EL CAMINO REAL CORRIDOR STUDY

Transportation Commission Presentation
November 12, 2014
City of Menlo Park
Presentation Outline

- Study Objectives and Overview
- Existing Conditions and Survey Results
- Proposed Alternatives
- Input on Alternatives
STUDY OBJECTIVES AND OVERVIEW
Study Objectives

- **Review potential transportation and safety improvements.**
- **Consider possible alternatives** to allow for the addition of a bicycle lane or an additional through lane.
- **Identify potential reconfiguration alternatives.**
- **Evaluate the feasibility** and potential impacts of up to **three (3)** alternatives to improve **multi-modal** transportation.
- **Impacts** to traffic, active transportation, safety, parking and aesthetics will be addressed.
- **Within the limited right-of-way available,** assess safety, efficiency and convenience **trade-offs** between motorists and bicyclists.
EL CAMINO REAL CORRIDOR STUDY
Guidelines

- El Camino Real between Encinal Avenue and Sand Hill Road will be evaluated.
- Modifications to side-streets will be considered between the western side of the Caltrain tracks and the eastern side of Curtis Street-Hoover Street-Alto Lane.
- All proposed modifications should be consistent with the El Camino Real/Downtown Specific Plan.
- Only surface improvements will be considered (i.e., no grade separation or tunneling).
- Impacts (both beneficial and adverse) to all modes of travel will be considered in this study.
- Ultimate design and implementation of modifications to El Camino Real will need to meet Caltrans requirements and standards.
Study Elements

- Identify performance metrics
- Community Workshop #1 (complete)
- Document existing conditions
- Community Workshop #2 (complete)
- Develop travel demand forecasts
- Develop and analyze alternatives
- Community Workshop #3
- Prepare conceptual design plans and estimated costs for alternatives
- Based on feedback, a preferred plan will be identified
- Full design plans will be prepared for ECR/Ravenswood intersection
- Environmental analysis will be completed for the preferred plan
Community Participation Opportunities

- Completed 2 Community workshops (1 forthcoming)
- City Commission and Council Hearings
- Project website
  - www.menlopark-elcamino.com
- Online Survey
EXISTING CONDITIONS AND SURVEY RESULTS
El Camino Real Corridor Study

El Camino Real - Average Daily Traffic Volume

Average Daily Traffic (Two-Way, Vehicles Per Day)

North

South

Truck traffic: 1.5 - 2% of traffic during the afternoon
Current Conditions

Hourly Traffic Trends – ECR north of Middle Avenue

Northbound
Southbound
## Current Conditions

<table>
<thead>
<tr>
<th></th>
<th>Northbound</th>
<th>Southbound</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM Peak Average Travel Time</td>
<td>3:48</td>
<td>5:06</td>
</tr>
<tr>
<td>AM Peak Average Speed</td>
<td>21.5 mph</td>
<td>15.7 mph</td>
</tr>
<tr>
<td>Midday Peak Average Travel Time</td>
<td>4:35</td>
<td>3:48</td>
</tr>
<tr>
<td>Midday Peak Average Speed</td>
<td>17.5 mph</td>
<td>21.3 mph</td>
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<tr>
<td>PM Peak Average Travel Time</td>
<td>5:24</td>
<td>5:00</td>
</tr>
<tr>
<td>PM Peak Average Speed</td>
<td>14.9 mph</td>
<td>16.1 mph</td>
</tr>
</tbody>
</table>
## Current Conditions – Pedestrians & Bicyclists

### Hourly volumes (morning – afternoon)

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Pedestrian</th>
<th>Bicycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECR/Oak Grove Rd</td>
<td>53-88</td>
<td>20-7</td>
</tr>
<tr>
<td>ECR/Santa Cruz Ave</td>
<td>96-144</td>
<td>19-13</td>
</tr>
<tr>
<td>ECR/Ravenswood-Menlo Ave</td>
<td>35-46</td>
<td>26-25</td>
</tr>
<tr>
<td>ECR/Middle Ave</td>
<td>13-28</td>
<td>9-17</td>
</tr>
<tr>
<td>ECR/Sand Hill Rd</td>
<td>113-41</td>
<td>201-55</td>
</tr>
</tbody>
</table>
Existing Marked Crosswalks
Bicycle Facilities Plan
Current Conditions

