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EXECUTIVE SUMMARY

The Grand Boulevard Initiative is a broad federation of private and public parties united to improve the performance, safety and aesthetics of El Camino Real. This Initiative challenges communities to rethink the corridor's potential for housing and urban development, balancing the need for cars and parking with viable options for transit, walking and biking.

The 47-member Grand Boulevard Task Force includes representation from 19 cities, San Mateo and Santa Clara counties, local and regional agencies, private business, labor and environmental organizations. The Task Force adopted the following vision to guide the work of the Initiative.

El Camino Real will 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.

This report is a first step towards understanding the current demographics, land use, transportation infrastructure and circulation, streetscape and landscape, and aesthetics and identity of the El Camino Real corridor. The information can help to identify issues along the corridor and develop collaborative solutions between jurisdictions and other participating agencies. Future areas of analyses will more fully address and support areas of interest identified by the Task Force and its Working Committee.

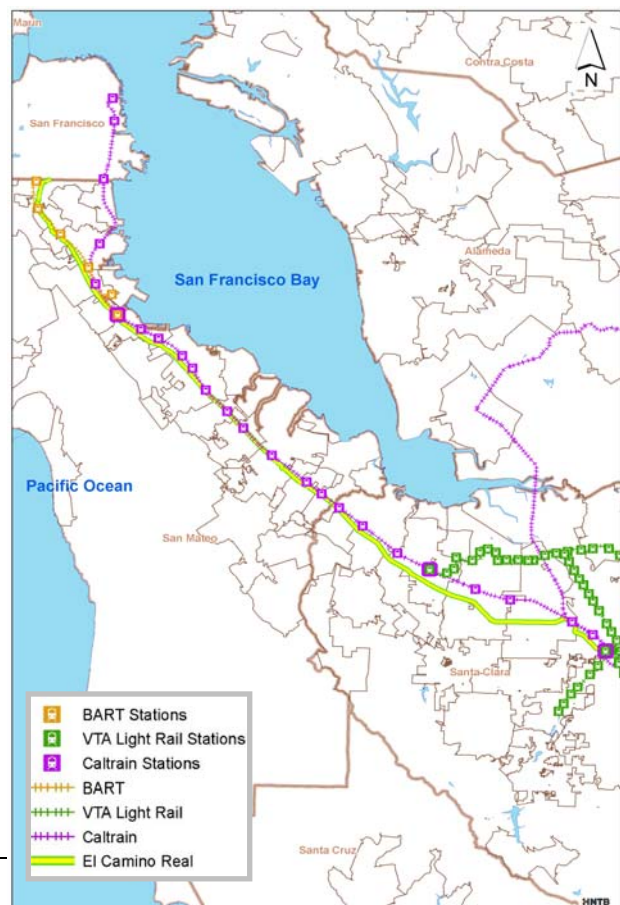
Study Area

El Camino Real stretches 43 miles down the San Francisco peninsula from Daly City (where it is called "Mission Street") to San Jose (where it is called "The Alameda"). The study area is defined as a ¼ mile strip on both sides of State Route 82, which forms the ½ mile wide El Camino Real corridor.

The Roadway

El Camino Real serves as the central spine connecting numerous central business districts and downtowns throughout the San Francisco Peninsula and South Bay. The roadway is two to three through lanes in each direction and the speed limit is 35 MPH, with a few segments at 25 and 40 MPH.

This critical arterial carries high volumes of traffic and a majority of key intersections experience "long traffic delays" (Level of Service D) during peak





hours. Forty intersections along El Camino Real exceed the state average accident rate.

The streetscape is auto-oriented and the experience for pedestrians and bicyclists is poor. There are no designated bike lanes on El Camino Real. Some areas have bike routes that run parallel to the roadway on side streets, but these routes are inconsistent and discontinuous. Pedestrian facilities along the corridor mainly consist of crosswalk and sidewalk areas.

Currently, the only common identity carried throughout the corridor includes old mission bells symbolizing the history of El Camino Real. Each city along the corridor provides some level of identity within its own city limits, typically by the installation of city gateway signs and/or banners.

There are limited signage, street furniture, and other amenities that define a sense of place.

Transit Infrastructure and Use

Transit infrastructure and service on El Camino Real are significant. All five San Mateo County BART Stations are located on or in close proximity to the highway, with 35,000 weekday boardings. VTA plans to build BART stations at the Diridon and Santa Clara stations. The ten Caltrain stations located with ¼ mile of El Camino Real and additional five stations located within ½ mile of the highway account for 17,500 weekday boardings, 55% of system wide boardings. Bus service on El Camino is the backbone of both the VTA and SamTrans systems for both frequency and ridership. VTA's recently introduced 522 Rapid service combined with Route 22 constitute approximately 20% of all weekday boardings in Santa Clara County. SamTrans' 390 and 391 mainline El Camino bus routes account for 25% of daily passenger trips.

Corridor residents have slightly shorter commute trip lengths than total county residents. Yet pedestrian and bicycle access to transit on the corridor is difficult and the mode split for trips by corridor residents does not reflect significantly higher transit use than for the counties as a whole. Only a slightly smaller percentage of corridor residents drive to work (83%) compared to San Mateo County (85%) and Santa Clara County (90%).

Land Use, Jobs and Housing

Current land use is relatively low density throughout the corridor with no locations of both high population density and high employment density. Pockets of relatively high population density occur within the corridor in Daly City, San Bruno, Redwood City, Palo Alto, and Mountain View. Forty percent of the land use within the El Camino Real corridor is housing, with 27% of land area in single-family and 13% multi-family use. Right of way accounts for 24% of land area, followed by retail/office/commercial use for 20% of land area. A lower percentage of corridor residents own their homes (47%) as compared to each county as a whole (60%).



The population of the corridor rose 2% from 2000 to 2005 (a comparatively higher increase than both counties) and is expected to increase by 28% by the year 2030. Employment density is expected to increase by approximately 7% every five years till the year 2030. The report identifies 14 major activity centers, including downtown areas, shopping malls and clusters of commercial development.

There are more jobs in each county than there are households and this imbalance is projected to increase in both counties. In 2005, San Mateo County had a 1.3:1 jobs-to-households ratio and Santa Clara County had a 1.5:1 ratio, while the Bay Area had a 1.4:1 ratio. In 2030, both counties are projected to exceed the projected Bay Area ratio of 1.6:1, with San Mateo County projected at 1.7:1 and Santa Clara County projected at 1.8:1.

Corridor Residents

The demographic data contained in this report is based on those census tracts that are located on or adjacent to El Camino Real. The corridor population of approximately 434,000 accounts for 18% of both Santa Clara County and San Mateo County residents.

Corridor residents have a slightly higher median age than the county in which they reside, while income is close to the median in each county. Household size within the corridor tends to be smaller with a higher percentage of one and two-person households than the rest of the counties. The corridor also has a higher percentage of white residents than either county.

City and County Plans and Planned Projects

City and County plans support increased density in the corridor and concentrations of population and jobs at major activity centers. Several roadway and development projects are planned or underway that will improve the corridor, such as the Palo Alto El Camino Schematic Plan, improvements to Caltrain stations and Caltrans traffic signalization projects. Common themes identified in planning documents are:

1. Target growth in strategic areas along the corridor.
2. Encourage compact mixed-use development and high-quality urban design and accommodate a range of incomes and ages.
3. Create a pedestrian-oriented environment and improve streetscapes.
4. Develop a transit-oriented corridor, and maintain and improve corridor throughput [capacity].
5. Provide vibrant public spaces and gathering places.
6. Preserve and accentuate unique community character and identity.
7. Improve safety and public health.
8. Preserve and enhance existing adjacent neighborhoods.
9. Strengthen pedestrian and bicycle connections with the corridor.



1.0 Introduction

This existing conditions assessment is a first step toward understanding current demographics, land use, transportation infrastructure and circulation, safety, streetscape and landscape environment, and aesthetics and identity in the El Camino Real corridor. This information can help to identify issues along the corridor and develop collaborative solutions between jurisdictions and other participating agencies. Future analyses will more fully address and support areas of interest identified by the Task Force and Working Committee.

This report covers four primary areas related to the El Camino Real experience:

1. **Demographics**
2. **Land Use**
3. **Transportation Infrastructure and Circulation**
4. **Amenities/Identity**

Several studies, general plans, specific plans, and data sources have informed this report and the maps presented in the appendices. A list of reference documents is presented in Appendix A. Some of the key documents and source data include:

- The City/County Association of Governments (C/CAG), Design, Community & Environment (DCE), and The Association of Bay Area Governments (ABAG) provided land use data for San Mateo and Santa Clara Counties (2005/2006).
- SamTrans, VTA, Caltrain, and BART provided Geographic Information System (GIS) transit and ridership data (2005/2006).
- The U.S. Census Bureau provided Census 2000 data.
- ABAG Projections 2005 provided population, employment and demographic data for Santa Clara County.
- Caltrans provided speed limit, number of lanes, traffic volumes, and accident data (2002-2005).
- Main Street Silicon Valley (2004).

1.1 The Grand Boulevard Initiative

The Grand Boulevard Initiative is a collaboration of 19 cities, two counties, and several regional and local agencies and other stakeholders united in an effort to transform this vital corridor, which stretches from Daly City to San Jose. The vision adopted by the Grand Boulevard Task Force is:

El Camino Real will 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.



Agencies represented on the 47-member Task Force, which acts as the policy body for the initiative, include:

Counties:

- Santa Clara County
- San Mateo County

Cities:

- Daly City
- Colma
- South San Francisco
- San Bruno
- Millbrae
- Burlingame
- Hillsborough
- San Mateo
- Belmont
- San Carlos
- Redwood City
- Atherton
- Menlo Park
- Palo Alto
- Los Altos
- Mountain View
- Sunnyvale
- Santa Clara
- San Jose

Transit Operators:

- Santa Clara Valley Transportation Authority (VTA)
- San Mateo County Transit District (SamTrans)
- Peninsula Corridor Joint Powers Board (Caltrain)

Others Public Agencies:

- California Department of Transportation (Caltrans)
- San Mateo County City/County Association of Governments (C/CAG)
- Association of Bay Area Governments (ABAG)
- Metropolitan Transportation Commission (MTC)

Other Task Force members:

- Joint Venture Silicon Valley Network
- San Mateo County Economic Development Association (SAMCEDA)
- Committee for Green Foothills
- The Greenbelt Alliance
- BT Commercial / Terronomics
- Safeway
- Stanford University
- Building Trades Council of San Mateo County
- Building Trades Council of Santa Clara County
- Mills Peninsula Health Services
- Electronic Arts
- Peninsula Habitat for Humanity



1.2 Study Area: El Camino Real Corridor

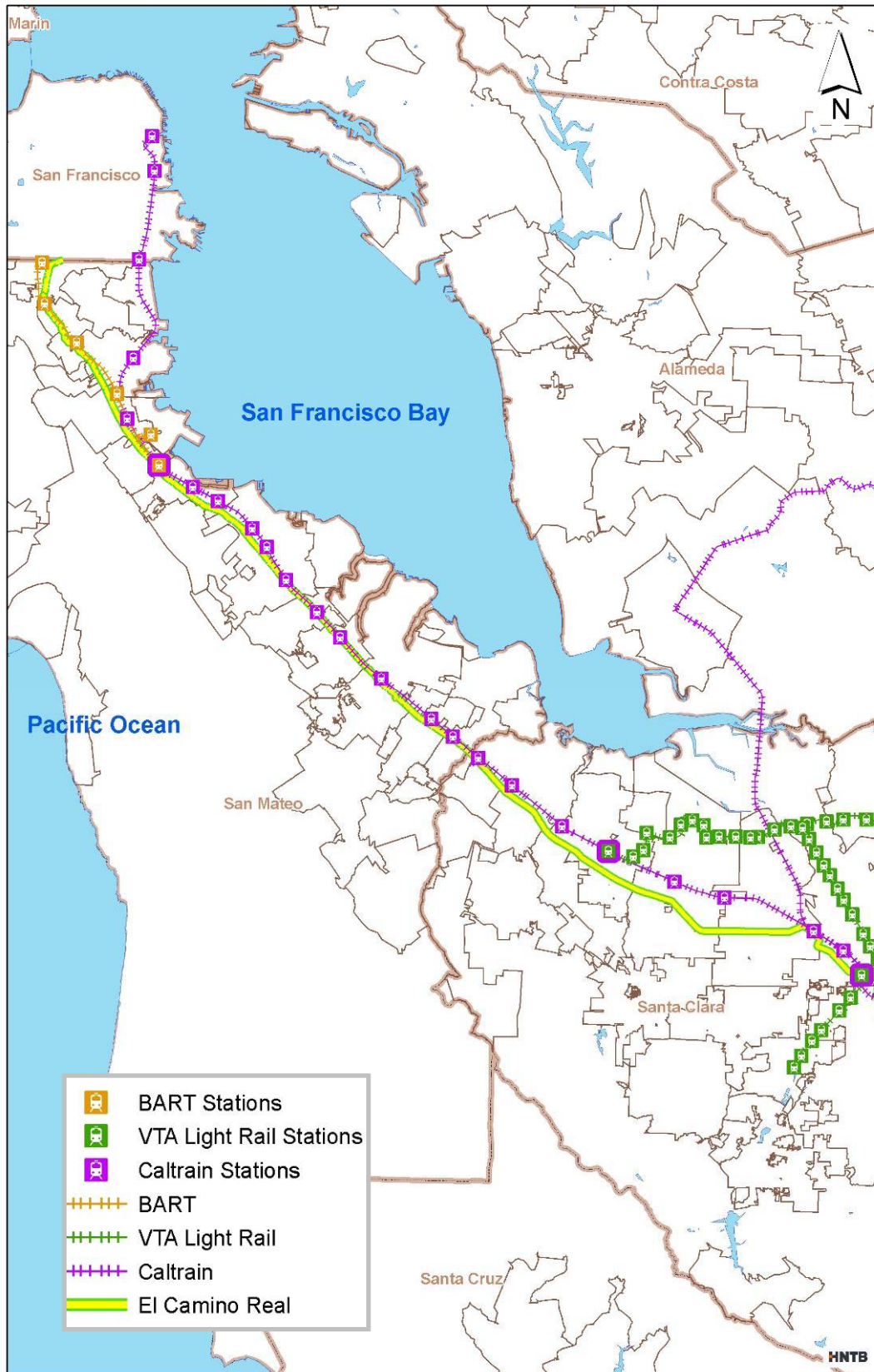
El Camino Real was originally established as a road to connect the early Franciscan missions in California which spanned over 600 miles. Rail service began on what is today's Caltrain line in 1864. Completion of the BART extension to San Francisco Airport in 2003 and improvements to Caltrain constitute significant recent investment to improve rail service on the Peninsula. Bus service is provided by VTA in Santa Clara County and SamTrans in San Mateo County. This historic road that once served most of California now functions as a main arterial for these two counties rather than a road that provides long distance statewide travel.

The Grand Boulevard Initiative Study Area spans 43 miles along the El Camino Real Corridor from Daly City in the north, where the corridor is known as Mission Street, to San Jose in the south, where it is known as The Alameda. The study area end points are the San Francisco/Daly City border in the north and the area of San Jose's Diridon Caltrain Station in the south. This assessment of existing conditions is based on a ¼ mile buffer on each side of the center line of El Camino Real. Caltrans designates Mission Street/El Camino Real/The Alameda as State Route 82.

A map of the study area is presented in Figure 1-1 on the following page.



Figure 1-1: Study Area Map





1.2.1 Corridor Improvement Studies

Numerous planning and design efforts have focused on the El Camino Real corridor in recent years. In addition, several cities and agencies along the corridor have studied El Camino Real within their own jurisdictions. Some of these efforts are highlighted below.

Transforming El Camino Real (2006)

SamTrans was awarded a Transportation for Livable Communities Planning grant from MTC, in partnership with the cities of Belmont, San Carlos, and Redwood City, to integrate each city's Caltrain station with El Camino Real by improving roadway design and station access. This project was developed as part of the Grand Boulevard Initiative to link transportation and economic development along a revitalized El Camino Real. The collaborative planning effort in each city involved several different stakeholders including citizen advisory committees, cities, business owners, and residents, as well as a technical advisory committee.

Main Street Silicon Valley (2004)

The Main Street Silicon Valley Project examined state Highway 82 (Mission Street/El Camino Real/The Alameda/Monterey Highway) between Daly City and Gilroy. The result of the project was the identification of 15 shared issues that define the common challenges confronted by all of the study area communities. These 15 issues can be grouped into four major categories that serve as the organizing themes for the Main Street Silicon Valley project. These four themes and 15 shared issues are:

Current Patterns

1. *Economic Function:* Renew and revitalize commercial and business districts along the corridor to maintain and enhance economic stability.
2. *Parcelization:* Undertake parcel assembly efforts and adopt policies that promote appropriate uses and design.
3. *Development Patterns:* Alter current development patterns along the corridor to stimulate economic growth, increase housing supply and/or improve the corridor's appearance.
4. *Building Orientation and Form:* Adopt policies that promote visually compatible, street-facing, side-by-side development.

