Transportation Concept Report

State Route 85

District 4

June, 2017

The information and data contained in this document are for Planning purposes only and should not be relied upon for final design of any project. Any information in this Transportation Concept Report (TCR) is subject to modification as conditions change and new information is obtained. Although Planning information is dynamic and continually changing, District 4 Office of System and Regional Planning makes every effort to ensure the accuracy and timeliness of the information contained in the TCR. The information in the TCR does not constitute a standard, specification, or regulation, nor is it intended to address design policies and procedures.

California Department of Transportation

Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability

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ABOUT THE TRANSPORTATION CONCEPT REPORT

System Planning is the long-range Transportation Planning process for the California Department of Transportation (Caltrans). The System Planning process fulfills Caltrans statutory responsibility as owner/operator of the State Highway System (SHS) (Gov. Code §65086) by identifying deficiencies and proposing improvements to the SHS. Through System Planning, Caltrans focuses on developing an integrated multimodal transportation system that meets Caltrans' goals of **Safety and Health, Stewardship and Efficiency, Sustainability, Livability and Economy**, **System Performance**, and **Organizational Excellence**.

The System Planning process is primarily composed of four parts: the District System Management Plan (DSMP), the Transportation Concept Report (TCR), the Corridor System Management Plan (CSMP), and the DSMP Project List. The **DSMP** is strategic policy and planning document that focuses on maintaining, operating, managing, and developing the transportation system. The **TCR** is a multi-jurisdictional planning document that identifies the existing and future route conditions as well as future needs for each route on the SHS. The **CSMP** is a more complex, multi-jurisdictional planning document that identifies future needs within corridors experiencing or expected to experience high levels of congestion. The CSMP serves as a TCR for segments covered by the CSMP. The **DSMP Project List** is an inventory of planned and partially programmed transportation projects used to recommend for funding. These System Planning products are also intended as resources for stakeholders, the public, and partner, regional, and local agencies.

TCR Purpose

California's State Highway System needs long-range Planning documents to guide the logical development of transportation systems as required by law and as necessitated by the public, stakeholders, and system users. The purpose of the TCR is to evaluate current and projected conditions along the route and communicate the vision for the development of each route in each Caltrans District during a 20-25 year Planning horizon. The TCR is developed with the goals of increasing safety, improving mobility, providing excellent stewardship, and meeting community and environmental needs along the corridor through integrated management of the transportation network, including the highway, transit, pedestrian, bicycle, freight, operational improvements and travel demand management components of the corridor.

Cover Photo: An aerial view of the interchange of SR 85 and SR 87 in San Jose, Author of Photo: Kevin Payravi
Source: https://commons.wikimedia.org/wiki/File:California_SR_85_and_SR_87_Interchange.jpg

STAKEHOLDER PARTICIPATION

District 4 is pleased to acknowledge the time and contributions of stakeholders and partner agencies to this TCR. Development of System Planning documents such as this one is dependent upon the participation and cooperation of key stakeholders. This TCR represents a cooperative planning effort for State Route 85. Representatives of the Santa Clara Valley Transportation Authority and nearby cities provided essential information, advice and feedback for the preparation of this document.

This TCR will be posted on the Caltrans District 4 System Planning website at:
http://www.dot.ca.gov/dist4/systemplanning

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EXECUTIVE SUMMARY

State Route (SR) 85 is a six-lane freeway entirely located in Santa Clara County. It begins at United States (US) 101 in San Jose and ends at US 101 in Mountain View. Currently it has two mixed-flow lanes and one High Occupancy Vehicle (HOV) lane in each direction. Average Daily Traffic ranges from 65,000 to 140,000 vehicles per day, serving as an alternative route to US 101 for residents and businesses in the northwest part of Santa Clara County. The SR 85 Corridor (Corridor) passes through eight cities in Santa Clara County, providing essential connections for the nearby communities. The freeway intersects with SR 87, SR 17, Interstate (I) 280, SR 237, and US 101. Trucks over 4.5 tons are not permitted on SR 85 south of I-280.

This SR 85 Transportation Concept Report (TCR) evaluates current and projected conditions along the route and communicates Caltrans vision for the route during a 20-25 year Planning horizon. The base year and the horizon year of the report are 2013 and 2040 respectively. This TCR incorporates the planned conversion of existing High Occupancy Vehicle (HOV) lanes to Express (Toll) Lanes, and possible addition of a second Express Lane or Mass Transit Lane in the median for both directions. The TCR recommends exploring auxiliary lanes options at bottlenecks. It incorporates integrated land use and multi-modal transportation along the Corridor, including transit, bicycle and pedestrian-based improvements, and Intelligent Transportation System (ITS)/Transportation Operation System (TOS).

CONCEPT SUMMARY

Table 1: Concept Summary

Segment	Segment Description	Existing Facility	20-25 Year Capital Facility Concept*	20-25 Year System Operations and Management Concept	Post-25 Year Concept
1	US 101 South to SR 87	4 MF + 2 HOV	4 MF + 2 E + 2 MT	• Completion of Ramp Metering and Transportation Operation System • Multimodal Improvements • Transit Services Improvements Paired with Smart Growth	4 MF + 2 E + 2 MT
2	SR 87 to SR 17	4 MF + 2 HOV	4 MF + 2 E + 2 MT		4 MF + 2 E + 2 MT
3	SR 17 to I-280	4 MF + 2 HOV	4 MF + 2 E + 2 MT		4 MF + 2 E + 2 MT
4	I-280 to SR 237	4 MF + 2 HOV	4 MF + 2 E + 2 MT		4 MF + 2 E + 2 MT
5	SR 237 to US 101 North	4 MF + 2 HOV + 2 MT	4 MF + 2 E + 2 MT		4 MF + 2 E + 2 MT

MF = Mixed Flow HOV = High-Occupancy Vehicle lane E = Express Lane MT = Mass Transit Lane
* Two Lanes for Mass Transit Service could be either Bus Rapid Transit or Light Rail.

CONCEPT RATIONALE

According to the 2013 Caltrans Traffic Census, Average Annual Daily Traffic (AADT) on the route is between 65,000 and 138,000 vehicles. High traffic demand has led to substantial congestion and delay on certain sections of SR 85. In 2013, six bottlenecks were identified in the northbound (NB) direction during the a.m. peak period, and six bottlenecks in the southbound (SB) direction in the p.m. peak period. The congestion is so substantial that 90 percent of the NB and 60 percent of the SB direction operates at Level of Service (LOS) E or F during the a.m. and p.m. peak periods. HOV lanes along the Corridor also experience reduced speeds and congestion.

Due to the relative urban nature of the Corridor and the high cost of additional right of way, there is limited space to expand the freeway. To ensure that the Corridor continues to meet the mobility needs of its users, corridor strategies focus on the implementation of Express Lanes, potential addition of a second lane for Bus Rapid Transit or Light Rail, completion of ITS/TOS elements, enhancement of transit services, and improvements to bicycle and pedestrian facilities throughout the Corridor.

PLANNED AND PROPOSED PROJECTS AND STRATEGIES

Multiple improvement projects for vehicles and other modes of transportation are proposed on the SR 85 Corridor. Sources for the proposed projects include the Metropolitan Transportation Commission's (MTC) Regional Transportation Plan (RTP) - Plan Bay Area (PBA 2013); Santa Clara Valley Transportation Authority's (VTA) Valley Transportation Plan (VTP) 2040, and the State Highway Operation and Protection Program (2016 SHOPP). Freeway strategies focus on implementing the Express Lanes project and optimizing the operation of the freeway. Studying the feasibility of additional lanes and auxiliary lanes is recommended. Strategies for bike and pedestrian transportation have focused on the safety of users and the connectivity of the networks. This TCR calls for increased bus efficiency; for example, developing Bus Rapid Transit (BRT), which can make public transit a more viable and competitive mode of transportation. Private shuttle bus usage on the Corridor is also encouraged, since it helps reduce congestion and greenhouse gas emissions. The TCR supports improvements to local street circulation, and recommends transit service improvements to be paired with Smart Growth. Cities along the route could coordinate land use so that more focused development can occur around transit centers, which is consistent with the Sustainable Community Strategies of PBA. Agencies and communities need to work together to find creative and effective solutions to the transportation challenges.

CORRIDOR OVERVIEW

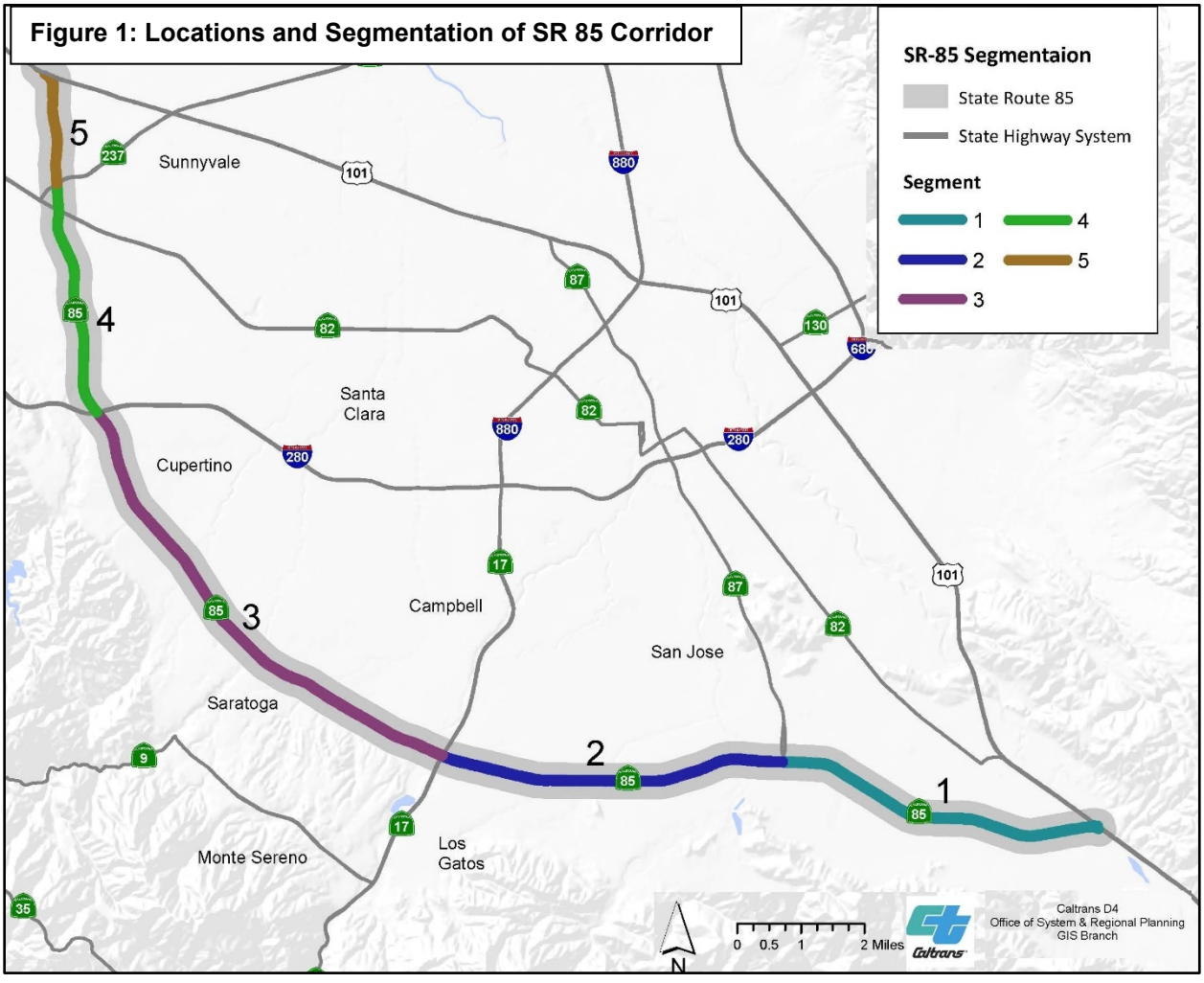
ROUTE SEGMENTATION

For the purpose of this document, the SR 85 Corridor is divided into five segments based on changes in AADT as well as connections to other State highways and Interstates. Please see Appendix D for 2013 Traffic Counts on SR 85. Table 2 shows the segment boundaries, Post Miles (PM), and lengths of the segments. The locations and segmentation of SR 85 are illustrated in Figure 1.

Table 2: Route Segmentation of SR 85

Segment	Location Description	County-Route-Beging PM	County-Route-End PM	Length (mile)
1	US 101 / SR 85 South Junction to SR 87	SCL-85-0	SCL-85-5.22	5.22
2	SR 87 to SR 17	SCL-85-5.22	SCL-85-R10.49	5.45
3	SR 17 to I-280	SCL-85-R10.49	SCL-85-R18.44	7.95
4	I-280 to SR 237	SCL-85-R18.44	SCL-85-R22.16	3.71
5	SR 237 to US 101 / SR 85 North Junction	SCL-85-R22.16	SCL-85-R24.05	1.70

Figure 1: Locations and Segmentation of SR 85 Corridor



ROUTE DESCRIPTION

SR 85 is a six-lane freeway, with two HOV lanes, that carries between 65,000 and 138,000 vehicles per day. The Corridor serves as an alternative route to US 101 for residents and businesses in Santa Clara County.

SR 85, also known as the West Valley Freeway, is located in western Santa Clara Valley. This route is signed as the Norman Y. Mineta Highway for most of its length except for the portion between Quito Road and Prospect Road in the City of Saratoga, which is named for CHP Officer Scott M. Greenly. North of I-280 the route is known as the Stevens Creek Freeway. [1]

SR 85 below grade, near Cox Ave, Facing North
(Source: Google Images)

The freeway was originally constructed in two phases. Although land was set aside for the entire freeway, only the northern portion of the freeway was built in the 1960s. The original segment ran from US 101 to just north of Stevens Creek Boulevard, a distance of approximately 5.7 miles. Measure A, passed in 1984, increased the sales tax in Santa Clara County by a ½ cent and helped fund the extension of Highway 85 from Cupertino to US 101 in South San Jose. The southern portion was completed in 1995. This extension marked the first State highway project in California funded by a voter-approved sales tax measure.

A portion of the Corridor between Los Gatos and Saratoga was constructed below-grade in order to reduce freeway noise. This feature limits future expansion of the freeway. Another characteristic of the Corridor is the presence of the VTA Light Rail in the median of the freeway between SR 87 and US 101 (in South San Jose). In addition, the Stevens Creek Multi-Use Trail runs parallel to the freeway north of Stevens Creek Boulevard.

Route Location:

SR 85 is located entirely in Santa Clara County. It begins at the interchange with US 101 near Bernal Road in south San Jose, travels northwest through the cities of Campbell, Los Gatos, Saratoga, Cupertino, Sunnyvale, Los Altos, and ends at the US 101/SR 85 interchange in Mountain View. Besides US 101, SR 85 also intersects with SR 87, SR 17, I-280, SR 82, and SR 237.

Route Purpose:

The freeway was originally built as a bypass to relieve congestion on US 101. The total length of the route is about 24 miles, roughly three miles longer than its parallel alignment on US 101. The route serves mainly as a commuter route. Trucks above 4.5 tons are not allowed on SR 85 between US 101 at the northern end (PM 0.0) and I-280 (PM 18.4), except for maintenance and emergency vehicles, buses, and recreational vehicles[2].

Route Designations and Characteristics:

Table 3 lists the designations and characteristics of the freeway by segment.

[1] http://en.wikipedia.org/wiki/California_State_Route_85
[2] California Vehicle Code 35722

Table 3: Route Designations and Characteristics

Segment #	1	2	3	4	5
Freeway & Expressway	Yes	Yes	Yes	Yes	Yes
National Highway System (NHS)	MAP-21 NHS Principal Arterial	MAP-21 NHS Principal Arterial	MAP-21 NHS Principal Arterial	MAP-21 NHS Principal Arterial	MAP-21 NHS Principal Arterial
Strategic Highway Network	No	No	No	No	No
Scenic Highway	No	No	No	No	No
Interregional Road System	No	No	No	No	No
Functional Classification	Other Freeway or Expressway	Other Principal Arterial/ Other Freeway or Expressway	Other Principal Arterial/ Other Freeway or Expressway	Other Freeway or Expressway	Other Freeway or Expressway
Goods Movement Route	No	No	No	Yes	Yes
Truck Designation	Special Restrictions	Special Restrictions	Special Restrictions	Surface Transportation Assistance Act (STAA) Network	STAA Network
Rural/Urban/Urbanized	Urbanized	Urbanized	Urbanized	Urbanized	Urbanized
Local Agency	Santa Clara County, City of San Jose	Santa Clara County, City of San Jose	Santa Clara County, Cities of Campbell, Los Gatos, Saratoga, and Cupertino	Santa Clara County, Cities of Cupertino, Sunnyvale, and Mountain View	Santa Clara County, City of Mountain View
Air District*	Bay Area Air Quality Management District (BAAQMD)	BAAQMD	BAAQMD	BAAQMD	BAAQMD
Terrain	Flat	Flat	Flat	Flat	Flat

*The California Legislature created the BAAQMD in 1955 as the first regional air pollution control agency in the country. The Air District is tasked with regulating stationary sources of air pollution in the nine counties that surround San Francisco Bay: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, southwestern Solano, and southern Sonoma counties.

COMMUNITY CHARACTERISTICS

Santa Clara County is the most populous county in the Bay Area with a total population of 1.78 million and more than 900,000 jobs according to the 2010 U.S. Census. The total population is slightly higher than Alameda County, and population density in Santa Clara County triples that of Sonoma County, which is similar in size in terms of geographic area. Table 4 shows employment and housing growth in the nine Bay Area counties from the Association of Bay Area Governments (ABAG) 2012 Job Housing Connection Strategy.

SR 85 and Downtown San Jose
Source: https://commons.wikimedia.org/wiki/File:USA-San_Jose-Downtown-1.jpg

Within the Bay Area, Santa Clara County has the highest number of jobs, and the housing units and household growth is also the highest in the region. By 2040, Santa Clara County is expected to account for roughly a quarter of the Region's employment, housing units and households.[3]

Table 4: Employment and Housing in the Bay Area[4]

	Jobs (Employment)*				Number of Housing Units*				Households*			
County	2010	2040	2040 % Region	2010-2040 Growth	2010	2040	2040 % Region	2010-2040 Growth	2010	2040	2040 % Region	2010-2040 Growth
Alameda	694.5	947.6	21%	36%	582.6	730.5	21%	29%	545.1	705.3	21%	29%
Contra Costa	344.9	467	10%	35%	400.3	480.4	14%	23%	375.4	463.1	14%	23%
Marin	110.7	129.1	3%	17%	111.2	118.7	3%	9%	103.2	112	3%	9%
Napa	70.65	89.53	2%	27%	54.76	60.81	2%	15%	48.88	56.29	2%	15%
San Francisco	568.7	759.5	17%	34%	376.9	469.4	14%	29%	345.8	447.3	14%	29%
San Mateo	345.2	445.3	10%	29%	271	326.7	9%	22%	257.8	315.7	10%	22%
Santa Clara	926.3	1230	27%	33%	631.9	843.1	24%	36%	604.2	819.1	25%	36%
Solano	132.4	179.9	4%	36%	152.7	175.5	5%	19%	141.8	168.7	5%	19%
Sonoma	192	257.5	6%	34%	204.6	236.4	7%	19%	185.8	220.7	7%	19%
REGION	3385	4505	100%	33%	2786	3446	100%	27%	2608	3308	100%	27%

* Numbers are in 1000s.

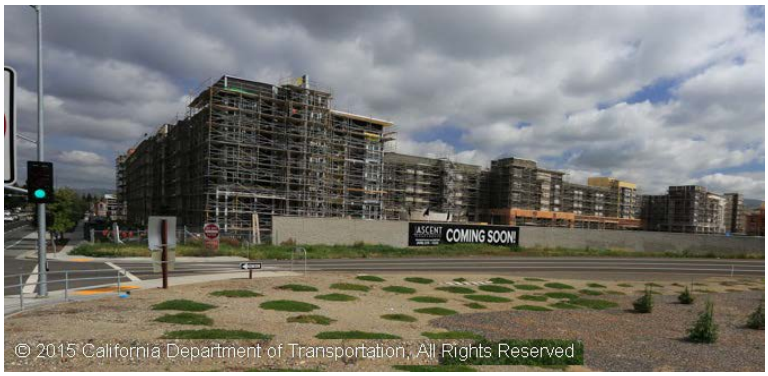
Santa Clara County is the global center for high technology (high-tech), with most impressive and productive knowledge-based industries. Many world renowned high-tech engineering, computer, microprocessor, and new media companies are headquartered in cities along the SR 85 Corridor. Santa Clara County also hosts world-class higher education and research institutions like Stanford University as well as a highly-skilled labor force.

The cost of living in San Jose and the surrounding areas is among the highest in California and the nation, which is primarily due to its high cost of housing. It was reported that the median sales price of existing single-family homes in the San Jose-Sunnyvale-Santa Clara area was $1.1 million in 2016.[5] According to American Community Survey estimates (2014), 87 percent of residents work and live in Santa Clara County.[6] However, the increasingly high cost of living is forcing people out of the area, resulting in more travel over longer distances. In 2013, an estimated 158,823 residents of the neighboring counties of Alameda, San Francisco and San Mateo commuted to Santa Clara County for work.[7] The high cost of housing also translates into higher land value, making it more costly to widen the freeway, if needed.

[3] http://www.planbayarea.org/pdf/JHCS/May_2012_Jobs_Housing_Connection_Strategy_Main_Report.pdf
[4] http://www.planbayarea.org/pdf/JHCS/May_2012_Jobs_Housing_Connection_Strategy_Main_Report.pdf
[5] http://www.realtor.org/sites/default/files/reports/2016/embargoes/2016-q2-metro-home-prices/metro-home-prices-q2-2016-single-family-2016-08-10.pdf
[6] http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_S0801&prodType=table
[7] http://siliconvalleyindicators.org/data/place/transportation/commute-patterns/

LAND USE

Existing land uses along SR 85 are mostly low to medium density residential with major employment centers generally located at each end of the route and commercial land uses located throughout the route. Major employers including Google, Microsoft, Mozilla, and NASA are located at the northern end. At the southern end, current land uses are industrial and commercial. The route also passes institutional land uses such as West Valley College in Saratoga and De Anza College in Cupertino, and office uses in Los Gatos. SR 85 travels near several major shopping centers including Westfield Mall, Hillview Plaza, Almaden Square, Riverhill Shopping Center as well as some neighborhood and community commercial centers.



High Density Housing under construction, near westbound SR 85 at Cottle Road off-ramp

Socio-economic changes such as an increasing senior population, changing ethnic demographics, as well as land scarcity have called for more focused land use that is transit-oriented with improved pedestrian accessibility. Such trends have been explicitly expressed in the General Plans of the cities surrounding the Corridor. For instance, the General Plan of San Jose calls out land use policies that shift away from the traditional low-density, dispersed land use pattern, and provide flexibility of mixed residential and commercial uses. The City of Cupertino General Plan intends to locate trip generators and attractors closer to one another to promote non-motorized transportation. Similarly, the City of Sunnyvale General Plan establishes land use policies that locate higher intensity, mixed land uses and development near major transit and multi-modal travel facilities, without increasing the overall density. The City of Mountain View General Plan aims to keep the city's distinct character and grow an even more vibrant community by encouraging expanded land use and flexibility, as well as promoting focused and intensified growth next to public transportation corridors.

On the other hand, communities around SR 85 in the cities of Campbell and Los Gatos are mature, built-out communities, so no major land use changes are seen in their General Plans. While the City of Saratoga's General Plan has identified medium-density residential land uses around SR 85, Los Altos, a developed community, focuses on preservation of existing land uses and ensures new development is compatible with existing.

In general, local land use planning and infrastructure improvements in Santa Clara County tend to promote higher densities near major transit and transportation facilities without increasing the overall density of land use, which is consistent with the regional efforts discussed below. However, coordinated land use and Transportation Planning among the cities has yet to be achieved. Please see Appendix C for a detailed discussion.