Caltrain Menlo Park Station: Average Weekday Ridership

<table>
<thead>
<tr>
<th>Train Direction</th>
<th>Northbound</th>
<th>Southbound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boardings</td>
<td>900</td>
<td>700</td>
</tr>
<tr>
<td>Alightings</td>
<td>600</td>
<td>800</td>
</tr>
</tbody>
</table>
Current Conditions

Samtrans Bus Route ECR Northbound: Average Weekday Ridership

- Encinal Ave
- Glenwood Ave
- Oak Grove Ave
- Ravenswood Ave
- Middle Ave
- Cambridge Ave

Average Weekday Rider Count

Boardings
Alightings
Current Conditions

Samtrans Bus Route ECR Southbound: Average Weekday Ridership

- Menlo College
- Valparaiso Ave
- Oak Grove Ave
- Live Oak Ave
- Middle Ave
- Cambridge Ave

Boardings and Alightings

Stops
About the Survey

The survey was conducted online during the initial stage of the El Camino Real Corridor Study following the first community workshop. It was active between June 16 and September 12, 2014 and had a total of 309 participants.

Who took the survey?

The survey asked participants where they live and work.

- **46%** LIVE
  - 18% WORK
    - 15% WORK
    - 13% LIVE
    - 8% LIVE

  - 46% LIVE
    - 33% LIVE
    - 24% WORK
    - 43% WORK

  - 18% WORK
    - 15% WORK
    - 13% LIVE
    - 8% LIVE

How they travel on El Camino Real

- 83% regularly DRIVE
- 61% regularly BIKE
- 61% regularly WALK
- 6% regularly use local BUS TRANSIT

Fun Facts

- 33% multiple times a day
- 14% approximately once per day
- 36% a few times a week
- 17% almost never drive

- 19% on a daily basis
- 22% several times per week
- 19% mostly on weekends
- 39% almost never bike

- 9% on a daily basis
- 25% several times per week
- 27% mostly on weekends
- 39% almost never walk

- 1% on a daily basis
- 4% several times per week
- 1% mostly on weekends
- 94% almost never use transit

- 55% of drivers also ride bicycles on El Camino Real and 61% also walk.
- 55% of drivers also ride bicycles on El Camino Real and 61% also walk.
- Most drivers travel El Camino Real to shop and visit local businesses, and 50% of drivers use it to travel to and from work.
- The potential change rated highest among cyclists was the inclusion of bicycle lanes, followed by enhanced pedestrian safety and crossings, the second highest was adding traffic signals to favor continuous north-south flow.
- Of the 18 respondents who regularly use bus transit, 15 live within a 1/2-mile of the corridor, 2 live within 1/2 mile, and 1 work within that distance.
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- The potential change rated highest among transit users was the inclusion of bike lanes, followed by enhanced pedestrian safety and crossings, and more bike parking.

Why do participants travel on El Camino Real?

- 76% for shopping
- 69% are patronizing local businesses
- 56% to access Caltrain
- 51% to and from work
- 19% to and from school
- 17% for physical activity

Participants also use the corridor...

- ... to connect to other cities in the region
- ... to access the library and recreation center
- ... for events and children’s activities
- ... as an east-west crossing
- ... to visit friends and family

On of the Caltrain Users...

- 38% bike to Caltrain
- 34% walk to Caltrain
- 21% drive and park at Caltrain
- 7% are dropped off by another vehicle or transit

Walking to School

- 99% of participants have children who need to cross El Camino Real to get to school. Comments showed that many participants consider the corridor to be unsafe and would not allow their children to walk there alone.
Online Survey Results
El Camino Real Corridor Study

Potential Changes to El Camino Real
The survey presented 17 ideas for potential changes to El Camino Real, based directly on input received at the first community workshop. Participants were asked to rate each idea from least desirable to most desirable.

