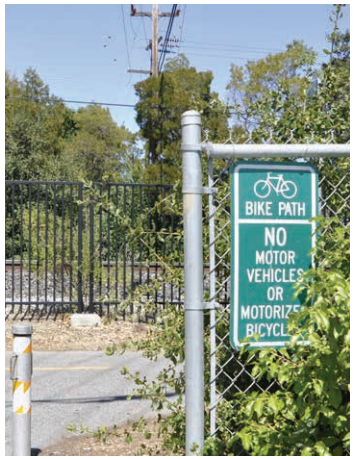
PALO ALTO RAIL CORRIDOR STUDY

The Report of the Task Force



Approved by City of Palo Alto City Council
January 22, 2013

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EXECUTIVE SUMMARY

INTRODUCTION

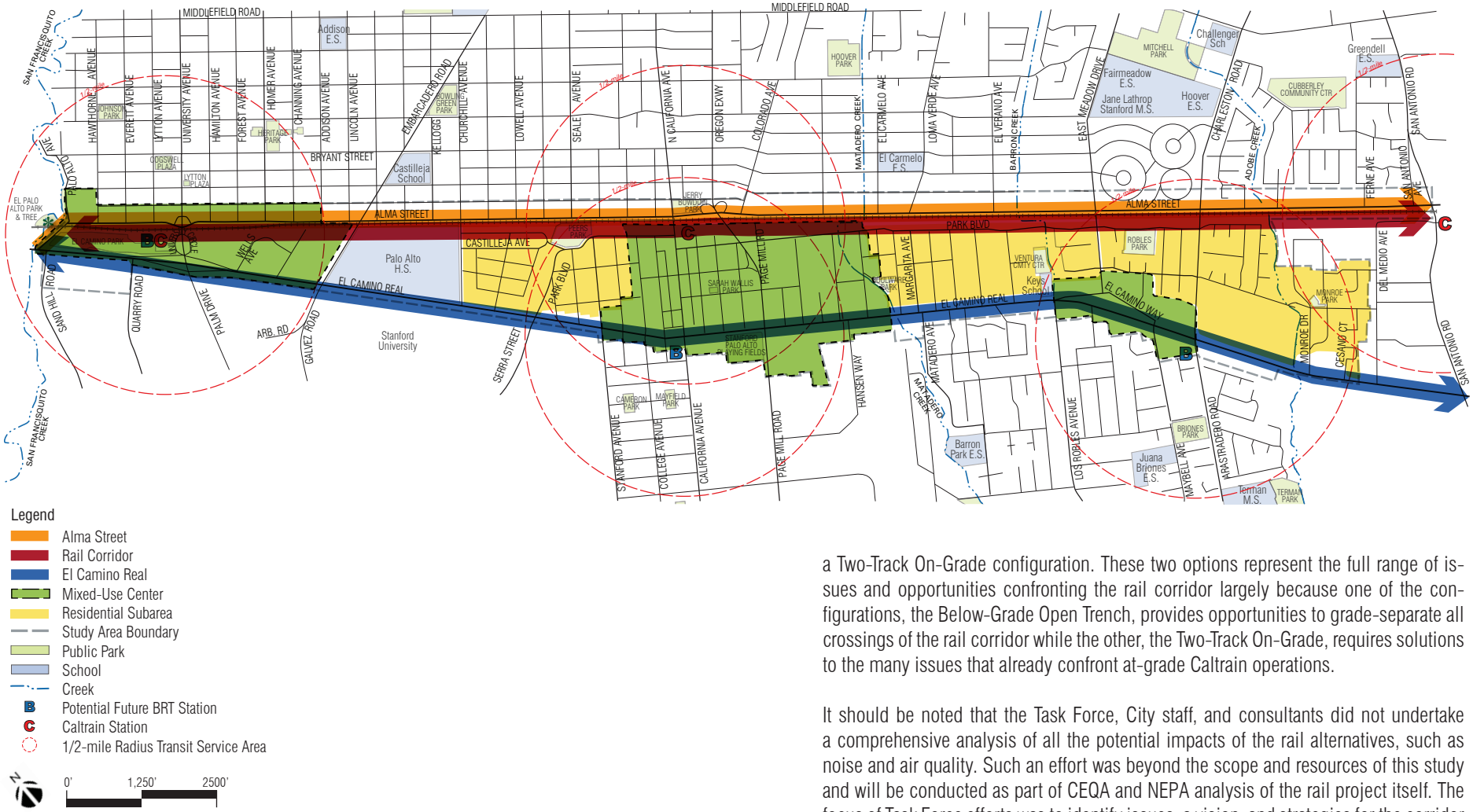
The Palo Alto Rail Corridor Study was initiated in 2010 as a component of the City's response to planned rail investments along the Caltrain rail corridor, specifically the California High Speed Rail project and potential modifications to Caltrain operations. To provide guidance for the Study, the City Council authorized the appointment of a 17-member Task Force in July 2010. The purpose of the Task Force was to:

> *generate a community vision for land use, transportation, and urban design opportunities along the Caltrain corridor, particularly in response to improvements to fixed rail services along the tracks through Palo Alto. The study may address some High Speed Rail (HSR) issues in a timely manner, but it is not limited to the HSR effort and would provide a vision and context for other rail improvements (even without HSR) and the City's land use, transportation and urban design response to those actions.*

The study area encompasses approximately 1,000 acres, and is bounded by Palo Alto Avenue on the north, San Antonio Road on the south, one half block east of Alma Street, and one half block west of El Camino Real.

Based on the position of the current City Council, combined with likely economic and physical impacts, the Task Force concluded that instead of considering the full range of options that has been discussed for rail configurations, only two alternatives would form the basis for the study's analysis: a Below-Grade Open Trench configuration and

Figure ES.1: Key Map



a Two-Track On-Grade configuration. These two options represent the full range of issues and opportunities confronting the rail corridor largely because one of the configurations, the Below-Grade Open Trench, provides opportunities to grade-separate all crossings of the rail corridor while the other, the Two-Track On-Grade, requires solutions to the many issues that already confront at-grade Caltrain operations.

It should be noted that the Task Force, City staff, and consultants did not undertake a comprehensive analysis of all the potential impacts of the rail alternatives, such as noise and air quality. Such an effort was beyond the scope and resources of this study and will be conducted as part of CEQA and NEPA analysis of the rail project itself. The focus of Task Force efforts was to identify issues, a vision, and strategies for the corridor and its adjacent areas, which can be used as input to the preparation of any future rail improvement program and assist in the update of other City policy documents, such as the Comprehensive Plan, regardless of the selected rail improvement alternative.

PROCESS

The Palo Alto Rail Corridor Study involved a 14-month process, initiated in November 2010 and culminating in this report. The 17-member Task Force met 15 times, reviewed a wide array of planning and design information, and through meetings, an area-wide tour, and personal observation, crafted initial concepts to improve the corridor.

Two general community meetings were held, the first on May 19, 2011 and the second on March 29, 2012 at the Lucy Stern Community Center. The purpose of the meetings was to introduce the broader community to the work of the Task Force and to provide the community with an opportunity to give input regarding study area issues and priorities.

A study area tour was held on Saturday, September 10, 2011. Members of the Task Force, City staff, the consultant team, and several members of the public spent over three hours touring the study area and nearby neighborhoods. In addition to a general overview of the area, the tour looked at areas, such as the South of Forest Planning Areas (SOFA), that might serve as models for potential circulation and land use improvements to the study area, and examined problem areas, such as existing and possible locations of rail crossings.

As part of the process, members of the Task Force, City Staff, and consultants also provided briefings at two meetings of the Planning and Transportation Commission, several meetings of the City Council Rail Committee, a meeting of the Architectural Review Board, as well as a combined meeting of the City-School Traffic Safety Committee and Palo Alto Bicycle Advisory Committee (PABAC). The Rail Corridor Study had its initial formal review by the City Council on September 18, 2012, with a formal City Council hearing on January 22, 2013. The City Council adopted Resolution No. 9316, which formally approves the document as an official City Report and incorporates the Vision Statement into the existing Comprehensive Plan.

EXISTING CONDITIONS: CIRCULATION AND CONNECTIVITY

Palo Alto is served by a network of streets of varying sizes and capacities, ranging from major arterials such as El Camino Real and Alma Street, to small local streets that serve the neighborhoods. While this is generally a highly workable and convenient framework of streets, the Caltrain tracks, Alma Street, and El Camino Real, as well as Embarcadero Road, Oregon Expressway, and Churchill Avenue create significant impediments throughout the study area that disrupt the convenient movement of pedestrians, bicyclists, transit users and drivers, and isolate the area from surrounding neighborhoods.

The existing Caltrain tracks and traffic on Alma Street and El Camino Real are particular barriers to pedestrians and bicyclists with crossings that are not uniformly spaced or in need of improvement. East-west connections across the railroad are limited to only 11 locations. The Task Force expressed considerable concern over the safety and convenience of these crossings, with particular concern for the grade crossings at Palo Alto Avenue, Churchill Avenue, Meadow Drive, and Charleston Road, as well as the need for additional crossings in the southern half of the study area.

EXISTING CONDITIONS: LAND USE AND URBAN DESIGN

The study area is unique in the City of Palo Alto in its diversity of uses and proximity to transit. Sixteen of Palo Alto's residential neighborhoods and many of the City's most important commercial and institutional uses are located within or directly adjacent to the study area.

Taken as a whole, the study area has a wide range of uses, densities, quality of goods and services, cultural facilities, and opportunities for regional transportation access seldom seen in communities of comparable size. The study area serves the entire City of Palo Alto and the nearby region in the range of living, working environments, and services it provides. Two commercial centers serve the north and central part of the study area; however, inequities exist in the south with regard to the availability of services and open space. There are numerous opportunities to improve efficiency of land use.

ISSUES

Regardless of the final outcome of proposals to modernize Caltrain operations or add high speed train service to the Caltrain corridor on the Peninsula, the study area has many existing issues that should be addressed. Perhaps the most important of these issues is that the study area contains three major transportation facilities - Alma Street, the rail tracks, and El Camino Real - that traverse the entire city from north to south and create many safety and convenience challenges to the City and its residents. This con-

dition alone will either be improved or exacerbated depending upon the final outcome of the Caltrain and High Speed Train decisions. Improved safety at all rail crossings was a prominent goal of this study.

In addition, some portions of the study area lack the services and amenities that other neighborhoods in Palo Alto enjoy. No public elementary or middle schools are located within in the study boundary, a situation that requires students to cross streets with heavy vehicular traffic and/or the Caltrain corridor in order to access schools outside the area. Similarly, a limited number of parks and recreation facilities serve a few specific locations, while remaining residents must cross major barriers to access public open space. In most areas, the goods and services offered in the area tend to be more regional or citywide in their orientation rather than conveniently serving the day-to-day needs of residents without requiring dependence on the automobile. This is particularly evident in the southern half of the study area.

VISION FOR THE STUDY AREA

The Palo Alto Rail Corridor Study vision emerged through numerous discussions of the Task Force with each other, their constituents, and through workshops with the consultant team and City staff. It addresses the Community's issues and concerns while identifying opportunities to create unique mixed-use neighborhood centers that serve the Palo Alto community and attract visitors from the Peninsula and beyond.

The overall vision is:

> *to create a vibrant, safe, attractive, transit-rich area with mixed-use city and neighborhood mixed-use centers that provide walkable, pedestrian and bicycle-friendly places that serve the community and beyond; and to connect the east and west portions of the city through an improved circulation network that binds the city together in all directions.*

More specifically, the Task Force prepared the following conclusions and recommendations:

RAIL CORRIDOR

- The preferred alternative for any rail improvements or expansion is the Below-Grade alignment.
- Improve all rail crossings to provide the highest possible level of safety and convenience. Grade-separated crossings, if feasible and fully mitigated, are preferred over at-grade crossings.
- Mitigate rail impacts on neighborhoods, public facilities, schools and mixed-use centers.

CIRCULATION AND CONNECTIVITY

- Improve east/west connectivity across the rail corridor, Alma Street and El Camino Real.
- Provide additional rail crossings in the southern section of the study area.
- Strengthen the pedestrian and bicycle circulation framework throughout the study area and make connections to citywide facilities and amenities.
- Create a walkable, pedestrian and bicycle-friendly community with convenient and safe access to goods and services.
- Implement a Layered Street Framework. Recognize that the primary role of streets varies by location, neighborhood, and functional requirement.
- Ensure certain major vehicular corridors retain current traffic carrying capacity.

LAND USE AND URBAN DESIGN

- Conserve, protect and preserve historic resources.
- Enhance Mixed-Use Centers to create unique places that serve the community.
- Protect residential neighborhoods.
- Encourage a diverse mix of housing.
- Encourage improved utilization of land resources.

PUBLIC FACILITIES

- Infrastructure should keep pace with development. In particular, ensure adequate transportation facilities, schools and parks are in place concurrently with development. Establish and enforce measurable standards to ensure this is achieved.
- Improve access to parks, recreation and cultural facilities.
- Regularly evaluate school capacity and facility needs.

IMPLEMENTATION AND NEXT STEPS

The Palo Alto Rail Corridor Study contains many recommendations at a variety of scales which the Task Force believes will improve the livability of the study area and all of Palo Alto. Implementation of these recommendations will require a variety of different tools and mechanisms, which could include:

- Policy changes, notably revisions to the Comprehensive Plan.
- Regulatory changes, notably revisions to the Zoning Ordinance, which regulate the role of the private sector, particularly in future land use and development matters.
- Economic incentives, also often managed through zoning regulations.
- Direct public investments, which would primarily be focused on public infrastructure and other improvements such as parks and open space, street and transit improvements for all modes of travel and rail crossings. Funds may come from a variety of sources, including the improvements that may result from Caltrain upgrades or the High Speed Train project, the City's Capital Improvement budgeting process, bonds and external grants.
- Administrative actions which can be incorporated into the ongoing work program of the Palo Alto Planning Division and/or other City departments.

The following summarizes Task Force recommendations for new goals that should be considered for inclusion in the Comprehensive Plan Update. The policies related to these goals are outlined in the Implementation & Next Steps section.

- Goal 1: Rail Improvements Should Be Constructed in a Below-Grade Trench.
- Goal 2: Ensure the Highest Possible Safety at All Rail Crossings and Mitigate Rail Impacts on Neighborhoods, Public Facilities, Schools and Mixed-use Centers.
- Goal 3: Connect the East and West Portions of the City Through an improved circulation network that binds the city together in all directions.
- Goal 4: Provide Improved Access to Parks, Recreation Facilities and Schools and Assess Future Needs for these Facilities.
- Goal 5: Infrastructure Should Keep Pace with Development.

The recommendations of the Task Force cover a diverse range of subjects, needs and desires and detailed study of these subjects is beyond the scope of this study. Recommended further studies and design plans are outlined to continue the process of implementing the recommendations of the Task Force. In all cases, on-going community involvement and input is a necessary requisite of future planning and design work. The recommended future plans and studies are listed according to two general categories: input to current plan updates and planning studies, and recommended near-term planning and design studies, these are listed below.

Input to Current Plan Updates and Studies

- Policy modifications to the Comprehensive Plan
- California Avenue Area Concept Plan Review and Revisions

Near-Term Planning and Design Studies

- Detailed Area Concept Plans for Downtown/University Mixed-Use City Center and South Palo Alto Neighborhood Mixed-Use Center
- Alma Street Transportation and Public Improvements Plan
- Rail Corridor / Alma Street Crossing Improvements Study
- El Camino Real Intersection Improvements Plan

On May 1, 2012 the Rail Corridor Study Task Force unanimously voted to recommend the Palo Alto City Council approve the Palo Alto Rail Corridor Study: The Report of the Task Force. The Study will be presented to the City Council for approval in Summer 2012.

INTRODUCTION

STUDY INTENT

The Palo Alto Rail Corridor Study was initiated in 2010 as a component of the City's response to planned rail investments along the Caltrain rail corridor, specifically the California High Speed Rail project and potential modifications to Caltrain operations. While other groups were studying and commenting on plans and policies relating to the rail projects, the City Council gave direction for the study to:

> *generate a community vision for land use, transportation, and urban design opportunities along the Caltrain corridor, particularly in response to improvements to fixed rail services along the tracks through Palo Alto. The study may address some High Speed Rail (HSR) issues in a timely manner, but it is not limited to the HSR effort and would provide a vision and context for other rail improvements (even without HSR) and the City's land use, transportation and urban design response to those actions.*

To provide guidance to the study, the City Council authorized the appointment of a 17-member Task Force in July 2010. The Task Force included representation from a broad range of stakeholders with interest in the community, including neighborhood groups, business organizations, environmental organizations, non-profit groups, and Stanford University. A consultant team specializing in urban design, transportation and economics was selected by the City to assist the Task Force in the discussion of technical matters and to facilitate meetings.

The vision for the Palo Alto Rail Corridor Study area described in this report evolved through ensuing meetings of the Task Force on the project, through input from public meetings, and from comments provided by the Architectural Review Board, the Planning and Transportation Commission, and the City Council.

As described in these pages, the vision for the study area is not limited to a discussion of the rail line and its immediately adjoining areas. The vision is actually a set of coordinated recommendations for various elements and subareas within an area bounded generally by Alma Street on the east and El Camino Real on the west, extending the entire length of the City.

Great urban environments are often like, groupings of villages, districts or neighborhoods. Such places offer diverse residential opportunities and many of the goods, services, employment, and cultural and recreational resources needed for high-quality daily life. The study area is such an environment, and plays an important role in the City of Palo Alto. However, there remain many opportunities to improve the mix of land uses, services, and amenities to meet the needs of the City and enhance this area.

In addition to the arrangement of uses and amenities, destinations, and resources available, the study area also comprises a network of circulation elements that connect internal destinations and link the area with neighborhoods and cities beyond its boundaries. In the study area these linkages are often missing or inadequate. Improvements to this circulation network is a key component of the Task Force vision outlined in this document.

PURPOSE OF THIS DOCUMENT

This document summarizes the findings of the Rail Corridor Task Force, articulates a vision for the study area, and identifies specific recommendations to achieve that vision including strategies relating to circulation, land use, and urban design improvements. It is intended to provide guidance to the City's decision-makers and to be coordinated and/or integrated with the City's Comprehensive Plan, which is currently being updated, and other policy documents.

Above: Task Force members and the public participated in a site tour of the study area and portions of the SOFA district on September 10, 2011 to help inform members of existing land uses and discuss issues and opportunities.

Below: Task Force members worked in small groups to discuss circulation and connectivity and explore opportunities for improvements within the study area.

Above and below: The May 19, 2011 Community-wide meeting solicited input on circulation, transportation, land use, and neighborhood issues. The meeting was an open house format where the public provided input on study area plans mounted on boards around the room.

PROCESS

The Palo Alto Rail Corridor Study was a 14-month process, initiated in November 2010 and culminating in this report. The 17-member Task Force met 15 times, reviewing a wide array of planning and design information and through these meetings, an area-wide tour, and personal observation, crafted a vision and initial recommendations to improve the study area.

Over the period from November 2010 to June 2011, the Task Force focused on specific issues, including the following:

- Project purpose and Task Force procedures
- High Speed Rail update
- Role of the Task Force
- Approach to the project
- Relevant City projects and policies
- Circulation and connectivity opportunities within the corridor
- Preliminary land use opportunities
- Preliminary visions for the future of the corridor.

Subsequently the Task Force began to discuss opportunities for specific improvements to the area, focusing on:

- Rail crossing and major intersection improvements for safety and convenience
- Transit-oriented development and densities
- Mixed-use development
- Pedestrian and bicycle-friendly streets
- Layered circulation networks.

Current planning and proposed projects were also reviewed, including:

- Caltrain and High Speed Train options
- Plans for El Camino Real
- The Grand Boulevard Initiative
- Bus Rapid Transit proposals
- California Avenue Area Concept Plan and street improvements
- Status of the Comprehensive Plan
- Bicycle and Pedestrian Plan

- Plans of Caltrain, VTA and transit providers
- Planned private-sector projects.

Two general community meetings were held, the first on May 19, 2011 and the second on March 29, 2012 at the Lucy Stern Community Center. The purpose of the meetings was to introduce the broader community to the work of the Task Force and to provide the community with an opportunity to give input regarding study area issues and priorities.

A study area tour was held on Saturday, September 10, 2011. Members of the Task Force, City staff, the consultant team, and several members of the public spent over three hours touring the study area and nearby neighborhoods. In addition to a general overview of the area, the focus of the tour was to look at areas such as the South of Forest Planning Areas (SOFA) that might serve as models for potential circulation and land use improvements to the study area, as well as to examine problem areas, such as existing and possible locations of rail crossings.

As part of the process, members of the Task Force, City Staff, and consultants also provided briefings at two meetings of the Planning and Transportation Commission, several meetings of the City Council Rail Committee, a meeting of the Architectural Review Board, as well as a combined meeting of the City-School Traffic Safety Committee and Palo Alto Bicycle Advisory Committee (PABAC). The Rail Corridor Study had its initial formal review by the City Council on September 18, 2012, with a formal City Council hearing on January 22, 2013. The City Council adopted Resolution No. 9316, which formally approves the document as an official City Report and incorporates the Vision Statement into the existing Comprehensive Plan.

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ONLINE COMMUNICATION / WEBSITES

City of Palo Alto | Know Zone

www.cityofpaloalto.org/knowzone/agendas/rail_corridor_task_force.asp

Rail Corridor Study website

www.paloaltorailcorridor.org

BACKGROUND

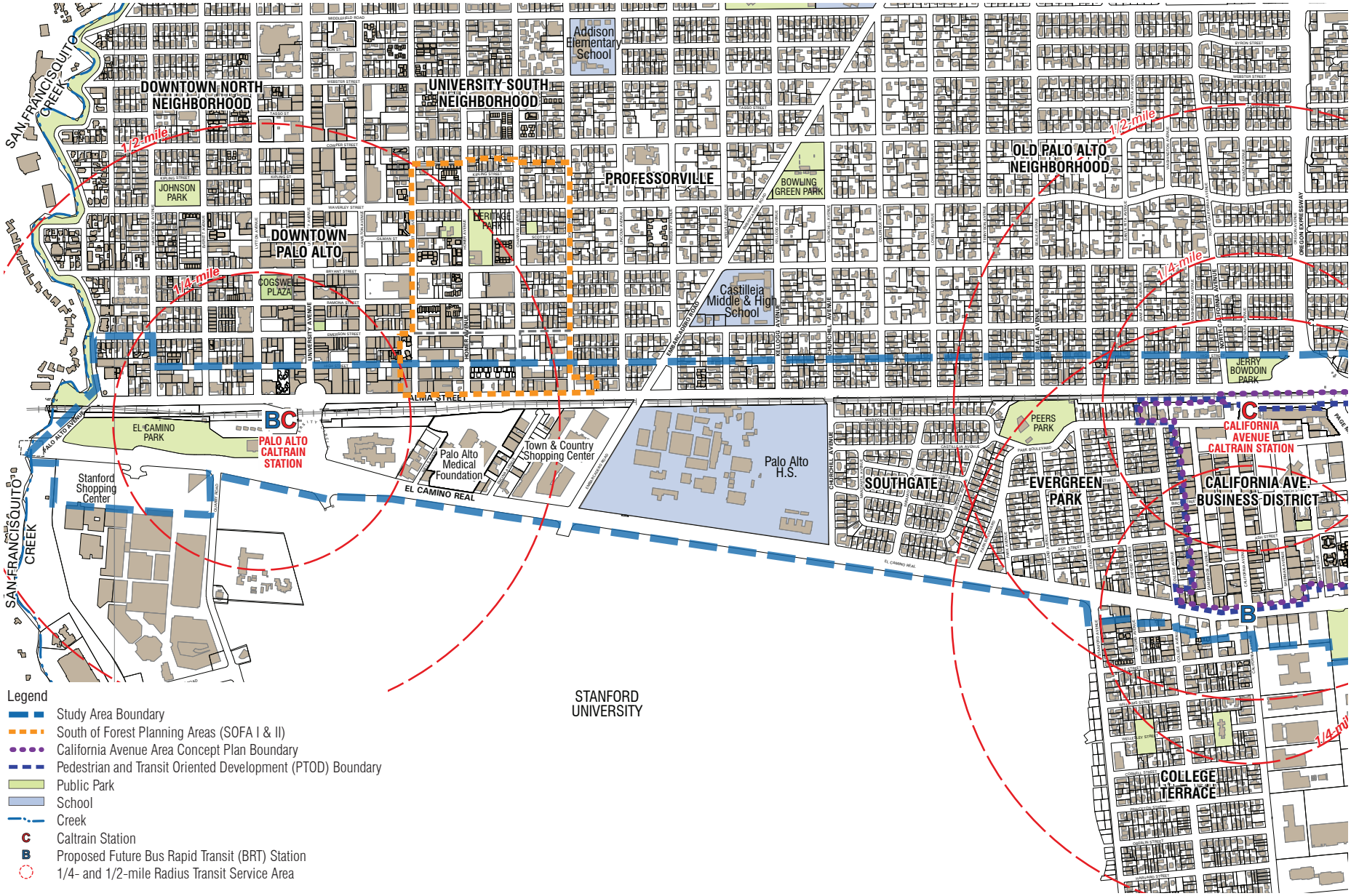
Over the past several years, multiple concepts have been suggested for improvements to the Caltrain rail corridor. Most recently, major changes have been suggested as part of statewide plans to build a high speed train, connecting the Peninsula from San Jose to San Francisco along the existing Caltrain right-of-way. As of the writing of this report, rail plans for the study area are not settled. Regardless of the final outcome of these proposals to upgrade Caltrain operations or to add high speed rail on the San Francisco Peninsula, the study area has many existing issues that should be addressed.

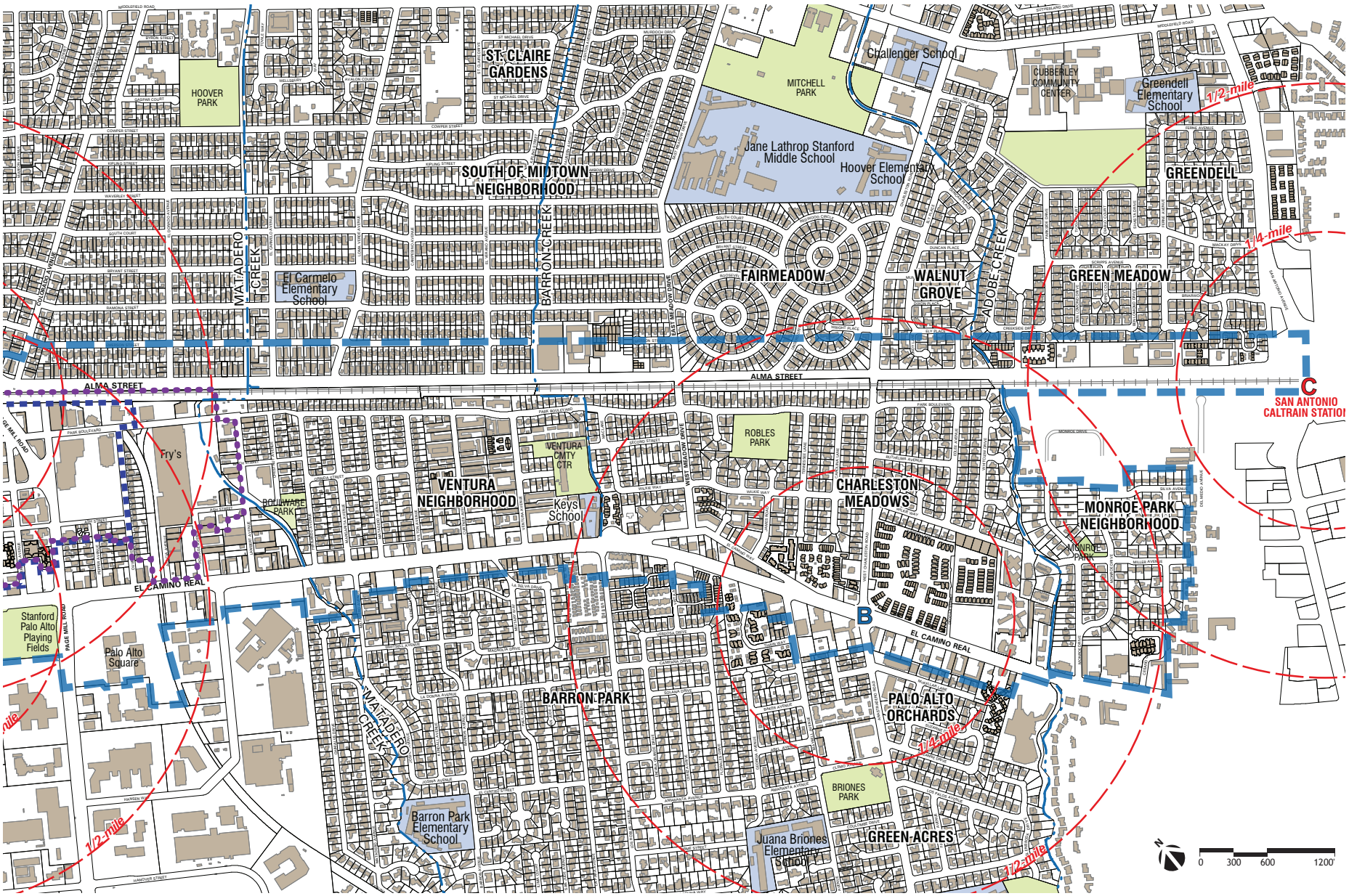
The study area traverses the entire length of the city from north to south, and includes many neighborhoods, destinations, and community resources. It also includes regional transportation facilities (Alma Street, the Caltrain rail tracks, and El Camino Real) that are both benefits and barriers to the community. Virtually every city resident or worker at one time or another comes into contact with, crosses, uses services within, or resides near or in the study area. The study area includes major issues needing resolution but also offers unique opportunities for Palo Alto.

STUDY AREA

The study area comprises approximately 1,000 acres and extends the full length of Palo Alto from the San Antonio Caltrain Station at the Mountain View city limit in the south to the north city limit near Palo Alto Avenue, north of the University Avenue Caltrain Station. The study area extends one parcel east of Alma Street and one parcel west of El Camino Real with the exception of the Stanford University main campus and Stanford Shopping Center where the study area follows the right-of-way to address the land uses that front these major transportation corridors. Figure 2.1 indicates the study area boundary.

Figure 2.1: Study Area




ST. CLAIRE GARDENS
HOOVER PARK
MITCHELL PARK
Challenger School
CUBBERLEY COMMUNITY CENTER
Greendell Elementary School
1/2-mile
Jane Lathrop Stanford Middle School
Hoover Elementary School
SOUTH OF MIDTOWN NEIGHBORHOOD
GREENDELL
MATADERO CREEK
BARRON CREEK
El Carmelo Elementary School
FAIRMEADOW
WALNUT GROVE
ADOBE CREEK
GREEN MEADOW
1/4-mile
ALMA STREET
C
SAN ANTONIO CALTRAIN STATIO
Fry's
VENTURA CMTY CTR
ROBLES PARK
VENTURA NEIGHBORHOOD
BOULWARE PARK
Keys School
CHARLESTON MEADOWS
MONROE PARK NEIGHBORHOOD
MONROE PARK
EL CAMINO REAL
B
Stanford Palo Alto Playing Fields
Palo Alto Square
BARRON PARK
PALO ALTO ORCHARDS
1/4-miles
BRIONES PARK
Barron Park Elementary School
Juana Briones Elementary School
GREEN ACRES
1/2-mile
0 300 600 1200'

Because existing and future major transit facilities are such an important part of planning for the area, the map also shows a 1/2-mile and 1/4-mile walkable service area radius around the major transit stops: the three Caltrain stations and three future Bus Rapid Transit (BRT) stations on El Camino Real proposed by the Valley Transportation Authority (VTA). One-half mile is considered the maximum distance most people are willing to walk to a major transit station and therefore is a critical consideration in planning for the area.

Figure 2.1 also shows the boundaries of important special planning areas within or near the study area, notably SOFA I and II, California Avenue Area Concept Plan and Pedestrian Transit Oriented Development Zoning District (PTOD). These and other related plans and policies are discussed in the following sections.

EXISTING CONDITIONS: CIRCULATION AND CONNECTIVITY

Palo Alto is served by a network of streets of varying sizes and capacities, ranging from major arterials such as El Camino Real and Alma Street, to small local streets which serve the neighborhoods. While this is generally a highly workable and convenient framework of streets, both the Caltrain tracks and El Camino Real, as well as certain streets such as Embarcadero Road and Churchill Avenue, create significant impediments throughout the study area that disrupt the convenient movement of pedestrians, bicyclists, transit users, and drivers, and isolate the area from surrounding neighborhoods.

VEHICULAR CIRCULATION

Several locations exist where significant vehicular congestion or other circulation problems currently occur within the study area, as noted in prior traffic studies prepared by traffic engineers on the consultant team and with input from the Task Force. Along the entire study area, traffic congestion generally results from one of three conditions: high volumes of traffic moving along corridors such as El Camino Real and Page Mill Road, short spacing between signals resulting in long delays such as along Embarcadero Road, and short-term congestion at intersections adjacent to crossings of the Caltrain line, caused by rail crossing closures when trains are present. Recent increases in traffic on some major east-west streets, such as Arastradero Road/Charleston Road, has created significant cross-town congestion.

BUS AND RAIL SERVICE

The study area is served by various forms of public transit, including: rail service provided by Caltrain; bus service provided by Santa Clara County's VTA, SamTrans, and AC Transit; and free shuttles operated by Stanford University and the City of Palo Alto.

Within the study area, Caltrain represents the most robust transit system with ridership and station boardings/alightings that are significantly higher than the SamTrans and VTA bus services. Caltrain runs roughly 30-minute headways during the peak periods and hourly headways off-peak and weekends. Caltrain does not have a dedicated funding source and is therefore often at risk of schedule changes and service cuts.

VTA bus service along the El Camino Real corridor is significant, likely the highest corridor for bus service on the Peninsula. VTA provides service along El Camino Real with 20-30 minute headways and along Middlefield Road with 30-minute headways on weekdays and hourly headways on weekends. Though the coverage is sufficient, the east-west service is infrequent and inconvenient, indicating need for improvement of existing transit routes and connections.

BICYCLE CIRCULATION

The flat terrain of the study area makes it well-suited to bicycle travel. However, there are several impediments to a more complete bicycle network. The major north-south bikeway in the area is the Bryant Street bicycle boulevard, a national model for bicycle boulevard best practices. No comparable continuous and connected bikeway exists on the west side of the Caltrain rail line, although the combination of Park Boulevard and the Class I (off-street) multi-use path along the rail corridor near Palo Alto High School and the Palo Alto Medical Foundation is nearly continuous along the corridor. The 2012 draft Palo Alto Bicycle + Pedestrian Transportation Plan (BPTP) recommends upgrading this corridor to provide continuity along the west side of the tracks. This recommendation, along with several others in that plan, are incorporated into the findings of this study. However, in some instances, this study goes beyond recommendations of the BPTP.

PEDESTRIAN CIRCULATION

Two contrasting conditions affect the accessibility of the study area and surrounding neighborhoods and destinations. On one hand, the prevailing block pattern in Palo Alto in general, and in many parts of the study area, is highly conducive to pedestrian movement. On the other hand, the major barriers created by Alma Street, the train tracks, and

El Camino Real are so significant that pedestrians are discouraged from walking to as many destinations as they might otherwise. This situation affects the ability of residents to access shopping and services and, more importantly, makes it difficult for children to walk to schools, parks, libraries, and after-school activities.

SUMMARY

The existing Caltrain tracks and traffic on Alma Street and El Camino Real are barriers to circulation, with crossings which are not uniformly spaced and in many cases are in need of improvement. East-west connections across the railroad are limited to only 11 locations: Palo Alto Avenue, the Caltrain Station, University Avenue, Homer Avenue, Embarcadero Road, Churchill Avenue, California Avenue, Oregon Expressway, Meadow Drive, Charleston Road and San Antonio Road. Not all of these crossings accommodate pedestrians and bicycles. The Task Force expressed considerable concern over the safety and convenience of these crossings, with particular concern for the grade crossings at Palo Alto Avenue, Churchill Avenue, Meadow Drive, and Charleston Road.

EXISTING CONDITIONS: LAND USE AND URBAN DESIGN

The Palo Alto Rail Corridor Study area is unique in the City of Palo Alto in its configuration, diversity of uses, and proximity to transit. Figure 2.2 illustrates the general pattern of existing land uses within the study area. As the map illustrates, the area includes a wide range of uses, including virtually every land use found in the City. Sixteen of Palo Alto's residential neighborhoods adjoin or are located in the study area and many of the City's most important commercial and institutional uses are located within or directly adjacent to the study area.

The northern part of the study area is the narrowest and most confined in terms of land area but contains uses that are of great importance to the City. El Camino Park and the Caltrain Station are found north of University Avenue, while a hotel, the facilities of Palo Alto Medical Foundation, and Town and Country Shopping Center are located between University and Embarcadero Road.

Surrounding this northern portion of the study area are three major citywide and regional destinations. To the east, downtown Palo Alto is a highly diverse, mixed use district, that includes low- and mid-rise office buildings (including City Hall); retail, dining, and services along University Avenue and many side streets; and a wide mix of residential housing types, ranging from single family detached to high-rise multi-family dwellings. In recent years some mixed-use projects with retail on the ground floor and residential above have been developed in the downtown and along or near Alma Street. The SOFA District lies at the south edge of downtown and is a highly walkable and livable mixed-use area that is a strong complement to the downtown.

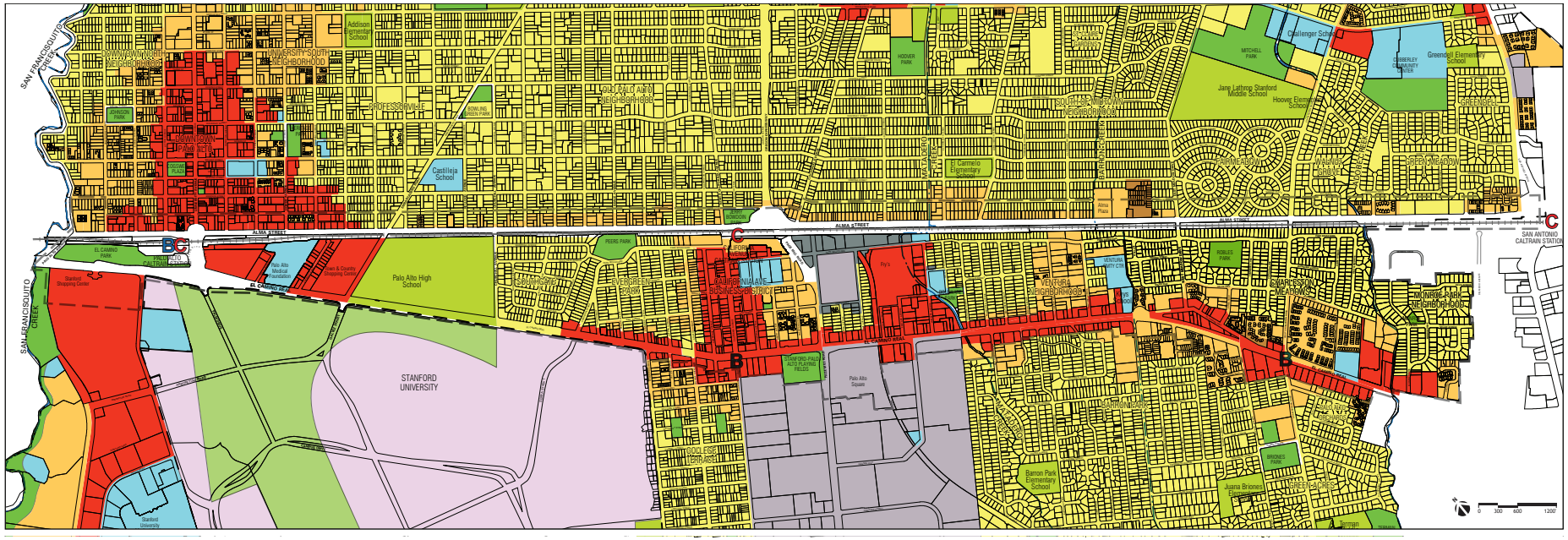
To the west lie Stanford University and the Stanford Shopping Center. While the academic and residential facilities of Stanford University are largely located farther west, the eastern edge of the campus includes areas designated as Academic Reserve and Open Space. Sports and recreation fields are located to the south along El Camino Real. The Stanford Shopping Center is an attractive, walkable regional shopping destination that includes major department store anchors as well as diverse smaller shops, restaurants, and markets. However, it is surrounded by surface parking lots and parking structures which separate it from surrounding neighborhoods and districts.

While the northern area includes some of the highest intensity uses in Palo Alto, especially the shopping areas on University and at the Stanford Shopping Center, connections between these uses and to the Palo Alto multi-modal station at the heart of the area are difficult.

At the north-south midpoint of the study area a second, higher density area is located. Two shopping areas are found in this zone: The California Avenue area is a small-scaled shopping district that includes locally-owned businesses, a grocery store, and multi-family housing; in the south, Fry's Electronics dominates a largely outdated shopping center that consists of a large parking lot and predominately one-story stores and services. Between the two commercial areas are found several local, state, and federal offices, private sector offices, auto-serving light industrial uses such as auto repair shops, and a mix of single-family detached and multi-family homes. The central portion of this area is also dominated by parking lots. The California Avenue Area Concept Plan, described in greater detail in a following section of this report, covers most of this area.

Throughout the length of El Camino Real, citywide and regional retail and services exist along with office, hotel, and residential uses at a variety of densities. A large percentage of the El Camino Real frontage is auto-oriented or auto-serving retail, ranging from car dealerships to local restaurants with large surface parking lots. Unfortunately, few of the

Figure 2.2: Existing Land Use



Legend

- Study Area Boundary
- City of Palo Alto Boundary
- Creek
- C Caltrain Station
- B Proposed Future BRT Station
- General Commercial
- Mixed-use
- Light Industrial
- Research Park
- Single-family Residential
- Multi-family Residential
- Major Institution/Special Facilities
- Stanford University Academic Campus
- School District Lands
- Public Parks
- Stanford University Open Space and Field Research

uses found along El Camino Real provide the goods and services that local residents desire on a daily basis. As a consequence, there is little pedestrian activity or street life in these areas. Recently, however, some mixed-use buildings and new higher-density residential uses have been added near or along El Camino Real.

Significant historic resources exist within the study area that should be protected. Several buildings are listed on the National Register of Historic Places, such as the Southern Pacific Railroad Depot and the Hostess House on University Avenue, as well as Historic Districts that adjoin the study area, such as the Greenmeadow National Historic District. There are also historic resources that are State of California Registered Landmarks, such as the El Palo Alto Redwood tree. Many other buildings and districts of historic significance can be found within the study area as well as adjoining it. El Camino Real from San Francisco to San Diego is a State Historic Landmark that includes the entire section in Palo Alto. Conservation and preservation of Palo Alto's historic buildings, sites, and districts is an important element of Palo Alto's Comprehensive Plan, which includes corresponding policies and programs to encourage and implement preservation.

The residential neighborhoods located throughout the study area have many common characteristics. However, many of the neighborhoods lack the proximity or ease of access to park and recreation facilities that is recommended by City standards. There are also no public elementary schools in the study area, which means that residents must travel to schools to the east or west across major rail or roadway barriers. In places where the residential areas adjoin the railroad right-of-way, residents experience noise and vibration; in others, auto traffic is a problem. Recent development in the south part of Palo Alto has specifically raised concerns about parking, traffic congestion and the adequacy of infrastructure.

SUMMARY

Taken as a whole, the study area has immense diversity with a range of uses, densities, quality of goods and services, cultural facilities, and opportunities for regional transportation access seldom seen in communities of comparable size. The overall study area serves the entire City of Palo Alto and the nearby region in the range of living, working environments, and services it provides. However, large segments of the corridor do not share in these amenities equally, both because none are located in their immediate neighborhoods and because transit within the corridor is difficult. Numerous opportunities exist to improve efficiency of land use and connectivity within the corridor.

RELATED PLANS, PROGRAMS, AND POLICIES

Several existing policy documents and plans prepared by public agencies, the City, and private interests were reviewed and discussed by the Task Force. While many of the recommendations summarized in this document are new, key features of these policies and plans have been incorporated into the overall vision of the Task Force in order to create a comprehensive and coordinated vision. The following section is a summary of key policies and plans relevant to the Palo Alto Rail Corridor Study. A more in-depth review is provided in the Appendix of this document.

STATE PLANS, PROGRAMS, AND POLICIES

Caltrain and High Speed Rail

The California High-Speed Rail Project, if implemented, will arguably be the most significant new project to affect this portion of Palo Alto in the coming years and is the primary reason this study was initiated. The project is an intrastate rail link currently being planned by the California High Speed Rail Authority (CHSRA) to help meet the anticipated increase in travel demand between Northern and Southern California. The initial phase of the project is envisioned as a 220-mile-per-hour High–Speed Train (HST), which will connect the Bay Area and the Los Angeles area. Later phases would link Sacramento in the north and San Diego in the south.

