homework 1 |
| 5    | Feb 19 | Module D: Safe and Accessible Pedestrian Design, Guest Speaker (Raie)  
Module E: Residential Streets: Livability and Quality of Life (Serafin) | Paper: Detailed Outline |
| 6    | Feb 26 | EU Class Session 3  
Module F: Parking Considerations for Healthy Economic Development (Serafin) | EU Project: Team Homework 2 |
| 7    | Mar 5 | Module G: On-Street Bicycling and Bicycle Safety, Guest Speaker (DeRobertis)  
Module H: Bicycle Paths (Serafin) | Paper: Comparison Checklist |
| 8    | Mar 12 | Midterm Exam 1 (Modules A-H) | Taken online (no class meeting) |
| 9    | Mar 19 | Module I: Mass Transit Planning Concepts, Guest Speaker (DeRobertis)  
Module J: Transit Design & Operational Issues (Serafin) | |
<p>| 10   | Mar 26 | Spring Break: No Class | None |</p>
<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Class Activity</th>
<th>Assignment Due</th>
</tr>
</thead>
</table>
| 11   | Apr 2| Module K, The New Transit/Multimodal Role for Arterials and Collectors (*Serafin*)  
| 12   | Apr 9| Module M: Freeway Multimodal Considerations, Guest Speaker (*Raie*)  
Module N: Evaluation and Prioritization of Multimodal Transportation Projects (*Serafin*) | Paper: Comprehensive Comparison Table |
| 13   | Apr 16| Module O: Environmental Analysis and CEQA New Trends (SB 743), Guest Speaker (*Colman*)  
Module P: Public Participation & Involvement, Dealing with Controversy (*Serafin*) | |
| 14   | Apr 23| Midterm Exam 2 (Modules I-P) | Taken online (no class meeting) |
| 15   | Apr 30| **Student Paper Presentations** | SOTE (online) begins |
| 16   | May 7| **Student Paper Presentations** | Paper: Final Report  
SOTE (online) ends |
| 17   | May 14| **Reading Week (no class meeting)** | None |
| Finals Week | May 21| **EU Student Team Presentations** (invite SJSU Administration and DURP Faculty) | EU Project: Final Report |

*Engagement Unit (EU) Project: *Bicycle Safety Assessment for the SJSU Campus*
Multimodal transportation networks and systems are planned, designed, built, operated, and maintained to provide safe, comfortable, and environmentally sustainable travel for all users of all ages and differing levels of mobility. Ideally these systems should provide for all modes, including walking, bicycling, taking transit, and driving—particularly at the local or municipal level. Transportation facilities must always be functional to allow for emergency response, road maintenance, and overall movement of goods. This course covers the planning and conceptual design of sustainable multimodal transportation facilities; the history of multimodal transportation planning in the US; the policy environment for sustainable, multimodal transportation; how to integrate multimodal transportation into the urban planning process; and how to design streets, intersections, crossings, and interchanges consistent with the sustainable, multimodal approach.

While the aforementioned elements span across the nation and maybe worldwide, the course’s discussion of the legislative environment is more focused on California, specifically for the local or municipal perspective. The course spans the full range of key areas from characteristics of the transportation system, analysis of flow and capacity, traffic/transportation operations, traffic control devices, pedestrian/bicycle facilities, and surface transit operations to traffic safety and advanced analytical methods.

Key learning concepts to be highlighted throughout the course include: managing conflict between/among modes, striving for a balanced approach to promoting multiple modes along the same right-of-way (ROW) or crossing each other, promoting safety between modes and for each mode, options for separating or prioritizing modes in layered networks, planning for multimodal travel wherever possible, managing multimodal transportation operations efficiently, promoting economic development and livability (in addition to access and mobility), and the best practices in multimodal transportation infrastructure planning and sustainable land development. The course is primarily appropriate for urban and suburban perspectives, but may be relevant to rural areas that are subject to urban growth challenges.
Course Reading Assignments

All students should skim the items that interest them most from the course reading list below at the beginning of the course. As the course progresses, students are highly encouraged to review the materials below in more depth to help them prepare for the Midterm Exams.

