Technical Advisory Committee Review

September 16, 2019
Presentation Outline

- Introductions and Overview
- Technical content review
- Discussion
- Funding and Implementation
- Discussion
- Wrap up and Next steps
Overview and Project Background
CTMP Scope

- Comprehensive Transportation Management Plan
- Requirement of LCP for Midcoast Unincorporated San Mateo County
Timeline

2014
- Board Approval
- Project Kick-off
- TAC/MCC/HMB Introduction
- Public Workshop #1 (Introduction)
- Buildout Analysis Report

2015
- TAC review:
  - Buildout Analysis
  - Trans. Alternatives
  - Land Use Strategies
  - MCC/HMB Presentation
  - Public Workshop #2 (Alternatives)
- Revised Public Outreach Scope
- TAC Review:
  - Forecast/Standard
  - MCC/HMB Presentation
  - Public Workshop #3 (Forecast/Standards)
  - Planning Commission

2016
- TAC review:
  - Revised Land Use and Transportation Alternatives
  - Public Workshop #4 (Improvements)
  - Planning Commission

2017

2018
- Continuing Technical Work
- Development of Draft CTMP

2019
- Revised Scope for Moss Beach Roundabout Analysis and Project Completion
- TAC review:
  - Draft CTMP

- Revised Scope for Cypress Roundabout Analysis
- Roundabout Charette
- Continuing Technical Work
Coordination with Other Studies

- Highway 1 Safety and Mobility Improvement Studies
- Highway 1 Congestion Management Project
- City of Half Moon Bay General Plan Update
- Plan Princeton
- San Mateo County Congestion Management Plan
- Golden Gate National Recreation Area Parking Assessment
Transportation Performance Standards
Proposed for Midcoast Region
### Intersection Level of Service

- **Minor Changes as compared to Countywide C/CAG CMP standards**
- **Addition of Caltrans warrant impact threshold**
- **Inclusion of roundabouts as community preferred control method**

<table>
<thead>
<tr>
<th>Level of Service</th>
<th>Average Control Delay (sec/veh)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Signalized Intersections</td>
<td>Unsignalized Intersections¹</td>
</tr>
<tr>
<td>A</td>
<td>≤ 10</td>
<td>≤ 10</td>
</tr>
<tr>
<td>B</td>
<td>&gt; 10 and ≤ 20</td>
<td>&gt; 10 and ≤ 15</td>
</tr>
<tr>
<td>C</td>
<td>&gt; 20 and ≤ 35</td>
<td>&gt; 15 and ≤ 25</td>
</tr>
<tr>
<td>D</td>
<td>&gt; 35 and ≤ 55</td>
<td>&gt; 25 and ≤ 35</td>
</tr>
<tr>
<td>E</td>
<td>&gt; 55 and ≤ 80</td>
<td>&gt; 35 and ≤ 50</td>
</tr>
<tr>
<td>F</td>
<td>&gt; 80</td>
<td>&gt; 50</td>
</tr>
</tbody>
</table>


**Notes:** ¹Worst Approach Delay (in seconds per vehicle) for Unsignalized Intersections
Roadway Level of Service

- Existing Standard based only on volume and Capacity
- Infeasible given lack of alternative routes and no desire to widen Highway 1
- Proposed revision of standard based on travel time and multimodal cross-section

\[
\text{Delay Index} = \frac{\text{Peak Hour Travel Time}}{\text{Freeflow Travel Time}}
\]

Deficiency Standard is:
- 3.0 with over 80% bicycle facility coverage
- 2.0 with under 80% bicycle facility coverage
### Pedestrian Level of Service

<table>
<thead>
<tr>
<th>Traffic Volumes (veh/hr)</th>
<th>Suggested Improvements</th>
<th>Pedestrian Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Low (Empty)</td>
</tr>
<tr>
<td><strong>0-800</strong></td>
<td>Crosswalk</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Crosswalk</td>
<td>X</td>
</tr>
<tr>
<td><strong>800-1600</strong></td>
<td>Ladder Crosswalk</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Intersection Lighting</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Pedestrian Signal/PPB (Sig)</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Countdown in Signal (Sig)</td>
<td>X</td>
</tr>
<tr>
<td><strong>1600-2000</strong></td>
<td>Crosswalk</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Ladder Crosswalk</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Intersection Lighting</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Pedestrian Signal/PPB (Sig)</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Countdown in Signal (Sig)</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Beacon Signs for Pedestrians (Undef)</td>
<td>X</td>
</tr>
<tr>
<td><strong>&gt; 2000</strong></td>
<td>Crosswalk</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Ladder Crosswalk</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Intersection Lighting</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Pedestrian Signal/PPB (Sig)</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Countdown in Signal (Sig)</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Beacon Signs for Pedestrians (Undef)</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Curb Extensions</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Median Refuge (4+ lanes)</td>
<td>X</td>
</tr>
</tbody>
</table>