Engineering and operational details of the Bay Area alignment are yet to be finalized, but current planning envisions an alignment through the Peninsula from San Jose to San Francisco along the existing Caltrain right-of-way. Within that right-of-way, several vertical alignment and operational alternatives are currently under discussion, each resulting in varying benefits and impacts to the City of Palo Alto and the residents and businesses located within the study area.

As mentioned in the Introduction, the Palo Alto Rail Corridor Study was initiated in response to potential major changes to the Caltrain corridor. While detailed evaluation of the actual rail improvements to Caltrain and the HST were not intended to be the primary focus of this study, identifying urban issues and opportunities which may be related to the corridor is of central importance to the overall planning of the study area.

Four Track Alternatives

Three options were included in the preferred alternatives report prepared by the California High Speed Rail Authority (CHSRA), released in August 2010. The alternatives are four-track systems (two tracks Caltrain; two tracks HST) and are as follows:

- Alternative A: At-Grade / Aerial Viaduct / Berm Combination
- Alternative B: At-Grade / Aerial Viaduct / Open Trench Combination
- Alternative B1: Continuous Below-Grade Open Trench

Two-Track On-Grade Blended Alternative
As a result of widespread concern over the impacts of the three CHSRA alternatives, Congressional Representative Eshoo, State Senator Simitian and State Assemblyman Gordon jointly suggested that an alternative strategy, the Two-track On-Grade Blended Alternative, could allow Caltrain and the HST to operate on the same two tracks through Palo Alto and most other areas of the Peninsula. Caltrain has recently released an analysis that demonstrates the operational feasibility of this approach, with Caltrain and the High Speed Train assumed to operate at grade on essentially the same alignment as the existing tracks with a new overhead electrical power system. Additional detailed alignment studies as well as evaluation of impacts on existing grade crossings are anticipated.

The four alternatives described above are illustrated in the Appendices of this report. Since the future of the HST remains uncertain, the Task Force also reviewed and discussed the following additional two options:

- No Action / Existing Condition (No HST)
- Caltrain Modernization (No HST).

Working together, the Task Force, City staff, and the consultant team concluded that the scope of the Palo Alto Rail Corridor Study did not allow study of issues, opportunities and vision for all six of the above-mentioned alternatives. Therefore, this study effort focused on two rail configurations:

- Below-Grade Open Trench
- Two-Track On-Grade

Based on the position of the current City Council, combined with likely economic and physical impacts, it was concluded that these are the most viable options. Each of the two configurations generally represents the full range of issues and opportunities confronting the rail corridor largely because one option, the Below-Grade Open Trench, provides opportunities to grade-separate all crossings of the rail corridor while the other, the Two-Track On-Grade, requires solutions to the many issues which already confront at-grade Caltrain.

It should be noted that the Task Force, City staff, and consultants did not undertake a comprehensive analysis of all the potential impacts of the rail alternatives, such as noise and air quality. Such an effort was beyond the scope and resources of this study effort and will be conducted as part of CEQA and NEPA analysis of the rail project itself. The focus of Task Force efforts was to identify issues, a vision, and strategies for the study area which can be used as input to the preparation of any future rail improvement program and assist in the update of other City policy documents, such as the Comprehensive Plan, regardless of the selected rail improvement alternative.

OTHER RELEVANT STATE PLANS, PROGRAMS, AND POLICIES

While not directly related to the study area, two ground-breaking statewide legislative efforts are shaping policy that will affect land use and transportation policy and actions at the regional level. As a result various regional policies are already affecting policies in Palo Alto, such as the update of the Housing Element of the Comprehensive Plan and various transportation programs and grants. A brief summary of these projects is listed below with a more extensive discussion in Appendix B.

Assembly Bill 32: Global Warming Solutions Act (2006)

The 2006 Global Warming Solutions Act (AB32) requires specific actions for California to reduce greenhouse gas (GHG) emissions to 1990 levels by the year 2020, a reduction of approximately 25% statewide. A key focus of the measures is the reduction of total vehicle miles travelled (VMT) and a potential corresponding shift to alternative travel modes, including transit and bicycling.

Senate Bill 375: Sustainable Communities Act (2008)

SB375 further implements the goals of AB32 by directly linking land use planning with greenhouse gas emission reduction targets. The California Air Resources Board is required to set specific emissions reduction goals for metropolitan planning organizations, which in the Bay Area, is the Metropolitan Transportation Commission (MTC). The GHG reduction targets for the Bay Area are a 7% reduction in per capita emissions by 2020 and a 15% reduction by 2035.

AB32 and SB375 will have direct influence on the future of public and multi-modal transportation and land use planning in Palo Alto through state and regional mandates and funding programs.

REGIONAL AND COUNTY PLANS, PROGRAMS, AND POLICIES

Sustainable Communities Strategy (SCS) and the Regional Transportation Plan (RTP)

Pursuant to SB 375, the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission are currently preparing a Sustainable Community Strategy (SCS) to guide the update of the Regional Transportation Plan (RTP). A key focus of this effort is the reduction of greenhouse gas emissions through transportation and land use policies and funding incentives that would be implemented at the local level.

Bay Area FOCUS Program

In conjunction with the SCS, the Bay Area FOCUS Program works with local governments in the Bay Area to address high housing costs, traffic congestion, and protection of natural resources as well as to encourage future growth near transit. Regional funding agencies will direct existing and future incentives to Priority Development Areas (PDAs) and Priority Conservation Areas. In Palo Alto, the California Avenue area has been identified as a PDA by the City, making the area eligible for regional funding grants.

Grand Boulevard Initiative (El Camino Real)

The Grand Boulevard Initiative (GBI) is a collaboration of 19 cities, Santa Clara and San Mateo Counties, Caltrans, and numerous public agencies and private entities with the goal to improve the performance, safety, and aesthetics of the El Camino Real corridor from the Diridon Station transit hub in San Jose to Mission Street in Daly City. The GBI vision is for El Camino Real to "achieve its full potential as a place for residents to work, live, shop, and play, creating links between communities that promote walking and transit and an improved and meaningful quality of life."

One of the goals of the GBI is to improve safety for pedestrians and bicyclists crossing El Camino Real. In furtherance of this goal an "intersection improvement demonstration project" has recently been completed in Palo Alto at the intersection of Stanford Avenue and El Camino Real. Based on the results of this project, it has been concluded by both the City and Caltrans that additional similar improvements at other intersections may be feasible. Detailed studies are needed to identify priority locations and specific appropriate improvements.

Valley Transportation Plan 2035

The Valley Transportation Plan 2035 (VTP 2035) is Santa Clara County's long-range planning document that feeds into the Metropolitan Transportation Commission's Regional Transportation Plan. It incorporates specific needs identified by the Valley Transportation Authority (VTA) and individual municipalities, including Palo Alto. The VTP 2035 considers all travel modes and addresses linkages between transportation and land use planning, air quality, and community livability.

Within the study area, several projects and funding allocations are identified for implementation during the VTP 2035 planning horizon. Transit and bicycle projects in Palo Alto include the following:

- El Camino Real Bus Rapid Transit (BRT)
- Caltrain Electrification from San Francisco to Gilroy
- California Avenue/Alma Street Caltrain pedestrian undercrossing improvements
- Bicycle Boulevards network improvements.

The VTP 2035 also contains a land use vision and incentives that would encourage a shift in development patterns to higher densities clustered in core areas near major transportation corridors, known as the Community Design and Transportation Program. The California Avenue Streetscape Project (CASP) has been the recipient of a grant from VTA under this program.

Bus Rapid Transit Strategic Plan (2009)

Bus Rapid Transit (BRT) is an enhanced bus service that offers fast, frequent service, specialized vehicles, high amenity stations, and expanded passenger information. The Bus Rapid Transit Strategic Plan, prepared by the Santa Clara Valley Transportation Authority (VTA), outlines a plan to develop and operate an integrated BRT network throughout Santa Clara County to provide high quality bus transit service to areas not served by light rail transit. Along El Camino Real, the new service, known as BRT 522, would replace the existing Rapid Bus 522 and will operate with a side-running mixed-flow option. In Palo Alto, three BRT station locations have been identified at: the Palo Alto Caltrain Station, the intersection of El Camino Real and California Avenue, and the intersection of El Camino Real and Arastradero Road/Charleston Road. The tentative start of service date for BRT is August 2014.

CITY PLANS, PROGRAMS, AND POLICIES

Palo Alto Comprehensive Plan

The existing Comprehensive Plan 2010 includes vision statements, policies, and programs that directly relate to the study area. The City is working on a plan update that will extend the planning horizon of the Comprehensive Plan from 2010 to 2020. While many of the Task Force visions and recommendations presented in this study are consistent with the existing Comprehensive Plan, others are new or provide greater definition and will be considered as part of the Comprehensive Plan update process.

Palo Alto Municipal Code, Title 18, Zoning Regulations

Zoning is the primary regulatory mechanism that implements the policies of the Comprehensive Plan related to the activities of private property owners. The zoning code designates the specific land uses permitted or restricted within a "zone" or "district" and the development standards, such as density, setbacks, and height limits associated with that district. The City of Palo Alto has adopted two unique special districts with provisions that have been incorporated into the zoning regulations: the Pedestrian and Transit-oriented Development (PTOD) Combining District, and the South of Forest (SOFA) District. The PTOD District is generally located in the vicinity of the California Avenue mixed-use commercial area west of the Caltrain station (see Figure 2.1). Its purpose is to allow higher density residential dwellings on commercial, industrial, and multi-family parcels within a walkable distance of the California Avenue Caltrain station. The SOFA Districts are a combination of Comprehensive Plan policies and zoning designations that allow patterns and intensities of development beyond the level permitted in other standard zoning districts, while addressing issues such as compatibility of development with existing uses, parking, traffic, recreation and open space, urban design, and architectural design.

The features and standards of these innovative districts - PTOD and SOFA - may provide potential models for application in other subareas of the study area.

California Avenue Area Concept Plan (currently in progress)

The California Avenue Area Concept Plan (CAACP) is a subarea plan for the 115-acre California Avenue / Fry's area, which includes the California Avenue business district south to the properties that house the existing Fry's store and adjacent, surrounding areas. The planning effort is part of the Comprehensive Plan update process, with the intent to prepare new guidelines for future land use and development activity within the area. The area was identified for a concept study because most of it is within the Transit-Oriented Residential designation of the current Comprehensive Plan (2010) and within the zoning district designated as PTOD. The CAACP study area is entirely within the boundaries of the Rail Corridor Study area. It is the intent that the recommendations of the Task Force contained in this document provide additional context and guidance in the preparation of the CAACP.

El Camino Real Master Planning Study (2007)

The El Camino Real Master Planning Study (ECRMPS) is a feasibility and master planning study for the public right-of-way of El Camino Real in Palo Alto to address existing safety, operational and aesthetic concerns. The overall goals of the study were to change the character of El Camino Real from a highway designed primarily for motor vehicle circulation to a multi-modal urban thoroughfare that is a center for community activity and is an aesthetically attractive corridor that projects a positive image of Palo Alto. In general, the visions and recommendations of the Task Force for this study are consistent with, and reinforce, the goals and findings of the ECRMPS.

South El Camino Real Design Guidelines (2002)

Although not formally adopted by the City Council, the South El Camino Real Design Guidelines (SECRDG) provide guidance to the Architectural Review Board, the Planning and Transportation Commission and the City Council as these bodies review the design of private development along the southern portion of El Camino Real from Stanford Avenue to the southern city boundary. The design guidelines are consistent with the objectives recommended by this Task Force.

El Camino Real Design Guidelines (1979)

The El Camino Real Design Guidelines (ECRDG), prepared in 1979, were adopted by the Architectural Review Board and were incorporated into the Zoning Ordinance. The El Camino Real Design Guidelines apply to the entire length of El Camino Real and are more general in nature.

El Camino Real Design Guidelines Update (Pending, 2012)

The El Camino Real Design Guidelines Update will modify the guidelines and combine two previous documents, the 1979 El Camino Real Design Guidelines and the South El Camino Real Design Guidelines. At the time of writing this report, a consultant was hired for the update but the study had subsequently been put on hold.

Palo Alto Bicycle + Pedestrian Plan (Final Draft, January 2012)
At the time of this report, the City of Palo Alto Bicycle + Pedestrian Transportation Plan (BPTP) had been released in Final Draft form, awaiting City Council approval. The BPTP is intended to guide public and private investments in the City's non-motorized transportation facilities and related programs. The BPTP is comprehensive, providing guidance for the improvement, funding and maintenance of pedestrian and bicycle facilities across the entire city. It expands the 2003 Bicycle Transportation Plan to include coverage of pedestrian issues, priorities and design standards. It is intended that many of its components will be included in the Transportation Element of the Comprehensive Plan update. All of the key recommendations of the BPTP that fall within the Rail Corridor Study area have been included in the Task Force vision and recommendations summarized in this document.

School Commute Corridors Network (2004)
In 2004, in an effort to improve safety for children travelling to schools, the City Council adopted the School Commute Corridors Network. This network defines paths of travel and critical intersections or crossings of major streets and the rail line. Several of these commute corridors and critical intersections fall within the study area, notably along El Camino Real, Alma Street, Embarcadero Road, Churchill Avenue, East Meadow Drive, Charleston Road and Margarita Avenue. Throughout the study, the Task Force expressed concern about these and other locations, largely because children living within the study area travel to schools that are outside the study area, requiring crossing of these barriers. The recommendations of the Task Force summarized in this report go beyond those of the School Commute Network, with several additional recommendations.

Economic Impacts of High Speed Rail and Caltrain Modernization in Palo Alto (2011)
The City Council authorized a consultant to evaluate possible economic and property value impacts associated with the proposed Caltrain Modernization Program and the High Speed Rail as currently planned by the California High-Speed Rail Authority. Four rail improvements/expansion scenarios were evaluated for noise, vibration, circulation, air quality, aesthetics, property acquisition requirements, and travel time. The study found that enhanced transit service and reduced commuting travel time can significantly enhance property values throughout Palo Alto. The study concludes that the HSR/Caltrain project can best benefit Palo Alto by incorporating the following features:

- More frequent Caltrain service at higher speeds to reduce travel times for Palo Alto residents and workers, thereby enhancing property values throughout the community
- A maximum length of subgrade tracks (covered, if feasible) to minimize negative noise, vibrations, and aesthetic impacts and potentially improve upon existing conditions
- Grade separation, if supported by analysis, at every potential crossing for enhanced safety, and vehicular circulation and reduced noise from horns and crossing bells.

Economic Impacts of Caltrain Modernization in Palo Alto (2011)
Due to the possibility that the HSR project will not proceed as currently envisioned, a separate study analyzed economic and property value impacts in Palo Alto for Caltrain modernization as a stand-alone project. It was concluded that Caltrain modernization will produce net positive, but modest economic impacts in Palo Alto. Transit service will improve as a result of electrification, which, along with quieter trains that will have lower vibrations and pollution emissions, will have a net positive impact on the community. However, more travel delays for drivers at the at-grade crossings and visual impacts for properties facing electrical facilities will occur. Therefore, all proposed changes must be fully examined and suitable mitigation measures must be required.

Role and Guiding Principles of the City Council Rail Committee (2012)
The Palo Alto City Council appointed a sub-committee, known as the City Council Rail Committee to study and advise the City Council on high speed rail (HSR) and related transit matters, and to act on behalf of the City on these matters when sufficient time for a full City Council review is not available. The City Council adopted a set of guiding principles to guide the Committee's decision-making process and actions. The guiding principles state, among other things, the City's opposition to an elevated alignment of HSR/Caltrain, and its preference for a below-grade alignment.

Planned Public and Private Projects
Due to the current economic environment, few projects are currently in the planning or development stage in the study area. Active projects include the following:

- 420 Cambridge Street. A private, four-story mixed-use project, containing four residential units above ground-floor retail and semi-depressed parking to the rear. A zone change was granted to this project to allow the PTOD overlay zoning designation.
- 2650 Birch Street. A private, four-story mixed-use project containing eight residential condominium units over ground-floor office and un-

derground parking. A zone change was granted to this project to allow the PTOD overlay designation. Construction has not yet begun.

- 801 Alma Street. A four-story 50-unit affordable family rental project replacing a substation and retail building. Construction was planned to begin in December.
- 4301 and 4329 El Camino Real (site of existing Palo Alto Bowl). A 4-story hotel project with 26 condominiums on a 3.70 acre site.
- 355 Alma Street. A four-story mixed office and retail building on a former gas station site with 2.5 levels of below-grade parking, approximately 5,500 square feet of ground-floor retail, including 1,640 square feet of subsidized non-profit office space on the ground floor and three floors of office space located on floors 2-4 for a total floor area of 52,163 square feet.
- California Avenue Streetscape Project (CASP). This public project sponsored by the City of Palo Alto includes streetscape improvements in the public right-of-way of California Avenue between El Camino Real and the California Avenue Caltrain station. The project is still in the preliminary design and approval stage.
- 2180 El Camino Real. A mixed use development with retail, residential, office and below-grade parking. The project anticipates a ground floor grocery.
- Alma Plaza. Mixed-use development with 37 residential units and retail, including a 20,000 SF grocery store. Under construction: Grocery store scheduled to open in fall 2012 and model homes are under construction.
- 395 Page Mill Road/3045 Park Blvd. Project includes two three story office buildings with below grade parking and a three story parking garage with 7,000 square feet of retail use on the ground floor. Pending planning application.
- 2875 El Camino Real. Architectural Review Board approval has recently been granted for a 3,250 square foot, one-story retail/office building.
- 4073 El Camino Real. Architectural Review Board approval has recently been granted for a three-story mixed-use building.
- 4214-4220 El Camino Real. Request for Major Architectural Review Board review of a new four story, 174 room Hilton Garden Inn Hotel Pending planning application.

SUMMARY OF EXISTING PLANS, PROGRAMS, AND POLICIES

The study area is a relatively large and diverse area in the City, with a significant number of overlapping plans, policies, and programs relating to the future planning and development of the area. In reviewing these existing policies and planned projects, the Task Force sought to achieve the following:

- Incorporate appropriate plans, polices, and projects into the recommendations of the Task Force.
- Identify those that are inconsistent with Task Force goals and, therefore, should be revised or discontinued.
- Expand upon existing and planned actions, providing greater detail or defining specific needs not previously identified.

The Task Force recommendations summarized in this report generally conform to, and support, much of the planning and development activity currently in process by state and regional agencies and the City. Where appropriate, these plans and policies have been incorporated into the text and graphic recommendations of this document. In several instances, however, the Task Force recommendations that follow provide additional recommendations that go beyond prior efforts or seek to implement policies or programs that are relevant to the study area in greater detail, in order to create a single, comprehensive set of recommendations related to the study area.

ISSUES & VISION

ISSUES

The study area contains three major transportation facilities - Alma Street, the rail tracks, and El Camino Real - that traverse the entire city from north to south and create many safety and convenience challenges to the City and its residents. This condition will either be improved or exacerbated depending upon the final outcome of the Caltrain and High Speed Train decisions.

In addition, some parts of the study area lack the services and amenities that other neighborhoods in Palo Alto enjoy. No public elementary or middle schools are located within the study area boundary, which requires students to cross streets with heavy vehicular traffic and/or the Caltrain corridor in order to access schools outside the area. Similarly, a limited number of parks and recreation facilities serve a few specific locations, while remaining residents must traverse major barriers to access public open space. In most areas, the goods and services offered in the area tend to be more regional or citywide in their orientation rather than conveniently serving the day-to-day needs of residents without requiring dependence on the automobile. This is particularly evident in the southern half of the study area.

Throughout the meetings of the Task Force, and particularly in the earliest meetings, many issues were enumerated. They address a wide range of important topics, of importance to residents as well as to local employers, property owners and merchants. The issues tended to comprise two categories and are listed below.

CIRCULATION AND CONNECTIVITY ISSUES

- Rail Operations. Rail operations through Palo Alto result in many impacts that affect daily life: congestion, interruption to cross-town connectivity, difficult access to parks, schools, and other services, dangerous and potentially dangerous track crossing conditions, noise, and vibration, among others.
- Barriers. The Alma Street / Caltrain corridor on the east and El Camino Real on the west are significant barriers to the safe and convenient connection of people between neighborhoods, commercial service areas, parks and schools outside the study area. In addition, major east-west streets, including Embarcadero Road, Churchill Avenue, Oregon Expressway, Arastradero Road and Charleston Road create significant barriers for pedestrians and bicyclists.
- Underutilized Transportation Resources. Caltrain, in particular, is an underutilized transportation asset. Ridership on Caltrain can be improved by making access more safe and comfortable, and by improving the circulation framework throughout the study area to better link to services and important destinations. Bus transit is also underutilized and could be improved by better east-west links to create a better integrated public transit framework.
- Pedestrian and Bicycle Circulation. Linkages of these modes of travel to desired destinations are discontinuous and difficult. A more complete framework of pedestrian and bicycle facilities is needed.

LAND USE AND URBAN DESIGN ISSUES

- Conservation. Residential neighborhoods, natural features and historic resources should be protected from unnecessary impacts. Within the study area boundaries, of notable historic significance are the El Palo Alto Redwood tree, the Southern Pacific Railroad Depot on University Avenue and the Hostess House, designed by Julia Morgan in 1918. Greenmeadow Neighborhood abuts Alma Street at the south end of the study area.
- Lack of Important Public Services and Resources. Since the study area, no public elementary schools exist and many of the neighborhoods have limited access to public open space. This requires residents to go outside the study area to find these services and to traverse the rail line, Alma Street and El Camino Real which creates potentially unsafe and inconvenient access to public services and amenities.
- Lack of Commercial Goods and Services. Many locations in the study area, particularly in the south, lack necessary services such as grocery stores, requiring residents to drive to meet their needs. The result is an increase in traffic, vehicle miles travelled, and ultimately, the release of ever-increasing quantities of greenhouse gases.
- Physical Improvements. Many public spaces have poor streetscape appearance and pedestrian facilities. In many areas, improvements to the image of Palo Alto and a more comfortable and inviting community environment are needed.
- Underutilized Land Resources. Throughout Palo Alto, land is a precious resource with numerous demands placed on a rather limited supply. Nowhere is this more true than in the study area. There are numerous land areas that are currently underutilized that, if properly planned, could allow the area to accommodate change and increase its diversity, provide additional needed services and open space, and enhance livability, safety and sustainability into the future.

These issues influenced the work of the Task Force and guided their analysis of existing conditions and the formulation of a vision and recommendations for the future of the study area.

VISION FOR THE STUDY AREA

The study area vision emerged through numerous discussions of the Task Force with each other, their constituents and through workshops with the consultant team and City staff. It addresses the community's issues and concerns while identifying opportunities to create unique mixed-use neighborhood centers that serve Palo Alto and attract visitors from the Peninsula and beyond.

The overall vision is:

> *to create a vibrant, safe, attractive, transit-rich area with city and neighborhood mixed-use centers that provide walkable, pedestrian and bicycle-friendly places that serve the community and beyond; and to connect the east and west portions of the city through an improved circulation network that binds the city together in all directions.*

The study area is already a great place to live and work with generally good access to services, cultural and civic resources, and open space. The vision for the area would enhance these existing attributes and resolve the connectivity, land use and urban design issues.

Implementation of the vision is based on the following specific Task Force recommendations for the study area related to the Rail Corridor, Circulation and Connectivity, Land Use and Urban Design, and Public Facilities. Some of these recommendations will occur as properties are developed. It may be necessary for some improvements to be phased in over time.

RAIL CORRIDOR

RAIL IMPROVEMENTS AND/OR EXPANSION

The majority of the Task Force prefers the Below-Grade Open Trench configuration for rail improvements and/or expansion as it passes through Palo Alto, with the incorporation of trench covers and bridges in key locations. This will allow all existing grade crossings of Caltrain to be grade-separated and presents numerous opportunities for additional east/west connections, open spaces, extension of a continuous north/south bicycle facility along Alma Street and new opportunities for open space and development, where appropriate.

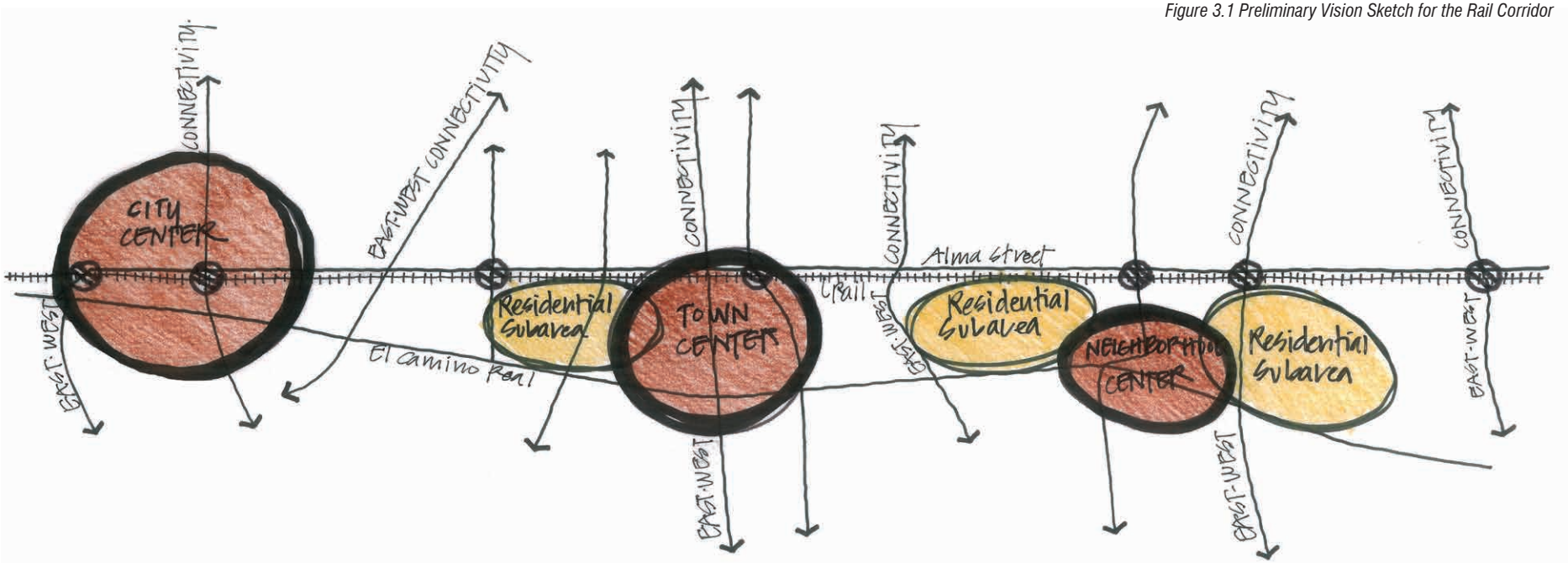
IMPROVE ALL RAIL CROSSINGS TO PROVIDE THE HIGHEST POSSIBLE LEVEL OF SAFETY AND CONVENIENCE

Improvements to the existing rail crossings at Churchill Avenue, West Charleston Road, and West Meadow Drive are the highest priority. This is most readily achieved by providing grade-separation at rail tracks and cross-connections. Grade-separation should be provided at all future crossings, as well. Careful engineering study and analysis is needed if the Below-Grade Open Trench rail option is not implemented and the Two-Track On-Grade configuration is selected to ensure the impacts on properties, neighborhoods and overall circulation do not outweigh the benefits of improved surface crossings.

MITIGATE RAIL IMPACTS ON NEIGHBORHOODS, PUBLIC FACILITIES, SCHOOLS AND MIXED-USE CENTERS

Neighborhoods and Mixed-Use Centers should have minimal negative impact imposed upon them by the rail operations. Of particular importance are traffic circulation, right-of-way impacts on adjacent properties, and noise and reduced air quality imposed on residential parks and schools.

Figure 3.1 Preliminary Vision Sketch for the Rail Corridor



The overall vision is:

to create a vibrant, safe, attractive, transit-rich area with city and neighborhood mixed-use centers that provide walkable, pedestrian and bicycle-friendly places that serve the community and beyond; and to connect the east and west portions of the city through an improved circulation network that binds the city together in all directions.

CIRCULATION AND CONNECTIVITY

IMPROVE EAST-WEST CONNECTIVITY ACROSS THE RAIL CORRIDOR, ALMA STREET AND EL CAMINO REAL

Additional east-west circulation and connectivity improvements are needed throughout the study area in order to mend the community which is currently divided by major barriers. In addition to the rail corridor, improvements to Alma Street and El Camino Real, particularly at intersections, are needed.

PROVIDE ADDITIONAL RAIL CROSSINGS IN THE SOUTHERN SECTION OF THE STUDY AREA

Connectivity improvements across the tracks and Alma Street are a high priority in the southern half of the study area, which is particularly under-served by crossings and connections across the rail corridor compared with the north. This is primarily due to existing residential and discontinuous streets which constrain the ability to provide additional crossings south of Oregon Expressway. Working with property owners and neighborhoods, priority efforts are needed to identify potential opportunities for appropriate new crossings.

STRENGTHEN THE PEDESTRIAN AND BICYCLE CIRCULATION FRAMEWORK AND MAKE CONNECTIONS TO CITYWIDE FACILITIES AND AMENITIES

Place a high priority on improvements to specific street corridors, intersections and barriers to strengthen a framework of defined pedestrian, bicycle and school commute corridors that links to destinations outside of the study area, particularly schools, parks and cultural facilities.

CREATE A WALKABLE, PEDESTRIAN AND BICYCLE-FRIENDLY COMMUNITY WITH CONVENIENT AND SAFE ACCESS TO GOODS AND SERVICES

Provide improvements to the circulation framework such that it is not necessary to use an automobile in order to safely and conveniently reach day-to-day community services. Create safe streets for pedestrians and cyclists through amenities and safe intersection design, vehicular traffic controls and land use planning that assures necessary day-to-day goods and services are located within that framework.

IMPLEMENT A LAYERED STREET FRAMEWORK

Recognize that the functional role of all streets in the study area is not the same. Improve streets based on the most important function that the street needs to serve, such as an emphasis on bicycle circulation, vehicular circulation or pedestrian access to commercial districts and services, depending on location.

ENSURE MAJOR VEHICULAR CORRIDORS RETAIN CURRENT TRAFFIC CARRYING CAPACITY

Certain roadways in the study area are essential vehicular travel corridors connecting neighborhoods within Palo Alto and to the surrounding region. Consistent with the concept of a Layered Street Framework, ensure these corridors retain their traffic carrying capacity as a priority over other street functions.

LAND USE AND URBAN DESIGN

CONSERVE, PROTECT AND PRESERVE HISTORIC AND NATURAL RESOURCES

The study area and its surrounding area are, essentially, the historic core of Palo Alto. The historic resources that remain in the area are a large part of what makes it unique. Ensure that not only the natural and cultural resources, themselves, are protected but that their ultimate setting is appropriate. This should be a key consideration in the evaluation and selection of a rail alternative and any other development. Include consideration of improvements that go beyond simple mitigation of impacts on historic and natural resources and that actually correct past mistakes and restore the resource and its setting to the extent possible.

ENHANCE THREE MIXED-USE CENTERS TO CREATE UNIQUE PLACES THAT SERVE THE COMMUNITY

New mixed-use development, which includes residential, commercial goods and services, and a variety of open spaces and cultural facilities, should be encouraged in the three Mixed-Use Centers. The three Mixed-Use Centers are: City Center at University, Town Center at California Avenue and Neighborhood Center at El Camino Way. New Development should be of moderate intensity, although higher-intensity mixed-use residential development beyond the density and height limitations of current policy and regulations may be appropriate in specific limited locations such as areas with particularly good access to transit and services. Special emphasis should be placed on providing additional local-serving goods and services in the Neighborhood Center in the southern portion of the study area.

PROTECT EXISTING RESIDENTIAL NEIGHBORHOODS

The residential neighborhoods of Palo Alto in and around the study area should be enhanced and protected from potential negative impacts such as increased traffic and the impacts of both existing and future rail operations. These include exclusively residential subareas as well as residential properties within Mixed-Use Centers.

ENCOURAGE A DIVERSE MIX OF HOUSING

Portions of the study area are suitable for new residential development, particularly as part of Mixed-Use Centers. Provide a diverse mix of housing, including a variety of densities and a fair representation of affordable and market rate choices to build more viable neighborhoods. Wherever new development occurs, it should be responsive to existing land use adjacencies and building heights and should be located in areas with good access to services and transit by means other than the automobile, in order to minimize traffic generation.

ENCOURAGE IMPROVED UTILIZATION OF LAND RESOURCES

The study area contains some of the most precious land resources in California. Identify and encourage opportunities for the re-use of underutilized land, such as surface parking lots, vacant lands, and poorly used landscape areas, to support a mix of uses that will link the area together, meet open space and residential needs, support transit use and provide needed community goods and services.

PUBLIC FACILITIES

INFRASTRUCTURE SHOULD KEEP PACE WITH DEVELOPMENT AND SHOULD ACHIEVE A HIGH QUALITY DESIGN

Implementation of schools, parks, recreation and cultural facilities, and traffic improvements should keep pace with new development. In particular, ensure adequate transportation facilities, schools and parks are in place concurrently with development. Establish and enforce measurable standards to ensure that this is achieved.

IMPROVE ACCESS TO PARKS, RECREATION AND CULTURAL FACILITIES

Improvements are needed to provide safe and convenient access to parks and recreation facilities, particularly for children. Parks, recreation and cultural facilities should be included in new development and regular assessments should be made to determine that community's needs are being met. Since the study area is largely built-out, creating additional major parks and open spaces will be challenging. Tools, such as public/private partnerships, creative street and public space design, and other measures, should be investigated in order to add usable public open space in non-traditional ways.

REGULARLY EVALUATE SCHOOL CAPACITY AND FACILITY NEEDS

As changes occur in the study area, school capacity and facilities should be evaluated by the Palo Alto Unified School District and the City in a collaborative fashion. The study area currently has no public elementary or middle schools within its boundary and if/when feasible and desirable, consideration should be given to locating elementary and/or middle schools within the study area to serve its residents.

CIRCULATION & CONNECTIVITY

This chapter explores the opportunities to improve the circulation framework and connections that serve the study area as well as surrounding neighborhoods of Palo Alto. Task Force recommendations for the circulation framework include the following:

- Improve east/west connectivity across the rail corridor, Alma Street and El Camino Real.
- Provide additional rail crossings in the southern section of the study area.
- Strengthen the pedestrian and bicycle circulation framework throughout the study area and make connections to citywide facilities and amenities.
- Create a walkable, pedestrian and bicycle-friendly community with convenient and safe access to goods and services.
- Implement a Layered Street Framework.
- Ensure major vehicular corridors retain current traffic carrying capacity.

This chapter includes a discussion of the following major topics:

- Crossings and Connectivity
- Layered Street Framework

CROSSINGS AND CONNECTIVITY

Assuring safe and convenient access to the various destinations in Palo Alto is dependent upon a high-quality network of street and rail crossings and connections. In the study area, this is particularly relevant to connections across the three key east-west barriers: the Caltrain rail tracks, Alma Street, and El Camino Real as well as north-south crossings of Embarcadero Road, Churchill Avenue, and Oregon Expressway. In all cases, crossings should provide the highest feasible standards of safety and convenience.

The rail right-of-way is the single most difficult barrier in Palo Alto. It separates neighborhoods and districts, making it difficult to access schools, parks, services, and shopping except by driving. The rail tracks and train operations also create potentially unsafe conditions for motorists, bicyclists, and pedestrians as these users attempt to use the few existing crossings of the tracks. Only four grade-separated vehicular crossings and five grade-separated pedestrian and bicycle crossings (including two of the vehicular crossings) exist through the approximately four mile length of the study area. The combination of the rail right-of-way and Alma Street exacerbates potentially unsafe crossing conditions by increasing the distance to cross and causing confusion for those crossing, or those in the process of crossing, when the barriers descend.

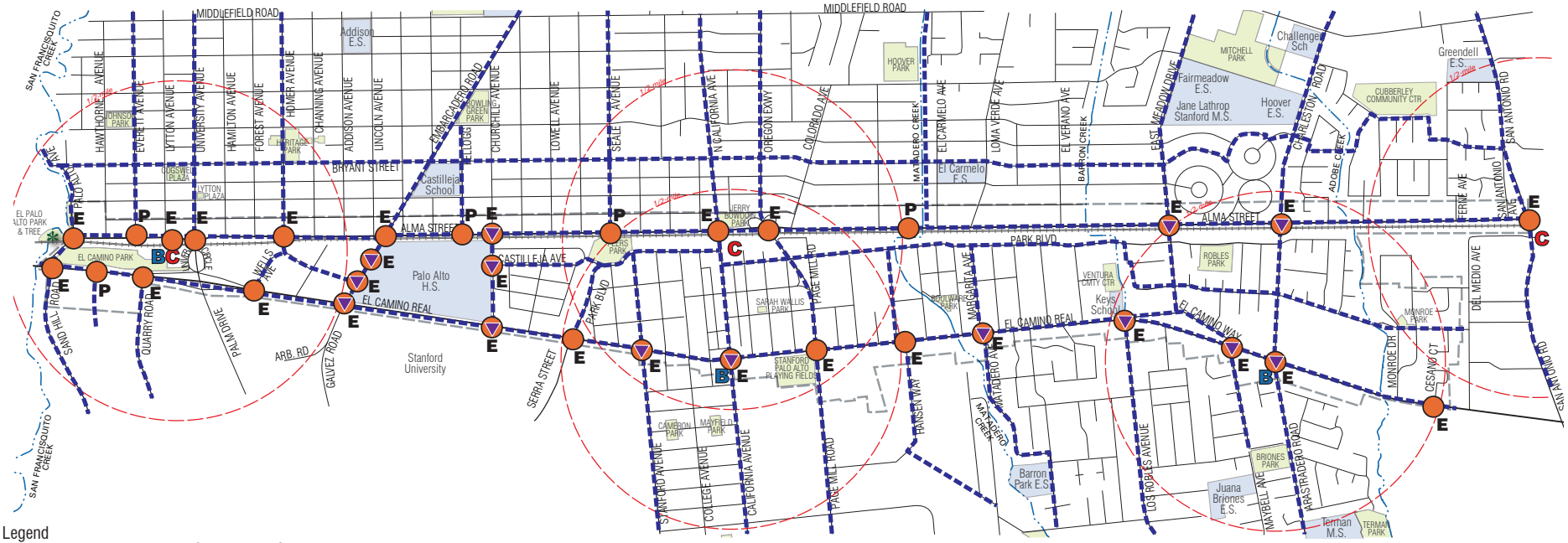
Alma Street and El Camino Real are important north-south vehicular corridors that must continue to function accordingly in order to avoid intrusive through traffic in the neighborhoods. However, they also create connection obstacles between neighborhoods and destinations to the east and west.

The following section discusses key elements of the Task Force findings and recommendations for a framework of crossings and connectivity in the study area. This framework identifies key rail crossings and priority street intersections to be improved, pedestrian and bicycle circulation to be enhanced, and outlines the primary circulation framework of vehicular streets, transit streets and pedestrian and bicycle corridors. A generalized summary of this recommended primary framework of crossings and connectivity is illustrated in Figure 4.1.

The Task Force believes that the implementation of the Framework of Crossings & Connectivity, while aggressive, is realistic and ultimately achievable. Recognizing that financial resources are limited, it does not dictate that all possible locations should be improved. Rather, this Framework identifies high priority locations that are critical to achieve a minimally functional standard.

Above: Critical intersection for school commute corridor at El Camino Real and Maybell Way. The existing intersection is very wide and creates a long distance to cross.
Below: Students wait at the tracks to cross Alma Street at Churchill Avenue. Due to the volume of traffic and the small available waiting spaces, this is a critical intersection for improvement. At a minimum, larger waiting areas / plazas are needed.

Figure 4.1: Framework of Crossings & Connectivity



Legend

- Primary Framework of Connectivity (See Also Figure 4.7)
- Key Crossing to be Considered for Improvement
- Critical Intersection for Improvement (*School Commute Corridors Adopted by City Council, 2004*)
- E Existing Crossing
- P Recommended Potential Crossing
- Study Area Boundary
- Public Park
- School
- Creek
- B Potential Future BRT Station
- C Caltrain Station
- 1/2-mile Radius Transit Service Area

0' 1,250' 2500'

CALTRAIN CORRIDOR

The Caltrain corridor represents the most significant barrier to east-west connectivity in central Palo Alto. While it provides valuable regional transportation access for residents of Palo Alto and the entire Peninsula, it creates an obstacle that divides the city in half. In addition, the volume and speeds of Caltrain rail traffic along the corridor have immense impacts on surrounding land uses, creating safety, noise, air quality and vibration problems, among others. Safety along the tracks is a real issue that needs to be addressed. The High Speed Train may further contribute to these problems.

Although the existing Caltrain line presents a significant barrier to east-west connectivity, it is not the only limitation. Existing residential that abuts the rail right-of-way on the west and discontinuous streets constrain the ability to provide additional east-west crossings south of Oregon Expressway. At the onset, the Task Force established an important principle to protect existing residential areas. Therefore, new rail crossings that would impact specific residential parcels have not been proposed.

Task Force Recommendations for the Caltrain Corridor

Future improvements in the Caltrain corridor should provide for regional transportation needs while also being an asset to the City of Palo Alto.

- The Caltrain corridor must be modified to improve safety and to minimize future noise, vibration or visual impacts on adjoining districts and neighborhoods.
- The existing at-grade crossings of the Caltrain corridor should be improved to provide the highest possible level of safety and convenience. Grade separations are preferred, if appropriate and supported by analysis. In certain circumstances, upgraded, safe at-grade crossings may be the only feasible option. Detailed engineering studies of trench, grade separated and at-grade options are necessary and should include the potential impact of increased train traffic and bicycle/pedestrian/vehicular traffic.
- Additional safe and convenient crossings of the tracks and Alma Street are essential to provide connections from neighborhoods to destinations such as schools, parks, and services outside the study area. Engineering studies need to be undertaken and analyzed. A variety of potential solutions should be studied including at-grade and grade-separated options.
- A priority should be placed on identifying opportunities for safe additional crossings in the southern half of the study area which is underserved compared with the northern half.
- The design of the pedestrian / bicycle connections should ensure visibility and security and provide ample clearance between pedestrians and bicyclists. Homer Tunnel is a good example for future rail underpasses.
- Caltrain creates visual, noise and vibration impacts along the entire length that should be mitigated / minimized.
- The HST may also create visual, noise and vibration impacts that should be mitigated.
- Intersection improvements at the Caltrain rail right-of-way and Alma Street should include an analysis and evaluation of signal crossing times, gate locations, and coordination with Alma Street traffic signalization. A variety of safety measures should be considered. Improvements could include advanced signalization, efficient gate down times, additional refuge areas for pedestrians and bicycles and additional warning mechanisms on perpendicular streets at major intersections.

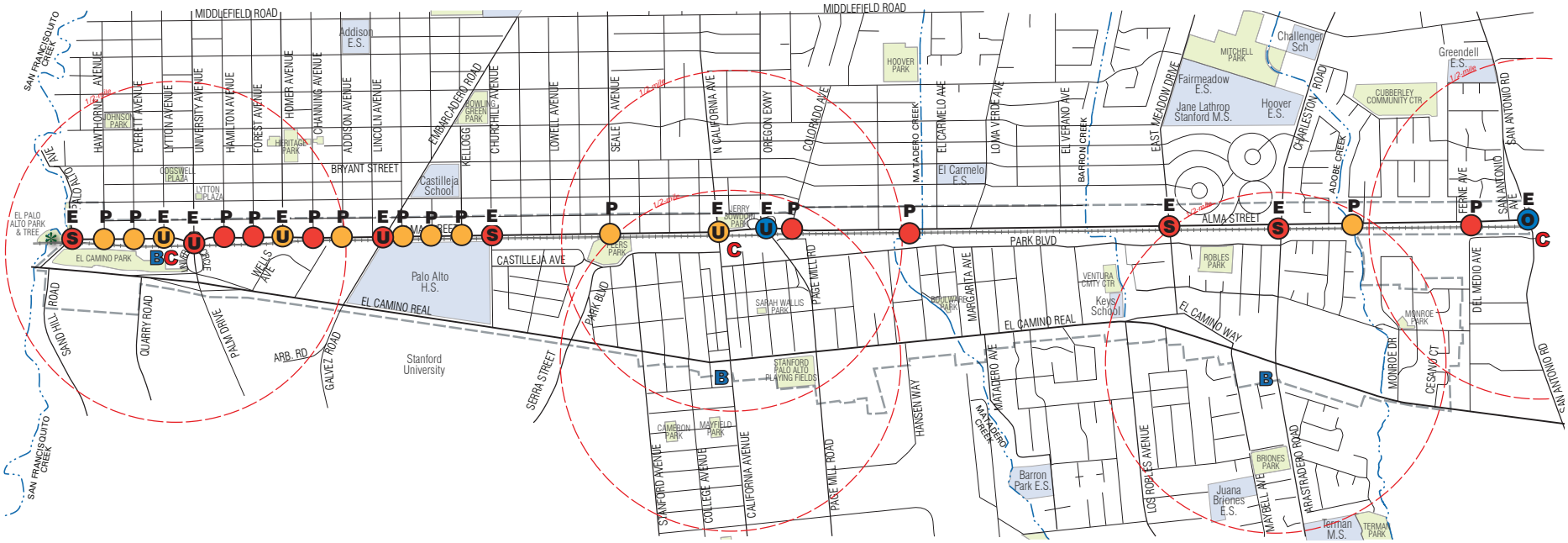
Possible Rail Crossing Locations

Based upon the existing street network on both sides of the rail corridor and adjacent land uses, Figure 4.2 illustrates existing vehicular, pedestrian and bicycle crossings and *all possible* locations for additional improved crossings of the rail corridor. As the figure illustrates, a total of 25 rail crossing connections are possible along the rail corridor. Of this total, 11 are existing and 14 are possible new connection locations. The figure also illustrates the type of existing connection: underpass, overpass or surface/at-grade.