- **Main Street, California - A Guide for Improving Community and Transportation Vitality**
  California Department of Transportation, 2013

- **Introduction to Multi-Modal Transportation Planning - Principles and Practices**
  Todd Litman, Victoria Transport Policy Institute, 2014
  http://www.vtpi.org/multimodal_planning.pdf

- Glossary of Transportation Planning Acronyms and Terms
  Metropolitan Transportation Commission
  http://www.mtc.ca.gov/library/glossary.htm

- **A Guide to California Planning, Unraveling the Acronyms**
  William Fulton, 2005

- **The Metropolitan Transportation Planning Process: Key Issues**
  A Publication of the Metropolitan Capacity Building Program (FHWA, FTA, AASHTO, APTA, AMPO), 2001

- **A Guide to Transportation Decision-making**
  U.S. Department of Transportation (FHWA, FTA)

- **Public Involvement Techniques for Transportation Decision-Making**
  U.S. Department of Transportation

- California Governor’s Office of Planning and Research, SB 743 Guidelines
  (Note: This is current at time of writing; guidelines could change by mid-2015.)
  http://www.opr.ca.gov/s_sb743.php

- **INVEST - Sustainability and Highways**
  Federal Highway Administration
  https://www.sustainablehighways.org/120/learn.html

- **Highway Design Manual, Chapter 300 - Geometric Cross Section**
  California Department of Transportation, 2014
Lecture Topics

Introductory Concepts
- Tips for Reading Research Articles
- Overview: The Transportation Profession
- Looking Back: The History of Transportation
- Looking Forward: California High Speed Rail

Module A: The Multimodal Transportation Planning Process and Legal Framework
- What is comprehensive multimodal transportation planning? Goals, objectives, policies, actions
- Reasons for travel desires
- Intergovernmental relations, legal and institutional framework for multimodal transportation planning in California
- “Complete Streets” concept & requirements; street classification systems
- Land use/transportation relationships
- Demographics/transportation relationships
- Role of freight in urban transportation
- Transit-first/priority policies
- Active transportation and the relationship to public health

Module B: Data Collection, Quantitative Analysis, and Travel Forecasts
- Primary data sources: counts, surveys, and inventories
- Secondary data sources (US Census, BTS, etc.)
- Biggest mistakes and pitfalls in data collection
- Types of data measurement: data interpretation and reading charts and tables
- Statistical concepts and definitions
- Visual display of data
- Practical techniques for counting pedestrians and bicyclists
- Travel forecasts: their use, misuse, abuse
- Ethical use of data

Module C: Multimodal Auditing Techniques and Walking Tour
- Elements to consider in a field audit
- Walking tour of a specified route
- Feedback on tour and recommended actions
- Reality check of recommended actions

Module D: Safe and Accessible Pedestrian Design
- ADA overview - It is the law
- Pedestrian master planning
- Pedestrian demand projection tools
- Pedestrian connectivity analysis
• Designing for pedestrians
• Pedestrian treatments evolution
• Uncontrolled intersections and crosswalks
• Latest design treatments
• OTS safety technical assistance from Tech Transfer

**Module E: Residential Streets: Livability and Quality of Life**
• Street layouts, cross-sections
• Differences between urban, suburban and “rural feel” contexts
• Importance of connectivity and livability
• Speed limits, speeding, and traffic calming
• Safe Routes to School
• Promoting bicycling on residential streets

**Module F: Parking Considerations for Healthy Economic Development**
• Off-street parking policy
• Parking design and parking standards
• Parking cost influence on mode choice
• Parking reform practice - shared parking
• Loading/unloading zones
• TDM to offset parking supply and demand

**Module G: On-Street Bicycling and Bicycle Safety**
• Common auto-bike safety issues, and how to use crash data to select best design
• How to accommodate both bikes and transit
• Cycle tracks and buffered bike lanes
• Bikes in rural and mountainous areas
• Intersections, roundabouts and bike signal heads
• Bike parking policies

**Module H: Bicycle Paths**
• Differences between shared use paths, side paths, and cycle tracks
• Key considerations for bike paths to be used as transportation
• Why and how to separate bicyclists and pedestrians on bike paths
• Bike path opportunities and other community objectives, e.g. protection
• Key intersection design elements for a trail crossing a roadway
• How across-barrier connections complete the network

**Module I: Mass Transit Planning Concepts**
• Why cities need public transit
• Ways to classify public transportation
• Transit, land use context and city size
• Transit-specific policies - city and regional level
• Transit fare and payment options
• Best practices - rider information