Mobility

5. *Street Type:* Create design and development policies that encourage incremental efforts to create a corridor-wide character and improve the attractiveness of the street.
6. *Transit:* Enhance the variety of transit options available along the corridor, including bus and rail. The success of transit can be measured in several ways: patronage, service frequency, fare-box recovery, congestion relief or reduced travel times. A key challenge is to include pedestrian accessibility. There are various opportunities for transit to better succeed along El Camino Real, potentially including Bus Rapid Transit.
7. *Traffic Operations:* Optimize traffic operations by including ITS as a cost-effective means to improve traffic flow, uniform medians, ramps and continuous connected sidewalks; continuous bicycle lanes; and upgraded transit facilities.



8. *Parking*: Improve parking conditions by creating shared parking, relocating on-street parking to the rear or side of commercial land uses, allowing underutilized segments of on-street parking for bus stop facilities, and relaxing parking requirements in areas close to transit stops.

Transition to the Future

9. *Community Identity*: Foster a community identity through distinctive buildings, streetscapes, gateways and signage.
10. *Streetscape Design*: Improve streetscape design along the corridor through amenities such as street trees, frontage landscaping or sidewalks.
11. *Transit-Oriented Development*: Encourage transit-oriented developments that include dense, mixed-use developments that combine residential, commercial/retail and recreational uses.
12. *Mixed-Use Development*: Encourage mixed-use development that incorporates a combination of economic and physical-design factors.
13. *Neighborhood Preservation and Interface*: Encourage single-family residential areas in neighborhoods adjacent to El Camino Real. Without the support of adjacent single-family residential neighborhoods, new infill frontage development envisioned by many for the corridor may experience political resistance. New development and/or major property renovations can create buffers along rear property lines, and service facilities can be relocated or screened.

Policies and Process

14. *Public Policies and Process*: Examine current public policies and processes to identify inconsistencies between regulatory framework visions for development.
15. *Implementation*: Using the renewed interest of cities, counties and transportation agencies in revitalizing the e El Camino Real corridor, encourage the collaborative efforts needed to implement land-development and street-improvement projects.

Peninsula Corridor Plan (2003)

Seven cities in San Mateo County (Daly City, Colma, South San Francisco, San Bruno, Belmont, San Carlos and Redwood City) participated in the Peninsula Corridor Plan project lead by SamTrans, San Mateo County and SAMCEDA. The study resulted in concept plans for station areas in each city and recommended 14 strategies to use the transportation system, especially BART and Caltrain train stations, as a catalyst for creating a vibrant community. The strategies are as follows:

1. Create active, attractive, community public spaces at stations.
2. Provide amenities at stations.
3. Design grade separation projects to connect communities.
4. Ensure that stations and stops are optimally located for good physical and visual station access.
5. Create safe and pleasant station access for pedestrians and bicyclists.
6. Make positive commuter transfer experiences by clustering amenities at central locations.
7. Optimize signs and information.
8. Transform El Camino Real into a great street.
9. Make buses more attractive by adopting efficiency features used in light-rail transit.



10. Encourage more pedestrian oriented, mixed use development in downtown areas.
11. Include public gathering spaces as part of new development.
12. Make parking facilities more efficient and less visually intrusive.
13. Encourage walking by making attractive, comfortable and safer streets.
14. Encourage creation of business improvement districts.

Palo Alto Master Schematic Design Plan (2002)

The City of Palo Alto conducted a traffic study of El Camino Real and explored how it can be changed from an auto-oriented roadway to a multimodal roadway facility in the future. The overall goals of the future design are to change the character of El Camino Real from a highway designed primarily for motor vehicle mobility to:

- A fully multimodal urban thoroughfare that maintains mobility 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.

Additional goals include:

- Improve quality of life along El Camino Real while protecting its adjacent neighborhoods and districts;
- Create economic benefits for both businesses and property owners along El Camino Real and for the City of Palo Alto; and,
- Make positive change soon with full development occurring incrementally over time.

South El Camino Real Design Guidelines (2002)

These design guidelines, developed by the City of Palo Alto, apply to all new development and the remodeling of building exteriors of frontage properties along El Camino Real between Stanford Avenue and the southern city limit boundary. The guidelines were developed to support the city's vision for a diverse mix of urban developments along the El Camino Real corridor.

El Camino Real Master Plan (2001)

The City of San Mateo's El Camino Real Master Plan recognizes El Camino Real as a major thoroughfare and backbone of urban mixed use development. The plan addresses streetscape, land use recommendations, design guidelines for private development, and an implementation program for sub-segments of the corridor throughout the city.

1.2.2 Redevelopment Areas

Nine of the 19 cities along the corridor have established redevelopment areas that include some portion of El Camino Real/Mission Street. Cities create redevelopment areas to eliminate blight from a struggling urban area, encourage development, reconstruction and rehabilitation of buildings and public spaces in that area. Redevelopment project areas can include residential, commercial, industrial, and retail districts.



Redevelopment areas along the corridor are listed in Table 1-1 and are mainly commercial areas.

Table 1-1: Redevelopment Areas

City	Redevelopment Area
Daly City	The entire length of Mission Street
South San Francisco	Approximately between Hickey Boulevard and Orange Avenue (the majority of El Camino Real within the city limit)
San Bruno	The entire length of El Camino Real through the city
Millbrae	The entire length of El Camino Real through the city
San Mateo	East side of El Camino Real between St Matthews Ave and Notre Dame Avenue
Belmont	The entire length of El Camino Real through the city
San Carlos	Between the southern border and Hull Drive (almost entire length of El Camino Real within the city limit)
Redwood City	Both sides of El Camino Real between Charter Street and Whipple Avenue
Sunnyvale	North side of El Camino Real between Carroll Street and Mathilda Avenue

1.2.3 Common Themes

A review of planning documents for the different jurisdictions surfaced common themes for the future character and function of El Camino Real. Documents reviewed to assess common themes are marked with an asterisk in Appendix A.

These common themes are:

1. Target growth in strategic areas along the corridor
2. Encourage compact mixed-use development and high-quality urban design and accommodate a range of incomes and ages
3. Create a pedestrian-oriented environment and improve streetscapes
4. Develop a transit-oriented corridor, and maintain and improve corridor throughput [capacity]
5. Provide vibrant public spaces and gathering places
6. Preserve and accentuate unique community character and identity
7. Improve safety and public health
8. Preserve and enhance existing adjacent neighborhoods
9. Strengthen pedestrian and bicycle connections with the corridor



2.0 Demographic Profile

Section Highlights

Population	<ul style="list-style-type: none">• 18% of the total population and 21% of households reside in the corridor.• Population density within the corridor is relatively low and there is nowhere with a high density of both employment and population.• Significant population growth of 28% by 2030 is projected.
Employment	<ul style="list-style-type: none">• 7 % projected employment growth every five years along El Camino Real
Socio-Economic Profile	<ul style="list-style-type: none">• Household size is smaller than the counties with 60% one- and two-person households.• Annual median income (\$72,600) and median age (36) is similar to the counties.• 64% White population in the study area.

The demographic data (population, employment, and socio-economic) for the corridor is from those census tracts that are located on or adjacent to the El Camino Real. Some census tracts along El Camino Real cover an area larger than the designated 1/4 mile buffer on each side of El Camino Real that defines the normal study area for this report. The census tracts included in the demographic study area are illustrated in maps contained in Appendix D. Any reference to the corridor in the following three sections is based on those census tracts.

The demographic data in the following sections for San Mateo County is from the 2000 census and the demographic data for Santa Clara County is based on the Association of Bay Area Governments (ABAG) Projections 2005 data.

2.1 Population

In 2005, the population along El Camino Real was 434,250, which represents 18% of the total population for San Mateo and Santa Clara counties. The population of San Mateo County decreased by 1% between 2000 and 2005 due to a net decrease in employment in the county. The population of Santa Clara County increased by 1% during the same period. Comparatively, the population within the corridor increased by 2% from 2000 to 2005, which is higher than the population changes for both counties.

The maps in Figures D-1 and D-2 in the Appendix illustrate the existing population density in San Mateo County and Santa Clara County, respectively. These maps show that population density fluctuates significantly along the corridor. The average population density for the entire corridor is approximately 9,248 persons per square mile.

Pockets of relatively high population density compared to the rest of the corridor (reaching as high as 31,887 persons per square mile) occur in Daly City, San Bruno, Redwood City, Palo Alto, and Mountain

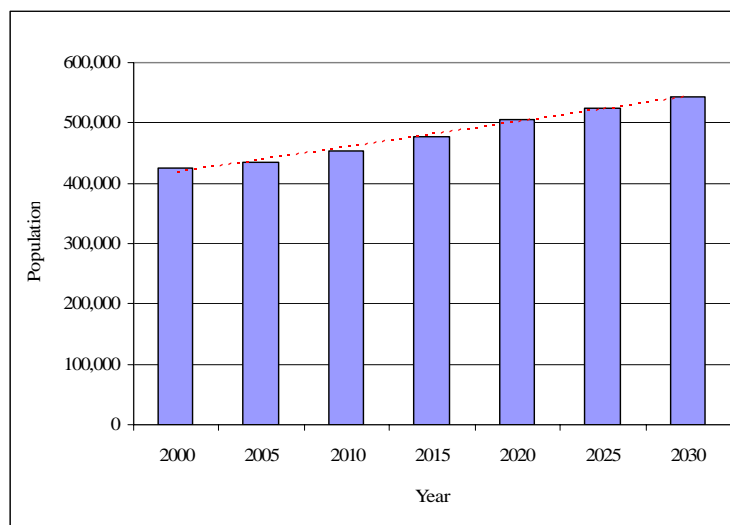


View. These are also areas where population density is expected to increase significantly over the next 25 years. Most parts of Daly City along the corridor have high population density. San Bruno has a mixture of population density, with relatively high population density on the east side of the El Camino Real and very low to low population density on the west side. Redwood City, Palo Alto and Mountain View have pockets of high population density along the corridor, but overall have low population density along the corridor as is the case with most cities along the corridor.

Population in the census tracts along El Camino Real is projected to increase by 28% between 2000 and 2030, as illustrated in Figure 2-1. Areas with particularly high projected population density include:

- **Daly City and Colma:** along the east side of Mission Street/El Camino Real
- **South San Francisco:** on the east side of El Camino Real in the vicinity of the BART station
- **San Bruno:** between the Caltrain line and El Camino Real in the vicinity of the station
- **San Mateo:** extending eastward from El Camino Real in the area between the downtown and Burlingame Caltrain stations, and extending south and east from El Camino Real at the future combined Hillsdale/Bay Meadows Caltrain station
- **Redwood City:** east and west of El Camino Real in the vicinity of the Caltrain station
- **Palo Alto:** the Stanford University campus
- **Mountain View:** north of El Camino Real and east of Shoreline Boulevard
- **Santa Clara:** north of El Camino Real between San Tomas Expressway and Scott Boulevard

Figure 2-1: Population Forecasts for the El Camino Real Corridor (Year 2000 to Year 2030)



Source: ABAG, 2005

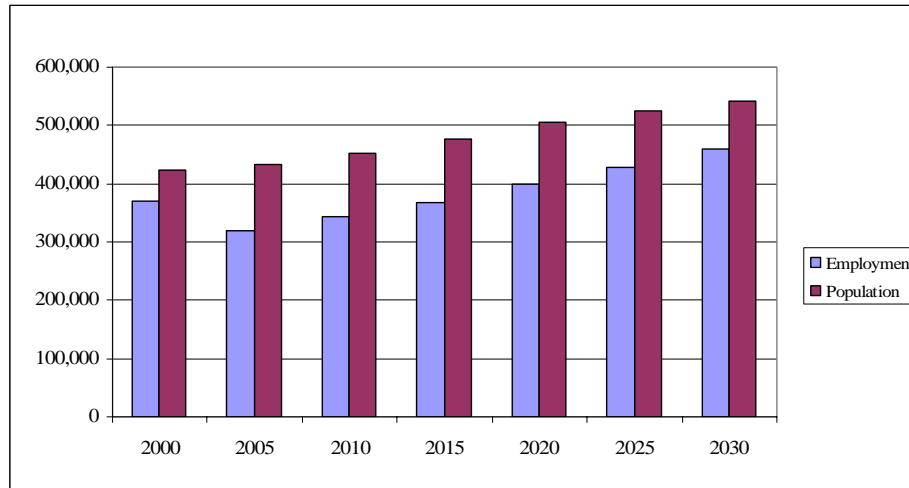
2.2 Employment

Employment along El Camino Real decreased by 13% from 2000 to 2005, but the population still increased by 2%. ABAG projects that employment will increase by 7% every five years from 2005 to



2030. Figure 2-2 shows the projected population growth along the corridor compared to the projected employment growth.

Figure 2-2: Population and Number of Employees along El Camino Real Corridor



Source: ABAG, 2005

As illustrated in the Population and Employment Density maps in Appendix D, employment density is relatively low in most parts of the corridor. Although, pockets of high employment densities occur at several locations along the corridor, including San Jose, Santa Clara, Mountain View, Palo Alto, Redwood City, San Mateo, and San Bruno. Palo Alto has the highest employment density on the corridor.

In general, the southern end of the corridor has lower population densities than the northern of the corridor. The central part of the corridor has the highest employment density (from Redwood City to Palo Alto). The population and employment density maps show that there are no locations where both population and employment densities are high.

2.3 Socio-Economic Profile

Income

The median household income in 2000 on El Camino Real was \$72,573, which is similar to the median household incomes of San Mateo and Santa Clara counties (\$70,819 and \$74,335 respectively). Among those census tracts located along the corridor, the highest median income was \$200,000 in Burlingame and the lowest was \$30,701 in the Stanford area of Palo Alto.

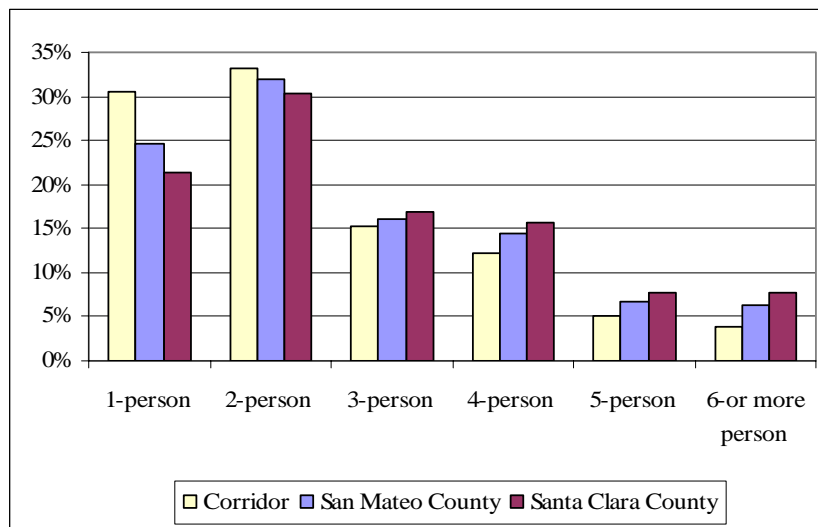
Households

In 2000, there were 169,022 households in the El Camino Real corridor, which represents 21% of all total households in San Mateo and Santa Clara Counties.



Figure 2-3 shows the household size for the corridor and both counties. About 30% of the households in the corridor are 1-person households, compared to 25% and 21% for San Mateo and Santa Clara counties respectively. The corridor, San Mateo County and Santa Clara County all have similar proportions of 2-person households (about 30% of total households). Compared to both counties, the percentage of 4-or more person households in the El Camino Real corridor is lower.

Figure 2-3: Household Size

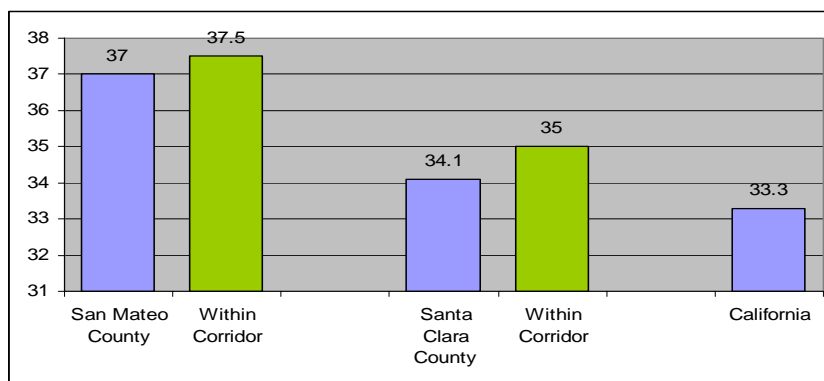


Source: US Census Bureau - Census 2000

Age

The median age for the corridor is 36.3 based on Census 2000 data (Figure 2-4). For each county, the average median age in the corridor is slightly older than the median age for that county. The few census tracts in the corridor that have a median age of 40 years or older are located in the cities of Burlingame, Hillsborough, Los Altos, and Atherton. The census tracts along the corridor which had the lowest median age were the two tracts which included Stanford University (20.7) and Santa Clara University (22.5). Excluding the Santa Clara University and Stanford University census tracts, the median age for the entire corridor is 37.

