Bikeway Facility and Master Planning (TE-34)

Course Outline

Day 1 - Overview and Plan Structure

Introductions and Opening Remarks

- Introducing the instructor
- Workshop overview
- References and resources you need

Federal, State and Regional Policies

- Why bicycling is important
- Vision Zero in Planning for bicycle network
- Federal Level
- California Vehicle Code
- Streets and Highways Code
- MPO-level policies; Complete Streets, Green Streets, Green Infrastructure, etc.
- California Bikeway Funding and New Legislations
- LEED-ND (Neighborhood Design)

Policies of Bicycle-Friendly Cities 1

- What is a Bicycle-Friendly City (BFC)?
- League of American Bicyclists (LAB) - Building Blocks for Bicycle Friendly Community.

Day 2 - Bicycle Master Planning - Frameworks and Bikeway Types

Bicycle Master Planning

- Who are the Design Users?
- Traffic Characteristics - local vs out of town/unfamiliar
- What type of plan? (Bicycle Plan vs. Active Transportation Plan)

Network-level analysis and planning

- All Roads Are Bikeways. However...
- Bikeway types and applicability: volume/speed/context, passing environment
- Complete Streets, Modal Priority & impacts to primary mode(s), complete corridors
- Bicyclists' route choice factors: directness/distance, grade, travel time & delay, convenience, traffic stress level, conflict volume and severity, perceived safety, volume of other bicyclists, riding companions (e.g. family)
- Connectivity and barriers (physical and effective), spatial frequency vs. travel speed

- Level of Traffic Stress (LTS) analysis: visualizing connectivity gaps, prioritizing improvements

The bikeway application environment

- The Volume and Speed "space", informed by context (urban form, traffic character)
- "Social cycling" comfort factors: volume, speed, passing behavior, intersection approach configuration
- Street cross-section view / "width budget": building-to-building, ROW width, pedestrian realm, paved width, medians and turn lanes
- Street longitudinal view / "travel zones": Block-start, mid-block, transition, storage/queuing, intersection entry, midpoint and exit. Driveways, ramps and other conflict areas

Typical Bicycle Master Plan Elements

- Public Process: Stakeholders, outreach including equity and technology considerations. Technical Working Group, Policy Advisory Board, role of Bicycle/Pedestrian Advisory Committee/Commission
- Required Elements - State (Caltrans, BTA, etc), MPO, Countywide, regional, and/or funding requirements
    - Executive Summary
    - Overview / Context
    - Policy Framework: Vision, Goals, Policies, Action Statements
    - Relevant Plans, Studies, Policies, Projects
    - Existing Conditions (network, collision data)
    - Needs Analysis (Opportunities and Constraints)
    - Proposed Network (maps & lists)
    - Implementation Plan (tiers, short/medium/long term)
    - Funding Plan
    - Technical Resources
    - Project Detail Sheets
    - Design Guidelines (Appendix)

Day 3 - Bicycle Planning - Transportation Operations

Tools for Transforming Streets

- Street cross section & "width budget"
- Minimums vs. optimums
- Lane width reallocation
- "Tactical Urbanism", pop-up demonstrations, Park-Ing Day
- Lane assignment changes
- Parking modifications including time-of-day, bike corrals, parklets
- Minor and major widening
- Roundabouts and roundabout corridors

Using Transportation Operations to Transform

- Modal prioritization, Street Functional Classifications, and the role of General Plan/Circulation Plan.
- Land use change impacts on bike infrastructure.
- Environmental analysis and Threshold of Significance for bikeways
- Capital Improvement Program (CIP) planning for Bike infrastructure (pavement maintenance, landscaping maintenance, Street Sweeping, etc.]
- Regional plans and their interactions with a local Bike plan
- Long range Street planning for capacity and access needs
- Capitalizing the future street capacity changes due to land use and/or circulation changes.
- Pavement quality, drainage and other maintenance details
- TDM plans and policies.
- Consideration of other street users (Pedestrian, Transit, ADA, SR2S, Vehicle, trucks, Emergency Response, etc.). Working with *The "Width Budget"*
- On-going and future operational improvements and planning for it
- ITS plans and their role in bikeway planning
- Safe routes to School planning, its data needs, and its relationship to Bikeway planning
- Across jurisdictional boundary issues and planning (freeway interchanges, BART Stations, bus stops, bridges, etc.)
- Project Prioritization process

Day 4 - Bringing It All Together

Liability Operational VS Design

- Definitions
- Design Immunity and Negligence
- Field testing process for new traffic control devices to reduce liability risks
- Caltrans and FHWA approval process including the meaning of Interim Approvals
- State of the Literature
- Pilot studies and projects
- Consequences of Liability Concerns
- Operational aspects of liability - street maintenance, street sweeping, etc.

Policies of Bicycle-Friendly Cities 2

- Case Studies of Bicycle-Friendly Cities, Plans, and Approaches

Wrap-up

- Funding – grants, Traffic Impact Fees, public/private partnerships, etc.
- Technical resources
- Professional development and networking resources