**Module J: Transit Design & Operational Issues**
• Key issues affecting transit travel speeds
• Light rail and street car design elements
• BRT essential elements, operations, and design issues
• Subway, commuter rail, and regional rail
• LRT/Rail pedestrian safety
• Course evaluation for the day

**Module K: The New Transit/Multimodal Role for Arterials and Collectors**
• Accommodating buses in existing arterials and collectors
• Transit role in communities
• Transit corridors
• Great transit facilities including branding of transit routes
• Transit level of service (Are we there yet?)
• Discovering transit demand
• Safe Route to Transit for pedestrians and bicyclists

**Module L: Multimodal Traffic Signals**
• Traffic signal basics
• Planning - design - operations
• Timing philosophies, norm setting
• Latest in traffic signal technology
  o Vehicles - real time data
  o Transit - priority
  o Pedestrians - scramble
  o Bicycles - detection and timing
• Permissive treatments impact of pedestrian
• Course evaluation for the day

**Module M: Freeway Multimodal Considerations**
• Optimizing HOT/HOV System for BRT and express bus service
• Real-time traffic management systems
• Integrated corridor management
• Ramp metering and HOV access lanes
• Highway advisory systems

**Module N: Evaluation and Prioritization of Multimodal Transportation Projects**
• Developing multimodal vision statements, evaluation criteria & measures
• What techniques can I use?
• Comparative economic costs & benefits
• Estimating costs/ cost indexes
• Prioritization techniques

**Module O: Environmental Analysis and CEQA New Trends (SB 743)**
• Introduction to CEQA: What it is, what it applies to. Why do we have it?
• CEQA vs. NEPA
• Vehicle tailpipe emissions
• Greenhouse gases and the Climate Action Plan (CAP)
• New trends, SB 743 & OPR requirements, and infill development near transit
• Noise impacts of traffic
• Energy consumption of transportation modes
• SB 375: “Sustainable Transportation”
• Mitigations: Transportation Systems management (TSM) and Travel Demand Management (TDM)

**Module P: Public Participation & Involvement, Dealing with Controversy**
• Why do conflicts over projects occur?
• Communication techniques, including using social media
• What kinds of projects generate the most controversy?
• Practical public participation: Identifying Stakeholders and reaching them using today’s social media
• Dealing with NIMBYs: negotiation, mediation, and the role of the transportation professional
• Six things you should never do when dealing with the public

**Contributing Instructors**

I wish to acknowledge and thank the following instructors for Tech Transfer’s new flagship course, *TE-40 Multimodal Transportation Planning and Engineering*. This version of the course for SJSU would not be possible without the immense contribution from these fine experts.

**Steve Colman, PTP, Retired, Principal, Dowling Associates**
Mr. Colman is a professional transportation planner (PTP) with more than 36 years of experience in all modes of surface transportation, including the preparation of EIR transportation sections and more than 70 traffic impact studies, general plan circulation elements, bikeway plans, and transit system plans. He is chair of ITE’s technical Coordinating Council and author of chapter 7 of the Transportation Planning Handbook, on Evaluation Methods. He was formerly a lecturer in the Urban Planning Department at San Jose State University.

**Rafat Raie, PE, City Traffic Engineer, City of Walnut Creek**
Mr. Raie has nearly 28 years of Traffic Engineering experience including design, operations, planning, and maintenance. As an instructor with ITS Tech Transfer for the past eleven years, he has shared his professional experience in pedestrian facility design and operations in communities throughout California. He has a well-rounded experience in traffic signal systems, parking systems, innovative pedestrian facilities, and ADA standards.

**Michelle DeRobertis, PE, Sustainable Transportation Consultant; Traffic Safety Evaluator, Tech Transfer**
Ms. DeRobertis is an experienced transportation engineer specializing in bicycle, pedestrian, and public transportation. She has extensive experience working both in the public sector and as a consultant in bicycle planning and design. She was project manager for numerous major bicycle facility design studies for California cities and counties and was the lead author of the Bicycle Technical Guidelines of the Santa Clara Valley Transportation Authority. She is a registered Civil and Traffic Engineer in California.
Engagement Unit (EU) Class Project

In re-envisioning the MUP graduate program, SJSU DURP faculty asked this question: what do we want MUP graduates to know and be able to do after they have successfully completed their program of study? The faculty identified four primary student-centric objectives:

- Provide opportunities for students to directly engage with diverse planning constituencies through community-based research and learning experiences.
- Adopt curricular innovations in response to the rapidly evolving nature of the profession, and familiarize students with state-of-the-art planning concepts, skills and applications.
- Provide opportunities for students to develop a depth of knowledge and confidence in a particular field of planning from which to grow and with which to enter the professional field with marketable skills.
- Provide a broad-based understanding of planning theory and practice through exposure to concepts, methodologies, field techniques and applications concerned with the functioning of urban areas and the planning process.