Figure 2-4: Median Age



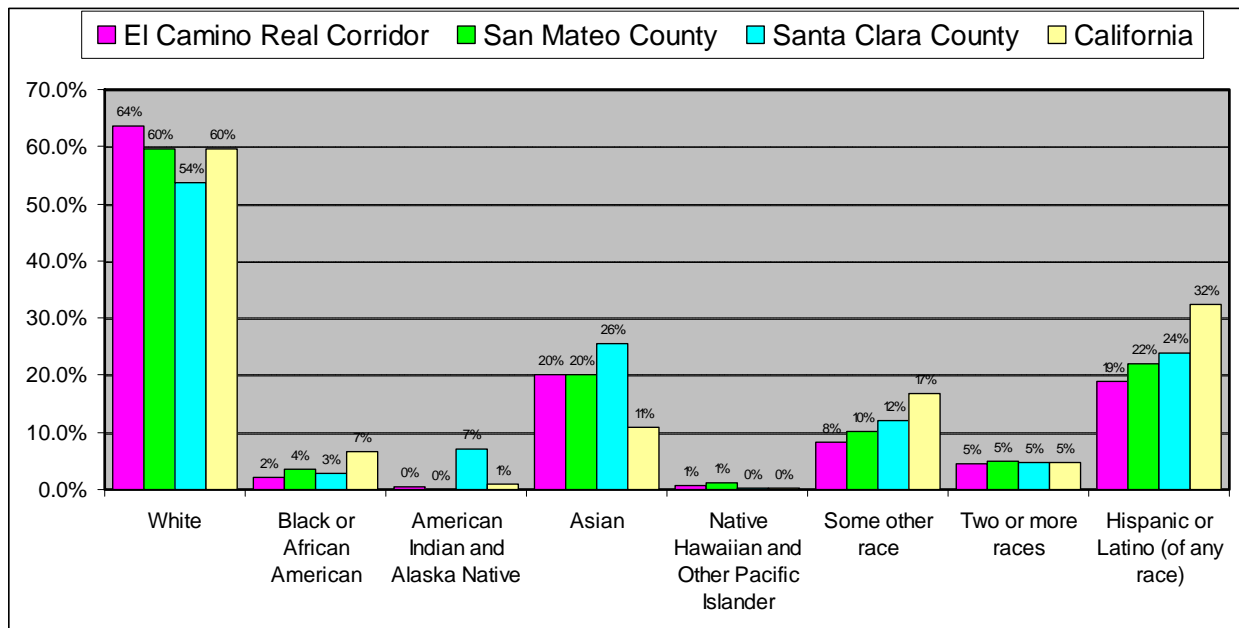
Source: ABAG, 2005



Race

In 2000, 64% of the El Camino Real corridor population was White, 20% was Asian, and 2% was Black or African American. Approximately 19% of the corridor population is Hispanic or Latino. Figure 2-5 shows how the corridor compares to racial demographics in San Mateo County, Santa Clara County, and all of California.

Figure 2-5: Race of Residents living along the El Camino Real Corridor



Source: US Census Bureau - Census 2000



3.0 Land Use in the Study Area

Section Highlights

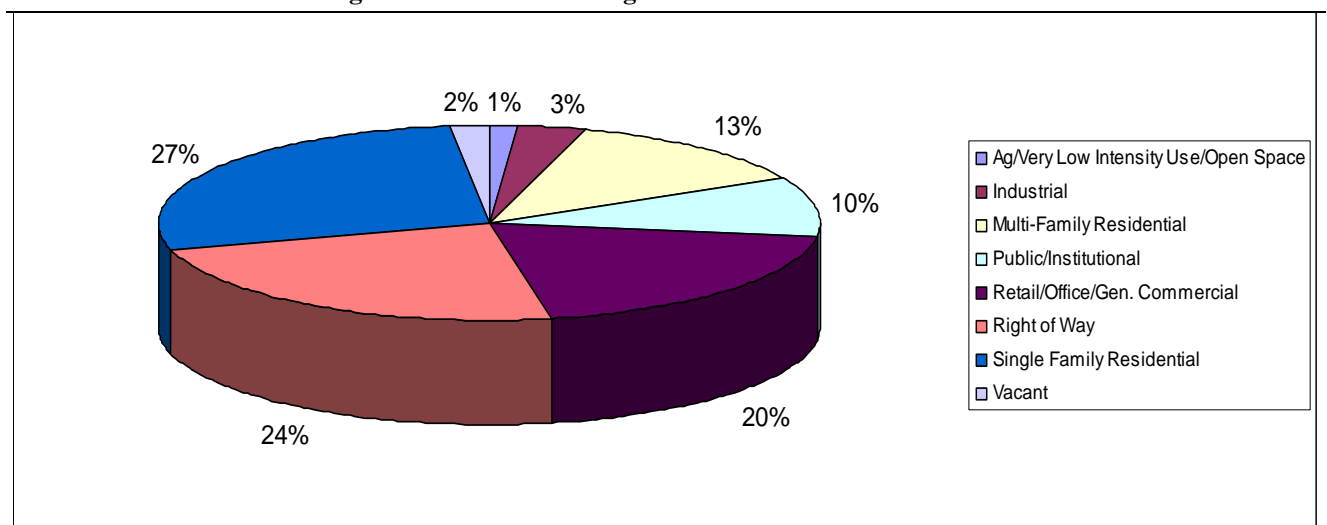
Existing Land Uses

Housing	<ul style="list-style-type: none"> 40% of land use is housing in the El Camino Real study area (27% single family and 13% multi-family) 47% of residents within the corridor own their home compared to 60% in the counties
Jobs	<ul style="list-style-type: none"> 23% of land use in the El Camino Real study area is industrial and retail/office/commercial along El Camino Real
Jobs to Housing Ratio	<ul style="list-style-type: none"> The imbalance of jobs to housing is projected to increase.
Activity Centers	<ul style="list-style-type: none"> 14 major activity centers
Nodes	<ul style="list-style-type: none"> 17 major transit nodes
Planned Land Uses	<ul style="list-style-type: none"> 6 identified major planned land use changes/specific area plans

3.1 Existing Land Use

Existing land uses in the El Camino Real corridor are predominantly housing (40%), followed by right of way (24%) and retail/office/commercial (20%), as illustrated in Figure 3-1. All land use data is presented for the ¼ mile buffer on each side of El Camino Real. In 15 of the 19 cities located along El Camino Real, single family housing accounts for the highest land use within the corridor.

Figure 3-1: Land Use along El Camino Real Corridor



Source: San Mateo County Land use data provided by C/CAG and DC&E, 2006.
Santa Clara County land use data provided by ABAG and VTA, 2006.



San Mateo County

- The jurisdictions with the largest percentage of their total land area in the corridor study area include: San Mateo (15%), South San Francisco (10%), Burlingame (10%), Redwood City (9%), and San Bruno (9%).
- Single family residential comprises the largest category of land use (32%), followed by right of way (26%), and retail/office/general (17%), which is similar for the corridor as a whole.
- **Single Family Residential:** The cities in which this land use is concentrated include Hillsborough (78%), Atherton (67%), and Daly City (42%).
- **Right of Way:** The cities where the El Camino Real right of way occupies the greatest space include Millbrae (33%), Redwood City (32%), and Daly City (31%).
- **Retail/Office/General Commercial:** The cities with the highest concentrations of this land use include Menlo Park (31%), Millbrae (23%), South San Francisco (23%), San Bruno (22%), and Redwood City (21%).
- **Multi-Family Residential:** The cities with the highest concentrations of multi-family use include San Mateo (14%), Menlo Park (13%), Redwood City (11%), Belmont (10%), and Burlingame (10%).
- **Industrial:** The city with the greatest concentration of industrial land use is San Carlos (21%), followed by the unincorporated parts of the county (14%).
- **Vacant:** While vacant land is low in most cities, the cities with the relatively highest levels of vacant land include the unincorporated parts of the county (8%), Millbrae (6%), Colma (5%), and San Bruno (5%).
- **Public/Institutional:** Colma has the greatest concentration of this type of land use within its city (62%).
- **Ag/Very Low Intensity Use/Open Space:** All cities have relatively low levels of this land use category. Those with the relatively highest levels include Atherton (2%) and San Mateo (2%).

Santa Clara County

- The jurisdictions with the largest percentage of their total land area in the corridor study area include: Santa Clara (23%), Sunnyvale (21%), Palo Alto (19%), and Mountain View (18%).
- Countywide, single family residential, retail/office/general, and right of way are fairly evenly split (23%, 22%, and 21%, respectively), with multi-family residential closely behind (18%).
- **Single Family Residential:** By far Los Altos has the greatest concentration of this type of land by far (47%), followed by San Jose (27%) and Santa Clara (25%).
- **Retail/Office/General Commercial:** Most cities in Santa Clara County have concentrations of 20-25% for this type of land use, as follows – Palo Alto (27%), Mountain View (25%), Los Altos (24%), Santa Clara (23%), and Sunnyvale (23%).
- **Right of Way:** The cities where the El Camino Real right of way occupies the greatest space include San Jose (26%), Mountain View (23%), and Palo Alto (22%).
- **Multi-Family Residential:** The cities with the highest concentrations of this land use include Mountain View (29%) and Sunnyvale (22%).



- **Public/Institutional:** Stanford represents the greatest concentration of this type of land use (99%). Santa Clara has the next largest concentration among cities (10%).
- **Industrial:** All cities have relatively low levels of this land use category. San Jose has the relatively highest level of this type of land use (7%).
- **Ag/Very Low Intensity Use/Open Space:** All cities have relatively low levels of this land use category. Sunnyvale has the relatively highest level of this type of land use (5%).
- **Vacant:** This land use type is very low in the corridor, about 1%, in each city in Santa Clara County.



Table 3-1: Land Use by City in San Mateo County (within ¼ mile buffer along El Camino Real)

	Ag/Very Low Intensity Use/ Open Space	Industrial	Multi-Family Residential	Public/ Institutional	Retail/Office/ General Commercial	Right of Way	Single Family Residential	Vacant	Total	% City Total in County
Atherton										
Land Use Area	254,549			1,976,849	201,293	2,869,316	11,264,414	251,436	16,817,857	5%
% City Total	2%			12%	1%	17%	67%	1%	100%	
Belmont										
Land Use Area	270,555	868,197	1,937,257	842,649	2,215,736	4,982,221	6,746,989	610,486	18,474,090	5%
% City Total	1%	5%	10%	5%	12%	27%	37%	3%	100%	
Burlingame										
Land Use Area	346,577	1,316,830	3,579,523	1,751,065	4,618,949	9,713,805	14,537,916	163,844	36,028,510	10%
% City Total	1%	4%	10%	5%	13%	27%	40%	0%	100%	
Colma										
Land Use Area	54,177	332,048	44,172	11,222,155	2,430,961	2,308,691	880,298	863,812	18,136,315	5%
% City Total	0%	2%	0%	62%	13%	13%	5%	5%	100%	
Daly City										
Land Use Area	193,724	110,692	1,147,969	1,296,527	2,599,663	7,155,485	9,638,735	984,631	23,127,426	7%
% City Total	1%	0%	5%	6%	11%	31%	42%	4%	100%	
Hillsborough										
Land Use Area					120,308	918,088	3,727,104	4,546	4,770,046	1%
% City Total					3%	19%	78%	0%	100%	
Menlo Park										
Land Use Area		125,231	2,330,033	318,298	5,560,002	4,834,021	4,584,982	381,940	18,134,507	5%
% City Total		1%	13%	2%	31%	27%	25%	2%	100%	
Millbrae										
Land Use Area		703,768	1,250,059	732,419	4,553,420	6,573,223	5,183,259	1,185,441	20,181,589	6%
% City Total		3%	6%	4%	23%	33%	26%	6%	100%	
Redwood City										
Land Use Area	88,518	890,224	3,403,330	2,102,563	6,499,390	10,221,666	7,662,716	685,011	31,553,419	9%
% City Total	0%	3%	11%	7%	21%	32%	24%	2%	100%	
San Bruno										
Land Use Area	5,238	27,765	1,600,949	3,126,577	6,598,461	8,375,767	8,984,419	1,493,146	30,212,321	9%



	Ag/Very Low Intensity Use/ Open Space	Industrial	Multi-Family Residential	Public/ Institutional	Retail/Office/ General Commercial	Right of Way	Single Family Residential	Vacant	Total	% City Total in County
% City Total	0%	0%	5%	10%	22%	28%	30%	5%	100%	
San Carlos										
Land Use Area	137,017	5,860,993	1,361,032	168,588	4,793,740	7,434,245	7,075,694	811,888	27,643,198	8%
% City Total	0%	21%	5%	1%	17%	27%	26%	3%	100%	
San Mateo										
Land Use Area	965,925	1,014,026	8,379,847	4,129,630	11,209,910	15,984,222	17,767,520	532,701	59,983,781	17%
% City Total	2%	2%	14%	7%	19%	27%	30%	1%	100%	
South San Francisco										
Land Use Area	205,598	416,303	2,732,359	3,632,006	7,794,886	8,169,930	9,970,575	1,535,123	34,456,781	10%
% City Total	1%	1%	8%	11%	23%	24%	29%	4%	100%	
Unincorporated County										
Land Use Area		1,727,411	778,375	447,355	1,199,841	3,239,942	3,636,696	1,030,846	12,439,383	4%
% City Total		14%	6%	4%	10%	26%	29%	8%	100%	
Grand Total (SMC)										
Land Use Area	2,900,794	13,393,487	28,544,906	31,746,682	60,396,559	92,780,623	111,661,318	10,534,853	351,959,222	100%
% County Total	1%	4%	8%	9%	17%	26%	32%	3%	100%	

Source: San Mateo County Land use data provided by C/CAG and DC&E, 2006.



Table 3-2: Land Use by City in Santa Clara County (within ¼ mile buffer along El Camino Real)

	Ag/Very Low Intensity Use/Open Space	Industrial	Multi-Family Residential	Public/Institutional	Retail/Office/General Commercial	Right of Way	Single Family Residential	Vacant	Total	% City Total in County
Los Altos										
Land Use Area		469	58,051	23,486	201,468	157,299	401,496	11,509	853,779	4%
% of City Total		0%	7%	3%	24%	18%	47%	1%	100%	
Mountain View										
Land Use Area	8,640	7,223	1,216,171	43,354	1,038,613	947,963	736,573	35,436	4,193,972	18%
% of City Total	2%	0%	29%	3%	25%	23%	18%	1%	100%	
Palo Alto										
Land Use Area	111,196	186,391	465,846	359,185	1,228,323	994,694	1,067,719	53,791	4,467,146	19%
% of City Total	2%	4%	10%	8%	27%	22%	24%	1%	100%	
San Jose										
Land Use Area		198,339	409,407	227,899	406,921	695,048	723,272	36,622	2,697,507	12%
% of City Total		7%	15%	8%	15%	26%	27%	1%	100%	
Santa Clara										
Land Use Area	62,091	268,738	921,353	543,446	1,257,208	1,028,732	1,345,766	30,961	5,458,296	23%
% of City Total	1%	5%	17%	10%	23%	19%	25%	1%	100%	
Stanford										
Land Use Area				844,133		7,050	131		851,314	4%
% of City Total				99%		1%	0%		100%	
Sunnyvale										
Land Use Area	227,383	5,736	1,069,758	247,297	1,128,065	967,734	1,180,344	33,913	4,860,230	21%
% of City Total	5%	0%	22%	5%	23%	20%	24%	1%	100%	
Grand Total (SCC)										
Land Use Area	469,311	666,896	4,140,586	2,388,800	5,260,597	4,798,520	5,455,301	202,233	23,382,244	100%
% of County Total	2%	3%	18%	10%	22%	21%	23%	1%	100%	

Source: Santa Clara County land use data provided by ABAG and VTA, 2006.

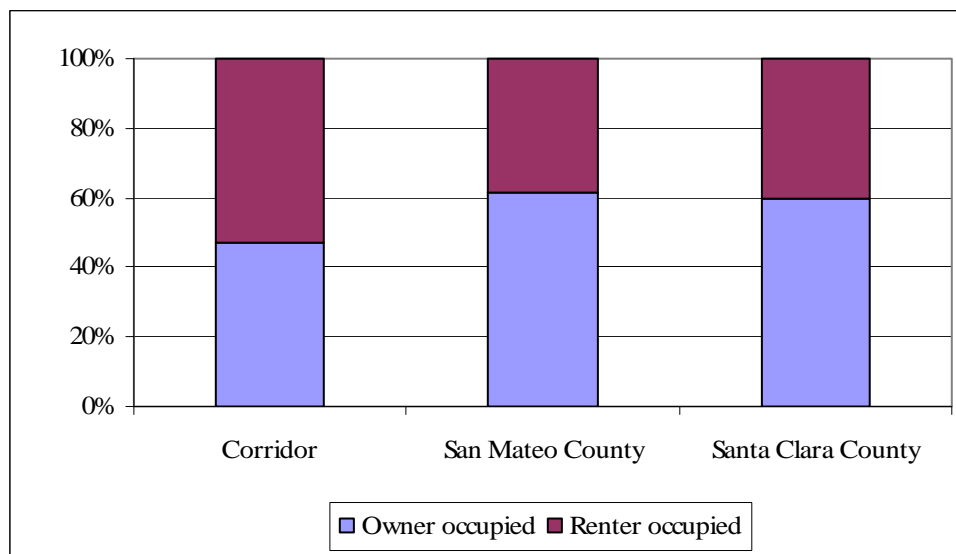


3.1.1 Housing

Housing comprises a major part of the land use mix within the study area, although this is not immediately obvious when one drives down the corridor because residential areas typically back up the thin strip of commercial development that lines the roadway. Single-family residential represents 27% of land use along the corridor, while multi-family residential represents 13%.