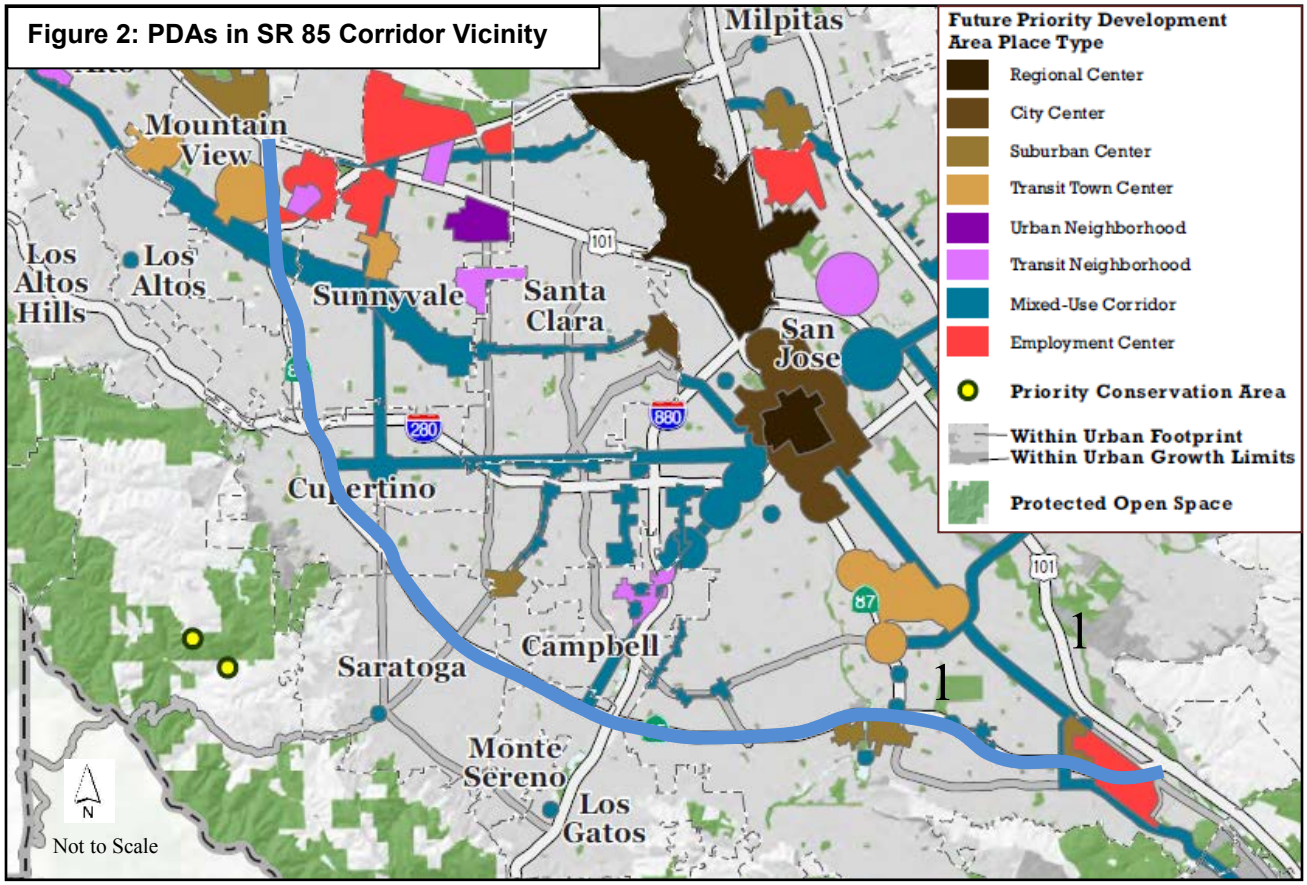
Priority Development Areas (PDAs)

Senate Bill (SB) 375 (2008) requires each Metropolitan Planning Organization (MPO) to develop plans to meet their regional Greenhouse Gas (GHG) reduction target. Plan Bay Area 2013, MTC's latest Regional Transportation Plan, responded to SB 375 by providing the required Sustainable Community Strategy (SCS) which integrates transportation, land use and housing to help achieve greenhouse gas emissions reduction from cars and light-

duty trucks. Although Plan Bay Area has no direct control over local land use decisions, it provides incentives and opportunities for local governments to support growth in PDAs. PDAs are locally-designated areas within existing communities that have been approved by ABAG and recommended by cities or counties for future focused growth. These areas are typically easily accessible by transit and thus, provide non-motorized access to jobs, shopping and other services.[8]

The map below from Plan Bay Area shows several employment centers at the north and south ends of the SR 85 Corridor[9]. The suburban center at the south end of SR 85 in San Jose is planned for mixed-use housing with a strong pedestrian circulation system including sidewalks and substantial landscaping near the light rail Cottle Station. The suburban center in Mountain View reflects the City's North Bayshore Precise Plan. The Transit Town Center in Mountain View is anchored by a Caltrain Station and a VTA light rail station, and serves as a hub for South Bay corporate shuttles and a local bus transit center with mixed-use corridors along SR 82 and Stevens Creek Boulevard located nearby.

Figure 2: PDAs in SR 85 Corridor Vicinity



Source: MTC/ABAG, Plan Bay Area 2013

[8] http://onebayarea.org/pdf/JHCS/May_2012_Jobs_Housing_Connection_Strategy_Appendices_Low_Res.pdf, 2012

[9] http://www.planbayarea.org/news/story/Plan-Bay-Area-Adopted.html, 2013

SYSTEM CHARACTERISTICS

The majority of the freeway has four general purpose lanes and two HOV lanes, with Segment 1 containing a VTA light rail line in the median of the facility. Trucks weighing over 4.5 tons are only allowed on SR 85 north of I-280. The single HOV lane in each direction requires two or more people per vehicle during weekday peak traffic hours with the exception of certain qualifying clean alternative fuel vehicles and motorcycles. Tables 5 to 7 summarize existing and future SR 85 characteristics.

Table 5: Existing Facility

Segment	**1**	**2**	**3**	**4**	**5**
Facility Type	Freeway	Freeway	Freeway	Freeway	Freeway
General Purpose Lanes	4	4	4	4	4
Total Lane Miles	31.33	32.7	47.7	22.29	10.22
Centerline Miles	5.22	5.45	7.95	3.72	1.70
Median Width	>=46 feet	50-70 feet	22-53 feet	9-22 feet	>=22 feet
Median Characteristics	Light Rail in medium/ Separate Structures	Unpaved/ Separate Structures	Paved/Unpaved/ Separate Structures	Paved	Paved
HOV Lanes	2	2	2	2	2
HOV Characteristics	5 - 9 a.m., 3 - 7 p.m., Monday - Friday; Two or more persons per vehicle, motorcycles and Inherently Low Emission Vehicles (ILEVs) permitted				
BRT Lanes	n/a	n/a	n/a	n/a	n/a
Auxiliary Lanes$	15%	33%	11%	8%	9%
Distressed Pavement#	6%	1%	1%	1%	18%
ROW^	200-320ft	180-305ft	170-279ft	150-190ft	160-225ft

$ Percentage of the segment that includes auxiliary lanes. Estimated based on Caltrans Post Mile tool.

2011 Pavement Condition Survey, run in April 2014. Please see Appendix E for the map of Pavement Condition on SR 85.

^ Measured on Caltrans D4 CTrip, roadway only.

Table 6: Concept Facility

Segment	**1**	**2**	**3**	**4**	**5**
Facility Type	Freeway	Freeway	Freeway	Freeway	Freeway
General Purpose Lanes	4	4	4	4	4
Express Lanes*	2	2	2	2	2
Mass Transit Lanes**	2	2	2	2	2

* Carpools with two or more occupants, motorcycles, transit buses, and clean air vehicles with applicable decals may use Express Lanes free of charge. Solo drivers would pay a toll to use during commute hours.

** Two middle lanes may be used for BRT or light rail.

Table 7: Post 25-Year facility

Segment	**1**	**2**	**3**	**4**	**5**
Facility Type	Freeway	Freeway	Freeway	Freeway	Freeway
General Purpose Lanes	4	4	4	4	4
Express Lanes*	2	2	2	2	2
Mass Transit Lanes**	2	2	2	2	2

Carpools with two or more occupants, motorcycles, transit buses, and clean air vehicles with applicable decals may use Express Lanes free of charge. Solo drivers would pay a toll to use during commute hours.

** Two middle lanes may be used for BRT or light rail.

TRANSPORTATION SYSTEM MANAGEMENT AND OPERATIONS (TSMO)

Caltrans is committed to effective TSMO to optimize the performance of California's transportation systems for all users and modes of travel. TSMO strategies are essential to a performance-based decision making process Caltrans will use to improve the efficient and effective operation of the transportation network. Examples of TSMO strategies include, but are not limited to, ramp metering, traffic signal synchronization, Intelligent Transportation System (ITS), and managed lanes. Efficiency can often be achieved by operational improvements through ITS deployments. These include four types of management for improving throughput:

- System management for recurring localized congestion (for instance, ramp metering, managed lanes, traveler information, dynamic speed limit, traffic signals and transit priority, Integrated Corridor Management (ICM), parking management system, automated vehicles).
- Incident management for non-recurrent congestion (for instance, detection-verification-response, Close Circuit Television (CCTV), Changeable Message Sign (CMS), Highway Advisory Radio (HAR), weather detection, traveler information system, ICM).
- Event management for emergencies, disasters and other occurrences (for instance, through system monitoring, evacuation management, route selection, ICM).
- Asset Management for managing existing infrastructure and other assets to deliver an agreed standard of service. One of the first steps in the efficient management of the transportation system will be the completion and implementation of a Transportation Asset Management Plan.

In partnership with regional and local agencies, and other stakeholders, operational strategies form the basis of ICM. TSMO and ICM require proactive integration of the transportation systems to efficiently move people and goods along highly congested urban corridors. TSMO and ICM strategies improve operations of multimodal transportation infrastructure.

Caltrans Strategic Management Plan 2015–2020 has a Strategic Objective to "Effectively manage transportation assets by implementing the asset management plan, embracing a fix-it-first philosophy" and specifies a Target of "By 2020, maintain 90% or better ITS elements health". Operations and maintenance (O&M) resources are essential to achieve this fix-it Target. Many TSMO strategies involve ITS equipment. As more TSMO/ITS elements (ramp meters, CCTV, CMS, detection stations, etc.) are implemented, O&M resource need will continue to grow.

ITS elements have been implemented on SR 85 to help manage traffic flow, and collect traffic data for incident identification and clearance. Table 8 summarizes ITS elements planned, in operation or under construction on SR 85 as of June 2017. Please see Appendix F for more detailed ITS information.

Table 8: ITS Elements on SR 85

Segment	1		2		3		4		5		Total
Status	E	P	E	P	E	P	E	P	E	P	-
CCTV	7	0	6	0	6	0	5	0	4	0	28
CMS	0	0	1	0	1	0	2	0	0	0	4
EMS	1	0	1	0	2	0	1	0	0	0	5
TMS (loops) *	14	0	10	0	9	0	15	0	6	0	54
Ramp Meters	16	1	12	0	8	1	10	0	3	3	54

Status: E=Existing P = Planned

* A TMS may have either one or two mainline vehicle detection stations, and may be part of a ramp metering installation.

RAMP METERING

Since 1994, ramp metering has operated on the southern segment of SR 85 between US 101 in southern Santa Clara County and Stevens Creek Boulevard in both directions. Early in 2015, Caltrans District 4 expanded ramp metering in both directions from Stevens Creek Blvd to the US 101/SR 85 Interchange in Mountain View. Ramp metering is almost complete on SR 85 except for a few locations. Locations and status of ramp meters on SR 85 are presented in Appendix G.

Great Oaks Blvd onramp with carpool lane and ramp metering

The SR 85 Ramp Metering Study – After Study Report[10] concluded that southbound SR 85 ramp metering is successful since travel times have decreased significantly along the Corridor, especially during the peak commuting periods of 5 p.m. to 6 p.m.. The travel time improvement has primarily resulted from the improved management of the previous bottleneck between the southbound SR 87 connector ramp and Blossom Hill Road exit. However, ramp queues and delay have increased slightly as expected due to implementation of the ramp metering plan.

BICYCLE AND PEDESTRIAN FACILITIES

Walking is a fundamental form of transportation. It can enhance public health by encouraging a more active lifestyle. Improved pedestrian facilities could also lead to enhanced mobility for non-motorized travel. As a result, pedestrian facilities are an integral component of the transportation system. Similarly, bicycling as a pollution-free mode of transportation also promotes healthy living as well as reducing congestion. Caltrans Strategic Management Plan (2015-2020) establishes the targets of triple bicycle, double pedestrian, and double transit by 2020. To help make bicycling a viable means of transportation, it is critical to provide an integrated bike network. Currently there are no designated bicycle/pedestrian facilities on SR 85. Three types of facilities are discussed in this section: bike/pedestrian crossings at SR 85 interchanges, undercrossings/overcrossings of the freeway, and parallel bikeways.

Bike and Pedestrian Facilities at Interchanges

Freeway interchanges can be intimidating to both bicyclists and pedestrians due to the large scale of freeway interchange facilities, high auto traffic volumes, and faster speeds. The bicycling and walking environment could be improved through reconfiguring freeway ramps, making pedestrians more visible, and providing bike lanes or wider shoulders at interchange locations. Table 9 represents some strategies that could be used to make interchanges more amenable and accessible for bicyclists and pedestrians.

[10] SR 85 Ramp Metering Study After Study Report (Kimley-Horn, 2009)

Table 9: Interchange Improvements to Facilitate Bike/Pedestrian Use[11]

Pedestrian Visibility:	• Install pedestrian-actuated beacons at uncontrolled crossings. • Stripe high-visibility crosswalks and, if absent, add pedestrian warning signage. • Install Yield line and Yield To pedestrian signage. • Construct raised medians/pedestrian refuge islands. • Construct curb extension/bulb-outs. • Install pedestrian countdown signals. • Complete sidewalks.
Bike Lane Improvement:	• Add bike lanes and warning signage for vehicles. • Stripe bicycle lanes to the left of right-turn only lanes. • Provide buffered bike lanes, Class IV bikeways, and enhanced bicycle crossings
Ramp Reconfiguration:	• Square up ramp intersections.

Many of the interchanges on SR 85 have bike and pedestrian facilities. One example is the SR85/Cottle Road Interchange (Figure 3), which provides relatively accessible, comfortable and convenient movement for pedestrians and bicyclists. Key features of the interchange are summarized below:

- Continuous sidewalk system (a).
- Median strips to break up crossing distances and provide pedestrian refuge areas (b).
- Access route from the Park-and-Ride lot to the Cottle Light Rail Station (c).
- Westbound off-ramp intersects the road at a 90-degree angle (d).
- Pedestrian access to the VTA Cottle Light Rail Station (e).
- Bike lanes (f).

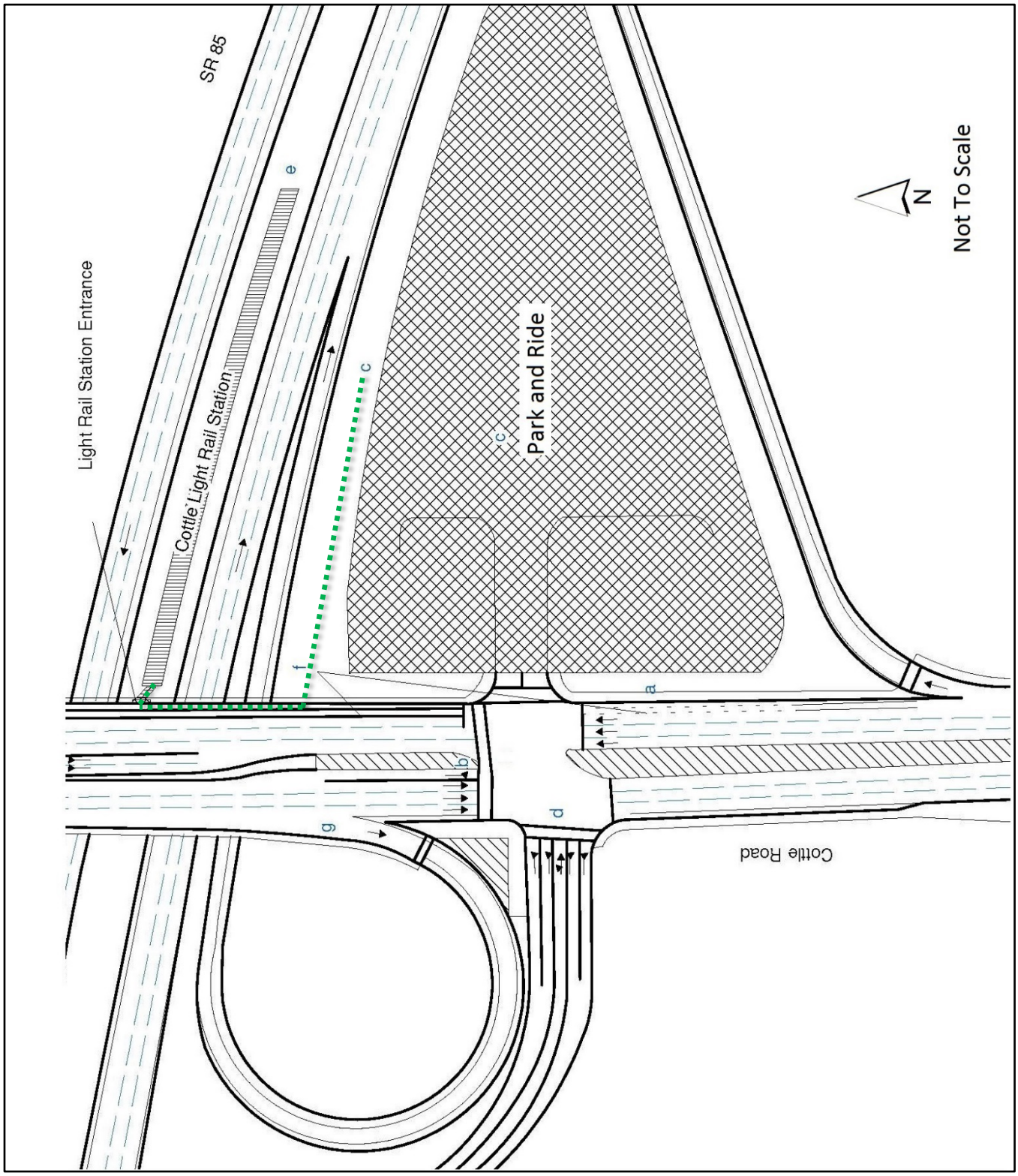
The NB Cottle Road to SB SR 85 onramp and the SB Cottle Road to SB SR 85 onramp intersect Cottle Road with acute angles with no green cross hatch, which have posed challenges for pedestrians and bikes to cross (g). The installation of pedestrian-actuated beacons or pedestrian/bicycle crossing warning signage at the crosswalk is therefore recommended. However, it is noted that the existing bay taper[12] design can improve conditions for bicyclists by providing a linear path of travel, and requiring ramp-bound motorists to yield to bicyclists when crossing the bike lane. See diagram on Figure 3. Besides, the dual right turn-only lanes at the SB off ramp present a challenge for pedestrians crossing. In addition, a pedestrian refuge island could be considered to accommodate pedestrian needs.

There are 17 interchanges with local roads on SR 85. Table 10 summarizes the characteristics of the interchanges along SR 85 as well as the opportunities for improvements. Proposed improvements for selected interchanges are presented in Appendix H.

[11] A Guide to Reconstructing Intersections and Interchanges for Pedestrians and Bicyclists, Caltrans, 2010

[12] Bay Taper is a reversing curve along the left edge of the traveled way directs traffic into the left-turn lane. Highway Design Manual 2014

Figure 3: Bicycle and Pedestrian Accessibilities at SR 85 and Cottle Road Interchange



See previous page for letter references.

Table 10: Characteristics of SR 85 interchange

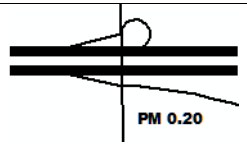
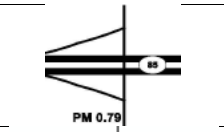
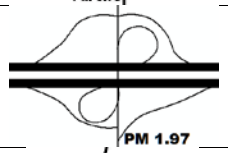
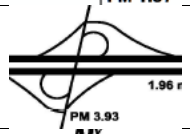
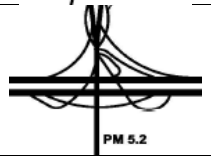
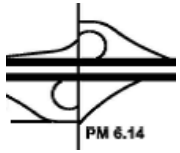
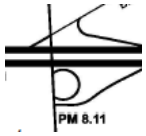
Segment	Location	Configuration ^	Role	Uncontrolled Ramp	More than 2 lanes without a pedestrian refuge	Crosswalks *	Missing Sidewalks	Dual Right-turn lanes	Other Characteristics
1	Bernal Rd		Minor	Yes		At 90°	No	No	Raised median; wide shoulders, but NB cyclists have to weave through traffic; NB double onramps to WB 85, Difficult to judge motorist's path
	Great Oaks Rd		Minor	Yes		Not Striped/ acute angle	No	No	Raised median
	Cottle Rd		Major	Yes		At 90°	No	Yes	Cottle Road NB, bike lanes to the left of dedicated right-turn lanes (at WB onramp)
	Blossom Hill Rd		Major	Yes		At 90°	No	No	Raised median
	Santa Teresa Blvd		Major	No		At 90°	No	No	Raised median; north end of the road is also the NB entrance and SB exit of SR 87
2	Almaden Exwy		Major	Yes		1 acute angle/ unmarked. No ped crossing NB Almaden to NB 85	No	No	Bike lanes to the left of dedicated right-turn lanes /raised median/ dual-Lane onramp
	Camden Ave		Major	No		At 90°	No	No	Raised median

Table 10: Characteristics of SR 85 interchange (Continued)

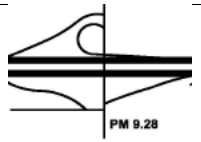
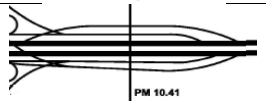
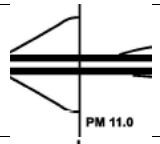
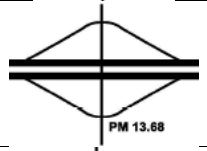
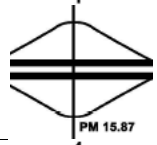
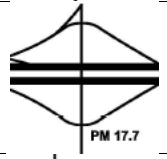
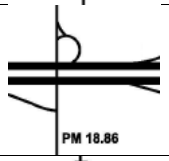
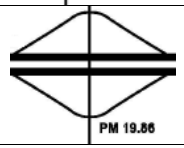
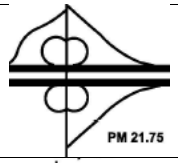
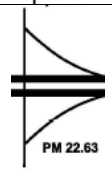
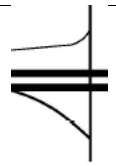
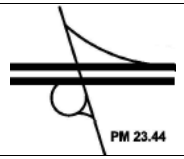
Segment	Location	Configuration ^	Role	Uncontrolled Ramp	More than 2 lanes without a pedestrian refuge	Crosswalks *	Missing Sidewalks	Dual Right-turn lanes	Other Characteristics
	Un ion Ave		Minor	No	Yes	At 90°	No	No	
	Los Gatos Blvd/ S Bascom Ave		Major	Yes		1 acute angle	No	No	Raised median
3	Winchester Blvd		Minor	No	Yes (Unpaved Median)	At 90°	No	No	Dual-lane onramp/right Lane Not dedicated to right turn
	Saratoga Ave		Major	No		At 90°	No	No	Railroad overcrossing; Raised median /two or three lane onramp
	Saratoga-Sunnyvale/ De Anza Blvd		Major	No	Yes	acute angle	No	no	Dual-lane onramp
	Stevens Creek Blvd		Major	Yes		At 90°	No	no	Raised median/two or three lane onramp
4	Homestead Rd		Major	Yes		At 90°	No	No	Right lane not dedicated to right turn/ped crossing warning Sign
	Fremont Ave		Minor	Yes		acute angle	No	No	SB onramp right lane not dedicated to right turn

Table 10: Characteristics of SR 85 interchange (Continued)

Segment	Location	Configuration ^	Role	Uncontrolled Ramp	More than 2 lanes without a pedestrian refuge	Crosswalks *	Missing Sidewalks	Dual Right-turn lanes	Other Characteristics
	El Camino Real		Major	Yes		Acute angle	No	No	Wide interchange, a total of 7 on/off ramps; easy accesses to Stevens Creek Trail
5	Evelyn Ave		Minor	No		At 90°	No	No	At the entrance to Stevens Creeks Trail, existence of high amount of pedestrians and bikes; next to rail station and track; raised median; pedestrian actuated beacon
	Central Expressway		Major	Yes		No Crosswalks	Yes	No	Although there is an entrance to Stevens Creeks Trail, it's difficult for cyclists to access the entrance; cyclists needs to weave through traffic at the off ramp and East St.
	Moffett Blvd		Minor	Yes		Acute angle/ missing Ped crosswalk	Yes	No	Raised median

^ The configurations of the interchanges are from Project Study Report for SR 85 Express Lanes, with the exception of Bernal Road and Cottle Road.

* Ramps that meet the crosswalks at/near 90 –degrees enhance visibility of pedestrians and bicyclists; acute intersection angles limit visibility.

Bikeways within the SR 85 Corridor

The table below shows the existing bike facilities inventory. Locations of the roads are presented in Appendix H1 to H5. Please note that it is not intended to be an exhaustive list of bike facilities within the Corridor.