All opportunities for new connections assume no removal of, or disruption to, residential properties. Three locations assume connections to or through commercial properties, but only in situations where connections might be made through adjacent parking or circulation areas and no impact on buildings would be required. Negotiations with these property owners would be required.

Existing and possible crossing opportunities are more abundant in the northern end of the Corridor, particularly in the vicinity of downtown. North of California Avenue, there are 16 existing and possible linkage opportunities. South of, and including California Avenue, 9 existing and possible linkage opportunities are available. This geographic imbalance in opportunities for connections is a significant disadvantage for the south-

Figure 4.2: Existing and Possible Rail Crossing Locations



Legend

- Vehicular Crossing only
- Vehicular, Pedestrian & Bicycle Crossing
- Pedestrian & Bicycle Crossing
- **E** Existing Crossing
- **P** Possible Crossing
- **U** Grade-separated Underpass
- **O** Grade-separated Overpass
- **S** Surface/At-grade Crossing
- Study Area Boundary
- Public Park
- School
- Creek
- **B** Potential Future BRT Station
- **C** Caltrain Station
- 1/2-mile Radius Transit Service Area

0' 1,250' 2500'

EXISTING GRADE-SEPARATED VEHICULAR ONLY CROSSINGS

2
Oregon Expressway
San Antonio Road

EXISTING GRADE-SEPARATED VEHICULAR / PEDESTRIAN / BICYCLE CROSSINGS

2
University Avenue
Embarcadero Road

EXISTING GRADE-SEPARATED PEDESTRIAN AND BICYCLE CROSSINGS

3
Palo Alto Caltrain Station Underpass
Homer Tunnel
California Avenue Underpass

EXISTING SURFACE CROSSINGS (ALL MODES)

4
Palo Alto Avenue
Churchill Avenue
Meadow Drive
Charleston Road

EXISTING + POSSIBLE CROSSINGS (see figure above for type)

25 Palo Alto Avenue, Hawthorne Avenue, Everett Avenue, Lytton Avenue, University Avenue, Hamilton Avenue, Forest Avenue, Homer Avenue, Channing Avenue, Addison Avenue, Embarcadero Road, Kingsley Avenue, Melville Avenue, Kellogg Avenue, Churchill Avenue, Seale Avenue, California Avenue, Oregon Expressway, Colorado Avenue, Matadero Creek, East Meadow Drive, Charleston Road, Adobe Creek, Del Medio Avenue, San Antonio Road.

NOTES:

1. Some existing crossings shown exist but need improvement. The colored dots indicate the preferred type of crossing.
2. The Task Force recommends that all rail crossings, whether existing or new, be grade-separated.
3. It is desirable to have a balanced approach along the entire rail corridor for east-west connections. However, land use (existing homes) and discontinuous streets create considerable difficulty in identifying additional crossings in the south. Further studies are recommended to explore additional connectivity opportunities across the rail lines in south Palo Alto.

ern neighborhoods. The Task Force recommends that further exploration of opportunities for connections in the south should be pursued, including the possible acquisition of residential properties if acceptable to the property owner and surrounding neighborhood and if appropriately located.

While the opportunity for new connections is somewhat limited, improvement of several existing connections is of critical importance. The ability to achieve quality linkages varies between the two rail scenarios evaluated by the Task Force and is described in the following sections.

In addition, the Task Force recommends that, over time, investments in new connections should be made in a geographically balanced way.

Priority Rail Crossing Locations

Following review and discussion of the 25 potential rail crossing locations, the Task Force identified 15 preferred or priority locations for east-west connectivity. The 15 priority locations are illustrated in Figure 4.3 and later in this section of the report. As Figure 4.3 illustrates, 11 of these connections are existing and 4 would be new. In addition to providing more crossings, improvements are needed to most existing crossings, particularly to serve pedestrians and bicyclists, but in some cases to also serve motor vehicles. More specific discussion of the considerations at each crossing is provided in Table 4.1.

Improvements to ensure safe and efficient connectivity were the primary focus of the Task Force, with a priority on improving conditions at the existing at-grade rail crossings. Achieving this goal is essential, regardless of the rail alternative that is implemented or even if no changes are made to rail operations.

The location of connections was based on the following general criteria:

- If possible, establish connections at distances no greater than 1500 feet apart along the rail line.
- In particular, provide one or more improved crossings in the southern portion of the Corridor.
- Ensure safe linkages at all existing grade crossings.
- Provide improved access to neighborhood service areas.
- Provide improved access to parks and recreation facilities outside the study area, thereby improving compliance with city park and recreation standards without the need for significant new park acreages within the study area.
- Ensure safe and convenient access to schools, public facilities and open space.

Figure 4.3: Priority Rail Crossing Locations

Legend

- Priority Safety Crossing Improvement Area (Existing Grade Crossings)
- Vehicular, Bicycle & Pedestrian Crossing
- Bicycle & Pedestrian Crossing
- Additional Crossings Study Area, See Note #3
- Critical Intersection for Improvement *(School Commute Corridors Adopted by City Council, 2004)*
- # Intersection Reference Numbers (See Table 4.1)
- E Existing Crossing (See dot color for type)
- P Potential Crossing (See dot color for type)
- Study Area Boundary
- Public Park
- School
- Creek
- B Potential Future BRT Station
- C Caltrain Station
- 1/2-mile Radius Transit Service Area

N 0' 1,250' 2500'

NOTES:

1. Some crossings shown exist but need improvement. The colored dots indicate the preferred type of crossing.
2. See Table 4.1 for a comparative overview of the Below-Grade Open Trench and Two-Track At-Grade configurations related to the numbered locations shown here.
3. It is desirable to have a balanced approach along the entire rail corridor for east-west connections. However, land use (existing homes) and discontinuous streets create considerable difficulty in identifying additional crossings in the south. Further studies are recommended to explore additional connectivity opportunities across the rail lines in south Palo Alto.
4. Distances shown are approximate and have been rounded.

Rail Crossing Considerations for Each Rail Configuration

The following two sections discuss rail crossings and connections in the context of each of the studied rail configurations: Below-Grade Open Trench, and the Two-Track On-Grade.

Below-Grade Open Trench: Connection Opportunities

In the Trench option, all of the 25 existing and potential east-west street and pedestrian/bicycle connections illustrated in Figure 4.2 are possible. All connections could be at-grade in the form of either a bridge configured with vehicular, bicycle and pedestrian facilities, or in the form of a trench cover, which could be more extensive. The need for safe crossings of Alma Street would remain much as it does today. The Continuous Below-grade Open Trench alternative includes a trench section of approximately 90' with areas for safety fencing and buffer planting on the sides.

As mentioned in Section 2: Background of this report, according to preliminary guidelines from CHSRA engineers, the open trench could be covered for distances up to 800 feet, with 1,400-foot separations. Figure 4.4 illustrates the locations where members of the Task Force suggested possible trench covers during a workshop. There was general consensus that a priority location for a major trench cover was at the University Avenue/Downtown Area. Other important trench cover locations include the California Avenue area and other locations that could be used for expanded street, sidewalk and bikeway crossings, for small plazas, parks or other amenities, or for appropriate development.

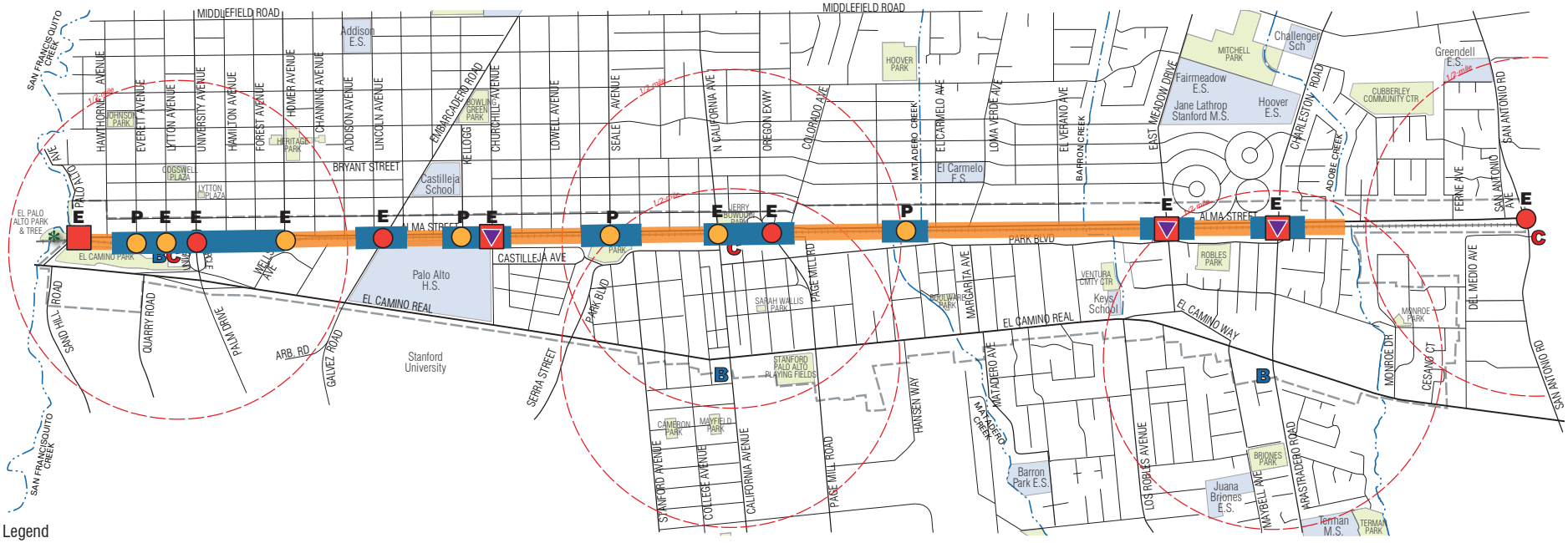
Development of revenue-producing uses on the trench covers could be considered for its potential to help offset the cost of the trench cover structure but is not necessarily a Task Force priority.

Task Force Recommendations for the Caltrain Corridor with the Rail in a Below-Grade Open Trench

- » Explore a variety of configurations for trench cover design which could accommodate pedestrian and bicycle opportunities.
- » The preferred alternative for rail by the majority of the Task Force is the trench option through Palo Alto with opportunities for trench covers in key locations.
- » Take advantage of opportunities to serve the neighborhoods and make safe grade-separated crossings at key locations along the full length of the corridor.
- » Further explore opportunities to incorporate green spaces, public open space or other treatments that benefit the community.
- » Explore opportunities to beautify the rail right-of-way along Alma Street.
- » Design the Trench such that a continuous separate (Class I) pedestrian/bicycle facility across the entire city can be incorporated into the Alma/Rail right-of-way at the surface.
- » Mitigate noise, vibration and visual impacts on neighborhoods and Mixed-Use Centers.
- » There should be no reduction in the number or location of existing crossings.

Above and below: existing two-track Caltrain and freight rail lines are at-grade with a right-of-way that varies throughout the city. This R-O-W includes rail lines and planting buffer. The Continuous Below-grade Open Trench alternative includes a trench section of approximately 90' with areas for safety fencing and buffer planting on the sides.

Figure 4.4: Recommended Trench Cover and Crossing Locations



Legend

- Rail in Trench
- Recommended Rail Trench Cover Location Zones
- Priority Safety Crossing Improvement Area (Existing Grade Crossings)
- Vehicular, Bicycle & Pedestrian Crossing
- Bicycle & Pedestrian Crossing
- Critical Intersection for Improvement *(School Commute Corridors Adopted by City Council, 2004)*
- E Existing Crossing (See dot color for type)
- P Potential New Crossing (See dot color for type)
- Study Area Boundary
- Public Park
- School
- Creek
- B Potential Future BRT Station
- C Caltrain Station
- 1/2-mile Radius Transit Service Area

0' 1,250' 2500'

NOTES:

1. Some existing crossings shown exist but need improvement. The colored dots indicate the preferred type of crossing.
2. It is desirable to have a balanced approach along the entire rail corridor for east-west connections. However, land use (existing homes) and discontinuous streets create considerable difficulty in identifying additional crossings in the south. Further studies are recommended to explore additional connectivity opportunities across the rail lines in south Palo Alto.
3. Trench Cover Location Zones have an 800' maximum cover with a 1,400' open trench minimum between covers required for safety and maintenance, per CHSRA engineers. Trench Cover Location Zones shown here are not to scale; they indicate generally-preferred locations.

Two Track On-Grade Configuration: Connection Opportunities

In this alternative, most of the issues relating to the existing at-grade Caltrain corridor would still exist. Traffic delays, difficulty crossing the rail and Alma Street and potentially dangerous track crossings will remain unless the crossings are grade-separated or other significant improvements are made. Noise and air quality impacts may be lessened due to the removal of diesel locomotives. On the other hand, impacts, such as congestion at rail crossing intersections, may increase due to the greater frequency of trains.

Of particular importance is the physical impact that will likely result to properties and natural resources adjoining Palo Alto Avenue, Churchill Avenue, West Meadow Drive, and West Charleston Road if grade separations are required to ensure safe and convenient crossings and efficiency of rail operations. These grade-separation impact areas are illustrated diagrammatically in Figure 4.5.

Although Caltrain and the CHSRA have not yet prepared detailed engineering and alignment studies, preliminary evaluation by Californians Advocating Responsible Rail Design (CAARD) suggests that significant additional right-of-way will be needed for streets approaching the rail line from both the east and west in order to accommodate grade separation. Because of these potential impacts, the Task Force recommends further analysis of the Two-Track On-Grade Blended Alternative include examination of a variety of crossing options including at-grade crossings with enhanced signalization/safety controls and other options. These studies should include information to clarify cost and safety differences between options.

Task Force Recommendations for the Caltrain Corridor with Two-Track On-Grade Configuration

Explore opportunities for grade-separations at rail crossings, especially priority safety crossings.

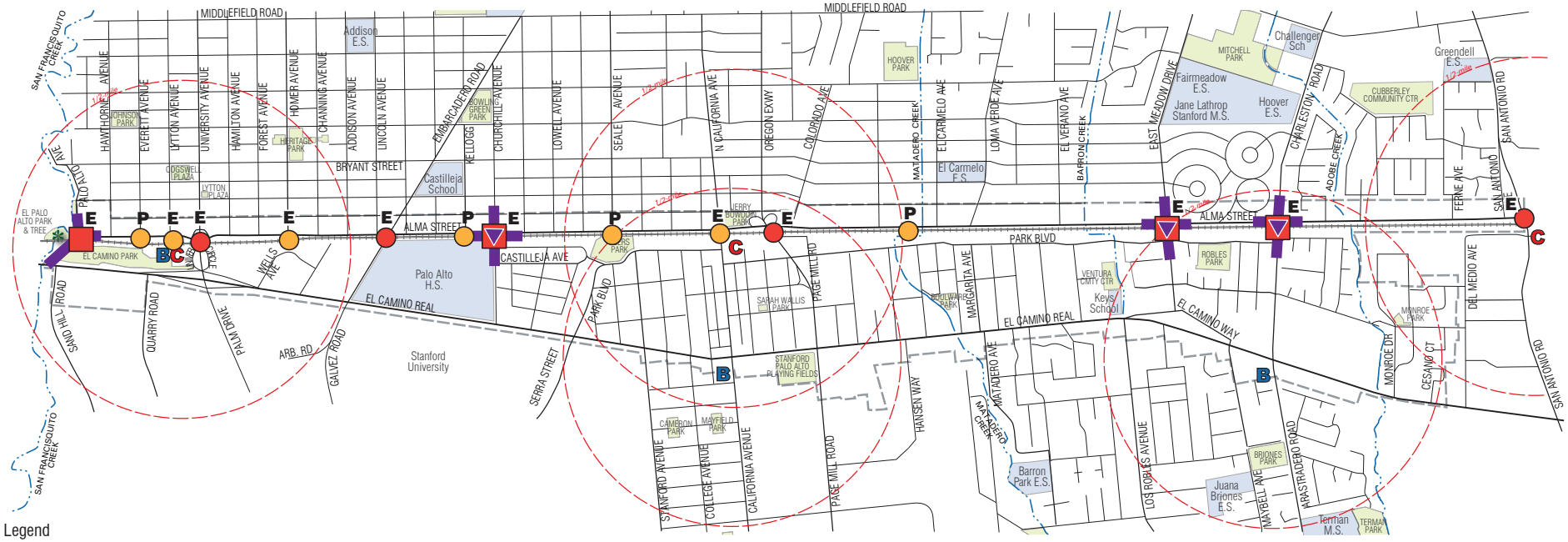
- » At a minimum, improve existing at-grade crossings of the Caltrain corridor to provide the highest possible level of safety and convenience.
- » Study potential impacts on adjacent properties to evaluate and analyze the benefits, costs and negative impacts of grade-separated crossings.
- » There should be no reduction in the number or location of existing crossings.

Rail Crossings Connections Summary

Table 4.1 summarizes key issues, opportunities and considerations for each of the connection locations under the two Caltrain/HST alternatives reviewed by the Task Force.

Above and below: Caltrain electrification along rail lines (above) and at a station (below), illustrating the approximate appearance of the Two-Track On-Grade configuration. Images per Caltrain Electrification presentation 2009 via Caltrain.com

Figure 4.5: Two-Track On-Grade Configuration: Crossing and Impact Area Locations



Legend

- Street Undercrossing Impact Area (approx.)
- Priority Safety Crossing Improvement Area (Existing Grade Crossings)
- Vehicular, Bicycle & Pedestrian Crossing
- Bicycle & Pedestrian Crossing
- Critical Intersection for Improvement *(School Commute Corridors Adopted by City Council, 2004)*
- E Existing Crossing (See dot color for type)
- P Potential Crossing
- Study Area Boundary (Approximate, see description p. 2.01)
- Public Park
- School
- Creek
- B Potential Future BRT Station
- C Caltrain Station
- 1/2-mile Radius Transit Service Area

N 0' 1,250' 2500'

NOTES:

1. Some existing crossings shown exist but need improvement. The colored dots indicate the preferred type of crossing.
2. It is desirable to have a balanced approach along the entire rail corridor for east-west connections. However, land use (existing homes) and discontinuous streets create considerable difficulty in identifying additional crossings in the south. Further studies are recommended to explore additional connectivity opportunities across the rail lines in south Palo Alto.
3. Legend definitions are intended only to illustrate potential locations and impacts for grade separations. Further studies are needed to determine feasibility and impacts.

See Figure 4.3 Priority Rail Crossing Locations and related text.

Table 4.1: Comparative Overview of Below-Grade Open Trench and Two-Track On-Grade Configurations on Select Crossing Locations

Location (see Figure 4.3)	Existing Issues and Conditions	Opportunities	Below-Grade Open Trench Considerations	Two-Track On-Grade Considerations
1) Palo Alto Avenue / San Francisquito Creek	• Existing grade crossing • Difficult pedestrian and bicycle connections • Complex and confusing intersection for all travel modes	• Grade separation for greater safety and convenience • Simplify complex intersection • Provide gateway to city and downtown • Improved access to El Camino Park and "Keystone" development area (see "Mixed-Use Subareas")	• Opportunity for a grade-separated surface crossing on trench cover or bridge for all travel modes • Impacts on El Palo Alto tree which is a State of California Registered Landmark	• Requires grade-separated roadway underpass for all travel modes • Grade-separation impacts on El Palo Alto Redwood • Proximity to El Camino Real presents challenges to grade separation • High priority for funding of crossing improvements
2) Everett Avenue	• No current crossing of Caltrain tracks • El Camino Park is isolated from the North Downtown neighborhood	• Direct pedestrian / bicycle connection between Downtown North neighborhood, El Camino Park, Quarry Road and Stanford Shopping Center • Vehicular access to El Camino Park also possible	• Opportunity for a new grade-separated surface crossing on trench cover for all travel modes over tracks on trench cover or bridge • Could be part of large scale, expanded trench cover in the University Avenue/ Station area	• New grade-separated pedestrian/bicycle underpass would be preferred • Vehicular underpass impacts too severe • Homer Avenue crossing is design model • Existing slightly elevated trackway may accommodate crossing more easily
3) Caltrain Station	• Existing pedestrian-bicycle connection • Fully ADA accessible	• Minimal improvements needed	• Opportunity for a grade-separated surface crossing on trench cover or bridge for pedestrians/bicycles • Possible impacts on historic rail station and the relationship and function of rail station to its historic context • Part of a preferred location for trench cover	• Few changes to existing condition are essential • Not a priority for funding of crossing improvements
4) University Avenue	• Existing grade-separated vehicular and pedestrian connection • Awkward and under-scaled pedestrian and bicycle connections due to complex intersection of University, Alma, the multi-modal transit facilities and El Camino Real • Vehicular wayfinding is confusing • Unattractive gateway to the downtown	• Improved gateway to downtown and Stanford University • Creation of city-wide civic, event and identity space and signature redevelopment area	• Opportunity for a grade-separated surface crossing on trench cover for all travel modes • Part of preferred location for trench cover • Allows more connectivity and land use opportunities	• Few changes to existing condition are essential • Not a priority for funding of crossing improvements
5) Homer Avenue	• Existing high-quality, fully-accessible grade-separated pedestrian-bicycle rail crossing	• Minor improvements desirable including removal of blind corners, improved Alma Street crossing	• Opportunity for a grade-separated surface crossing on trench cover or bridge for pedestrians/bicycles • Minor improvement needs easily accommodated	• Few changes to existing condition are essential • Potential to make minor improvements (see "Opportunities") • Not a priority for funding of crossing improvements

Table 4.1: Comparative Overview of Below-Grade Open Trench and Two-Track On-Grade Configurations on Select Crossing Locations (continued)

Location (see Figure 4.3)	Existing Issues and Conditions	Opportunities	Below-Grade Open Trench Considerations	Two-Track On-Grade Considerations
6) Embarcadero Road	• Existing grade-separated crossing for vehicles, pedestrians and bicycles • High volume of High School pedestrian and bicycle traffic, particularly in peak hours • Provides safe rail crossing, but some pedestrian / vehicle conflicts with Alma interchange remain • Alma transitions at this location from high-speed arterial to downtown street	• Gateway to downtown on Alma approaching from south • Improve pedestrian/vehicular conflicts at Alma interchange	• Opportunity for a grade-separated surface crossing for all travel modes • Safe crossing of Alma will still be needed	• Few changes to existing condition are essential • Safe crossing of Alma will still be needed • Not a priority for funding of crossing improvements
7) Kellogg Avenue	• No current rail crossing • Indirect access to Palo Alto High School from east requires pedestrians and bicyclists to use Embarcadero Road or Churchill Avenue	• New pedestrian and bicycle crossing • Direct, access to Palo Alto High School and Castilleja School from surrounding residential neighborhoods	• New grade-separated surface crossing for pedestrians/bicycles on trench cover or bridge • Safe crossing of Alma will also be needed • Improved access across busy Churchill Avenue from Southgate and Evergreen Park neighborhoods along Mariposa Avenue or Castilleja Avenue will still be desirable	• New grade-separated pedestrian/bicycle underpass required • Not suitable for vehicular crossing • Homer Avenue crossing is design model • Safe crossing of Alma will be needed. Could be incorporated into design with extended underpass (California Avenue model) • Potential high priority for funding combined with Churchill Avenue improvements
8) Churchill Avenue	• Existing grade crossing for all modes of travel • High motor vehicle traffic volumes • High volumes of high school pedestrian and bicycle traffic, particularly in peak hours • Waiting areas for pedestrians and bicycles are small, constrained, confusing and difficult to navigate	• In short term, with existing grade crossing, a more expanded pedestrian and bicycle waiting area (plaza), with a variety of safety features and amenities • Grade separation desired for all travel modes • Improved pedestrian, bicycle and vehicle access across Churchill Avenue from Southgate / Evergreen Park residential district along Mariposa Avenue or Castilleja Avenue will be desirable	• Grade-separated surface crossing for all travel modes • Safe crossing of Alma will still be needed	• Opportunity for a roadway underpass for all travel modes • Significant right-of-way and technical challenges • Potential right-of-way for underpass may be gained from Palo Alto High School on western side • However, east of Alma, direct residential frontages making underpass impossible without significant residential impacts • High priority for funding of crossing improvements
9) Seale Avenue	• No current crossing • Access to Peers Park is very difficult for residents of neighborhoods to the east	• New pedestrian and bicycle crossing • Direct access between the Old Palo Alto neighborhood and Peers Park, the Southgate and Evergreen Park neighborhoods and Stanford University	• New grade-separated surface crossing for pedestrians/bicycles on trench cover or bridge • Safe crossing of Alma will still be needed	• New grade-separated pedestrian/bicycle underpass required • Not suitable for vehicular undercrossing • Homer Avenue crossing is design model • Safe crossing of Alma will be needed. Could be incorporated into design with extended underpass (California Avenue model)

Table 4.1: Comparative Overview of Below-Grade Open Trench and Two-Track On-Grade Configurations on Select Crossing Locations (continued.)

Location (see Figure 4.3)	Existing Issues and Conditions	Opportunities	Below-Grade Open Trench Considerations	Two-Track On-Grade Considerations
10) California Avenue	• Existing grade-separated crossing of both rail and Alma for pedestrians / bicycles • Location of existing California Avenue Caltrain Station • Pedestrian crossing is poorly designed, dark, not easily navigated by both pedestrians and bicycles simultaneously • Grade-separated vehicular crossing is not desired • Existing pedestrian/bicycle tunnel is not ADA accessible.	• Retain existing type of crossing (pedestrian/bicycle) • Improvements including widening of tunnel to be ADA compliant and also to provide visibility and lighting	• Opportunity for a grade-separated surface crossing for pedestrians/bicycles on trench cover or bridge • Safe crossing of Alma for pedestrians/ bicycles will be needed	• Few changes to existing condition are essential, but opportunity to correct deficiencies (see "Opportunities") are desired • Not highest priority for funding of crossing improvements
11) Oregon Expressway	• Existing grade-separated crossing of both rail and Alma for all travel modes • High traffic volumes along Oregon expressway • High traffic volumes and access routes make pedestrian facilities uncomfortable • Some north/south pedestrian/vehicular conflicts at Alma interchange	• Improvements to pedestrian/vehicular conflicts at Alma interchange	• Opportunity for a grade-separated surface crossing for all travel modes • Pedestrian/vehicle conflicts with Alma interchange will likely remain • Safe crossings of Alma for pedestrians/ bicyclists will be needed • Will require redesign of Alma interchange, which is now fully grade-separated	• Few changes to existing condition are essential • North/south pedestrian/vehicle conflicts with Alma interchange will likely remain • Opportunity to correct deficiencies for all travel modes • Not a priority for funding of crossing improvements

12) Matadero Creek	• No Existing Crossing
	• Access for residents of the Ventura neighborhood to parks and schools east of the rail line is very difficult
		• New pedestrian and bicycle crossing
		• Part of a plan to provide pedestrian and bicycle facilities along the Creek, connecting to Hoover Park to the east and beyond
		• Will provide direct access:
		  • Between the South of Midtown neighborhood and the California/Ventura Mixed Use District and the Ventura neighborhood
		  • To the El Carmelo School and Hoover Park for residents of the Ventura neighborhood
			• New grade-separated surface crossing for pedestrians/bicycles
			• Safe crossing of Alma at this location will be needed
			• Access to Park Boulevard on the west side of the tracks across private property may be required
				• New grade-separated pedestrian/bicycle underpass required
				• Probably not suitable for a vehicular crossing
				• Homer Avenue crossing is design model
				• Safe crossing of Alma will be needed. Could be incorporated into design with extended underpass (California Avenue model)
				• Water flow levels in creek will be feasibility consideration
				• Access to Park Boulevard on the west side of the tracks across private property may be required
				• Possible priority for funding of crossing improvements to better serve southern neighborhoods

Table 4.1: Comparative Overview of Below-Grade Open Trench and Two-Track On-Grade Configurations on Select Crossing Locations (continued.)

Location (see Figure 4.3)	Existing Issues and Conditions	Opportunities	Below-Grade Open Trench Considerations	Two-Track On-Grade Considerations
13) West Meadow Drive	• Existing grade crossing • High motor vehicle traffic volumes on both West Meadow and Alma • High volumes of school pedestrian and bicycle traffic, particularly in peak hours • Pedestrian waiting areas and paths of travel are small, constrained, confusing and difficult to navigate • Wayfinding and decision-making for all circulation modes is challenging	• Variety of safety and convenience improvements for all modes of travel • In short term, with existing grade crossing, a more expanded pedestrian and bicycle waiting area (plaza), with a variety of safety features and amenities • Grade separation desired for all travel modes • Pedestrian and bicycle crossing improvements	• Grade-separated surface crossing for all travel modes • Safe crossing of Alma for pedestrians and bicyclists will still be needed	• Opportunity for underpass for all travel modes • Significant right-of-way and technical challenges in underpass construction • Grade separation will likely have severe impacts on residential facing West Meadow Drive • Investigate wide range of grade-separation and surface crossing options • High priority for funding of crossing improvements
14) Charleston Road	• Existing grade crossing • High motor vehicle traffic volumes on both West Charleston and Alma • High volumes of school pedestrian and bicycle traffic, particularly in peak hours • Pedestrian waiting areas and paths of travel are small, constrained, confusing and difficult to navigate • Wayfinding and decision-making for all circulation modes is challenging	• Variety of safety and convenience improvements for all modes of travel • Improved connections for residents of Charleston Meadows and Ventura neighborhoods to new services at Alma Plaza • In short term, with existing grade crossing, a more expanded pedestrian and bicycle waiting area (plaza), with a variety of safety features and amenities • Grade separation desired for all travel modes	• Grade-separated surface crossing for all travel modes • Safe crossing of Alma for pedestrians and bicyclists will still be needed	• Opportunity for underpass for all travel modes • Significant right-of-way and technical challenges • Grade separation will likely have severe impacts on residential homes facing West Charleston Road. • Investigate wide range of grade-separation and surface crossing options • High priority for funding of crossing improvements
15) San Antonio Road	• Existing grade-separated overpass of both rail and Alma/Central Expressway for motor vehicles. Pedestrians and bicycles prohibited on San Antonio Road overpass. • Existing pedestrian rail crossing underpass at the San Antonio Caltrain Station • No rail crossing for bicycles between West Charleston Road and Rengsdorff Avenue • High traffic volumes and access routes make pedestrian facilities uncomfortable • Wayfinding and decision-making for all circulation modes is challenging	• New bicycle crossing • Potential to remove (or lower) San Antonio Road overcrossing • Variety of safety and convenience improvements for all modes of travel	• Grade-separated surface crossing for all travel modes • Pedestrian/vehicle conflicts with Alma interchange will likely remain	• Few changes to existing condition are essential • Pedestrian/vehicle conflicts with San Antonio Road interchange will likely remain • Opportunity to correct deficiencies for all travel modes • Not a priority for funding of crossing improvements

EL CAMINO REAL CORRIDOR PRIORITY CROSSINGS

Like the Caltrain / Alma Street corridor, El Camino Real forms an edge to the study area. Due to its width and traffic, it also acts as a major barrier separating neighborhoods and destinations to the east and west, which is particularly a problem for those accessing schools and parks.

Task Force Recommendations for El Camino Real Intersections

» Improvements to intersections, such as corner widenings, substantial medians, and well-marked crossings, are needed to ensure safe trips to schools, shopping and parks, particularly at designated priority intersections.

» A priority should be placed on identifying opportunities for safe crossings in the southern half of the study area.

» Critical intersections for improvement outlined in the School Commute Corridors, 2004, should take priority because they have already been identified in adopted policy to provide safe connections for school children to get to school.

Improved Intersections

There are 15 key intersections along El Camino Real that are recommended for a variety of improvements to better serve the residents and businesses within and along the study area. Most of these improvements are needed to ensure safe and efficient routes for children travelling to schools as well as to provide improved access for pedestrians travelling between neighborhoods and Mixed-Use Centers. These intersections are illustrated in Figure 4.6 and also in the Land Use and Urban Design section of this report.

Intersections needing improvements fall into several categories. Six have been identified as "Critical Intersections" as part of the School Commute Corridors Network adopted by City Council in 2004. These include crossings of El Camino at:

- Embarcadero Road and Churchill Avenue. Access to Palo Alto High School and the facilities at Stanford.
- California Avenue. This is the location of a planned future BRT station.
- Matadero Avenue / Margarita Avenue. Key crossing for access to Barron Park Elementary School from the Ventura neighborhood.
- Los Robles Avenue. Access to Gunn High School. Potential linkage location for pedestrians and bicyclists between El Camino Real, the Keys School and Ventura Community Center.
- Maybell Avenue. Key crossing for access to Briones Elementary School and Briones Park for residents of the Charleston Meadows neighborhood.
- West Charleston Road / Arastradero Road. This is also the location of a planned future BRT station. Key crossing for access to Terman Middle School, Gunn High School and Briones Elementary School and Park for residents of the Charleston Meadows neighborhood.

A seventh intersection, Stanford Avenue at El Camino Real, was designated as part of the 2004 School Commute Corridors by the City Council. At Stanford Avenue, the City of Palo Alto in coordination with Caltrans has recently completed construction of major pedestrian improvements to the intersection at El Camino Real based on the design recommendations of the El Camino Real Master Plan Study. These improvements provide a good model for the type of improvements that should be implemented at critical intersections elsewhere along El Camino Real. As this intersection has recently been improved, it is not currently a priority for further improvement.

Five additional intersection locations have been identified as candidates in need of pedestrian and bicycle improvements as part of the El Camino Real Master Planning Study and the 2012 Bicycle + Pedestrian Transportation Plan. These include the intersections of El Camino Real at:

- Alma Street / Palo Alto Avenue / Sand Hill Road. This is a gateway to the Downtown / University City Center segment where high speed traffic patterns challenge pedestrians and bicyclists. Improvements should enhance connections between the Downtown North neighborhood, and Stanford Shopping Center.
- Quarry Road. Improved connections between downtown and Stanford Shopping Center.
- Palo Alto Medical Foundation at Wells Avenue.
- Park Boulevard / Serra Street. Important bicycle linkage between the Southgate / Evergreen Park Residential Subarea and Stanford University.
- Hansen Way / Portage Avenue. Potential for improved connections to Palo Alto Square.

With the exception of the intersection at Stanford Avenue, few safety or aesthetic improvements have been made to the 11 intersection locations recommended in these prior studies and policy actions.

Figure 4.6: Priority El Camino Real Crossings

Legend

- Vehicular, Bicycle & Pedestrian Crossing
- Bicycle & Pedestrian Crossing
- Grand Boulevard Initiative Demonstration Intersection (Completed)
- Critical Intersection for Improvement *(School Commute Corridors Adopted by City Council, 2004)*
- E Existing Crossing (See dot color for type)
- Study Area Boundary
- Public Park
- School
- Creek
- B Potential Future BRT Station
- C Caltrain Station
- 1/2-mile Radius Transit Service Area

0' 1,250' 2500'

NOTE:
Some existing crossings shown exist but need improvement. The colored dots indicate the preferred type of crossing.

This intersection improvement demonstration project at El Camino Real and Stanford Avenue was completed in the fall of 2011. It includes corner sidewalk widenings (bulb-outs), enhanced cross-walks for improved visibility, median extensions and median refuges for pedestrians, and improved signage and signalization. It provides a model for pedestrian safety and convenience improvements that should be undertaken at other priority locations along the El Camino Real corridor.

Additional intersections recommended by the Task Force for pedestrian and bicycle safety and access improvements include:

- Entrances and connections between Stanford Shopping Center and El Camino Park
- University Avenue / Palm Drive
- Page Mill / Oregon Expressway.
- Cesano Court / El Camino Real

LAYERED STREET FRAMEWORK

The Circulation Element of the Palo Alto Comprehensive Plan defines a hierarchy of roadways that includes freeways, expressways, arterials, residential arterials, collectors and local streets. Descriptions for this hierarchy are shown on Figure 4.7. This hierarchy is generally based on the vehicular traffic-carrying capacity of these streets and does not adequately consider the multi-functional role that streets play as public places in Palo Alto.

Therefore, for purposes of this study, roadways and streets have been described using different terms to allow for a discussion about the character of the streets, the function they play in the community beyond carrying traffic, and the multi-modal aspects of certain corridors.

The pattern of public rights-of-way – streets, alleys, and transit corridors – form the basis for local and regional mobility, connecting portions of a city together, and linking its residents to everyday destinations. Streets and public rights-of-way are much more than linkages for circulation, however. They are also one of the most important elements of a city's urban framework and constitute the largest percentage of usable public space. They thus have many important functions within the city, including providing:

- Access to private property
- A setting for places to live and conduct business
- Open space
- Recreation
- A determinant of urban and building form
- An element of the character, focus and image of a neighborhood.

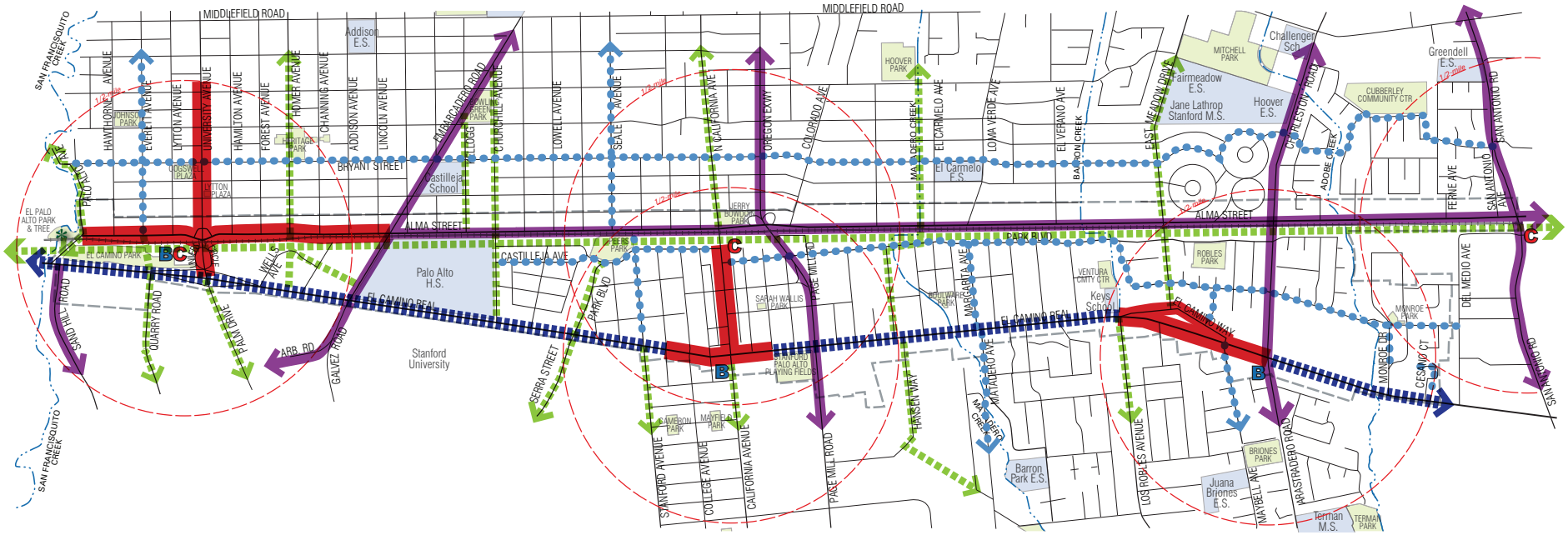
The concept of a "Layered Street Framework" is a relatively new concept in transportation planning and community design. It recognizes that not all streets need to do the same job. The primary role of some streets is for vehicular travel while others are important corridors for bicycles, pedestrians and/or transit. For some streets, the emphasis is more balanced, with provisions for a variety of modes of travel, safe routes to school for children, and community amenities for commercial activity, recreational activities and just people watching.

Figure 4.7 illustrates the Layered Street Framework for the study area recommended by the Task Force. Each category of street, the vision for it, and recommended improvements are discussed in the sections that follow. Based on their primary function in the study area there are six street corridor types which include:

- Major Vehicular Streets
- Primary Multi-Modal Transportation Corridor
- Main Streets in the Mixed-Use Centers
- Inter-Neighborhood Pedestrian/Bicycle Connectors
- Bicycle Boulevards
- Local Streets.

Wide intersections on El Camino Real and Quarry Road create unfriendly pedestrian and bicycle environments, and difficult connections between El Camino Park, Downtown, and the Stanford Shopping Center.

Figure 4.7: Layered Street Framework



Legend

- Major Vehicular Street
- Primary Multi-Modal Transportation Corridor
- Main Street in the Mixed-Use Centers
- Inter-neighborhood Pedestrian/Bicycle Connector
- Bicycle Boulevard
- Local Streets
- Study Area Boundary
- Public Park
- School
- Creek
- B Potential Future BRT Station
- C Caltrain Station
- 1/2-mile Radius Transit Service Area

N 0' 1,250' 2500'

For purposes of this study, roadways and streets have been described using terms that differ from the Comprehensive Plan to allow for a discussion about the character of the streets, the function they play in the community and the multi-modal aspects of certain corridors.

PALO ALTO'S COMPREHENSIVE PLAN'S ROADWAY HIERARCHY *(for reference only)*

Freeway: Major roadway with controlled access; devoted exclusively to traffic movement, mainly of a through or regional nature. (ex. 101, 280)

Expressway: Major roadway with limited access to adjacent properties; devoted almost exclusively to traffic movement, mainly serving through-traffic. (ex. Oregon Expy)

Arterial: Major roadway mainly serving through-traffic; takes traffic to and from expressways and freeways; provides access to adjacent properties. (ex. Alma Street, El Camino Real, Sand Hill Road, San Antonio Road)

Residential Arterial: Major roadway mainly serving through-traffic; takes traffic to and from expressways and freeways; provides access to adjacent properties, most of which are residential properties located on both sides of the roadway with direct frontages and driveways on that roadway. (ex. Embarcadero Road east of Alma, East Charleston Road, Arastradero Road)

Collector: Roadway that collects and distributes local traffic to and from arterial streets, and provides access to adjacent properties. (ex. East Meadow Drive, California Avenue, El Camino Way)

Local: Minor roadway that provides access to adjacent properties only.

MAJOR VEHICULAR STREETS

Like all streets in Palo Alto, the major vehicular streets should provide many functions. However, the primary function of these streets is to provide high capacity through movement for motor vehicles, connecting Palo Alto to the region and to communities beyond the city borders. The Task Force recommends six streets retain high-traffic carrying capacity while also being designed to minimize their neighborhood barrier impacts:

- Alma Street, south of Embarcadero Road. (North of Embarcadero Road, Alma becomes a Main Street)
- Sand Hill Road
- Embarcadero Road
- Page Mill Road / Oregon Expressway
- Arastradero Road / Charleston Road
- San Antonio Road.

Task Force Recommendations for Major Vehicular Streets

While the primary function of these streets is to move traffic, within the study area all of these streets should include other functional elements, including:

» Pedestrian sidewalks on both sides where feasible, preferably with detached sidewalks separated from the curb.

» Bicycle facilities where feasible, particularly in crossing directions. The Bicycle + Pedestrian Transportation Plan identifies portions of Alma Street, Embarcadero, and Page Mill Road as requiring further study to determine the final configuration of bicycle facilities along portions of these streets.

» Improved crossings for pedestrians and bicyclists at key locations to facilitate connections to destinations.

» Buffers and aesthetic improvements, particularly adjacent to residential uses.

» Limited direct property access. On streets of this type, it is generally desirable to restrict vehicular access to property for safety reasons and in order to minimize conflicts to smooth traffic flow. In the short term, all existing vehicular access to private property should be maintained. However, in the future, if property owners seek land use change along these corridors it is a long term goal to reduce direct vehicular access to properties from these streets to the extent possible (and seek alternative access solutions).

Alma Street

Alma Street is an important corridor that runs the full length of the city carrying vehicular traffic to destinations both within and outside of Palo Alto. However, despite its importance as a primary vehicular facility, Alma Street has many functional problems and creates several negative impacts on the city. Perhaps most importantly, it is a barrier to east-west circulation, particularly for pedestrians and bicyclists. This exacerbates a problem that is already created by the rail line, increasing the difficulty for city residents to access services, schools and parks. It also presents an unattractive image with few public amenities along its length, poor or discontinuous sidewalks, many curb cuts, and a lack of consistent landscaping, street and pedestrian lighting, well-designed crosswalks, bicycle facilities, or other amenities.