In 2000, 53% of residents on the corridor rented their homes as opposed to owning them. This exceeds both counties' rental rates. Approximately 60% of residents of San Mateo and Santa Clara Counties lived in owner occupied housing in 2000, compared to only 47% of the residents in the El Camino Real corridor.

Figure 3-2: Housing Tenure (Renter Occupied vs. Owner Occupied)



Source: US Census Bureau - Census 2000

3.1.2 Jobs

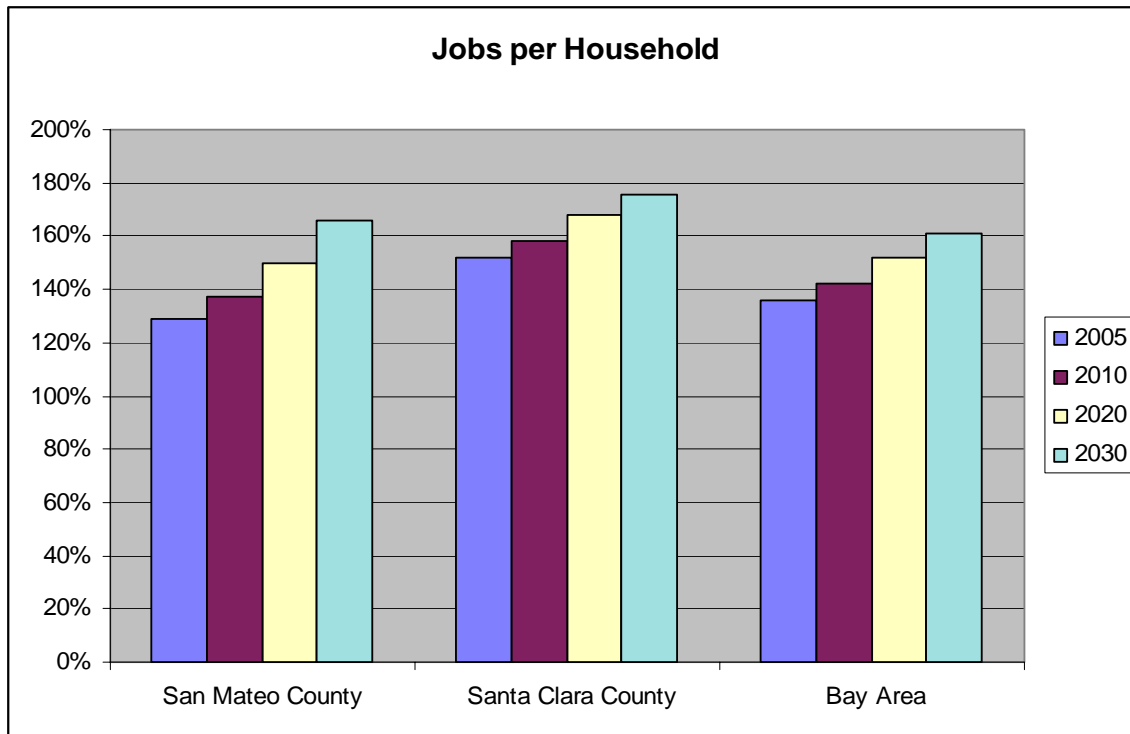
Industrial and retail/office/commercial uses comprise the second largest category of land use along the corridor (23%). According to the 2000 Census, 76% of residents on the census tracts along the El Camino Real corridor worked outside their place of residence.

3.1.3 Jobs/Housing Imbalance

As shown by the ABAG Projections 2005 data presented below, there are more jobs in each county than there are households (surrogate for housing units) for 2005. In 2005, San Mateo County had a 1.3:1 jobs-to-households ratio and Santa Clara County had a 1.5:1 ratio, while the Bay Area had a 1.4:1 ratio. For 2030, both counties are projected to exceed the Bay Area ratio of 1.6:1. (San Mateo County 1.7:1 and Santa Clara County 1.8:1).



Figure 3-3: Jobs per Household



Source: ABAG Projections 2005

	2005	2010	2020	2030
San Mateo County				
Households	261,280	268,450	289,550	305,390
Jobs	336,460	368,390	433,860	507,090
	129%	137%	150%	166%
Jobs to Housing Ratio	1.3:1	1.4:1	1.5:1	1.7:1
Santa Clara County				
Households	595,550	628,670	692,440	762,720
Jobs	903,840	992,420	1,161,930	1,339,970
	152%	158%	168%	176%
Jobs to Housing Ratio	1.5:1	1.6:1	1.7:1	1.8:1
Bay Area				
Households	2,582,980	2,697,600	2,940,630	3,182,220
Jobs	3,516,960	3,836,540	4,463,630	5,120,600
	136%	142%	152%	161%
Jobs to Housing Ratio	1.4:1	1.4:1	1.5:1	1.6:1

Source: ABAG Projections 2005

3.1.4 Activity Centers

The El Camino Real corridor runs through several downtown areas and multiple commercial districts. Activity centers include downtown areas, shopping malls and clusters of commercial development. For this assessment, 14 major activity centers were identified along the corridor as follows (from north to south):

1. Daly City “Top of the Hill”
2. Commercial District on Broadway and El Camino Real, Millbrae
3. Tanforan Shopping Center, San Bruno
4. Broadway, Burlingame
5. Downtown San Mateo
6. Hillsdale Shopping Center, San Mateo
7. Downtown San Carlos on San Carlos Avenue and Laurel Street
8. Sequoia Shopping Center, Redwood City
9. Downtown Menlo Park
10. Stanford Shopping Center, Palo Alto
11. University Avenue, Palo Alto
12. San Antonio Shopping Center
13. Castro Street, Mountain View
14. Commercial District on The Alameda, San Jose

3.1.5 Transit Nodes

Transit nodes along the corridor include train stations as well as major bus stop locations. There are 17 identified transit nodes along the El Camino Real within the ¼ mile buffer, as follows (from north to south):

1. Daly City BART Station, SamTrans Bus Terminal
2. Colma BART Station/SamTrans Bus Terminal
3. South San Francisco BART Station
4. San Bruno BART Station
5. San Bruno Caltrain Station
6. Millbrae Station, serving BART, Caltrain, and SamTrans
7. Broadway Caltrain Station (Caltrain service only on weekends)
8. Hillsdale Caltrain Station
9. Belmont Caltrain Station
10. San Carlos Caltrain Station
11. Redwood City Caltrain Station
12. Atherton Caltrain Station (Caltrain service only on weekends)
13. Menlo Park Caltrain Station
14. Palo Alto Caltrain Station/VTA Bus Terminal
15. San Antonio Transit Center, serving VTA light rail and bus

Figure 3-4: Millbrae Multimodal Station



Figure 3-5: San Carlos Caltrain Station





16. Santa Clara Caltrain Station
17. San Jose Multimodal Station, serving Caltrain and VTA light rail and bus

3.2 Planned Land Use

Eight of the station areas along the corridor are being considered for development. They are:

- Colma BART Station Area
- South San Francisco BART Station Area
- Millbrae Station Area TOD
- Redwood City Station Area
- San Carlos Station Area
- Bay Meadows Phase II development (City of San Mateo)
- Hayward Park Station Area TOD (City of San Mateo)
- San Jose Diridon Station Area Redevelopment

Colma BART Station Area

The *Colma BART Specific Area Plan* (1993) encourages a cluster of intensive and interdependent land uses around the station to encourage transit use, pedestrian-oriented retail use, and increased housing. In general, the specific area plan designates the west side of the station as office and retail uses and the east side as multi-family housing, with ground floor retail and neighborhood retail.

South San Francisco BART Station Area

The *South San Francisco BART Transit Village Plan* (2001) is an area plan that includes zoning standards, design guidelines, and implementation recommendations to realize the vision of developing a TOD.

Millbrae BART/Caltrain Station Area

The *Millbrae BART Specific Area Plan* (1998) encourages mixed use projects in commercial areas that include the El Camino Real corridor. The plan includes office, retail, hotel and residential development within the multimodal station area.

Hillsdale Station Area

The Hillsdale Station is proposed to be relocated to the north between 31st Avenue and 28th Avenue. The *San Mateo Rail Corridor Plan* (2005) provides details of the proposed changes within the station area. Proposed changes include access improvements (additional way finding signage, information kiosks, and street furniture), extension of Delaware Street southward to connect with Pacific Boulevard, extension of Franklin Parkway westward and connect with 31st Avenue at El Camino Real, and extension of 28th Avenue eastward to Saratoga Drive.



The major land use change is proposed at the Bay Meadow's main track area. The Bay Meadows Phase II project consists of redevelopment of the 83.5-acre main track area of Bay Meadows. The land use program for this site includes 1.25 million square feet of office use, 1,250 multi-family residential units, 150,000 square feet of retail, and 15 acres of public parks and open space.¹ In conjunction with Caltrain plans for establishing a new Hillsdale Station, the Bay Meadows developer is proposing a "transit village" scheme in the area of the new station, which would be mixed use and transit oriented.

Hayward Park Station Area TOD

The *San Mateo Rail Corridor Plan* (2005) designates the Hayward Park Station area as a TOD zone. The height limit within the zone is from 35 to 55 feet.

San Jose Diridon Station Area

The *General Plan 2020* (2006) recognizes the Diridon/Arena area as a major transit hub, and encourages pedestrian-oriented activity and a mix of uses. The General Plan recommends mid- to high-density residential for the area west of the Diridon Station.

The *Diridon/Arena Strategic Development Plan* (2002) recommends high density commercial office/mixed use development pattern, with a strong emphasis on lively pedestrian activity, entertainment uses, and a vibrant mix of local and national retail for the San Jose Diridon Station Area.

¹ Bay Meadows Specific Plan Amendment –Phase II, November 2005.



4.0 Transportation Infrastructure and Circulation

Section Highlights

Travel Mode	<ul style="list-style-type: none">• Use of commute alternatives to the car (17%) is only slightly higher by residents in the corridor than for the counties (15%) as a whole.• Corridor residents have somewhat shorter commute trips.
Traffic	<ul style="list-style-type: none">• All of El Camino Real has 2 or 3 through lanes in each direction.• The legal speed limit is 35 MPH for the majority of El Camino Real.• The average daily traffic volume along El Camino Real is 34,500 vehicles.• A majority (54%) of major intersections are rated LOS D (long traffic delay) along El Camino Real.• 25 San Mateo County intersections and 15 San Clara County intersections exceed the state average accident rate.
Transit	<ul style="list-style-type: none">• Approximately 74,600 weekday transit riders along El Camino Real (SamTrans, VTA, Caltrain, BART).• 10 Caltrain stations are within ¼ mile of El Camino and account for 46% of Caltrain ridership.• BART ridership in San Mateo County is 43,000/weekday.• SamTrans mainline El Camino routes 390 and 391 account for one quarter of system ridership.• VTA routes 22 and 522 serve the corridor.
Transit Connectivity	<ul style="list-style-type: none">• SamTrans 390/391 connect to VTA 22/522 and Muni 14
Ridership Profiles	<ul style="list-style-type: none">• 56% of SamTrans riders do not have access to a car, while 22% of Caltrain and BART riders do not have access to car.
Bicycle/Pedestrian Activity	<ul style="list-style-type: none">• 161 bike accidents and 165 pedestrian accidents on El Camino Real over a three year period.• There are no bike lanes on El Camino Real.• Parallel bike routes run parallel to El Camino Real in some areas.

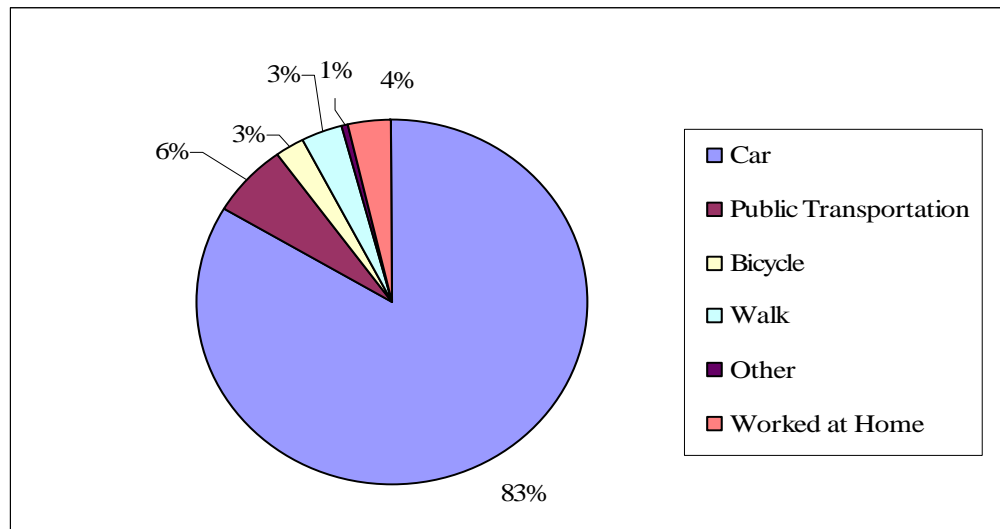
This section addresses existing infrastructure circulation conditions for all modes of transportation, including vehicles, public transportation, pedestrians and bicyclists. Maps presented in Appendix F highlight the traffic and travel conditions in the El Camino Real corridor.

4.1.1 General Travel Conditions

In 2000, 83% of workers 16 years and over living in the El Camino Real study area drove to work, while 6% took public transportation to work. Bicycles accounted for 3% of trips to work, and 3% of workers walked to work, as illustrated in Figure 4-1.



Figure 4-1: Mode Split for the Residents Living in the El Camino Real Corridor



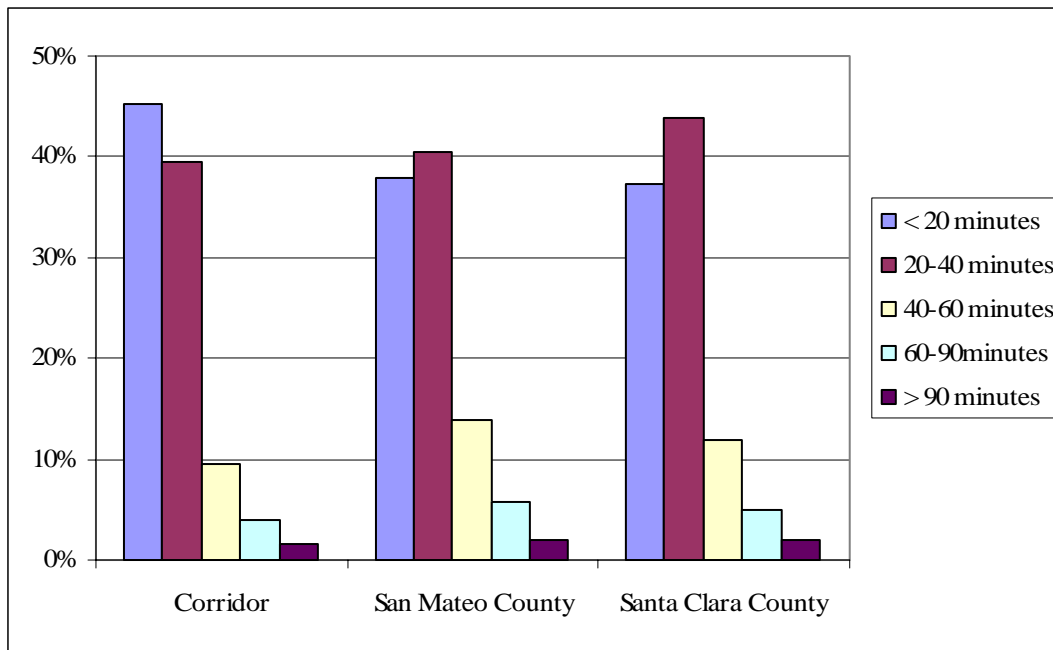
Source: US Census Bureau - Census 2000

In comparison to the corridor, in 2000 in San Mateo County 85% of all residents traveled to work by automobile, 7% took public transportation, 3% walked to work, and 1% rode their bicycle to work and in Santa Clara County, 90% of residents drove to work and only 4% took public transportation. This shows that a slightly lower percentage of residents along the corridor drive to work than all of San Mateo and Santa Clara county residents. Corridor residents are more likely to take public transportation to work than Santa Clara County residents in general, but less likely than San Mateo County residents. In addition, a higher percentage of residents along the El Camino Real corridor biked and walked to work than residents of both counties.

Residents along the corridor have somewhat shorter commute trips than the counties as a whole. In 2000, 45% of the corridor residents traveled less than 20 minutes to go to work, while 39% traveled 20 to 40 minutes to go to work, as illustrated in Figure 6-2. About 10% of the work trips took between 40 and 60 minutes, and 6% of trips to work were more than 60 minutes. In comparison with San Mateo and Santa Clara counties, the residents along the El Camino Real corridor were more likely to commute less than 20 minutes.



Figure 4-2: Commute Trip Lengths by Location of Residences



Source: US Census Bureau - Census 2000

Figures C-1 and C-2 in Appendix C illustrate the number of boardings at Caltrain and BART stations and bus stop locations by number of boardings in San Mateo and Santa Clara County, respectively.