Table 11: Bikeways within the SR 85 Corridor [13]

Segment	Name	Location Description	Class*
1	Blossom Hill Road	Snell Avenue to SR 87	II
	Santa Teresa Boulevard	Bernal Rd to Coleman Road	II
2	Blossom Hill Road	SR 87 to Almaden Expressway	II
	Los Gatos Almaden Road	Harwood Rd to National Avenue	II
3	Los Gatos Creek Trail	Lark Avenue-San Tomas Expressway	I
	Hacienda Ave	Virginia Avenue-Dell Avenue	III
	Westmont Ave- Lawrence Expressway	San Tomas Aquino Road to Lawrence Expressway	II
	Cox Avenue-De Anza Boulevard-Stelling Road-Mary Avenue	Along Cox Avenue-De Anza Boulevard-Stelling Road-Mary Avenue	II
	Don Burnett Bicycle-Pedestrian Bridge	Meteor Drive to Homestead Road	I
	Pollard Road/Knowles Drive	Between Quito Road and Dell Avenue	II/III
4	Belleville Way	Homestead to Fremont Avenue	III
	Fremont Avenue	Belleville Way to Truman Avenue	II
	Truman Avenue-Bryant Avenue-Brower Avenue-Diericx Dr-Sleeper Avenue	West of SR 85, between Fremont Avenue to Stevens Creek Trail	III
	Stevens Creeks Trail	Heatherstone Way to SR 237	I
5	Stevens Creek Trail	SR 237 to US 101	I

* Definitions of Class I, Class II, and Class III bikeways are in Appendix A. Figure 4 shows examples of the three classes of bikeways.

Figure 4: Examples of Classes I, II, and III bikeways

Class I: Stevens Creek Trail | Class II: Cox Avenue | Class III: Truman Avenue

Source: Google images

[13] Caltrans Bike Facilities Inventory Map (Draft), as of Sep 2014.

Across Barrier Connections (ABCs)

ABCs represent specific locations where a bicycle access barrier has been identified at a freeway, creek or railroad crossing. To address a crossing barrier, bicycle access improvements may include adding shoulders or a bike lane to an existing roadway, or building a new facility for bicycles along an over or undercrossing. The VTA Bicycle Plan (2008) has identified four potential or planned ABCs to assist bike riders and pedestrians. One of the four identified bridges (#10) has been constructed since the Plan was implemented. With the completion of this bridge, there are a total of 11 existing pathways that cross SR 85. The locations of the existing and potential ABCs are shown in Tables 12 and 13, and Figure 5.

Stevens Creek Trail Entrance at Evelyn Avenue

Table 12: Existing Connections across SR 85

ID	Location	Post Mile (PM)	Facility Type
1	Blossom Hill Station Undercrossing*	SCL-85-4.26	Undercrossing
2	Guadalupe River Trail	SCL-85-5.63	Undercrossing
3	Near Almaden Plaza Way, San Jose	SCL-85-6.45	Overcrossing
4	Near Dent Avenue	SCL-85-7.49	Overcrossing
5	Samaritan Place	SCL-85-9.93	Overcrossing
6	Los Gatos Creek Trail	SCL-85-R10.84	Undercrossing
7	More Avenue	SCL-85-R12.39	Overcrossing
8	Azule Park and Kevin Moran Park, north of Cox Avenue	SCL-85-R14.80	Overcrossing
9	The Dalles Avenue	SCL-85-R19.37	Overcrossing
10	Stevens Creek Trail (near Heatherstone Way)	SCL-85-R21.13	Overcrossing
11	Stevens Creek Trail (near Central Avenue)	SCL-85-R22.96	Tunnel

* Two separate undercrossings provide connections between the north side, and the station in the median, and the south side of the freeway.

Table 13: Potential ABCs on SR 85* [14]

ID	Location	PM
12	Near Gunderson High School	SCL-85-4.72
13	Near Mulberry Drive	SCL-85-R11.63
14	Near Lubec Street	SCL-85-R18.18

* Potential ABCs are identified if there are gaps of a mile or more between existing crossings and the adjacent land uses are of sufficient density.

[14] Santa Clara Countywide Bicycle Plan (VTA, 2008)

Proposed Bike Path Improvements

The Santa Clara County Bike Expenditure Plan (BEP) 2040 identified ten bike path improvement projects[15]. Table 14 lists the project names and project sponsor information. Six out of the ten projects have committed funds. The locations of the projects are shown in Figure 5. Detailed locations are also shown in Appendix G1 to G5. BEP projects come from a combination of funding programs including Measure B sales tax, Transportation Fund for Clean Air 40% Program, Transportation Development Act Article 3 Pedestrian Bicycle Program, Regional Bicycle/Pedestrian Program Funds (RBPP), Federal Transportation Enhancement, and Federal Congestion Mitigation & Air Quality Improvement Program (CMAQ). [16]

Table 14: Planned Bike Projects near SR 85

Project Sponsor	Financial Status	Project Name
Sunnyvale	Constrained	Sunnyvale Stevens Creek Trail and Structures: Dale/Heatherstone to Homestead Road (2.5 mi bike path, 4 structures and 1.2 mi bike lane)
San Jose	Constrained	Branham Lane Bikeway: Camden Avenue to Monterey Road
Sunnyvale	Constrained	Belleville Way Bike Lanes and Bike Detection: Fremont to Homestead
Sunnyvale	Constrained	Bernardo Ave Bike Lanes and Bike Detection: Remington to Homestead
San Jose	Constrained	Cottle Road Multi-Use Path: Hospital Parkway to Poughkeepsie Road
San Jose	Constrained	Blossom Hill Road: Calero Bikeways from Coleman Road at Blossom Hill Road to Palmia Drive at Cottle Road
Mountain View	Unconstrained	Stevens Creek Trail Reach 4 Segment 2: Dale/Heatherstone to Mountain View High School
Campbell	Unconstrained	San Tomas Aquino Creek Trail: Westmont High School to Virginia
Mountain View	Unconstrained	Stevens Creek Trail: Middlefield Road North Side Access
Mountain View	Unconstrained	Stevens Creek Trail: New Trailhead at Landels School

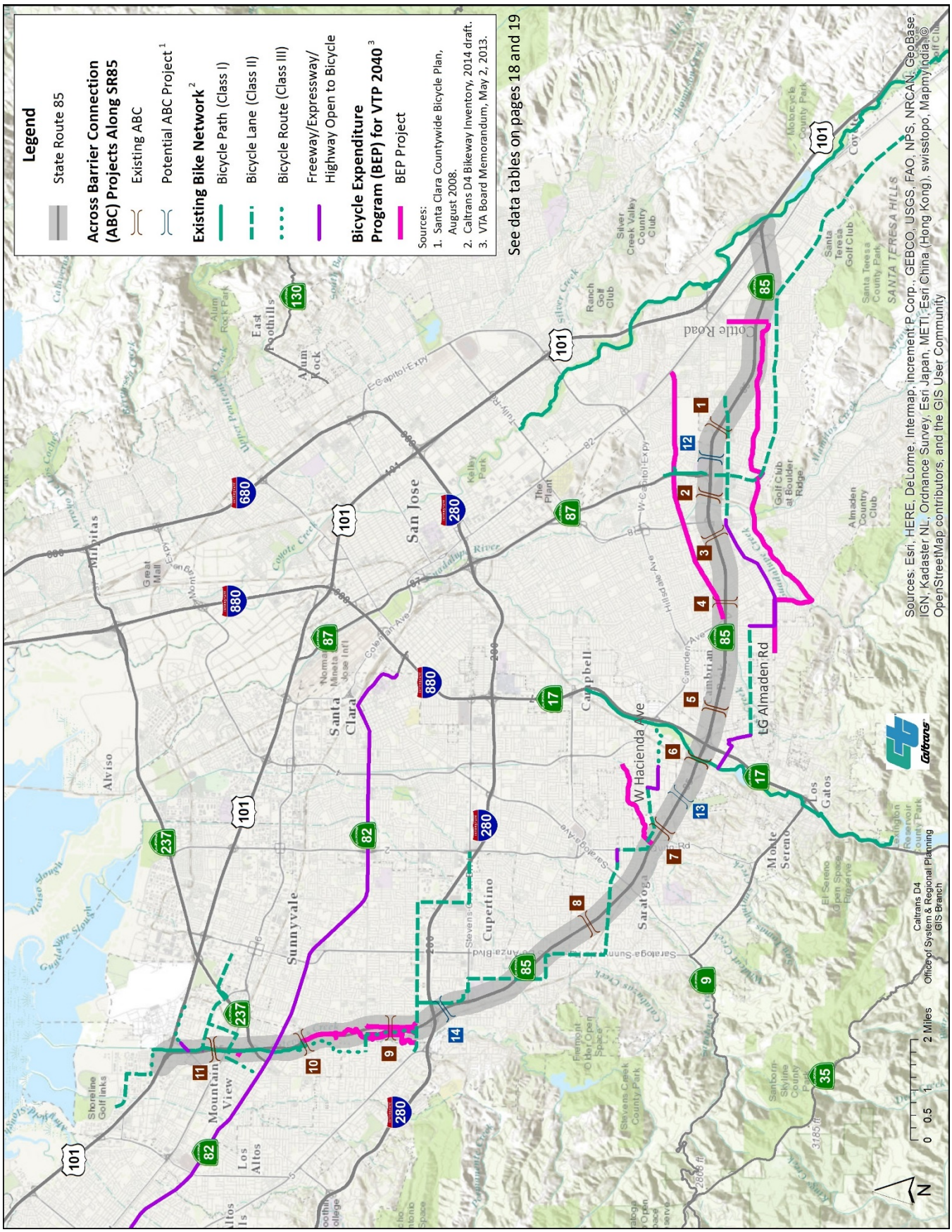
The 2015 Caltrans Strategic Management Plan states that sustainability and livability are central to improving the quality of life in California. Well-planned bicycle and pedestrian facilities help promote communities, assist in the integration of a multimodal transportation system, and improve air quality. With the completion of the planned ABCs and bicycle path improvements mentioned above, the parallel bike network along SR 85 will be more accommodating and convenient for bike riders and pedestrians.

Bike Lane at Cottle Road, Facing North

[15] http://www.vta.org/sfc/servlet.shepherd/document/download/069A0000001M1PQIA0

[16] http://www.vta.org/projects-and-programs/planning/bikes-countywide-bicycle-plan-cbp

Figure 5: Bicycle Facilities along SR 85 Corridor



TRANSIT FACILITIES

While walking and bicycling may meet the needs for many trips along the Corridor, connectivity with transit can provide further mobility benefits with regional connections. VTA's 2005-2006 On-Board Passenger Survey identified that 71 percent of VTA's transit customers actually walk to their bus stop or light rail station.[17,18] Strategies that integrate multi-modal transportation should be explored to increase bicycle and pedestrian accessibility to public transit.

Bus

Several VTA bus lines provide services along the SR 85 Corridor. For example, VTA Route 102 operates on SR 85 between South San Jose and Palo Alto. As an express bus route, it has limited stops serving a.m. NB travelers and p.m. SB travelers with 8 to 28 minute headways. Other Express Bus Routes such as VTA Route 168 and 182 also travel partly along SR 85. Similarly, these routes have limited stops to reduce travel times, and also operate in one direction during peak hours.[19] VTA's Short Range Transit Plan (2014-2023) proposes to increase service on Route 168 and operate buses in each direction depending on ridership by 2015.[20]

Source: TransForm and VTA, http://www.transformca.org/bay-area-transportation/brt/south-bay

Light Rail

In Segment 1 of SR 85 TCR, VTA Light Rail Line 901 Alum Rock–Santa Teresa runs in the median of SR 85. It operates more than 20 hours a day on weekdays and 18 hours on weekends. Weekday peak service maintains 15-minute headways and 30 to 60 minute headways during the off peak.[21]

VTA Light Rail Station at Cottle Road

VTA Light Rail Line 900 operates between the Ohlone/Chynoweth Station and Almaden Station in Almaden Valley, South San Jose. VTA Line 900 travels slightly over one-mile in length and serves three stations. It provides service with 15-minute headways for approximately 16 hours a day on weekdays. On weekends it provides service for 14 hours a day, also with 15-minute headways. Oakridge Station provides convenient access to the Westfield Oakridge shopping mall for communities along the light rail system. [22] In addition, Caltrain and VTA Light Rail Line 902 from Mountain View to Winchester both cross SR 85 at the Central Expressway.

[17] http://www.vta.org/Walk
[18] http://www.vta.org/sfc/servlet.shepherd/document/download/069A0000001ENijIAG
[19] http://www.vta.org/
[20] VTA short range transit plan (2014-2023)
[21] http://www.vta.org/
[22] http://www.vta.org/

Park-and-Ride

Table 15 summarizes the eleven park-and-ride facilities near SR 85 and the transit route information.

Table 15: Transit and Park-and-Ride Facilities around SR 85

Mode & Name	Stations		Amenities[23]	# of Bikes Allowed	Location Description	Total Parking Spaces^	Spaces Occupied on 12/3/2014
	Cities	Post miles (PM)					
Light Rail/ VTA 901	Santa Teresa Station, San Jose	off SR 85	16 bike lockers; 8 bike racks; 4 shelters;	6	Santa Teresa Boulevard @ Miyuki Drive, San Jose	1155	182
	Cottle Station, San Jose	PM 1.95	16 bike lockers; 2 bike racks; shelter;	6	Cottle Road @ SR 85, San Jose	421	208
	Snell Station, San Jose	PM 3.54	10 bike racks; 5 shelters	6	Snell Avenue @ SR 85, San Jose	430	107 #
	Blossom Hill Station, San Jose	PM 4.18	8 bike lockers; 7 bike racks	6	Blossom Hill Road @ Canoas Creek, San Jose	511	209
	Ohlone/Chynoweth Station	PM 5.25	22 bike lockers; 24 bike racks; 3 shelters;	6	Chynoweth Avenue @ Pearl Avenue, San Jose	549	502 #
	Branham Ln	Off SR 85	12 bike lockers; 14 bike racks; 1 shelters;	6	Branham Lane @ Narvaez Avenue, San Jose	271	53
Light Rail/ VTA 900	Almaden	Off SR 85	10 bike lockers; 2 shelters	6	Winfield Road @ Coleman Road, San Jose	189	51
Light Rail/ VTA 902	Evelyn	Close to SR 85	10 bike lockers; 1 shelters	6	Pioneer Way @ Evelyn Avenue, Mountain View	189	178
	Whisman Station	Off SR 85	4 bike lockers	6	Whisman Station Dr, Mountain View	50	32
Bus	Camden Ave	PM 8.07	4 bike lockers; 1 bike racks; 1 shelters;	N/A	Camden Avenue @ Highway 85, San Jose	174	127
Train	Caltrain Station	Off SR 85	98 bike lockers; 20 bike racks; 4 shelters;	48-80	Hope Street @ Evelyn Avenue, Mountain View	338	333

^ The Park-n-Ride lots usage reflect the number of cars parking in a lot, which is from a VTA survey conducted on December 3, 2014. The locations of the lots are presented in Figure 6.
# Snell and Chynoweth Avenue lots include airport parking.

As shown in the table above, all the park-and-ride lots have bike facilities on site, and most of them have shelters. However, six out of eleven park-and-ride lots have relatively low parking usage (less than 50% occupied). Since these park-and-ride lots generally offer convenient locations to transfer from a single passenger vehicle to a local or regional transit bus, carpool, or vanpool, the public should be encouraged to take advantage of the vacant spaces.

[23] http://www.vta.org/getting-around/schedules/park-and-rides-lots-map

Public Transit Issues

Although there have been major investments in transit facilities in Santa Clara County, public transit remains underutilized. Table 16 summarizes how residents in Santa Clara County and nearby counties commute to work: Santa Clara County residents have the highest percentage of drive alone to work for all counties in the Bay Area, while transit usage is the lowest. Table 17 shows the commute mode shares in the eight cities along SR 85 Corridor:

Mountain View Transit Center

Table 16: Year 2000 Workers by Means of Transportation to Work, by County[24]

County of Residence	Drive Alone	Carpool	Transit	Walk	Other	Work at Home	Total
Santa Clara	77.30%	12.20%	3.50%	1.80%	2.00%	3.10%	100%
San Mateo	72.30%	12.80%	7.40%	2.10%	1.70%	3.60%	100%
San Francisco	40.50%	10.80%	31.10%	9.40%	3.60%	4.60%	100%
Contra Costa	70.20%	13.50%	9.00%	1.50%	1.50%	4.30%	100%
Alameda	66.40%	13.80%	10.60%	3.20%	2.50%	3.50%	100%

Source: Bay Area Census, ABAG, 2000

Table 17: Commute Mode Shares in cities along SR 85, Year 2000[25]

Place Name	Total Commuters	Transit Share	Carpool Share	Drive Alone Share	Walk Share	At Home Share	Other Share	Total
Campbell	21,410	1.9%	8.9%	83.1%	1.7%	3.0%	1.5%	100%
Cupertino	23,772	0.9%	8.0%	84.3%	1.4%	4.1%	1.2%	100%
Los Altos	12,559	1.5%	4.3%	84.2%	1.4%	7.1%	1.6%	100%
Los Gatos	14,890	1.0%	8.8%	82.4%	1.3%	5.7%	0.8%	100%
Mountain View	40,321	4.8%	8.4%	78.3%	2.2%	3.4%	2.9%	100%
San Jose	427,984	4.1%	14.1%	76.4%	1.4%	2.5%	1.5%	100%
Saratoga	13,159	0.9%	5.0%	85.4%	0.9%	7.1%	0.7%	100%
Sunnyvale	71,736	3.8%	10.4%	80.1%	1.5%	2.6%	1.5%	100%

Source: Bay Area Census, ABAG, 2000

The 2010 VTA Light Rail System Analysis, a VTA investment program to identify recommended improvements for the system over the next 20 years, shows average weekday ridership is only 460 passengers per mile.[26] One possible reason is that the transit system does not offer competitive travel times when compared to driving alone or carpooling.

Strategies for Improvements

A) Increase transit speed and reliability

To make transit a more attractive alternative, agencies should work together to improve system wide speed and reliability. For example, transit signal priority for VTA's Light Rail System is currently limited due to inadequate detection. VTA's Light Rail Efficiency Project, when fully implemented, will increase speeds, improve on-time performance, and minimize customer waiting time between connecting trains.[27] In 2016, VTA launched the Next Network project which is a redesign of the transit network and is one component of the Transit Ridership

[24] Bay Area Census, ABAG, 2000

[25] Bay Area Census, ABAG, 2000, Comparison Tables: Table B.1. Commute Mode Shares by Bay Area Place-of-Residence, 1990-2000, Ranked by Total Workers, 2000

[26] http://www.vta.org/projects-and-programs/Planning/Projects-Studies-and-Programs-Light-Rail-System-Analysis-Introduction

[27] Source: http://www.vta.org/projects-and-programs/transit/light-rail-efficiency

Improvement Program. The Transit Ridership Improvement Program is an agency-wide effort to make public transit faster, more frequent and more useful for Santa Clara County travelers. The Next Network project concerns VTA's transit operations and seeks to better connect VTA transit with the Milpitas and Berryessa BART stations, increase overall system ridership, and improve VTA's farebox recovery rate. Changes to the transit network as part of Next Network implementation will go into effect with the next two-year transit service plan in late 2017.

Currently there are several Express Bus Lines that use portions of SR 85, but they can barely meet the needs of commuters using the Corridor. For example, it takes about 35 minutes to drive from Santa Teresa Light Rail Station to Palo Alto, while on express busses, it takes about 1 hour and 20 minutes. In contrast, Bus Rapid Transit (BRT) is an integrated system that uses buses or specialized vehicles on roadways or dedicated lanes to efficiently transport passengers to their destinations, while offering the flexibility to meet transit demand. BRT systems can be customized to meet community needs and consequently reduce congestion.[28]

Santa Clara County Measure B, passed in November 2016, will fund new transit and congestion relief projects on SR 85, including a new transit lane from SR 87 in San Jose to U.S. 101 in Mountain View. Measure B provides a unique opportunity to study BRT services.

In January 2017, VTA started a new Express 185 route connecting Gilroy Transit Center to Mountain View north of US 101. It provides non-stop transit service in the carpool lanes on SR 85 to northern Sunnyvale. Transit enhancements like this could provide incentives to riders and improve mobility along the Corridor.

B) Encourage shuttle usage for large employers

As pointed out in MTC's Plan Bay Area Jobs-Housing Connection Strategy[29], private shuttle services, particularly in San Mateo and Santa Clara Counties, are expected to grow and improve transit access while lessening increased freeway traffic congestion related to employment growth.

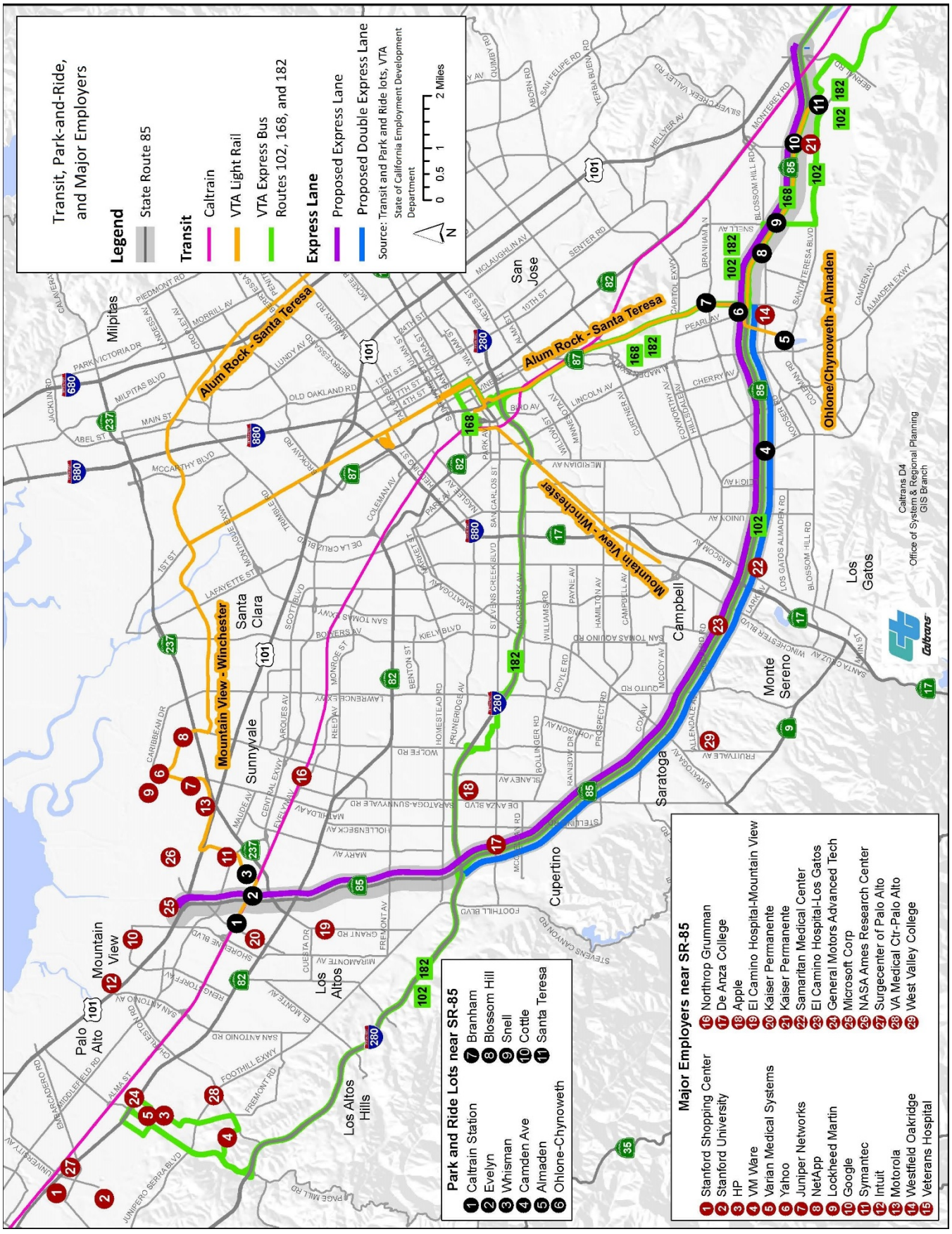
Use of private company shuttles can reduce traffic congestion, greenhouse gases, and Particulate Matters (2.5 and 10). Considering the low usage of some of the nearby park-and-ride facilities, it is a potentially viable alternative for private buses to pick up their employees at park-and-ride lots. Figure 6 shows park-and-ride lots and the locations of the major employers as well as other trip generators like shopping malls and colleges around the SR 85 Corridor.