We have re-designed the previous three-unit class to integrate one additional unit of engagement into the curriculum. Please take note of the following guidelines from the faculty for a four-unit class that incorporates an engagement unit:

- Four-unit classes will meet 150 minutes per week.
- Activities related to the engagement unit must take place outside the regular class meeting time.
- Engagement-unit activities should typically require approximately 3 hours of work per each week of the semester (for a total of 45 hours). The hours can be either spread evenly throughout the semester, or clustered.
- Students must be required to submit one or more graded assignments related to the engagement unit. Altogether these assignments should count for 25% of the total grade of the class. (“Assignments” can include written work, presentations, graded participation in discussion groups, or any other activity for which students are assessed and receive a grade.)
- Learning activities related to the engagement unit must be designed to integrate the specific content and learning objectives for the class.
- Engagement activities must make up at least 25% of the course, but that is only a minimum. Instructors may choose to have additional assignments or activities of this type.

All students in this course must participate in a class project to reflect the work required for the engagement unit (EU) of the total four-unit course.
Bicycle Master Planning for the SJSU Campus

For all college campuses, safety is a key consideration for all students, faculty, staff, and visitors. Safety-related events on the SJSU campus include an unfortunate incident where a pedestrian was recently killed on campus by a bicyclist. The breadth of reactions to this unfortunate fatality on campus has included some as drastic as banning all bicycles on campus.

Banning bicycling on campus may not be the best solution to the safety problem that the SJSU community may be trying to solve. A full or comprehensive safety assessment may be appropriate in order to determine and demonstrate how bad the perceived safety problem really is. Banning bicycling on campus may result in unintended consequences of encouraging more people to drive to campus instead of riding their bikes. This travel modal shift may have the unintended consequences of increasing the parking demand on campus, and may even contribute to the increase in greenhouse gas emissions on campus.

Typically, a college campus bicycle master plan could take several steps, which may well extend beyond one semester's course work:

1. Problem definition, goal setting, and scope of work for the entire bike planning effort
2. Data collection, trend analysis, safety assessment, and campus policy review
3. Generation of viable alternatives for potential safety improvements
4. Perform alternatives analysis and prioritization of preferred alternative plan
5. Campus community outreach and consensus-building for preferred alternative plan
6. Preliminary conceptual design of preferred alternative plan and proposed implementation of the plan
7. Adoption of the preferred alternative plan and its implementation by SJSU authority

To get students ready for this class project, I highly recommend that students review the following websites for bike planning efforts from various college campuses in Northern California in order to get a good sense of what’s possible for the SJSU campus:

- UC Berkeley
  http://pt.berkeley.edu/sites/default/files/UCB_BikePlanFinal.pdf
- UC Davis
- UC Santa Cruz
- Stanford
  http://transportation.stanford.edu/alt_transportation/BikingAtStanford.shtml
- SFSU
  http://www.sfsumasterplan.org/analysis_27.html
- CSU East Bay
  https://www20.csueastbay.edu/af/departments/facilities/design/files/docs/master-plan/access.pdf
CSU Sacramento
http://csus-dspace.calstate.edu/bitstream/handle/10211.9/1954/CE%20500%20Project%20FINAL.pdf?sequence=5

Bicycle Safety Assessment (BSA) for the SJSU Campus

For the engagement unit for this year’s class project, students will work together in teams on conducting a Bicycle Safety Assessment (BSA) for the SJSU campus. Pls see the BSA technical guidebook at:


The BSA is the result of a grant project implemented by the Technology Transfer Program of the Institute of Transportation Studies at the University of California, Berkeley. Funding for this program is provided by a grant from the California Office of Traffic Safety, through the National Highway Traffic Safety Administration.