4.2 Traffic

The travel experience by passengers in vehicles is defined by physical characteristics of roadways and traffic conditions of roadways. Specifically, this experience is defined by the number and configuration of lanes, speed limits, traffic volumes and the resultant intersection level of service.

4.2.1 Lane Inventory

The number of lanes fluctuates between two and three lanes in one direction approximately every four or five miles.² Dedicated left-turn lanes are typically provided at signalized intersections. There is no designated bike lane on Route 82 in Santa Clara or San Mateo County. In many segments of the corridor, parking lanes are provided. The number of lanes is illustrated in maps in Appendix D.

4.2.2 Speed Limit

The legal speed limit for the majority of the corridor within San Mateo County is 35 miles per hour, except for a four-mile stretch in South San Francisco and Colma where the speed limit is 40 miles per

² Caltrans, 2005.



hour.³ Within Santa Clara County, the speed limit for the corridor fluctuates between 35 and 40 miles per hour, except for a small stretch near San Carlos Street in San Jose where the limit is 25 miles per hour. Speed limits are illustrated in maps in Appendix D.

4.2.3 Volume / Level of Service

Average Annual Daily Traffic Volume (AADT) and peak hour volumes on the corridor were obtained from Caltrans District 4.

Average Annual Daily Traffic Volume (AADT)

The average annual daily traffic volume is a simple measurement of the daily traffic flow for a given location averaged out over the year. The AADT⁴ for the corridor ranges from approximately 20,000 to 50,000 vehicles at selected major intersections, depending on whether the count was taken from the north (ahead) or south (back) end of the intersection. The AADT for the entire corridor is 34,540 vehicles. The busiest intersections along the corridor include the intersection with Route 85 in Mountain View and the intersection with Route 84 in Redwood City.

Peak Hour

Hourly traffic volume was collected at key intersections along the corridor and the average peak hour volumes were calculated for the morning (7 AM-9 AM) and afternoon (4 PM-6 PM) peak periods. The data shows a wide range of average peak hour traffic volumes at the selected intersections. The highest average peak hour volume occurred during AM peak hours on southbound El Camino Real north of Atherton Avenue in Atherton. This is likely to be the result of commuter traffic heading southbound to Menlo Park and Palo Alto and avoiding the congested University Avenue exit in Palo Alto. The second highest average peak hour volume occurred during PM peak hours on El Camino Real in the southbound direction north of Route 85 intersection in Mountain View. The high traffic volumes on this segment are likely a result of vehicles heading toward US 101 or SR 237 via SR 85.

Level of Service

Traffic conditions in the study area were assessed through the evaluation of peak hour Levels of Service (LOS) at critical intersections. The LOS concept qualitatively characterizes traffic conditions associated with varying levels of traffic. A LOS determination is a measure of congestion, which is the principal measure of roadway service. Levels of Service for signalized intersections are illustrated in Table 4-1. These range from LOS A, which indicates a free-flow condition, to LOS F, which indicates a jammed condition. LOS A, B, and C are generally considered to be satisfactory service levels, while LOS D is marginally acceptable, LOS E is undesirable, and LOS F conditions are unacceptable.

³ Caltrans, "San Mateo County Speed Limit Summary," 2006.

⁴ AADT is the total volume of traffic on a segment for one year, divided by the number of days in the year. The volume represents both directions of traffic.



Table 4-1: Intersection Definitions of Level of Service

Level of Service	Description	Average Total Delay (seconds/vehicle)
A	Little or no delay	≤ 10.0
B	Short traffic delay	> 10.0 and ≤ 20.0
C	Average traffic delay	>20.0 and ≤ 35.0
D	Long traffic delay	> 35.0 and ≤ 55.0
E	Very long traffic delay	> 55.0 and ≤ 80.0
F	Extreme traffic delay	> 80.0

Source: *Highway Capacity Manual*, Transportation Research Board, 2000.

Table 4-2 summarizes the LOS data for nine intersections in San Mateo County gathered in 2005 and 26 intersections in Santa Clara County gathered in 2004. For San Mateo County, these intersections are part of the Metropolitan Transportation System (MTS) Network, through which C/CAG monitors levels of congestion. VTA uses its own monitoring network. The data shows that the majority of the intersections are at LOS D with zero intersections at LOS A or LOS F.

Table 4-2: El Camino Corridor LOS Data Count

LOS	Number of MTS Intersections	Percentage of Total
A	0	0 %
B	2	6 %
C	12	34 %
D	19	54 %
E	2	6 %
F	0	0 %

Source: "San Mateo County Congestion Management Program 2005 Monitoring Report," C/CAG, June 2005.
"2004 Monitoring & Conformance Report," Santa Clara Valley Transportation Authority, March 2005.

Congestion Management Agencies (VTA for Santa Clara County and C/CAG for San Mateo County) set unacceptable levels of service as part of their monitoring programs. The minimum LOS that is acceptable varies from jurisdiction to jurisdiction and cities may adopt more rigorous standards. LOS E is the worst acceptable level of service on El Camino Real.⁵ The entire corridor is in compliance with this standard according to LOS data gathered at 35 key intersections along the corridor during PM peak hours. As illustrated in the maps in Appendix F, the least congested intersections of the corridor, which have LOS B, are the Broadway Intersection and Park-Peninsula Avenue Intersection in Burlingame⁶ and the intersection at Alma Avenue in Santa Clara. The most congested intersections, which have LOS E, are the Ralston Avenue Intersection in Belmont and the Millbrae Avenue intersection in Millbrae.

⁵ Data for San Mateo County: "San Mateo County Congestion Management Program 2005 Monitoring Report," June 2005.

Data for Santa Clara County: "2004 Monitoring & Conformance Report," Santa Clara Valley Transportation Authority, March 2005.

⁶ 2004 Monitoring & Conformance Report, Santa Clara Valley Transportation Authority, March 2005.



4.2.4 Safety / Accidents

Accident data was obtained from Caltrans for the period between August 1, 2002 and July 31, 2005. During the three-year period, there were a total of 4,402 accidents of all types in the corridor, including 18 fatal accidents. As summarized in Table 4-3, on a per mile basis, the incidence of accidents is slightly higher in Santa Clara County with 106 accidents per mile over three years, as compared to 100 accidents per mile in San Mateo County.

Table 4-3: Three-Year Summary of Accidents along El Camino Real

Location	Total Number of Accidents	Number of Fatal Accidents	Accidents Per Mile
San Mateo County	2,510 (57%)	9	100
Santa Clara County	1,892 (43%)	9	106
Total	4,402	18	102

Source: Caltrans TASAS, August 1, 2002 – July 31, 2005.

Table 4-4 summarizes the top 30 intersections ranked by the total accident rate. Accident rates are calculated as the number of accidents per million vehicles traveled through an intersection. The highest accident rate observed in the corridor was 1.46 accidents per million vehicles at the El Camino Real/Floribunda Avenue intersection in Burlingame. Twenty intersections among the top 30 high accident rate intersections are located in San Mateo County. Nine of the top 30 high accident rate intersections are located in the City of Burlingame. Accidents for the top 30 high accident rate intersections represent approximately 25% of all accidents in the corridor.

Table 4-5 summarizes intersections with accident rates exceeding state average accident rates by 100%, given the type of facilities. The state average accident rates for non-ramp intersections were determined based on the type of facilities (signalized, unsignalized, ramp intersections) and area type (urban, suburban or rural). In addition, the non-ramp intersection accident rate considers the number of legs. Caltrans classifies non-ramp intersections into 30 different groups and ramp intersections into 80 different groups.

There are 25 intersections in San Mateo County and 15 intersections in Santa Clara County exceeding the state average accident rate. These intersections are highlighted in red in the maps contained in Appendix F. As an example, the El Camino Real/Brittan Avenue intersection had an accident rate of 0.52 while the state average for similar intersection was 0.12. Thus, it exceeded the state average by over 330%.



Table 4-4: Top 30 High Accident Rate Intersections along the Corridor

Cross Street Name	City	Post Mile	Accident Rate *	Number of Accidents
Floribunda Ave	Burlingame	13.690	1.46	41
Howard Ave	Burlingame	13.234	1.31	35
Wolfe Ave	Sunnyvale	15.320	1.07	77
Sneath Lane	San Bruno	19.209	0.94	70
Chapin Ave	Burlingame	13.440	0.92	25
Remington Dr /F Oaks Ave	Sunnyvale	16.160	0.91	55
Whipple Ave	Redwood City	4.817	0.88	44
NB Lawrence Expressway Ramps	Santa Clara	14.310	0.86	46
Hicky Blvd	South San Francisco	21.190	0.86	28
Mathilda Ave	Sunnyvale	17.035	0.84	61
Ray Dr/Rosedale Ave	Burlingame	15.202	0.84	24
Bellevue Ave	Burlingame	13.521	0.79	21
Trousdale Dr	Burlingame	15.587	0.80	32
Hollenbeck Ave /Pastoria Ave	Sunnyvale	17.260	0.78	42
Hillside Dr	Burlingame	14.800	0.75	22
Cambridge Ave	Menlo Park	0.167	0.72	27
Oak Grove Ave	Menlo Park	0.863	0.71	34
El Cerrito/Tilton Ave	San Mateo	12.073	0.71	25
Center St	Redwood City	3.168	0.69	38
Millbrae Ave	Millbrae	15.946	0.68	39
Castro St	Mountain View	19.870	0.67	38
SB On-ramp from Hillsdale Blvd	San Mateo	9.534	0.66	5
Burlingame Ave	Burlingame	13.371	0.63	19
Adeline Dr/Oxford Rd	Burlingame	14.990	0.63	19
Brewster Ave	Redwood City	4.511	0.62	26
Galvez Ave/Embarcadero Rd	Palo Alto	25.450	0.61	40
San Bruno Ave	San Bruno	18.600	0.61	39
Saratoga Rd	Sunnyvale	16.762	0.59	31
Page Mill Rd/Oregon Expressway	Palo Alto	24.040	0.59	50
Arastradero Rd/Charleston Rd	Palo Alto	22.670	0.58	43

* Per Million Vehicles

Source: Caltrans TASAS, August 1, 2003 – July 31, 2006.



Table 4-5: Intersections Exceeding State Average Accident Rates

Cross Street	City	Post Mile	Accident Rate *	State Expected Accident Rate *	% Over Average
Brittan Ave	San Carlos	5.814	0.52	0.12	333%
Bellevue Ave	Burlingame	13.521	0.79	0.22	259%
Rod McCellan's Nursery	Colma	21.501	0.50	0.14	257%
Floribunda Ave	Burlingame	13.690	1.46	0.43	240%
Belmont Ave	Belmont	5.518	0.45	0.14	221%
Easton Ave	Burlingame	14.643	0.45	0.14	221%
Millwood Dr	Millbrae	17.078	0.43	0.14	207%
Howard Ave	Burlingame	13.234	1.31	0.43	205%
Ludeman Ln	Millbrae	16.913	0.42	0.14	200%
Alpine Ave	Santa Clara	13.611	0.40	0.14	186%
Encina Ave	Palo Alto	25.582	0.38	0.14	171%
Hillside Dr	Burlingame	14.800	0.75	0.28	168%
Scott Blvd	Santa Clara	12.310	0.16	0.06	167%
Yuba Dr	Mountain View	19.092	0.37	0.14	164%
O'Neil Ave	Belmont	7.522	0.37	0.14	164%
Victoria Ave	Millbrae	16.128	0.37	0.14	164%
Wolfe Rd	Sunnyvale	15.320	1.07	0.43	149%
Arroyo Ave	San Carlos	6.048	0.34	0.14	143%
Newlands Ave	Burlingame	13.162	0.33	0.14	136%
Laurel St	Redwood City	3.376	0.23	0.10	130%
McCormick St	Santa Clara	12.431	0.32	0.14	129%
Alejandro Ave	Atherton	1.397	0.32	0.14	129%
Clark St	Mountain View	20.872	0.31	0.14	121%
Sneath Ln	San Bruno	19.209	0.94	0.43	119%
College Ave	Palo Alto	24.420	0.48	0.22	118%
Broadway	Burlingame	14.420	0.93	0.43	116%
Maria Ln	Sunnyvale	15.602	0.30	0.14	114%
Mills Ave	Burlingame	14.897	0.30	0.14	114%
Chapin Ave	Burlingame	13.440	0.92	0.43	114%
Remington Dr	Sunnyvale	16.160	0.91	0.43	112%
Grape Ave	Sunnyvale	17.951	0.29	0.14	107%
Dale Ave	Mountain View	18.501	0.29	0.14	107%
La Cruz Ave	Millbrae	16.224	0.29	0.14	107%
Whipple Ave	Redwood City	4.817	0.88	0.43	105%
Quarry Rd	Palo Alto	26.055	0.57	0.28	104%
Alma Ave/Palo Alto Ave	Palo Alto	26.342	0.57	0.28	104%
NB Lawrence Expwy Ramps	Sunnyvale	14.310	0.86	0.43	100%
Lincoln Ave/Beech St	Redwood City	3.794	0.44	0.22	100%
Madison Ave	Redwood City	3.950	0.28	0.14	100%
Hickey Blvd	So. San	21.910	0.86	0.43	100%

* Per Million Vehicles

Source: Caltrans TASAS, August 1, 2003 – July 31, 2006.

Notes: State average accident rates for non-ramp intersections consider intersection control (signal, 2-way stop, all-way stop, 4-way flasher), area (urban, suburban, rural) and number of legs. State average accident rates for ramp intersections consider ramp geometry, area type (urban, suburban, rural) and ramp type (on ramp, off ramp).



4.2.5 Parking

Most segments of the El Camino Real corridor provide on-street parking. Some segments, especially those adjacent to major intersections, do not provide on-street parking spaces. There is a contiguous section of “No Parking” zone on El Camino Real between Burlingame and north of downtown San Mateo due to narrow right-of-way.

There are short segments of metered on-street parking spaces in downtown San Mateo and Redwood City. Some segments of the corridor provide free parking spaces with time restrictions. These time-restricted sections are typically found in commercial districts. Time restricted parking sections are found in commercial districts in Daly City, San Carlos, Redwood City, and Menlo Park, San Jose.

4.3 Transit

4.3.1 SamTrans



The San Mateo County Transit District (SamTrans) is the bus operator for San Mateo County. SamTrans provides bus service from San Francisco to Menlo Park and Palo Alto. The routes 390, 391, 397, KX, MX, PX, and RX serve the El Camino Real Corridor either completely, along a section or provide transfers at major point(s). Routes 390 and 391 are SamTrans trunk line routes that primarily serve the El Camino Real corridor.

Table 4-6: SamTrans Bus Routes along El Camino Real Corridor

Route	Bus Routes along El Camino Corridor within San Mateo County	Trips/Weekday	Weekday Hours	Frequency of Service
Route 390	Daly City BART - Palo Alto	71	5:30AM to 1AM	30 minutes (60 min after 6PM)
Route 391	San Francisco (Limited), Daly City - Redwood City	74	4AM to 1AM	30 minutes (60 min after 7PM)
Route 397	San Francisco, South San Francisco, SFO - Palo Alto	7	12:45AM-4:15AM	60 minutes
Route KX	Express and local service - Palo Alto - SFO and San Francisco	64	5AM-10PM	30 minutes (60 min after 6:30PM)
Route MX	Express service from San Mateo to SF Civic Center and SF Transbay Terminal	8	6AM-7:35AM 4PM-5:30PM	30 minutes
Route PX	Express service from Palo Alto to San Francisco	8	5:40AM-7:15AM 3:45PM-5:20PM	30 minutes
Route RX	Express service from Palo Alto to San Francisco	2	6:30AM 5:00PM	-

Source: SamTrans, July 2006



In September 2005, Routes 390 and 391 carried approximately 25% of SamTrans daily trips (11,814 average weekday riders). Five other SamTrans routes serve the El Camino Real corridor, and 26 SamTrans routes connect to the 390 and 391 service. The average headway (time between buses) along the El Camino Real corridor is 15 minutes during the day time and 30 minutes after 6:00PM. Route 397 travels exclusively at night. Key generators of Route 390 and 391 trips include Daly City, Colma, San Mateo, and Redwood City. Key destinations are located in San Mateo, Burlingame, San Francisco, and Redwood City.⁷

Ridership in the study area varies by station depending on cross routes and proximity to other stations along the corridor. The stops that log the most weekday boardings include Stanford North, Hillsdale Avenue and Colma BART Station.

Key generators of Route 390 and 391 trips include Daily City, Colma, San Mateo, and Redwood City. Key destinations are located in San Mateo, Burlingame, San Francisco, and Redwood City. The most common city pairs (origin-destination) are Redwood City-San Mateo, San Bruno-San Mateo, San Mateo-Burlingame, Daly City-San Francisco, and Millbrae-San Mateo.⁸ This seems to indicate that 390 and 391 riders are mainly taking mid- and short-distance trips, which are much shorter than the average Caltrain trip and outside the BART service area. The stops that log the most weekday boardings include Stanford North, Hillsdale Avenue and Colma BART Station, as summarized in Table 4-7.