VTA Light Rail Snell Station Park-and-Ride Lot near SR 85

[28] Source: http://www.nbrti.org/

[29] Plan Bay Area Jobs-Housing Connection Strategy, MTC, 2012

Figure 6: Transit, Park-and-Ride, and Major Employers



FREIGHT

SR 85 mainly serves as a commuter route. Trucks over 4.5 tons are not allowed on SR 85 between US 101 (PM 0.0) and I-280 (PM 18.4), except for maintenance, emergency, recreational vehicles, and buses. Between I-280 (PM 18.4) and US 101 (PM 24.1), where trucks above 4.5 tons are allowed, the truck percentage share of AADT is less than three percent, which is low when compared to other freeways that serve as freight corridors like I-880 where truck percentage share is up to ten percent.[30]

ENVIRONMENTAL CONSIDERATIONS

The purpose of the environmental scan is to conduct a high-level identification of potential environmental factors that may require future analysis in the project development process. This information may not represent all environmental considerations that exist within the Corridor vicinity.

Extensive environmental studies have been completed for the SR 85 Express Lanes Project. The following discussion is mainly from the SR 85 Express Lanes Project Initial Study and Proposed Negative Declaration/Environmental Assessment (Caltrans, 2013), the Project Study Report to Request Conceptual Approval (Caltrans, 2010), and the Location Hydraulic Study Report (WRECO, 2013) for the same project.

Several environmental considerations exist along the Corridor: water resources and floodplains, fish passage issues, habitat connectivity and endangered species, and geologic conditions. This section discusses these environmental considerations as well as additional conditions which pose minimal constraints for future projects in the Corridor. Figure 8 shows the environmental factors along SR 85 Corridor.

Water Resources and Floodplains

There are 14 waterways crossing SR 85, with Stevens Creek crossing at four different locations. These waterways include perennial and intermittent streams, some of which contain wetlands. All creeks that intersect the route are maintained by the Santa Clara Valley Water District (SCVWD) and are in the Federal Emergency Management Agency (FEMA) delineated floodplains. Figure 7 shows the locations of the waterways and areas subject to flooding.[31]

Fish Passage Issues

Anadromous fish have been present at the Coyote Creek, Guadalupe River, Los Gatos Creek, and Stevens Creek crossings. The bridges across Coyote Creek, Guadalupe River and Los Gatos Creek present hydrologic conditions similar to the upstream and downstream portions of the creeks. There are no visible passage barriers at these crossings. According to the 2013 California Fish Passage Assessment Database, the three crossings under SR 85 at Stevens Creek are identified as partial passage. A detailed fish passage assessment is advised for future Corridor projects near the crossings.[32]

Habitat Connectivity and Species Considerations[33]

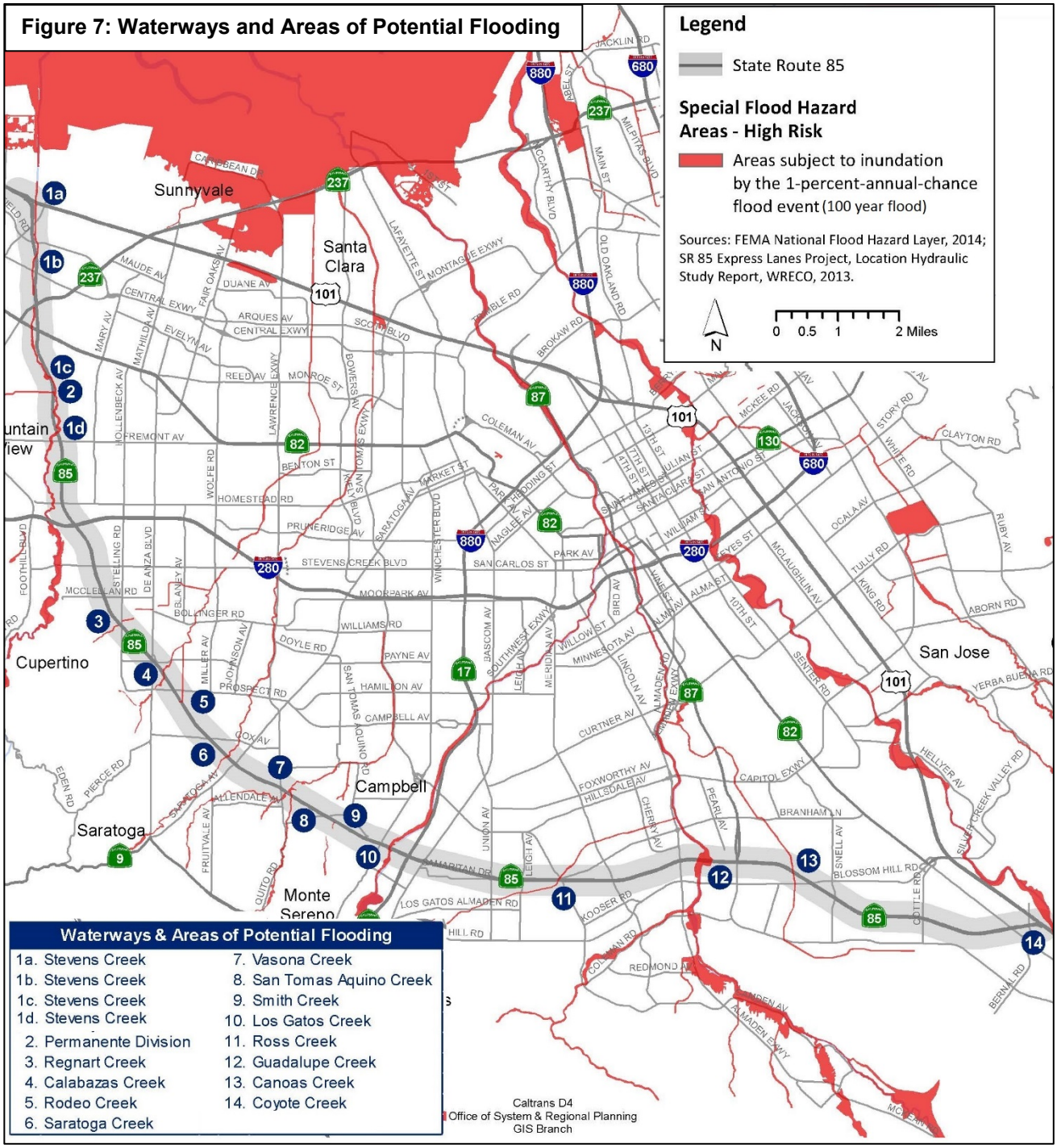
The SR 85 Corridor is highly developed with commercial, industrial, and residential land uses. Vegetation in the surrounding areas contain ruderal California annual grassland, landscaped, native, and non-native species. No federally or State-listed plant species were identified in a rare plant survey conducted the surrounding area in 2010 and 2012.

Wildlife species common to urban habitats are expected to inhabit the SR 85 Corridor, including raccoons, striped skunk, and some birds. The western pond turtle, Alameda song sparrow, nesting raptors, migratory birds, and three bat species may exist near the Corridor.

[30] http://traffic-counts.dot.ca.gov/docs/2014_aadt_truck.pdf
[31] SR 85 Express Lanes Project, Location Hydraulic Study Report, WRECO, 2013
[32] SR 85 Express Lanes Project Initial Study with Proposed Negative Declaration/Environmental Assessment (Caltrans, 2013)
[33] SR 85 Express Lanes Project Initial Study with Proposed Negative Declaration/Environmental Assessment (Caltrans, 2013)

Several federally-threatened or endangered species are identified near the SR 85/US 101 interchange in San Jose, including the bay checkerspot butterfly, California tiger salamander, California red-legged frog, steelhead, and Metcalf canyon jewel-flower. Locations are shown in Figure 8.

Figure 7: Waterways and Areas of Potential Flooding



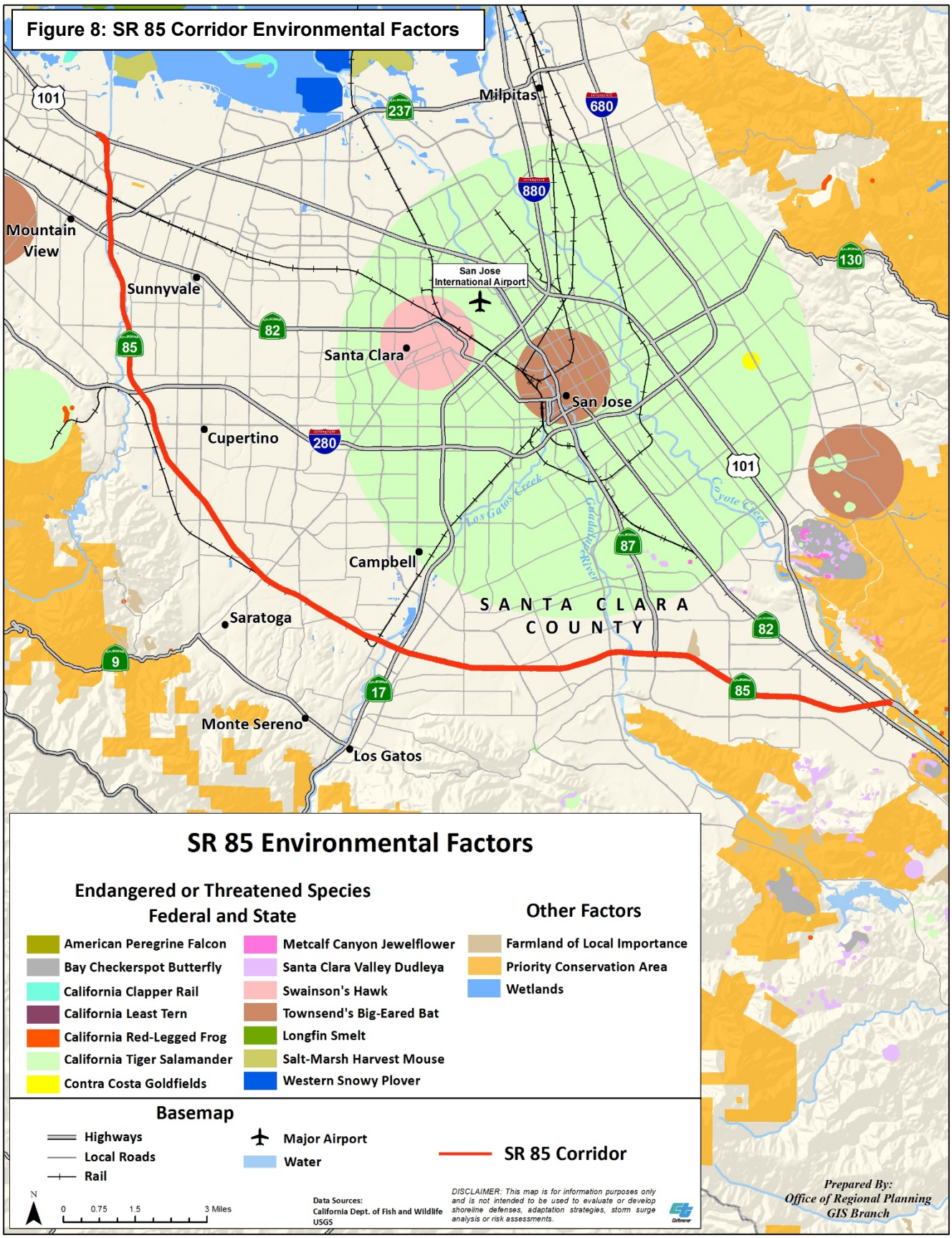


Figure 8: SR 85 Corridor Environmental Factors
Milpitas
Mountain View
Sunnyvale
San Jose International Airport
Santa Clara
San Jose
Cupertino
Campbell
Saratoga
SANTA CLARA COUNTY
Monte Sereno
Los Gatos
101
237
680
880
130
82
85
280
87
17
9
Los Gatos Creek
Guadalupe River
Coyote Creek
SR 85 Environmental Factors
Endangered or Threatened Species Federal and State
American Peregrine Falcon
Bay Checkerspot Butterfly
California Clapper Rail
California Least Tern
California Red-Legged Frog
California Tiger Salamander
Contra Costa Goldfields
Metcalf Canyon Jewelflower
Santa Clara Valley Dudleya
Swainson's Hawk
Townsend's Big-Eared Bat
Longfin Smelt
Salt-Marsh Harvest Mouse
Western Snowy Plover
Other Factors
Farmland of Local Importance
Priority Conservation Area
Wetlands
Basemap
Highways
Local Roads
Rail
Major Airport
Water
SR 85 Corridor
N
0 0.75 1.5 3 Miles
Data Sources:
California Dept. of Fish and Wildlife
USGS
DISCLAIMER: This map is for information purposes only and is not intended to be used to evaluate or develop shoreline defenses, adaptation strategies, storm surge analysis or risk assessments.
Prepared By:
Office of Regional Planning
GIS Branch

Geology/Soils/Seismic/Topography

Earthquake Shaking

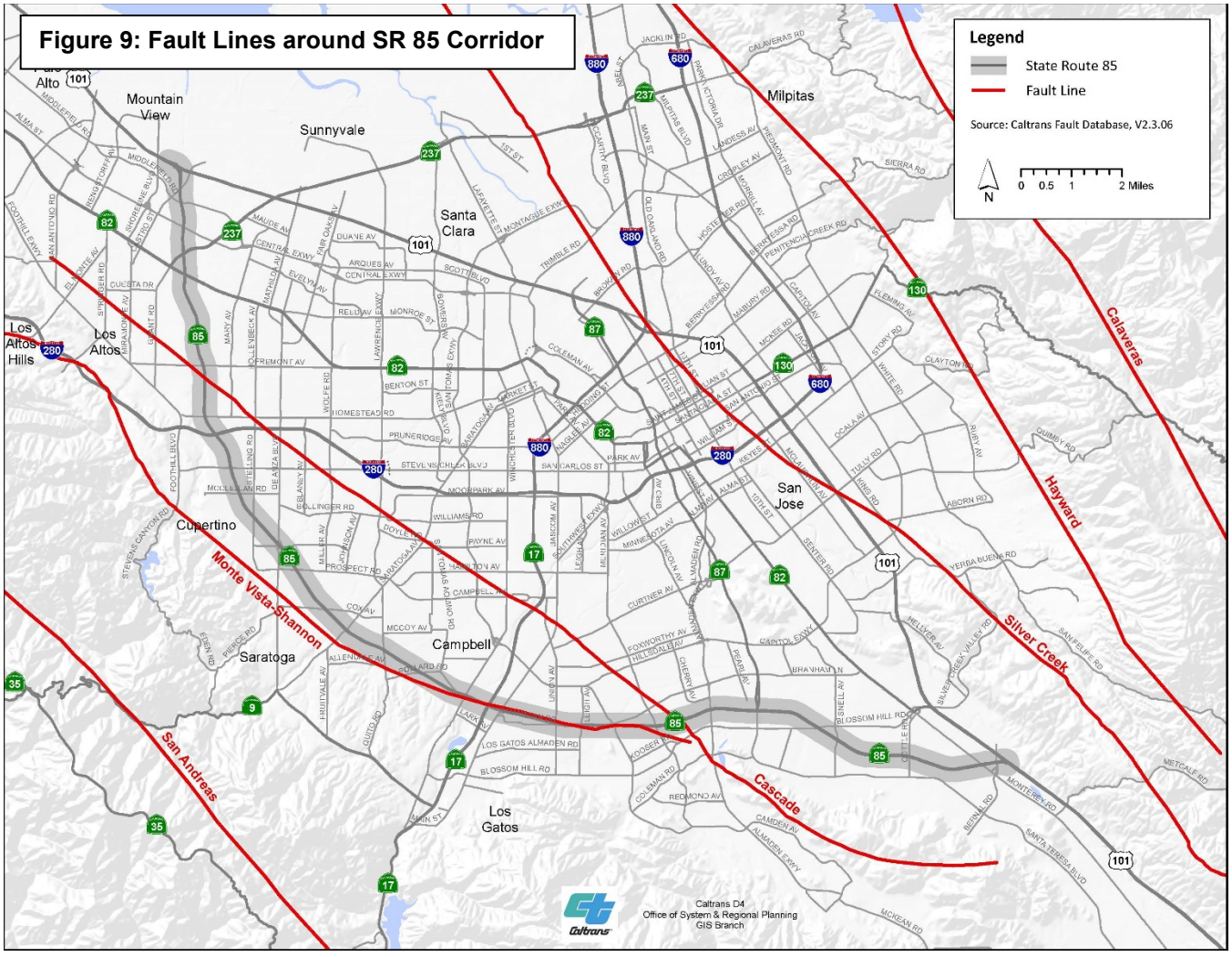
According to the Caltrans Fault Database (version 2a), the San Andreas, Monte Vista-Shannon, Cascade, and Silver Creek are active faults within five miles of the Corridor.[34] The approximate locations of the faults are shown in Figure 9. The USGS 2008 Bay Area Earthquake Probabilities Study shows that the probability of a large earthquake on the San Andreas Fault in the next thirty years is about 21 percent. This fault was responsible for the magnitude 7.8, 1906 San Francisco earthquake and the magnitude 6.9, 1989 Loma Prieta earthquake.[35]

Liquefaction[36]

Liquefaction is a phenomenon that is caused by earthquake shaking. Wet sand can become liquid-like when strongly shaken. The liquefied sand may flow and the ground may move and crack, causing damage to surface structures and underground utilities.

Liquefaction probability in the SR 85 Corridor is moderate to low for the following scenarios:

- A magnitude 7.8 earthquake on the northernmost segments of the San Andreas Fault;
- A magnitude 6.7 earthquake on the southern segment of the Hayward Fault; and
- A magnitude 6.9 earthquake on the northern and central segments of the Calaveras Fault;



[34] http://dap3.dot.ca.gov/ARS_Online/technical.php

[35] http://earthquake.usgs.gov/regional/nca/ucerf/

[36] http://earthquake.usgs.gov/regional/nca/liquefaction/

Other Environmental Considerations

Climate Change and Sea Level Rise

The SR 85 Corridor is not located in the vicinity of the San Francisco Bay, nor within the shoreline areas potentially exposed to sea level rise.[37] There is also no wildfire potential along the Corridor. However, several areas of potential flooding exist along SR 85 as shown in Figure 7. Climate change is likely to increase the potential for flooding, which may be a source of traffic disruption along the Corridor. Further study is needed to understand how climate change may affect the Corridor.

Farmland/Timberland

Except in the Town of Los Gatos, there is no farmland or timberland within the alignment of the route or immediately adjacent to it. Agricultural lands exist to the south of the interchange of SR 85 and SR 17, in Los Gatos. Currently these lands are underutilized, mainly for orchards, including walnut and fruit trees. The Los Gatos 2020 General Plan Land Use Element has designated all these lands as Low Density Residential, Retail, and Office.

Air Quality

The air pollutant potential of the Santa Clara Valley is great because of the high summer temperatures and the geography of the area. The valley is surrounded by the San Francisco Bay and the Santa Cruz and Diablo Range Mountains. The warm temperatures together with the terrain promotes ozone formation. In addition to ozone precursors from local pollution sources, precursors from nearby counties are carried by prevailing winds to the Santa Clara Valley. The recirculation pattern of the valley winds also contribute to the raised level of CO, particulate matter, and ozone.[38] Particulate matter can be inhaled and cause serious health problems. Particles less than 10 micrometers in diameter pose the greatest problems, because they can get deep into lungs, and even the bloodstream. Fine particles (PM 2.5) are the main cause of reduced visibility (haze) in addition to being a health hazard.

Hazardous Materials

According to the SR 85 Express Lanes Project Initial Study, five potential hazardous material sites are known within one mile of the route, including two semiconductor manufacturing companies, a gas station, and a large PG&E substation.[39]

Noise

The Corridor has existing noise barriers including sound walls along the majority of SR 85. The heights of the existing barriers are between six and sixteen feet.

[37] http://www.bcdc.ca.gov/BPA/LivingWithRisingBay.pdf
[38] SR 85 Express Lanes Project Initial Study with Proposed Negative Declaration/Environmental Assessment (Caltrans, 2013)
[39] SR 85 Express Lanes Project Initial Study with Proposed Negative Declaration/Environmental Assessment (Caltrans, 2013)

CORRIDOR PERFORMANCE

BASIC SYSTEM OPERATIONS

VTA's traffic forecast model shows little change in AADT from Base Year 2013 to Horizon Year 2040. There are minor decreases in AADT on segments three and four. This could be a result of more focused land use development and better use of public transit along SR 85. In addition, as discussed in the next section of the report, a large portion of this route has reached capacity during peak hours. Consequently, no large increase in AADT is expected on the route. The existing and forecasted AADT are summarized in Table 18.

Table 18: Basic System Operating Conditions for Base Year 2013 and Horizon Year 2040

Segment #	1		2		3		4		5	
Direction	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
AADT 2013[1]	66,597	61,806	86,556	85,954	85,556	83,994	79,216	77,507	63,097	61,941
AADT 2040[1]	68,265	67,720	86,891	87,490	85,230	82,189	77,387	77,583	68,318	66,984
AADT: Growth Rate/Year[2]	0.09%	0.35%	0.01%	0.07%	-0.01%	-0.08%	-0.09%	0.00%	0.31%	0.30%

1. Source: VTA 2013 ADT and 2040 ADT GIS files.
2. Calculated: AADT(2040)/AADT(2013)-1

TRUCK TRAFFIC

Table 19 summarizes truck traffic data at the major interchanges on SR 85. An increase in truck volume occurs in the vicinity of the I-280/ SR 85 interchange since trucks over 4.5 tons are prohibited on SR 85 between the US 101 Interchange (PM 0) and the I-280 Interchange (PM 18.4). For Segments 4 and 5 where trucks over 4.5 tons are allowed, the percentage of trucks is three percent or less, which is low compared to other highways that serve as freight corridors such as I-880. (See Figure 1 for segments.)

Table 19: Interchange Truck Traffic on SR 85 [40]

POST MILE	DESCRIPTION	VEHICLE AADT TOTAL	TRUCK % OF TOTAL VEHICLE	TRUCK % By Axle			
				2	3	4	5+
5.22	JCT. RTE. 87	134000	0.53	94%	2%	3%	1%
R 10.49	JCT. RTE. 17	62000	0.25	95%	3%	2%	0%
R 17.69	CUPERTINO, STEVENS CREEK BLVD	126000	0.57	82%	6%	5%	7%
R 18.44	SUNNYVALE, JCT. RTE. 280	115000	3.05	38%	7%	2%	53%
R 21.74	MOUNTAIN VIEW, JCT. RTE. 82	118000	2.26	51%	14%	1%	34%
R 22.16	JCT. RTE. 237	107000	2.76	45%	18%	2%	35%
R 22.62	MOUNTAIN VIEW, EVELYN AVE	83000	1.91	60%	6%	3%	31%
R 23.86	MOUNTAIN VIEW, JCT. RTE. 101	71000	2.00	34%	8%	2%	57%

* Traffic volumes are recorded either at the downstream or upstream of a location.

[40] Caltrans Truck Counts by axle : http://traffic-counts.dot.ca.gov/, 2013, Caltrans

PEAK PERIOD TRAFFIC DATA

Table 20 summarizes the peak period traffic information by segments and direction. It shows that SR 85 is congested in the NB direction in the morning and SB traffic is heavy in the afternoon. During both a.m. and p.m. peak periods, most segments of the road are operating at or over capacity.