The BSA would focus on first three steps of the bicycle master planning for college campuses and lay out broad, preliminary, conceptual safety improvement options for future consideration as outlined in the previous section. As options for this project, the following data collection and analysis could be done as part of the BSA effort:

- Travel mode choice by students, faculty/staff, and the nearby communities—both existing conditions and future projections (research any travel survey data available from SJSU and the City of San Jose)
- Pedestrian and bicyclist collisions data analysis, trend analysis, and safety assessment (TIMS tool from UC Berkeley SafeTREC might be useful for this effort Transportation Injury Mapping System (TIMS)).

In addition to the BSA guidebook above, I will show a sample BSA technical report from Tech Transfer, which could serve a sample of what the ultimate goal and product could be.

We will explore the option of putting together a Technical Advisory Committee (TAC) to guide the implementation of the project. We will invite several experts for the TAC as pro-bono volunteers, potentially including SJSU faculty and administration, Santa Clara VTA, City of San Jose, and outside bicycle/pedestrian experts.

The class will tailor the typical BSA, which is usually conducted for local cities and counties, and make it suitable for the needs of a college campus. The entire class will be divided in about 5 teams of 3-4 members each. Project deliverables will be done and submitted by the teams. Operational details for the class project implementation will be provided in the Canvas course website.
Individual Paper: General Plan Sustainability Analysis
(for Graduate Students Only)

Overview and Purpose

For this graded assignment, you will compare the general plans from two cities to see how the cities do—or do not—integrate into their plans specific policies that promote environmentally sustainable transportation behavior and infrastructure. (For the purposes of this assignment, "environmentally sustainable" refers to the natural environment, not the social environment.) The assignment is designed to give you an opportunity to think carefully about the different opportunities cities have to shape transportation infrastructure and local travel behavior in more environmentally sustainable ways.

This assignment was originally designed by Prof. Asha Weinstein Agrawal for previous offerings of this course. She continues to graciously share this course assignment with our class for this semester. I have updated the course assignment to reflect current best practices in the field of Local Transportation Planning in California.

Tasks

Task 1: Pick two cities to compare

One of the cities you evaluate could be chosen from the following three, which are all known for their concern for the natural environment: Berkeley, San Francisco, and Seattle. You can find their plans on the web as follows:


You may also select another environmentally sensitive or “green” city for your first city of choice.

For your second city, choose any other city of roughly comparable size and/or character whose general plan you would like to review. (These plans are sometimes called by slightly different names, like "master plans" or, as in Seattle's case, a "comprehensive plan.") You might want to pick another city known to be "green" to see how different progressive cities approach transportation sustainability—and to see how well they both live up to their “green” reputations. Alternatively, you might want to pick a city not known to be particularly progressive, to see if its policies actually differ that much from the supposedly "green" city. Every student must select a unique pair of cities, so it’s first-come-first-served for reserving your choice of cities.

Task 2: Evaluate the two plans

Prepare a strategy to systematically evaluate the two plans and compare how effectively they promote environmentally sustainable transportation. When examining the plans, you will want to...
look not only at the transportation elements, but also at all other elements that might be relevant (i.e., land use).

For the final report, you are welcome to discuss any aspects of the plans that strike you as relevant to the assignment, but you must evaluate and analyze the following four issues:

1. The extent to which the plans discuss the interaction between transportation and the environment. For example, do they explicitly discuss this relationship? If so, how prominent are such explanations in the plans? Do the plans describe policies like transit and pedestrian improvements in terms of environmental benefits?
2. The extent to which the plans include policies that promote environmentally sustainable travel.
3. The extent to which the plans include policies likely to encourage environmentally unsustainable travel.
4. Your assessment of the overall strengths and weaknesses of each plan in terms of how well it promotes environmentally sustainable travel. Which plan do you think is more effective at doing so, and why?

You will want to design a system to evaluate the plans. For example, you may want to put together a comparison checklist of items you look for as you review each plan. You will want to document your evaluation system in a detailed outline and comparison checklist to be submitted before the first midterm exam.

Whatever system you use, be sure to describe your method of comparative analysis in the essay. Whether you end up using a very long and detailed comparison checklist or a simpler one, you will want to include it as an appendix to the essay, which you can add in addition to the maximum page limit for the assignment. Regardless of the complexity for your comparison checklist, plan on submitting the completed comparison checklist or matrix after the midterm. Both the detailed outline and completed comparison checklist will not be graded specifically, but they will help me determine if you are on the right track for your final paper. Any fatal flaws in your approach would and should be identified in these interim states of your paper research.

