1 INTRODUCTION

A. Description of Project Area

The project area addressed by proposals in this Design Plan encompasses the entire length of El Camino Real's public right-of-way between the Palo Alto city limit lines at San Franciscquito Creek in the north and Adobe Creek in the south.

B. Project Background

Successive generations of Palo Alto citizens, community leaders, city planners, and transportation engineers have wrestled with the various safety, aesthetic, and operational issues presented by El Camino Real, a state highway passing through the center of town. Most recently in 1999, local citizens organized to improve the street by planting shade trees along the sidewalks and in the medians of the street. The City Council supported this effort by passing a Resolution making the planting of shade trees on El Camino Real a city priority and by allocating funds for renovation of the medians and for establishing a nonprofit organization, Trees For El Camino, to spearhead the tree planting project. This effort was undertaken in collaboration with Palo Alto's neighbors to the north, Menlo Park and Redwood City, who had similar plans underway to plant shade trees on El Camino Real in their cities.

However, the median tree planting efforts of all three cities were slowed when Caltrans requirements for such landscape projects were reviewed and it was found that trees could only be planted in medians of 12 or more feet. This Caltrans requirement for clearances between large median trees and the curb face of the raised median would effectively prohibit planting of large trees in any of the 4-foot wide medians along the many left turn lanes that are a common occurrence in all three communities.

About this time, the new Office of Community Planning was created at Caltrans to foster collaboration between Caltrans and local communities to assure that highway design was sensitive to the communitys' goals and interests. When this new Caltrans office instituted a Demonstration Grant Program available to communities with planning projects that would address more "context sensitive design" for in-town highways, Palo Alto saw this as an opportunity to address a wide range of long-standing issues involving El Camino Real. This included the objective of lining the street with shade trees. The City applied for and was awarded a grant in the first funding cycle of the Demonstration Grant Program, in July, 2001, to develop a feasibility study and master schematic design plan for the public right-of-way of El Camino Real in Palo Alto. The project got underway in January, 2002.

This project provides the City with an opportunity to address existing safety, operational and aesthetic concerns that the community and particularly neighborhood residents have long had with El Camino Real. The Design Plan addresses these issues while recognizing future traffic needs. The Master Schematic Design Plan will be used to apply for federal, state and other funding sources for incremental construction of the project, allowing the city to be proactive in taking advantage of construction funding as it becomes available. The Design Plan will also be used to guide the tree planting effort and other landscape improvements in El Camino Real medians and sidewalks, and to guide any design of minor improvements of cross streets where they intersect with El Camino.

C. Why Change El Camino Real?

In 1998, Palo Alto's "Comprehensive Plan" described El Camino Real in Palo Alto as the City's "most recalcitrant community design problem" and included several policies and programs to address these urban design and transportation issues *(also see Chapter 4: Summary of Existing Conditions Assessment*). And as recent as the year 2000, City Planning and Transportation Staff realized that narrow interpretation of highway design standards by Caltrans would not allow for a reduction in roadway width and the amount of landscaping desired along El Camino, when Palo Alto and Stanford engaged in a major redesign of El Camino along the frontage of the Stanford Shopping Center and the intersections of Sand Hill and Quarry Roads. This experience underscored how difficult the task was to affect real change to a street that was widely seen as not serving the full range of the community's transportation and quality of life goals.

Figure 1.1: *El Camino Real today: A street for cars and not for people.*

Among the key policies and programs addressing conditions on El Camino contained in the Palo Alto Comprehensive Plan are the following *(also see Chapter 4.1.5 –A)*:

- Balance traffic circulation needs with the goal of creating walkable neighborhoods that are designed and oriented towards pedestrians. A few, like El Camino Real, serve only to move traffic and have a negative effect on community design.

- Study ways to make South El Camino Real more pedestrian-friendly, including redesigning the street to provide wider sidewalks, safe pedestrian crossings at key intersections, street trees, and streetscape improvements.

- Improve pedestrian connections across El Camino Real.

As indicated in the previous chapter, changes are occurring in the way that transportation engineers and planners understand the function of arterial streets in communities. There is an increased realization that arterials can serve transportation functions for automobiles while also serving bicyclists, transit riders, and pedestrians, as well as making a positive impact on the quality of life in the community. The advent of "Context Sensitive Design" (CSD) and "Flexible Design" *(see below)* at the federal and state levels, gives hope that effective change can be brought to El Camino through a cooperative consensus-building process within the community and between Palo Alto and Caltrans.

But what exactly are the conditions that have led to the policies of the Comprehensive Plan and to citizens' dissatisfaction with El Camino Real? In other words: *Why change El Camino Real?*

The following highlights El Camino's present shortcomings from the perspective of different people who use the street.

Figure 1.2: *Pedestrian accomodation at medians is minimal.*

The Pedestrian Experience is characterized by narrow (8-feet) sidewalks which are not conducive to pedestrian travel along the street, nor do narrow sidewalks support a positive environment for typical pedestrian activities such as shopping and strolling.

Figure 1.3: *Negative pedestrian environment.*

Figure 1.4: *Sidewalks are narrow.*

It is also characterized by long crossing distances, often with substandard signal-protected "WALK" times and minimal protection at the median. All of these factors contribute to the safety concerns of pedestrians and the sense of separation between the two sides of the street. Broad, sweeping traffic turns at several locations place pedestrian crossings in the path of high-speed traffic. Finally, school district boundaries and routes to school require crossing El Camino at a number of locations.