The Alma Street corridor comprises two distinct primary segments with a transition zone connecting the two. The segments are referred to in this study as Downtown Main Street and Major Vehicular Street, which have noticeably different functional, land use and urban design characteristics.

<u>Downtown Main Street segment - Palo Alto Avenue to Addison Avenue.</u> The cross-section of this one-mile segment ranges in width from two to four vehicular travel lanes, depending on location, and has on-street parallel parking on one or both sides. Generally, traffic in this segment conforms closely to the posted speed limit, and the street is characterized by multiple controlled intersections and numerous crossings and facilities for pedestrians and bicyclists.

On the east, Alma Street is lined with a mix of uses similar to the adjacent downtown and Downtown North neighborhoods, including high density office, residential and retail. On the west, it is fronted by the Caltrain tracks, parking and station.

Although Alma Street in this segment is less of a barrier to east-west circulation than it is south of Embarcadero Road, improvements are needed to make the area more attractive to a variety of users, more compatible with other areas of the downtown and reinforce east-west linkages to the Caltrain Station, El Camino Park and beyond.

<u>Major Vehicular Street segment - Embarcadero Road to the Mountain View city limit at San Antonio Road.</u> The cross-section of this three-mile segment ranges in width between four and seven lanes (including exclusive right and left turn lanes and frontage

Existing Alma Street varies greatly along its length with distinct differences in character, traffic speed, traffic volume and lane configuration.

North of University: Two-lane roadway with parallel parking and sidewalks on both sides.
In downtown, Alma Street is a low-volume two-lane roadway with a posted speed of 25 miles per hour similar to other streets in the downtown.

South of Homer Avenue: Four-lane roadway with parallel parking and sidewalk on one side.
Alma Street near downtown with parking provided on the commercial side of the street. Caltrain rail right-of-way abuts opposite side of street.

South of Churchill Avenue: Four-lane roadway with no parking.
South of Churchill Avenue, Alma Street is a high-volume street moving cars and heavy trucks. Traffic speeds in the vicinity of this location often exceed posted limit of 35 mph.

Intersection of East Meadow Drive: Four-lane roadway with center turn pockets and no parking *with 2-lane frontage road. Traffic speeds in the vicinity of this location often exceed posted limit of 35 mph. This intersection is difficult to cross for pedestrians and bicycles.*

roads) and functions primarily as a regional arterial roadway connecting to the Central Expressway south of Palo Alto. Throughout most of its length, this segment has no on-street parking on either side. The posted speed limit through this segment is 35 miles-per-hour, although traffic often exceeds the posted limit.

On the east, land uses along this segment of Alma Street are almost exclusively residential, primarily single family, duplex and an occasional multi-family property. This results in numerous curb-cuts and driveways accessing Alma Street, causing friction to the optimal flow of the roadway as well as potentially hazardous conditions as residents back into Alma Street from their driveways. Access and noise problems for residents along the corridor are also an issue. On the west, Alma Street is fronted by the Caltrain tracks along the entire segment.

Transition Zone - Addison Avenue to Embarcadero Road

Between the two major segments of Alma Street is a two-block length of the corridor that forms a transition both functionally and in the character of adjacent land uses. The three-lane overcrossing of Embarcadero Road, with two lanes in the southbound direction and one lane in the northbound direction forms a noticeable "pinch-point" in the street, particularly when travelling northbound into the downtown area. This has the benefit of naturally slowing traffic entering the downtown from the south. However, functionally, travelling through this transition area is a challenge for motorists and pedestrians alike, particularly when approaching the narrow bridge over Embarcadero Road.

The Transition Zone is also an area of noticeable land use change on the east side of Alma Street between the two major segments of the street. In this zone, predominantly low-density residential land uses south of Embarcadero Road gradually shift to a mix of uses in the downtown area that include commercial and retail on the ground floor with office and residential above at increasing densities.

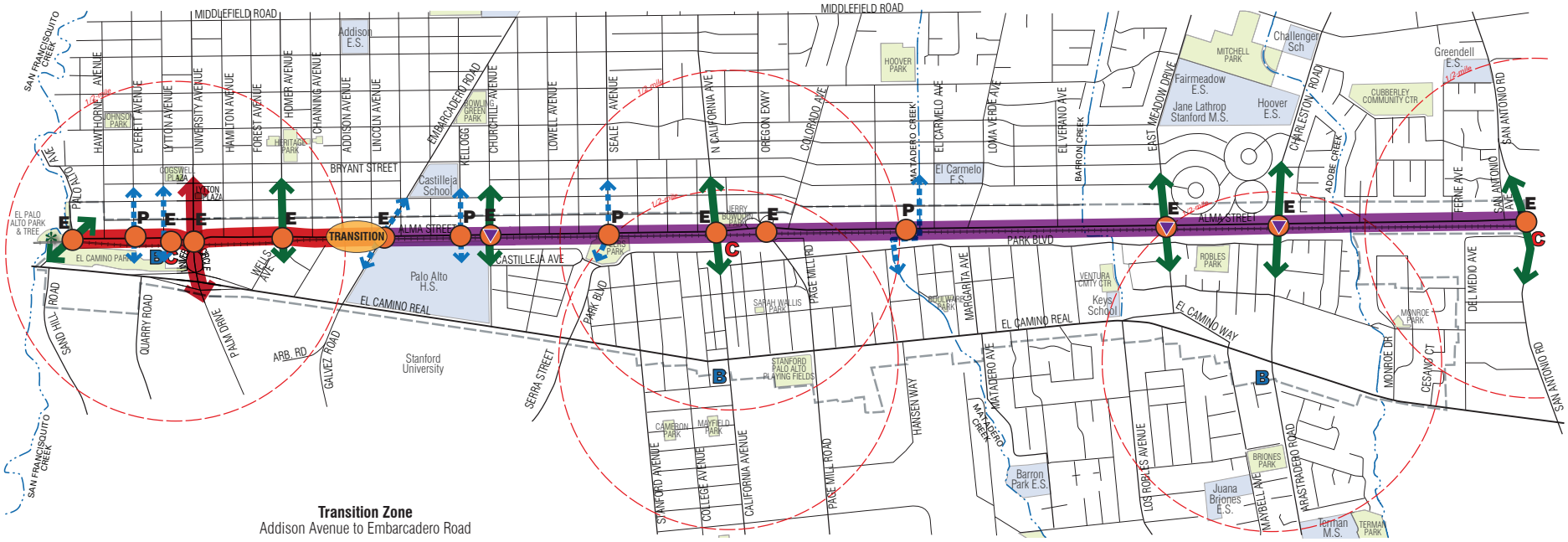
Task Force Recommendations for Alma Street

There is a strong desire to make Alma Street a more livable street that better serves the city's needs, both functionally and aesthetically. While a detailed traffic analysis has not yet been conducted, this study assumes that the entirety of Alma Street will continue to be an important north-south vehicular roadway as it traverses Palo Alto, particularly south of Embarcadero Road. There are a variety of improvements that should be made to the Alma Street corridor that would enhance vehicular, pedestrian and bicycle movement along and across the right-of-way as well as improve its image and character and mitigate impacts on adjacent properties. Some improvements should be undertaken in the near term, regardless of future improvements to the rail line.

Following are corridor-wide design principles and as well as specific recommendations for improvements to the segments of Alma Street described above. These are intended to help guide future planning efforts for the roadway. These efforts should be coordinated with ongoing planning and engineering of improvements to the Caltrain corridor, in order to capitalize on potential combined right-of-way improvements to achieve multiple benefits for the entire community.

- Conduct traffic analysis adequate to confirm requirements for lanes and needed traffic controls
- Recognize and establish a unique character in the functional and aesthetic design of each of the two segments of the corridor.
- Identify design elements at different levels:
  - Corridor-wide: Design elements that can be applied throughout the corridor to ensure continuous identity across the city. This includes identifying appropriate existing large trees to preserve and may also include addition of new elements such as: street trees, street lighting, regulatory signage, signalization and wayfinding, uniformly-designed pedestrian crossings and facilities, and uniformly-designed legible bicycle facilities.
  - Main Street Segment (north of Addison Avenue): Design elements that provide a unique identity to a specific area or segment. This may include elements such as pedestrian-scaled, unique light fixtures, ornamental plantings, special signage, pedestrian street furniture, and other amenities.
  - Transition Zone: Design elements that define the transition in the corridor and, in the northbound direction, announce entry to the downtown. This may include elements such as gateway signage, accent lighting and plantings, and functional improvements to assist drivers in their transition to changing traffic conditions ahead. See also other gateway improvement locations described in section 5.
- Minimize curb cuts that can affect traffic flow and safety and that create vehicular-pedestrian conflicts.
- Improve the Alma Street/Rail Corridor as a more attractive pedestrian and bicycle route for north-south travel. This includes both of the following improvements:

Figure 4.8: Alma Street Concepts



Legend

- Major Vehicular Roadway Segment
- Town Center Segment
- Transition Zone
- Major Pedestrian Linkage
- Additional Preferred Pedestrian Linkage
- Key Crossing to be Improved
- E Existing Crossing
- P Potential Crossing
- Critical Intersection for Improvement *(School Commute Corridors Adopted by City Council, 2004)*
- Study Area Boundary
- Public Park
- School or Community Center
- Creek
- B Potential Future BRT Station
- C Caltrain Station
- 1/2-mile Radius Transit Service Area

0' 1,250' 2500'

NOTE:
This diagram depicts Alma Street concepts only. See Figures 4.1 and 4.7 for full corridor concepts.

- Improvements to the sidewalk environment on the east side of Alma Street to buffer pedestrians from traffic. This is especially important in the areas of the interchanges at Oregon Expressway, Embarcadero Road, University Avenue and where Alma Street intersects Palo Alto Avenue/El Camino Real, which are all designed to prioritize vehicular movement to the detriment of pedestrians and bicyclists.
- Determine appropriate means to integrate a Class I, off-road bicycle facility along the entire length of the Alma Street/rail corridor on the west side of Alma Street. This will require considering both the Alma Street right-of-way and the rail right-of-way and should be an integral part of planning for future rail improvements.

» Provide additional pedestrian and bicycle crossing locations and improve existing crossings. This is particularly important in the Major Vehicular segment south of Embarcadero Road. Many of the east-west connectivity opportunities noted in the previous section apply to the crossing of Alma Street as well as the rail line. In the case of Alma Street this will require improved crosswalks, signage and, possibly, signalization. Wherever possible, crossings under Alma Street as well as the rail corridor, similar to the California Avenue tunnel, are preferable since they provide greater safety and convenience.

» Protect surrounding neighborhoods from unnecessary cut-through traffic.

» Provide improvements that are cost-effective and meet the ongoing maintenance requirements of the City.

» Mitigate traffic noise impacts on adjacent neighborhoods.

» Consider methods to encourage development that would reduce the number of curb cuts on the east side of Alma Street caused by numerous, individual single-family residential driveways. This might be achieved by allowing additional density or lot assemblage along Alma Street. Goals that could potentially be achieved: beautification, improved traffic flow, reduced noise, decreased traffic conflicts with pedestrians, and provision of additional needed housing. Assure compatibility and sensitivity to the context of surrounding neighborhoods.

PRIMARY MULTI-MODAL TRANSPORTATION CORRIDOR: EL CAMINO REAL

El Camino Real is an important transportation corridor in Palo Alto, especially for buses and motor vehicles. It is also one of the most diverse streets in the City, with a wide range of local and regional-serving uses, including hotels, hospitals, Stanford University, schools, cultural institutions, some local serving retail uses as well residential areas at a variety of densities. Due to its width and traffic, it also acts as a major barrier separating neighborhoods and destinations to the east and west.

Background

Over the past decade, several planning and design studies have been prepared by the City and regional agencies to define the future role of El Camino Real, both corridor-wide and within the City of Palo Alto. Because of the highly urban nature of the street and the variety of land uses and densities along its length, all of these studies envision a transformation of El Camino Real over time from a corridor that is primarily intended to move vehicular traffic to a more multi-purpose street that provides multi-modal circulation and a variety of services to the community. These planning efforts are summarized in the Background and the Appendix sections of this report.

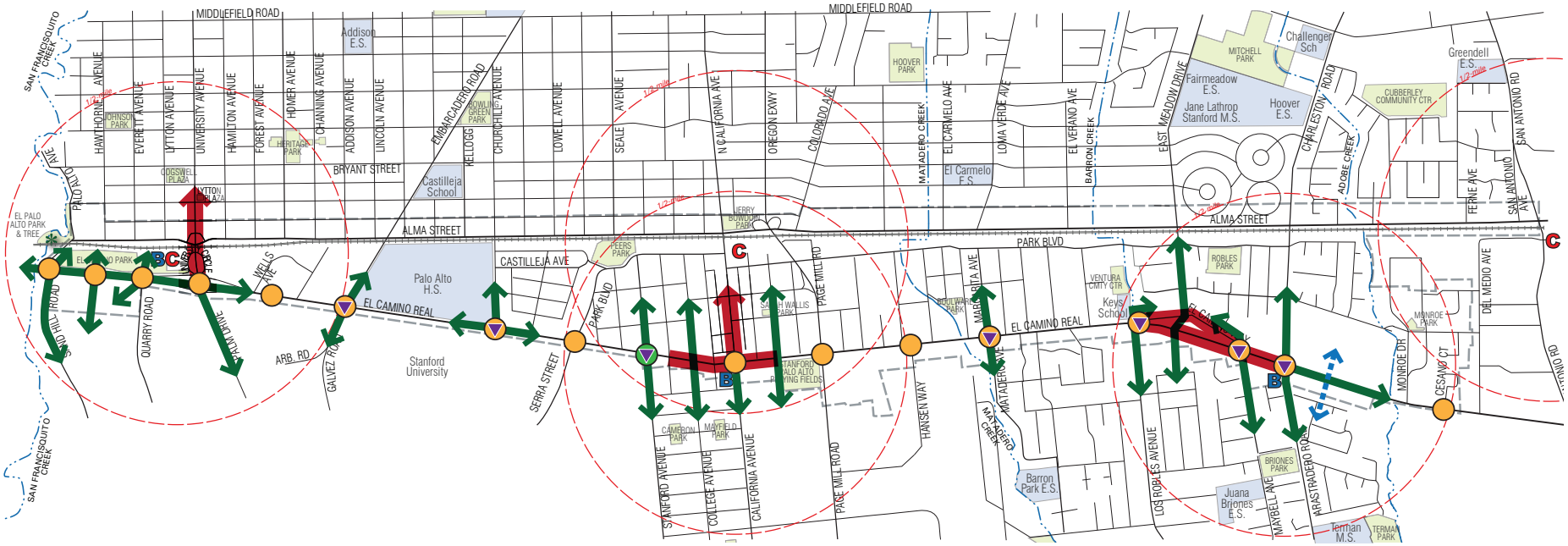
During the course of this study, the Task Force reviewed key features of these past planning efforts and prepared additional vision statements for the El Camino Real corridor. In general, the Task Force recommendations are consistent with, and incorporate, many of the recommendations of these past efforts. Figure 4.9 illustrates key elements of Task Force recommendations for El Camino Real in Palo Alto.

Corridor Segments

Over its approximately 4-mile length in Palo Alto, El Camino Real is not a continuous, homogenous corridor. Rather it includes various segments that differ in function and character. In some areas it is primarily a high-volume vehicular corridor with adjacent auto-oriented commercial types of uses. In other segments, such as in the vicinity of California Avenue, it has a more pedestrian-oriented small downtown feel. Figure 4.8 illustrates the breakdown of El Camino Real into six distinct segments. These segments have been defined based on:

- The existing character of the segment, based on roadway characteristics and adjacent land uses
- Task Force recommendations for the overall corridor and its various

Figure 4.9: El Camino Real Concepts



Legend

- Main Street
- Major Pedestrian Linkage
- Additional Preferred Pedestrian Linkage
- Key Bicycle & Pedestrian Crossing to be Improved
- Grand Boulevard Initiative Demonstration Intersection
- Critical Intersection for Improvement *(School Commute Corridors Adopted by City Council, 2004)*
- Study Area Boundary
- Public Park
- School or Community Center
- Creek
- B Potential Future BRT Station
- C Caltrain Station
- 1/2-mile Radius Transit Service Area

NOTE:
This diagram depicts El Camino Real concepts only. See Figures 4.1 and 4.7 for full corridor concepts.

0' 1,250' 2500'

segments in order to enhance the districts and neighborhoods along its length

- 1/2-mile service area radii to Bus Rapid Transit (BRT) service.

Key segments include:

- Downtown /University City Center: Menlo Park City Limit to University Avenue / Palm Drive
- Institutional: University Avenue / Palm Drive to Stanford Avenue
- California Avenue Town Center: Stanford Avenue to Page Mill Road
- South El Camino Highway Commercial: Page Mill Road to Los Robles Avenue
- South Palo Alto Neighborhood Center: Los Robles Avenue to Arastradero/Charleston
- South Palo Alto Highway Commercial: Arastradero/Charleston to Adobe Creek

Generally, these segments are consistent with the findings of prior studies, notably the 2007 El Camino Real Master Planning Study, though they are less clearly identified in those prior studies.

Task Force Recommendations for El Camino Real

Improvements to El Camino Real should reinforce it as a central destination for the community, rather than a vehicular-dominated travelway. The overall recommendation for El Camino Real is to establish a coherent physical framework where the street is unified as a great street over its length, with two identifiable pedestrian-oriented, local-serving Main Streets or other pedestrian improvements that support the Mixed-Use Centers.

» El Camino Real should continue to operate primarily as an auto-oriented corridor while also providing multi-modal transportation services with Bus Rapid Transit and local bus service.

» Beautification efforts along the entire length of El Camino Real should continue in order to unify the corridor, make it a more desirable destination, and improve the image of Palo Alto.

» At the Main Street segments, improvements should include widened sidewalks to allow sidewalk cafes and outdoor dining, pedestrian lighting and furnishings, street trees, and other amenities.

» In several locations within the Main Street segments there are underutilized properties or sites with auto-oriented uses that, over time, should be encouraged to transition to mixed-use infill with ground level services and retail to attract more pedestrian activity and better serve their surrounding neighborhoods.

Potential specific improvements recommended by the Task Force as part of this study are focused into three categories:

» General corridor-wide improvements. These include:

- Transit shelters and amenities for existing bus lines and for the planned Bus Rapid Transit to encourage transit ridership
- Improved sidewalks that will support pedestrian activity throughout the corridor
- Fewer curb cuts and driveways across sidewalks to minimize conflicts with pedestrians.

» Improvements to the two pedestrian-oriented Main Street segments. A complete description of recommended improvements to these segments is described in the Main Streets in the Mixed-Use Centers section later in this chapter.

» Additional specific intersections. These are locations where improvements are needed to facilitate connections between neighborhoods and schools, parks, and services as well as access to Caltrain and BRT from areas that fall within a ½-mile walkable service radius of those transit facilities. These specific intersection locations are summarized earlier in this chapter.

MAIN STREETS IN THE MIXED-USE CENTERS

These streets serve as the primary pedestrian-oriented streets at the heart of three Mixed-Use Centers in the study area. These Mixed-Use Centers are discussed more completely in Chapter 5 of this report and include:

- **Downtown / University City Center**: Downtown, University Avenue, and Alma Street
- **California Avenue Town Center:** California Avenue and nearby El Camino Real
- **South Palo Alto Neighborhood Center:** South Palo Alto at El Camino Way and El Camino Real.

Auto access is an important component of these streets, as it is in most downtown and neighborhood commercial areas, but the emphasis of these streets is on the design of the public right-of-way to promote pedestrian and bicycle activity.

El Camino Way has much lower traffic volumes and an existing attractive public environment. Under existing city policies, there is an opportunity for this street to be part of a El Camino Way Mixed-Use Center with neighborhood-serving uses and flexible-use open space.

El Camino Real at California Avenue is an important existing pedestrian hub and transit access location, however, the sidewalks are narrow and transit patron amenities are poor. Improvements are needed to provide improved transit patron facilities and connections to California Avenue, and to encourage a neighborhood-serving mix of uses.

Task Force Recommendations for Main Streets in the Mixed-Use Centers

For the Main Streets in all of the Mixed-Use Centers, a range of improvements are recommended:

- Wide sidewalks (minimum 15 feet) to accommodate pedestrian movement, sidewalk dining and outdoor merchandising.
- Preferred street widths of 2-4 lanes with on-street parking wherever possible.
- Unique streetscape design improvements that provide identity to the Mixed-Use Center, including street trees, lighting, street furnishings and other amenities.
- Over time, change auto-oriented and auto-serving uses (auto repair, fast food, parking lots, etc.) to mixed uses with retail or other active uses and services at the ground floor that are more appropriate to a pedestrian-oriented environment.
- Calmed traffic to encourage slower vehicular movement.
- Crosswalk designs to encourage safe and convenient pedestrian and bicycle movement.
- Identity, wayfinding and interpretive signage.

There are five potential locations where streets of this type have been identified by the Task Force (see Figure 4.7):

1. Alma Street between Addison Avenue and Palo Alto Avenue. In this segment of Alma, existing posted traffic speeds are 25 mph (similar to the adjacent downtown). North of University, existing Alma Street is two travel lanes (one in each direction). Both of these factors indicate that high-speed through traffic is not a priority in this segment of the Alma corridor today, nor should it be in the future. Furthermore, this segment of Alma is already pedestrian-oriented with a downtown "feel." However, additional improvements are needed to strengthen its function and character as a Main Street. Improving Alma as a pedestrian-oriented street similar to other downtown streets will help facilitate the connections to the Caltrain station and Stanford, create a strong "sense of place," and help integrate the entire area into the downtown.

2. California Avenue between El Camino Real and the Caltrain Station. This street is already a fine example of a Main Street. Planned streetscape improvements are currently being studied in the California Avenue Area Concept Plan Study and the California Avenue Streetscape Project which will strengthen its Main Street role.

3. El Camino Real between Oxford Avenue and Grant Avenue. This segment of El Camino Real currently is one of the most pedestrian-oriented segments of the entire El Camino Real corridor, partially as a result of its historic alignment directly adjacent to the former town center of Mayfield. It is also an important existing bus transit location and future planned station of the BRT. However, sidewalks are narrow, automobile traffic dominates and crossings of El Camino Real for pedestrians and bicyclists are long and inconvenient. This segment can be an important commercial and transit access anchor reinforcing the opposite end of California Avenue from the Caltrain station. Improvements might include traffic calming, narrowing the roadway to 4 travel lanes, wider sidewalks and mixed-use infill development to support an active pedestrian environment to further strengthen the California Avenue mixed-use core.

   Narrowing the roadway from its current 6-lane configuration to 4-lanes between Oxford Avenue and Grant Avenue is consistent with general recommendations of the El Camino Real Master Planning Study (2007), although this current study suggests a slightly different geographic extent. The 6/4-lane Hybrid option of that prior study recommends a 4-lane cross-section between Park Boulevard and California Avenue, whereas this study recommends it be extended to be centered more closely within the 1/2-mile BRT service area.

4. El Camino Real between Los Robles Avenue and Arastradero Road. El Camino Real in this segment is currently a wide roadway, with narrow sidewalks, long-distance pedestrian crossings and auto-oriented uses. Narrowing the roadway to four travel lanes, combined with other pedestrian and transit-access improvements, will greatly enhance the area as a neighborhood-serving district and improve safe access to schools and parks.

   Pedestrian-oriented improvements will also enhance access to the future BRT station planned in this area. This narrowing concept is partially consistent with the traffic analysis and design suggestions of the 6/4-lane Hybrid option of the El Camino Real Planning Study (2007), which recommends a 4-lane cross-section between Los Robles Avenue and Maybell Avenue. Additional traffic and design studies are needed to determine if extending this approach to Arastradero Road, in order to relate pedestrian access to the BRT transit service area can be feasible.

5. El Camino Way. Planned together with El Camino Real, El Camino Way can be instrumental in creating a Neighborhood Center in the south Palo Alto area. From a street size, traffic speed and traffic volume perspective, El Camino Way already has strong pedestrian-oriented qualities. However, additional improvements including mixed-use infill, active neighborhood-serving uses and other elements described above will strengthen this street as a Main Street. In addition, innovative design opportunities, such as converting a portion of the street to a flexible-use plaza that allows closure on specified days for community events, markets, and promotions should be investigated.

INTER-NEIGHBORHOOD PEDESTRIAN/BICYCLE CONNECTORS

Overall, one of the most important goals of the Task Force is to create a strong framework of pedestrian and bicycle connections throughout the study area. Many of the streets discussed above are intended to provide for these connections. In addition, Inter-neighborhood Pedestrian/Bicycle Connectors will help to complete the framework. These streets are intended to address the need for pedestrians and bicycles to connect to subareas within the study area and to adjoining neighborhoods. The primary role of these streets is threefold:

- To ensure safe connections between schools and residential neighborhoods
- To provide connections to parks and recreation facilities
- To allow connections for neighborhood residents to centers and commercial service areas without the use of a motor vehicle.

These streets are generally minor streets with existing low traffic volumes and travel speeds. While these streets will continue to carry vehicular traffic, it is intended that design measures are incorporated to ensure that they have a primary role in providing safe and attractive connections for pedestrians and bicyclists, especially children.

The primary need for these connections is in an east-west direction because safe and convenient access to schools, public facilities and open space is a priority. These inter-neighborhood connectors link directly to the rail and street crossings described in the preceding sections, together creating a significantly improved framework of east-west connectivity in Palo Alto.

It is also recommended that safe and attractive north/south continuity be provided for

pedestrians and bicyclists through the study area, primarily by implementing the Park Boulevard bicycle boulevard concept recommended in the 2012 Palo Alto Bicycle + Pedestrian Plan and, depending upon the outcome of rail improvement decisions, completing a continuous off-street (Class I) north-south off-street pedestrian and bicycle facility along the rail/Alma Street right-of-way.

Task Force Recommendations for Inter-Neighborhood Pedestrian/Bicycle Connectors

Improvements to these streets should include:

- Safe and convenient connections across the rail lines, Alma Street, and El Camino Real, Embarcadero Road, Churchill Avenue, Page Mill Road, Meadow Drive and Charleston Road, where improvements to existing crossings or new crossings are needed
- Improved (e.g., widened) sidewalks for pedestrian use in several areas
- Improved bicycle facilities, including lanes and routes to clarify bicycle access.

Several of the streets designated in this study as Inter-Neighborhood Pedestrian/Bicycle Connectors are already a part of existing City policy documents (such as the Bicycle + Pedestrian Transportation Plan and the School Commute Corridors Network). Additional recommendations by the Task Force establish a complete priority framework of connectivity throughout the study area. All of the Connectors link to a critical crossing point identified by the Task Force both along and across the rail tracks, El Camino Real, and other major barrier locations.

BICYCLE BOULEVARDS

Bicycle boulevards are streets with slow posted vehicular speeds that give priority to bicyclists and their through movement. Bryant Street is an existing bicycle boulevard in Palo Alto which will be even more successful once other boulevards are linked to it. The Bicycle + Pedestrian Plan, January 2012 encourages the identified priority bicycle boulevards be implemented with improvements such as additional signage, traffic calming measures and roadway markings. The bicycle boulevard framework within close proximity of the study area, including Bryant Street, is shown on Figure 4.7. These streets are an important part of the Layered Street Framework.

Task Force Recommendations for Bicycle Boulevards

Improvements to these streets should include:

- Additional bicycle boulevard signage
- Traffic calming measures and roadway markings

LOCAL STREETS

There are a wide variety of local streets in the study area. Many exhibit characteristics of the streets described above for all or a portion of their length. Some are predominantly commercial, others are predominantly residential. In general, they are all an essential part of the overall layered circulation framework of the study area.

Task Force Recommendations for Local Streets

Key characteristics of these streets include:

- Their primary function is to provide access to residential and commercial property, parks and schools for pedestrians, bicyclists, and autos.
- They should not be primary linkages for autos.
- On-going measures should be take to ensure they have low traffic volumes.
- Further study should be undertaken to determine the need for traffic calming and other measures in specific locations.

LAND USE & URBAN DESIGN

From a landscape perspective, the study area occupies a pivotal location and plays an important role in the City of Palo Alto. The area hosts a wide range of uses from major medical facilities, regional shopping, a local high school, high tech businesses, neighborhood goods and services, and access to three Caltrain stations, in addition to a variety of residential neighborhoods of different types and densities.

Based on existing land use patterns in the study area, six distinct subareas can be discerned. Figure 5.1 illustrates these six subareas in a general way. For purposes of this study, three of these subareas have been defined as Mixed-Use Centers and three have been defined as Residential Subareas. The Mixed-Use Centers contain a wide range of uses including commercial, institutional and residential, while the Residential Subareas are devoted exclusively to residential uses. Task Force recommendations for land use and urban design within the corridor comprises three key concepts:

- Conserve, protect and preserve historic resources
- Enhance the three Mixed-Use Centers to create unique places that serve the community.
- Protect residential neighborhoods.

The following discussion identifies the key recommendations for all of the subareas, organized into two topics: Mixed-Use Centers and Residential Subareas.

MIXED-USE CENTERS

There are three Mixed-Use Centers located within the study area. These Mixed-Use Centers vary in scale and contain a diversity of commercial, service and residential uses at a variety of densities. Each of the three Mixed-Use Centers are distinctly different from one another in the role they play within the study area and in Palo Alto as a whole. The three Mixed-Use Centers include:

Downtown / University City Center
California Avenue Town Center
South Palo Alto Neighborhood Center.

Unlike the single-use Residential Subareas, which tend to be rather uniform in their land use patterns, each of the Mixed-Use Centers has one or more smaller areas of differing character, some of which have unrealized potential for improvement and change. These include the Main Street areas illustrated in Figure 5.1. These Main Street areas are envisioned to:

- Have a strong pedestrian orientation and scale
- Be accessible by walking and bicycling from adjacent neighborhoods and subareas
- Include a variety of local-serving and citywide retail and services as well as residential land uses.

Each Mixed-Use Center also includes a Keystone Block. These tend to be multi-parcel areas that are generally underutilized and do not support the surrounding neighborhoods to the maximum extent possible. Like the keystone of an arch, if planned and developed correctly, these keystone areas can unify the entire district and help ensure the success of the Mixed-Use Center area.

As discussed in Section 4 of this document, connections to and within the Mixed-Use Centers are essential to ensuring convenient access to retail and services by residents and employees within and around the study area.

Task Force Recommendations for the Mixed-Use Centers

» Accommodate much of the city's future development within the study area but focus this development in limited locations at moderate densities within the mixed-use subareas. With more focused study, there may be some areas where higher intensities than current policies allow are possible.

» Each of the Mixed-Use Centers is unique depending upon its role in the City and region. Strengthen the unique quality of each of the three centers.

» Reconfigure the Keystone Block within each Mixed-Use Center with new development that includes a mix of uses, open space, and a more convenient circulation pattern to unify the entire subarea.

» A variety of urban open space improvements ranging from small parks, town squares, plazas, pocket parks and streetscape enhancements should be provided through a variety of innovative techniques.

» Strengthen or create a strong pedestrian-oriented Main Street in each of the Mixed-Use Centers.

» Each Main Street should be distinguished through a unique mix of goods, services and design of public spaces.

» Along the Main Streets, buildings should be placed at the sidewalk edge and face the street with ground floor transparency.

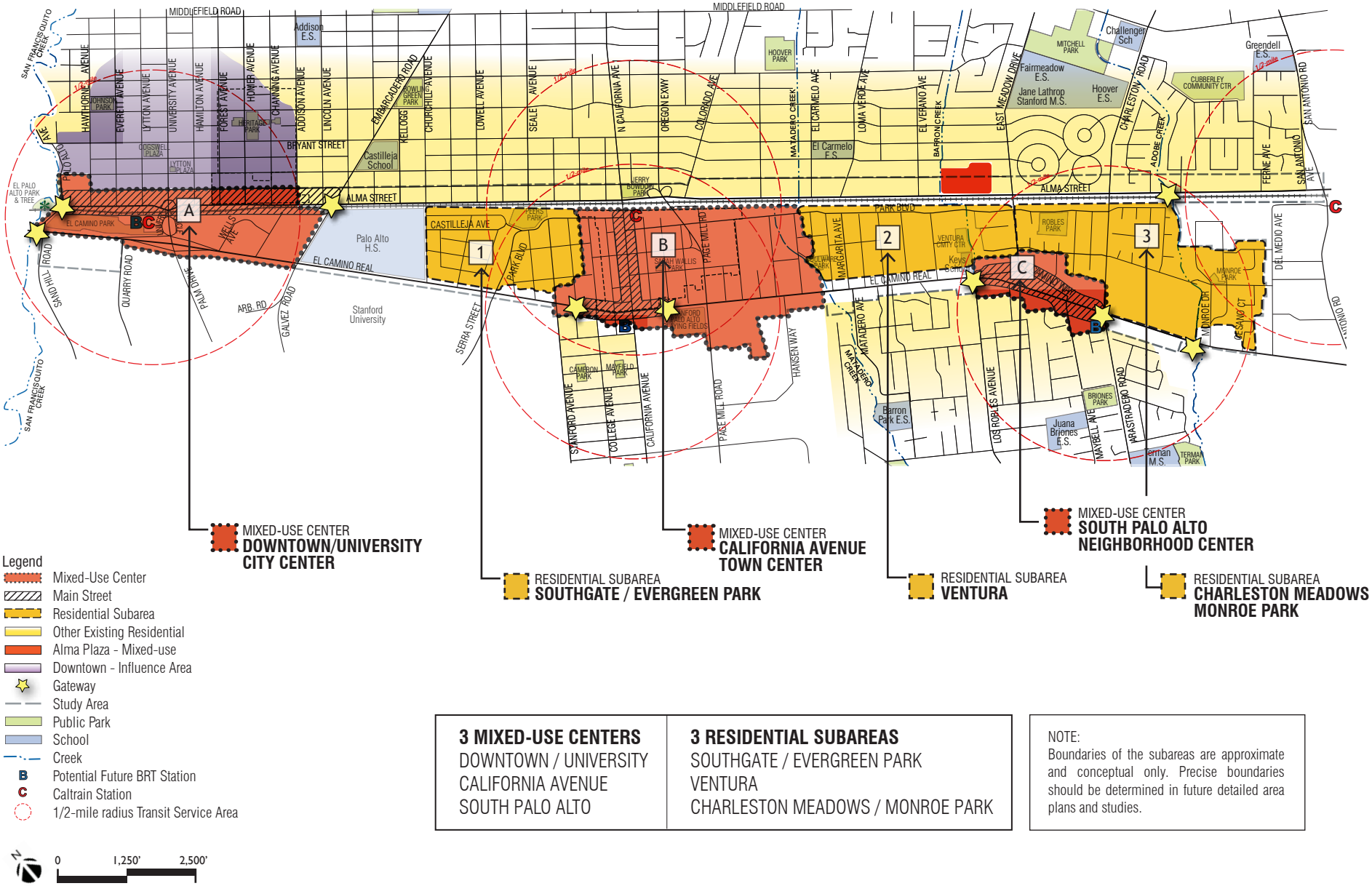
» Provide active ground floor uses in buildings along the Main Streets with an emphasis on retail, restaurants and services needed by the surrounding neighborhood.

» Provide improvements to nearby areas of El Camino Real in order to create, connect or extend the Main Street of adjacent Mixed-Use Centers.

» Protect and celebrate historic resources, such as the Southern Pacific Railroad Depot and El Palo Alto redwood tree.

» Include public art throughout the corridor as a way to reinforce the unique identity of each of the Mixed-Use Centers.

Figure 5.1: Mixed-Use Centers and Residential Subareas



3 MIXED-USE CENTERS	3 RESIDENTIAL SUBAREAS
DOWNTOWN / UNIVERSITY	SOUTHGATE / EVERGREEN PARK
CALIFORNIA AVENUE	VENTURA
SOUTH PALO ALTO	CHARLESTON MEADOWS / MONROE PARK

NOTE:
Boundaries of the subareas are approximate and conceptual only. Precise boundaries should be determined in future detailed area plans and studies.

DOWNTOWN / UNIVERSITY CITY CENTER

The Downtown / University City Center extends from the Menlo Park boundary to Addison Avenue (see Detail Plan, Figure 5.2). At approximately 125 acres within the study area boundary, it includes a diverse variety of large land uses, including the Caltrain tracks, station, and parking lots; the Palo Alto Medical Foundation buildings and parking; El Camino Park (9.9 acres); Town and Country Village Shopping Center; and two major hotels (The Westin Palo Alto and Sheraton Palo Alto). It also includes a variety of residential housing types and densities, ranging from single-family to high rise. It is also directly surrounded by major regional destinations: the main entrance to Stanford University, the Stanford Shopping Center, Downtown Palo Alto, Palo Alto High School and El Palo Alto Park (1.3 acres).

The Downtown / University City Center is thus a hub of regional and citywide destinations, distinguishing it from the other two Mixed-Use Centers in the study area. It anchors the civic, institutional, office, retail and residential uses that come together in downtown Palo Alto. However, at the same time, portions of the area act as a barrier between the downtown and the retail, institutional, open space and residential destinations to both the east and the west across El Camino Real and Alma Street.

The Downtown / University City Center is currently defined as a "Regional Center" in the Comprehensive Plan. However, while the surrounding downtown and the Stanford Shopping Center fulfill that role, the lands within the boundaries of the study area do not. The Comprehensive Plan also includes a wide variety of specific land use designations for the area, including: Multiple Family Residential, Service Commercial, Major Institutions, Regional/Community Commercial and Public Parks. The Regional/Community Commercial designation allows between .35 - 2.0 FAR, while the Service Commercial designation allows up to a 0.4 FAR.

Issues

Issues identified by the Task Force include:

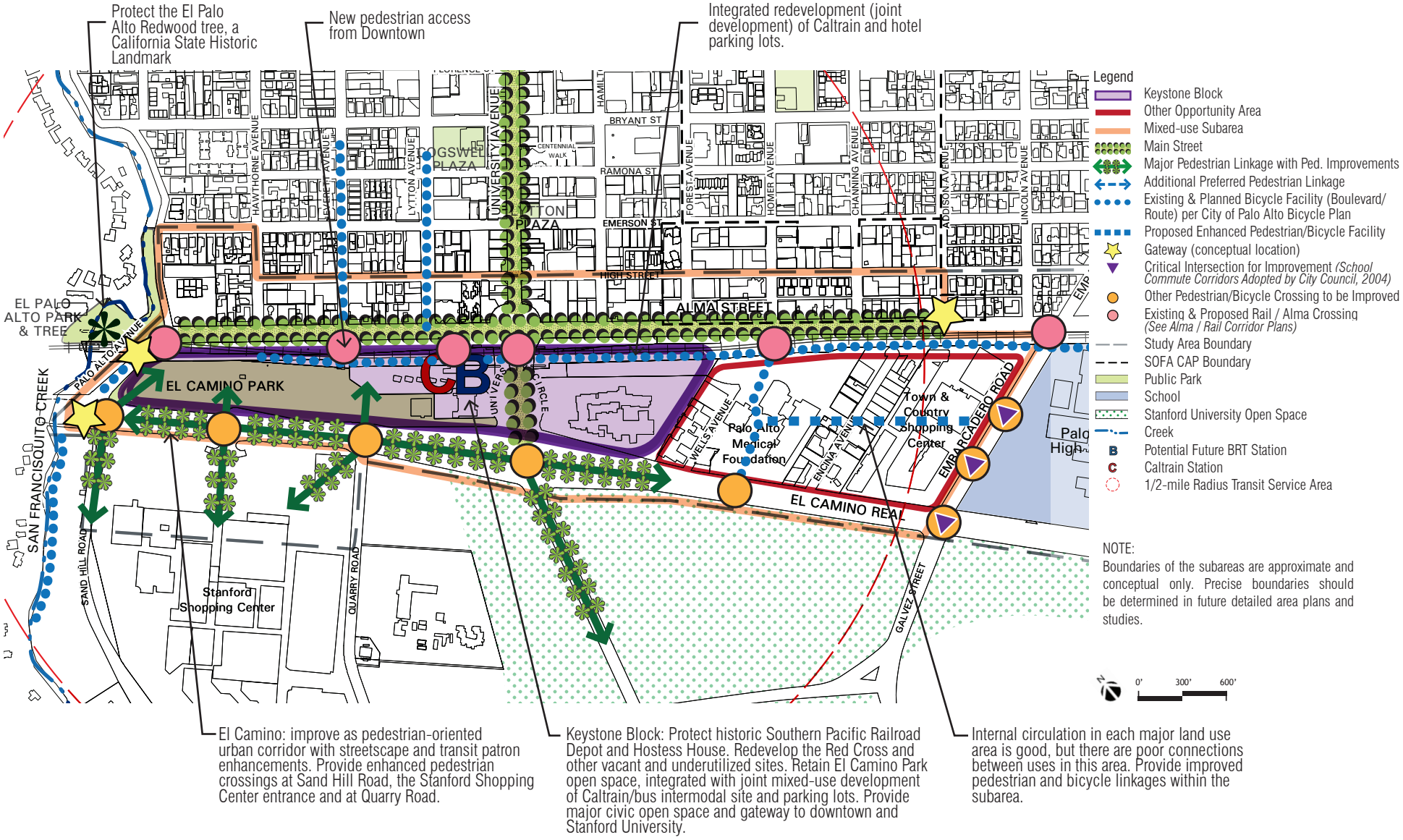
- Large parcels and ownership patterns impede pedestrian, bicycle and vehicular circulation through the area.
- Stanford Shopping Center, which is a significant pedestrian destination, is isolated from the downtown and adjacent neighborhoods.
- Although residential, services, jobs and cultural facilities are in close proximity to one another, access between these uses is virtually impossible except by car.
- Major physical barriers separate uses in the sub-area:
  - Caltrain tracks
  - El Camino Real
  - Stanford Shopping Center parking lots fronting on El Camino Real
  - Town and Country Village parking lots
  - Stanford Medical Foundation buildings, parking and circulation
  - Alma Street (although in this area it is less of a barrier than it is south of Embarcadero Road)
  - Embarcadero Road.
- Relative to the population residing directly in the study area, which is low, the area is well-served with open space in El Camino Park. However, El Camino Park does not meet the city's desired access standards since it is difficult to reach except by automobile.

Task Force Recommendations for Downtown / University City Center

This subarea can be reinforced as an essential part of the active, civic core of Palo Alto and improved to more seamlessly link the Downtown, Stanford University and Stanford Shopping Center, the Caltrain station, and the medical/institutional and retail uses in the area.

- » Create a major civic park and/or plaza in the area. This could be a reconfiguration and relocation of El Camino Park to place it more centrally in the mixed-use area, or an additional public open space associated with improvements in the Caltrain right-of-way and/or University Avenue. Ensure there are safe and convenient connections to the park for pedestrians and bicyclists.
- » Where feasible and appropriate, consider additional mixed-use development including medium- to high-density residential.
- » Protect historic cultural and natural resources, notably the El Palo Alto Redwood, San Francisquito Creek, the Rail Station and the Hostess House building.
- » Within the Keystone Block encourage integrated mixed-use development including:
  - High-density residential (similar to existing nearby downtown residential densities)
  - Major open space (preserve, enhance, reconfigure and provide access to El Camino Park such that it serves as the "Central Park" of the subarea)
  - Retail, office and other services
- » Redesign the Caltrain line and station area:
  - Protect the existing historic Caltrain station

Figure 5.2: Downtown / University City Center



- Provide at least one additional pedestrian/bicycle connection with a direct linkage between neighborhoods to the east and the Keystone Block
- If the rail line is located below grade in a trench, develop the maximum feasible cover over the trench to link the Keystone Block with neighborhoods and the Downtown area to the east.
- Integrate reuse of the Caltrain intermodal transit center and all Caltrain parking lots with re-development of the Keystone Block, including possible public-private joint development, to provide transit access as well as other transit and downtown neighborhood supportive uses.

» Provide better surface linkages (e.g., crosswalks, sidewalks, bicycle facilities) between downtown, the Caltrain station, El Camino Real, Stanford University (particularly the Shopping Center), the Palo Alto Medical Foundation, Town and Country Village, Palo Alto High School, El Camino Park. In particular, improve pedestrian and bicycle connections across Alma Street, the rail tracks, and El Camino Real.

» Redesign El Camino Real between Sand Hill Road and University Avenue per recommendations of the El Camino Real Study (2006), the Grand Boulevard Initiative, and the BRT Strategic Plan. Conduct detailed traffic studies to determine if improvements within the public right-of-way such as those described in Section 4 of this report are feasible.

» Future Considerations: In the long term, encourage reuse of the Stanford Shopping Center parking lots with active street-fronting uses to support pedestrian activity along El Camino Real and to improve connectivity with the Caltrain station and downtown.

The City Center subarea contains important historic resources, such as the Caltrain station depot at University Avenue and the Julia Morgan-designed Hostess House, where MacArthur Park restaurant currently exists. Both of these buildings should be preserved and ensured an appropriate setting in future rail and mixed-use development.

The Caltrain surface parking lots are an underutilized land resource in the center of Palo Alto. There are potential opportunities for joint-development in multi-level buildings with a mix of uses that will help link the area with the downtown, support transit use, and provide vibrant, revenue-producing uses including goods and services. Caltrain parking should continue as a use in the mix.

