

TO: HONORABLE CITY COUNCIL

FROM: CITY MANAGER

**DEPARTMENT: PLANNING AND
COMMUNITY ENVIRONMENT**

DATE JULY 15, 2002

CMR:341:02

**SUBJECT: STUDY SESSION ON CALTRANS/EL CAMINO REAL MASTER
SCHEMATIC DESIGN PLAN PROJECT**

This report provides the City Council background information for the July 15 Study Session, and no Council action is required

BACKGROUND

This project is a Caltrans Demonstration Grant Project sponsored jointly by the City and Caltrans. The study area is the Caltrans right of way on El Camino Real in Palo Alto, and the purpose of the project is to explore context-sensitive design solutions for in-town highways, using El Camino Real as a prototype. The project began in January 2002 and will be completed in December 2002.

The key project objectives are to increase safety and comfort for all travel modes, improve the appearance and urban design character of the street, and improve the quality of life and the environment on the street and in nearby neighborhoods.

The project will produce a Master Schematic Design Plan (Master Plan) for El Camino Real. This Master Plan can be used to apply for federal, state and county funding for future construction of improvements that are identified in the Master Plan. The Master Plan will also be used to guide tree planting and other landscape improvements in El Camino Real medians, and to guide other interim street improvements.

DISCUSSION

The proposed draft street designs being presented in this report intend to meet the needs of all interest groups with a stake in the outcome of the project. These interests include bicycle advocates, motorists, tree advocates, businesses on the street, transit riders, pedestrians, and residents of nearby neighborhoods. They also include Caltrans, the

Valley Transportation Authority (VTA) and adjacent cities. All of these interests are represented on the project Advisory Group or the Technical Advisory Committee. While these interests may sometimes appear to be in competition for limited space within the right of way, their needs are more often interrelated in a mutually supportive way. For example, wider sidewalks and wider medians are essential both for pedestrians and for more and healthier street trees. A tree-shaded street is more comfortable and pleasant for bicyclists, pedestrians, and also for motorists.

The proposed draft street designs include space for bicycles. The City's Draft Bicycle Master Plan identifies El Camino Real as a bicycle route, because a significant number of bicyclists of varying skill levels use the street daily, and they need to be safely accommodated. The existing street makes no provision for bicycles. Providing minimum shared travel space for bicycles requires only an additional 4 feet across the entire street cross section, and the preferred marked bike lanes would require 6 feet. It appears that this space can be provided while adequately meeting other objectives. Providing for bicycles along El Camino Real should help future improvement projects compete for limited grant funding, as the improvements will make El Camino Real a multimodal street.

The project is being closely coordinated with the objectives of the Trees for El Camino Project. A minimum median width of 8 feet, including at left turn lanes, is being proposed in the draft street designs in order to accommodate large canopy trees in the medians. While the current Caltrans standard requires a minimum width of 12 feet, it is a working assumption of the project that this requirement will be reduced to 8 feet or less. (See Attachment A, Memorandum to Caltrans from Community Design & Architecture dated June 20, 2002, page 7.) To meet the Trees for El Camino Project objective to begin planting street trees on El Camino Real during this coming winter, the project will identify areas where prototype tree planting can occur in January, 2003 with more extensive planting to occur in December, 2003. The City will prescreen and pre-purchase trees to assure high quality stock is available.

The City is working closely with Caltrans representatives from Caltrans District 4 and Sacramento, and Caltrans staff attend project Advisory Group and Technical Advisory Committee meetings. Assemblyman Joe Simitian has hosted two meetings between Caltrans representatives and staff and elected officials from Palo Alto, Menlo Park and Redwood City, to facilitate and encourage flexibility in the application of Caltrans standards. A third follow up meeting is scheduled in November. The dialogue with Caltrans has resulted in a request for exceptions to specific road design standards being submitted by the City to Caltrans on June 20. (See Attachment A, Memorandum to Caltrans from Community Design & Architecture dated June 20, 2002.) To resolve the issue of the minimum median width required for planting large trees, Caltrans has commissioned a study that will be completed in December 2002. Representatives from Palo Alto, Menlo Park and Redwood City met with the author of the study to review

Phase I of the work and will review and comment on the final draft. A Memorandum of Understanding between City and Caltrans will be prepared at the end of the project indicating areas where there is mutual agreement regarding exceptions to current Caltrans standards.

VTA's objectives for increasing bus service on El Camino Real, including a future bus rapid transit (BRT) line, are being incorporated into the project. Bus Route 22 which includes Palo Alto's segment of El Camino Real has the highest ridership in the County.

Design Approach

There has been a dramatic change in context since the existing El Camino Real was constructed as a single purpose road in early 1960's. Any new design should provide space for a wider variety of users and community interests: pedestrians, bicyclists, motor vehicle drivers, large canopy trees, businesses on the street, bus riders and nearby neighborhoods. This can be accomplished in various ways.