Table 4-7: Top 10 SamTrans Weekday Boarding Bus Stops – Routes 390 and 391

	Location	City	Weekday Boardings
1	El Camino Real & Stanford North	Palo Alto	270
2	El Camino Real & W Hillsdale Blvd	San Mateo	208
3	Colma BART	Colma	193
4	Redwood City Transit Center	Redwood City	188
5	Mission St & Price St	Daly City	154
6	El Camino Real & Brewster Ave	Redwood City	149
7	El Camino Real & Ralston Ave	Belmont	148
8	El Camino Real & W Orange Ave	South San Francisco	141
9	El Camino Real & E 31 st Ave	San Mateo	139
10	El Camino Real & Spruce Ave	South San Francisco	135

Source: SamTrans Origin and Destination Survey, September 2005.

⁷ SamTrans Motorcoach Origin and Destination Survey, SamTrans, September 2005.

⁸ SamTrans Motorcoach Origin and Destination Survey, SamTrans, September 2005.



4.3.2 VTA



The Santa Clara County Valley Transportation Authority (VTA) provides bus and light rail service in Santa Clara County. VTA Routes 22 and Rapid 522 connect communities along The Alameda and El Camino Real. VTA Route 22 and Rapid 522 also connect with SamTrans in Palo Alto, and Route 22 route operates to Menlo Park. Combined ridership on the Rapid 522 and Route 22 constitute approximately 20% of all weekday boardings in Santa Clara County.

Route 22 provides regular service at 12-minute, 20-minute and 1 hour headways during day, evening and late night periods, respectively. Route 522 offers rapid, limited stop service at 15- and 20-minute headways on weekdays between 5:00AM and 9:00PM.

There are 32 VTA routes that cross El Camino Real in the Study Area. They include regular service and express service. Some routes are designed to serve commuters and run only during commute periods. These routes are: 10, 23, 26, 32, 34, 35, 36, 40, 44, 51, 52, 53, 54, 55, 57, 58, 60, 62, 63, 64, 65, 68, 88, 101, 102, 103, 104, 180, 182, 305, 328 and 330. Additionally, Routes 22 and 522 connect with the Dumbarton Express Bus, Altamont Commuter Rail, Caltrain, Highway 17 Express Bus, Amtrak, DASH Shuttle and VTA Light Rail.

VTA Ridership in the study area varies by station depending on cross routes and proximity to other stations along the corridor. The stops that log the most weekday boardings are the Palo Alto Transit Center, San Antonio Transit Center at Showers Avenue and Remington/Fair Oaks, as summarized in Table 4-8.

Table 4-8: Top 10 VTA Weekday Boarding Bus Stops – Routes 22 and 522

	Location	City	Weekday Boardings
1	Palo Alto Caltrain Station (EB & WB)	Palo Alto	1,046
2	El Camino Real & Showers Ave (EB)	Los Altos/Mountain View	441
3	El Camino Real & Remington Dr (EB)	Sunnyvale	313
4	El Camino Real & Kiely Blvd (EB)	Santa Clara	302
5	El Camino Real & Halford Ave (EB)	Santa Clara	262
6	El Camino Real & Castro Street (WB)	Mountain View	257
7	El Camino Real & Bowers Ave (WB)	Santa Clara	252
8	El Camino Real & California Ave (EB)	Palo Alto	240
9	El Camino Real & Castro Street (EB)	Mountain View	239
10	The Alameda & Naglee Ave (EB)	San Jose	237

Source: VTA Passenger Counts, April 2006.

4.3.3 Caltrain

Caltrain is a commuter rail service, connecting cities from San Francisco to San Jose and Gilroy and is a vital link for communities on the Peninsula. Caltrain is operated by the Peninsula Corridor Joint Powers Board (JPB) consisting of San Mateo, Santa Clara and San Francisco county representatives. On weekdays, 96 daily trains serve the Peninsula from 5:00AM to 1:00AM, with a frequency of service of 15 to 30 minutes between 6:00AM and 8:00PM. Caltrain offers three types of service: Local, Limited, and the Baby Bullet.



Caltrain operates local trains on weekends. Additionally, 21 shuttles connect to Caltrain stations located at or close to El Camino Real. These shuttles represent the last-mile connection to office campuses and communities in proximity of the corridor. The system wide average trip distance on Caltrain is 21 miles. Average weekday ridership was 32,000 in February 2006.

Seventeen Caltrain stations are located on or proximate to El Camino Real. Several stations serve multiple transit services, including:

- Millbrae station, connecting Caltrain to BART and SamTrans buses
- Palo Alto station, connecting Caltrain service to VTA and SamTrans buses
- San Jose Diridon station, connecting Caltrain to VTA light rail and bus service, Amtrak, ACE, Capitol Corridor, and other bus/shuttle services

As shown in Table 4-9 on the following page, ten stations are located within ¼ mile of the El Camino Real corridor, six of which are also top 10 stations for system wide weekday ridership, and three of which are also multimodal stations. These 10 stations represent 46% of Caltrain average weekday ridership. Five stations are located within ½ mile of the El Camino Real corridor, and two stations are located within 1 mile of the El Camino Real corridor. The seven stations located within one mile of the corridor represent 21% of Caltrain average weekday ridership. Overall, the stations located on or proximate to El Camino Real represent 67% of Caltrain system wide boardings.



Table 4-9: Caltrain Weekday Ridership at Stations along the El Camino Real Corridor

Stations	Average Weekday Boardings	% of Systemwide Boardings
<i>Within ¼ Mile of the Corridor</i>		
Millbrae	1,816	5.7%
Hillsdale	1,815	5.7%
Belmont	435	1.4%
San Carlos	867	2.7%
Redwood City	1,870	5.8%
Menlo Park	1,171	3.7%
Palo Alto	3,054	9.5%
California Ave	822	2.6%
Santa Clara	657	2.1%
San Jose Diridon	2,270	7.1%
Subtotal ¼ Mile Buffer	14,777	46.1%
<i>Within ½ Mile of the Corridor</i>		
San Bruno	160	0.5%
Burlingame	588	1.8%
San Mateo	1,238	3.9%
Hayward Park	244	0.8%
San Antonio	488	1.5%
Subtotal ½ Mile Buffer	2,718	8.5%
<i>Within 1 Mile of the Corridor</i>		
Mountain View	2,764	8.6%
Sunnyvale	1,342	4.2%
Subtotal 1 Mile Buffer	4,106	12.8%
Total	21,601	67.4%
Avg. Weekday Ridership	32,031	100.0%

Source: Caltrain Annual Passenger Survey, February 2006

4.3.4 BART

Five BART (Bay Area Rapid Transit District) stations are located within ¼ mile of the El Camino Real corridor in San Mateo County (Daly City, Colma, South San Francisco, San Bruno, and Millbrae). Serving longer distances and predominantly commute trips, this service complements and supports, rather than competes, with fixed route bus service. Average trip distance on BART is 16 miles for the BART extension stations. Approximately 151 weekday trains serve these stations from 5:45AM to 12:45AM with a service frequency of 20 minutes.

In June 2006, Daly City was the BART station with the highest weekday ridership (13,670) of San Mateo County stations. San Bruno had the lowest weekday ridership, with 3,733 riders, presented in Table 4-10.



All stations experienced increases in ridership compared to June 2005, except for South San Francisco and Millbrae stations.

Table 4-10: BART Average Weekday Boardings at San Mateo County Stations

Station	June 2005	June 2006	Change	% Change
Daly City	12,495	13,670	1,175	9.4%
Colma	6,190	6,361	171	2.8%
South San Francisco	5,241	4,886	(355)	(6.8%)
San Bruno	3,733	4,043	310	8.3%
SFO	7,496	7,868	372	5.0%
Millbrae	6,479	6,432	(47)	(0.7%)
Total - 5 Stations (Daly City excluded)	29,139	29,590	451	1.5%
Total - 6 Stations	41,634	43,260	1,626	3.9%

Source: BART, June 2006.

4.3.5 Transit Connectivity

Along the El Camino Real corridor, there are four major transit operators: BART, Caltrain, SamTrans and VTA. In addition, riders of the major transit operators can transfer to other transit operators, such as ACE, Dumbarton Express, Santa Cruz Transit and various shuttles. As there are many operators in the region, transit connectivity between multiple transit agencies is important in order to provide a seamless travel experience.

Twenty-six SamTrans bus routes connect to the El Camino Real corridor. SamTrans connects with VTA at the San Mateo/Santa Clara County border at shared stops with VTA's Bus Route 22 (Eastridge Transit Center to Palo Alto/Menlo Park) and Rapid Bus Route 522. (Route 522 operates as an express bus service along the same corridor as Route 22.) SamTrans and VTA coordinate their bus schedule in late evening hours. At the San Francisco border, SamTrans routes connect with Muni Bus Route 14 (Mission) on Mission Street.

At shared bus stops, VTA and SamTrans riders with monthly or day passes receive a local fare credit to ride the connecting service; however, transfers to express service of the other operator requires the rider to pay the cost differential. Caltrain riders with adult or senior monthly passes for two or more zones receive a free transfer to VTA or SamTrans bus service.

Caltrain periodically surveys AM riders. Thirty-six percent of Caltrain riders use some form of transit to travel from Caltrain to their ultimate destinations. Twenty-three percent of riders disembarking in San Mateo County transfer to Samtrans, while 32% of riders disembarking in Santa Clara County transfer to VTA. In addition to those who transfer to VTA and SamTrans, another 4,000 Caltrain riders use public/private shuttle services daily, mainly on the work-end of their trips.⁹

⁹ Source: Caltrain memo 12/02



Key transfer locations along the El Camino Real corridor are presented in Table 4-11, including major multimodal stations such as Daly City BART, Colma BART, Millbrae Caltrain/BART, Palo Alto Caltrain, Mountain View Caltrain, and San Jose Diridon stations.

Table 4-11: Key Transfers

Location	Transit Operator
Daly City BART	Samtrans, Muni, shuttles
Colma BART	Samtrans
Millbrae Caltrain/BART	Caltrain, BART, SamTrans, shuttles
Palo Alto Caltrain	Caltrain, Samtrans, VTA, Dumbarton Express, shuttles
Mountain View Caltrain	Caltrain, VTA light rail/buses, shuttles
Diridon Caltrain/ACE/Amtrak	Caltrain, Amtrak, ACE, VTA light rail/buses, Santa Cruz Transit

Transit connectivity involves several elements, including fare policies, fare collection and service connections. MTC’s “Transit Connectivity Study” (2006) concluded that the most common problems faced by Bay Area transit riders in regards to fare policies and collection include¹⁰:

- Customers attempting to use more than one system are often faced with a confusing array of ticket transfer and fare policies.
- Customers using two bus systems often pay two fares for a single trip.
- Customers using multiple systems can be confused by each agency having different age definitions for children, students and seniors.

The “Transit Connectivity Study” also concluded that the most common problems faced by Bay Area transit riders in regards to service connections include:

- Transfers between systems can sometimes require long wait times, due to infrequent service, uncoordinated schedules, or poor schedule adherence.
- Poor connections can raise concerns regarding personal safety issues for transit riders while making transfers. Walking between transfer locations, as well as long waits for connecting services, can make many riders reluctant to use transit.

4.3.6 Ridership Profiles

Surveys of SamTrans and Caltrain riders lead to the conclusion that rail and bus services are complementary rather than competitive along the El Camino Real corridor. The typical SamTrans rider is transit dependent, with 56% not owning a car, while only 22% of Caltrain riders do not have access to a car. The typical Caltrain rider chooses Caltrain to avoid traffic, make productive use of commute time, reduce stress and save money. These considerations are secondary for SamTrans riders who have average lower incomes and levels of education. In fact, over 52% of Caltrain riders earn over \$75,000 per year, while 60% of SamTrans riders earn less than \$30,000 annually.

¹⁰ Metropolitan Transportation Commission, “Transit Connectivity Study.” 2006



BART conducted a Customer Satisfaction Survey in 2004 which found that 43% of the respondents could have driven to their destination instead of using BART, while 22% of the respondents answered that BART is the only option.¹¹ This suggests that a large portion of BART riders are not transit dependent. Approximately half of surveyed BART riders rode BART to work. Approximately 32 % of the respondents reported that their annual household income exceeded \$75,000 while 37 % of the respondents reported that their annual household income was below \$45,000.

4.4 Bicycle Realm

Although El Camino Real is categorized as a highway facility, it is also an important facility for pedestrians and bicyclists.

Traversing or crossing El Camino Real by bicycle is hampered by heavy traffic volumes and the lack of bicycle facilities on El Camino Real. In addition, freeways, such as U.S. 101, Interstate 380 (I-380) and State Route (SR) 92, serve as physical barriers. Many segments of the corridor run parallel to the BART and Caltrain right-of-ways which also present a physical barrier for crossing.

Figure 4-1: A Bicyclist on El Camino Real



The lack of dedicated bike lanes and connectivity along the corridor is a major issue for the bicycle community. Some cities have dedicated bicycle routes on streets that run parallel to the El Camino Real corridor and these parallel routes are preferred by many bike riders to riding on El Camino Real; however most cities do not have parallel routes. Parallel bicycle routes rely upon side streets and are often short and disjointed.

Transit connections via rail and bus service provide support to inter-city bicycle trips, although BART does not allow bikes onboard during peak hours. Caltrain trains accept bicycles at all times (limited to 32 bicycles per gallery car train and 16 per Baby Bullet train), and SamTrans and VTA buses are equipped with bike racks, which hold two bikes, with two additional bikes allowed inside the bus.

4.4.1 Infrastructure and Access

The Alameda between I-880 and the downtown San Jose area (the El Camino Real corridor in San Jose) has designated bicycle route signs posted. As shown in Figure 4-3, in many cases, bicyclists ride curbside lanes where the lane is wide enough to accommodate both automobiles and bicycles and parking is prohibited or limited.

There are many locations where bicycle paths cross El Camino Real. Table 4-12 lists all bicycle paths crossing or connecting to the El Camino Real corridor.

¹¹ 2004 Customer Satisfaction Survey, BART 2004.



Table 4-12: Bicycle Paths Crossing or Connecting to the El Camino Real Corridor

City	Bicycle Paths Crossing or Connecting to El Camino Real
Daly City	Eastmoor Avenue, John Daly Boulevard
Colma	Hillside Boulevard
South San Francisco	None
San Bruno	Sneath Lane
Millbrae	Millbrae Ave, Hillcrest
Burlingame	Hillsdale Ave, Rosedale Ave, Trousdale Dr.
San Mateo	Crystal Springs Rd, Hillsdale blvd, Ralston Ave
Belmont	Ralston Ave
San Carlos	San Carlos Ave, Brittan Ave
Redwood City	Jefferson Ave, Whipple Ave
Atherton	Valparaiso Avenue
Menlo Park	Valparaiso Avenue
Palo Alto	Sand Hill Road, Churchill Avenue, Park Boulevard, Stanford Avenue, California Avenue, Hansen Way, Los Robles Avenue, Charleston Road
Los Altos	San Antonio Road, Miramonte Ave
Mountain View	Rengstorff Avenue, Shoreline Boulevard, Phyllis Ave
Sunnyvale	Knickerbocker Drive, Bernardo Avenue, Mathilda Avenue, Sunnyvale-Saratoga Road, South Fair Oaks Avenue, S Wolfe Road
Santa Clara	Calabazas Boulevard, Los Padres Boulevard, Monroe Street
San Jose	None

Source: San Mateo Comprehensive Bicycle Plan, VTA Santa Clara County Bicycle Map

4.5 Pedestrian Realm

In addition to trips entirely conducted on foot, many people walk to and from transit stops and vehicles parked in parking lots. Major trip origin and destinations within the corridor include BART and Caltrain stations, especially stations located within ¼ mile of El Camino Real. Pedestrian facilities along the corridor mainly consist of crosswalk and sidewalk areas.

4.5.1 Infrastructure and Access

Figures F-1 and F-2 presented in Appendix F provide examples of pedestrian facilities on the El Camino Real corridor in San Mateo and Santa Clara Counties, respectively.

Crosswalks

Crossing El Camino Real is mostly limited to signalized intersections. In many cases, crossing El Camino Real is difficult due to heavy traffic volume, wide roadway width (typically ranging from four to six through lanes), unfavorable signal timing for pedestrians, and lack of crosswalks. There are also some crosswalks on El Camino Real at unsignalized intersections and mid-block.

Figure 4-2: Poor Placement of Street Furniture Limits Sidewalk Width



Sidewalks

Sidewalks are provided along most sections on El Camino Real. Most sidewalks are functional sidewalks, which are wide enough to accommodate pedestrians, but not attractive due to the lack of landscaping, street furniture and interesting streetscape. In general, there are minimal buffers between heavily traveled roadways and pedestrians, especially where on-street parking is prohibited.

The lack of sidewalks and narrow sidewalk widths discourage pedestrian trips. There are no sidewalks along the corridor in the Town of Atherton. Segments of the corridor in San Mateo County in Colma, Burlingame and San Mateo are also missing sidewalks. As shown in Figure 4-2, poor placement of street furniture, such as benches, transit shelters, information signage poles, results in narrow, usable width of sidewalks where pedestrians can maneuver. In addition, bulging of street trees, as seen in Burlingame, also results in narrow usable width of sidewalks.

Caltrans' *Highway Design Manual* Section 105.1 requires a minimum sidewalk width of five feet. Some segments of the corridor, especially along The Alameda in San Jose, have wide and attractive sidewalks with landscaping, as seen in Figure 4-3. In these areas there are typically neighborhood commercial establishments or office buildings. In this example, there is a landscaped buffer (lawn and trees) between pedestrians and vehicular traffic.