The City Center subarea contains vacant and underutilized land, which is well-located for mixed-use development with access to transit, regional streets and the downtown. There is potential for development where residents and businesses would have little need for daily use of the automobile to reach jobs, services, education and recreation.

El Camino Real and the Stanford Shopping Center parking lots separate the pedestrian areas of the shopping center and downtown. Where feasible, redesign El Camino Real as a pedestrian-friendly street with additional pedestrian and bicycle connections and traffic-calming features to help bind the subarea together rather than form a barrier.

El Camino Park can be the "Central Park" of an integrated mixed-use area containing housing, employment, and amenities close to transit, downtown and the Stanford campus. Connection improvements to surrounding uses, and redevelopment of the area can efficiently use the valuable land resources that are available in this Keystone area.

CALIFORNIA AVENUE TOWN CENTER

The California Avenue Town Center extends generally from College Avenue to Lambert Avenue and is approximately 215 acres in size (See Detail Plan, Figure 5.3). The main retail street, California Avenue, which extends from the Caltrain tracks on the east to El Camino Real on the west, has a strong pedestrian orientation and mix of uses. Most of the area is well-served by public transit with the California Avenue Caltrain station at the east end of California Avenue and high-quality existing bus service on El Camino Real. In addition, a future BRT station is planned at the intersection of California Avenue and El Camino Real.

This mixed-use area contains a wide range of land uses – residential at a variety of densities, community and neighborhood-serving retail, office, R&D and light industrial - on sites ranging from small single-family lots to large institutional parcels. Auto-oriented retail and service uses are currently found along El Camino Real although this part of El Camino Real is more pedestrian-oriented than most others.

California Avenue is a community-wide destination providing services and amenities, including a supermarket, to nearby neighborhoods of the city. It has a distinctly neighborhood feel and already functions as a successful community-wide mixed-use destination.

The California Avenue Town Center is currently defined as a Multi-Neighborhood Center in the Comprehensive Plan. The Comprehensive Plan also includes the following specific land use designations for the area: Single and Multiple Family Residential, Regional/Community Commercial, Major Institutions, Light Industrial, Research/Office Park, with Neighborhood and Service Commercial along El Camino Real. Allowable densities vary within the subarea with higher densities of 8-40 units generally allowed around transit areas and along the commercial core. The PTOD zoning designation overlays a large portion of the subarea.

Issues

The Task Force identified several issues facing the area:

- Large areas of underutilized land devoted to surface parking and unallocated open space both in the vicinity of California Avenue and south of Page Mill Road associated with institutional, office and industrial uses as well as with the Fry's retail complex.
- Constrained pedestrian and bicycle access, particularly south of Page Mill Road as a result of large parcels devoted to institutional, office and industrial uses and the Fry's site.
- Unattractive and constrained pedestrian/bicycle undercrossing of Alma Street and the rail tracks at California Avenue.
- There are parks, open spaces, schools, and recreation facilities outside the subarea that are available to residents. However, accessibility to them is constrained by El Camino Real, the rail corridor and Alma Street.
- Difficult connections between the northern half of the subarea and the southern half caused by the barrier of Page Mill Road / Oregon Expressway, which bisects the subarea.
- Large number of auto-serving and auto-oriented uses (such as auto dealerships and repair facilities) located internally in the subarea. These fragment the pedestrian qualities of the area and result in land use adjacency conflicts with surrounding neighborhoods.

Task Force Recommendations for California Avenue Town Center

» Capitalize on development opportunities on and near California Avenue that can add more population, activity and support for businesses and transit. New development should be carefully located and designed, include a mix of uses where appropriate and be of moderate intensity.

» Throughout the area, encourage mixed-use and multi-family infill on surface parking lots and underutilized parcels in order to expand neighborhood housing opportunities, close gaps in the neighborhood fabric, provide a variety of public open spaces and plazas, and improve connectivity throughout the subarea. New development should comply with current city guidelines and policies.

» Throughout the area, ensure adequate parking is provided. This may be in vertical structures or as part of new development (below-grade preferred).

» Careful planning and infill development of the Keystone Block located between Sherman Avenue and Olive Avenue is critical to unifying the subarea.

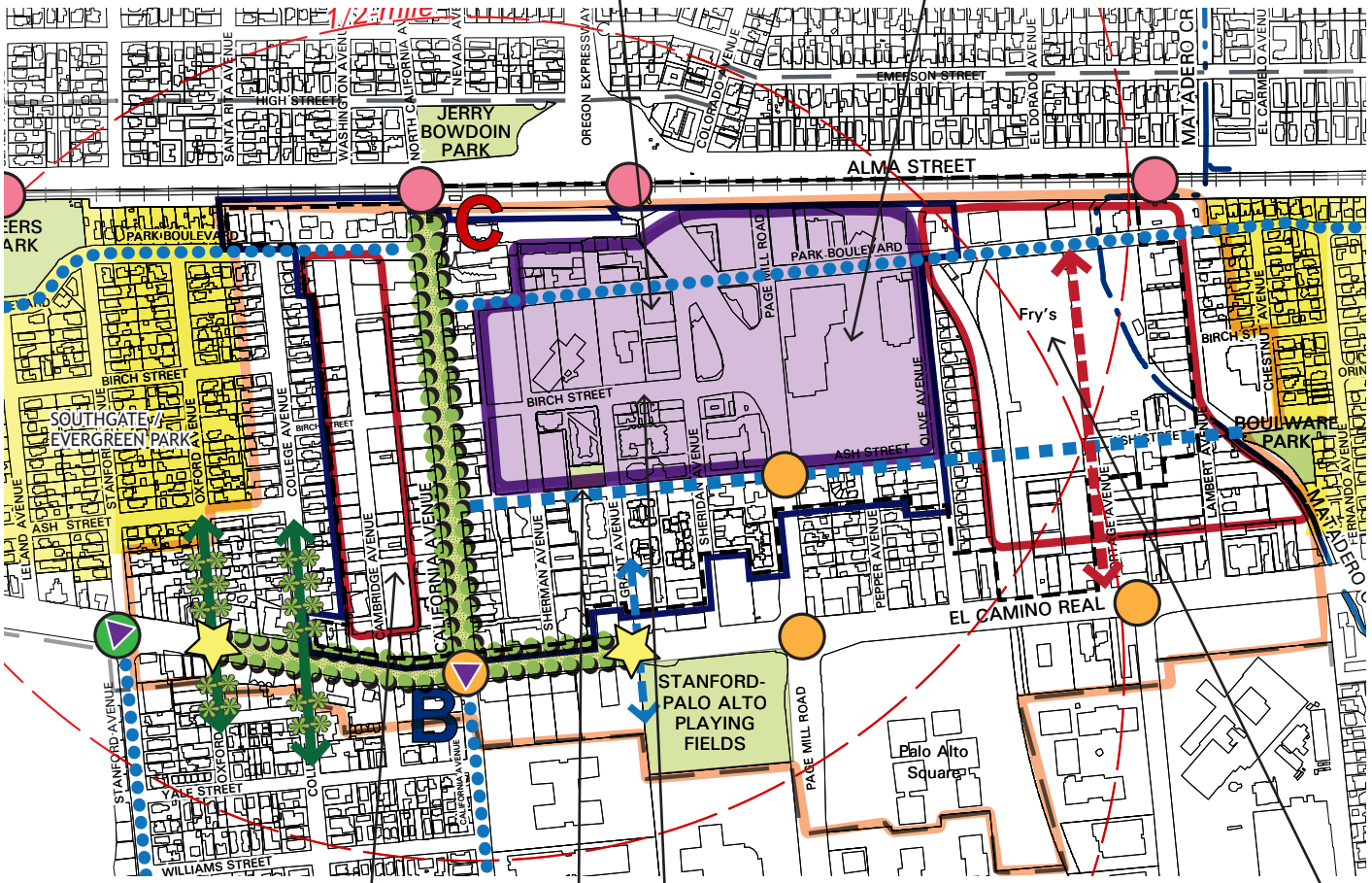
» Create an integrated mixed area within the Keystone Block including:

- Moderate density residential (the residential mixed-use building at 200 Sheridan Avenue is an appropriate model).
- Major open space (e.g., create a park or town square for the subarea with accessible connections to the entire subarea)

Figure 5.3: California Avenue Town Center

200 Sheridan Ave. Mixed-use with ground floor restaurant/retail provides a good example of potential Keystone Block infill.

Olive Avenue area: Infill with emphasis on reuse of existing single-level surface parking lots.



Legend

- Keystone Block
- Other Opportunity Area
- Mixed-Use Center
- Main Street
- Major Pedestrian Linkage with Ped. Improvements
- Additional Preferred Pedestrian Linkage
- New Connection
- Existing & Planned Bicycle Facility (Boulevard/ Route) per City of Palo Alto
- Proposed Enhanced Pedestrian/Bicycle Facility
- Gateway (conceptual location)
- Critical Intersection for Improvement (School Commute Corridors Adopted by City Council, 2004)
- Other Pedestrian / Bicycle Crossing to be Improved
- El Camino Real Demonstration Intersection
- Existing & Proposed Rail / Alma Crossing (See Alma / Rail Corridor Plans)
- Study Area Boundary
- California Avenue Concept Area
- PTOD
- Public Park
- School
- Creek
- B Potential Future BRT Station
- C Caltrain Station
- 1/2-mile Radius Transit Service Area

NOTE:
Boundaries of the subareas are approximate and conceptual only. Precise boundaries should be determined in future detailed area plans and studies.

0' 300' 600'

Infill development along Cambridge Avenue with emphasis on reuse of existing single-level surface parking lots. Allowance for mixed-use, including ground floor retail, residential and/or office above. Replace needed parking in vertical structures or as part of new development (below-grade preferred).

Existing Sarah Wallis Park

Keystone Block: Infill with emphasis on reuse of existing single-level surface parking lots, poorly-used landscape areas and potentially unneeded space. Consider medium-density mixed residential and commercial (office, hotel, etc) with a town square open space. Opportunity for more efficient use of excess land on public parcels such as the: County Community Mental Health Center and Superior Court site.

Fry's opportunity area. Provide an improved framework of connectivity to surrounding neighborhoods and centers. Future re-use of area to consider a mix of uses as well as public open space.

- Mixed-use office, and/or hotel and services
- Convenient pedestrian linkages

» Enhance / complete the underlying framework of streets in areas such as Fry's in order to connect to the surrounding neighborhoods.

» Provide a new neighborhood park or plaza as part of the future reuse of the Fry's site and other underutilized sites.

» Provide a new pedestrian crossing of the Rail / Alma corridor at Matadero Creek, thereby providing connections to El Carmelo School and Hoover Park via the creek's right-of-way.

» The Stanford / Palo Alto Playing Fields, approximately 6 acres, are geographically located near the center of the subarea; however, improved access across El Camino Real is needed to make it more accessible.

» Future Considerations: In the long term, El Camino Real, especially near California Avenue should include an active mix of uses to help El Camino Real become more pedestrian-oriented. Areas for improvements could include: the Palo Alto Square site and the western corners of California Avenue and El Camino Real.

Current plans to reduce the number of vehicular travel lanes and improve pedestrian facilities along California Avenue will strengthen connections within the subarea and to neighborhoods beyond the study area.

Extensive surface parking lots are a poor utilization of precious land assets. There is an opportunity to re-use these sites in multi-level developments that provide housing, employment, and open space and meet the goals of the Comprehensive Plan and other city policies while also providing adequate parking for the nearby businesses.

Large parcels devoted to parking, large format retail and other auto-oriented uses are important sources of service and income for the community, but are not well-suited to pedestrian districts and residential neighborhoods. Over the long term, consider opportunities to relocate such uses and replace with residential infill as well as community-serving retail, office and open space uses, while also improving the circulation framework for the area.

El Camino Real in the California Avenue area currently has a lively pedestrian environment with pedestrian-oriented retail, active bus transit facilities and a larger number of visitors. There is an opportunity to focus improvements to El Camino Real as a Main Street linked to California Avenue.

Page Mill Road and Oregon Expressway are a substantial barrier which splits the California Avenue Town Center subarea in half. Investigate opportunities to provide improved north/south connections across the roadway, or, alternatively, consider creation of two separate neighborhoods with a full range of open space, residential and services uses on each side.

New mixed-use office with residential development is planned on the site of these four existing single family residential buildings on the corner of Birch Street and Grand Avenue. The new development has been approved per the terms of the PTOD zoning overlay.

South of California Avenue, in the "Keystone Block," are located several publicly-owned properties, including the Santa Clara County Superior Court (left) and the County Mental Health facility (right), large surface public parking areas, poorly used landscape and lawn areas and street segments that may not be fully needed for vehicular traffic as currently designed. All of these facilities have large areas of precious underutilized land. Consider opportunities for public/public and public/private development partnerships to more effectively use all or portions of these properties to provide housing, open space and other community needs while retaining the public services provided by these institutions.

SOUTH PALO ALTO NEIGHBORHOOD CENTER

At approximately 50 acres, the South Palo Alto Neighborhood Center includes the area extending from Los Robles Avenue to Arastradero/Charleston Roads, focused on El Camino Way, El Camino Real, and surrounding commercial and multi-family residential areas (see Detail Plan, Figure 5.4). The area contains a few retail and service uses scattered along El Camino Real, but generally offers few daily services or amenities for local residents and does so in an environment that is almost totally auto-oriented and requires an auto for access. A Bus Rapid Transit station is planned at the intersection of Arastradero/West Charleston Roads and El Camino Real. There is no public gathering space within the Neighborhood Center, although Robles Park (4.66 acres) is in the Charleston Meadows neighborhood nearby.

Unlike the other two Mixed-Use Centers, the South Palo Alto Neighborhood Center is not a community-wide destination service area. It is, however, well-located to become one, focused on the El Camino Way / El Camino Real triangle and the future BRT station.

The South Palo Alto Neighborhood Center is currently defined as a "Multi-Neighborhood Center" in the Comprehensive Plan. However, today it does not contain the elements necessary to fulfill that role. The Comprehensive Plan also includes the following specific land use designations for the area: Single and Multiple Family Residential with Neighborhood and Service Commercial along El Camino Real and El Camino Way. Allowable residential densities include ranges from 1-7 and 8-40 dwelling units/acre in specified locations. Neighborhood and Service Commercial densities up to 0.4 FAR are allowed.

Issues

Issues identified by the Task Force include:

- There are virtually no uses that provide neighborhood-serving goods and services, Residents in this Mixed-Use Center and surrounding neighborhoods are required to travel by car for their daily needs.
- Nearly all of the commercial uses in the subarea, particularly along El Camino Real are auto-oriented and auto-serving uses (car dealerships and repair, drive-up restaurants, etc.) that are neither pedestrian- or transit-oriented nor are they neighborhood-serving.
- The area lacks a public plaza, attractive street environment, or other public gathering place; Robles Park is not easily accessible and does not fulfill that role.
- Difficult crossings of El Camino Real make it challenging to access schools and parks to the west, particularly for children and others without access to an automobile.

Task Force Recommendations for South Palo Alto Neighborhood Center

» Encourage moderate amounts of new mixed-use development including new retail and services (such as a grocery store) which are high community priorities.

» Enhance the Keystone Block centered on El Camino Real and El Camino Way Triangle as a neighborhood center with:

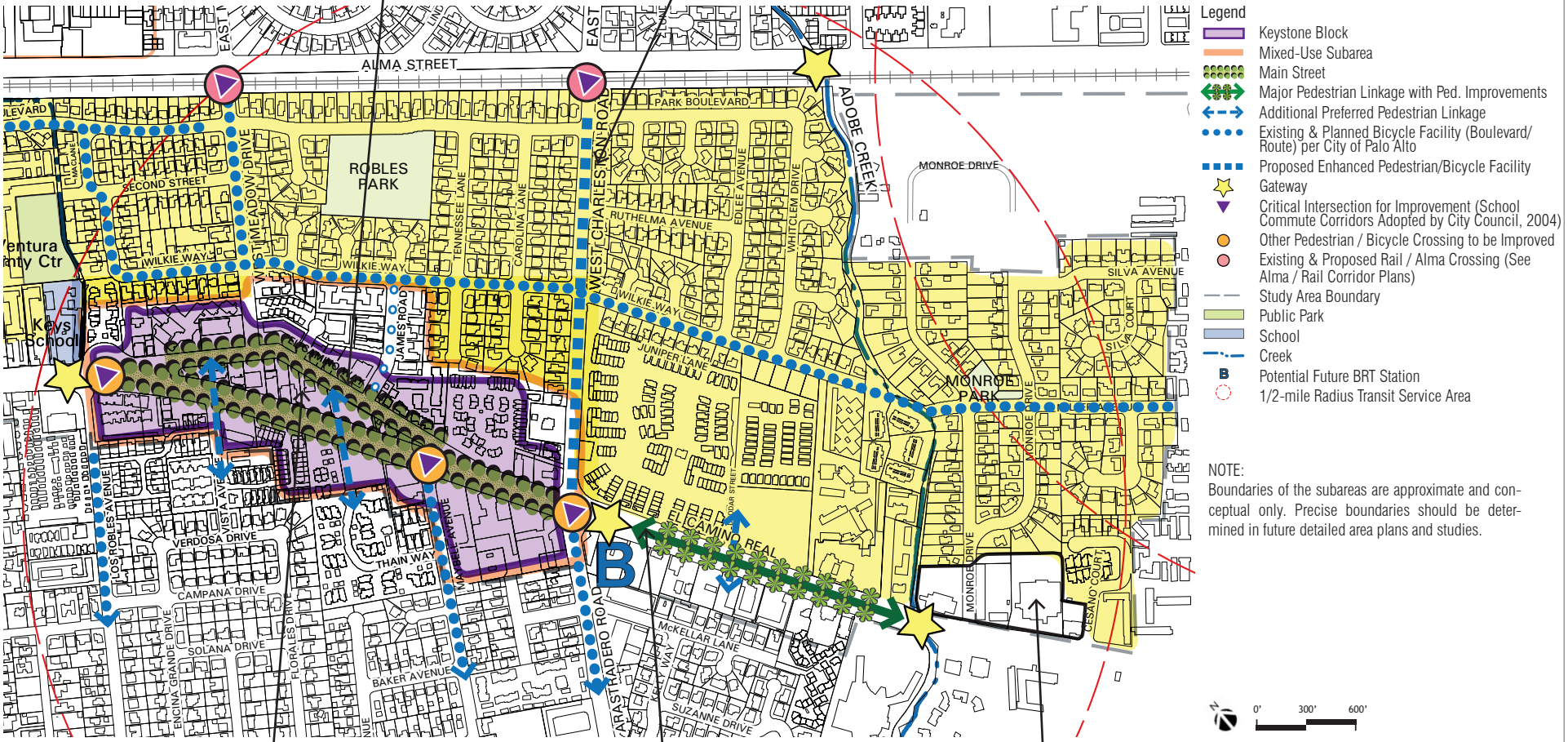
- Wide sidewalks with pedestrian lighting and amenities
- New medium-density mixed-use development, with pedestrian-oriented ground floor retail and other active uses
- Encourage the relocation of auto-oriented (fast food) and auto-serving uses (auto repair, sales) to other, less pedestrian-oriented locations in the city. Do not allow uses of this type in the Neighborhood Center in the future.
- Provide neighborhood community gathering space.
- Consider redesigning a portion of El Camino Way as a flexible linear plaza/open space usable by vehicles but suitable for closure for community events.

» Street and sidewalk improvements throughout the area, especially along El Camino Real. Improvements could include additional street trees, site furnishings and lighting.

Figure 5.4: South Palo Alto Neighborhood Center

El Camino Way: improve as neighborhood commercial/community gathering space. Streetscape: infill street trees and lighting. Consider redesigning a portion of the street as a linear plaza/ open space usable by vehicles but suitable for closure for community events.

Provide strong pedestrian and bicycle connections to surrounding neighborhoods.



Keystone Block: infill and renovate. Allow for medium-density mixed-use, including residential, retail, office and community gathering space. Restrict auto-oriented uses and encourage neighborhood-serving uses.

El Camino Real: improve as pedestrian-oriented urban corridor within the service area of the future BRT station. Provide streetscape improvements, wide sidewalks, traffic calming, and active ground-floor uses on fronting street to enhance pedestrian access to future BRT station and Neighborhood Center.

Planned Project. Future mixed-use development.

Existing El Camino Way has an attractive, comfortable and pedestrian-friendly character. Relatively low vehicular traffic volumes along this street may allow the street to be redesigned as a convertible public space, which can normally function as a vehicular corridor and be closed for pedestrian-only neighborhood functions on special occasions and select weekends.

This recently built mixed-use building on El Camino Real includes neighborhood-serving uses such as cafes and coffee shops with office space above. It conforms to the goals of the South El Camino Real Design Guidelines with setbacks to allow a wide pedestrian zone with outdoor seating and small plazas which provide a central public meeting place for surrounding neighbors. It is located within a quarter mile walk of the future proposed BRT station.

Many auto-oriented and auto-serving uses are currently located in the South Palo Alto Neighborhood Center. Such uses are incompatible with goals for the subarea, which should focus on pedestrian-oriented neighborhood service and residential uses with strong connections to Bus Rapid Transit (BRT).

Many uses in this subarea face the street and pedestrian sidewalk. However, they are widely separated by parking lots with numerous curb cuts and in general are not designed to be accessed by pedestrians. Some uses serve the neighborhood, but most are regional-serving uses such as restaurants, hotels and auto service.

A recently developed residential complex at 800 High Street offers higher density housing close to the downtown Caltrain station and the amenities associated with living in a vibrant mixed-use center. A cafe is located on the ground floor on the corner and offers outdoor dining at street level.

While the South El Camino Real Design Guidelines recommend buildings be located at the street property line, widening of El Camino has resulted in very narrow sidewalks in areas of existing older buildings. As property owners seek to redevelop older properties, additional building setbacks and streetscape improvements will be needed to create an attractive and usable pedestrian environment. Although the building above is facing the street, it is not designed in a pedestrian-friendly manner and does not engage the sidewalk.

GATEWAYS

Several locations along El Camino Real and Alma Street are suitable as potential gateways to the City or to the three Mixed-Use Centers. Most of these coincide with specific intersection locations.

Task Force Recommendations for Gateways

The Task Force recommends gateway improvements at the following nine locations:

- El Camino Real and Sand Hill Road/Palo Alto Avenue. Southbound gateway to the City of Palo Alto.
- Alma Street and Palo Alto Avenue. Southbound gateway to the City Center subarea.
- Alma Street near Embarcadero Road. Northbound gateway to the City Center.
- El Camino Real and Sherman Avenue. Northbound gateway to the Historic Mayfield / California Avenue Town Center.
- El Camino Real and Cambridge Avenue. Southbound gateway to the Historic Mayfield / California Avenue Town Center.
- El Camino Real and Los Robles Avenue. Southbound gateway to the South Palo Alto Neighborhood Center.
- El Camino Real and Arastradero Road. Northbound gateway to the South Palo Alto Neighborhood Center.
- Alma Street and Adobe Creek. Northbound gateway to the City of Palo Alto.
- El Camino Real and Adobe Creek. Northbound gateway to the City of Palo Alto.

The design at these locations is intended to:

» Help define the unique identity of each Mixed-Use Center as part as the streetscape design for each of those areas.

» Define the entrances to the City.

» Warn motorists of changing traffic and pedestrian conditions ahead.

» Gateway designs could include accent planting and lighting, signage and vertical elements that announce passages. Further design studies are necessary to create gateways that are appropriate for the City and for the Mixed-Use Centers.

RESIDENTIAL SUBAREAS

There are three Residential Subareas, all of which are fairly large geographic areas exclusively devoted to a single use – residential – with supporting non-commercial uses such as parks. They are generally of a uniformly low density, zoned primarily R-1 or R-2 (single-family detached or duplex), but may contain pockets of multi-family residential uses zoned and built at higher densities. While the Task Force recognizes that there are many other residential buildings throughout the study area, the Residential Subarea definition used in this study only applies to the relatively large contiguous land areas that are devoted exclusively to residential uses.

For purposes of this study, the residential neighborhoods in the study area have been grouped into the following three subareas, as illustrated in Figure 5.5:

- Southgate / Evergreen Park
- Ventura
- Charleston Meadows / Monroe Park.

Task Force Recommendations for all Residential Subareas

The three Residential Subareas in the study area share many conditions and characteristics, although each has issues particular to its location and setting. Task Force recommendations for the single-use Residential Subareas include the following key elements:

» To the maximum feasible extent, protect residential areas, schools and parks from noise, vibration and other impacts associated with rail improvements and/or expansion.

» Enhance the residential subareas as places to live with improved safe and convenient linkages to services, cultural/civic spaces, open space and recreation facilities.

» Enhance safe and convenient bicycle and pedestrian access through the subareas and beyond to schools, parks and other destinations, including safe crossings of the rail corridor, Alma Street, El Camino Real and other barriers.

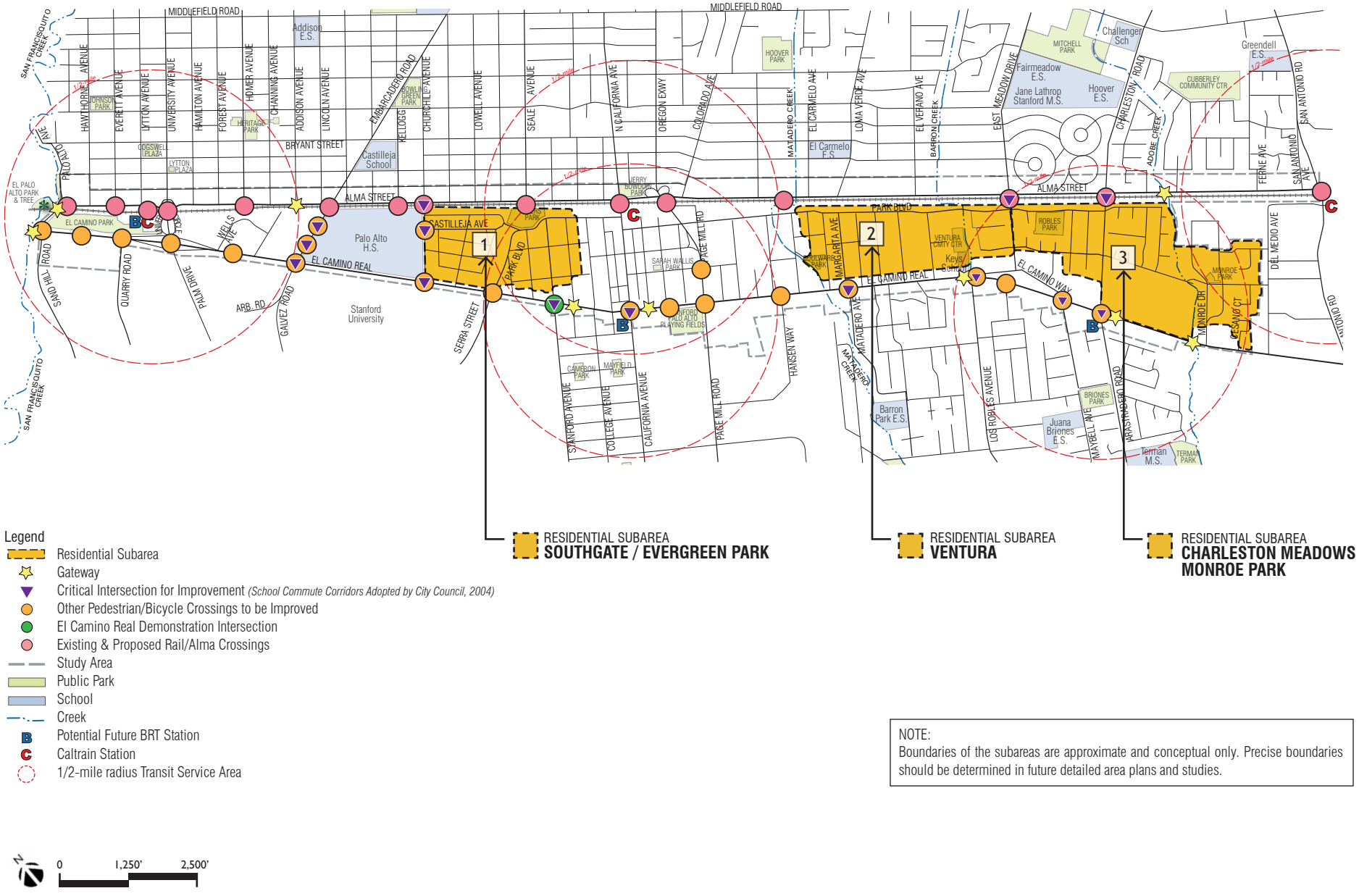
» Minimize traffic and parking impacts from nearby employment, residential or shopping subareas

» Protect views of hillsides and landmarks

» Wherever possible, provide additional parks and recreation facilities to help the area meet city standards; this may require the use of innovative, "non-typical" methods such as closing and reusing unneeded streets, shared public/private open space in new development, and mini-parks and plazas.

» Protect and conserve historic resources in and adjoining the study area, such as the Greenmeadow National Historic District in south Palo Alto.

Figure 5.5: Residential Subareas



NOTE:
Boundaries of the subareas are approximate and conceptual only. Precise boundaries should be determined in future detailed area plans and studies.

SOUTHGATE / EVERGREEN PARK RESIDENTIAL SUBAREA

The Southgate /Evergreen Park Residential Subarea generally includes the area extending from Churchill Avenue to College Avenue. At approximately 115 acres, it is comprised primarily of small lot single-family detached residential parcels with a few multi-family developments. It has a residential population of approximately 1,500. Peers Park (approximately 5 acres) is located in the center of the subarea. A small amount of auto-oriented retail and service uses are located along the El Camino Real frontage.

The Southgate / Evergreen Park Residential Subarea enjoys several uniquely attractive characteristics, including proximity to the goods and services of the Downtown and California Avenue and the open space, and recreation and cultural facilities of Palo Alto High School, Peers Park, and the Stanford campus.

The Southgate / Evergreen Park Residential Subarea includes the following land use designations in the Comprehensive Plan: Single and Multiple Family Residential, and Neighborhood Commercial along El Camino Real. Allowable densities vary from 1-7 units/acre in the detached single-family areas and 8-40 units/acre in the multiple family areas near California Avenue.

Issues

The Task Force identified the following issues related to Southgate/Evergreen Park:

- The subarea is surrounded on the north, east and west by major arterial streets and the Caltrain rail line which constrain safe and convenient access out of the neighborhood to other areas which contain essential services. Access issues include:
  - Difficult access to elementary / middle schools for children, requiring crossing of the rail corridor at the Churchill Avenue grade crossing or the California Avenue tunnel or, crossing of El Camino Real
  - Challenges in crossing Churchill Avenue to access Palo Alto High School.
- Abundant open spaces exist nearby including the Palo Alto High School playing fields and the open spaces of Stanford University. However, access across Churchill Avenue and El Camino Real to these open spaces is difficult, particularly for children and bicyclists. Furthermore, although the Stanford University campus and fields are open and accessible to the public, the recreation fields on El Camino Real are heavily scheduled for University use.

Task Force Recommendations for Southgate / Evergreen Park Residential Subarea

The following recommendations are intended primarily to improve access for the neighborhood. These access improvements are further described in Section 4 of this report.

- » New grade-separated pedestrian / bicycle crossing of the rail tracks, if supported by technical studies as safe and feasible, should be provided at Peers Park. This could be a bridge or trench cover if the trench alternative for rail improvements is constructed.
- » Provide improved pedestrian crossings at or near Churchill Avenue to allow enhanced safe access to Palo Alto High School.
- » Specific intersection improvements are needed along El Camino Real to facilitate crossings to destinations to the west.
- » With the above circulation improvements, access to Palo Alto High School fields and Stanford open spaces can help this neighborhood meet city open standards without the need for the acquisition and development of additional parkland within the subarea.

VENTURA RESIDENTIAL SUBAREA

The Ventura Residential Subarea, approximately 120 acres in size, includes the area extending from Lambert Avenue to West Meadow Drive, east of Wilkie Way. The only park in the subarea, Boulware Park (1.35 acres), is located at the northern end of the subarea and serves the area's 2,500 residents. The El Camino Real frontage consists of auto-oriented retail and service uses along the roadway.

The Ventura Residential Subarea is geographically close to the services of California Avenue and surrounding schools. However, access to these and other destinations, particularly for pedestrians and bicycles is severely constrained due to the barriers presented by the Oregon Expressway, El Camino Real and the Caltrain tracks.

The Ventura Residential Subarea includes the following land use designations in the Comprehensive Plan: Single and Multiple Family Residential and Neighborhood Commercial and Service Commercial along El Camino Real. Allowable residential densities range from 1-7 dwelling unites/acre for single-family detached residential and 8-40 dwelling units/acre for multiple family residential.

Issues

The Task Force identified the following issues related to the Ventura Subarea:

- Difficult access to neighborhood services such as grocery stores, pharmacy, etc.
- All nearby retail facilities are located along El Camino Real and Lambert Avenue and include large format retail (Fry's), auto-oriented and auto-serving uses such as fast food, auto repair and auto dealerships which are neither neighborhood-serving nor neighborhood-friendly.
- There are parks, open spaces, schools, and recreation facilities outside the subarea that are available to residents. However, accessibility to them is constrained by El Camino Real, the rail corridor and Alma Street.
- There are no crossings to the east over the Caltrain/Alma Street corridor. Due to existing land use constraints (continuous residential development), there are no opportunities to provide additional pedestrian or vehicular connections linking this subarea to the east except at the extreme north and south ends.

Task Force Recommendations for Ventura Residential Subarea

In the Ventura subarea, most of the recommendations focus on methods to improve access to parks, open space and school facilities. These recommendations are further described in Section 4 of this document.

» Provide improvements for pedestrians and bicycles at key intersections along El Camino Real (Margarita/Matadero; Los Robles/El Camino Way), on routes that will provide direct linkages to parks and schools to the west.

» Provide a grade-separated pedestrian/bicycle linkage, if supported by technical studies as safe and feasible, to Hoover Park across the Caltrain tracks along Matadero Creek.

» Identify an additional location for a safe grade-separated crossing of Alma Street and the rail tracks between Matadero Creek and Meadow Drive.

» Consider the Ventura Community Center site as a permanent neighborhood park opportunity.

» Utilize creative measures to provide park and recreation facilities. In particular, provide improved pedestrian and bicycle connections to other subareas and neighborhoods which will help the neighborhood meet city open space access standards without the need for acquisition and development of additional parkland within the study area.

CHARLESTON MEADOWS / MONROE PARK RESIDENTIAL SUBAREA

The Charleston Meadows / Monroe Park Residential Subarea is approximately 185 acres and generally includes the area extending from West Meadow Drive to the Mountain View city limit. This low-density residential area, consisting primarily of single-family detached and duplex homes has a residential population of approximately 2,600. Parks in the subarea include Robles Park (4.66 acres at the north end of the subarea) and Monroe Park (0.57 acres located at the southern end of the subarea). These two parks are the primary open space and recreation opportunities serving the subarea's residents.

The Charleston Meadows / Monroe Park Residential Subarea includes the following land use designations in the Comprehensive Plan: Single Family Residential and Multiple Family Residential; and Neighborhood Commercial, Service Commercial and Commercial Hotel along El Camino Real. Allowable residential densities include ranges from 1-7 dwelling units/acre for single-family detached homes and 8-40 dwelling units/acre for multiple family residential areas.

Issues

The Task Force identified the following issues, many of which are similar to the other residential subareas:

- Very little local-serving retail is located within a walking distance of residential uses, requiring the use of the automobile to meet day-to-day needs.
- Nearby El Camino Real is dominated by auto-serving and auto-oriented uses requiring access by car.
- The pedestrian environment along El Camino Real is constrained and uninviting.
- El Camino Real poses a significant barrier to cross in order to reach schools and parks that could serve the subarea.
- The Caltrain tracks, Alma Street and El Camino Real constrain access to park and recreation facilities that exist outside the study area.
- Access to destinations to the east is only possible via East Meadow Drive and Charleston Road, with poor at-grade crossings of the rail tracks and challenging crossings of Alma Street.
- Traffic backs up along West Meadow and Charleston Road when trains pass.

Task Force Recommendations for Charleston Meadow / Monroe Park Residential Subarea

Like the Ventura Residential Subarea, the Charleston Meadows / Monroe Park subarea suffers from a lack of access to recreation and open space amenities or nearby schools. Consequently, connections across the rail corridor and across El Camino Real are of particular importance.

» Improve connections to other subareas and neighborhoods to ensure safe and convenient access to schools and services

» Safe grade-separated crossings, that are supported by technical studies, of Alma Street and the rail line for all travel modes at Charleston and Meadow to improve safety and convenience are preferred.

» Identify additional locations for a safe grade-separated crossing of Alma Street and the rail tracks between Matadero Creek and Meadow Drive.

» Investigate opportunities for an additional safe crossing for all modes at Del Medio Avenue. This will require coordination with the City of Mountain View, but if successful, would serve the Charleston Meadows/Monroe Park neighborhood.

» In particular, provide improved pedestrian and bicycle connections to other subareas and neighborhoods which will help the neighborhood meet city open space access standards without the need for acquisition and development of additional parkland within the study area.

NEXT STEPS & IMPLEMENTATION

The Palo Alto Rail Corridor Study contains many recommendations at a variety of scales which the Task Force believes, taken together, will improve the livability of the study area and all of Palo Alto. The goals and concepts are broad and conceptual and are intended to provide input to other city policy documents such as the Comprehensive Plan, as well as set parameters for future detailed area plans and studies. Implementation of these recommendations which could a variety of different tools and mechanisms, including:

- Policy changes, notably to the Comprehensive Plan
- Regulatory changes, notably to the zoning ordinance, which regulates the role of the private sector, particularly in future land use and development matters
- Economic incentives, also often managed through zoning regulations
- Direct public investments, which would primarily be focused on public infrastructure and other improvements such as parks and open space, street and transit improvements for all modes of travel and rail crossings. Funds may come from a variety of sources, including the improvements that may result from Caltrain upgrades or the High Speed Train project, the City's Capital Improvement budgeting process, bonds and external grants.
- Administrative actions which can be incorporated into the ongoing work program of the Palo Alto Planning Division and/or other City departments.

This chapter outlines the implementing actions for the priority recommendations of the Rail Corridor Study. The chapter has the following major sections:

- Next Steps
- New Comprehensive Plan Policy Statements.
- Priority Projects.
- Potential Funding Sources.
- Comprehensive Plan Policies and Programs Assessment.

NEXT STEPS

The Palo Alto Rail Corridor Study articulates a general vision for the study area and identifies specific recommendations to achieve it, including strategies relating to circulation, land use and urban design improvements. It is not a set of final plan recommendations. Rather, it is intended to provide general guidance to the City's decision-makers and provide input to the City's Comprehensive Plan, which is currently being updated. It provides guiding principles that can be used in the preparation of more detailed area plans and improvements that will be needed in specific locations throughout the study area.

The study area is large and the recommendations of the Task Force cover a diverse range of subjects, needs and desires; however, detailed study of these subjects is beyond the scope of this study. Following is a discussion of next steps and activities that should be undertaken to continue the process of implementing the recommendations of the Task Force. In all cases, on-going community involvement and input is a necessary requisite of future planning and design work. The recommendations are listed according to two general categories: input to current plan updates and planning studies, and recommended near-term planning and design studies.

Input to City Plan Updates and Planning Studies

Policy modifications to the Comprehensive Plan

Many of the recommendations of the Rail Corridor Task Force are consistent with existing Comprehensive Plan Goals, Policies and Programs; however some findings may require new or revised Goals, Policies and Programs to be incorporated into the Comprehensive Plan as part of the current update process. The most important of these have been described earlier in this chapter.

California Avenue Area Concept Plan Review and Revisions

The California Avenue Area Concept Plan is currently in the planning process. The circulation, land use and urban design findings of this Rail Corridor Study should be reviewed carefully as part of that study and to the maximum extent possible, incorporated into that work effort. This may include consideration of alternative opportunities for circulation, land use, open space, and urban design improvements.

Near-term Planning and Design Studies

Detailed Area Concept Plans

Detailed area studies, similar to the California Avenue Area Concept Plan, are needed for:

- Downtown / University Mixed Use City Center
- South Palo Alto Neighborhood Mixed Use Center

These area plans should include a more precise definition of area boundaries, as well as definition of specific circulation, land use and urban design projects that can be implemented as capital projects of the City of Palo Alto or as private development and improvement, or both.

Alma Street Transportation and Public Improvements Plan

A Transportation and Public Improvements Plan for the Alma Street right-of-way should be prepared. The plan should follow the design principles and recommendations established by the Task Force in the Rail Corridor Study. The plan should include concepts for the physical design and engineering of the roadway to accommodate a variety of modes of circulation, intersection improvements, parking and beautification. Streetscape improvements should be addressed in the plan to create a livable street for Palo Alto which also meets traffic carrying-capacity needs and provides safe and attractive crossings.

Since the outcome of the rail improvements/expansion is unknown as of May 2012, the primary focus of the Alma Street Transportation and Public Improvements Plan should be on the Alma Street right-of-way. However, studies for the work should consider the full right-of-way of both Alma Street and the rail line as an integrated unit under both the at-grade option and the below-grade trench option. Although the preliminary studies will include the full width of the corridor, the final plan should be for the right-of-way for Alma Street only. This will help inform the design and final engineering of the rail line and may allow some Alma Street improvements to proceed regardless of the outcome of the rail improvements/expansion.

Rail Corridor/Alma Street Crossing Improvements Study

A preliminary physical feasibility study should be conducted to further define crossings of the Rail / Alma Street corridor. This study would include:

- Specific requirements for improvements to existing crossings
- Physical feasibility of crossings at new locations (such as Matadero Creek)

- Locations for new crossings in the southern portion of the city where the Task Force has identified areas where further study is needed to determine if additional crossings are feasible.

An important aspect of this work will include focused neighborhood outreach in the locations of potential new and improved crossings to determine the features to be included in these improvements and the extent of adjacent property owner and neighborhood interest and cooperation.

This work should be conducted in coordination with the various rail improvement projects, as rail decisions become more defined but not finalized, in order to provide input to rail design engineers. However, it is not envisioned that the City would take primary responsibility for conducting final detailed engineering feasibility studies. Much of this work will be conducted as part of detailed engineering for the selected rail improvements.

Engineering Studies for Rail Crossings

Additional engineering studies need to occur for rail crossings along the full length of Alma Street, but should be conducted as part of the selected rail engineering effort.

El Camino Real Intersection Improvement Plans

Intersection improvement efforts along El Camino Real should continue, sequenced to follow the prioritization schedule outlined earlier in this section of the Rail Corridor Study report. The improvements should adhere to the goals and design principles established in the El Camino Master Planning Study dated 2007, the pending El Camino Real Design Guidelines update, and lessons learned from the improvements at the intersection of Stanford Avenue and El Camino Real.

NEW COMPREHENSIVE PLAN POLICY STATEMENTS

Many of the vision elements recommended throughout this report are aligned with existing goals, policies and programs outlined in The City of Palo Alto's Comprehensive Plan. As the primary tool for guiding future development of the City, the Comprehensive Plan establishes the City's official policies on land use and community design, transportation, housing, natural environment, business and economics and community services. The major themes in the Comprehensive Plan are:

- Building Community and Neighborhoods
- Maintaining and Enhancing Community Character
- Reducing Reliance on the Automobile
- Meeting Housing Supply Challenges
- Protecting and Repairing Natural Features
- Meeting Residential and Commercial Needs and
- Providing Responsive Governance and Regional Leadership.

The vision of the Task Force supports many of the goals established by existing City policy. In some cases, however, recommendations are made that will require new policies for inclusion in the Comprehensive Plan Update. The following list summarizes Task Force recommendations for new policies that should be considered for inclusion in the Comprehensive Plan Update:

Goal 1: Rail Improvements Should be Constructed in a Below-Grade Trench.

Policy 1.1:The City's preferred vertical alignment for fixed rail in Palo Alto is below grade.

Policy 1.2: The City is opposed to an elevated alignment of rail in Palo Alto.

Policy 1.3: When examining the potential impacts of vertical rail alignments equal attention shall be given to all Palo Alto neighborhoods. Adopted mitigation measures should be proportionate to the impacts identified in the studies.

Goal 2: Ensure the Highest Possible Safety at All Rail Crossings and Mitigate Rail Impacts on Neighborhoods, Public Facilities, Schools and Mixed-use Centers.

Policy 2.1: Improve existing at-grade crossings. All at-grade crossings of the Caltrain corridor should be improved to provide the highest possible level of safety and conve-

nience. This may be grade separations or safer at-grade crossings, with the preferred choice being grade separation, if supported by technical studies.

Policy 2.2: Provide additional safe and convenient crossings. Additional crossings of the tracks, and in some cases Alma Street as well, are essential to provide connections from neighborhoods to destinations such as schools, parks and services.

Policy 2.3: Improve safety and minimize noise, vibrations and visual impacts of operations in the Caltrain rail corridor. With or without the addition of a High Speed Train, the Caltrain corridor should be modified to improve safety and to minimize noise, vibration and visual impacts on adjoining districts, public facilities, schools and neighborhoods.