Table 20: Peak Period Traffic

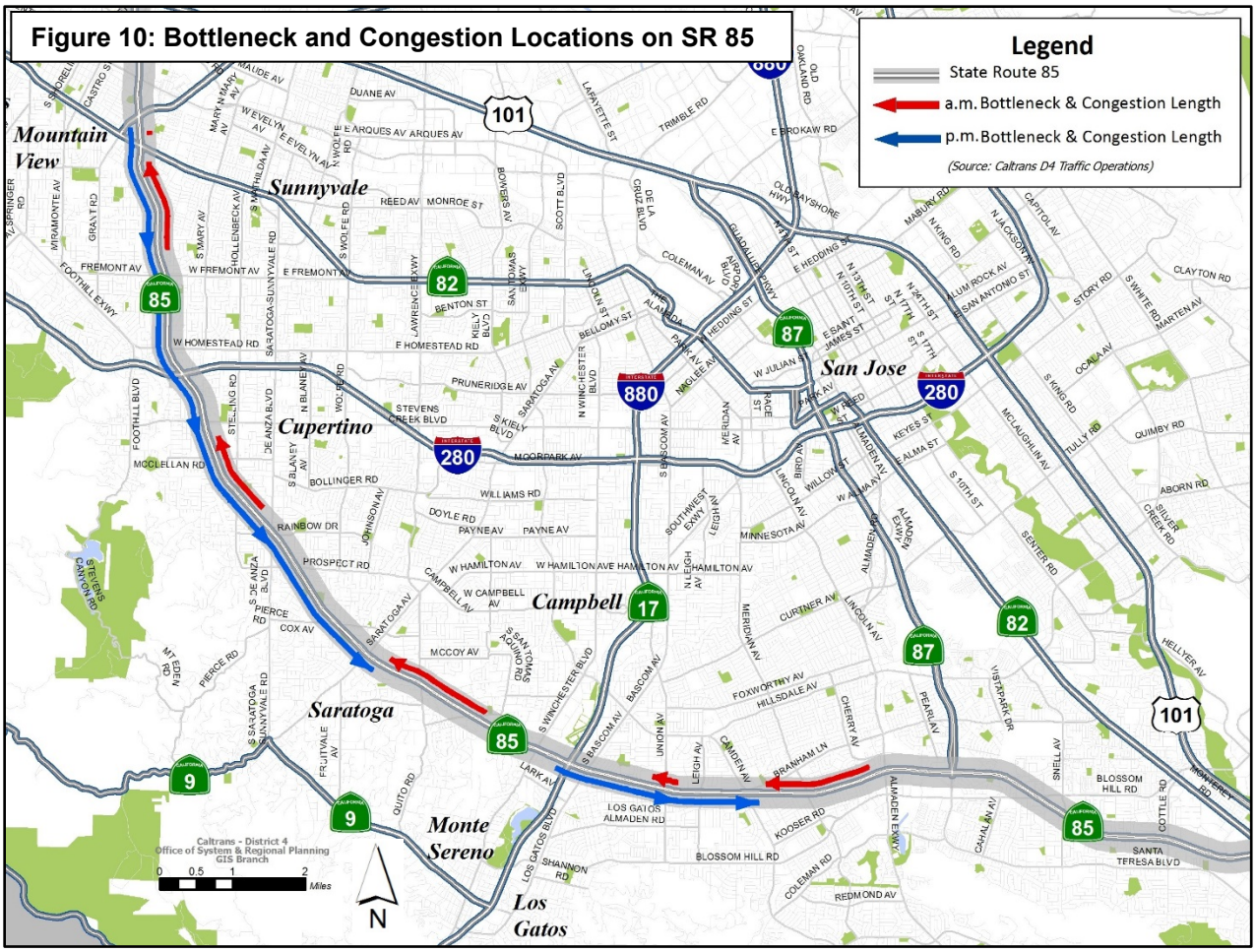
Segment	1		2		3		4		5	
Peak Period Direction	N	S	N	S	N	S	N	S	N	S
Peak Period Time of Day*	7-9 a.m.	4-6 p.m.	7-9 a.m.	4-6 p.m.	7-9 a.m.	4-6 p.m.	7-9 a.m.	4-6 p.m.	7-9 a.m.	4-6 p.m.
Peak Period Directional Split (N/S) (2013)#	60/40	45/55	60/40	45/55	65/35	40/60	65/35	45/55	60/40	30/70
Peak Period VMT (2013)^	57,577	66,753	69,344	79,569	109,039	111,325	48,228	42,529	25,266	26,003
Peak Hour Volume&	5,410	4,739	6,824	6,030	6,719	5,619	5,838	5,220	5,216	4,647
Peak Hour V/C (2013)@	0.96	0.84	1.21	1.07	1.19	0.99	1.03	0.92	0.92	0.82

* a.m. Peak Period (7-9 a.m.) and p.m. Peak Period (4-6 p.m.) are based on PeMS, Performance > Spatial Analysis > Time of Day Contours, 05/01/13-05/07/13. Tue, Wed, and Thur. Hours with Lowest Average Speed.
# Calculated based on Peak Period VMT: (NB VMT)/(SB VMT)
^ a.m. Peak Period VMT from PeMS, Performance>Aggregates>Time Series; 04/01/13-06/01/13, 7:00-8:59 am, Tue, Wed, and Thur
p.m. Peak Period VMT from PeMS, Performance>Aggregates>Time Series; 04/01/13-06/01/13, 4:00-5:59 am, Tue, Wed, and Thur
& VTA Traffic Model (2013)
@ Calculated, assuming average capacity of 2000 passenger car/lane for general purpose lanes and 1650 passenger car/lane for HOV lanes

BOTTLENECKS

In the NB a.m. peak period there are six bottleneck locations along the freeway between the Almaden on and Camden off ramps, between the Union off and Union on ramps, between Winchester Avenue and Saratoga, between Sunnyvale-Saratoga and Stevens Creek, between Fremont on and El Camino off ramps, and at SR-237 off-ramp.

During the p.m. peak period the freeway at Camden Avenue, Union Avenue, Saratoga Avenue, De Anza Boulevard, Stevens Creek Boulevard, and Fremont Avenue experiences severe delays. The congested locations are illustrated in Figure 10.



According to the VTA 2012 Monitoring and Conformance Report, 33.9 lane miles of NB SR 85 are operating at LOS F during the a.m. peak period, which is about 70 percent of the total NB lane miles. In the p.m. peak period, SR 85 NB is operating at LOS D or better. During the p.m. peak period, 20.36 lane miles (43%) of SB traffic is operating at LOS F. Similarly, during the a.m. peak period SB traffic is operating at LOS D or better. These findings are consistent with the 2013 Bottleneck Study by Caltrans[41].

[41] Bottleneck Study, Caltrans, 2013

MANAGED LANE PERFORMANCE

During a.m. peak period, the SR 85 HOV lane in the NB direction operates at capacity and some portions are even congested. The locations and lengths of segments operating at LOS F are also shown below. In the evening, the SB direction is the peak direction, and the HOV lane has better performance than the mixed flow lanes, and no LOS F is observed.

Table 21: SR 85 HOV Lane LOS F Locations – a.m. Peak Period, NB[42]

From	To	Length	LOS
SR 87	Almaden Expressway	0.9	F
Almaden Expressway	Camden Avenue	2.0	F
Union Avenue	S. Bascom Avenue	1.1	F
S. Bascom Avenue	SR 17	0.3	F
SR 17	Winchester Boulevard	0.5	F
I-280	W. Homestead Road	0.3	F
W. Homestead Road	W. Fremont Avenue	1.0	F

According to the 2015 California High-Occupancy Vehicle Lane Degradation Determination Report, HOV lanes on northbound and southbound SR 85 between Post Mile 4.79 to Post Mile R23.80 are degraded[43]. Possible remediation strategies include increasing the minimal occupancy from two to three passengers. Managed lanes could help increase freeway efficiency, however alone this strategy would not be sufficient to address congestion. Managed lanes need to be combined with other strategies such as travel demand management to increase the overall performance of the Corridor.

[42] Monitoring Report,VTA, 2012

[43] The 2015 California High-Occupancy Vehicle Lane Degradation Determination Report , Caltrans, 2016

Figure 11: SR 85 Northbound a.m. Peak Period

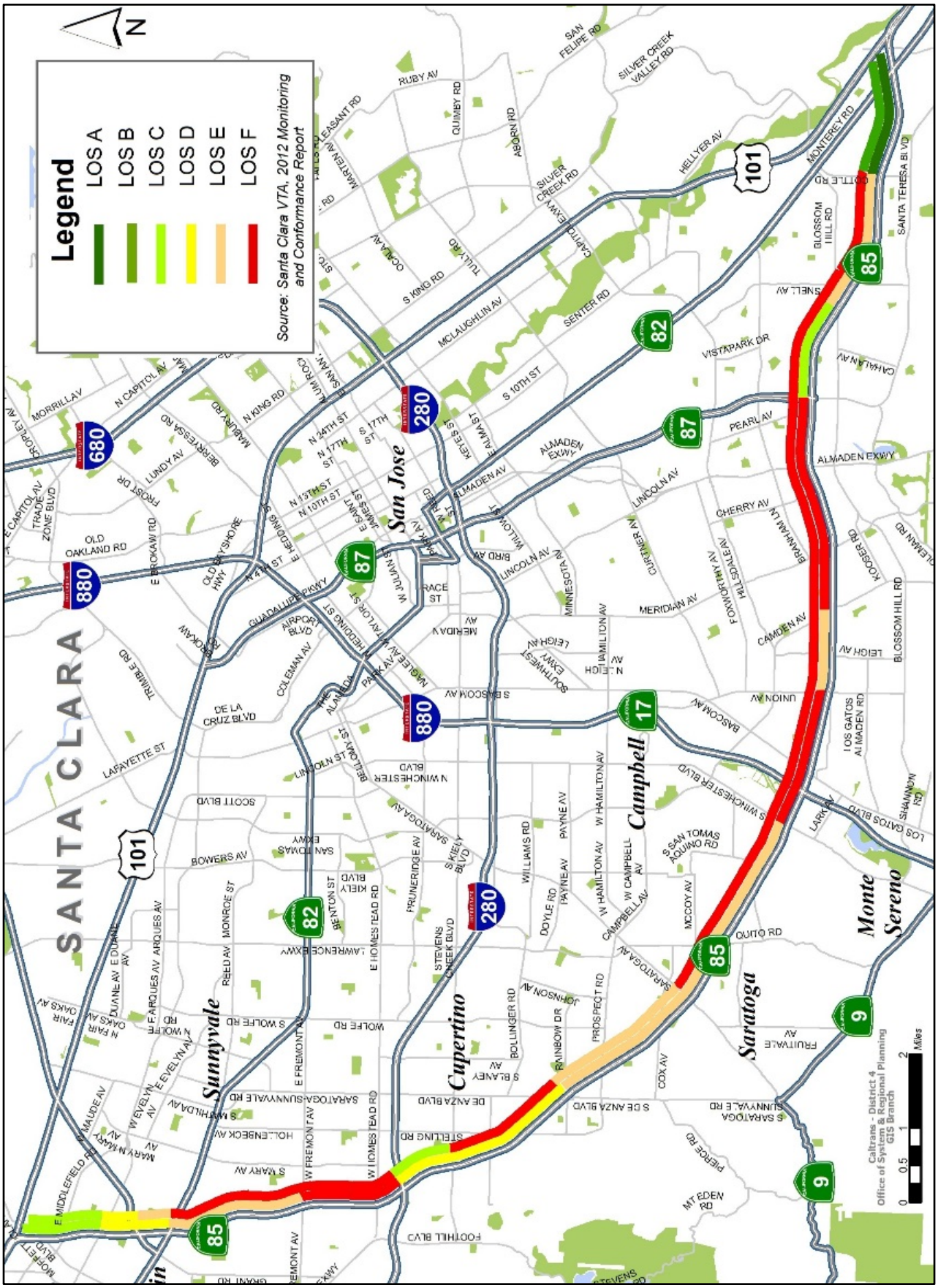


Figure 12: SR 85 Southbound a.m. Peak Period LOS

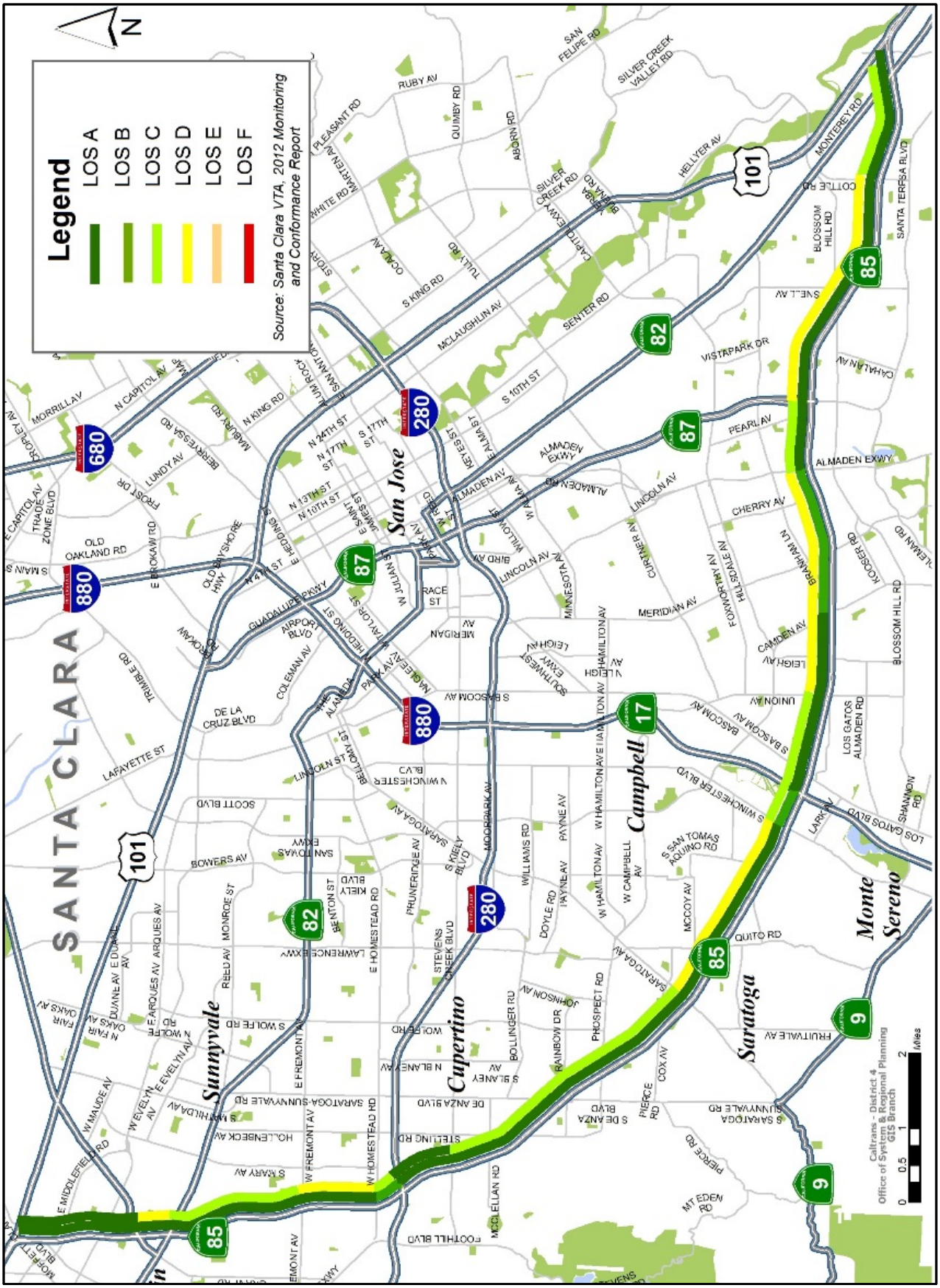


Figure 13: SR 85 Northbound p.m. Peak Period LOS

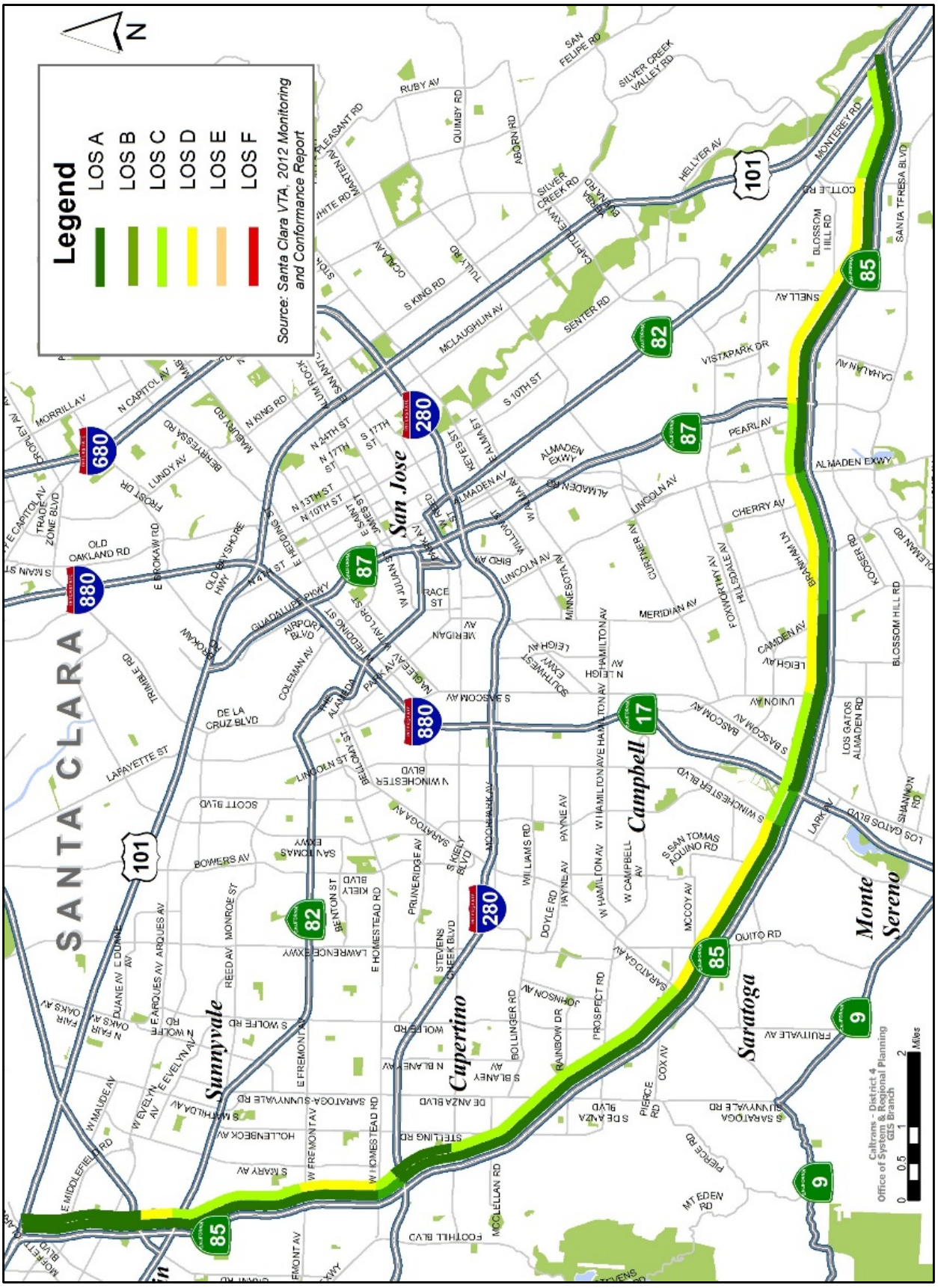
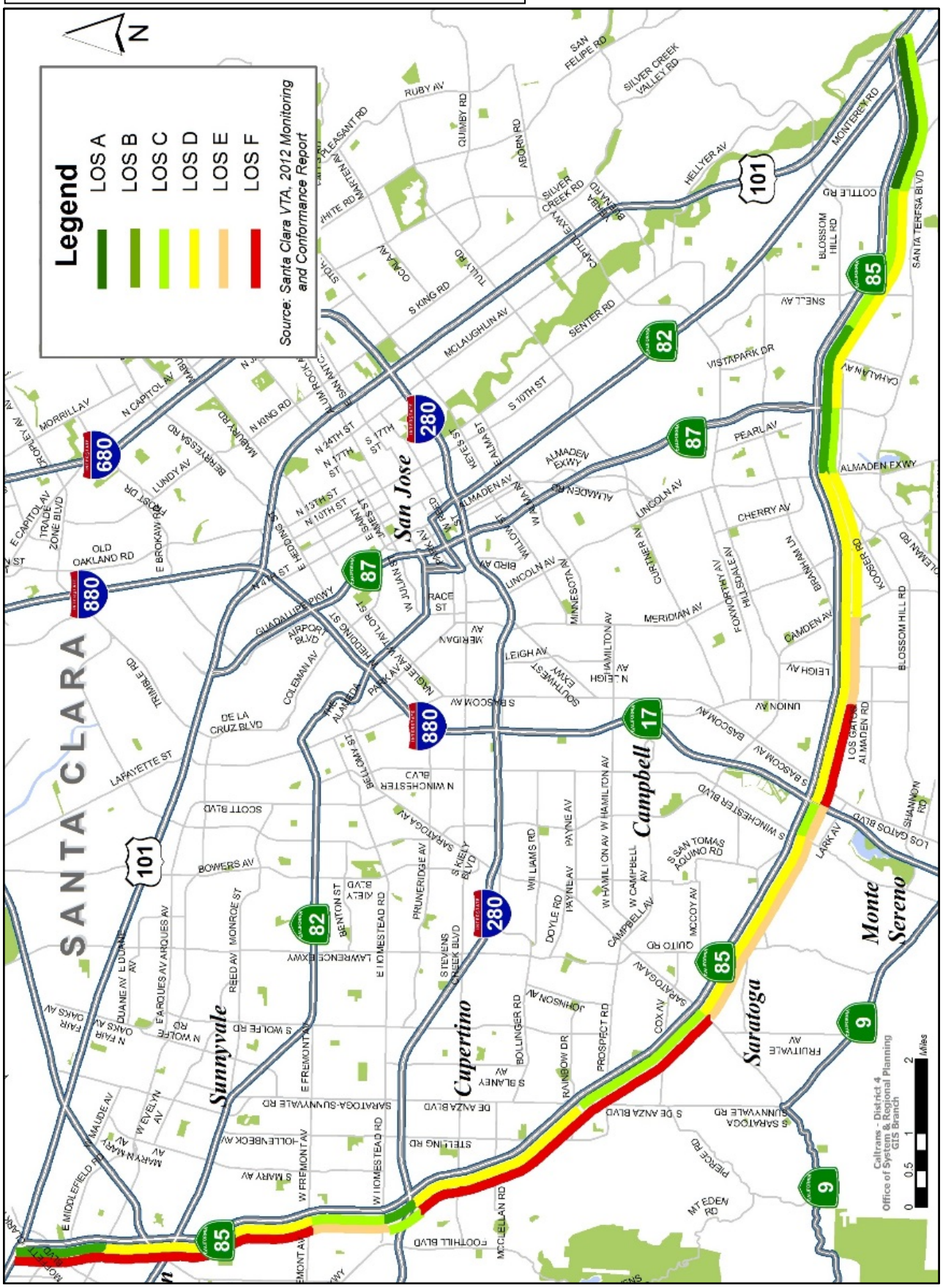


Figure 14: SR 85 Southbound p.m. Peak Period LOS



KEY CORRIDOR ISSUES

Congestion

As discussed in the prior section, the congestion on the freeway is substantial. About 90 percent of the NB traffic and 60 percent of the SB traffic are operating at LOS E or F during a.m. and p.m. peak periods, respectively. Even for the NB HOV lane, throughput is reduced due to heavy volumes, slow speed and delay.

Express Lanes and Mass Transit in the Median

The SR 85 Express Lanes Project proposes to convert two lanes of the entire length of the existing 24 miles of carpool lanes to Express Lanes for both directions of the freeway. Currently both general purpose lanes and the HOV lane are congested during the a.m. or p.m. peak periods except the HOV lane east of Camden Avenue. The conversion of HOV lanes to Express Lanes allows for use of existing unused capacity, in the HOV or carpool lanes (especially for the SB p.m. peak period), and provides opportunities to generate revenue for maintenance and operational costs.

However, during the a.m. peak period, a large portion of the NB freeway is operating at LOS E or F, even in the HOV lane. One option to increase operational efficiency is to increase the number of occupants from two to three in the Express Lanes. Alternatively, adding a transit only lane or light rail in the median can provide commuters with a new mobility option and provide congestion relief for the mixed flow lanes. Modal alternatives including BRT with infrastructure such as median stations with access ramps, light rail, and future transportation technologies like autonomous vehicles should be further studied along with necessary noise abatement.

The Express Lanes Project also proposes to add a second Express Lane between SR 87 and Interstate 280. Extensive public comments were received on the Express Lanes Project. As a result, VTA has put together a Policy Advisory Board made up of elected officials from local jurisdictions along the route in an attempt to reach consensus on SR 85 transportation improvements. Along with converting the HOV lanes and the median to Express Lanes, the Board is also considering options including one Express Lane and an extra "transit" lane within the SR 85 median. VTA's SR 85 Transit Guideway Study will evaluate two transit guideway technologies, Light Rail Transit (LRT) and freeway BRT on SR 85 from San Jose to Mountain View. The Study will also evaluate other emerging transit technologies for possible implementation in this Corridor, as either the major component of the transit guideway or providing first/last mile connections.

Traffic Operation System

TOS elements on freeways can reduce incident response time and better inform the public of freeway conditions. Although TOS elements have been widely installed along the route, there are gaps. To provide full coverage, Traffic Monitoring Systems (TMS) should be spaced every third-mile to half-mile, CCTVs spaced every mile or closer depending on sight distance, and CMSs placed upstream of major decision points of the traveling public. Additionally, fiber optics provide many advantages over traditional copper wire communications systems, such as lower communication cost and better CCTV imagery. Fiber communication is planned for the Corridor as part of the Fiber Communications Master Plan for Caltrans District 4, but is not funded. Besides the lack of coverage, some of the existing infrastructure is not operating properly. According to Caltrans PeMS, about 25 percent of the detectors on SR 85 could not provide reliable data in 2016.

Non-motorized Transportation along the Corridor

There is no bike/pedestrian facilities on SR 85. Challenges for non-motorized transportation are present along the Corridor. For example, there are pedestrian crossings at the on-ramps and off-ramps of the freeway that require improvement, missing sidewalks, and few bike lanes around the study area.