**Task 3: Write up your evaluation**

Write an essay presenting your evaluation of the two plans. It must discuss the four issues listed above, but you are free to discuss other points that strike you as relevant, too. Make sure that your paper does not merely describe the content of the plans. Instead, focus on writing a paper that evaluates and compares the two plans.

As you write, do not assume that your reader understands anything about the connection between travel behavior or transportation infrastructure and the natural environment. Include brief explanations in the paper, as needed, to explain these connections. For example, if you want to discuss that a city encourages the use of permeable pavement in parking lots, you would need to explain why such pavement is environmental preferable to impermeable pavement types.

The assignment should be 2,800 – 3,000 words in length, excluding footnotes, the bibliography, and appendices. Pls add the total word count at the bottom/end of the main section of the document.

San José State University

Urban and Regional Planning Department
Cite your sources using footnotes for any items other than the two plans. When citing specific elements of the two plans, you only need to indicate the relevant page number and section in parentheses. For example, if you are citing page 3 of the Transportation Element of Seattle’s plan, you could use something like the following format: (Seattle, T-3).

The paper must include a bibliography listing the plans you reviewed, plus any other items you cite.

**Grading**

The essays will be graded on:

1. the quality of the comparative analysis
2. the clarity and correctness of the writing
3. whether or not the essay covers the topics specified

**Special Note**


**Current General Plan Information**

According to their website below, the Governor’s Office of Planning and Research (OPR) has begun its 2014 update of the *General Plan Guidelines*. The OPR website will include the latest information on the update, including documents and meeting notifications.

http://opr.ca.gov/s_generalplanguidelines.php

A General Plan is the local government’s long-term blueprint for development. OPR is responsible for updating the General Plan Guidelines – the “how to” resource for drafting a General Plan. OPR also monitors General Plan implementation with annual progress reports from cities and counties, and grants general plan extensions for qualified cities and counties.


The 2003 General Plan Guidelines provides guidance to cities and counties in the preparation of their local general plans. In addition to the 2003 Guidelines, two subsequent supplements were also developed:

1) Community and Military Compatibility Planning, Supplement to the General Plan Guidelines

The *Community and Military Compatibility Planning, Supplement to the General Plan Guidelines* (Military Supplement) assists cities and counties in addressing military compatibility issues when developing, updating or significantly amending their general plans. These guidelines are the result of the passage of SB 1468 (Knight, 2002) and SB 1462 (Kuehl, 2003), which outline the responsibilities of cities and counties regarding the military in the planning and land use decision-making process.
2) Update to the General Plan Guidelines: Complete Streets and the Circulation Element

This December 2010 update to the 2003 General Plan Guidelines provides guidance on how cities and counties can modify the circulation element to plan for a balanced, multimodal transportation network that meets the needs of all users of the streets, roads, and highways for safe and convenient travel in a manner that is suitable to the rural, suburban, or urban context of the general plan.

About the Instructor

Eduardo C. Serafin, PE, AICP serves as Technical Program Manager at the Technology Transfer Program (Tech Transfer) of the Institute of Transportation Studies at the University of California, Berkeley. Eduardo is a nationally certified planner (specializing in urban and transportation planning) and a professional traffic engineer registered in the State of California. He has about 28 years of professional traffic/transportation experience covering planning, policy, environmental impact analysis, preliminary design, engineering operations, safety, complete streets, and multimodal planning. Eduardo is also a part-time adjunct lecturer at the San Jose State University in the Urban and Regional Planning graduate program.

Eduardo brings together his professional experience from California, the Northeastern U.S. states, Texas, and his native Philippines. Previously, he served as the first Senior Traffic Engineer for the City of Napa. In addition, he has over thirteen years’ experience in top private consulting firms specializing in transportation engineering and planning, as well as over ten years in applied research and training in major universities. At Tech Transfer, he spearheads the development of new training and technical assistance programs to address the dynamic needs of the California professional community in transportation engineering, planning, policy, and management. Eduardo holds a bachelor’s degree in Civil Engineering from the University of the Philippines, Diliman and graduate degrees in Transportation from the University of California, Berkeley and NYU Polytechnic School of Engineering.