Ratings: Positive Neutral Negative

The most-desired changes:
- 81% 16% 3% Enhanced pedestrian safety and crossings on El Camino Real
- 72% 16% 12% Inclusion of bicycle lanes on El Camino Real
- 70% 23% 8% More landscaping: providing buffers between pedestrians and bicyclists and vehicles
- 66% 24% 10% More bike parking close to downtown
- 64% 24% 12% Timing traffic signals to favor continuous north-south flow
- 56% 38% 6% Reduction in delay at signalized intersections
- 55% 30% 15% Wider sidewalks

The least-desired changes were:
- 17% 32% 51% Higher travel speeds on El Camino Real
- 8% 30% 62% More convenient on-street parking on El Camino Real

Other desired changes with over 50% positive ratings:
- 72% 16% 12% Inclusion of bicycle lanes on El Camino Real
- 70% 23% 8% More landscaping: providing buffers between pedestrians and bicyclists and vehicles
- 66% 24% 10% More bike parking close to downtown
- 64% 24% 12% Timing traffic signals to favor continuous north-south flow
- 56% 38% 6% Reduction in delay at signalized intersections
- 55% 30% 15% Wider sidewalks

Some Opinions about El Camino Real
65% of participants agreed that there is enough capacity on El Camino Real for automobiles, and that future improvements should focus on other modes of travel such as bicycles, pedestrians, and transit.

79% of respondents disagreed or were neutral with the idea of placing dedicated Bus Rapid Transit lanes on El Camino Real through Menlo Park.

56% of participants felt that street parking on El Camino Real is not essential for the convenience of customers of small businesses. A majority agreed that parking should be eliminated to make room for bike lanes, though 63% also agreed that any on-street parking that is removed should be replaced off-street, nearby.

84% of respondents agreed that routes parallel to El Camino Real are not convenient for bicycle travel, though many also agreed that El Camino Real is not safe for bicycles. If bicycling conditions improved, 74% would consider cycling rather than driving for short trips and errands.

69% of respondents agreed that a parallel pedestrian path or trail should be provided separate from the main roadway. If conditions for pedestrians improved, 60% said they would rather walk than drive for short trips and errands.

Open-Ended Questions
The survey asked 3 open-ended questions:

1. In your opinion, how well does El Camino Real currently serve your transportation needs?
   "It’s fine for driving needs, though slow during rush hour. It’s useful for bicycling and an improvement in my riding more frequently. I never ride along El Camino and I very much dislike crowding it due to not always being noticed by drivers who are turning or simply passing me at 15 mph. Not nearly enough time to cross as a pedestrian... dangerous.”

2. What is the most important traffic/transportation/circulation issue to you on the El Camino Real corridor in the City of Menlo Park?
   "This road always feels unsafe. It does not connect with side streets and the local community. It is unsafe for biking and walking (two options that, if safer, might reduce car traffic for short trips). The traffic lights are incredibly annoying in their timing/lack of sensible programming.
   "The most important issue is how much of a physical barrier ECR is between the east and west sides of Menlo Park.
   "Pedestrian safety while walking along and attempting to cross El Camino. Access to public transit and bus service is hampered by difficult and dangerous crossings with poor signalization, especially for visually impaired pedestrians.”

3. What intersection or portion of El Camino Real do you have concerns with?
   "I live near El Camino Real, and walk it as a pedestrian, a cyclist, and a pedestrian. As a motorist, El Camino in Menlo Park is the most congested and busiest portion of my commute. As a cyclist (and Bicycle Commissioner), El Camino is a hazard, which must be carefully navigated at the beginning and end of my daily commute. As a pedestrian, El Camino is ridiculously dangerous.”

4. I try to avoid using ECR where possible and go across to other parallel streets at commute times due to congestion. ECR is a more direct route, so I would prefer to use it for my transportation needs if the flow were better.

What is the most important traffic/transportation/circulation issue to you on the El Camino Real corridor in the City of Menlo Park?

“Lack of safe alternatives to driving alone. That’s the #1 way to reduce congestion.”

“Congestion at most times during the day. Need to move through traffic through!”

“Safe routes to Schools and Parks should be a top priority. Many kids that are old enough to bike to soccer games, baseball practice, the library, etc. don’t do it because it’s not safe to cross El Camino on a bike. All bike travel and pedestrian safety issues should be top priorities.”