Public Transportation

There are several transit and light rail lines along SR 85. However, this Corridor is highly automobile-oriented with low fare box recovery rates for transit and an underutilized light rail system. As discussed in the Transit Facility section, currently transit is not an efficient mode of transportation along SR 85. Only through improved systemwide speed and reliability, can transit become a more attractive transportation option. Transit works best when it is designed to be competitive and driven by integrated transportation and land use policy.

CORRIDOR CONCEPT

CONCEPT RATIONALE

SR 85 passes through eight cities in Santa Clara County, providing essential connections for the nearby communities. It also serves as an alternative route to US 101 for residents and businesses in the northwest part of Santa Clara County. The urban nature of the Corridor means that there is limited capacity to expand the freeway. However, congestion on the freeway is substantial. To ensure that the Corridor can continue to meet the mobility needs of the residents and businesses, the 20-25 year concept focuses on:

- Completion of TOS elements;
- Implementation of proposed Express Lanes Project;
- Possible addition of a second Express Lane or Mass Transit Lane in the median for both directions and auxiliary lanes at bottlenecks;
- Possible increase of number of occupants from two to three for the Express Lanes;
- Support findings of the SR 85 Transit Guideway Study by VTA;
- Improving bicycle and pedestrian facilities along the Corridor;

Table 22: Corridor Concept

Segment	Segment Description	Existing Facility	20-25 Year Capital Facility Concept *	20-25 Year System Operations and Management Concept	Post-25 Year Concept
1	US 101 South to SR 87	4 MF + 2 HOV	4 MF + 2 E + 2 MT	• Completion of Transportation Operation System ** • Multimodal Improvements*** • Transit Services Improvements Paired with Smart Growth	4 MF + 2 E + 2 MT
2	SR 87 to SR 17	4 MF + 2 HOV	4 MF + 2 E + 2 MT		4 MF + 2 E + 2 MT
3	SR 17 to I 280	4 MF + 2 HOV	4 MF + 2 E + 2 MT		4 MF + 2 E + 2 MT
4	I 280 to SR 237	4 MF + 2 HOV	4 MF + 2 E + 2 MT		4 MF + 2 E + 2 MT
5	SR 237 to US 101 North	4 MF + 2 HOV+ 2 MT	4 MF + 2 E +2 MT		4 MF + 2 E + 2 MT

Legend: MF = Mixed Flow HOV = High-Occupancy Vehicle lane E = Express Lane MT = Mass Transit Lane

* Two Lanes for Mass Transit Service could be either Bus Rapid Transit or Light Rail.

** A complete Transportation Operation System includes installing detection station every third-mile to half-mile, CCTV cameras every mile or less for bridges, and CMSs upstream of major decision points of the traveling public. Based on Caltrans workload standards, the annual O&M cost to support the existing inventory of TSMO/ITS elements (Ramp Meters, TMS, CMS, EMS, CCTV, arterial signals) is $360K for Operations field staff and $165K for Maintenance staff. Additional O&M resources will be needed as more TSMO/ITS elements (Ramp Meters, TMS, CCTV, CMS, EMS, arterial signals, etc.) are implemented.

*** Multimodal improvements as described

PLANNED AND PROGRAMMED PROJECTS AND STRATEGIES

Tables 23 and 24 show the financially constrained freeway and local road projects that have been identified in the Corridor in VTA's long-range transportation plan, VTP 2040. Table 25 lists the bike projects in the VTP 2040 Bicycle Expenditure Program. The locations of all these multi-modal projects are shown in Figure 15. Table 26 lists the State Highway Operation and Protection Program (SHOPP), State Highway Improvement Program (STIP) projects, and locally sponsored projects on SR 85. All projects listed are either consistent with or contribute to the concept of the SR 85 Corridor.

Table 23: Freeway Projects

VTP ID	Description	Cost (2013 $M)	Status
H1	SR 85 Express Lanes: US 101 (South San Jose to Mountain View)	$181.0	Environmental Phase
H21	SR 85 Northbound to Eastbound SR 237 Connector Ramp and Northbound SR 85 Auxiliary Lane	$30.0	Planned
H40	SR 85/El Camino Real, Construct SR 85 auxiliary lanes between El Camino Real and SR 237, and SR 85/ El Camino Real interchange improvement	$23.0	Planned

Table 24: Local Streets and County Roads Program

VTP ID	Description	Cost (2013 $M)	Status
R2	McClellan Rd. Widening	$2.8	Planned
R11	Miramonte Ave./Park Dr. and Gladys Dr./Easy St. Intersection Improvements	0.6	Planned
R31	Prospect Rd. Median Project	$2.3	Planned
R5	Los Gatos Blvd. Widening	$6.4	Planned
R20	Chynoweth/Thornwood Ave. Extension from Almaden Expwy. to Winfield Blvd.	$16.4	Planned

Table 25: Bicycle Projects

VTP ID	Description	Cost (2013 $M)	Status
B16*	Blossom Hill Rd.: Calero Bikeways from Coleman Rd. at Blossom Hill Rd. to Palmia Dr. at Cottle Rd.	$0.4	Planned
B17*	Branham Lane Bikeway: Camden Ave. to Monterey Rd.	$2.4	Planned
B21*	Cottle Rd. Multi-Use Path: Hospital Pkwy. to Poughkeepsie Rd.	$2.7	Planned
B46	Los Gatos Creek Trail: Lark Ave. to Blossom Hill Dr.	$1.8	Planned
B70	Hacienda Ave. Bike Lanes: Winchester Blvd. to San Tomas Aquino Rd.	$0.1	Planned
B72*	San Tomas Aquino Creek Trail: Westmont High School to Virginia	$1.7	Planned
B66*	Sunnyvale Stevens Creek Trail and Structures: Dale/Heatherstone to Homestead Rd. (2.5 mi. bike path, four structures and 1.2 mi bike lane	$20.0	Planned
B80	Stevens Creek Link Trail: Provide a link from the proposed Stevens Creek Trail in the vicinity of San Antonio Rd. and Adobe Creek.	$3.5	Planned
B92*	Stevens Creek Trail Reach 4 Segment 2: Dale/Heatherstone to Mountain View High School	$15.0	Planned
B94*	Stevens Creek Trail/Middlefield Rd. North Side Access	$0.3	Planned
B93*	Stevens Creek Trail at Landels School Trailhead	$1.5	Planned
B53*	Bernardo Ave. Bike Lanes and Bike Detection: Remington to Homestead	$0.2	Planned
B51*	Belleville Way Bike Lanes and Bike Detection: Fremont Ave. to Homestead Rd.	$0.1	Planned
B75	Stevens Creek Trail Crossing: Stevens Creek Blvd. at McClellan Park Ranch	$0.4	Planned
B113	Joe's Trail: Saratoga-Sunnyvale Rd. to Prospect Rd.	$0.6	Planned
B112	Blue Hills School RR Crossing Safety Project: Construct railroad crossing from Guava Ct. to Joe's Trail, linking Fredericksburg Dr./Williamsburg Ln. neighborhood to Blue Hills School/Azule Park.	$0.4	Planned

*These projects are also identified in Santa Clara's Bike Expenditure Plan 2040 (see Table 14.)

Figure 15: VTP 2040 Projects around SR 85 Corridor

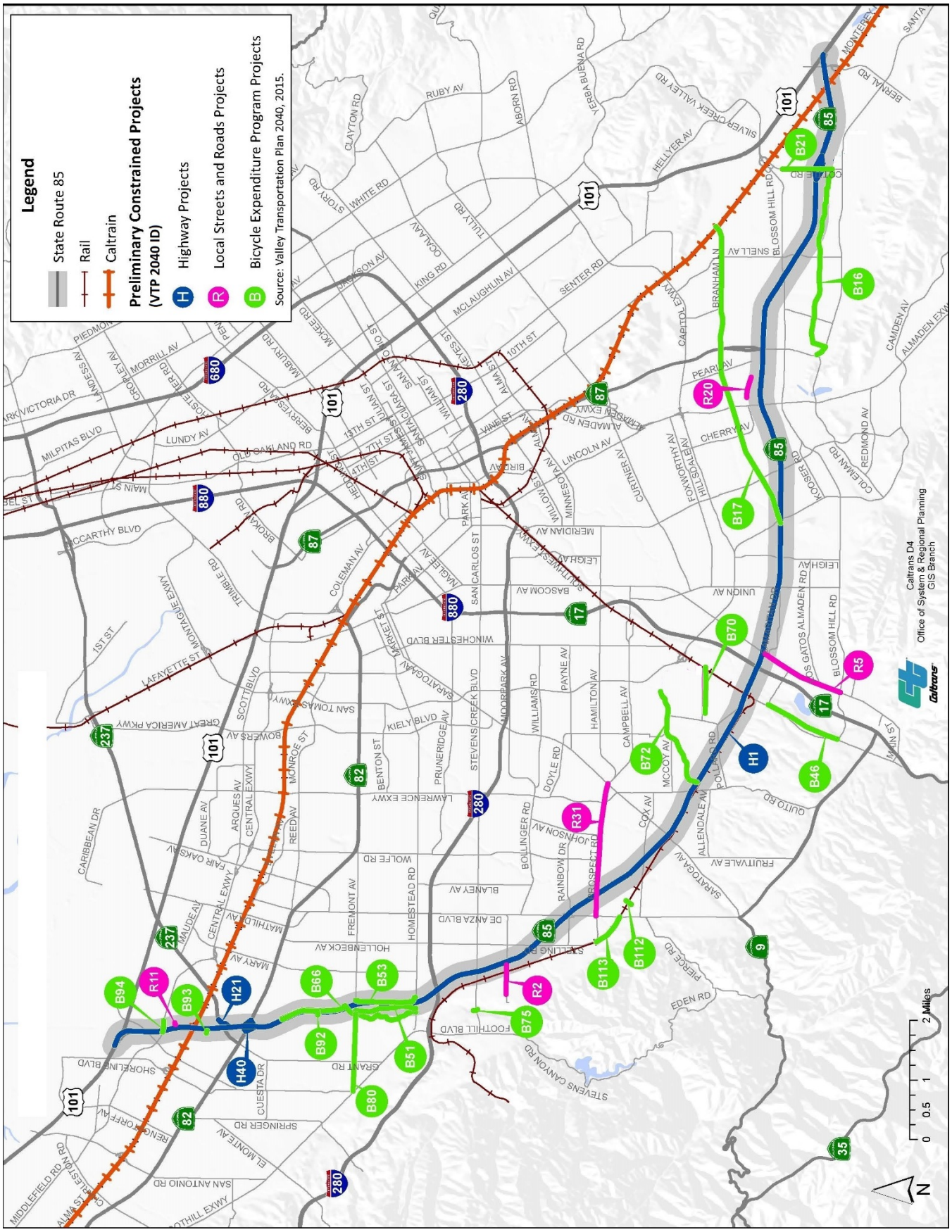


Table 26: 2016 SHOPP, STIP, and Other Projects[44]

Sponsor	Program Category	Project Description	PM	EA Number
Caltrans	2016 SHOPP	In Santa Clara County, In San Jose on Route 85 from Cottle Road to 0.5 mile north Blossom Hill Road overcrossing at various locations. Pave between edge of shoulder and sound wall.	2.0/4.5	4G990
Caltrans	2016 SHOPP	In Cupertino, Sunnyvale and Mountain View, from Stevens Creek Boulevard to Route 101; also in various cities, on Route 80 (PM 2.5/8.0), at various locations. Install and/or upgrade existing curb ramps and pedestrian facilities to ADA standards.	18/24.1	2G730
Caltrans	2016 SHOPP	Near Sunnyvale, at Stevens Creek Bridge No. 37-0185, 0.2 mile north of Fremont Avenue undercrossing. Overlay southbound deck with polyester concrete and overlay northbound deck with reinforced concrete.	R19.9 / R20.2	4G830
Locally-funded	Freeway Performance Initiative	On Route 85, in Santa Clara County between 0.4 mile south of Route 85/ I-280 separation and Route 85/US 101 separation (north), install ramp metering and traffic operations systems.	R18.5/ R23.9	15420
Caltrans	2017 Ten Year SHOPP (Proposed)	In Santa Clara County, on Route 85, install & upgrade curb ramps and pedestrian facilities.	18/24.1	2G760

PROJECTS AND STRATEGIES TO ACHIEVE CONCEPT

The following projects are recommended for further study to help achieve the Corridor Concept.

Table 27: Projects and Strategies to Achieve Concept

	Segment	Description	Location
Freeway Strategies	1-5	Convert two HOV lanes to Express Lanes Two Mass Transit Lanes in the median	Whole route.
Bicycle and Pedestrian Strategies	1-5	Interchange Improvements to accommodate bicyclists and pedestrians	See Table 10 and Appendices H1 to H8.
	1,3	Additional Bike and Pedestrian Crossings over SR 85	Near Gunderson High School Near Mulberry Dr. Near Lubec St. (See Figure 5, Page 20)
	1-5	Close any remaining sidewalk gaps and widen existing sidewalks where roadway and overcrossing projects present opportunities	Where applicable within State Right of Way
Transit Strategies	1-5	Encourage VTA to Increase transit speed and reliability Coordinate with VTA to implement findings of the SR 85 Transit Guideway Study	From Santa Teresa Light Rail Station to Palo Alto Page Mill Road & El Camino Real Park-and-Ride. (See Figure 6, Page 25)

[44] PRSM monthly report May, 2017.

APPENDICES

Appendix A: Glossary of Terms and Acronyms

Appendix B: Federal, State, and Regional Plans and Policies

Appendix C: General Plans of the Surrounding Cities by Segments

Appendix D: 2013 Traffic Counts on SR 85

Appendix E: Pavement Condition Map

Appendix F: SR 85 TOS Factsheet

Appendix G: SR 85 Ramp Metering Factsheet

Appendix H: SR 85 Bicycle Facilities

- Appendix H1: SR 85 Bicycle Facilities-Segment 1
- Appendix H2: SR 85 Bicycle Facilities-Segment 2
- Appendix H3: SR 85 Bicycle Facilities-Segment 3
- Appendix H4: SR 85 Bicycle Facilities-Segment 4
- Appendix H5: SR 85 Bicycle Facilities-Segment 5
- Appendix H6: Almaden Avenue Interchange
- Appendix H7: El Camino Avenue Interchange
- Appendix H8: Moffett Avenue Interchange

Appendix I: Resources

Appendix A:
ACRONYMS AND DEFINITIONS

Acronyms

AADT – Annual Average Daily Traffic
AADTT – Annual Average Daily Truck Traffic
AB – Assembly Bill
ABAG – Association of Bay Area Governments
ADA – Americans with Disabilities Act of 1990
ADT – Average Daily Traffic
Alameda CTC – Alameda County Transportation Commission
ATP – Active Transportation Program
BAAQMD – Bay Area Air Quality Management District
BCDC – Bay Conservation and Development Commission
BRT – Bus Rapid Transit
BY – Base Year
Caltrans – California Department of Transportation
CARB – California Air Resources Board
C/CAG – City/County Association of Governments of San Mateo County
CCC – California Conservation Corps
CCTA – Contra Costa Transportation Authority
CDFW – California Department of Fish and Wildlife
CEC – California Energy Commission
CESA – California Endangered Species Act
CFAC – California Freight Advisory Committee
CFMP – California Freight Mobility Plan
CMA – Congestion Management Agencies
CMAQ – Congestion Mitigation and Air Quality
CMP – Congestion Management Plan
CSFAP – California Sustainable Freight Action Plan
CSMP – Corridor System Management Plan
CEQA – California Environmental Quality Act
CSS – Context Sensitive Solutions
CTC – California Transportation Commission
CTP – California Transportation Plan
DD – Deputy Directive
DSMP – District System Management Plan
ECA – Essential Connectivity Areas
EPA – Environmental Protection Agency
FAST Act – Fixing America's Surface Transportation Act
FASTLANE – Fostering Advancements in Shipping and Transportation for the Long-Term Achievement of National Efficiencies grant program
FHWA – Federal Highway Administration
FSR – Feasibility Study Report
FSTIP – Federal Statewide Transportation Improvement Program
FTA – Federal Transit Administration
FTIP – Federal Transportation Improvement Program
GHG – Greenhouse Gas
GIS – Geographic Information System
HCP – Habitat Conservation Plan

HOT – High Occupancy Toll lane
HOV – High Occupancy Vehicle lane
HY – Horizon Year
ICM – Integrated Corridor Mobility
IGR – Intergovernmental Review
ITIP – Interregional Transportation Improvement Program
ITS – Intelligent Transportation System
ITSP – Interregional Transportation Strategic Plan
KPRA – Kingpin-to-Rear-Axle
LOS – Level of Service
MAP-21 – Moving Ahead for Progress in the 21st Century
MPO – Metropolitan Planning Organizations
MTC – Metropolitan Transportation Commission
NOA – Naturally Occurring Asbestos
NEPA – National Environmental Policy Act
NHS – National Highway System
NHFN – National Highway Freight Network
NMFN – National Multimodal Freight Network
NVTA – Napa Valley Transportation Authority
PAED – Project Approval/Environmental Document
PBA – Plan Bay Area
PCA – Priority Conservation Area
PDA – Priority Development Area
PFN – Primary Freight Network
PID – Project Initiation Document
PIR – Project Initiation Report
PM – Post Mile
PM 2.5 – Particulate Matter 2.5 micrometers or less in diameter
PM 10 – Particulate Matter 10 micrometers or less in diameter
PSR – Project Study Report
PR – Project Review
RHNA – Regional Housing Needs Allocation
RTP – Regional Transportation Plan
RTIP – Regional Transportation Improvement Program
RTPA – Regional Transportation Planning Agencies
SACOG – Sacramento Area Council of Governments
SAFETEA-LU – Safe, Accountable, Flexible and Efficient Transportation Equity Act, a Legacy for Users
SB – Senate Bill
SCS – Sustainable Community Strategies
SCTA – Sonoma County Transportation Authority
SFCTA – San Francisco County Transportation Authority
SHOPP – State Highway Operation Protection Program
SHS – State Highway System
SJCOG – San Joaquin Council of Governments
SMF – Smart Mobility Framework
SR – State Route
STA – Solano Transportation Authority
STIP – State Transportation Improvement Program
STP – Surface Transportation Program
STRAHNET – Strategic Highway Network

TAM – Transportation Authority of Marin
TCIF – Trade Corridors Improvement Fund
TCRP – Transit Cooperative Research Program
TEA-21 – Transportation Equity Act for the 21st Century
TCR – Transportation Concept Report
TIGER – Transportation Investment Generating Economic Recovery
TDM – Transportation Demand Management
TMP – Transportation Management Plan
TMS – Transportation Management System
TSN – Transportation System Network
USFWS – United States Fish and Wildlife Service
VMT – Vehicle Miles Traveled
VTA – Santa Clara Valley Transportation Authority
VPH – Vehicles per Hour

Definitions

AADT – Annual Average Daily Traffic is the total volume for the year divided by 365 days. The traffic count year is from October 1st through September 30th. Traffic Counting is generally performed by electronic counting instruments moved from location throughout the State in a program of continuous traffic count sampling. The resulting counts are adjusted to an estimate of annual average daily traffic by compensating for seasonal influence, weekly variation and other variables which may be present. Annual ADT is necessary for presenting a statewide picture of traffic flow, evaluating traffic trends, computing accident rates, planning and designing highways and other purposes.

Base year – The year that the most current data is available to the Districts

Bikeway Class I (Bike Path) – Provides a completely separated right of way for the exclusive use of bicycles and pedestrians with cross flow by motorists minimized.

Bikeway Class II (Bike Lane) – Provides a striped lane for one-way bike travel on a street or highway.

Bikeway Class III (Bike Route) – Provides for shared use with pedestrian or motor vehicle traffic.

Capacity – The maximum sustainable hourly flow rate at which persons or vehicles reasonably can be expected to traverse a point or a uniform section of a lane or roadway during a given time period under prevailing roadway, environmental, traffic, and control conditions.

Capital Facility Concept – The 20-25 year vision of future development on the route to the capital facility. The capital facility can include capacity increasing, State Highway, bicycle facility, pedestrian facility, transit facility (Intercity Passenger rail, Mass Transit Guideway, etc.), grade separation, and new managed lanes.

Concept LOS – The minimum acceptable LOS over the next 20-25 years

Conceptual Project – A conceptual improvement or action is a project that is needed to maintain mobility or serve multimodal users, but is not currently included in a financially constrained plan and is not currently programmed. It could be included in a General Plan or in the unconstrained section of a long-term plan.

Corridor – A broad geographical band that follows a general directional flow connecting major sources of trips that may contain a number of streets, highways, bicycle, pedestrian, and transit route alignments. Off system facilities are included as informational purposes and not analyzed in the TCR.

Complete Streets – Transportation facilities that are planned, designed, operated, and maintained to provide safe mobility for all users, including bicyclists, pedestrians, transit vehicles, truckers, and motorists, appropriate to the function and context of the facility. Every complete street looks different, according to its context, community preferences, the types of road users, and their needs.

Facility Concept – Describes the facility and strategies that may be needed within 20-25 years. This can include capacity increasing, State Highway, bicycle facility, pedestrian facility, transit facility, non-capacity increasing operational improvements, new managed lanes, conversion of existing managed lanes to another managed lane type or characteristic, TMS field elements, transportation demand management and incident management.

Freeway & Expressway System (F&E) – The Statewide system of highways declared by the Legislature to be essential to the future development of California. The F&E System has been constructed with a large

investment of funds for the ability to control access, in order to ensure the safety and operational integrity of the highways.

Facility Type – The facility type describes the state highway facility type. The facility could be freeway, expressway, conventional, or one-way city street.

Focus Routes – These routes are a subset of the High Emphasis Routes, representing interregional corridors that should be of the highest priority for completion to minimum facility standards in a 20-year period.

Freight Generator – Any facility, business, manufacturing plant, distribution center, industrial development, or other location (convergence of commodity and transportation system) that produces significant commodity flow, measured in tonnage, weight, carload, or truck volume.

Functional Classification – the process by which streets and highways are grouped into classes, or systems, according to the character of traffic service that they provide. There are three main highway functional classifications: arterial, collector, and local roads. All streets and highways are grouped into one of these classes, depending on the character of the traffic (i.e., local or long distance) and the degree of land access that they allow.

Headway – The time between two successive vehicles as they pass a point on the roadway, measured from the same common feature of both vehicles.

High Emphasis Routes – routes that are characterized as being the most critical Interregional Road System (IRRS) routes for travel throughout the State.

IRRS – The Interregional Road System, a series of interregional state highways outside the urbanized areas that provides access to, and links between, the State's economic centers, major recreational areas, and urban and rural regions.

ITS – Intelligent Transportation Systems - improves transportation safety and mobility and enhances productivity through the integration of advanced communications technologies into the transportation infrastructure and in vehicles. Intelligent transportation systems encompass a broad range of wireless and wire line communications-based information and electronics technologies to collect information, process it, and take appropriate actions.

Multimodal – The availability of transportation options using different modes within a system or corridor, such as automobile, subway, bus, rail, or air.

National Highway System (NHS) – a federally established interconnected system of principle arterial routes to serve major travel destinations and population centers, international border crossings, as well as ports, airports, public transportation facilities, and other intermodal facilities. The NHS must also meet national defense requirements and server interstate and interregional travel.

Peak Hour – The hour of the day in which the maximum volume occurs across a point on the highway.

Peak Hour Volume – The hourly volume during the highest hour traffic volume of the day traversing a point on a highway segment. It is generally between 6 percent and 10 percent of the ADT. The lower values are generally found on roadways with low volumes.

Planned Project – A planned improvement or action is a project in a financially constrained section of a long-term plan, such as an approved Regional or Metropolitan Transportation Plan (RTP or MTP), Capital Improvement Plan, or measure.

Post Mile – A post mile is an identified point on the State Highway System. The milepost values increase from the beginning of a route within a count to the next county line. The milepost values start over again at each county line. Milepost values usually increase from south to north or west to east depending upon the general direction the route follows within the state. The milepost at a given location will remain the same year after year. When a section of road is relocated, new milepost (usually noted by an alphabetical prefix such as "R" or "M") are established for it. If relocation results in a change in length, "milepost equations" are introduced at the end of each relocated portion so that mileposts on the reminder of the route within the county will remain unchanged.

Post-25 Year Concept – This dataset may be defined and re-titled at the District's discretion. In general, the Post-25 Year concept could provide the maximum reasonable and foreseeable roadway needed beyond a 20-25 year horizon. The Post-25 Year concept can be used to identify potential widening, realignments, future facilities, and rights-of-way required to complete the development of each corridor.

Programmed Project – A programmed improvement or action is a project in a near-term programming document identifying funding amounts by year, such as the State Transportation Improvement Program or the State Highway Operations and Protection Program.

Ramp Metering - A traffic management strategy that uses a system of traffic signals at freeway entrances and connector ramps to regulate the volume of traffic and spacing of vehicles entering a freeway corridor.

Route Designation – A route's designation is adopted through legislation and identifies what system the route is associated with on the State Highway System. A designation denotes what design standards should apply during project development and design. Typical designations include but not limited to National Highway System (NHS), Interregional Route System (IRRS), and Scenic Highway System.