These conditions discourage pedestrian activity along the street and contribute to the sense that land uses along El Camino do not serve adjacent neighborhoods.

Figure 1.5: *Crosswalk distances are long.*

The Bicycle Experience is characterized by travel with high volume traffic and at times speeding traffic with minimum accommodations within the 20 to 21 foot-wide outside lane, which also accommodates parking and a 12-foot travel lane. Long crossing distances and minimal protection at the median contribute to the sense of safety concerns for bicyclists and the separation of the two sides of the street *(see Image 4 in "The Pedestrian Experience")*.

Figure 1.6: *Bicycle accomodation is minimal...*

Figure 1.7: *...which causes some cyclists to divert to the sidewalk.*

Poor traffic lane and signal sharing combinations result in confusion for cyclists and motorists who attempt conflicting through-maneuvers and turns at the same intersection.

These conditions discourage bicycle use along and across El Camino. But all one needs to do is spend some time on El Camino to see that some segments of the community, including those who cannot afford to own a car, use their bicycles to get to work everyday. Many parents of school children in Palo Alto would like to encourage their children to bicycle to school, but they feel crossing El Camino is unsafe. Also, students from Stanford uses bicycles as a primary mode of transportation and must cross El Camino to get to downtown and other parts of Palo Alto.

The Driver Experience is characterized by a roadway design that encourages speeding; inconsistent vehicle speeds, that result in abrupt stops and starts; numerous of accidents at key intersections; and traffic capacity and signal coordination that are perceived as insufficient.

This creates a feeling of frustration for drivers. They believe they are experiencing a high level of congestion, which is accentuated by inefficient progression. As a result, drivers speed ahead only to be stopped a few intersections down the road.

Figure 1.8: *Traffic speeds up between traffic lights and comes to a halt at key interesections.*

The Transit Experience is characterized by poor bus stop conditions for waiting and boarding passengers. Minimal pedestrian access is afforded by narrow sidewalks and long crossing distances. Still, VTA's Route #22 is one of the most highly utilized bus routes in Santa Clara County, with bus service along El Camino provideing a valuable transportation option for many Palo Alto residents and workers.

Figure 1.9: *Access to transit and consitions at bus stios requrire improvements.*

The Merchants' Experience is characterized by the negative aesthetics of El Camino, and narrow sidewalks that reduce pedestrian access and don't allow for a sidewalk café or other business-related activities.

Figure 1.10: *Narrow sidewalks and poor aesthetics negatively impact the business environment.*

The Neighborhood Residents' Experience is characterized by their perception of El Camino as a barrier, in particular to school children. Poor community character is afforded by El Camino and the dominance of traffic functions within the streetscape. There is also concern about cut-through traffic when traffic flow on El Camino is poor.

The combination of all of these factors and characteristics creates a high level of frustation with El Camino. But people feel that its function as a major arterial street does not allow for positive change for anything but traffic.

Figure 1.11: *Cut-through traffic from El Camino is a concern for some neighborhoods.*

Figure 1.12: *El Camino and its traffic are perceived as a barrier between adjacent neighborhoods.*

As was discussed, recent federal and state initiatives, as well as the establishment of the Caltrans Office for Community Planning *(see next paragraph and Section 3.2)*, have brought a successful redesign of El Camino Real within reach; a redesign that can address most of the concerns expressed by the community and evidenced in the 'experiences' described above.

D. Context Sensitive Design and Flexible Design

The previous paragraphs have made reference to Context Sensitive Design (CSD) and Flexible Design as two key concepts that have given rise to hopes that urban arterials, such as El Camino Real, can be turned into streets that are designed and operated to benefit adjacent neighborhoods as well as fulfilling the community's goals for creating supportive environments for pedestrians, bicyclists, and public transit; enhancing neighborhood character; and contributing to economic vitality.

The following is a concise definition of the two concepts as stated in the report "Flexible Design of New Jersey's Main Streets," by Reid Ewing and Michael King: "Both Flexible Design and Context Sensitive Design call for less rigid application of design standards to highway projects. Flexible Design involves utilizing the flexibility inherent in the current design process and in current national guidelines and state standards. CSD implies tailoring designs to adjacent land uses with sensitivity to community values." As previously discussed, in the past few years, federal initiatives have made it possible and encouraged the approach of flexibility in highway design. This is evidenced by the publication of "Flexibility in Highway Design", by the FHWA in 1997. This groundbreaking document describes how a flexible interpretation of highway design standards can lead to context sensitive design solutions, which are presented in the report in case study format. As a result, many states have stepped to the forefront using an ever broadening application of a flexible approach to highway design, in which due consideration is given to environmental, scenic, aesthetic, historic, community, and preservation impacts.

The California Department of Transportation has responded to the federal initiative by establishing the Office for Community Planning in the year 2000, "…to address a statewide need for community-sensitive approaches to transportation decision-making." Most recently Caltrans' director issued a Director's Policy, which emphasizes the importance of context sensitive design and outlines the responsibilities for implementation at each level of Caltrans' hierarchy.