Goal 3: Connect the East and West Portions of the City Through an improved circulation network that binds the city together in all directions.
Policy 3.1: Seek to increase the number of east-west pedestrian and bicycle crossings along Alma Street, particularly south of Oregon Expressway.

Policy 3.2: All four existing at-grade rail crossings shall remain open to vehicular traffic.

Goal 4: Provide Improved Access to Parks, Recreation Facilities and Schools and Assess Future Needs for these Facilities.
Policy 4.1: Enhance connections to parks, community centers, libraries and schools within the corridor or between the corridor and nearby facilities. Opportunities to increase school capacity and facility development and use should be evaluated and coordinated between the Palo Alto Unified School District and the City.

Goal 5: Infrastructure Should Keep Pace with Development.
Policy 5.1: Implement plans and coordinate with other agencies where required for parks, recreation and traffic improvements, as well as new or expanded schools in order to keep pace with new development. Sewer, water, storm drainage and wastewater management should be evaluated and implemented in conjunction with development.

PRIORITY PROJECTS

The Task Force recommendations discussed in this report require many projects and programs to be implemented. The criteria and assumptions established by the Task Force include:

Tier One

- Projects which implement existing safety goals and policies of the City of Palo Alto.
  - Priority Rail Safety Crossings
  - School Commute Corridor Network Crossings - Adopted by City Council, 2004

Tier Two

- Second tier safety projects
  - Additional intersections not already defined by previous City policy as school corridors and crossings
  - Additional non-priority rail safety crossings.

Tier Three

- Projects that are important as part of an interconnected framework, but primarily provide convenience
- Projects that are primarily designed to enhance motor vehicle capacity in the study area.

Table 6.1 is a summary of all the priority projects by tier and Tables 6.2-6.4 provide a more detailed description of each project and potential implementation action. The projects are divided by Transportation Projects and Programs and Land Use and Urban Design Projects and Programs to correspond to the sections in this report as well as the City of Palo Alto Comprehensive Plan.

The prioritization of projects may change over time as elements of the City fabric change or as the community adjusts to different modes of transportation, land use patterns change and as projects are implemented that affect other aspects of daily life. Further study will be needed to determine viability and necessity of projects as changes occur and as additional data, such as traffic analysis, is gathered. Due to the uncertainty of the High Speed Train and Caltrain's plans for modernization and the unknown time frames in which any of those changes would occur, the City of Palo Alto should regularly review the project list and its rankings and determine whether the priorities should be reevaluated. The Task Force would also like flexibility to occur within the three tiers to allow for substitutions to occur if opportunities arise to implement one project or program before another. This is especially relevant to the priority projects that are contingent on rail improvements and/or expansion.

Table 6.1: Project Prioritization Summary

TIER ONE PRIORITY Project or Program	TIER TWO PRIORITY Project or Program	TIER THREE PRIORITY Project or Program
Projects which implement existing *safety* goals and policies of the City of Palo Alto Priority Rail Safety Crossings (3) • Charleston Road • Churchill Avenue • Meadow Drive *School Commute Corridors Network** Crossings (10), adopted by City Council 2004 • El Camino Real (7) • Embarcadero Road (2) • Churchill Avenue (1) *For school network priority crossings and rail corridor priority crossings refer to Figures 4.1 and 4.3 in the Circulation and Connectivity section.*	**Second tier *safety* projects** • Palo Alto Avenue rail crossing improvements • El Camino Real at Quarry Road intersection improvements • University Avenue undercrossing and El Camino Real overcrossing • California Avenue pedestrian/bicycle rail undercrossing improvements • Additional southern pedestrian/bicycle rail undercrossing (location TBD)	**Additional projects that are important as part of an interconnected framework and enhance safety and accessibility.** • Undercrossing at Matadero Creek • Peers Park/Seale Avenue pedestrian/bicycle rail bridge and Alma Street crossing improvements • Palo Alto High School/Kellogg Avenue pedestrian/bicycle rail bridge and Alma Street crossing improvements • Embarcadero Road pedestrian/bicycle rail crossing improvements • Oregon Expressway pedestrian/bicycle rail crossing improvements • San Antonio Avenue pedestrian/bicycle rail crossing improvements • Additional northern pedestrian/bicycle rail bridge Everett Avenue to El Camino Park **Projects to *enhance motor vehicle capacity* in the corridor** • Alma Street Transportation and Public Improvements

Table 6.2: Tier One Priority Projects

TIER ONE PRIORITY PROJECTS			
Program Number	**Project or Program**	**Planning Level Cost Estimate (**2012 dollars)	**Implementation Action**
TRANSPORTATION PROJECTS AND PROGRAMS			
RC-T-1	**PRIORITY RAIL SAFETY CROSSING** **Charleston Road Rail Crossing Improvements:** (alternatives based on rail configuration) 1a) Charleston Road bridge, (Below-Grade Open Trench) 1b) Charleston Road undercrossing, no access to Alma Street, no property acquisitions (Two-Track On-Grade) 1c) Charleston Road undercrossing, access to Alma Street, property acquisitions required (Two-Track On-Grade) 1d) Other Crossing Safety Improvements Safety improvements to the Alma Street / Charleston Road intersection and roadway approaches that can be undertaken in the near term by the City of Palo Alto prior to rail improvements. Include improvements such as sidewalk extensions, crosswalk improvements, expanded pedestrian refuges and waiting plazas, improved lighting and wayfinding, advance warning signage and signalization for motorists, pedestrians and bicyclists, and landscape enhancements.	1a) $ 1.5 million 1b) $ 21.5 million 1c) $ 43 million 1d) $ 2 million	• Schedule and implementation of 1a & 1b are contingent on rail improvements and/or expansion • Coordinate with Rail Authority, Peninsula Corridor Joint Powers Board (JPB) and Caltrain • Monitor engineering studies and analysis for rail improvements and/or expansion prepared by JPB, Caltrain and the Rail Authority. • Provide input to engineering studies and analysis *1c) Other Safety Improvements* • Coordinate with JPB and Caltrain • Identify specific program of engineering and amenity improvements • Incorporate as a priority project into the City's C.I.P. process
RC-T-2	**PRIORITY RAIL SAFETY CROSSING** **Churchill Avenue Rail Crossing Improvements:** (alternatives based on rail configuration) 1a) Churchill Avenue Bridge, (Below-Grade Open Trench) 1b) Churchill Avenue Undercrossing, no access to Alma Street, no property acquisitions (Two-Track On-Grade) 1c) Churchill Avenue Undercrossing, access to Alma Street, property acquisitions required (Two-Track On-Grade) 1d) Other Crossing Safety Improvements Safety improvements to the Alma Street / Churchill Avenue intersection and roadway approaches that can be undertaken in the near term by the City of Palo Alto prior to rail improvements. Include improvements such as sidewalk extensions, crosswalk improvements, expanded pedestrian refuges and waiting plazas, improved lighting and wayfinding, advance warning signage and signalization for motorists, pedestrians and bicyclists, and landscape enhancements.	1a) $ 1.5 million 1b) $ 14.4 million 1c) $ 28.8 million 1d) $ 2 million	• Schedule and implementation of 1a & 1b are contingent on rail improvements and/or expansion • Coordinate with Rail Authority, Peninsula Corridor Joint Powers Board (JPB) and Caltrain • Monitor engineering studies and analysis for rail improvements and/or expansion prepared by JPB, Caltrain and the Rail Authority. • Provide input to engineering studies and analysis *1c) Other Safety Improvements* • Coordinate with JPB and Caltrain • Identify specific program of engineering and amenity improvements • Incorporate as a priority project into the City's C.I.P. process
RC-T-3	**PRIORITY RAIL SAFETY CROSSING** **Meadow Drive Rail Crossing Improvements:** (alternatives based on rail configuration) 1a) Meadow Drive Bridge (Below-Grade Open Trench) 1b) Meadow Drive Undercrossing, no access to Alma Street, no property acquisitions (Two-Track On-Grade) 1c) Meadow Drive Undercrossing, access to Alma Street, property acquisitions required (Two-Track On-Grade) 1d) Other Crossing Safety Improvements Safety improvements to the Alma Street / Meadow Drive intersection and roadway approaches that can be undertaken in the near term by the City of Palo Alto prior to rail improvements. Include improvements such as sidewalk extensions, crosswalk improvements, expanded pedestrian refuges and waiting plazas, improved lighting and wayfinding, advance warning signage and signalization for motorists, pedestrians and bicyclists, and landscape enhancements.	1a) $ 1.5 million 1b) $ 21.5 million 1c) $ 43 million 1d) $ 2 million	• Schedule and implementation of 1a & 1b are contingent on rail improvements and/or expansion • Coordinate with Rail Authority, Peninsula Corridor Joint Powers Board (JPB) and Caltrain • Monitor engineering studies and analysis for rail improvements and/or expansion prepared by JPB, Caltrain and the CHSRA. • Provide input to engineering studies and analysis *1c) Other Safety Improvements* • Coordinate with JPB • Identify specific program of engineering and amenity improvements • Incorporate as a priority project into the City's C.I.P. process

Table 6.2: Tier One Priority Projects (continued)

TIER ONE PRIORITY PROJECTS			
Program Number	**Project or Program**	**Planning Level Cost Estimate** (2012 dollars)	**Implementation Action**
TRANSPORTATION PROJECTS AND PROGRAMS (CONTINUED)			
RC-T-4	**SCHOOL COMMUTE CORRIDORS NETWORK CROSSING** **Embarcadero Road at Palo Alto High School / Town & Country intersection improvements (2):** Safety improvements for pedestrians and bicycles. Streetscape and intersection improvements including sidewalk extensions where possible, crossing improvements, advance warning signage and signalization for motorists, pedestrians and bicyclists, and landscape enhancements.	$ 500,000	• Identify specific program of engineering and amenity improvements • Incorporate as a priority project into the City's C.I.P. process • Identify grant funding opportunities
RC-T-5	**SCHOOL COMMUTE CORRIDORS NETWORK CROSSING** **Churchill Avenue at Castilleja Avenue intersection improvements:** Improvements similar to RC-T-4 without signalization.	$ 50, 000	• Identify specific program of engineering and amenity improvements • Incorporate as a priority project into the City's C.I.P. process • Identify grant funding opportunities
RC-T-6	**SCHOOL COMMUTE CORRIDORS NETWORK CROSSING** **El Camino Real at Embarcadero Road intersection improvements:** Improvements similar to RC-T-4.	$ 2 million	• Coordinate with Caltrans, VTA and other relevant agencies • Identify specific program of engineering and amenity improvements • Incorporate as priority project in City's C.I.P. process • Identify grant funding opportunities
RC-T-7	**SCHOOL COMMUTE CORRIDORS NETWORK CROSSING** **El Camino Real at Churchill Avenue intersection improvements:** Improvements similar to RC-T-4.	$ 1 million	• Coordinate with Caltrans, VTA and other relevant agencies • Identify specific program of engineering and amenity improvements • Incorporate as priority project in City's C.I.P. process • Identify grant funding opportunities
RC-T-8	**SCHOOL COMMUTE CORRIDORS NETWORK CROSSING** **El Camino Real at California Avenue intersection improvements:** Improvements similar to RC-T-4.	$ 1 million	• Coordinate with Caltrans, VTA and other relevant agencies • Identify specific program of engineering and amenity improvements • Incorporate as priority project in City's C.I.P. process • Identify grant funding opportunities
RC-T-9	**SCHOOL COMMUTE CORRIDORS NETWORK CROSSING** **El Camino Real at Arastradero Road intersection improvements:** Improvements similar to RC-T-4.	$ 2 million	• Coordinate with Caltrans, VTA and other relevant agencies • Identify specific program of engineering and amenity improvements • Incorporate as priority project in City's C.I.P. process • Identify grant funding opportunities
RC-T-10	**SCHOOL COMMUTE CORRIDORS NETWORK CROSSING** **El Camino Real at Matadero Avenue intersection improvements:** Improvements similar to RC-T-4.	$ 1.5 million	• Coordinate with Caltrans, VTA and other relevant agencies • Identify specific program of engineering and amenity improvements • Incorporate as priority project in City's C.I.P. process • Identify grant funding opportunities

Table 6.2: Tier One Priority Projects (continued)

TIER ONE PRIORITY PROJECTS			
Program Number	**Project or Program**	**Planning Level Cost Estimate (**2012 dollars)	**Implementation Action**
TRANSPORTATION PROJECTS AND PROGRAMS (CONTINUED)			
RC-T-11	**SCHOOL COMMUTE CORRIDORS NETWORK CROSSING** **El Camino Real at Los Robles Avenue intersection improvements:** Improvements similar to RC-T-4.	$ 1.5 million	• Coordinate with Caltrans, VTA and other relevant agencies • Identify specific program of engineering and amenity improvements • Incorporate as priority project in City's C.I.P. process • Identify grant funding opportunities
RC-T-12	**SCHOOL COMMUTE CORRIDORS NETWORK CROSSING** **El Camino Real at Maybell Avenue intersection improvements:** Improvements similar to RC-T-4.	$ 1.5 million	• Coordinate with Caltrans, VTA and other relevant agencies • Identify specific program of engineering and amenity improvements • Incorporate as priority project in City's C.I.P. process • Identify grant funding opportunities

Note: Cost estimates shown in Table 6.2 are based on the following assumptions: (a) Detail engineering studies have not be conducted; (b) Planning estimates with 2012 dollars; (c) Source: City of Palo Alto, Hatch Mott MacDonald; (d) Costs do not include any necessary property acquisitions.

Table 6.3: Tier Two Priority Projects

TIER TWO PRIORITY PROJECTS		
Program Number	**Project or Program**	**Implementation Action**
TRANSPORTATION PROJECTS AND PROGRAMS		
RC-T-13	**SAFETY PROJECT** **Palo Alto Avenue Rail Crossing Improvements:** (alternatives based on rail configuration) 1a) Palo Alto Avenue Bridge (Below-Grade Open Trench) 1b) Palo Alto Avenue Undercrossing (Two-Track On-Grade) 1c) Other Crossing Safety Improvements Safety improvements to the Alma Street / Palo Alto Avenue intersection and roadway approaches that can be undertaken in the near term by the City of Palo Alto prior to rail improvements. Include improvements such as sidewalk extensions, crosswalk improvements, expanded pedestrian refuges and waiting plazas, improved lighting and wayfinding, advance warning signage and signalization for motorists, pedestrians and bicyclists, and landscape enhancements.	• Schedule and implementation of 1a & 1b are contingent on rail improvements and/or expansion • Coordinate with Rail Authority, Peninsula Corridor Joint Powers Board (JPB) and Caltrain • Monitor engineering studies and analysis for rail improvements and/or expansion prepared by JPB, Caltrain and the Rail Authority. • Provide input to engineering studies and analysis *1c) Other Safety Improvements* • Incorporate as a priority project into the City's C.I.P. process • Coordinate with JPB
RC-T-14	**SAFETY PROJECT** **El Camino Real at Quarry Road Intersection Improvements** Improvements similar to RC-T-4.	• Coordinate with Caltrans, VTA and other relevant agencies • Identify specific program of engineering and amenity improvements • Incorporate as priority project in City's C.I.P. process • Identify grant funding opportunities

Table 6.3: Tier Two Priority Projects (continued)

TIER TWO PRIORITY PROJECTS		
Program Number	**Project or Program**	**Implementation Action**
TRANSPORTATION PROJECTS AND PROGRAMS		
RC-T-15	**SAFETY PROJECT** **University Avenue Improvements** (alternatives based on rail configuration) 1a) University Avenue Bridge or Deck/Trench Cover (Below-Grade Open Trench) 1b) Undercrossing of University Avenue and El Camino Real Overcrossing improvements (Two-Track On-Grade)	• Schedule and implementation of improvements are contingent on rail improvements and/or expansion • Coordinate with Rail Authority and Peninsula Corridor Joint Powers Board (JPB) • Monitor engineering studies and analysis for rail improvements and/or expansion prepared by JPB, Caltrain, and the Rail Authority • Provide input to engineering studies and analysis
RC-T-16	**SAFETY PROJECT** **California Avenue pedestrian/bicycle rail undercrossing improvements** (alternatives based on rail configuration) 1a) Pedestrian/Bicycle Bridge or Deck/Trench Cover (Below-Grade Open Trench) 1b) California Avenue Pedestrian Undercrossing Redesign of pedestrian/bicycle tunnel to improve safety and accessibility. Could be a similar design to existing Homer Tunnel which was constructed at a cost of $5 million in 2011. This project is already identified for funding and implementation in VTA's Valley Transportation Plan 2035.	• Schedule and implementation of improvements are contingent on rail improvements and/or expansion • Coordinate with Rail Authority and Peninsula Corridor Joint Powers Board (JPB) • Monitor engineering studies and analysis for rail improvements and/or expansion prepared by JPB, Caltrain, and the Rail Authority • Provide input to engineering studies and analysis
RC-T-17	**ADDITIONAL PROJECTS THAT ARE IMPORTANT AS PART OF AN INTERCONNECTED CIRCULATION FRAMEWORK** **Additional Southern Pedestrian/Bicycle Rail Undercrossing** **18a) Additional southern pedestrian/bicycle rail bridge and Alma Street crossing improvements (Trench alternative) or** **18b) Additional southern pedestrian/bicycle rail undercrossing (Two Track On-Grade)** Location to be determined. Further studies to explore additional connectivity opportunities across the rail lines and Alma Street in south Palo Alto.	• Schedule and implementation are contingent on rail improvements and/or expansion • Coordinate with Rail Authority, Peninsula Corridor Joint Powers Board (JPB) and Caltrain • Monitor engineering studies and analysis for rail improvements and/or expansion prepared by JPB, Caltrain and the Rail Authority. • Provide input to engineering studies and analysis on preferred location(s)

Table 6.4: Tier Three Priority Projects

TIER THREE PRIORITY PROJECTS		
Program Number	**Project or Program**	**Implementation Action**
TRANSPORTATION PROJECTS AND PROGRAMS		
RC-T-18	**ADDITIONAL PROJECTS THAT ARE IMPORTANT AS PART OF AN INTERCONNECTED CIRCULATION FRAMEWORK** **New Pedestrian/Bicycle Crossing at Matadero Creek** 17a) Additional southern pedestrian/bicycle rail bridge (Caltrain/HST Trench alternative) or 17b) Additional southern pedestrian/bicycle rail undercrossing (Matadero Creek)	• Schedule and implementation are contingent on rail improvements and/or expansion • Coordinate with Rail Authority, Peninsula Corridor Joint Powers Board (JPB) and Caltrain • Monitor engineering studies and analysis for rail improvements and/or expansion prepared by JPB, Caltrain and the Rail Authority. • Provide input to engineering studies and analysis
RC-T-19	**ADDITIONAL PROJECTS THAT ARE IMPORTANT AS PART OF AN INTERCONNECTED CIRCULATION FRAMEWORK** **New Pedestrian/Bicycle Crossing at Peers Park** **19a) Peers Park/Searle Avenue pedestrian/bicycle rail bridge and Alma Street crossing improvements (Caltrain/HST Trench Alternative) or** 19b) Undercrossing linking Peers Park to Searle Avenue under the rail line and Alma Street.	• Schedule and implementation are contingent on rail improvements and/or expansion • Coordinate with Rail Authority, Peninsula Corridor Joint Powers Board (JPB) and Caltrain • Monitor engineering studies and analysis for rail improvements and/or expansion prepared by JPB, Caltrain and the Rail Authority. • Provide input to engineering studies and analysis
RC-T-20	**ADDITIONAL PROJECTS THAT ARE IMPORTANT AS PART OF AN INTERCONNECTED CIRCULATION FRAMEWORK** **New Pedestrian/Bicycle Crossing at Palo Alto High School** **20a) Palo Alto High School/Kellogg Avenue pedestrian/bicycle rail bridge and Alma Street crossing improvements (Caltrain/HST Trench Alternative)** or 20b) Undercrossing linking Palo Alto High School to Kellogg Avenue under the rail line and Alma Street.	• Schedule and implementation are contingent on rail improvements and/or expansion • Coordinate with Rail Authority, Peninsula Corridor Joint Powers Board (JPB) and Caltrain • Monitor engineering studies and analysis for rail improvements and/or expansion prepared by JPB, Caltrain and the Rail Authority. • Provide input to engineering studies and analysis
RC-T-21	**ADDITIONAL PROJECTS THAT ARE IMPORTANT AS PART OF AN INTERCONNECTED CIRCULATION FRAMEWORK** **Embarcadero Road Rail Crossing Improvements** 21a) Embarcadero Road bridge or deck/trench cover, or (Below-Grade Open Trench) 21b) Embarcadero Road undercrossing improvements (Two-Track On-Grade)	• Schedule and implementation of improvements are contingent on rail improvements and/or expansion • Coordinate with Rail Authority, Peninsula Corridor Joint Powers Board (JPB), Caltrain and Caltrans • Monitor engineering studies and analysis for rail improvements and/or expansion prepared by JPB,Caltrain and the Rail Authority. • Provide input to engineering studies and analysis

Table 6.4: Tier Three Priority Projects (continued)

TIER THREE PRIORITY PROJECTS		
Program Number	**Project or Program**	**Implementation Action**
TRANSPORTATION PROJECTS AND PROGRAMS (CONTINUED)		
RC-T-22	**ADDITIONAL PROJECTS THAT ARE IMPORTANT AS PART IF AB INTERCONNECTED CIRCULATION FRAMEWORK** **Oregon Expressway pedestrian/bicycle rail crossing improvements** Safety improvements for pedestrian and bicycle crossing. Streetscape improvements at intersection including: bulb-outs, crossing improvements, hardscape,site furnishings, landscape and lighting.	• Schedule and implementation of improvements are contingent on rail improvements and/or expansion • Coordinate with Rail Authority, Peninsula Corridor Joint Powers Board (JPB), Caltrain, Caltrans and the City of Mountain View • Monitor engineering studies and analysis for rail improvements and/or expansion prepared by JPB,Caltrain and the Rail Authority. • Provide input to engineering studies and analysis
RC-T-23	**ADDITIONAL PROJECTS THAT ARE IMPORTANT AS PART OF AN INTERCONNECTED CIRCULATION FRAMEWORK** **San Antonio Avenue Rail Crossing Improvements** 23a) San Antonio Avenue bridge or deck/trench cover, or (Below-Grade Open Trench) 23b) San Antonio Avenue undercrossing improvements (Two-Track On-Grade)	• Schedule and implementation of improvements are contingent on rail improvements and/or expansion • Coordinate with Rail Authority, Peninsula Corridor Joint Powers Board (JPB), Caltrain, Caltrans and the City of Mountain View • Monitor engineering studies and analysis for rail improvements and/or expansion prepared by JPB,Caltrain and the Rail Authority. • Provide input to engineering studies and analysis
RC-T-24	**ADDITIONAL PROJECTS THAT ARE IMPORTANT AS PART OF AN INTERCONNECTED CIRCULATION FRAMEWORK** **New Pedestrian/Bicycle Crossing connecting Everett Avenue to El Camino Park** **24a) New pedestrian/bicycle rail bridge and Alma Street crossing improvements (Caltrain/HST Trench Alternative)** or 24b) Undercrossing linking Everett Avenue to El Camino Park under the rail line and Alma Street.	• Schedule and implementation are contingent on rail improvements and/or expansion • Coordinate with Rail Authority, Peninsula Corridor Joint Powers Board (JPB) and Caltrain • Monitor engineering studies and analysis for rail improvements and/or expansion prepared by JPB, Caltrain and the Rail Authority. • Provide input to engineering studies and analysis
RC-T-25	**ADDITIONAL PROJECTS THAT ARE IMPORTANT AS PART OF AN INTERCONNECTED CIRCULATION FRAMEWORK** **Alma Street Transportation and Public Improvements** Perform traffic analysis of Alma Street south of Embarcadero Road. Determine opportunities to improve street's functionality and efficiency. This could include adjustments to street width, speed and function. Also include safety and amenity enhancements for all travel modes such as sidewalk extensions, crosswalk improvements, expanded pedestrian refuges and waiting plazas, improved lighting and wayfinding, advance warning signage and signalization for motorists, pedestrians and bicyclists, and landscape enhancements	• Coordinate with the Rail Authority, JPB, Caltrain, and other relevant agencies • Identify specific program of engineering and amenity improvements • Incorporate as priority project in City's C.I.P. process • Identify grant funding opportunities

POTENTIAL FUNDING SOURCES

The following is a more detailed discussion of potential sources of funding for the priority projects and programs outlined above. In addition to direct construction by developers, infrastructure obligations can be met through a variety of mechanisms, of which the most common in California include impact fees, user fees and Community Facilities Districts. Funding for design studies and capital improvements is potentially available from a wide variety of sources: Federal, State, Regional, County and City grants. Assessment districts can also be established within the mixed-use centers to require property and/or business owners to pay an assessment tax which can be used for maintenance of streetscape improvements. Specific funding sources may include:

- Development Impact Fee
- Community Facilities District
- Federal, State, Regional, County and/or City Grant Funding or Bond Funds, see Table 6.5
- Assessment District
- Fundraising Efforts
- Sale of existing City land
- Community Development Block Grant
- Commercial and Residential Housing In-Lieu Fund.

Table 6.5: Federal, State, Regional, County and City Funding Sources

POTENTIAL FUNDING SOURCES
Federal
Congestion Mitigation & Air Quality
Recreational Trails Program
Transportation, Community and System Preservation Program
Federal Lands Highway Funds
Land & Water Conservation Fund
Rivers, Trails & Conservation Program
Safe Routes to School - SRTS
Community Development Block Grants
Highway Safety Improvement Program
State
Caltrans Roadway Improvements
Caltrans Bicycle Transportation Account
Caltrans Transportation Development Act
Prop 1 Grant
Prop 1C Grant - Transportation HCD
MTC - Metro
MTC - Livable Community Grants
MTC - Regional Safe Routes to School
Safe Routes to School - SR2S
Safe Routes to Transit
Bicycle Transportation Account
California Conservation Corps
State Infrastructure Bond Funds
Office of Traffic Safety

Table 6.5: (continued)

State (continued)
Community Based Transportation Planning Demonstration
Transportation Development Act, Article III
Environmental Justice: Context Sensitive Planning Grants
Measure A
Wildlife Conservation Board Public Access Program
Regional
Transportation Fund for Clean Air
Transportation for Livable Communities
Transportation Enhancement Program
Regional Bicycle and Pedestrian Program
Safe Routes to Transit
Housing Incentive Program
Lifeline Transportation Program
Clean Air (Bay Area Air Quality Management District- BAAQMD)
Grand Boulevard Initiative (resource, not a funding source)
VTP 2035 Grants
BAAQMD Bicycle Facility Program Grants
County
Valley Transportation Authority Bicycle Expenditure Plan
Valley Transportation Authority Community Design & Transportation Program Grants
City
Commercial Housing In-Lieu Fund
Community Facilities District (Mello Roos Special Tax District)
Development Impact Fee
Capital Improvement
Transportation Impact Fee
Stanford Hospital Expansion: Mitigation and Public Benefit Package
Residential Housing in-lieu Fund

COMPREHENSIVE PLAN POLICIES AND PROGRAM ASSESSMENT

The following Tables 6.6-6.11 provide an evaluation of existing City policy and this study's relationship or response to the Comprehensive Plan.

Table 6.6: City of Palo Alto Comprehensive Plan - Land Use and Community Design - Relevant Goals, Policies and Programs

Goals	Existing Policies and Programs	Relationship to PA Rail Corridor Study / Study Response
LAND USE AND COMMUNITY DESIGN		
Goal L-1	**A Well-designed, Compact City, Providing Residents and Visitors with Attractive Neighborhoods, Work Places, Shopping Districts, Public Facilities, and Open Spaces.**	
	POLICY L-3: Guide development to respect views of the foothills and East Bay hills from public streets in the developed portions of the City.	The PA Rail Corridor Study (PARCS) recommends new development be placed in select locations and of moderate intensity. Development proposals should protect views.
	POLICY L-5: Maintain the scale and character of the City. Avoid land uses that are overwhelming and unacceptable due to their size and scale.	PARCS recommends new development be placed in select locations and of moderate intensity. Higher intensity and increased height in limited locations in the Mixed-Use Center may be appropriate but may deviate from existing policy and regulations.
	POLICY L-6 Where possible, avoid abrupt changes in scale and density between residential and non-residential areas and between residential areas of different densities. To promote compatibility and gradual transitions between land uses, place zoning district boundaries at mid-block locations rather than along streets wherever possible.	Existing residential neighborhoods should be enhanced and protected from potential negative impacts. PARCS states that proposals for new development should be sensitive to land use adjacencies, and building heights and include an appropriate mix of uses to serve the neighborhood.
	POLICY L-7 Evaluate changes in land use in the context of regional needs, overall City welfare and objectives, as well as the desires of surround neighborhoods.	PARCS recommends a mixed of uses in the Mixed-Use Centers that serve the local community as well as regional visitors, while protecting the residential character of neighborhoods.
	POLICY L-9 Enhance desirable characteristics in mixed use areas. Use the planning and zoning process to create opportunities for new mixed use development.	The three mixed-use centers outlined in PARCS encourage new opportunities to enhance these areas with a variety of uses. PARCS recommends a mix of uses and services that may also provide enhanced support to employment districts with improved connections.
Goal L-2	**An Enhanced Sense of Community with Development Designed to Foster Public Life and Meet Citywide Needs.**	
	POLICY L-10 Maintain a citywide structure of Residential Neighborhoods, Centers, and Employment Districts. Integrate these areas with the City's and the region's transit and street systems.	Three mixed-use centers and three protected residential subareas are included in PARCS. Pedestrian, bicycle, automobile and transit connectivity is vital to their success and integration into the City. PARCS describes a preferred framework of street and transit connectivity.
	POLICY L-11: Promote increased compatibility, interdependence, and support between commercial and mixed use centers and the surrounding residential neighborhoods.	The Mixed-Use Centers described in PARCS are amenities to the residential neighborhoods and the two create a synergistic relationship. Providing goods and services to neighborhoods within walking distance creates a more walkable, compatible city. PARCS describes a framework and strategies to implement this Policy.

Table 6.6: City of Palo Alto Comprehensive Plan - Land Use and Community Design - Relevant Goals, Policies and Programs (continued)

Goals	Existing Policies and Programs	Relationship to PA Rail Corridor Study / Study Response
LAND USE AND COMMUNITY DESIGN		
Goal L-2 *(continued)*	POLICY L-13 Evaluate alternative types of housing that increase density and provide more diverse housing opportunities.	PARCS encourages a mix of density and variety of housing within the Mixed-Use Centers. Specific potential opportunity areas (Keystone Blocks) are also identified.
	POLICY L-15: Preserve and enhance the public gathering spaces within walking distance of residential neighborhoods. Ensure that each residential neighborhood has such spaces.	The study area is, in some cases, underserved with parks and recreation facilities relative to many other areas of the city. PARCS urges new development to add parks, recreation and cultural facilities where possible. PARCS also identifies a framework of corridors, connections and crossings to enhance connection to facilities both within and outside the study area.
	POLICY L-17 Treat residential streets as both public ways and neighborhood amenities. Provide continuous sidewalks, healthy street trees, benches, and other amenities that favor pedestrians.	PARCS recommendations for the Main Streets within the Mixed-Use Centers includes wide sidewalks, street trees, lighting, site furnishings and other amenities to create a pedestrian-friendly environment. Pedestrian improvements are also recommended in specific areas of higher population, close to transit, and along key corridors.
Goal L-3	**Safe, Attractive Residential Neighborhoods, Each With its Own Distinct Character and Within Walking Distance of Shopping, Services, Schools and/or Other Public Gathering Places.**	
	POLICY L-18 Encourage the upgrading and revitalization of selected Centers in a manner that is compatible with the character of surrounding neighborhoods.	PARCS identifies opportunity areas for revitalization and suitable for additional local-serving goods and services especially in the southern part of Palo Alto. PARCS describes each of the Mixed-Use Centers as unique and dependent on its role in the City and the region. Each unique quality should be strengthen and respond to the adjacent neighborhoods.
	PROGRAM L-15 *Establish a planning process for Centers that identifies the desired character of the area, its role within the City, the locations of public gathering spaces, appropriate land uses and building forms, and important street and pedestrian connections to surrounding Residential neighborhoods.*	PARCS includes an implementation strategy that outlines priority projects and actions as well as immediate next steps to be pursued.
Goal L-4	**Inviting, Pedestrian-scale Centers That Offer a Variety of Retail and Commercial Services and Provide Focal Points and Community Gathering Places for the City's Residential Neighborhoods and Employment Districts.**	
	POLICY L-19 Encourage a mix of land uses in all Centers, including housing and an appropriate mix of small-scale local businesses.	PARCS defines three Mixed-Use Centers, each of which is envisioned to include a variety of land uses such as a mix of housing and local-serving and citywide retail and services. Each Mixed-Use Center is unique and PARCS defines the recommended land use priorities of each.
	POLICY L-20 Encourage street frontages that contribute to retail vitality in all Centers. Reinforce street corners with buildings that come up to the sidewalk or that form corner plazas.	PARCS recommends buildings along the Main Street of the Mixed-Use Centers should be placed at the sidewalk edge, contain active ground floor uses, and face the street with ground floor transparency.

Table 6.6: City of Palo Alto Comprehensive Plan - Land Use and Community Design - Relevant Goals, Policies and Programs (continued)

Goals	Existing Policies and Programs	Relationship to PA Rail Corridor Study / Study Response
LAND USE AND COMMUNITY DESIGN		
Goal L-4 *(continued)*	POLICY L-21 Provide all Centers with centrally located gathering spaces that create a sense of identity and encourage economic revitalization. Encourage public amenities such as benches, street trees, kiosks, restrooms and public art.	PARCS recommends that within each Mixed-Use Center, public open space should be provided. In the Downtown / University City Center a civic space is encouraged. In the California Avenue Town Center a plaza should be included, and on El Camino Way in the South Palo Alto Neighborhood Center a linear plaza is proposed. Innovative methods to provide additional small-scale gathering spaces are also recommended.
	PROGRAM L-16: *Study the feasibility of using public and private funds to provide and maintain landscaping and public spaces such as parks, plazas, and sidewalks within commercial areas.*	PARCS outlines possible funding sources within this Implementation chapter as well as recommendations for public/public and public/private partnerships.
	POLICY L-22 Enhance the appearance of streets and sidewalks within all Centers through an aggressive maintenance, repair, and cleaning program; street improvements; and the use of a variety of paving materials and landscaping.	PARCS focuses on the pedestrian environment, including the appearance of sidewalks and streets. This policy supports the ongoing importance of a well-maintained, attractive pedestrian environment.
	PROGRAM L-18 *Identify priority street improvements that could make a substantial contribution to the character of Centers, including widening sidewalks, narrowing travel lanes, creating medians, restriping to allow diagonal parking, and planting street trees.*	Priority intersections in need of improvements are outlined in PARCS. In addition, the character of the Mixed-Use Centers is partially defined by the location and guidelines for improvement to Main Streets which are recommended.
	POLICY L-23 Maintain and enhance the University Avenue/Downtown area as the central business district of the City, with a mix of commercial, civic, cultural, recreational and residential uses. Promote quality design that recognizes the regional and historical importance of the area and reinforces its pedestrian character.	PARCS defines the University Avenue/Downtown area as the Downtown/University City Center and reinforces the Policy that the area is the major center of the city.
	POLICY L-24 Ensure that University Avenue/Downtown is pedestrian-friendly and supports bicycle use. Use public art and other amenities to create an environment that is inviting to pedestrians.	PARCS recommends pedestrian and bicycle improvements occur throughout the corridor and especially in Mixed-Use Centers. Recommendations for specific pedestrian and bicycle improvements in the Downtown/University Mixed-Use Center are outlined.
	POLICY L-27 Pursue redevelopment of the University Avenue Multi-modal Transit Station area to establish a link between University Avenue/Downtown and the Stanford Shopping Center. Redevelopment of the area will provide linkages and pedestrian connections between University Avenue/Downtown, Stanford Shopping Center, Stanford University, and nearby Residential Neighborhoods. This area's reuse should optimize the effectiveness of the multi-modal transit center, protect nearby residential areas from potential adverse development impacts, improve both the City and University gateways, and enhance parkland and natural resources.	PARCS reinforces this policy with specific recommendations. Notably, PARCS describes this area plus additional land on the south side of University Avenue as a Keystone Block and encourages inclusion of a major civic open space, redevelopment of vacant lots and parking lots, and supports pedestrian and bicycle connectivity. In addition, PARCS includes specific recommendations to capitalize on future rail improvements in the area.

Table 6.6: City of Palo Alto Comprehensive Plan - Land Use and Community Design - Relevant Goals, Policies and Programs (continued)

Goals	Existing Policies and Programs	Relationship to PA Rail Corridor Study / Study Response
LAND USE AND COMMUNITY DESIGN		
Goal L-4 *(continued)*	**Inviting, Pedestrian-scale Centers That Offer a Variety of Retail and Commercial Services and Provide Focal Points and Community Gathering Places for the City's Residential Neighborhoods and Employment Districts.**	
	PROGRAM L-26 *Establish the following unranked community design priorities for the University Avenue Multi-modal Transit Station Area:* • *Improving pedestrian, bicycle, transit, and auto connections to create an urban link between University Avenue/Downtown and Stanford Shopping Center.* • *Creating a major civic space at the Caltrain Station that links University Avenue/Downtown and Palm Drive.* • *Infilling underutilized parcels with a mix of uses such as shopping, housing, office, hotel, and medical facilities.* • *Improving public park space.* • *Protecting views of the foothills by guiding building heights and massing.*	PARCS reinforces the priorities outlined in this program and provides additional specific recommendations for the Transit Station Area.
	PROGRAM L-31 *Establish the following unranked priorities for redevelopment within the Cal-Ventura area* • Connect the Cal-Ventura area with the Multi-modal Transit Station and California Avenue. Provide new streets and pedestrian connections that complete the street grid and create a walk-able neighborhood. • Fry's Electronics site (300 Portage): Continued retail activity is anticipated for this site until 2019. A program should be developed for the future use of the site for mixed density multi-family housing and a park or other open space. • Hewlett-Packard: Uses that are compatible with the surrounding area and a site plan that facilitates pedestrian use of Park Boulevard. • North of Sheridan Avenue: Development of one or more of the City-owned parking lots with primarily residential uses, provided that public parking spaces are replaced. • Park Boulevard: Streetscape improvements	PARCS reinforces many of the priorities outlined in this program, particularly mixed-use development of City-owned parking lots, and Park Boulevard and other streetscape improvements. PARCS also outlines a framework of connectivity improvements as well as opportunity areas for more efficient land utilization through public/public and public/private partnerships to provide a variety of uses, open space, and transit access.
	POLICY L-35 Establish the South El Camino Real area as a well-designed, compact, vital Multi-neighborhood Center with diverse uses, a mix of one-, two- and three-story buildings, and a network of pedestrian-oriented streets and ways.	PARCS's recommendations for the South El Camino Real area reinforce this policy. In addition, PARCS includes specific recommendations for a well-defined Mixed-Use Center in this area with a focus on neighborhood-serving uses and improvements that allow easy access to the center by pedestrians, bicycles, and transit.

Table 6.6 : City of Palo Alto Comprehensive Plan - Land Use and Community Design - Relevant Goals, Policies and Programs (continued)

Goals	Existing Policies and Programs	Relationship to PA Rail Corridor Study / Study Response
LAND USE AND COMMUNITY DESIGN		
Goal L-4 *(continued)*	*PROGRAM L-32* *Prepare a Coordinated Area Plan for the South El Camino Real area. Use the land use map from the Community Design Workshop as a starting point for Preparing this Plan. A land use diagram was prepared at one of the workshops conducted during the preparation of the Palo Alto Comprehensive Plan. The diagram contains useful recommendations and should be consulted as more specific design concepts for the area are prepared.* *Consider the following elements for development within the South El Camino Real area:* • Retail and professional office space along El Camino Real, including Mixed-use Retail/Office development. • Reuse of some of the existing motel sites, including potential Single Room Occupancy hotels. • Community center and child care uses. • A publicly-accessible neighborhood focal point at the El Camino Triangle, with new Mixed-use buildings and links to the Ventura neighborhood. • Improve pedestrian connections across El Camino Real.	PARCS reinforces this Program recommendation and identifies this planning effort along South El Camino Real as a priority Next Step for implementation.
	Inviting, Pedestrian-scale Centers That Offer a Variety of Retail and Commercial Services and Provide Focal Points and Community Gathering Places for the City's Residential Neighborhoods and Employment Districts.	
	POLICY L-33 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.	PARCS recommends a portion of South El Camino Real be realized as a Main Street which includes many pedestrian friendly elements, crossing improvements and streetscape amenities and furnishings. Within this area PARCS also defines a recommended framework of crossings and corridors for focused pedestrian and bicycle improvements.
	PROGRAM L-34 *Provide better connections across El Camino Real to bring the Ventura and Barron Park neighborhoods together and to improve linkages to local schools and parks.*	A framework of corridors, connections and safe and convenient crossings is defined in the PARCS including priority crossing locations along El Camino Real.
Goal L-7	**Conservation and Preservation of Palo Alto's Historic Buildings, Sites, and Districts.**	
	POLICY L-51 Encourage public and private upkeep and preservation of resources that have historic merit, including residences listed in the Historic Inventory.	PARCS reinforces this policy within the study area. PARCS also addresses specific issues, considerations, and recommendations related to historic resources within or adjacent to the study area, including the El Palo Alto Redwood tree, the Hostess House (MacArthur Park), the Southern Pacific Railroad Depot and Green Meadow.

Table 6.6: City of Palo Alto Comprehensive Plan - Land Use and Community Design - Relevant Goals, Policies and Programs (continued)

Goals	Existing Policies and Programs	Relationship to PA Rail Corridor Study / Study Response
LAND USE AND COMMUNITY DESIGN		
Goal L-7 *(continued)*	POLICY L-53 Actively seek state and federal funding for the preservation of buildings of historical merit and consider public/private partnerships for capital and program improvements.	PARCS outlines possible funding sources within this Implementation chapter.
	POLICY L-56 To reinforce the scale and character of University Avenue/Downtown, promote the preservation of significant historic buildings.	PARCS focuses on the preservation of important historic resources within the study area. Of significant importance is the El Palo Alto tree, the Hostess House and the Southern Pacific Railroad Depot.
	POLICY L-57 Develop incentives for the retention and rehabilitation of buildings with historic merit in all zones.	PARCS supports the protection of historic resources within the study area and in areas adjoining its boundary. (See also Policy L-51, prior page).
Goal L-9	**Attractive, Inviting Public Spaces and Streets that Enhance the Image and Character of the City.**	
	POLICY L-66 Maintain an aesthetically pleasing street network that helps frame and define the community while meeting the needs of pedestrians, bicyclists, and motorists.	PARCS defines a layered street framework to serve all travel modes, and provide beautification and amenities for pedestrians and bicyclists.
	POLICY L-67 Balance traffic circulation needs with the goal of creating walkable neighborhoods that are designed and oriented towards pedestrians.	The recommendations set forth in PARCS discusses the need for balance between traffic circulation and safe and convenient connectivity for all modes throughout the study area.
	POLICY L-68 Integrate creeks and green spaces with the street and pedestrian/bicycle path system.	PARCS specifically recommends a pedestrian/bicycle connection at Matadero Creek as well as integrated connections at El Camino Park, Palo Alto High School and Peers Park.
	POLICY L-70 Enhance the appearance of streets and other public spaces by expanding and maintaining Palo Alto's street tree system.	PARCS supports the addition of street trees to create a more pedestrian-friendly environment and to enhance streets by providing character, shade and identity. In particular, PARCS recommends amenity improvements to Alma Street and El Camino Real as primary image corridors of the city.
	POLICY L-71 Strengthen the identity of important community gateways, including the entrances to the City at Highway 101, El Camino Real and Middlefield Road; the Caltrain stations; entries to the commercial districts; and Embarcadero Road at El Camino Real.	PARCS identifies specific locations for Gateways at entries to the City from Mountain View and Menlo Park on Alma Street and El Camino Real. Gateways are also recommended at the entries to the Mixed-Use Centers to define a unique identity for each center.
	PROGRAM L-72 Develop a strategy to enhance gateway sites with special landscaping, art, public spaces, and/or public buildings. Emphasize the creek bridges and riparian settings at the entrances to the City over Adobe Creek and San Francisquito Creek.	PARCS reinforces this program with recommendations at specific Gateway locations (see also Policy L-71 above) to facilitate implementation.