Rural – Fewer than 5,000 in population designates a rural area. Limits are based upon population density as determined by the U.S. Census Bureau.

Scenic Highway – An officially designated portion of the State Highway System traversing areas of outstanding scenic beauty which, together with the adjacent scenic corridors, requires special scenic conservation treatment.

Strategic Highway Network (STRAHNET) – is a national network of highways designated by the Department of Defense for emergency response. These routes may be used to transport personnel and equipment in time of emergency.

System Operations and Management Concept – Describes the system operations and management elements that may be needed within 20-25 years. This can include Non-capacity increasing operational improvements (Aux. lanes, channelization's, turnouts, etc.), conversion of existing managed lanes to another managed lane type or characteristic (e.g. HOV land to HOT lane), TMS Field Elements, Transportation Demand Management, and Incident Management.

TDM – Transportation Demand Management programs designed to reduce or shift demand for transportation through various means, such as the use of public transportation, carpooling, telecommuting, and alternative

work hours. Transportation Demand Management strategies can be used to manage congestion during peak periods and mitigate environmental impacts.

TSMO – Integrated strategies to optimize the performance of existing infrastructure through the implementation of multimodal and intermodal, cross-jurisdictional systems, services, and projects, describing the system operations and management elements that may be needed within 20-25 years. This can include Non-capacity increasing operational improvements (auxiliary lanes, channelization's, turnouts, etc.), conversion of existing managed lanes to another managed lane type or characteristic (e.g. HOV lane to HOT lane), TMS Field Elements, Transportation Demand Management, and Incident Management.

TMS – Transportation Management System is the business processes and associated tools, field elements and communications systems that help maximize the productivity of the transportation system. TMS includes, but is not limited to, advanced operational hardware, software, communications systems and infrastructure, for integrated Advanced Transportation Management Systems and Information Systems, and for Electronic Toll Collection System.

Urban – 5,000 to 49,999 in population designates an urban area. Limits are based upon population density as determined by the U.S. Census Bureau.

Urbanized – Over 50,000 in population designates an urbanized area. Limits are based upon population density as determined by the U.S. Census Bureau.

VMT – Is the total number of miles traveled by motor vehicles on a road or highway segments. The passage of SB 743 makes VMT an alternative to LOS for evaluating transportation impacts.

Appendix B:
FEDERAL, STATE, REGIONAL, AND LOCAL PLANS AND POLICIES

FEDERAL

The Fixing America's Surface Transportation (FAST) Act

On December 4, 2015, President Obama signed into law the Fixing America's Surface Transportation Act, or "FAST Act" - the first Federal law in over ten years to provide long-term funding certainty for surface transportation. The FAST Act authorizes $305 billion over fiscal years 2016 through 2020 for the Department's highway, highway and motor vehicle safety, public transportation, motor carrier safety, hazardous materials safety, rail, and research, technology and statistics programs. With its enactment, States and local governments may now move forward with critical transportation projects, like new highways and transit lines, with the confidence that they will have a Federal partner over the long term.

Federal Transportation Improvement Program (FTIP)

All federally funded projects, and regionally significant projects (regardless of funding), must be listed in the FTIP per federal law. A project is not eligible to be programmed in the FTIP until it is programmed in the *State Transportation Improvement Program* (STIP) or in the *State Highway Operations and Protection Program* (SHOPP). Other types of funding (Federal Demonstration, Congestion Mitigation and Air Quality (CMAQ), Transportation Enhancement Activities (TEA), and Surface Transportation Program (STP) must be officially approved before the projects can be included in the FTIP.

STATE

California Transportation Plan (CTP)

The CTP is a long-range policy framework to meet California's future multi-modal mobility needs and reduce greenhouse gas and particulate matter (PM) emissions. The CTP defines goals, performance-based policies, and strategies to achieve a collective vision for California's future Statewide, integrated, multimodal transportation system. CTP 2040 was completed in December 2015, and final approval and publication are expected to be in early 2016. It will focus on meeting new trends and challenges, such as economic and job growth, climate change, freight movement, and public health.

California Interregional Blueprint (CIB)

Responding to Senate Bill 391 of 2009, CIB informs and enhances the State's transportation planning process. Similar to requirements for regional transportation plans under Senate Bill 375, SB 391 requires the State's long-range transportation plan to meet California's climate change goals under Assembly Bill 32. In response to these statutes, Caltrans is preparing a state-level transportation blueprint to inform CTP 2040 and articulate the State's vision for an integrated, multi-modal interregional transportation system that integrates the Regional Blueprint Program (see the Regional appendix section) and complements regional transportation plans. The CIB will integrate the State's long-range multi-modal plans and Caltrans-sponsored programs with the latest technology and tools to enhance our ability to plan for and manage a transportation system that will expand mode choices and meet future increases in transportation needs and still meet the GHG-reduction targets or SB 375.

State Transportation Improvement Program (STIP)

The STIP is a multi-year capital improvement program of transportation projects on and off the State Highway System, funded with revenues from the Transportation Investment Fund and other funding sources. Caltrans and the regional planning agencies prepare transportation improvement plans for submittal. Local agencies work through their Regional Transportation Planning Agency (RTPA), County Transportation Commission, or Metropolitan Planning Organization (MPO), as appropriate, to nominate projects for inclusion in the STIP.

Interregional Transportation Improvement Program (ITIP)
The Interregional Transportation Improvement Program (ITIP) is a state-funding program for the Interregional Improvement Program (IIP) and is a sub-element of the State Transportation Improvement Program. The IIP is a state funding category created in SB 45 for intercity rail, interregional road or rail expansion projects outside urban areas, or projects of statewide significance, which include projects to improve State highways, the intercity passenger rail system, and the interregional movement of people, vehicles, and goods. Caltrans nominates and the California Transportation Commission approves a listing of interregional highway and rail projects for 25 percent of the funds to be programmed in the STIP (the other 75% are Regional Improvement Program funds). Only projects planned on State highways are to be included in this program.

District System Management Plan (DSMP)
The DSMP provides a vehicle for the development of multi-modal and multi-jurisdictional transportation strategies. These strategies must be based on an analysis that is developed in partnership with regional and local agencies. The DSMP is the State's counterpart to the Regional Transportation Plan (RTP) for the region.

State Highway Operation and Protection Program (SHOPP)
Caltrans prepares the SHOPP for the expenditure of transportation funds for major capital improvements necessary to preserve and protect the State Highway System. The SHOPP is a four-year funding program. SHOPP projects include capital improvements for maintenance, safety, and rehabilitation of State highways and bridges. The 10-Year SHOPP anticipates long-term projected expansion and maintenance needs.

Ten-Year SHOPP
The 10-year SHOPP is a state plan for the rehabilitation and reconstruction, or both, of state highways and bridges by the SHOPP. The purpose of the plan is to identify needs for the upcoming 10 years. The plan is updated every two years. It includes specific milestones, quantifiable accomplishments and strategies to control cost and improve the efficiency of the program. 10-year SHOPP differs from SHOPP, as it has no funding constraints assigned.

Senate Bill 45 (SB 45)
SB 45 establishes guidelines for the California Transportation Commission to administer the allocation of funds appropriated from the Public Transportation Account for capital transportation projects designed to improve transportation facilities.

California Strategic Growth Plan
The Governor and Legislature have initiated the first phase of a comprehensive Strategic Growth Plan to address California's critical infrastructure needs over the next 20 years. California faces over $500 billion in infrastructure needs to meet the demands of a population expected to increase by 23 percent over the next two decades. In November 2006, the voters approved the first installment of that 20-year vision to rebuild California by authorizing a series of general obligation bonds totaling $42.7 billion.

Smart Mobility Framework
Caltrans released *Smart Mobility 2010: A Call to Action for the New Decade* in February 2010. SMF was prepared in partnership with US Environmental Protection Agency, the Governor's Office of Planning and Research, and the California Department of Housing and Community Development to address both long-range challenges and short-term pragmatic actions to implement multi-modal and sustainable transportation strategies in California. *Smart Mobility 2010* provides new tools and techniques to improve planning. It links land use "place types," considers growth scenarios and how growth will best gain the benefits of smart mobility. The SMF emphasizes travel choices, healthy, livable communities, reliable travel times for people and freight, and safety for all users. This vision supports the goals of social equity, climate change intervention, and energy security as well as a robust and sustainable economy.

Caltrans Deputy Directive 64-R2 *Complete Streets - Integrating the Transportation System, 2008*
This Deputy Directive expresses Caltrans commitment to provide for the needs of all travelers including pedestrians, bicyclists and persons with disabilities in all programming, planning, maintenance, construction, operations, and project development activities and products.

State Assembly Bill 32 (AB 32) *Global Warming Solutions Act, September 2006*
This bill requires the State's greenhouse gas emissions to be reduced to 1990 levels by the year 2020. Caltrans' strategy to reduce global warming emissions has two elements. The first is to make transportation systems more efficient through operational improvements. The second is to integrate emission reduction measures into the planning, development, operations and maintenance of transportation elements.

Senate Bill 32 (SB 32) *California Global Warming Solutions Act of 2006: emissions limit*
This bill requires the state board to ensure that statewide greenhouse gas emissions are reduced to 40% below the 1990 level by 2030.

Senate Bill 375 (SB-375) *Addressing Greenhouse Gas Emissions from the Transportation Sector, September 2008*
SB 375 provides a means for achieving AB 32 goals from cars and light trucks. The transportation sector contributes over 40 percent of the GHGs throughout the state. Automobiles and light trucks alone contribute almost 30 percent. SB-375requires the California Air Resources Board (ARB) to develop regional greenhouse gas (GHG) emission reduction targets for cars and light trucks for each of the 18 Metropolitan Planning Organizations (MPOs). Through their planning processes, each of the MPOs is required to develop plans to meet their regional GHG reduction target. This would be accomplished through either the financially constrained "sustainable communities strategy" as part of their regional transportation plan (RTP) or an unconstrained alternative planning strategy. SB-375 also provides streamlining of California Environmental Quality Act (CEQA) requirements for specific residential and mixed-use developments.

Senate Bill 391 (SB 391) *California Transportation Plan updates, 2009*
This bill requires the department to update the California Transportation Plan by December 31, 2015, and every 5 years thereafter. The bill requires the plan to address how the state will achieve maximum feasible emissions reductions in order to attain a statewide reduction of greenhouse gas emissions to 1990 levels by 2020 and 80% below 1990 levels by 2050. The bill requires the plan to identify the statewide integrated multimodal transportation system needed to achieve these results.

Senate Bill 743 (SB 743) *California Environmental Quality Act (CEQA) updates, 2013*
This bill requires the Office of Planning and Research to update guidelines for analyzing transportation project impacts as they relate to CEQA legislation. Vehicle Miles Traveled (VMT) now provides an alternative to LOS for evaluating transportation impacts. Particularly within areas served by transit, those alternative criteria must "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses."

Caltrans - Climate Action Plan
Greenhouse gas (GHG) emissions and the related subject of global climate change are emerging as critical issues for the transportation community. Caltrans recognizes the significance of cleaner, more energy efficient transportation. On June 1, 2005 the State established climate change emissions reduction targets for California that lead to development of the Climate Action Program. This program highlights reducing congestion and improving efficiency of transportation systems through smart land use, operational improvements, and Intelligent Transportation Systems (objectives of the State's Strategic Growth Plan). The Climate Action Plan approach also includes institutionalizing energy efficiency and GHG emission reduction measures and technology into planning, project development, operations, and maintenance of transportation facilities, fleets, buildings, and equipment.

Corridor Mobility Improvement Account (CMIA)
The California Transportation Commission adopted the $4.5 billion Corridor Mobility Improvement Account (CMIA) program, the first commitment of funds from the $19.9 billion transportation infrastructure bond approved by California voters as Proposition 1B in November 2006. The statewide CMIA program includes nearly $1.3 billion in Bay Area projects, plus an additional commitment of $405 million through the State Highway Operations and Protection Program (SHOPP) for replacement of Doyle Drive in San Francisco. This brings the total amount programmed for Bay Area transportation projects to roughly $1.7 billion. *Source:* www.mtc.ca.gov

Corridor System Management Plans (CSMP)
In 2007, the California Transportation Commission adopted a resolution stating "…the Commission expects Caltrans and regional agencies to preserve the mobility gains of urban corridor capacity improvements over time that will be described in Corridor System Management Plans (CSMPs)." A CSMP is a transportation planning document that will study the facility based on comprehensive performance assessments and evaluations. The strategies are phased and include both operational and more traditional long-range capital expansion strategies. They take into account transit usage, projections, and interactions with arterial network, and connection to State Highways. Each CSMP presents an analysis of existing and future traffic conditions and proposes traffic management strategies and capital improvements to maintain and enhance mobility within each corridor.

Trade Corridors Improvement Fund (TCIF)
In November 2006, voters approved Proposition 1B, a roughly $20 billion Transportation Bond. It established the Trade Corridors Improvement Fund that included a total of $3.1 billion for goods movement-related programs, of which $2 billion was set aside for infrastructure improvements statewide.

Freeway Performance Initiative (FPI)
Metropolitan Transportation Commission's effort to improve the operations, safety and management of the Bay Area's freeway network by deploying system management strategies, completing the HOV lane system, addressing regional freight issues, and closing key freeway infrastructure gaps.

REGIONAL

Regional Transportation Plan (RTP) "Plan Bay Area"
Plan Bay Area is a long-range integrated transportation and land-use/housing strategy through 2040 for the San Francisco Bay Area. On July 18, 2013, the Plan was jointly approved by the Association of Bay Area Governments (ABAG) Executive Board and by the Metropolitan Transportation Commission (MTC). The Plan includes the region's Sustainable Communities Strategy (SCS) and the 2040 Regional Transportation Plan and represents the next iteration of a planning process that has been in place for decades.
Plan Bay Area marks the nine-county region's first long-range plan to meet the requirements of California's landmark 2008 Senate Bill 375, which calls on each of the state's 18 metropolitan areas to develop a Sustainable Communities Strategy to accommodate future population growth and reduce greenhouse gas emissions from cars and light trucks. Working in collaboration with cities and counties, the Plan advances initiatives to expand housing and transportation choices, create healthier communities, and build a stronger regional economy.

Regional Transportation Improvement Program (RTIP)
The Regional Transportation Improvement Program is a sub-element of the State Transportation Improvement Program (STIP). The Metropolitan Transportation Commission is responsible for developing regional project priorities for the RTIP for the nine counties of the Bay Area. The biennial RTIP is then submitted to the California Transportation Commission for inclusion in the STIP.

Regional Blueprint Planning Program

The Regional Blueprint Planning Program supports the smart growth element of the Strategic Growth Plan by promoting smart land use choices at the regional and local levels. The Regional Blueprint Planning Program was a grant program that supported Metropolitan Planning Organizations (MPOs) and Regional Transportation Planning Agencies (RTPAs) to conduct comprehensive scenario planning. Using consensus-building and a broad-based visioning approach it's goal was to envision future land use patterns and their potential impacts on a region's transportation system, housing supply, jobs/housing balance, resource management and other protections. The Blueprint planning effort in the San Francisco Bay Area is the Focus our Vision (FOCUS) program, which is led by the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) with support from the Bay Area Air Quality Management District (BAAQMD) the Bay Conservation and Development Commission (BCDC), and Caltrans. These agencies and local governments participated in the Regional Blueprint Planning Program since the program's inception in 2005, receiving grants for all four years, and now carry on regional blueprint goals through *the FOCUS program.*

LOCAL

Santa Clara County Measure B

Measure B is a sales tax measure approved on November 8, 2016. The measure. Measure B provides for the establishment of an independent citizens' oversight committee for ensuring that proceeds of the tax are expended consistent with the program established by the VTA. It authorizes a special sales tax of one-half cent (.5%) operative for 30 years, expected to expire on March 31, 2047.

A total of $350 million will be used to fund new transit and congestion relief projects on SR 85, including a new transit lane from SR 87 in San Jose to U.S. 101 in Mountain View. Additionally this category will fund noise abatement along SR 85 and will provide funding to study transportation alternatives that include, but are not limited to, Bus Rapid Transit with infrastructure such as stations and access ramps, Light Rail Transit, and future transportation technologies that may be applicable.

Appendix C:
General Plans of the Surrounding Cities by Segments

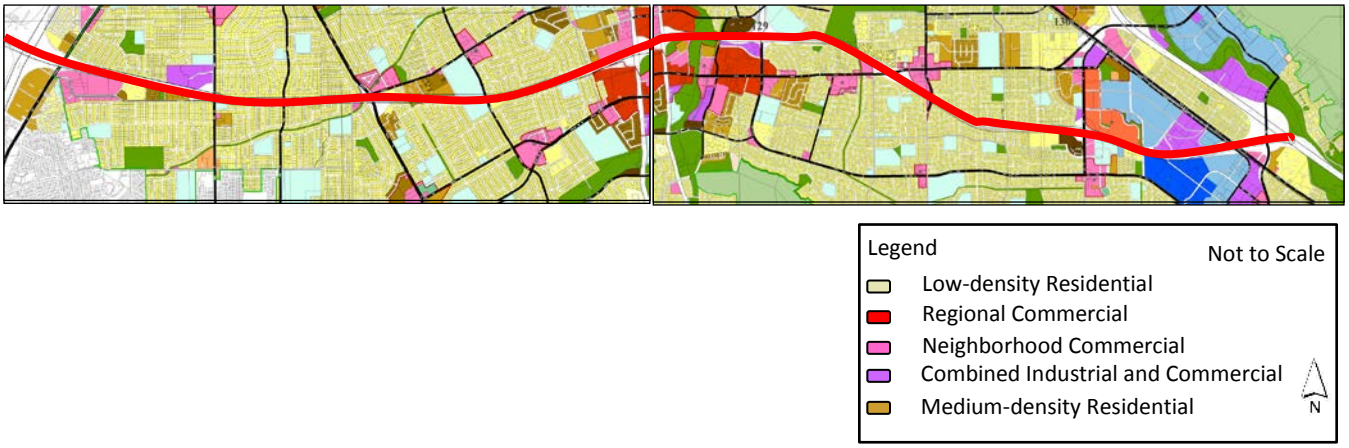
The following section discusses General Plans of the surrounding cities by segments, showing the vision and land use planning of the cities.

Segments I and 2

Segments 1 and 2 are mainly within the City of San Jose. As called out in Envision San Jose (2040 General Plan), land use policies are shifting away from the traditional low-density, dispersed land use pattern, and providing flexibility of mixed residential and commercial uses. Compact and mixed-use development can enhance the walking and biking environment. This development trend also benefits transit because of demands for transit hubs. Envision San Jose also promotes the financial sustainability of the City by protecting industrial lands and blue-collar employment.

As shown in Figures 1, future land uses around Segments 1 and 2 are mostly low-density residential, with regional commercial land uses at the interchange of SR 87 and SR 85, and some neighborhood commercial, combined Industrial and commercial, and medium density residential scattered along the segments. Transit employment centers and industrial parks are near US 101 and SR 85 Interchanges. [45]

Figure 1: Segments 1 and 2 General Plan Land Use Plan [46]

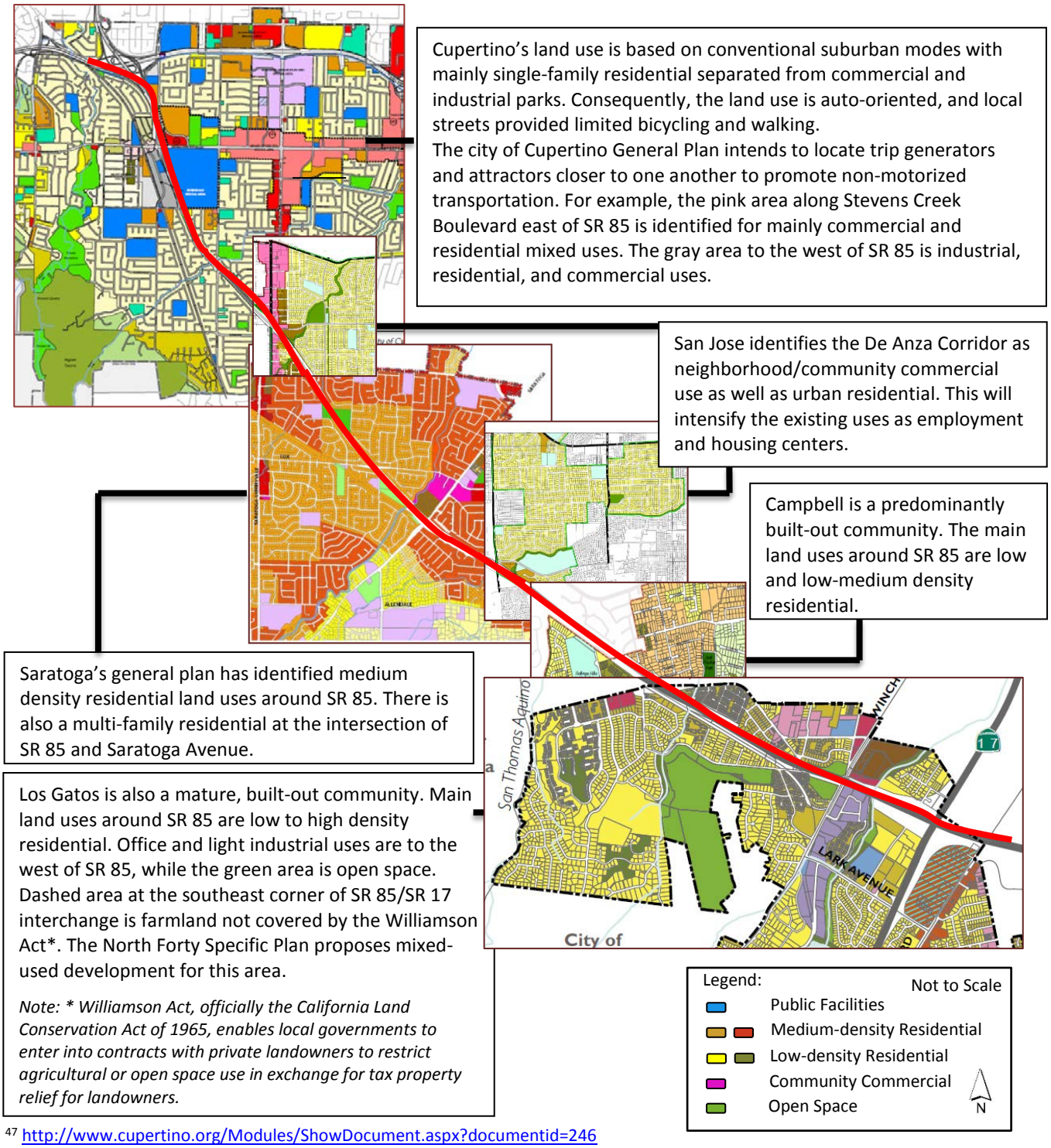


[45] https://www.sanjoseca.gov/index.aspx?nid=2086
[46] https://www.sanjoseca.gov/index.aspx?nid=2086

Segment 3

A length of less than eight miles, Segment 3 passes through five cities in Santa Clara County: Los Gatos, Campbell, Saratoga, San Jose, and Cupertino. Coordinated land uses among cities is essential for integrated corridor transportation. The following section discusses the land uses around Segment 3.

Figure 2: Segment 3 Land Uses[47, 48, 49, 50, 51]



[47] http://www.cupertino.org/Modules/ShowDocument.aspx?documentid=246
[48] https://www.sanjoseca.gov/index.aspx?nid=2086
[49] http://www.saratoga.ca.us/civicax/filebank/blobdload.aspx?BlobID=4568
[50] http://www.ci.campbell.ca.us/DocumentCenter/View/1429
[51] http://www.losgatosca.gov/DocumentCenter/View/13106

Segment 4

The four-mile long Segment 4 passes through the jurisdictions of Mountain View, Sunnyvale, Los Altos and Cupertino. The Sunnyvale General Plan establishes land use policies that locate higher intensity, mixed land uses and development near major transit and multi-modal travel facilities, without increasing the overall density. Los Altos, a developed community, focuses on preservation of existing land uses while ensuring new development is compatible.

Segment 5

The Mountain View General Plan aims to keep the city's distinct character and grow an even more vibrant community by encouraging expanded land use and flexibility, as well as promoting focused and intensified growth next to public transportation corridors.

Figure 5 shows the land uses around SR 85 in Mountain View, which includes Segment 5 and the northern portion of Segment 4. Mountain View has an impressive variety of land uses near SR 85, including the vibrant downtown mixed-use core, mixed-use along El Camino Real, notable industrial areas, low, medium low, medium, and medium high density residential, and many parks.