### No Existing Standards

- Proposed design standards based on pedestrian demand and adjacent vehicle demand

### Suggested Improvements

- **0-800**: Crosswalk, X, X
- **800-1600**: Ladder Crosswalk, X, X
- **1600-2000**: Intersection Lighting, X, X
- **> 2000**: Curb Extensions, X

### Presence of Buffer

- X
No Existing Standards

Proposed design standards based on gap closure and adjacent vehicle demand

Proposed 85% recreational destination bicycle parking utilization standard to encourage usage

### Facility and Intersection Treatments

<table>
<thead>
<tr>
<th>Traffic Volumes (veh/hr)</th>
<th>Suggested Improvements</th>
<th>Bicycle Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>0-800</td>
<td>Class III bikeway</td>
<td>X</td>
</tr>
<tr>
<td>800-1600</td>
<td>Class III bikeway</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Class II bikeway</td>
<td></td>
</tr>
<tr>
<td>1600-2000</td>
<td>Class IV separated bikeway</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Intersection bike detection (Signal)</td>
<td></td>
</tr>
<tr>
<td>&gt; 2000</td>
<td>Class II bikeway</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Class IV separated bikeway</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Intersection bike detection (Signal)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dashed intersection bike lane</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Left-turn intersection bike lane</td>
<td>X</td>
</tr>
</tbody>
</table>
Transit Level of Service

- No Existing Standards
- Proposed 85% utilization for route frequency
- Amenity standards focused on local context rather than compared to high demand transit corridors
Buildout Conditions
Based on Constrained Forecast
Land Use Strategies

- Lot Merger Program
- Lot Retirement Program
- Development Review and Transportation Mitigation Fee Program

Total Project List Cost

Distribution of fee based on project size and impact
Intersection Deficiencies

Currently undergoing Caltrans ICE analysis process to review control options
### Roadway Deficiencies

**Highway 1 from 1st Street to Mirada Road**

<table>
<thead>
<tr>
<th>Location</th>
<th>Direction of Travel</th>
<th>Operating Standard</th>
<th>Freeflow Travel Time (s)</th>
<th>AM Peak Hour</th>
<th>PM Peak Hour</th>
<th>Weekend Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NB</td>
<td>2</td>
<td>6.5</td>
<td>08:02</td>
<td>08:24</td>
<td>08:34</td>
</tr>
<tr>
<td></td>
<td>SB</td>
<td></td>
<td></td>
<td>08:28</td>
<td>08:38</td>
<td>18:31</td>
</tr>
</tbody>
</table>

- **Travel Time (min)**
  - AM Peak Hour: 08:02
  - PM Peak Hour: 08:24
  - Weekend Peak Hour: 08:34

- **Delay Index**
  - AM Peak Hour: 1.24
  - PM Peak Hour: 1.29
  - Weekend Peak Hour: 1.32

Deficient without parallel bicycle facilities.
Deficiency Projects
- Intersection Control
  - Roundabout or Signal
- Safety and Circulation
  - Paved shoulder and curb
  - Turn lanes and acceleration lanes
  - Side street stop signs
  - Local street calming
  - SR-92 lanes and signage

Project Sources
- Highway 1 Safety and Mobility Study
- Development Impact identification
- CTMP analysis
Significant Systemwide lack of:

- Safe pedestrian crossings
- Defined cross-section with grade-separation between vehicle and pedestrian travel
- Comprehensive bicycle facilities
Pedestrian and Bicycle Projects

Deficiency Projects
- Regular pedestrian crossings with beacons
- Highway 1 Parallel Trail
- Highway 1 Class II bicycle lanes

Safety and Circulation
- El Granada and Moss Beach pedestrian and bicycle improvements
- Parallel bicycle facilities

Project Sources
- Highway 1 Safety and Mobility Study
- CTMP analysis
Transit and Parking Projects

- **Deficiency Projects**
  - Transit shelter installation

- **Safety and Circulation**
  - Park & Ride lots
  - Increased Samtrans Service frequency
  - Increased recreational parking facilities

- **Project Sources**
  - Highway 1 Safety and Mobility Study
  - Coastside Access Study
  - CTMP analysis
TAC Discussion
Standards, Deficiencies, and Project Lists
Funding and Implementation
## Identified Project Costs