Space can be reclaimed from motor vehicles by:

- Narrowing the width of travel lanes, within national standards of the American Association of State Highway and Transportation Officials (AASHTO).
- Reducing number of travel lanes from 6 to 4 in selected areas, while meeting local and regional requirements for handling increased traffic in the future and preserving El Camino's role as an arterial in the regional roadway system.
- Possibly reducing curbside parking in selected locations. Curbside parking can be retained where it is needed by businesses on the street.

This reclaimed space can then be used for:

- Wider sidewalks for ADA compliance, comfort and safety of pedestrians, improved health of sidewalk trees, and other activities.
- Wider medians for large canopy trees and pedestrian refuges.
- Bicycle lanes.

The project proposes to design the road so that drivers will travel at speeds of 30 – 35 miles per hour (mph). The road is currently posted 35 mph in the southern segment and 40 mph north of Park Boulevard. However, most of the design features of the existing road support a higher speed of 50 mph or more. These design features include vertical and horizontal alignment, lane widths, clearances, lane transitions and sight lines. The slower 30 – 35 mph speed is being proposed for the following reasons:

- Road design standards are based on the design speed of the road, and design dimensions are more lenient at lower speeds. This helps meet multiple project objectives in the limited space; for example, shorter lane transition requirements will make it easier to provide both wide medians and curbside parking spaces.

- Road capacity is greatest at 30mph as the slower speed is offset by a shorter required distance between cars.
- The slower 30 mph speed is safer in urban conditions. Traffic studies conducted as part of this project have found that cars are speeding at 50 mph in some segments of the road even during peak hour, and that four locations on El Camino Real with higher than average accident rates occur near these high speed areas. The severity of accidents increases with speed. Accidents involving pedestrians or bicyclists are more likely to be fatal at speeds over 30 mph. (See Attachment B, The Driver’s Focus at Different Speeds, Oregon Main Street Handbook, page 25.)

Proposed Combination Four-lane and Six-lane Design Scheme

The proposed design for the street that is under consideration would retain six travel lanes (plus left turn lanes) at four regional intersections (Alma, Embarcadero, Page Mill Road and Charleston) and along other sections of the road where required to satisfactorily convey motor vehicles and maintain adequate travel time. Four travel lanes (plus left turn lanes) would be proposed where additional space could best serve the multimodal and aesthetic goals of the project and the additional lanes are not needed for traffic.

Different designs have been developed for the northern and southern sections of the road. Along the Stanford frontage, the road design reflects the rural character of the Stanford University campus and other adjacent uses such as Palo Alto High School and El Camino Park. South of Stanford Avenue the road design responds to the more urban environment in this area. The cross sections for the four- and six-lane configurations in the Stanford segment are labeled Stanford 4 and Stanford 6, and the cross sections for segments south of Stanford Avenue are labeled Urban 4 and Urban 6. (See Attachment C, Street Cross Sections 1 - 3)

The minimum space needs of the various project objectives can be met in all sections of the street, although in the most constrained conditions trade-offs need to be made giving priority to one element or another in response to adjacent conditions. For example, in the southern section of the street in locations where there are six travel lanes plus left turn lanes, curbside parking can be provided on only one side of the street if all other design elements remain at desired dimensions. Alternatively, limited parking could be provided on both sides of the street in “parking pockets” inset into a 14-foot-wide sidewalk. In this case, the bicycle lane is reduced from 5 feet to 4.5 feet, and the sidewalk adjacent to the parked cars is only 7 feet wide.

All of the typical street cross sections meet the following two standards:

- Width of travel lanes and turn lanes meet AASHTO standards.
- Medians are at least 8 feet wide even at turn pockets to allow for large trees.

- Width of sidewalks meet ADA and Title 24 access standards.

Unless otherwise noted, all cross sections provide:

- Marked bike lanes 5 feet wide.
- Sidewalks (or walk plus planting strip) at least 10 feet wide.
- Curbside parking on both sides of the street.

Following is a brief description of each of the six typical street cross sections. Where design elements vary from the desired dimensions shown above for bike lanes, sidewalks, and curbside parking, *the discrepancy is noted in italics*.

Stanford Frontage -- Reflects rural character of Stanford University (Attachment C-1)

- Stanford 4
Pedestrian paths, planting strip and medians are generously dimensioned. The planting strips on both sides of the street and the median are treated as swales that can serve as a storm water retention basins. *The existing curbside parking along the Stanford frontage has been removed.*
- Stanford 6
This cross section is similar to Stanford 4 except that paths, tree lawns and median swales are less generously dimensioned.