Table 6.6: City of Palo Alto Comprehensive Plan - Land Use and Community Design - Relevant Goals, Policies and Programs (continued)

Goals	Existing Policies and Programs	Relationship to PA Rail Corridor Study / Study Response
LAND USE AND COMMUNITY DESIGN		
Goal L-9 *(continued)*	**Attractive, Inviting Public Spaces and Streets that Enhance the Image and Character of the City.**	
	POLICY L-75 Minimize the negative physical impacts of parking lots. Locate parking behind buildings or underground wherever possible.	PARCS encourages the reuse of surface parking lots throughout the study area in order to utilize that land resource more efficiently. Opportunities for development and/or shifting surface parking into structured parking are identified throughout the study area by PARCS.
	POLICY L-76 Require trees and other landscaping within parking lots.	Improving the pedestrian environment through landscape amenities is recommended in PARCS.
	POLICY L-77 Encourage alternatives to surface parking lots to minimize the amount of land that must be devoted to parking, provided that economic and Policy L-49. Embracing the New Century traffic safety goals can still be achieved.	PARCS recommends the reuse and reconfiguration of existing parking lots in all three of the Mixed-Use Centers and along El Camino Real in the study area.
	POLICY L-78 Encourage development that creatively integrates parking into the project by providing for shared use of parking areas.	Although parking strategies and demand analysis did not occur during this study, PARCS recommends an intensive mix of land uses in select specific locations in the study area. Included are recommendations that parking ratios be tailored specifically to the mix of uses, proximity to transit, and opportunity for shared use.

Table 6.7: City of Palo Alto Comprehensive Plan - Transportation - Relevant Goals, Policies and Programs

Goals	Existing Policies and Programs	Relationship to PA Rail Corridor Study / Study Response
TRANSPORTATION		
Goal T-1	**Less Reliance on Single-Occupant Vehicles**	
	POLICY T-1 Make land use decisions that encourage walking, bicycling, and public transit use.	The vision and recommendations defined in PARCS identify both land use and circulation strategies to implement this policy in the study area.
	PROGRAM T-2 *Promote mixed use development to provide housing and commercial services near employment centers, thereby reducing the necessity of driving.*	PARCS defines development opportunity areas and strategies in the Mixed-Use Centers that are conveniently located adjacent to commercial services, employment centers, and transit.
	PROGRAM T-3 Locate higher density development along transit corridors and near multi-modal transit stations.	PARCS identifies potential opportunities for higher density and intensity in the Mixed-Use Centers with close proximity to transit and services, and good pedestrian facilities.
	POLICY T-2 Consider economic, environmental, and social cost issues in local transportation decisions.	The circulation framework defined in PARCS can be achieved at relatively low cost, and promotes access to transit and the establishment of a community that is pedestrian and bicycle friendly with access to services.
	PROGRAM T-4 *Consider the use of additional parking fees and tax revenues to fund alternative transportation projects.*	Potential funding sources are outlined in this chapter of PARCS.
	POLICY T-3 Support the development and expansion of comprehensive, effective programs to reduce auto use at both local and regional levels.	PARCS defines a specific framework of non-vehicular circulation that will enhance pedestrian and bicycle circulation and provide more convenient access to local and regional transit, thereby reducing auto dependency in the study area.
Goal T-2	**A Convenient, Efficient, Public Transit System that Provides a Viable Alternative to Driving.**	
	POLICY T-5 Support continued development and improvement of the University Avenue and California Avenue Multi-modal Transit Stations, and the San Antonio Road Station as important transportation nodes for the City.	In addition, PARCS specifically recommends that planning and design studies of the Downtown / University City Center be conducted in the near term to diversify land use and make connections to downtown. PARCS also supports the planning effort taking place for the California Avenue Concept Plan. PARCS identifies the three Caltrain stations as important assets to the City that offer opportunities for increased development and improved connectivity as part of areawide station improvements. Specific development opportunity areas are identified in the station areas.
	PROGRAM T-17 *Support Caltrain electrification and its extension to downtown San Francisco.*	PARCS does not make a specific recommendation related to this program, However, PARCS does recommend the Below-Grade Open Trench as the preferred rail configuration.

Table 6.7: City of Palo Alto Comprehensive Plan - Transportation - Relevant Goals, Policies and Programs (continued)

Goals	Existing Policies and Programs	Relationship to PA Rail Corridor Study / Study Response
TRANSPORTATION		
Goal T-3	**Facilities, Services, and Programs that Encourage and Promote Walking and Bicycling**	
	POLICY T-14 Improve pedestrian and bicycle access to and between local destinations, including public facilities, schools, parks, open space, employment districts, shopping centers, and multi-modal transit stations.	Specific recommendations for improved connectivity and circulation to local destinations, including priority improvements to street intersections and rail crossings, are a key component of PARCS.
	PROGRAM T-21 *Study projects to depress bikeways and pedestrian walkways under Alma Street and the Caltrain tracks and implement if feasible.*	Providing grade-separated crossings of the Caltrain tracks and in some cases Alma Street is a key recommendation of PARCS. Specific locations are prioritized.
	POLICY T-15 Encourage the acquisition of easements for bicycle and pedestrian paths through new private developments.	PARCS recommends further study in specific locations to make new pedestrian and bicycle connections, particularly across the Caltrain rail lines in the southern area of the city.
	POLICY T-16 Create connecting paths for pedestrians and bicycles where dead-end streets prevent through circulation in new developments and in existing neighborhoods.	PARCS identifies specific areas where connections are desired and recommends specific further studies or actions that should be taken to implement these connections.
	POLICY T-22 Improve amenities such as seating, lighting, bicycle parking, street trees, and interpretive stations along bicycle and pedestrian paths and in City parks to encourage walking and cycling and enhance the feeling of safety.	Creating a walkable pedestrian and bicycle friendly environment throughout the study area is a key recommendation of PARCS. PARCS further refines this policy recommendation by defining specific priority locations for intensive pedestrian and bicycle improvements, such as at the Main Streets of Mixed-Use Centers and critical intersections and gathering points.
	POLICY T-23 Encourage pedestrian-friendly design features such as sidewalks, street trees, on-street parking, public spaces, gardens, outdoor furniture, art, and interesting architectural details.	PARCS specifically identifies specific locations in support of this policy (see also Policy T-22 above).
	PROGRAM T-32 *Improve pedestrian crossings with bulb-outs, small curb radii, street trees near corners, bollards, and landscaping to create protected areas.*	PARCS specifically identifies locations of intersections and rail crossings that should incorporate the improvements described in this program.
Goal T-4	**An Efficient Roadway Network for All Users**	
	POLICY T-25 When constructing or modifying roadways, plan for usage of the roadway space by all users, including motor vehicles, transit vehicles, bicyclists, and pedestrians.	PARCS defines a layered street framework that recognizes that the primary function of all streets is not the same. PARCS also specifically states that not all streets need to accommodate all modes of travel, but that the framework, as a whole, needs to accommodate all users.

Table 6.7: City of Palo Alto Comprehensive Plan - Transportation - Relevant Goals, Policies and Programs (continued)

Goals	Existing Policies and Programs	Relationship to PA Rail Corridor Study / Study Response
TRANSPORTATION		
Goal T-4 *(continued)*	**An Efficient Roadway Network for All Users**	
	POLICY T-28 Make effective use of the traffic-carrying ability of Palo Alto's major street network without compromising the needs of pedestrians and bicyclists also using this network. Palo Alto's policy is to make necessary roadway improvements while providing for bicyclists and pedestrians and ensuring the safety of all roadway and sidewalk users.	PARCS defines a layered street framework that emphasizes pedestrian and bicycle improvements throughout the area on specific streets, while the primary focus of other streets will be to move vehicular traffic. The layered street framework accommodates all users and promotes access and safety throughout the study area. (See also Policy T-25 above). Safety is of the utmost importance.
Goal T-5	**A Transportation System with Minimal Impacts on Residential Neighborhoods**	
	POLICY T-31 Evaluate smoothing and slowing traffic flow in commercial areas by reducing through-traffic lanes and trading the area for improved turning lanes, landscaping, and bicycle lanes.	PARCS identifies specific Main Streets in the Mixed-Use Centers where improvements such as traffic calming, reduced street widths and streetscape improvements will result in reduced impacts on residential and commercial areas and improve the identity of the commercial area.
	POLICY T-35 Reduce neighborhood street and intersection widths and widen planting strips as appropriate.	PARCS defines a range of potential improvements, including those described in this policy, to be provided at specific intersections and rail crossings.
Goal T-6	**A High Level of Safety for Motorists, Pedestrians, and Bicyclists on Palo Alto Streets.**	
	POLICY T-39 To the extent allowed by law, continue to make safety the first priority of citywide transportation planning. Prioritize pedestrian, bicycle, and automobile safety over vehicle level-of-service at intersections.	PARCS highlights specific locations in the study area where safety improvements are of highest priority, notably on and across El Camino Real, the rail tracks, and Alma Street.
	POLICY T-40 Continue to prioritize the safety and comfort of school children in street modification projects that affect school travel routes.	PARCS prioritizes intersection improvements that respond to the City Council approved School Commute Corridors, adopted in 2004. In addition, PARCS identifies several additional locations for improvements to promote safety and convenience for children travelling to school.
Goal T-7	**Mobility For People With Special Needs**	
	POLICY T-42 Address the needs of people with disabilities and comply with the requirements of the Americans with Disabilities Act (ADA) during the planning and implementation of transportation and parking improvement projects.	The framework of crossings and connectivity defined in PARCS is planned to provide improved safe and convenient circulation for all along routes with minimal vehicular conflicts.

Table 6.8: City of Palo Alto Comprehensive Plan - Housing - Relevant Goals, Policies and Programs

Goals	Existing Policies and Programs	Relationship to PA Rail Corridor Study / Study Response
HOUSING		
Goal H-1	**A Supply of Affordable and Market Rate Housing That Meets Palo Alto's Share of Regional Housing Needs.**	
	POLICY H-1 Meet community and neighborhood needs as the supply of housing is increased. Ensure the preservation of the unique character of the City's existing neighborhoods.	PARCS explicitly includes the protection of existing contiguous residential neighborhoods in three defined subareas as well as recommendations related to the protection of residential properties in the Mixed-Use areas.
	POLICY H-2: Identify and implement a variety of strategies to increase housing density and diversity in appropriate locations. Emphasize and encourage the development of affordable and attainable housing.	PARCS recommends moderate intensity and density of residential uses in the Mixed-Use Centers within the framework of existing City policy. PARCS also identifies select areas where higher density residential use may be appropriate, with further careful study.
	PROGRAM H-1: *Increase housing density immediately surrounding commercial areas and particularly near transit stations by either increasing allowed densities or encouraging development at the higher end of the existing density range for sites within 2,000 feet of an existing or planned transit station or along two major transit corridors, El Camino Real and San Antonio Road, wherever appropriate.*	PARCS is in compliance with this policy identifying potential areas of higher density close to transit stations and within the Mixed-Use Centers (see also Policy H-2 above).
	PROGRAM H-2: *Encourage development densities at the higher end of allowed density ranges in multiple family zones by using methods such as preferential or priority processing and application fee reductions for projects that propose development at the higher end of a site's allowed density range and that provide affordable housing in excess of mandatory BMR program requirements. Consider increasing minimum density requirements in multiple family zones as well as in all Comprehensive Plan land use designations that permit housing.*	PARCS does not address specific density ranges. However, PARCS identifies potential locations for consideration of higher density residential development pending further detailed plan studies.
	PROGRAM H-4: *Allow increased residential densities and mixed use development only where adequate urban services and amenities can be provided and, in cases where the change in zoning is likely to lead to traffic congestion that will reduce levels of service below those acceptable to the City, adopt mitigation measures that will avoid this impact.*	PARCS clearly states that infrastructure should keep pace with development. PARCS also states that traffic mitigation measures should not reduce the quality of the pedestrian and bicycle environment.
	POLICY H-3: Continue to support the re-designation of suitable vacant or underutilized lands for housing or mixed uses containing housing.	PARCS recommends evaluating and utilizing vacant and underutilized lands in the Mixed-Use Centers for a variety of uses, including housing. Specific potential opportunity areas are identified.
	PROGRAM H-13: Implement the Housing Opportunities Study that identifies vacant and underutilized sites and sites with existing non-residential uses that are suitable for future housing or mixed use development focusing particularly on sites near an existing or planned transit station, along major transportation corridors with bus service, and in areas with adequate urban services and supporting retail and service uses.	PARCS identifies specific potential opportunity areas that should be considered in preparation of the Housing Opportunities Study. Generally, these are within the Mixed-Use Centers and the walkable service area of major transit facilities.

Table 6.8: City of Palo Alto Comprehensive Plan - Housing - Relevant Goals, Policies and Programs (continued)

Goals	Existing Policies and Programs	Relationship to PA Rail Corridor Study / Study Response
HOUSING		
Goal H-1 *(continued)*	**A Supply of Affordable and Market Rate Housing That Meets Palo Alto's Share of Regional Housing Needs.**	
	PROGRAM H-15: *Conduct a special study of the El Camino Real transportation corridor to examine in detail the potential for developing higher density housing, especially affordable housing, on specific residential or non-residential sites consistent with the City's traffic level of service policies, the City's ability to provide urban services and amenities and the preservation of the character and quality of life of adjacent neighborhoods.*	PARCS identifies three specific Mixed-Use Centers along El Camino Real where the recommendations of this program may be realized. Consistent with this Program, PARCS recommends detailed study of these locations as Near Term actions.
	POLICY H-4: Encourage mixed use projects as a means of increasing the housing supply while promoting diversity and neighborhood vitality.	PARCS specifically recommends a mix of uses within the three Mixed-Use Centers (see also Program H-15 above).
	PROGRAM H-16 *As part of the Zoning Ordinance Update process, evaluate and improve existing incentives that encourage mixed use (with a residential component) and residential development on commercially zoned land and establish development standards that will encourage development of the maximum amount of housing permitted under the allowed density range, particularly for projects that provide affordable housing.*	PARCS specifically recommends mixed-use development in the three Mixed-Use Centers in the corridor. PARCS also recommends that potential regulatory updates be evaluated as part of Near Term detailed studies that are prepared for the Mixed-Use Centers (see also Program H-15 above).
	PROGRAM H-17 *Use coordinated area plans and other tools to develop regulations that support the development of housing above and among commercial uses.*	PARCS specifically recommends mixed-use development (with housing) in the three Mixed-Use Centers in the corridor. PARCS also recommends that specific area plans be prepared for these centers (see also Program H-15 and Program H-16 above).
	POLICY H-18 Support housing that incorporates facilities and services to meet the health care, transit, or social service needs of households with special needs, including seniors and persons with disabilities.	While PARCS does not specifically discuss the incorporation of these facilities into housing, the study recommends improvement to the range of services available to residents in the area and describes a circulation framework that will allow access to these services by all users, even those without a motor vehicle.

Table 6.9: City of Palo Alto Comprehensive Plan - Natural Environment - Relevant Goals, Policies and Programs

Goals	Existing Policies and Programs	Relationship to PA Rail Corridor Study / Study Response
NATURAL ENVIRONMENT		
Goal N-3	**A Thriving Urban Forest That Provides Ecological, Economic, and Aesthetic Benefits for Palo Alto.**	
	POLICY N-14 Protect, revitalize, and expand Palo Alto's urban forest through public education, sensitive regulation, and a long-term financial commitment that is adequate to protect this resource.	PARCS generally recommends landscape improvements throughout the study area as well as in specific areas such as the Alma Street and El Camino Real Corridors. In addition, PARCS identifies specific natural areas for care and protection in the future (see also Policy N-50).
	PROGRAM N-16 *Continue to require replacement of trees, including street trees lost to new development, and establish a program to have replacement trees planted off-site when it is impractical to locate them on-site.*	PARCS does not define a specific program of tree replacement, although PARCS does recommend a variety of landscape improvements suited to the specific subarea or locale in the study area (see also Policy N-14 above).
	PROGRAM N-17 *Develop and implement a plan for maintenance, irrigation, and replacement of trees in parks, parking lots, and City rights-of-way.*	See Program N-16 and Policy N-14 above.
	POLICY N-15 Require new commercial, multi-unit, and single family housing projects to provide street trees and related irrigation systems.	See Program N-16 and Policy N-14 above.
Goal N-5	**Clean, Healthful Air for Palo Alto and the San Francisco Bay Area.**	
	POLICY N-26 Support regional, state, and federal programs that improve air quality in the Bay Area.	PARCS defines a framework of connectivity to improve circulation throughout the study area, particularly for biking and riding transit, thereby reducing vehicle miles travelled (VMT) and greenhouse gas emissions (GHG).
	POLICY N-28 Encourage developers of new projects in Palo Alto, including City projects, to provide improvements that reduce the necessity of driving alone.	PARCS does not include requirements for specific development projects. PARCS recommends development of mixed-use projects in the Mixed-Use Centers near transit facilities.
Goal N-8	**An Environment That Minimizes the Adverse Impacts of Noise.**	
	POLICY N-39 Encourage the location of land uses in areas with compatible noise environments. Use the guidelines in the table "Land Use Compatibility for Community Noise Environment" to determine compatibility. The guideline for maximum outdoor noise levels in residential areas is an Ldn of 60 dB.	PARCS specifically recommends the enhancement of existing residential neighborhoods and other sensitive noise receptors and protection from potential negative impacts with specific reference to current and future rail operations. PARCS does not evaluate potential noise impacts as part of the study as this will be undertaken as part of future project EIR and analysis.

Table 6.9: City of Palo Alto Comprehensive Plan - Natural Environment - Relevant Goals, Policies and Programs (continued)

Goals	Existing Policies and Programs	Relationship to PA Rail Corridor Study / Study Response
NATURAL ENVIRONMENT		
Goal N-8 *(continued)*	POLICY N-40 Evaluate the potential for noise pollution and ways to reduce noise impacts when reviewing development and activities in Palo Alto and surrounding communities.	PARCS specifically recommends that all residential areas, parks, schools and other sensitive noise receptors in the study area be protected from noise impacts, particularly those associated with current and future rail operations and arterial streets.
	POLICY N-43 Protect the community and especially sensitive noise receptors, including schools, hospitals, and senior care facilities, from excessive noise.	See Policy N-40 above.
	POLICY N-50 Implement public safety improvements, such as access roads and other infrastructure, in a manner that is sensitive to the environment.	PARCS identifies specific areas of environmental concern that should be protected (and, if feasible, enhanced) as improvements are made in the study area. Most prominent of these are El Palo Alto Redwood and Park, San Francisquito Creek, and Matadero Creek.

Table 6.10: City of Palo Alto Comprehensive Plan - Community Services and Facilities - Relevant Goals, Policies and Programs

Goals	Existing Policies and Programs	Relationship to PA Rail Corridor Study / Study Response
COMMUNITY SERVICES AND FACILITIES		
Goal C-4	**Attractive, Well-maintained Community Facilities That Serve Palo Alto Residents.**	
	POLICY C-21 Where appropriate, maintain existing community facilities in public ownership to prevent potential shortages in the future.	PARCS supports this policy and identifies several specific public properties and facilities that should be retained and re-used. PARCS also highlights the need for enhanced public open spaces and other facilities.
	POLICY C-25 Make infrastructure improvements on public open space only when these improvements are consistent with the goals of protecting and conserving the natural environment.	PARCS clearly states that major infrastructure improvements should not impact parks and recreation facilities. In particular, PARCS focuses on assuring protection from the potential impacts of future rail improvements on facilities such as El Palo Alto Park, El Camino Park, and others.
	POLICY C-27 Seek opportunities to develop new parks and recreation facilities to meet the growing needs of residents and employees of Palo Alto.	PARCS identifies the need for parks and recreation facilities throughout specific areas of the corridor and identifies a variety of facility types that should be considered in each area.
Goal C-5	**Equal Access to Educational, Recreational, and Cultural Services for All Residents.**	
	POLICY C-29 Strategically locate public facilities and parks to serve all neighborhoods in the City.	PARCS identifies specific subareas that are underserved with parks and recreation facilities and identifies potential opportunity areas, types of facilities, and strategies to improve levels of service.

Table 6.10: City of Palo Alto Comprehensive Plan - Community Services and Facilities - Relevant Goals, Policies and Programs (continued)

Goals	Existing Policies and Programs	Relationship to PA Rail Corridor Study / Study Response
COMMUNITY SERVICES AND FACILITIES		
Goal C-5 *(continued)*	POLICY C-30 Facilitate access to parks and community facilities by a variety of transportation modes.	PARCS defines a framework of access improvements to park and community facilities (within and outside the study area) to allow safe and convenient access, especially for children.
	POLICY C-32 Provide fully accessible public facilities to all residents and visitors.	PARCS does not define detail requirements needed for universal access to specific facilities. As an areawide plan, PARCS defines the circulation and access framework and improvements needed to assure access to parks, community facilities, and services throughout the study area (see also Policies C-29 and C-30 above).

Table 6.11: City of Palo Alto Comprehensive Plan - Business and Economics - Relevant Goals, Policies and Programs

Goals	Existing Policies and Programs	Relationship to PA Rail Corridor Study / Study Response
BUSINESS AND ECONOMICS		
Goal B-1	**A Thriving Business Environment that is Compatible with Palo Alto's Residential Character and Natural Environment.**	
	POLICY B-1 Use a variety of planning and regulatory tools, including growth limits, to ensure that business change is compatible with the needs of Palo Alto neighborhoods.	PARCS refines this policy within the study area by specifically defining the role of the three Mixed-Use Centers within the community. The variety of local-serving and regionally focused businesses varies among the centers depending upon neighborhood need and the local economy.
	POLICY B-2 Support a strong interdependence between existing commercial centers and the surrounding neighborhoods as a way of encouraging economic vitality.	The three Mixed-Use Centers identified in PARCS are encouraged to include local-serving and regionally focused businesses to support provide walkable goods and services to the Palo Alto community. However, the extent of regional-serving uses will vary by location and the needs of the adjacent neighborhoods.
	POLICY B-5 Maintain distinct business districts within Palo Alto as a means of retaining local services and diversifying the City's economic base.	The three Mixed-Use Centers described in PARCS include a commercial core (Main Street) to retain and support local businesses.
	POLICY B-6 Maintain distinct neighborhood shopping areas that are attractive, accessible, and convenient to nearby residents.	Three distinct Mixed-Use Centers are recommended in PARCS to support the adjacent neighborhoods.
	PROGRAM B-1 Initiate assessment districts or other programs to facilitate neighborhood shopping center improvements such as landscaping, parking, and access to public transportation.	Potential funding sources are outlined in the Implementation chapter of this report.

Table 6.11: City of Palo Alto Comprehensive Plan - Business and Economics - Relevant Goals, Policies and Programs (continued)

Goals	Existing Policies and Programs	Relationship to PA Rail Corridor Study / Study Response
BUSINESS AND ECONOMICS		
Goal B-3	**New Businesses that Provide Local Services and Municipal Revenues, Contribute to Economic Vitality, and Enhance the City's Physical Environment.**	
	POLICY B-11 Encourage the use of public/private partnerships as a means of redeveloping and revitalizing selected areas.	PARCS identifies specific potential opportunity areas where public/private and public/public partnerships may be appropriate to redevelop or revitalize an area and provide needed public facilities.
Goal B-4	**Attractive Vibrant Business Centers, Each with a Mix of Uses and a Distinctive Character.**	
	POLICY B-17 Where redevelopment is desired, encourage owners to upgrade commercial properties through incentives such as reduced parking requirements, credit for on-street parking, and increases in allowable floor area. Use such incentives only where they are needed to stimulate redevelopment or contribute to housing or community design goals.	PARCS does not identify specific development incentives that may be appropriate for specific parcels or developments. As an area-wide plan, PARCS does identify potential opportunity areas, such as the Keystone Blocks, where a variety of incentives may be appropriate pending preparation of further detailed development plans.
	POLICY B-23 Maintain the existing local-serving retail orientation of the California Avenue business district. Discourage development that would turn the district into a regional shopping area or intrude into adjacent residential neighborhoods.	The recommendations of PARCS for the California Avenue Town Center area are consistent with this policy.
	POLICY B-24 Foster the establishment of businesses and commercial services in the California Avenue business district that serve the adjacent neighborhoods as well as Stanford Research Park.	PARCS recommends the California Avenue Town Center retain and enhance the mix of local serving businesses and services. PARCS also defines a framework of connectivity between surrounding neighborhoods and the California Avenue Town Center to ease access, particularly for pedestrians and bicycles, and thereby support businesses located there.

APPENDICES

APPENDIX A
Caltrain and High-Speed Rail

APPENDIX B
Related Plans, Programs and Policies

APPENDIX C
Resources

APPENDIX D
Resolution No. 9316

APPENDIX A | CALTRAIN AND HIGH-SPEED RAIL

http://www.cahighspeedrail.ca.gov/

The California High-Speed Rail Project is an intra-state rail link currently being planned by the California High-Speed Rail Authority (CHSRA) to help meet the anticipated increase in travel demand between the Bay Area and Southern California. The initial phase of the project is envisioned as a 220-mile-per-hour High–Speed Train (HST) which will connect the Bay Area and the Los Angeles area. Later phases would link Sacramento in the north and San Diego in the south.

Engineering and operational details of the alignment in the Bay Area are yet to be finalized, but current planning envisions an alignment through the Peninsula from San Jose to San Francisco along the existing Caltrain right-of-way. Within that right-of-way, several vertical alignment and operational alternatives are currently under discussion, each providing varying benefits and impacts to the City of Palo Alto and the residents and businesses located within the study area.

As mentioned in the introduction to this document, the Palo Alto Rail Corridor Study was initiated in response to potential major changes to the Caltrain corridor. While detailed evaluation of the actual rail improvements to Caltrain and the HST were not intended to be the primary focus of this study, identifying urban issues and opportunities which may be related to the rail corridor is of central importance to the overall planning of the study area.

During the period of time that the Task Force was engaged in this study, from November 2010 until May 2012, several proposed options for future rail improvements along the Caltrain right-of-way were reviewed and one was added, the Blended Rail System. Three of the options discussed were the preferred alternatives prepared by the California High-Speed Rail Authority (CHSRA) and their consultants, released in a report dated August 2010. Three of these alternatives are four-track systems (two tracks Caltrain; two tracks HST), and the Blended Rail System is an electrified two track on-grade alterna-

tive. The alternatives were based on variations in the vertical alignment of the rail and included the following:

Alternative A: At-Grade / Aerial Viaduct Combination
As shown in the accompanying plan (Figure A.1), profile (Figure A.2), and cross-sections (Figure A.4 and A.5), Alternative A would include a combination of an aerial viaduct / berm and at-grade tracks with transition areas in between. Tracks at all existing Caltrain stations would remain at-grade. At three existing street crossings (Meadow, Charleston and Churchill), the HST would be elevated on a structure above the street. At Palo Alto Avenue, the HST would remain at-grade. The elevated portions of the alignment could potentially allow additional crossings, linking neighborhoods east and west of the study area.

Alternative B: At-Grade / Aerial Viaduct / Below-Grade Open Trench Combination
As shown in the accompanying plan (Figure A.7), profile (Figure A.8), and cross-sections (Figures A.3, A.4 and A.5), Alternative B includes a combination of at-grade, open trench, aerial viaduct and raised berm with transition areas in between. This alternative has longer sections of track that are grade-separated - either by means of elevated or trench configuration - than Alternative A, which could allow more at-grade pedestrian, bicycle, or vehicular crossings linking neighborhoods to the east and west. Engineers for the High-Speed Rail Authority have suggested the trench segments could be covered for lengths up to 800 feet, separated by an open trench area of a minimum 1,400 feet in length, to allow for natural ventilation and, more importantly, exiting and access in the case of a fire or other emergency. Surface improvements, such as additional crossings, public open spaces, or development, would be possible on the trench covers.

Alternative B1: Continuous Below-Grade Open Trench
This option is the preferred option expressed by the Palo Alto City Council at their meeting of October 25, 2010. As shown in the plan (Figure A.9), profile (Figure A.10), and cross-section (Figure A.3), Alternative B1 is an open trench for the entire length of Palo Alto. This option provides the greatest opportunity to provide surface circulation linkages between the neighborhoods to the east and west. As with Alternative B, areas up to 800 feet in length could be covered to provide opportunity sites for surface improvements.

Two-Track On-Grade Blended Alternative
As a result of widespread concern over the impacts of the three CHSRA alternatives, Congressional Representative Eshoo, State Senator Simitian and State Assemblyman Gordon jointly suggested that an alternative strategy, the Two-track On-Grade Blended Alternative, could allow Caltrain and the HST to operate on the same two tracks through Palo Alto and most other areas of the Peninsula. Caltrain has recently released an analysis that demonstrates the operational feasibility of this approach, with Caltrain and the High-Speed Train assumed to operate at grade on essentially the same alignment as the existing tracks with a new overhead electrical power system. Additional detailed alignment studies as well as evaluation of impacts on existing grade crossings are anticipated.

The four alternatives described above are illustrated in Figures A.1-A.11. Since the future of the HST remains uncertain, the Task Force also reviewed and discussed the following additional two options:

- No Action / Existing Condition (No HST)
- Caltrain Upgrade / Electrification (No HST).

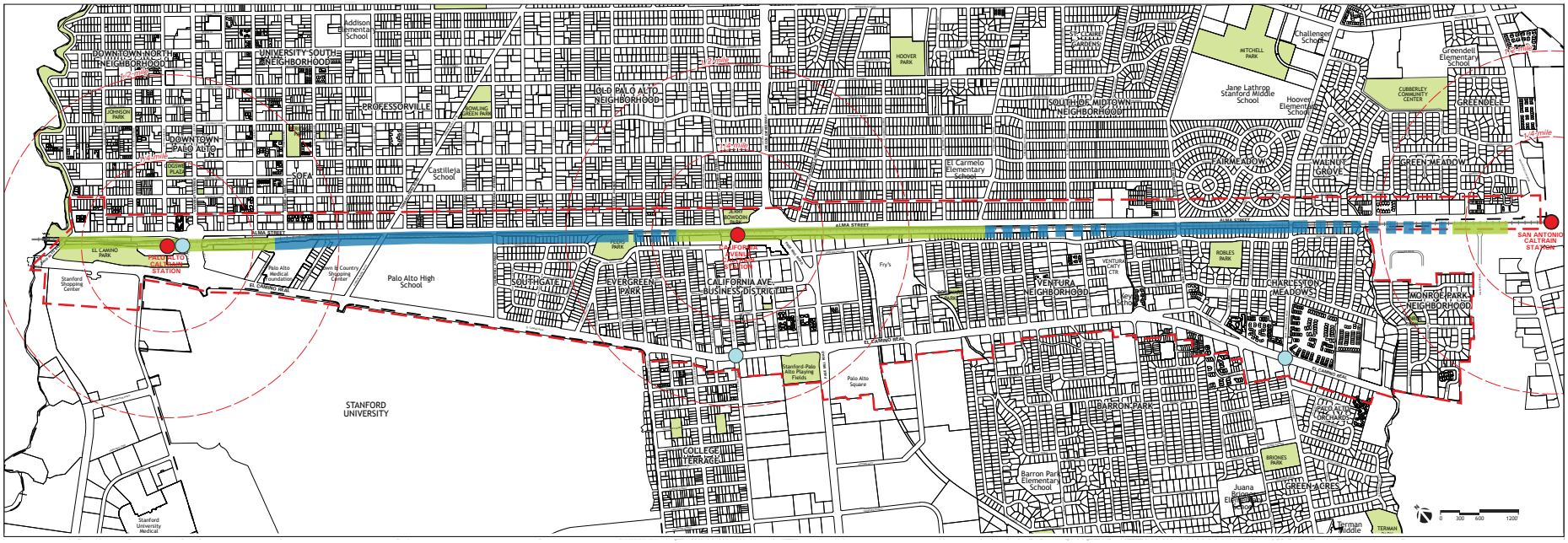
Working together, the Task Force, City staff, and the consultant team concluded that the scope of the Palo Alto Rail Corridor Study did not allow study of issues, opportunities and vision for all six of the above-mentioned alternatives. Therefore, this study effort focused on two rail configurations:

- Below-Grade Open Trench
- Two-Track On-Grade

Based on the position of the current City Council, combined with likely economic and physical impacts, it was concluded that these are the most likely viable options. Each of the two configurations generally represents the full range of issues and opportunities confronting the rail corridor largely because one option, the Below-Grade Open Trench, provides opportunities to grade-separate all crossings of the rail corridor while the other, the Two-Track On-Grade, still requires solutions to many of the issues which currently confront at-grade Caltrain.

It should be noted that the Task Force, City staff, and consultants did not undertake a detailed analysis of the various impacts of the rail alternatives, such as noise and air quality. Such an effort is beyond the scope and resources of this study effort and will be conducted as part of CEQA and NEPA analysis of the rail project itself. The focus of Task Force efforts was to identify issues, a vision, and strategies for the study area which can be used as input to the preparation of any future rail improvement program and assist in the update of other City policy documents, such as the Comprehensive Plan, regardless of the selected rail improvement alternative.

Figure A.1: High-Speed Train (HST) Alternative A: At-grade / Aerial Viaduct Combination

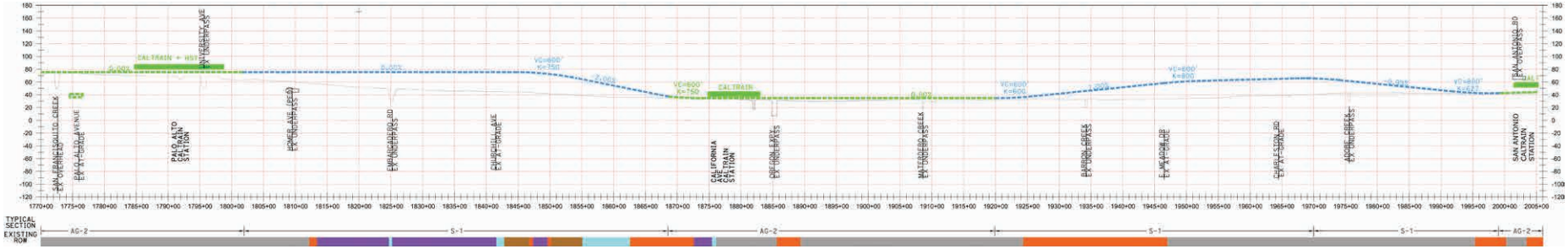


Legend

- Elevated Track
- Transition from At-grade to Elevated Track
- At-grade Track
- Study Area Boundary
- City of Palo Alto Boundary
- Park
- Caltrain Station
- Potential Future BRT Station
- 1/2-mile Radius Transit Service Area

Drawing Content Source: Preliminary Alternatives Analysis Report for San Francisco to San Jose Section California High-speed Rail Authority, dated April 2010 and the Supplemental Report dated August 2010. Plan created by BMS Design Group
Section below directly from California High-speed Rail Authority documents..

Figure A.2: High-Speed Train (HST) Alternative A Profile



Content per California High-speed Rail Authority, August 2010, Supplemental Alternatives Analysis Report for the San Francisco to San Jose Section. Plan drawing by BMS Design Group, Profile per HSR Authority.

Figure A.3: High-Speed Train (HST) Four Track Open Trench Cross-section

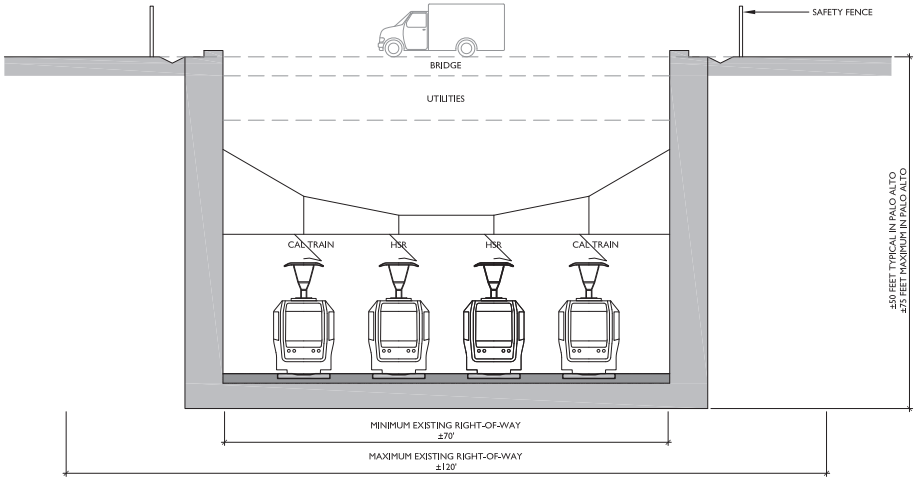


Figure A.4: High-Speed Train (HST) Four Track At-grade Cross-section

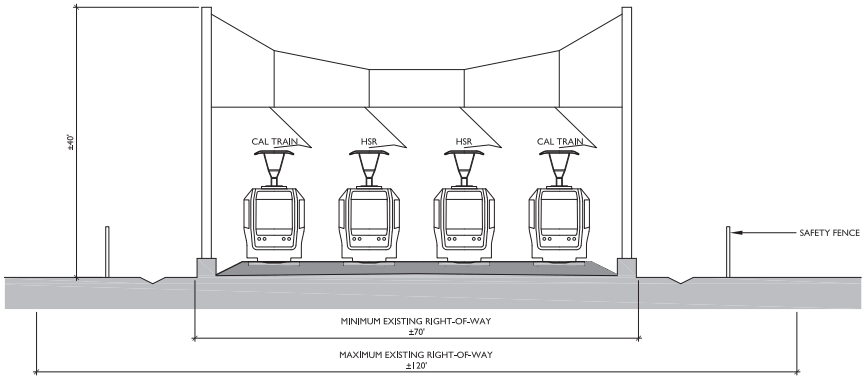


Figure A.5: High-Speed Train (HST) Four Track Aerial Viaduct Cross-section

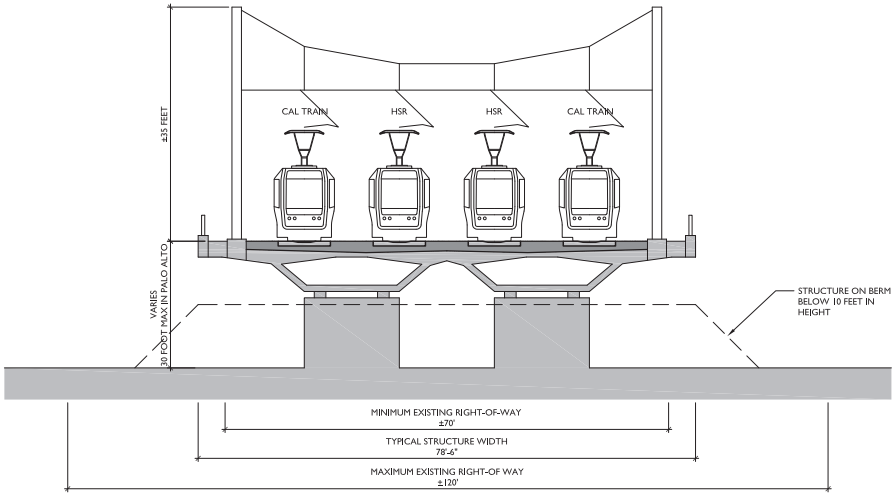
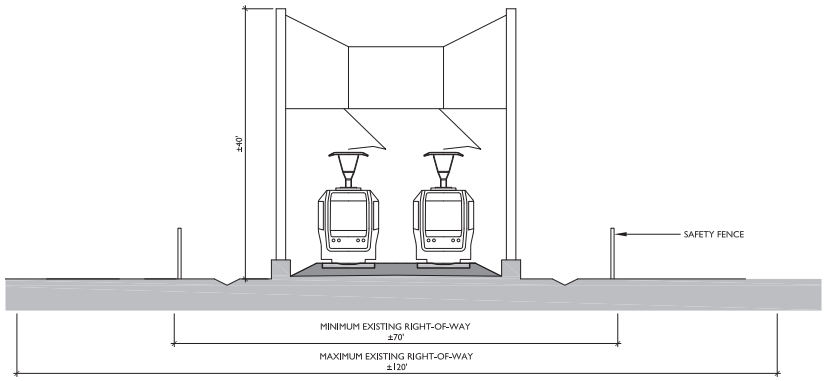


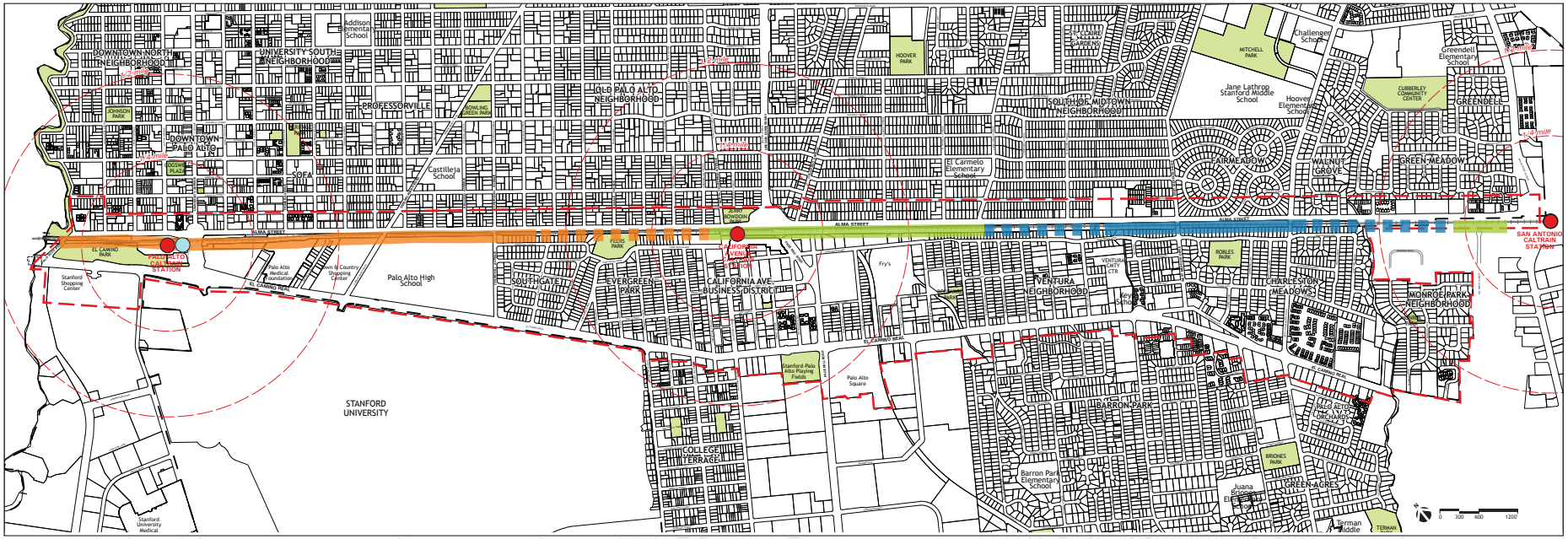
Figure A.6: High-Speed Train (HST) Two Track At-grade Blended Cross-section



Drawing Content Source: Preliminary Alternatives Analysis Report for San Francisco to San Jose Section California High-speed Rail Authority, dated April 2010 and the Supplemental Report dated August 2010. Sections created by BMS Design Group

A.06 *In Palo Alto, the existing Caltrain right-of-way width varies from approximately 70 to 120 feet.*

Figure A.7: High-Speed Train (HST) Alternative B: At-grade / Aerial Viaduct / Vertical Trench Combination



Legend

- Below-grade Trench
- Transition from At-grade to Trench
- Elevated Track
- Transition from At-grade to Elevated Track
- At-grade Track
- Study Area Boundary
- City of Palo Alto Boundary
- Park
- Caltrain Station
- Potential Future BRT Station
- 1/2-mile Radius Transit Service Area

Drawing Content Source: Preliminary Alternatives Analysis Report for San Francisco to San Jose Section California High-speed Rail Authority, dated April 2010 and the Supplemental Report dated August 2010. Plan created by BMS Design Group
Section below directly from California High-speed Rail Authority documents..