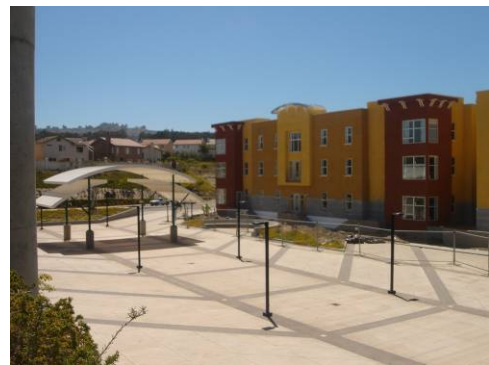
Access to Transit Stations

BART and Caltrain stations are major pedestrian origins/destinations within the corridor. There are several stations located directly on El Camino Real or within a block of the corridor. Figure 4-4 illustrates a walkway between El Camino Real and the South San Francisco BART station, providing a pleasant pedestrian connection between the roadway and the train station. The wide walkway provides not only a physical connection, but also a visual connection. Local amenities nearby (e.g. Trader Joes, etc.) also make the pedestrian trip pleasant and inviting.

Figure 4-3: Landscaped Sidewalk Areas along the Alameda, San Jose



Figure 4-4: Walkway Connecting So. San Francisco BART Station and El Camino Real, South San Francisco

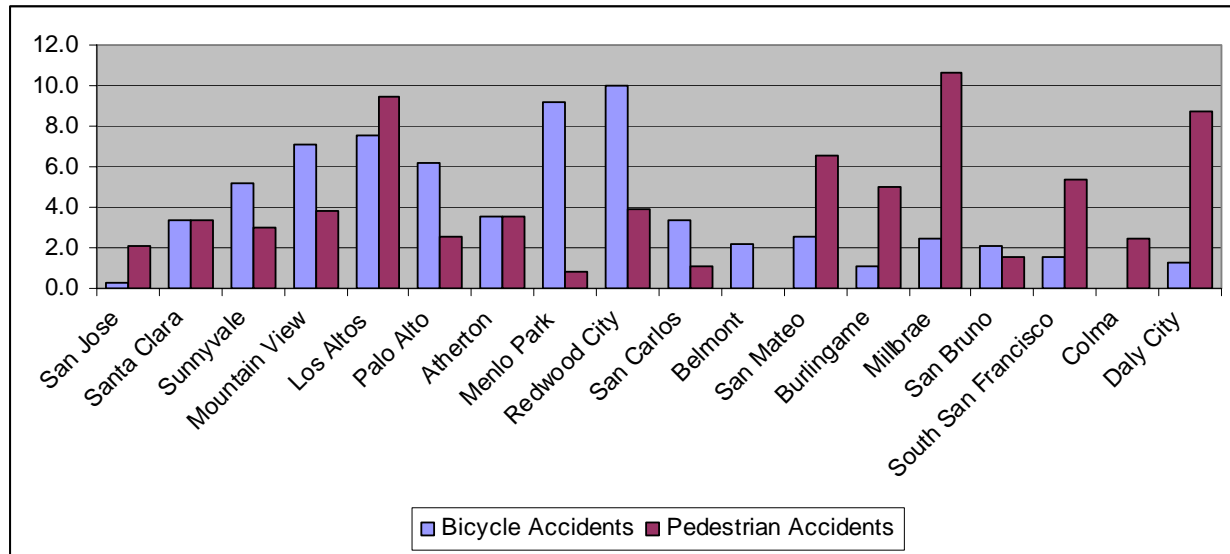




4.6 Bicycle/Pedestrian Related Accidents

Figure 4-5 summarizes the rates of reported accidents per mile which involved a bicyclist or pedestrian that occurred on El Camino Real from August 1, 2002 to July 31, 2005. The data for pedestrian and bicycle accidents is only for accidents that occurred on El Camino Real and not those accidents that may have occurred within the ¼ mile study area but not on the El Camino Real roadway. Pedestrian and bicyclist accidents are also illustrated on the maps in Appendix E.

Figure 4-5: Average Number of Bicycle and Pedestrian Accidents per Mile for 2002-2004





4.6.1 Bicycle Related Accidents

According to Caltrans, there were 161 accidents involving bicyclists on El Camino Real during the three-year period from August 1, 2002 to July 31, 2005. These accidents resulted in 132 injuries and 29 uninjured bicyclists.

Figure 4-6 on the following page shows the number of bicycle accidents by post mile along El Camino Real. Accidents involving bicyclists are clustered in several segments of El Camino Real. The largest cluster of bicycle accidents is at the junctions with state route 84/Woodside Road. Other locations with a high amount of bicycle accidents are around Page Mill Road, Castro Street, and Grand Road/Junction 237. Areas with low bicycle accident rates are those segments at the northern and southern end of the study area on El Camino Real, particularly the areas within Colma and Daly City. The average rate is 3.74 bicycle accidents per mile for the entire length of El Camino Real from 2002 to 2005.

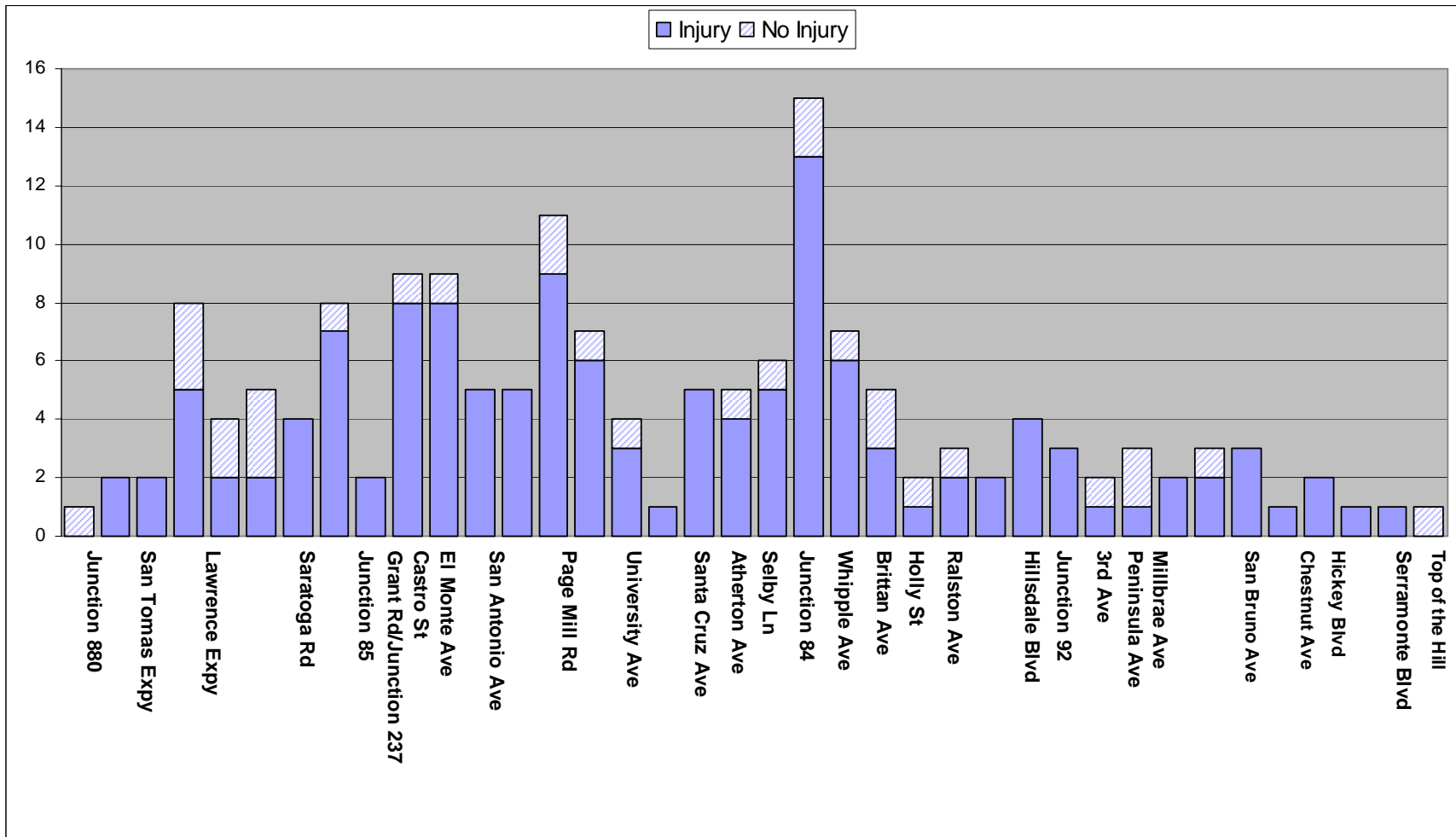
4.6.2 Pedestrian Related Accidents

According to Caltrans, there were 165 accidents involving a pedestrian during the three-year period from August 1, 2002 to July 31, 2005 on El Camino Real. These accidents resulted in 149 injuries, 10 fatalities and 6 uninjured pedestrians. These 10 pedestrian deaths account for 55 percent of all accident related deaths on El Camino Real during this time period.

Figure 4-7 on page 43 shows the number of pedestrian accidents on El Camino Real by post mile. Several areas along the corridor had a high amount of pedestrian accidents including the “Top of the Hill” area in Daly City, the area by the Chestnut Avenue intersection, the Millbrae Avenue and Peninsula Avenue area, the Hillsdale Boulevard intersection, the Ralston Avenue intersection, the Holly Street intersection, and the San Antonio Avenue intersection. There was a higher rate of pedestrian accidents per mile in San Mateo County than in Santa Clara County. The “Top of the Hill” area shows the highest occurrence of accident related pedestrian deaths with a total of four deaths from 2002 to 2005.



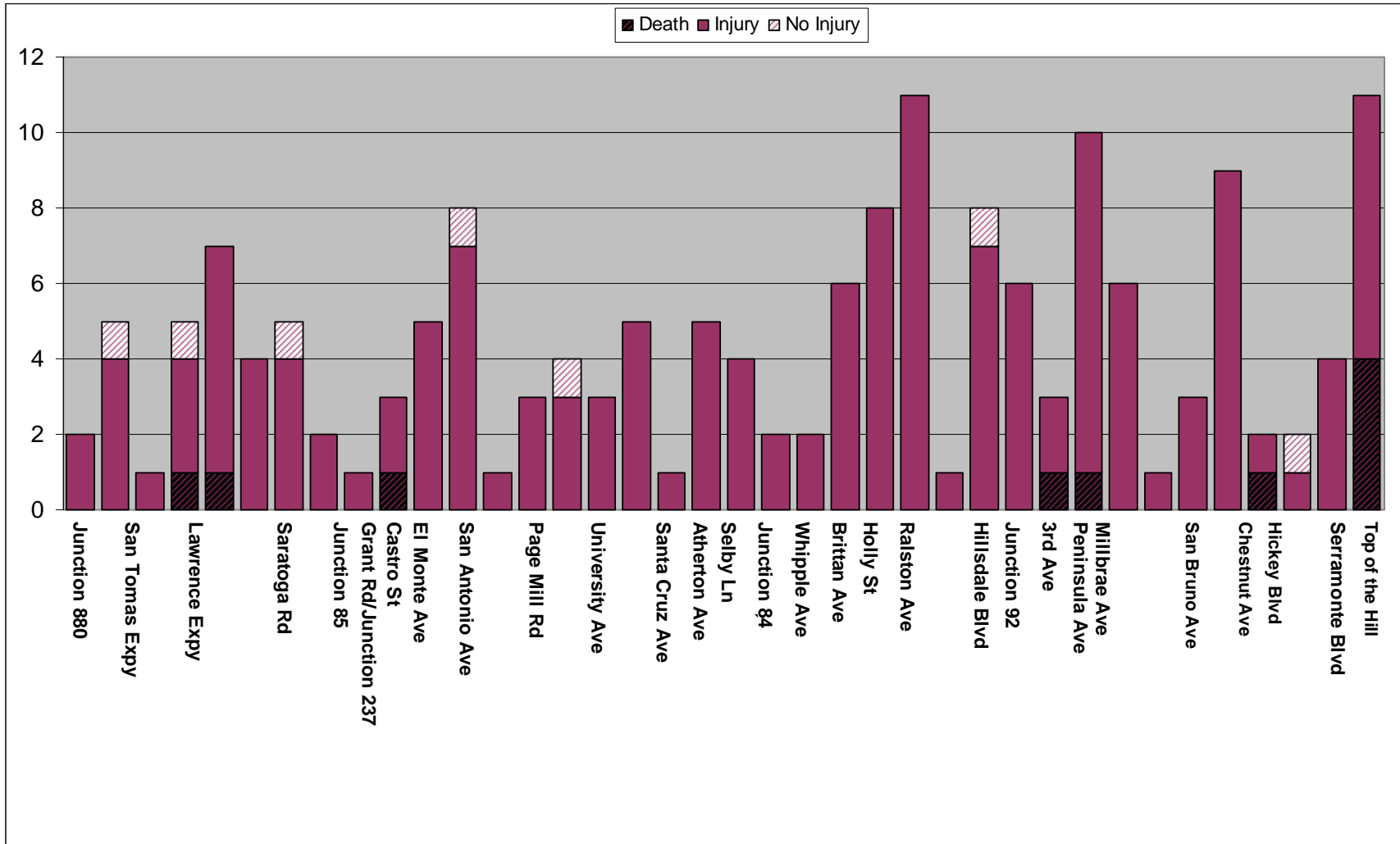
Figure 4-6: Number of Bicycle Accidents on State Route 82 for 2002-2005



Source: Caltrans, TSAR Accident Summary, August 1, 2002 – July 31, 2005.



Figure 4-7: Number of Pedestrian Accidents on State Route 82 for 2002-2005



Source: Caltrans, TSAR Accident Summary, August 1, 2002 – July 31, 2005.



5.0 Amenities / Identity

Section Highlights

Streetscape	• Predominantly auto-oriented streetscape
Signage/Street Furniture/Sidewalks	• Limited signage, street furniture; mission bells and some gateway signs/banners

Streetscapes, signage, and street furniture help define the identity of a corridor. Currently, the only common identity carried throughout the corridor includes old mission bells symbolizing the history of El Camino Real. Each city along the corridor provides some level of identity within its own city limits, typically by the installation of city gateway signs and/or banners.

5.1 Streetscape/Landscape

Streetscapes vary along the corridor based mainly on roadway width, development intensity, landscaping and street furniture.

Roadways

Most parts of the El Camino Real corridor are auto-oriented with multiple and wide through lanes. Most of the corridor has on street parking lanes and a median. The majority of buildings along the corridor are one to two-stories. Figure 5-1 is representative of many sections of the corridor.

There are varying types of medians throughout the corridor. These include landscaped medians with trees, landscaped medians with small plants, narrow concrete strips, and fenced medians. Some areas of the corridor have no median or have two-way left-turn lanes.

Parking lanes are provided on many sections of the corridor. Typically, there are free on-street parking spaces, with some having time restrictions. El Camino Real near downtown Redwood City and San Mateo has metered parking spaces.

Figures F-3 and F-4 in Appendix F provide representative photos of streetscapes on the corridor in San Mateo and Santa Clara Counties.

Land Use/Building Façades

In many sections of the corridor, typical development includes one- to two-story buildings with large, off-street parking lots provided on the side or in front of buildings. Typical commercial development includes strip malls, car repair shops, automobile part shops, motels,

Figure 5-1: El Camino Real North of Lawrence Expressway, Sunnyvale





and fast food restaurants along the corridor. There also are large shopping malls located near the corridor, such as Stanford Shopping Center, Tanforan Shopping Mall, and Sequoia Station Shopping Center.

The El Camino Real corridor also passes through or intersects several downtown areas and neighborhood commercial districts such as downtown Menlo Park (see Figure 5-3) and downtown San Mateo. These commercial districts have little or no setback from streets.

There are some pockets of higher density, mixed-use development throughout the corridor, such as the Crossings Development in San Bruno, La Terraza in the unincorporated part of San Mateo County at Colma BART, and Franklin Street Apartments in Redwood City. These development projects typically provide ground floor retail and multi-family housing above the retail. They typically are built with no setback or small setbacks from the street, providing interesting streetscapes that are attractive to pedestrians and passing vehicles.

Figure 5-2: Franklin Street Apartments in Redwood City



Figure 5-3: El Camino Real in Downtown Menlo Park Area



5.2 Signage/Street Furniture/Sidewalks

Typically a corridor can be identified by commonly used signage and/or street furniture. Currently, the El Camino Real corridor has minimal amenities that clearly and uniformly identify the corridor. Appendix F provides examples of signage and street furniture on the corridor in San Mateo and Santa Clara Counties.

Figure 5-4: El Camino Real Bell and Monument Sign in Santa Clara



Signage

Bells and monument signs for El Camino Real are common identity symbols placed throughout the corridor, as shown in Figure 5-4. Other types of signage include information signs directing travelers to major destinations, such as Caltrain and BART stations, City Hall, Police, and other public institutions. Some cities provide gateway signs to mark city limits and/or to present a unique city character. Some cities that provide gateway signage include Sunnyvale, Redwood City and San Carlos.