<table>
<thead>
<tr>
<th>Facility</th>
<th>Total Project Cost (in 2018 dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roadway</td>
<td>$33,341,200</td>
</tr>
<tr>
<td>Pedestrian and Bicycle</td>
<td>$63,802,800</td>
</tr>
<tr>
<td>Parking</td>
<td>$2,794,800</td>
</tr>
<tr>
<td><strong>Recommended Projects Total</strong></td>
<td><strong>$99,938,800</strong></td>
</tr>
</tbody>
</table>
Funding Sources and Categorization

- Federal
  - DoT
  - FHWA

- State
  - Caltrans
  - Office of Traffic Safety
  - Dept of Park and Rec & Natural Resources Agency

- Regional
  - MTC
  - BAAQMD
  - C/CAG

- Highway Improvements/Roadway Maintenance
- Pedestrian and Bicycle Improvements
- Enhancement/TOD/Transportation for Livable Communities/Congestion Management
- Transit Capital/Operations
- Safety
## Implementation

### Priority Actions

<table>
<thead>
<tr>
<th>Implementation Action</th>
<th>Lead and Partners</th>
<th>Project Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implement Lot Merger Program</td>
<td>County Planning Staff</td>
<td>June 2020</td>
</tr>
<tr>
<td>Complete Project Implementation Documents for Moss Beach Roundabouts</td>
<td>County Planning Staff with Consultant Assistance</td>
<td>June 2020</td>
</tr>
<tr>
<td>Complete Construction of Phase 1 of Parallel Trail</td>
<td>San Mateo County Department of Planning and Building</td>
<td>December 2021</td>
</tr>
<tr>
<td>Develop Transportation Impact Fee Ordinance for Public Review and Board Adoption</td>
<td>San Mateo County Departments of Planning and Building and Public Works</td>
<td>December 2020</td>
</tr>
</tbody>
</table>

### Ongoing Actions

<table>
<thead>
<tr>
<th>Ongoing Actions</th>
<th>Responsible Parties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation Facility Maintenance</td>
<td>Caltrans, San Mateo County Departments of Parks and Public Works, California State Parks, GGNRA, Private Land Owners</td>
</tr>
<tr>
<td>Monitor Auto Traffic</td>
<td></td>
</tr>
<tr>
<td>Monitor Building Permits for New Construction</td>
<td>San Mateo County Departments of Planning and Building</td>
</tr>
<tr>
<td>Seek and Obtain Grant Funds for CTMP Projects</td>
<td>San Mateo County Departments of Planning and Building, Parks, and Public Works; California State Parks, C/CAG</td>
</tr>
<tr>
<td>Collaborated with SamTrans and C/CAG on Bus Service Improvements</td>
<td>San Mateo County Departments of Planning and Building</td>
</tr>
</tbody>
</table>
TAC Discussion
Funding and Implementation
Next Steps – Plan Adoption

- Plan Presentation and Revision
  - MCC/HMB and Planning Commission presentations
  - Final Public Outreach
  - Board approval
## Next Steps – Project Evaluation

### Project Evaluation Metrics

<table>
<thead>
<tr>
<th>Metric</th>
<th>Description</th>
<th>Score Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Cost</td>
<td>Project design, capital and permitting cost</td>
<td>1 to 3 (H to L)</td>
</tr>
<tr>
<td>Ease of Implementation</td>
<td>Funding, permitting, and environmental</td>
<td>1 to 3 (H to L)</td>
</tr>
<tr>
<td>Multimodal Connectivity</td>
<td>Measures extent that a project fills a gap in existing bicycle, pedestrian or transit networks</td>
<td>1 to 3 (L to H)</td>
</tr>
<tr>
<td>Safety and Circulation</td>
<td>Safety Bonus</td>
<td>1 to 3 (L to H)</td>
</tr>
<tr>
<td>Shoreline Access</td>
<td>Bonus for enhanced shoreline public access</td>
<td>1 to 3 (L to H)</td>
</tr>
<tr>
<td>Annual Cost</td>
<td>Operations and Maintenance</td>
<td>1 to 3 (H to L)</td>
</tr>
<tr>
<td>Overall Score</td>
<td>Total obtained score</td>
<td>1 to 3 (H to L)</td>
</tr>
</tbody>
</table>

### Project Scores

- **Sum over all categories**
- **Highest priority projects have a score over 12**
- **Lowest priority projects have a score under 8**
Thank you!

- TAC comments by September 30

- Joe LaClair - jlaclair@smcgov.org
  Josh Pilachowski – josh@dksassociates.com