Figure A.8: High-Speed Train (HST) Alternative B Profile

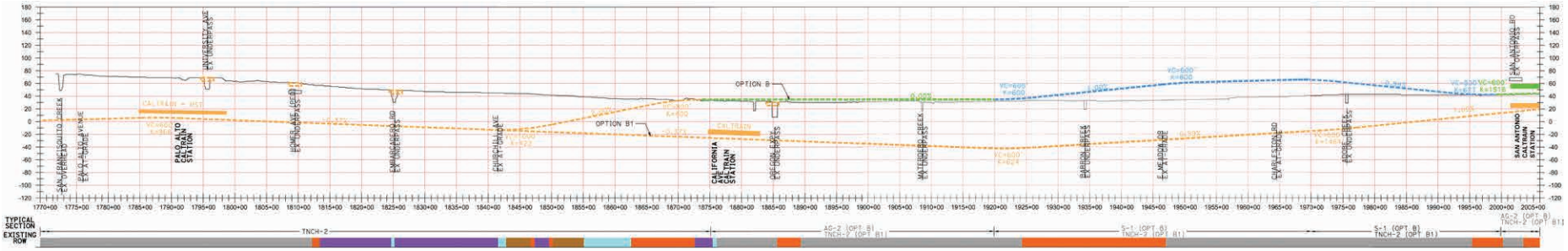
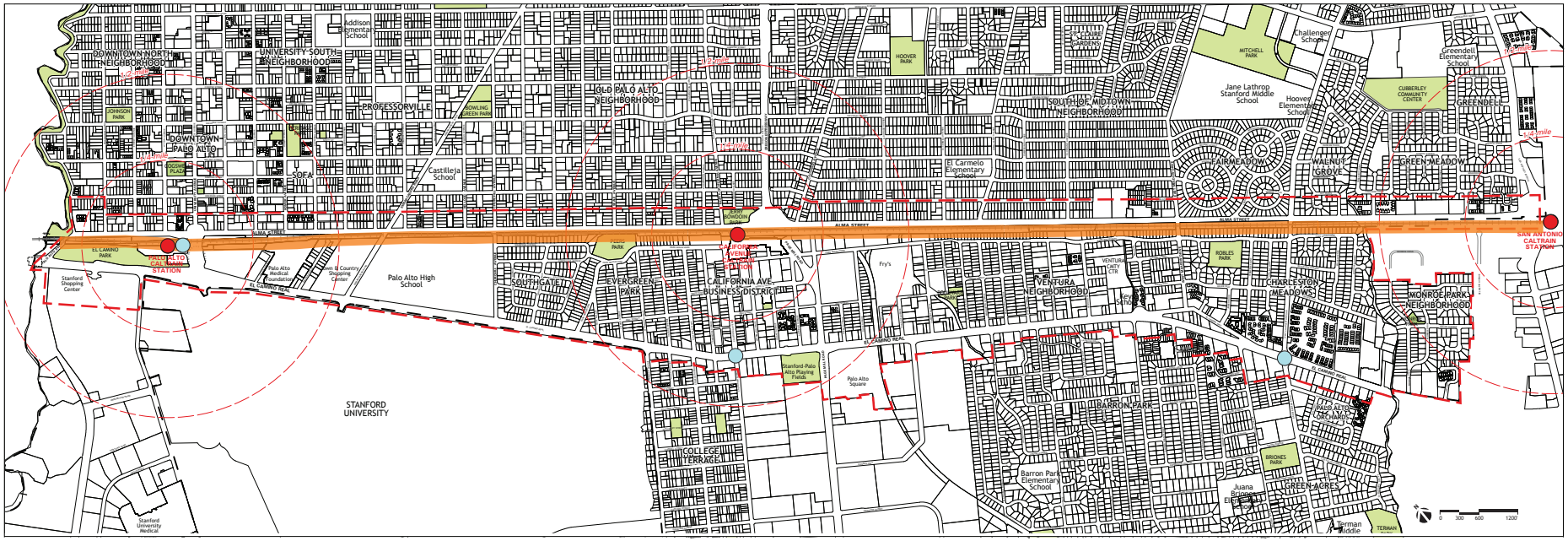


Figure A.9: High-Speed Train (HST) Alternative B1: Continuous Below-Grade Open Trench



Legend
- Below-grade Trench
- Study Area Boundary
- City of Palo Alto Boundary
- Park
- Caltrain Station
- Potential Future BRT Station
- 1/2-mile Radius Transit Service Area

Drawing Content Source: Preliminary Alternatives Analysis Report for San Francisco to San Jose Section California High-speed Rail Authority, dated April 2010 and the Supplemental Report dated August 2010.
Plan created by BMS Design Group
Section below directly from California High-speed Rail Authority documents..

Figure A.10: High-Speed Train (HST) Alternative B1 Profile

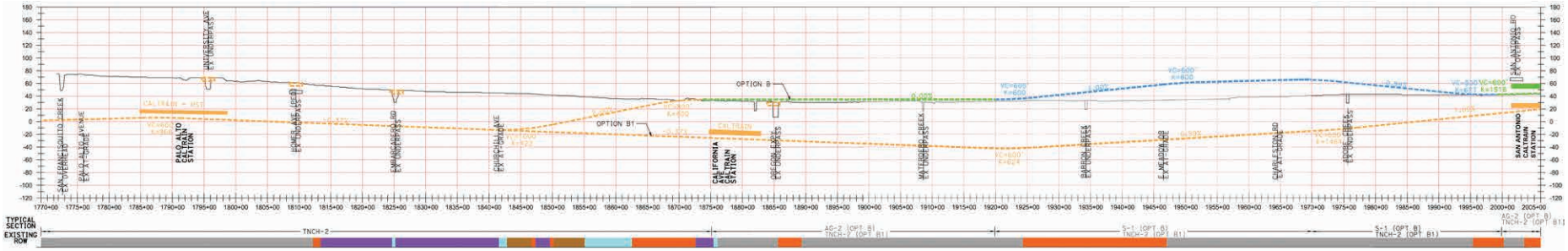
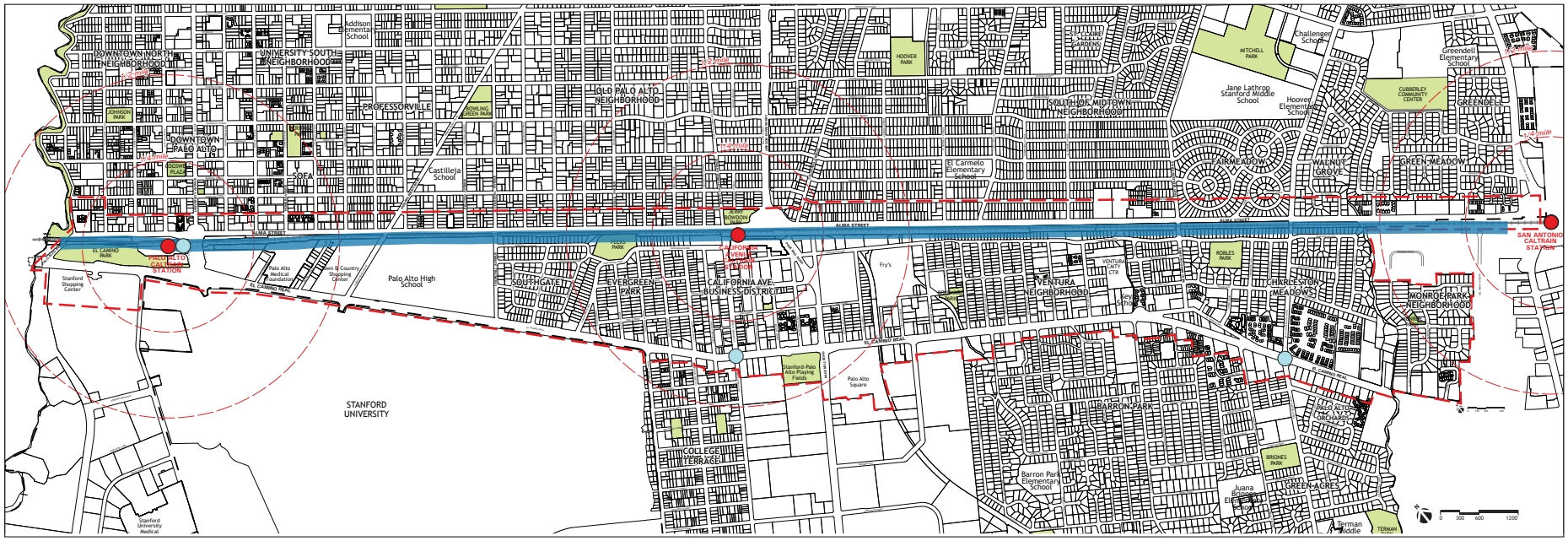


Figure A.11: High-Speed Train (HST) Alternative: At-Grade Two Track Blended Alternative



Legend

- At-grade Track
- Study Area Boundary
- City of Palo Alto Boundary
- Park
- Caltrain Station
- Potential Future BRT Station
- 1/2-mile Radius Transit Service Area

Drawing Content Source: Preliminary Alternatives Analysis Report for San Francisco to San Jose Section California High-speed Rail Authority, dated April 2010 and the Supplemental Report dated August 2010. Plan created by BMS Design Group.

APPENDIX B | RELATED PLANS, PROGRAMS, & POLICIES

Existing policy documents and plans prepared by public agencies, the City, and private interests are briefly discussed in the Background section of this report. More detailed information is included in this Appendix.

RELEVANT STATE PLANS, PROGRAMS, AND POLICIES

Assembly Bill 32: Global Warming Solutions Act (2006)
http://www.arb.ca.gov/cc/ab32/ab32.htm
The 2006 Global Warming Solutions Act directs the California Air Resources Board to define specific actions for California to reduce greenhouse gas (GHG) emissions to 1990 levels by the year 2020, a reduction of approximately 25% statewide. A key focus of the reduction measures is the reduction of total vehicle miles travelled (VMT) and a potential corresponding shift to alternative travel modes, including transit and bicycling.

Senate Bill 375: Sustainable Communities Act (2008)
http://www.arb.ca.gov/cc/sb375/sb375.htm
SB375 further implements the goals of AB32 by directly linking land use planning with greenhouse gas emission reduction targets. The law requires the California Air Resources Board to set specific emissions reduction goals for metropolitan planning organizations, which in the Bay Area is the Metropolitan Transportation Commission (MTC). The GHG reduction targets for the Bay Area (adopted in September 2010) are 7% reduction in per capita emissions by 2020 and 15% reduction by 2035.

A Joint Policy Committee of regional Bay Area agencies is preparing a Sustainable Communities Strategy (SCS), pursuant to SB375. See discussion of the SCS below.

REGIONAL AND COUNTY PLANS, PROGRAMS, AND POLICIES

Sustainable Communities Strategy (SCS) and the Regional Transportation Plan (RTP)

http://www.arb.ca.gov/cc/sb375/sb375.htm

The Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) are currently preparing a Sustainable Communities Strategy (SCS) to guide the update to the Regional Transportation Plan (RTP), planned for completion in 2013.

Pursuant to SB375, the RTP and related Sustainable Communities Strategy must also assess the relationship between vehicle miles travelled and regional jobs/housing targets for reducing automobile and greenhouse gas (GHG) emissions (which for the Bay Area are a 7% reduction in per capita emissions by 2020 and a 15% reduction by 2035). Also pursuant to SB375, the RTP/SCS will identify priority transit projects and corridors to incentivize development and investment, primarily the relaxation of CEQA requirements that tend to stress accommodation of motor vehicle operations and can often hinder urban infill development.

Bay Area FOCUS Program

http://www.bayareavision.org/initiatives/index.html

In conjunction with the Sustainable Communities Strategy, ABAG and MTC have implemented the FOCUS program, which unites efforts of four regional agencies into a single program that seeks to work with local governments in the Bay Area to address issues such as high housing costs, traffic congestion, and protection of natural resources. The primary goal of the FOCUS program is to encourage future growth near transit and in the existing communities that surround the San Francisco Bay, enhancing existing neighborhoods, and providing housing and transportation choices for all residents.

Through FOCUS, regional agencies will direct existing and future incentives to Priority Development Areas (PDA's) and Priority Conservation Areas. PDAs are locally-identified, infill development opportunity areas within existing communities. They are generally areas of at least 100 acres where there is local commitment to developing more housing along with amenities and services to meet the day-to-day needs of residents in a pedestrian-friendly environment served by transit. To be eligible to become a PDA, an area must be within an existing community, near existing or planned fixed transit or served by comparable bus service, and planned for more housing. In Palo Alto, the California Avenue area has been identified as a PDA.

Grand Boulevard Initiative (El Camino Real)

http://www.grandboulevard.net/

The Grand Boulevard Initiative (GBI) is a collaboration of 19 cities, Santa Clara and San Mateo Counties, Caltrans, and numerous public agencies and private entities with the goal to improve the performance, safety, and aesthetics of the El Camino Real corridor from the Diridon Station transit hub in San Jose to Mission Street in Daly City. The GBI vision is for El Camino Real to "achieve its full potential as a place for residents to work, live, shop, and play, creating links between communities that promote walking and transit and an improved and meaningful quality of life."

One of the goals of the GBI is to improve safety for pedestrians and bicyclists crossing El Camino Real. In furtherance of this goal an "intersection improvement demonstration project" has recently been completed in Palo Alto at the intersection of Stanford Avenue and El Camino Real. Based on the results of this project, it has been concluded by both the City and Caltrans that additional similar improvements at other intersections may be feasible. Detailed studies are needed to identify priority locations and specific appropriate improvements.

Valley Transportation Plan 2035

http://www.vta.org/studies/vtp2035/index.html

The Valley Transportation Plan 2035 (VTP 2035) is Santa Clara County's long-range planning document that feeds into (and is consistent with) the Metropolitan Transportation Commission's Regional Transportation Plan. It incorporates specific needs identified by the Valley Transportation Authority (VTA) and individual municipalities, including Palo Alto. The VTP 2035 considers all travel modes and addresses linkages between transportation and land use planning, air quality, and community livability.

A key component of the VTP2035 is a Capital Improvements Plan (CIP) that identifies specific new investments and funding for projects throughout Santa Clara County. The CIP is heavily weighted towards new investments in transit, along with maintenance and operation of the existing roadway network. Upgrades and extensions to pedestrian and bicycle facilities are also included, often as part of street maintenance, bridge, and transit projects.

Within the study area, several projects and funding allocations are identified for implementation during the planning horizon of the VTP 2035. Many of these have been

identified as priority actions of the Task Force, particularly those identified to resolve existing safety and access problems associated with the rail line. Projects include:

Transit Projects

- El Camino Real Bus Rapid Transit (BRT)
- Caltrain Electrification from San Francisco to Gilroy.

Bicycle Projects

- California Avenue/Alma Street Caltrain pedestrian undercrossing improvements
- Bicycle Boulevards Network improvements.

The VTP 2035 also contains a land use vision, stating that the "VTP 2035 envisions a shift in development patterns from spreading out to growing up, with future development clustered in core areas and downtowns, along main streets and major transportation corridors, and around rail and BRT station areas." To achieve this vision, VTA's goal is to "provide transportation investments and services that support the maintenance and creation of vibrant urban communities." This will be implemented through the Community Design and Transportation Program (CDT) which seeks to plan and invest in a framework of "Cores, Corridors and Station Areas" in collaboration with local governments, community groups, and the business community. Several of these areas exist within the study area. The California Avenue Streetscape Project (CASP) has been the recipient of a grant from VTA under this program. See below for a description of the CASP.

An update to the VTP 2035 is currently in progress (VTP 2040). The Palo Alto Intermodal Transit Center expansion has been dropped from the list of priorities in the VTP 2040, due to the evolving alternatives for High-Speed Rail in the area. Transit Center improvements remain a high priority for the City, however, and planning staff will continue to coordinate with Caltrain, the High-Speed Rail Authority, VTA, and other transit authorities.

Bus Rapid Transit Strategic Plan (2009)

http://www.vta.org/brt/pdf/brt_strategic_plan_final_report.pdf

Bus Rapid Transit (BRT) is an enhanced bus service that offers many of the same attributes as light rail transit, such as fast, frequent and reliable service, specialized vehicles, high-amenity stations, and enhanced passenger information. The BRT Strategic Plan, prepared by the Santa Clara Valley Transportation Authority (VTA), outlines a near-term plan to develop and operate an integrated BRT network throughout Santa Clara County to provide high-quality service to areas not served by light rail transit. Specifically, "the VTA BRT Strategic Plan was prepared to:

- Establish a framework for BRT implementation;
- Provide direction on related policy issues;
- Serve as a vehicle to engage cities and stakeholders."

The BRT Strategic Plan identifies three corridors for near-term BRT implementation, including El Camino Real from a station near the HP Pavilion in downtown San Jose to the Palo Alto Transit Center in downtown Palo Alto. Along El Camino Real, a new service, known as BRT 522 would replace the existing Rapid Bus 522.

The El Camino BRT 522 will run in two different types of street configuration. Along most of the corridor, it will run in an exclusive right-of-way with two "busways" and stations located in a center median. In other areas along El Camino Real, the BRT will operate in "mixed flow" (in traffic), in the curb-side travel lane (side-running), similar to the way the existing bus service operates today. In Palo Alto, the BRT 522 will operate with the side-running mixed-flow option.

Like light rail systems, BRT stations are typically spaced at greater distances than local bus stops. In Palo Alto, the BRT Strategic Plan identifies three station locations along El Camino Real: West Charleston / Arastradero Road, California Avenue, and the Transit Center at the downtown Caltrain station, which will also serve as the termination of the El Camino BRT 522.

Also like light rail (and Caltrain), the passenger service area for BRT is considered to be ½-mile, a distance that is generally considered the maximum distance that most transit patrons are willing to walk to a station. A large proportion of the study area thus falls within the ½-mile service area of the BRT 522 line. Several of the vision concepts outlined by the Task Force in this study are in response to the future development of the BRT 522 line. In particular, definition of the geographic extent and character of the Mixed-Use Centers along El Camino Real is guided by the potential service areas of the new stations.

CITY PLANS, PROGRAMS, AND POLICIES

Palo Alto Comprehensive Plan

http://www.cityofpaloalto.org/knowzone/city_projects/land_use/comprehensive_plan.asp

Under California law, each city and county must have a Comprehensive Plan (also known as a General Plan) to guide its future growth and development. A Comprehensive Plan is a long-range planning document that includes goals, policies, and programs for how a community will manage its land use, housing, circulation, natural resources, economics, and public services.

The Palo Alto Comprehensive Plan (see Figure A.12) includes the following elements:

- Land Use and Design: the location and concentration of housing, businesses, public facilities, open space, and other land uses.
- Housing Element: existing and future housing stock and policies to address additional units necessary to meet the State-designated allocation of affordable housing.
- Transportation: existing and planned roads, transit, and pedestrian systems in Palo Alto.
- Natural Environment: open space, water supply, air quality, urban forest, special-status species, hazardous materials, and noise.
- Community Services and Facilities: existing public facilities and planned infrastructure expansions and improvements.
- Business and Economics: future business development and industry.

City staff, working with the Planning and Transportation Commission and City Council, is currently undertaking a plan update that will extend the planning horizon of the Comprehensive Plan. The existing Comprehensive Plan 2010 includes vision statements, policies, and programs that directly relate to the study area. While many of the visions presented in this study are consistent with the existing Comprehensive Plan, many of the visions and concepts prepared as part of the Study will be considered as part of the Comprehensive Plan update process.

Palo Alto Municipal Code, Title 18, Zoning Regulations

http://www.cityofpaloalto.org/knowzone/city_projects/land_use/zoning_ordinance.asp

While the Comprehensive Plan establishes overall city polices related to land use, circulation, housing, conservation, and other elements, zoning is the primary regulatory mechanism that implements the policies of the plan. The zoning code designates the specific land uses permitted or restricted within a "zone" or "district," and the development standards, such as density, setbacks and height limits, associated with that district. Where the Comprehensive Plan tends to emphasize the vision for how the community will develop over time, zoning prescribes the details of how development projects are to be implemented.

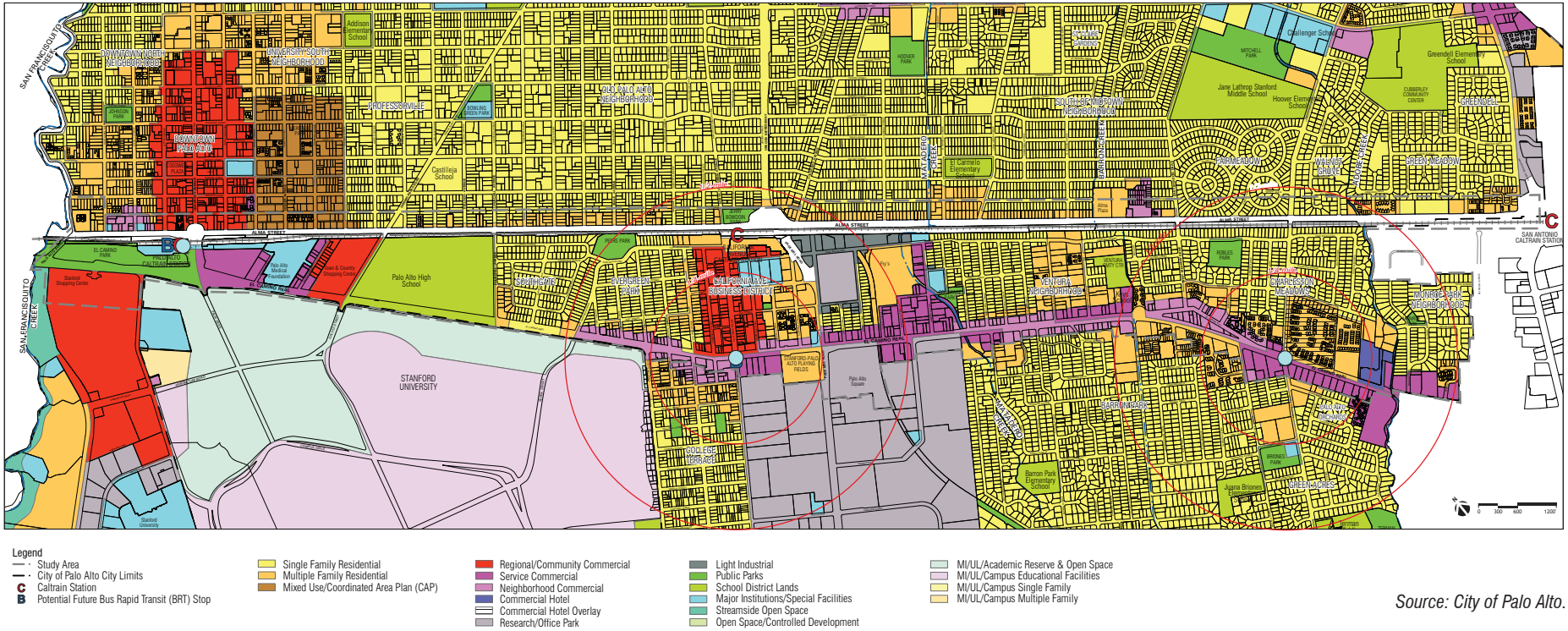
Compared with many cities, Palo Alto has a highly innovative and up-to-date zoning code. In recent years, trends in city planning have evolved to the use of "form-based" tools in the regulation of community development, rather than a primary emphasis on land use. Much of this is based on a recognition in recent years that a mix of uses in selected urban areas is desirable and that in many cases, the physical form of an area or district is a primary determinant of the quality of life in that area.

Palo Alto was an early adopter of form-based principles in its zoning code, which provide clear guidance on the form which new development must take. This includes features such as the Daylight Plane, which establishes the height and profile of new development, particularly adjacent to existing residential neighborhoods, the commercial Buffer Zone, which sets special height and setback regulations for commercially-zoned sites within 150-feet of residential uses and other features that are intended to guide not only the use, but the physical form of the community and protect specific community resources.

Within or directly adjacent to the study area, Palo Alto has also adopted two unique special districts with provisions that have been incorporated into the zoning regulations: the Pedestrian and Transit Oriented Development (PTOD) Overlay District, and the South of Forest (SOFA) Districts. The PTOD District is generally located in the vicinity of the California Avenue mixed-use commercial area west of the Caltrain station. Its purpose is to allow higher density residential dwellings on commercial, industrial and multi-family parcels within a walkable distance of the California Avenue Caltrain station. Among other goals, the district is intended to encourage mixed-use, with a variety of housing types and commercial retail and office uses that will help implement the Housing Element and the Comprehensive Plan.

The South of Forest (SOFA) Districts (SOFA I and SOFA II) are located south of Forest Avenue directly to the south of downtown and east of Alma Street, bordering the study area. The SOFA districts, which are a combination of Comprehensive Plan policies and zoning designations, were established in response to development pressures in the

Figure A.12: City of Palo Alto Comprehensive Plan



Legend

- Study Area
- City of Palo Alto City Limits
- C Caltrain Station
- B Potential Future Bus Rapid Transit (BRT) Stop
- Single Family Residential
- Multiple Family Residential
- Mixed Use/Coordinated Area Plan (CAP)
- Regional/Community Commercial
- Service Commercial
- Neighborhood Commercial
- Commercial Hotel
- Commercial Hotel Overlay
- Research/Office Park
- Light Industrial
- Public Parks
- School District Lands
- Major Institutions/Special Facilities
- Streamside Open Space
- Open Space/Controlled Development
- MI/UL/Academic Reserve & Open Space
- MI/UL/Campus Educational Facilities
- MI/UL/Campus Single Family
- MI/UL/Campus Multiple Family

Source: City of Palo Alto.

area caused by high land values, high-tech-related employment growth, and limited opportunities for growth in the commercial areas throughout the downtown. The SOFA districts allow patterns and intensities of development beyond the level permitted in other standard zoning districts, while addressing issues such as compatibility of development with existing uses, parking, traffic, recreation and open space, and urban and architectural design.

In general, the Task Force found that both of these innovative districts - PTOD and SOFA - may provide potential models for application in other subareas of the study area in order to greatly enhance the diversity of housing, services, open space, and cultural opportunities.

While the Palo Alto zoning ordinance is, in general, quite innovative and state-of-the-art, some features of the ordinance are somewhat restrictive, such as the application of a uniform maximum height limit of 50 feet over the entire city, regardless of district character, function, adjacent land uses, or access to transportation facilities. Such a singular approach applied to a city of diverse neighborhoods and places, will likely add considerable limitation to the future of Palo Alto as a diverse place to live and work. This is particularly true in the study area, where many opportunities for a variety of development types (including carefully sited and planned increases in height) exist that will likely not have adverse impacts on existing residential areas or other conservation areas.

California Avenue Area Concept Plan (currently in progress)
http://www.paloaltocompplan2020.org/content/concept-plan-areas
The California Avenue Area Concept Plan (CAACP) is a subarea plan for the 115-acre California Avenue / Fry's area, which includes the California Avenue business district south to the properties that house the existing Fry's store and adjacent surrounding areas. The planning effort is part of the Comprehensive Plan update process, with the intent to prepare new guidelines for future land use and development activity within the area. The area was identified for a concept study because most of it is within the Transit-Oriented Residential designation of the current Comprehensive Plan 2010 and within the zoning overlay district designated as Pedestrian and Transit Oriented Development (PTOD). The CAACP study area is entirely within the boundaries of this Study area.

The Plan, which was in-process at the time of this report, will evaluate appropriate development intensities, potential for more housing, retention and enhancement of retail / service opportunities, and improved pedestrian and bicycle connections within the area. A key finding of the study to-date is that there are several sites which are under-utilized and could be re-used to meet the goals of the existing Comprehensive Plan and zoning.

The Palo Alto Rail Corridor Study and the recommendations of the Task Force summarized in this report cover a larger area than the area of the California Avenue Area Concept Plan and are, therefore, more comprehensive in nature. It is the intent that the recommendations of the Task Force contained in this document provide additional context and guidance in the preparation of the California Avenue Concept Plan.

El Camino Real Master Planning Study (2007)
http://www.cityofpaloalto.org/civica/filebank/blobdload.asp?BlobID=14241
The El Camino Real Master Planning Study (ECRMPS) is a feasibility and master planning study for the public right-of-way of El Camino Real in Palo Alto. The project was prepared by the City with one of the first-ever funding grants from the Demonstration Grant Program of Caltrans' Office of Community Planning. The purpose of the project was to address existing safety, operational, and aesthetic concerns that the community, particularly neighborhood residents, have had with El Camino Real over many years. The Planning Study addresses these issues while recognizing future traffic needs.

Working with an Advisory Committee, with additional community input, the Study defined the overall goals for El Camino Real to "change the character of El Camino Real from a highway designed primarily for motor vehicle circulation to:

- A fully multi-modal urban thoroughfare that maintains circulation and improves safety for transit, trucks, and autos, while improving safety and convenience for pedestrians and bicyclists;
- A center of community activity rather than a barrier between activities on either side of the street; and,
- An aesthetically attractive corridor that projects a positive image of Palo Alto."

The study includes design strategies for specific segments and intersections along the El Camino Real corridor. Since the completion of the Public Review Draft in 2007, little action has been taken on most of the findings of the study. However, recommended improvements to one of the intersections, at Stanford Avenue / El Camino Real, was completed in the fall of 2011.

In general, the visions and recommendations of the Task Force for this study are consistent with, and reinforce, the goals and findings of the ECRMPS. However, because the ECRMPS was limited to the public right-of-way, the Palo Alto Rail Corridor Study is, by definition, more comprehensive in geographic scope. In several instances, the visions of the Task Force suggest improvements that go beyond the recommendations of the ECRMPS, particularly in the:

- Delineation of nodes of concentrated activity (referred to as Mixed-Use Centers in this study)
- Geographic extent of desirable street cross-section modifications and traffic calming improvements (notably within the 1/2-mile Bus Rapid Transit service areas)
- Additional locations of improved pedestrian and bicycle access.

South El Camino Real Design Guidelines (2002)

http://www.cityofpaloalto.org/knowzone/city_projects/transportation/default.asp

Although not formally adopted by the City Council, the South El Camino Real Design Guidelines (SECRDG) provide guidance to the Architectural Review Board, the Planning and Transportation Commission, and the City Council as these bodies review the design of private development along the southern portion of El Camino Real from Stanford Avenue to the southern City boundary.

The guidelines apply to all new development and remodeling of building exteriors on frontage properties along El Camino Real and are intended to provide guidance for the implementation of the urban design goals and objectives of the Comprehensive Plan. In order to realize these goals and objectives, the guidelines "encourage property owners, merchants, public officials, and the community to:

- Support land uses that locate higher density development closer to transit nodes and provide a compatible mix of uses in aesthetically pleasing, well-sited buildings
- Create an identity that is specific to Palo Alto
- Encourage design that compliments the streetscape concept and attracts additional private investment
- Ensure a healthy and vibrant market for new development projects, both large and small."

To a large extent, the focus of the design guidelines is to assure that new private development will result in the creation of a safe and attractive pedestrian environment along El Camino Real. To that end, the guidelines address issues and details ranging from lot coverage and site planning to the treatment of parking lots and building façades based on 10 Guiding Principles. While most of these principles are quite detailed, they are consistent with the objectives recommended by this Task Force.

One guiding principle of the SECRDG is more general in nature, defining a "pattern of pedestrian-oriented nodes linked by corridors." This is consistent with the findings of the Task Force in this study. However, the SECRDG defines three of these nodes between California Avenue and the south city limit, whereas the findings of the Task Force conclude that there are two (this is also consistent with the findings of the 2007 El Camino Real Planning Study).

This study also recommends extending the limit of these pedestrian-oriented nodes beyond the limits of both prior studies in order to more closely align with the service areas of the future BRT transit system, which was not yet planned at the time of those prior studies. Ideally, all areas of El Camino Real should receive pedestrian improvements. In addition, all studies, including this one, agree on the principle that specific areas (referred to as Mixed-Use Centers in this study) are candidate locations for a greater intensity and focus on improvements to strengthen a pedestrian-oriented environment.

El Camino Real Design Guidelines (1979)

http://www.cityofpaloalto.org/civica/filebank/blobdload.asp?BlobID=19040

Whereas the South El Camino Real Design Guidelines (2002) apply only to the area south of Stanford Avenue and were never formally adopted, the prior El Camino Real Design Guidelines (ECRDG), prepared in 1979, were adopted by the Architectural Review Board and were incorporated into the Zoning Ordinance. The El Camino Real Design Guidelines apply to the entire length of El Camino Real and are more general in nature.

El Camino Real Design Guidelines Update (Pending, 2012)

The El Camino Real Design Guidelines Update will modify the guidelines and combine two previous documents, the 1979 El Camino Real Design Guidelines and the South El Camino Real Design Guidelines. At the time of writing this report, a consultant was hired for the update but the study had subsequently been put on hold.

Palo Alto Bicycle + Pedestrian Plan (Final Draft, January 2012)
http://www.cityofpaloalto.org/depts/pln/transportation/bicycling/default.asp
At the time of this report, the City of Palo Alto Bicycle + Pedestrian Transportation Plan (BPTP) had recently been released in Final Draft form, awaiting City Council approval. The BPTP is intended to guide public and private investments in the city's non-motorized transportation facilities and related programs. The BPTP is comprehensive, providing guidance for the improvement, funding, and maintenance of pedestrian and bicycle facilities across the entire city. It expands the 2003 Bicycle Transportation Plan to include coverage of pedestrian issues, priorities, and design standards. It is intended that many of its components will be included in the Transportation Element of the Comprehensive Plan update.

All of the key recommendations of the BPTP that fall within the Study area have been included in the Task Force vision and recommendations summarized in this document, particularly those related to "Across Barrier Connections" related to the rail line and intersection improvements along El Camino Real and other major vehicular streets. In several instances, the visions of the Task Force suggest improvements that go beyond the recommendations of the BPTP, particularly in the areas of connectivity across the rail lines and strengthening of local pedestrian-oriented commercial districts: Mixed-Use Centers.

School Commute Corridors Network (2004)
http://www.cityofpaloalto.org/depts/pln/news/details.asp?NewsID=211&TargetID=107
In an effort to improve safety for children travelling to schools, the City Council adopted the School Commute Corridors Network in 2004. This network defines paths of travel and "Critical Intersections or Crossings" of major streets and the rail line. Several of these commute corridors and critical intersections fall within the boundaries of this study, notably along El Camino Real and Embarcadero Road, Churchill Avenue and Alma Street. Since 2004, few major actions have been taken to improve most of these critical intersections and crossings. However, as mentioned previously, improvements to one important intersection, at Stanford Avenue and El Camino Real, have recently been completed.

Throughout the study, the Task Force expressed concern about these and other locations, largely because all elementary-school-age children living within the study area are now required to travel to schools which are outside the study area, requiring crossing of these barriers. The recommendations of the Task Force summarized in this report go beyond those of the School Commute Network, with several additional recommendations.

Economic Impacts of High-Speed Rail and Caltrain Electrification in Palo Alto (2011)
The City Council authorized a special consultant to evaluate possible economic and property value impacts associated with the proposed Caltrain Electrification Program and the High-Speed Rail as currently planned by the California High-Speed Rail Authority. Four scenarios were evaluated for noise, vibration, circulation, air quality, aesthetics, property acquisition, and travel time.

The study found that enhanced transit service and reduced commuting travel time can significantly enhance property values throughout Palo Alto. The open trench option B1 from CHSRA has the potential to increase local property values compared to existing conditions, whereas the at-grade option A has the most problematic impacts to the City and may adversely affect local property values. Option B1 is also the most expensive alternative with the longest time to construct and would generate the least local spending. The HSR project is not expected to have major impacts on the City's fiscal budget, nor is it expected to affect the City's jobs/housing balance. The study concludes that the HSR/Caltrain project can best benefit Palo Alto by incorporating the following features:

- More frequent train service at higher speeds to reduce travel times for Palo Alto residents and workers, thereby enhancing property values throughout the community
- A maximum amount of subgrade tracks (covered, if feasible) to minimize negative noise, vibrations, and aesthetic impacts and potentially improve upon existing conditions
- Grade separations at every potential crossing for enhanced safety, vehicular circulation, and reduced noise from horns and crossing bells.

Economic Impacts of Caltrain Electrification in Palo Alto (2011)
Due to the possibility that the HSR project will not proceed as currently envisioned, economic and property value impacts in Palo Alto were evaluated for Caltrain electrification as a stand-alone project. It was concluded that Caltrain electrification will produce net positive, but modest economic impacts in Palo Alto. Transit service will improve as a result of electrification, which, along with quieter trains with lower vibrations and pollution emissions, will have a net positive impact on the community. However, more travel delays for drivers at the at-grade crossings and visual impacts for properties facing electrical facilities will occur.

Role and Guiding Principles of the High-Speed Rail Committee of the Palo Alto City Council (2010)

http://www.cityofpaloalto.org/knowzone/agendas/high_speed_rail_subcommittee.asp

The Palo Alto City Council appointed a sub-committee, know as the Rail Committee as a standing committee to study and advise the City Council on High-Speed Rail (HSR) and related transit matters, and to act on behalf of the City on these matters when sufficient time for a full City Council review is not available. The City Council adopted a set of guiding principles (December 2011) to guide the Committee's decision-making process and actions. The guiding principles state, among other things, that the High Speed Rail Project should be terminated, however, if the State should move forward the City is opposed to an elevated alignment of HSR/Caltrain in Palo Alto, and the City's preferred vertical alignment of fixed rail in Palo alto is below grade.

Palo Alto strongly supports Caltrain and the commuter rail service at the present or improved levels of service; and supports the modernization of Caltrain, and /or Caltrain as lead agent for a phased alignment but with independence of High Speed Rail. The guiding principles also emphasize that all neighborhoods in Palo Alto affected by High Speed Rail/Caltrain in Palo Alto should be treated with equal consideration with respect to vertical alignment impacts, provides support for transit and urban design solutions that will be compatible with our economic development strategies, transportation goals and vision of the transit corridor within our boundaries; HSR/Caltrain needs to complement the goals and strategies of the City's Comprehensive Plan; and Palo Alto expects all current rail crossing to remain active.

Planned Public and Private Projects

Due to the current economic environment, there are few projects currently in the planning or development stage in the study area. Active projects include the following:

- 420 Cambridge Street. A private four-story mixed-use project, containing four residential units above ground floor retail and semi-depressed parking to the rear. A zone change was granted to this project to allow the PTOD overlay zoning designation. Construction is nearing completion.
- 2650 Birch Street. A private four-story mixed-use project containing eight residential condominium units over ground-floor office and underground parking. A zone change was granted to this project to allow the PTOD overlay designation. Construction has not yet begun.

- 801 Alma Street. A private four-story 50-unit affordable family rental project replacing a substation and retail building. Construction was planned to begin in December, 2011.
- 4301 and 4329 El Camino Real (site of existing Palo Alto Bowl). This approved project includes a 4-story hotel and 26 townhouses on a 3.70 acre site.
- 355 Alma Street. A four-story mixed office and retail building on a former gas station site with 2.5 levels of below-grade parking, approximately 5,500 square feet of ground-floor retail, including 1,640 square feet of subsidized non-profit office space on the ground floor and three floors of office space located on floors 2-4 for a total floor area of 52,163 square feet.
- California Avenue Streetscape Project. This public project, sponsored by the City of Palo Alto, will provide streetscape improvements in the public right-of-way of California Avenue between El Camino Real and the California Avenue Caltrain station. The purpose of the project is to help revitalize the street by providing modern street design and amenities that will support the creation of a vibrant pedestrian and bicycle-oriented commercial and residential district that builds upon existing public art amenities. The project is partially funded by a grant from the VTA Community Design for Transportation Program and is currently in final stages of detailed design. The project as currently proposed includes a new 2-lane street cross-section (reduced from 4 lanes), additional on-street parking, raised mid-block pedestrian crossings, and enhanced planting, lighting, furnishings, public art and other amenities. At the Caltrain station, expanded seating, information kiosks and bicycle parking will be provided.
- 2180 El Camino Real. Rezone request from Commercial (CN) District to Planned Community (PC) District for a mixed use development with retail, residential, office and below-grade parking. The project includes a ground floor grocery.
- Alma Plaza. Mixed-use development with 37 residential units and retail, including a 20,000 SF grocery store. Under construction: Grocery store scheduled to open in fall 2012 and model homes are under construction.
- 395 Page Mill Road/3045 Park Blvd. Two three story office buildings with below grade parking and a three story parking garage with 7,000 sq. ft. of retail use on the ground floor. (Pending planning application for a Planned Community Zoning designation).
- 2875 El Camino Real. Request for Major Architectural Review Board review of a new 3,250 square foot, one-story retail/office building at 2875 El Camino Real. Zone District: Service Commercial (CS). ARB approved on 08.22.2011.
- 4073 El Camino Real. Request for Major Architectural Review Board review of a new 5,548 square foot, three-story mixed use building at the corner of El Camino Real and El Camino Way. The application includes a Design Enhancement Exception. Zone District: Neighborhood Commercial (CN). (Approved, no building permit).
- 4214-4220 El Camino Real. Request for Major Architectural Review Board review of a new four story, 174 room Hilton Garden Inn Hotel Pending planning application.

APPENDIX C | RESOURCES

Assembly Bill 32: Global Warming Solutions Act (2006)
http://www.arb.ca.gov/cc/ab32/ab32.htm

Bay Area FOCUS Program
http://www.bayareavision.org/initiatives/index.html

Bus Rapid Transit Strategic Plan (2009)
ARUP North America Ltd.
http://www.vta.org/brt/pdf/brt_strategic_plan_final_report.pdf

California Avenue Area Concept Plan (currently in progress)
Design, Community & Environment
http://www.paloaltocompplan2020.org/content/concept-plan-areas

California High-Speed Rail Project
http://www.cahighspeedrail.ca.gov/

Californians Advocating for Responsible Rail Design (CARRD)
http://www.calhsr.com/

City of Palo Alto Bicycle + Pedestrian Plan (2012)
Alta Planning & Design
http://www.cityofpaloalto.org/depts/pln/transportation/bicycling/default.asp

City of Palo Alto Comprehensive Plan
http://www.cityofpaloalto.org/knowzone/city_projects/land_use/comprehensive_plan.asp

City of Palo Alto Housing Element Update
http://www.cityofpaloalto.org/depts/pln/news/details.asp?NewsID=732&TargetID=85

City of Palo Alto Municipal Code, Title 18, Zoning Regulations
http://www.cityofpaloalto.org/knowzone/city_projects/land_use/zoning_ordinance.asp

City of Palo Alto Planning and Community Environment Department
http://www.cityofpaloalto.org/depts/pln/default.asp

Economic Impacts of Caltrain Electrification in Palo Alto (2011)
http://www.caltrain.com/

Economic Impacts of High-Speed Rail and Caltrain Electrification in Palo Alto (2011)
http://www.caltrain.com/

El Camino Real Design Guidelines (1979)
Architectural Review Board, City of Palo Alto
http://www.cityofpaloalto.org/civica/filebank/blobdload.asp?BlobID=19040

El Camino Real Master Planning Study (2007)
Community Design + Architecture
http://www.cityofpaloalto.org/civica/filebank/blobdload.asp?BlobID=14241

Grand Boulevard Initiative (El Camino Real)
http://www.grandboulevard.net/

Peninsula Rail Program
http://www.caltrain.com/projectsplans/Projects/peninsularailprogram.html

School Commute Corridors Network (2004)
http://www.cityofpaloalto.org/depts/pln/news/details.asp?NewsID=211&TargetID=107

Senate Bill 375: Sustainable Communities Act (2008)
http://www.arb.ca.gov/cc/sb375/sb375.htm

South El Camino Real Design Guidelines (2002)
Van Meter Williams Pollack and Kendall Planning & Design
http://www.cityofpaloalto.org/knowzone/city_projects/transportation/default.asp

Sustainable Communities Strategy (SCS) and the Regional Transportation Plan (RTP)
http://www.arb.ca.gov/cc/sb375/sb375.htm

Valley Transportation Plan 2035
http://www.vta.org/studies/vtp2035/index.html

APPENDIX D | RESOLUTION NO. 9316

Resolution No. 9316
Resolution of the Council of the City of Palo Alto Approving the Palo Alto Rail Corridor Study Report and Amending the Transportation Element of the Palo Alto Comprehensive Plan to Incorporate Certain Findings of the Report

RECITALS

A. The City Council adopted the 1998-2010 Comprehensive Plan in 1998, including the Transportation Element.

B. Policy T-1 provides that land use decisions shall be made that encourage walking, bicycling, and public transit use. The policy also states that transportation and land area are inextricably linked.

C. On July 10, 2010, the City Council directed staff to proceed with the preparation of the Rail Corridor Study.

D. The City has conducted a public outreach program in developing the Palo Alto Rail Corridor Study Report, (the "Project"), including convening a citizen task force, facilitating outreach to the community and coordinating with other City departments throughout 2010 to 2013.

E. The Architectural Review Board heard public comment and reviewed the Palo Alto Rail Corridor Study Report on May 24, 2012.

F. The Planning and Transportation Commission heard public comment and reviewed the Palo Alto Rail Corridor Study Report on May 30, 2012.

G. The City Council heard public comment and reviewed the Palo Alto Rail Corridor Study Report on June 25, 2012, September 18, 2012 and January 22, 2013.

H. The Council desires to amend the Comprehensive Plan to incorporate certain aspects of the Palo Alto Rail Study Report.

The Council of the City of Palo Alto RESOLVES as follows:

SECTION 1. The Palo Alto Rail Corridor Study Report, as amended by the Planning and Transportation Commission and Architectural Review Board is hereby approved.

SECTION 2. Policy T-1 of the Transportation Element of the City's Comprehensive Plan is hereby amended to add the following underlined language:

Make land use decisions that encourage walking, bicycling, and public transit use...

The overall vision is to create a vibrant, safe, attractive, transit-rich area with city and neighborhood mixed-use centers that provide walkable, pedestrian and bicycle-friendly places that serve the community and beyond; and to connect the east and west portions of the city through an improved circulation network that binds the city together in all directions. In 2013, the City approved the Palo Alto Rail Corridor Study Report to guide redevelopment along the rail corridor to be consistent with land use and transportation policies advocated in the Comprehensive Plan. Redevelopment along the rail corridor shall take into account the land use and transportation policies discussed in the Rail Corridor Study Report.

SECTION 3. The City Council adopted a Negative Declaration for this project in accordance with the California Environmental Quality Act.

INTRODUCED AND PASSED: January 22, 2013

AYES: BERMAN, BURT, HOLMAN, KLEIN, KNISS, PRICE, SCHARFF, SCHMID, SHEPHERD

NOES:

ABSENT:

ABSTENTIONS:

ATTEST:

City Clerk

APPROVED:

Mayor

APPROVED AS TO FORM:

Senior Asst. City Attorney

City Manager

Director of Planning
and Community Environment

2

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