Street Furniture

Street furniture includes street lightings, banners on lightings, benches, trash receptacles, kiosks, public phones, and bus shelters. Currently, there is little street furniture along the El Camino Real corridor compared to other city streets along commercial districts in San Mateo and Santa Clara counties.

Lighting along the corridor is typically scaled for automobiles and not for pedestrians. Several areas of the corridor provide two different sizes of lighting; one for vehicles and the other for pedestrians. Locations with two sizes of lighting include neighborhood commercial districts on the Alameda around West Julian Street in San Jose, on El Camino Real near Castro Street in Mountain View, and El Camino Real near Ravenswood Avenue in Menlo Park.

Many cities provide banners on street lighting to identify cities or feature upcoming events. Cities providing banners include San Jose, Mountain View, Los Altos, Palo Alto, San Carlos and Redwood City. Benches and trash receptacles typically are provided as part of transit shelters rather than independent components, except along a neighborhood commercial district on The Alameda in San Jose.

Figure 5-5: Clock Tower on El Camino Real at Main Street in Redwood City



Figure 5-6: Pedestrian Scale Lightings with Banners in Mountain View





6.0 Planned Roadway and Development Projects

Section Highlights

Hillsdale Caltrain Station Area	<ul style="list-style-type: none">• Bay Meadows Phase II development, Hillsdale Station relocation, Station access improvements
Palo Alto Caltrain Station Area	<ul style="list-style-type: none">• Transit Center and University Avenue reconfiguration
San Jose Station Area	<ul style="list-style-type: none">• Station Area Redevelopment, BART extension
SamTrans, VTA	<ul style="list-style-type: none">• Bus Service Improvement Projects
Caltrain	<ul style="list-style-type: none">• Service changes
Caltrain and Cities	<ul style="list-style-type: none">• Signal coordination project in Santa Clara County

6.1 Development Projects

Potential or planned major projects that will affect the El Camino Real corridor are identified in four of the transit station areas.

Hillsdale Caltrain Station Area

The *San Mateo Rail Corridor Transit Oriented Development Plan* provides detailed density, building heights, streetscape design and circulation for the future development around the Hillsdale and Hayward Park Caltrain Stations. The Hillsdale Station will be relocated between 31st Avenue/Franklin Parkway extension and 28th Avenue. With the relocation of the station and the Bay Meadows development, the new street network needs to be configured. The street extension projects include Franklin Parkway extension, 28th Avenue extension, and Delaware Street extension. The Franklin Parkway is proposed to be extended westward and connect to 31st Avenue at El Camino Real. Twenty Eighth Avenue is proposed to be extended eastward to Saratoga Drive. Delaware Street is proposed to be extended southward and connect with Pacific Boulevard. This will serve as an important north-south arterial.

Palo Alto Caltrain Station Area

According to the *Palo Alto Intermodal Transit Center Study* report, the Palo Alto Intermodal Transit Center Project includes the reconfiguration of the El Camino Real/University Avenue intersection, as well as pedestrian and bicycle circulation improvements and an upgraded transit center.¹²

The *Palo Alto El Camino Schematic Plan* evaluated alternative configurations of El Camino Real and recommends reconfiguration of El Camino Real and providing wider sidewalks, crosswalk improvements at intersections, additional crosswalks, installation of bike lanes, signal timing coordination, and creation of median refuge areas for pedestrians and bicyclists.

¹² *Palo Alto Intermodal Transit Center Study*, City of Palo Alto and Stanford University Architect/Planning Office, July 2002.



San Jose Diridon Station Area

The future BART extension to San Jose will change the Diridon station area due to BART related station area improvements and increased demand for parking and station access. The Diridon/Arena Strategic Development Area Plan designates the vicinity of the Diridon Station area as transit-oriented development zones¹³ According to the *Diridon/Arena Strategic Development Plan*, the Diridon Station area may have up to 2.7 million square feet of commercial spaces and 400 dwelling units.

6.2 Transit Service Improvement Projects

VTA

VTA has undertaken a comprehensive operational analysis that features an onboard survey. The results of this data collection effort will guide future service improvements on El Camino.

VTA also recently implemented rapid bus service on the El Camino corridor. The 522 Rapid Bus uses a transponder to trigger signal preemption when approaching intersections to minimize delay at lights. Since the implementation of this line, 17% of the increase in ridership represents new riders to the system.

SamTrans

SamTrans has begun the process to reconfigure El Camino Real bus lines 390 and 391. In addition, SamTrans has initiated planning for an express service overlay in the corridor.

Caltrain

As Caltrain expands its daily service level, the number of trips to and from the Caltrain stations is expected to increase. Since ten stations are located within ¼ mile of El Camino Real, intensity or travel patterns will likely change as service increases.

6.3 Traffic Signalization Projects

Caltrans and Cities in Santa Clara County

Caltrans proposes to upgrade and interconnect signals between Bellomy Street in Santa Clara (PM 10.764) and Quarry Road in Palo Alto (PM 26.055).¹⁴ Signal interconnection will improve traffic operations on El Camino Real and reduce traffic delays at intersections. This project needs local matching funds in order to be implemented.

Caltrans, C/CAG and Cities in San Mateo County

C/CAG and Caltrans each have each committed \$5 million dollars (total of \$10 million) to fund a project to upgrade traffic signals and controllers, install conduits and signal interconnect cables, and appropriate

¹³ *Diridon/Arena Strategic Development Area Plan*, BMS Design Group et al, April 2002.

¹⁴ *Supplemental Project Study Report Traffic Signal Upgrade and Interconnection in Santa Clara County, On Route 82*, Caltrans, October 25, 2005.



loop detectors on El Camino Real from Menlo Park to Millbrae. This project has been included on the candidate list for "GoCalifornia Congestion Reduction" so that construction can be fast-tracked for early 2007. Caltrans funding will be derived from its SHOPP resources (roadway maintenance) and the C/CAG portion will be funded through the STIP. Completion of this project is anticipated by December 2008 and will result in a total of 73 intersections within the project limits being interconnected. In addition to the projected travel time delay savings of over 12 minutes, this project will provide direct benefits for the Rapid Bus service under consideration by SamTrans.



Appendix A

Table A-1: List of Reference Documents

City/Source	Document	Date
Daly City	City of Daly City General Plan Housing Element	November 2004
Colma	Colma BART Specific Area Plan*	1993
	Town of Colma General Plan	
South San Francisco	So. SF BART Transit Village Plan*	August 2001
	So. SF General Plan Land Use and Circulation Elements	August 2001
	So. SF General Plan – El Camino Real*	August 2001
	So. SF Redevelopment Area Map	
San Bruno	San Bruno Redevelopment Plan*	July 1999
	City of San Bruno General Plan Housing Element	January 2003
	Summary of US Navy Site and its Environs Specific Plan	July 2005
Millbrae	City of Millbrae General Plan Summary*	
	City of Millbrae General Plan	1998
	Millbrae Station Area Plan	1998
Burlingame	City of Burlingame General Plan	
	General Plan Housing Element	July 2002
	City of Burlingame Bicycle Transportation Plan	August 2006
	North Burlingame/Rollins Road Specific Plan	September 2004
San Mateo	City of San Mateo General Plan Circulation Element	2005
	City of San Mateo General Plan Land Use Element	
	General Plan Land Use Map	
	El Camino Real Master Plan*	
	San Mateo Rail Corridor Transit Oriented Development Plan*	2005
	Bay Meadows Specific Plan Amendments*	November 2005
	Zoning Map	
	Building Intensity Map	November 2005
El Camino Real Master Plan: Settings & Opportunities – City of San Mateo	November 2005	
Belmont	Building Height Map	August 1982
	City of Belmont General Plan	March 1995
	City of Belmont General Plan Land Use Map	July 1995
	Downtown Specific Plan*	August 2002
	City of Belmont 2001-2006 Housing Element	2004
	City of Belmont Zoning Map	
	City of Belmont Redevelopment Area Map	October 2003
The Peninsula Corridor Plan*	2003	
San Carlos	2003 East San Carlos Specific Plan	September 1994
	City of San Carlos West Side Specific Plan*	September 1992
	San Carlos General Plan 1992 Update	2002
	Traffic Impacts and Mitigations Study Report	October 2001
Redwood City	City of Redwood City Downtown Area Plan (Draft)*	October 2002
	City of Redwood City Zoning Map	October 2002



City/Source	Document	Date
	City of Redwood City General Plan Land Use Map	
	Transforming El Camino Real	November 2004
	El Camino Real/Vera Avenue Site Precise Plan	September 1990
Atherton	Town of Atherton General Plan	
Menlo Park	City of Menlo Park General Plan*	
	El Camino Real/SPRR Corridor Study	May 2004
	Menlo Park Comprehensive Bicycle Development Plan	January 1998
	Center City Design Guidelines*	
Palo Alto	Palo Alto Comprehensive Plan – Transportation and Housing Sections	
	El Camino Real Master Schematic Design Plan – Public Review Draft	
	South El Camino Real Design Guidelines Administrative Draft	
	Palo Alto Bicycle Transportation Plan	
	Embracing New Century – Land Use/Community Design and Business/Economics Sections	May 2004
Mountain View	City of Mountain View: Downtown Precise Plan	
	City of Mountain View General Plan – Circulation and Community Development Elements	September 1982
	Ortega-El Camino Real Precise Area Plan	December 1985
	El Monte/El Camino Real Specific Area Plan	November 2002
Los Altos	General Plan	
	Zoning Map	2003
Sunnyvale	City of Sunnyvale Draft Downtown Specific Area Plan	
	City of Sunnyvale General Plan – Land Use and Circulation Elements	January 2002
Santa Clara	City of Santa Clara General Plan – Land Use and Circulation Elements	
	Transit Area Concept Plan	January 2006
San Jose	San Jose 2020 General Plan	September 2005
	San Jose 2020 General Plan – TOD Element	April 2002
	Diridon/Arena Strategic Development Plan	
Other Agencies:		
ABAG	Santa Clara County land use data	July 2005
BART	BART Transit Oriented Development Policy	2001-2006
Caltrans	San Mateo County, Santa Clara County Rte 82 data – speed, volume, accident, etc.	November 2001
	Caltrans Director’s Policy – Context Sensitive Design	2006
DC&E	San Mateo County land use data	2005
San Mateo County C/CAG	San Mateo County traffic volume/LOS data	April 2001
	Countywide Transportation Plan 2010	1976
	Community Design Manual	1986
	General Plan Policies	October 2000
	San Mateo County Comprehensive Bicycle Route Plan	2005
	SamTrans bus route alignment, bus stop, and boardings data	2000



City/Source	Document	Date
SamTrans	U.S. Census data for San Mateo and Santa Clara Counties – mode of transportation, travel time, etc.	2005, 2006
U.S. Census	VTA transit route alignment, stations, bus stop and boardings data; EL CAMINO REAL traffic volume/LOS data; Santa Clara County land use data via ABAG	
VTA	Valley Transportation Plan 2030	July 2004
	Community Design and Transportation Manual	2003
Others:	Main Street Silicon Valley	
	Sustainable San Mateo (presentation)	June 2004
	El Camino Real Grand Boulevard Initiative (Exec Summary)	
	Stanford University Community Plan	2003
	Peninsula Corridor Plan*	
	MTC- Transit Connectivity Study	



Table A-2: List of Data References – San Mateo County

Category	Source	Year	Descriptions
DATA (Excel/Database formats)			
San Mateo County Land Use	C/CAG and DC & E		Parcels categorized by 90 land use codes. Original source of land use codes - San Mateo County Assessor's Office
SamTrans Bus Boarding	El Camino Real Origin and Destination Survey	Sep-05	Number of boardings for Routes 390 and 391 by bus stop by direction
Caltrain Boarding	Caltrain Annual Passenger Counts	Feb-06	Caltrain weekday boardings by station
BART Boardings	BART Quaterly Average Station Exits	2005 4th Quarter	BART weekday alightings by station
Population	2000 Census	2000	Population by census tract
Population Projections	ABAG Projections	2005	Population projections by census tract. Projected for by 5 year increments, starting Year 2005 and ending in Yr 2030.
Employment	2000 Census	2000	Employment by census tract
Employment Projections	ABAG Projections	2005	Employment projections by census tract. Projected for by 5 year increments, starting Year 2005 and ending in Yr 2030.
Race	2000 Census	2000	Race by census tract
Journey to Work	2000 Census	2000	Mode of travel to work and average trip lengths by census tract
Level of Service	C/CAG	Oct-05	LOS for CMP network intersections
AADT	Caltrans	2005	daily traffic volumes for both directions
Traffic volumes	Caltrans	2005/2006	hourly traffic volumes by direction
Accidents	Caltrains	Aug 2002 to July 2005	All accidents on main line (ECR) listed by post mile. No side street accident included.
Accident Rates	Caltrans	Aug 2002 to July 2005	Accident rates for all intersections.
Speed Limit	Caltrans	2006	
Number of Lanes	Caltrans	2006	
GIS FILES (Shapefiles)			
Parcels	San Mateo County Public Works		Parcel file contains area, address and APN number.
Caltrain ROW	C/CAG, DC&E		Caltrain rail tracks in San Mateo County
BART ROW	C/CAG, DC&E		BART rail tracks in San Mateo County
Caltrain Stations	C/CAG, DC&E		Caltrain stations in San Mateo County
BART Stations	C/CAG, DC&E		BART stations in San Mateo County



Category	Source	Year	Descriptions
City Boundaries	San Mateo County Public Works		City and Unincorporated area boundaries.
County Boundaries	San Mateo County Public Works		County Boundaries for Bay Area
Body of Water	San Mateo County Public Works		
Census Tracts	Census Tiger File		
Post Mile	Caltrans		Post Mile information.
Streets	San Mateo County Public Works		
SamTrans Bus Routes	C/CAG, DC&E		SamTrans bus routes
Intersection Accident Rates	HNTB	Aug 2002 to July 2005	Intersection accident rates were geo-coded, using the Caltrans Post Mile shapefile.
Pedestrian and bicycle accident locations	HNTB	Aug 2002 to July 2005	Pedestrian and bicycle accident locations were geo-coded, using the Caltrans Post Mile shapefile.
AADT	HNTB	2005	AADT information was summarized and geo-coded, using the Caltrans Post Mile shapefile.
LOS	HNTB	2005	LOS information was summarized and geo-coded, using the Caltrans Post Mile shapefile.
Speed Limit	HNTB	2006	Speed limit information was summarized and geo-coded, using the Caltrans Post Mile shapefile.



Table A-3: List of Data References – Santa Clara County

Category	Source	Year	Descriptions
DATA (Excel/Database formats)			
Santa Clara County Land Use	ABAG, VTA		Land use by parcel
VTA Bus Boarding	VTA	April 20006	Weekday bus bording for Routes 22 and 522 by bus stop by direction
Caltrain Boarding	Caltrain Annual Passenger Counts	Feb-06	Caltrain weekday boardings by station
Population	2000 Census		Population by census tract. Census tracts within 1/2 mile of ECR
Population Projections	ABAG Projections	2005	Population projections by census tract. Projected for by 5 year increments, starting Year 2005 and ending in Yr 2030.
Race	2000 Census	2000	Race by census tract
Journey to Work	2000 Census	2000	Mode of travel to work and average trip lengths by census tract
Employment	2000 Census		Employment by census tract. Include census tracts within 1/2 mile of ECR
Employment Projections	ABAG Projections	2005	Employment projections by census tract. Projected for by 5 year increments, starting Year 2005 and ending in Yr 2030.
LOS	VTA	Mar-05	Level of Service for CMP network roadways
AADT	Caltrans	2005	daily traffic volumes for both directions
Traffic volumes	Caltrans	2005/2006	hourly traffic volumes by direction
Accidents	Caltrains	Aug 2002 to July 2005	All accidents on main line (ECR) listed by post mile. No side street accident included.
Accident Rates	Caltrans	Aug 2002 to July 2005	Accident rates for all intersections.
Speed Limit	Caltrans	2006	
Number of Lanes	Caltrans	2006	
GIS FILES (Shapefiles)			
Parcels	ABAG, VTA		
Caltrain ROW	ABAG, VTA		Caltrain rail tracks in Santa Clara County
VTA ROW	ABAG, VTA		VTA tracks
Caltrain Stations	ABAG, VTA		Caltrain Stations in Santa Clara County
VTA Stations	ABAG, VTA		VTA LRT stations



Category	Source	Year	Descriptions
City Boundaries	ABAG, VTA		City boundaries
County Boundaries	ABAG, VTA		County boundary
Body of Water	ABAG, VTA		
Census Tracts	Census Tiger Files		
Post Mile	Caltrans		Post Mile information. Rounded to 1/10th of a mile
Street	ABAG, VTA		
Intersection Accident Rates	HNTB	Aug 2002 to July 2005	Intersection accident rates were geo-coded, using the Caltrans Post Mile shapefile.
Pedestrian and bicycle accident locations	HNTB	Aug 2002 to July 2005	Pedestrian and bicycle accident locations were geo-coded, using the Caltrans Post Mile shapefile.
AADT	HNTB	2005	AADT information was summarized and geo-coded, using the Caltrans Post Mile shapefile.
LOS	HNTB	2005	LOS information was summarized and geo-coded, using the Caltrans Post Mile shapefile.
Speed Limit	HNTB	2006	Speed limit information was summarized and geo-coded, using the Caltrans Post Mile shapefile.