“Lack of coordination of traffic timing between neighboring jurisdictions...”
PROPOSED ALTERNATIVES
Existing Cross Sections

Between Valparaiso & Oak Grove – Existing
Existing Cross Sections

South of Ravenswood – Existing
Existing Cross Sections

South of Middle Ave - Existing
Proposed Alternatives

- Continuous Three Lanes
- Buffered Bike Lanes
- One-Way Cycle Tracks
1A. Between Valparaiso & Oak Grove – 6-lane ECR
Existing Cross Sections

Between Valparaiso & Oak Grove – Existing

- Sidewalk
- Parking lane
- Drive lane
- Drive lane
- Planting strip
- Drive lane
- Drive lane
- Parking lane
- Sidewalk
Alternative #2 – Buffered Bike Lanes
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Alternative 2: Buffered Bike Lanes

2A. Btwn Valpo & Oak Grove – Buffered Bike Lane
Existing Cross Sections

Between Valparaiso & Oak Grove – Existing
Mixing Zone
Mixing Zone
Mixing Zone
Mixing Zone/Bike Box
Alternative #3 – One-Way Cycle Tracks
Alternative #3 – One-Way Cycle Tracks
Alternative #3 – One-Way Cycle Tracks
Alternative #3 – One-Way Cycle Tracks
Protected Intersections
Protected Intersections
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Alternative #3 – One-Way Cycle Tracks

3A. Btwn Valpo & Oak Grove – One-Way Cycletrack
Existing Cross Sections

Between Valparaiso & Oak Grove – Existing
Next Steps

- Finalize Alternatives
- Develop travel demand forecasts
- Analyze Alternatives
- Community Workshop #3
- Prepare conceptual design plans and estimated costs for alternatives
- Based on feedback, a preferred plan will be identified
- Full design plans will be prepared for ECR/Ravenswood intersection
- Environmental analysis will be completed for the preferred plan
El Camino Real Corridor Study

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Alternative #1 – Continuous Three Lanes

- Addition of a 3rd through lane in both directions on El Camino Real between Encinal Avenue on the north and Roble Avenue on the south.

- NB Right Turn lane approaching Ravenswood Avenue would become the 3rd travel lane and the road would be widened to create a new NB right turn lane.

- Existing right-turn pockets at Santa Cruz, Oak Grove, etc. would become shared through/right-turn lanes.

- No bulbouts could be added under this alternative due to geometric constraints.

- There still may be opportunities to provide some bulbouts south of Roble Avenue.
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Alternative 1: Continuous 3 lanes

1A. Between Valparaiso & Oak Grove – 6-lane ECR
Alternative 1: Continuous 3 lanes

1B. South of Ravenswood – 6-lane ECR
Alternative 1: Continuous 3 lanes

1C. South of Middle Ave – Existing
Alternative #2 – Buffered Bike Lanes
Alternative #2 – Buffered Bike Lanes

- Buffered Bike lanes would be added in both directions through lane narrowing and elimination of parking on the majority of the segment.

- Existing right-turn lanes north of Roble Avenue would be eliminated in their current form.

- Along the entire corridor where necessary, right-turn lane/bike mixing zones would be provided at intersections.

- In the northbound direction approaching Ravenswood, the roadway would be widened to accommodate the 3rd travel lane, NB right turn lane and the buffered bike lane. (3rd Travel lane would take the place of the existing right-turn lane.)
Alternative 2: Buffered Bike Lanes

2A. Btwn Valpo & Oak Grove – Buffered Bike Lane
Alternative 2: Buffered Bike Lanes

2B. South of Ravenswood – Buffered Bike Lane
Alternative 2: Buffered Bike Lanes

2C. South of Middle Ave – Buffered Bike Lane
Alternative #3 – One-Way Cycle Tracks
Alternative #3 – One-Way Cycle Tracks

- One-way cycle tracks would be added in both directions and buffered from through traffic and supplemented with a “protected intersection” design at intersections.

- Three levels of buffering could be employed (pavement markings, flexible bollards and/or curb-landscaping would all be shown as options for the separation between the travel lane and the cycle track.

- The facility would be created through the elimination of right-turn lanes and parking on the majority of the corridor.

- NB right turn lane approaching Ravenswood Avenue would be maintained, but some widening on this section will be required to achieve the one-way cycle track.

- No widening for a 3rd travel lane
Alternative #3 – One-Way Cycle Tracks

3A. Btwn Valpo & Oak Grove – One-Way Cycletrack
Alternative #3 – One-Way Cycle Tracks

3B. South of Ravenswood – One-Way Cycletrack
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Alternative #3 – One-Way Cycle Tracks

3C. South of Middle Ave – One-Way Cycletrack
Two-Stage Bike Queue Box
Two-Stage Bike Queue Box
Bike Box
Bike Box
Bike Box
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