There has been discussion in the Advisory Group about whether the existing curbside parking along the Stanford campus south of Embarcadero Road should be retained or removed. While these cross sections do not show parking, it could be provided by the use of “parking pockets” which would somewhat reduce the space provided for walks, tree lawns and median, while still meeting the desired dimensions shown above.

South of Stanford Avenue -- Responds to urban context (Attachment C-2)

- Urban 4
This cross section is highly desirable for existing and planned future pedestrian areas, such as California Avenue, with generously proportioned 16-foot-wide sidewalks and an 18-foot-wide median.
- Urban 6 (Midblock)
This cross section is similar to Urban 4 except that, with more space needed for six lanes of traffic, sidewalks are only 10 feet wide and the median is 11 feet. Note that if parking were not needed on one or both sides of the street, (about 50% of the existing street south of Stanford Avenue does not have parking on both sides of the street), sidewalks and the median could be widened.

- Urban 6 (at left turn lanes) (Attachment C-3)
The following two configurations have been prepared for the most constrained condition where curbside parking is desired and there are six lanes of traffic plus left turn lanes:
 - Parking on one side of street.
Continuous curbside parking can be provided on one side of the street *with no parking on the other side of the street.*
 - Parking on both sides in “parking pockets.”
Limited parking is provided in “parking pockets” inset into 14-foot-wide sidewalks. This can be provided on both sides of the street. Bicycle lanes are reduced to 4.5 feet wide and sidewalks adjacent to the parked cars are 7 feet wide.

Additional Design Elements

Enhanced pedestrian crossings. Detailed designs for improved pedestrian crossings are being developed, and locations for special treatment are being coordinated with school routes and other nodes of pedestrian activity. One or more midblock pedestrian crossings may be proposed where there are currently very long distances between signalized crossings.

Street furnishings. Designs will be developed for improved street furnishings, including vehicular and pedestrian lighting, seating and trash containers, bollards, bicycle parking, tree grates, bus shelters, and paving materials.

Left turn pockets at unsignalized intersections. Unsignalized left turn pockets occur in several locations on the street. If some of these were closed, it would result in additional median areas where large canopy trees could be planted. Since traffic studies that would need to be conducted prior to recommending closure of unsignalized left turns are not included in this project, no closures will be recommended. However, the final plan will show possible benefits to be achieved if closures were considered in the future.

Public Outreach

The project is supported by a community Advisory Group (AG) and a Technical Advisory Committee (TAC). The AG includes representatives from neighborhoods along El Camino Real and various interest groups, including Palo Alto Bicycle Advisory Committee (PABAC) and Trees for El Camino Project and businesses along the street. The (TAC) includes City staff from relevant departments and representatives from Stanford University, VTA and Caltrans. Both groups have met four times and will continue to meet throughout the project. Community Workshop #1 on April 23, 2002 was attended by about 75 people, and Community Workshop #2 is planned for September

2002. A project Web site is being prepared. The draft final Master Schematic Design Plan will be reviewed in public hearings by the Architectural Review Board, the Planning and Transportation Commission and the City Council in October-December, 2002.

RESOURCE IMPACT

This project is being funded by a \$240,000 grant from Caltrans and \$48,000 in City matching funds that were transferred by the City Council from CIP Project 10113 on December 17, 2001. There may be ongoing future resource needs associated with this project that are unknown at this time. Staff will actively seek grant funding for any recommendations that may come out of the El Camino Real study.

TIMELINE

A draft final Master Schematic Design Plan will be presented at Community Workshop #2 in September, 2002. The final proposed Master Schematic Design Plan will be submitted for public review to the Architectural Review Board, the Planning and Transportation Commission and the City Council in November and December 2002.

ENVIRONMENTAL REVIEW

The preparation of the Master Schematic Design Plan for El Camino Real is exempt from CEQA pursuant to Section No. 15262 (Feasibility and Planning Studies).

ATTACHMENTS

- Attachment A: Memorandum to Caltrans from Community Design & Architecture dated June 20, 2002
- Attachment B: The Driver's Focus at Different Speeds, Oregon Main Street Handbook, page 25
- Attachment C: Street Cross Sections 1- 3
 - 1 – Stanford 4 and Stanford 6
 - 2 – Urban 4 and Urban 6
 - 3 – Urban 6 at left turn lanes: Parking on one side of street, or Parking Pockets on both sides of street

PREPARED BY: _____
VIRGINIA WARHEIT
Senior Planner

DEPARTMENT HEAD REVIEW: _____
LISA GROTE
Chief Planning Official

CITY MANAGER APPROVAL: _____
EMILY HARRISON
Assistant City Manager

cc: El Camino Real Advisory Group (electronic transmission)
El Camino Real Technical Advisory Committee (electronic transmission)