Transportation Planning Fundamentals for California Streets

COURSE OUTLINE

Day 1 - Framework for Multimodal Transportation Planning in California
Instructor: Richard Lee

7:30 – 8:00 AM Check-in

8:00 – 9:15 AM Module 1
Self-Introductions
Icebreaker
Course Overview
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

9:15 – 10:30 AM Module 2
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
10:30 - 10:45 AM   Break

10:45 AM – 12:00 N  Module 3  
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” and Regional Transportation Planning  
- Mitigations: Transportation Systems management(TSM) and Travel Demand Management (TDM)

12:00 – 1:00 PM   Lunch (on your own)

1:00 - 2:15 PM   Module 4  
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

2:15 – 3:30 PM   Interactive Engagement  
We will present a case study of a real-life, multi-agency, transit transfer center. After a presentation and reading on the facts of the case, including proponents’ and opponents’ arguments, we will break into groups (4-8 students, depending on the size of the class) to discuss the merits of the principal arguments, and to develop alternative solutions to resolve the conflict. Each group will pick a spokesperson to report back the group’s collective thinking.

3:30 - 3:45 PM   Break
Module 5
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 5
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4:45 – 5:00 PM Course evaluation for Day 1

Day 2 - Optimizing Roadway Systems for Mobility and Multimodal Connectivity

Instructor: Rafat Raie

Module 6
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

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Module 7
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 - HCM 6th Edition
- Discovering transit demand
- Safe Route to Transit for pedestrians and bicyclists

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10:30 - 10:45 AM Break

Module 8
Multimodal Traffic Signals

- Traffic signal basics
- Planning - design - operations
- Timing philosophies, norm setting
- Latest in traffic signal technology

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- Vehicles - real time data and Signal Performance Measures (SPM)
- Transit - priority
- Pedestrians - scramble
- Bicycles - detection and timing
- Permissive treatments impact of pedestrian

12:00 – 1:00 PM     Lunch (on your own)

1:00 - 2:15 PM     **Interactive Engagement**
Multimodal Auditing Techniques and Walking Tour
- Elements to consider in a field audit
- Walking tour of a specified route and feedback/recommended actions
- Reality check of recommended actions

2:15 – 3:30 PM     **Module 9**
**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

3:30 - 3:45 PM     Break

3:45 – 4:45 PM     **Module 10**
**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

4:45 – 5:00 PM     Course evaluation for Day 2
Day 3 - Transforming Walking, Bicycling, and Transit into More Viable Modes  
Instructor: Charles Rivasplata

8:00 – 9:15 AM  **Module 11**  
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 and walking on residential streets  

9:15 – 10:30 AM  **Module 12**  
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 surface transit  
- Cycle tracks and buffered bike lanes  
- Bikes in rural and mountainous areas  
- Intersections, roundabouts and bike signal heads  
- Bike parking policies and development requirements  

10:30 - 10:45 AM  Break  

10:45AM – 12:00 N  **Module 13**  
Bicycle Paths  
- Differences between shared use paths, lanes, 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  

12:00 – 1:00 PM  Lunch (on your own)  

1:00 - 2:15 PM  **Interactive Engagement**  
Students will work on the following real-life problem: Given a downtown area with several one-way couplets, develop a strategy to accommodate bicycle modes. Trainees can choose between a set of possible applications, including converting the couplets to two-way streets, installing contraflow bike lanes, installing one-way or two-way cycle tracks on one side of the roadway, or installing bike lanes on the left side of one-way streets, among others.
2:15 – 3:30 PM  Module 14
Mass Transit Planning Concepts
• Why cities need public transit
• Ways to classify different forms of transit
• Transit, land use context and city size/density
• Transit-specific policies - city and regional level planning and regulation
• Transit fare and payment options
• Best practices - rider information, service options and integration with other modes

3:30 - 3:45 PM  Break

3:45 – 4:45 PM  Module 15
Transit Design & Operational Issues
• Key issues affecting transit travel speeds and delay
• Light rail and streetcar design elements
• BRT essential elements, operations, and design issues
• Subway, commuter rail, and regional rail
• LRT/Rail pedestrian safety
• Course evaluation for the day

4:45 – 5:00 PM  Course evaluation for Day 3