Figure 3: Segment 4 Land Uses[52,53]

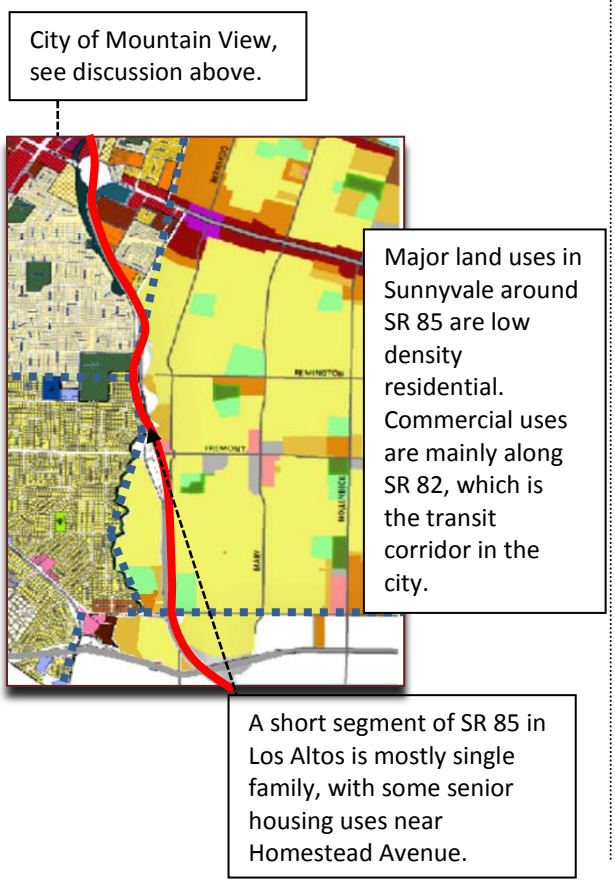
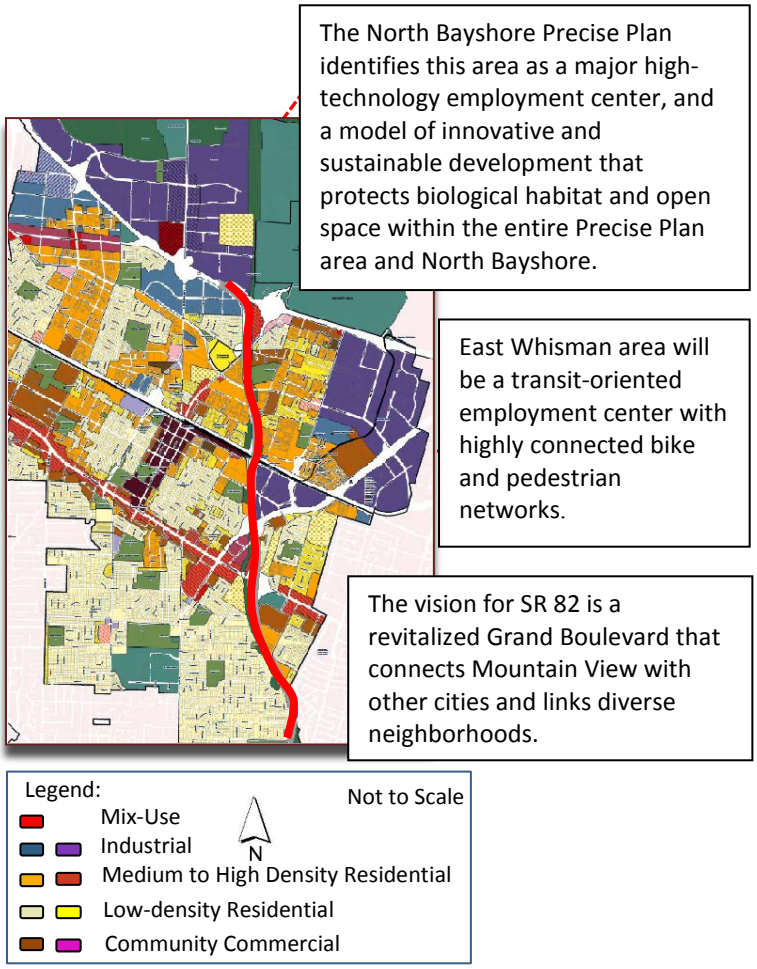


Figure 4: Segment 5 Land Uses[54]



[52] http://m.losaltosca.gov/sites/default/files/fileattachments/Building%20and%20Planning/page/429/updatedlandusemaplarge.pdf

[53] http://sunnyvale.ca.gov/Portals/0/Sunnyvale/CDD/Maps/General%20Plan-2013.pdf

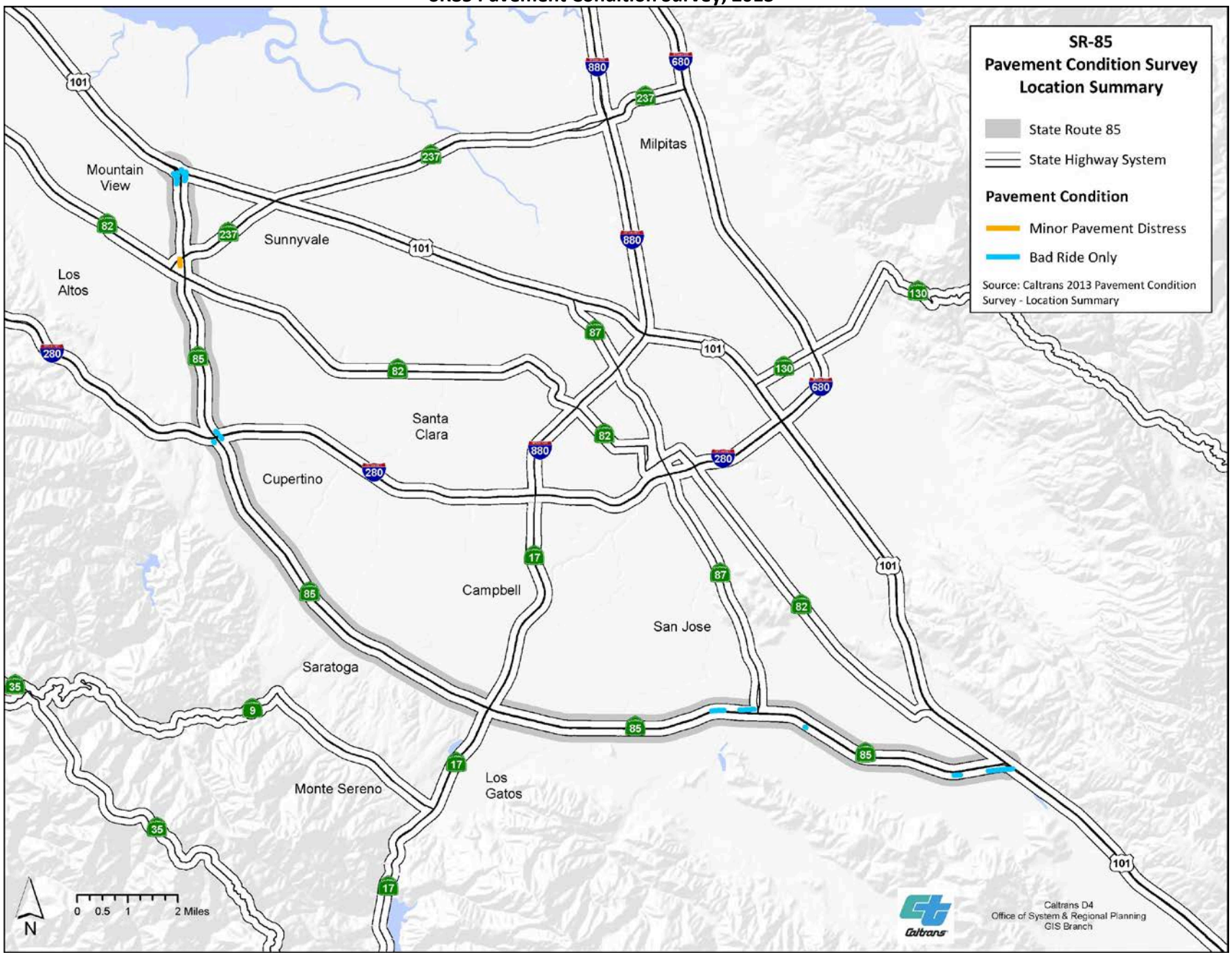
[54] http://www.ci.mtnview.ca.us/civicax/filebank/blobdload.aspx?BlobID=10701

Appendix D:
2013 Traffic Counts on SR 85

Dist	Prefix	Post Mile	Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak Month	Ahead AADT
4		0	SAN JOSE, JCT. RTE. 101				4450	49500	48000
4		0.181	SAN JOSE, BERNAL ROAD	4450	49500	48000	6100	68000	66000
4		0.79	SAN JOSE, GREAT OAKS BOULEVARD	6100	68000	66000	7500	83000	81000
4		1.973	SAN JOSE, COTTLE ROAD INTERCHANGE	7500	83000	81000	9400	105000	102000
4		3.93	SAN JOSE, BLOSSOM HILL ROAD	9400	105000	102000	12400	138000	134000
4		5.22	JCT. RTE. 87	12400	138000	134000	10700	119000	116000
4		6.136	ALMADEN EXPRESSWAY	10700	119000	116000	9900	110000	107000
4		8.109	SAN JOSE, CAMDEN AVENUE	9900	110000	107000	10800	120000	117000
4		9.277	SAN JOSE, UNION AVENUE	10800	120000	117000	11000	122000	119000
4	R	10.23	SAN JOSE, BASCOM AVENUE	11000	122000	119000	5700	64000	62000
4	R	10.5	JCT. RTE. 17	5700	64000	62000	9500	106000	101000
4	R	11	LOS GATOS, WINCHESTER BLVD.	9500	106000	101000	9800	119000	115000
4	R	13.68	SARATOGA, SARATOGA AVENUE	9800	119000	115000	8500	107000	103000
4	R	15.87	CUPERTINO, SARATOGA-SUNNYVALE ROAD	8500	107000	103000	8900	113000	108000
4	R	17.7	CUPERTINO, STEVENS CREEK BOULEVARD	8900	113000	108000	10400	132000	126000
4	R	18.45	SUNNYVALE, JCT. RTE. 280	10400	132000	126000	9500	120000	115000
4	R	18.86	CUPERTINO, HOMESTEAD ROAD	9500	120000	115000	10100	128000	122000
4	R	19.86	SUNNYVALE, FREMONT AVENUE	10100	128000	122000	9700	123000	118000
4	R	21.75	MOUNTAIN VIEW, JCT. RTE. 82	9700	123000	118000	8800	112000	107000
4	R	22.16	JCT. RTE. 237	8800	112000	107000	7100	91000	86000
4	R	22.63	MOUNTAIN VIEW, EVELYN AVENUE	7100	91000	86000	6900	87000	83000
4	R	23.44	MOUNTAIN VIEW, MOFFETT BOULEVARD	6900	87000	83000	5900	75000	71000
4	R	23.87	MOUNTAIN VIEW, JCT. RTE. 101	5900	75000	71000	5900	75000	71000
4	R	24.06	END ROUTE 85	5900	75000	71000			

Source: http://www.dot.ca.gov/trafficops/census/

Appendix E:
SR85 Pavement Condition Survey, 2013



Appendix F:
Existing SR 85 TOS Elements

Seg	Element	PM	Dir.		Seg	Element	PM	Dir.		Seg	Element	PM	Dir.	
1	TMS	0.10	N	S	2	TMS	9.10	N	S	4	TMS	18.86		S
1	CCTV	0.15	N		2	CCTV	9.22	N		4	TMS	19.35	N	S
1	TMS	0.16	N		2	CCTV	9.30		S	4	EMS	19.40	N	
1	TMS	0.22	N	S	2	EMS	9.30	N		4	TMS	19.76	N	S
1	TMS	0.57	N		2	TMS	9.43	N	S	4	CCTV	19.86	N	
1	EMS	0.72	N		2	CCTV	9.45	N		4	TMS	19.94	N	
1	CCTV	0.81	N		2	TMS	10.29	N	S	4	TMS	20.29	N	S
1	TMS	0.81	N		2	TMS	10.47	N	S	4	CCTV	20.31		S
1	CCTV	1.73		S	2	CCTV	10.48		S	4	CMS	20.46	N	
1	TMS	1.74	N	S	3	TMS	10.86	N	S	4	TMS	20.73	N	S
1	TMS	1.95	N		3	EMS	11.10	N		4	TMS	21.30	N	S
1	TMS	2.00		S	3	TMS	11.16	N	S	4	CMS	21.39		S
1	TMS	2.11	N		3	CCTV	11.20	N		4	CCTV	21.40		S
1	CCTV	2.12	N		3	CMS	12.03		S	4	TMS	21.67		S
1	CCTV	3.80		S	3	CCTV	13.47	N		4	TMS	21.67	N	
1	TMS	3.84	N	S	3	TMS	13.52	N	S	4	TMS	21.83		S
1	TMS	4.03	N	S	3	CCTV	13.70		S	4	TMS	21.83	N	
1	TMS	4.87		S	3	TMS	13.93	N	S	4	TMS	22.10	N	
1	CCTV	4.96		S	3	CCTV	15.03	N		4	CCTV	22.14		S
1	TMS	5.05		S	3	TMS	15.03	N	S	5	TMS	22.21		S
1	CCTV	5.18	N		3	TMS	15.67	N	S	5	CCTV	22.49		S
1	TMS	5.18	N		3	CCTV	15.80	N		5	TMS	22.49		S
2	TMS	5.23	N	S	3	TMS	16.06	N	S	5	TMS	22.53	N	S
2	CCTV	5.96	N		3	CCTV	17.41		S	5	TMS	22.93	N	S
2	TMS	6.14	N	S	3	TMS	17.49	N	S	5	CCTV	23.01	N	
2	TMS	6.22		S	3	EMS	17.60		S	5	CCTV	23.48		S
2	TMS	6.34	N		3	TMS	18.38	N		5	TMS	23.48	N	S
2	CMS	6.45	N		4	TMS	18.53		S	5	CCTV	23.70	N	
2	TMS	7.97	N	S	4	TMS	18.57	N		5	TMS	23.74	N	S
2	CCTV	8.06	N		4	TMS	18.83	N						
2	TMS	8.23	N	S	4	CCTV	18.86		S					

@ Post Miles are approximate. Source: District 4 Traffic Operations (2017), some traffic monitoring stations are also part of ramp metering installations

Appendix G:
SR 85 Ramp Metering Locations and Status

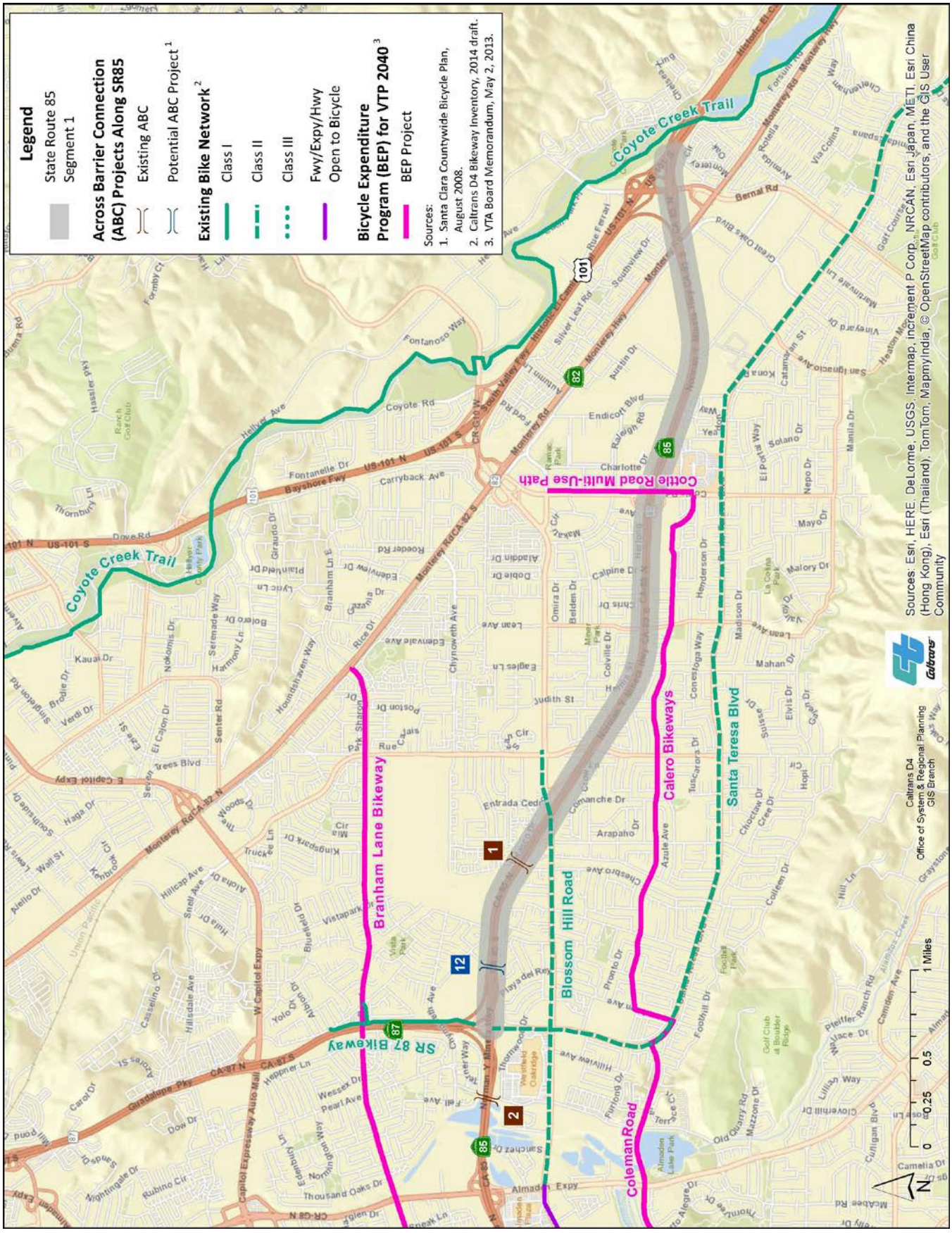
PM	Direction	Location	Ramp Description *	Status	PM	Direction	Location	Ramp Description*	Status
0.33	NB	NB Rte 101	C	Operational	10.29	SB	Rte 17	C	Operational
0.36	NB	NB Rte 101 HOV	C	Planned	R10.47	NB	S Bascom Ave	S	Operational
0.38	NB	NB Bernal Rd	L	Operational	R10.88	NB	Rte 17	C	Operational
0.56	NB	SB Bernal Rd	S	Operational	R11.16	NB	Winchester Blvd	S	Operational
0.75	NB	SB Rte 101	C	Operational	R13.52	SB	Saratoga Ave	S	Operational
0.92	NB	Great Oaks Blvd	S	Operational	R13.93	NB	Saratoga Ave	S	Operational
1.74	SB	NB Cottle Rd	S	Operational	R15.67	SB	S De Anza Blvd	S	Operational
2	NB	NB Cottle Rd	L	Operational	R16.06	NB	S De Anza Blvd	S	Operational
2	SB	SB Cottle Rd	L	Operational	R17.49	SB	Stevens Creek Blvd	S	Operational
2.11	NB	SB Cottle Rd	S	Operational	R18.23	SB	SB Rte 280	C	Planned
3.8	SB	EB Blossom Hill Rd	S	Operational	R18.38	NB	SB Rte 280	C	Operational
3.84	NB	EB Blossom Hill Rd	L	Operational	R18.50	NB	NB Rte 280 / Stevens Creek Blvd (on Rte 85 Seg)	C	Operational
4.03	NB	WB Blossom Hill Rd	S	Operational	R18.70	SB	NB Rte 280	C	Operational
4.04	SB	WB Blossom Hill Rd	L	Operational	R18.85	NB	W Homestead Rd	L	Operational
4.87	SB	SB Rte 87	C	Operational	R19.73	SB	W Fremont Ave	S	Operational
5.05	SB	Santa Teresa Blvd	S	Operational	R20.03	NB	W Fremont Ave	S	Operational
5.18	NB	Santa Teresa Blvd	L	Operational	R21.61	SB	SB Rte 82	S	Operational
5.41	NB	SB Rte 87	C	Operational	R21.69	NB	SB Rte 82	L	Operational
6.1	SB	NB Almaden Expy	S	Operational	R21.82	SB	NB Rte 82	L	Operational
6.14	NB	NB Almaden Expy	L	Operational	R21.86	NB	NB Rte 82	S	Operational
6.22	SB	SB Almaden Expy	L	Operational	R22.13	NB	EB Rte 237	C	Operational
6.34	NB	SB Almaden Expy	S	Operational	R22.20	SB	WB Rte 237	C	Planned
7.97	SB	Camden Ave	S	Operational	R22.49	SB	W Evelyn Ave	S	Operational
8.23	NB	Camden Ave	S	Operational	R23.01	NB	Central Expy / Easy St	S	Operational
9.1	SB	Union Ave	S	Operational	R23.39	SB	Moffett Blvd	L	Operational
9.43	NB	Union Ave	S	Operational	R23.66	SB	SB Rte 101 HOV	C	Planned
10.07	SB	S Bascom Ave / Los Gatos Blvd	S	Operational	23.87	SB	SB Rte 101	C	Planned
0.33	NB	NB Rte 101	C	Operational	10.29	SB	Rte 17	C	Operational

Sources: Caltrans Ramp Metering Plan (2015)

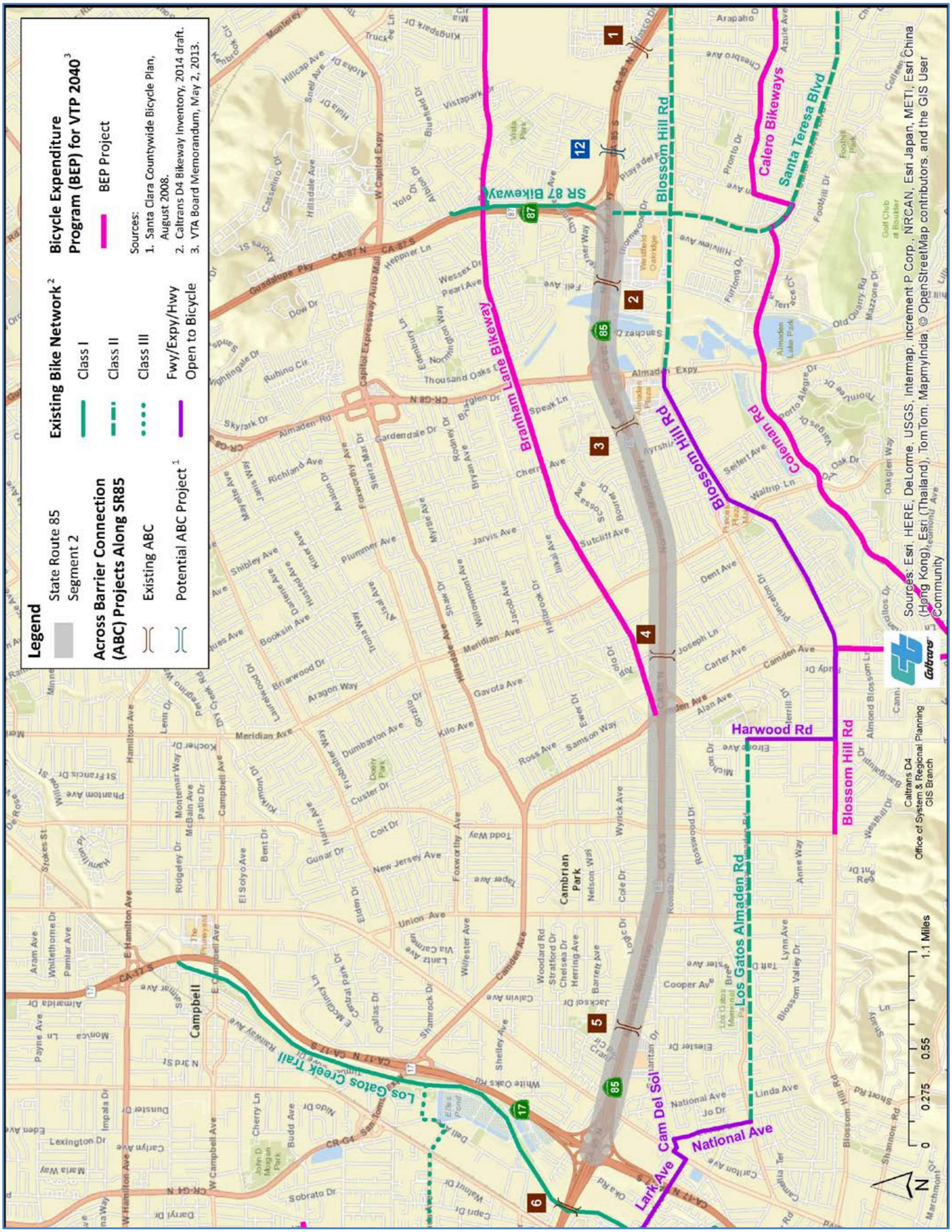
* Ramp description: L = Loop S = Slip or Diagonal C = connector

Appendix H:
SR 85 Bicycle
Facilities

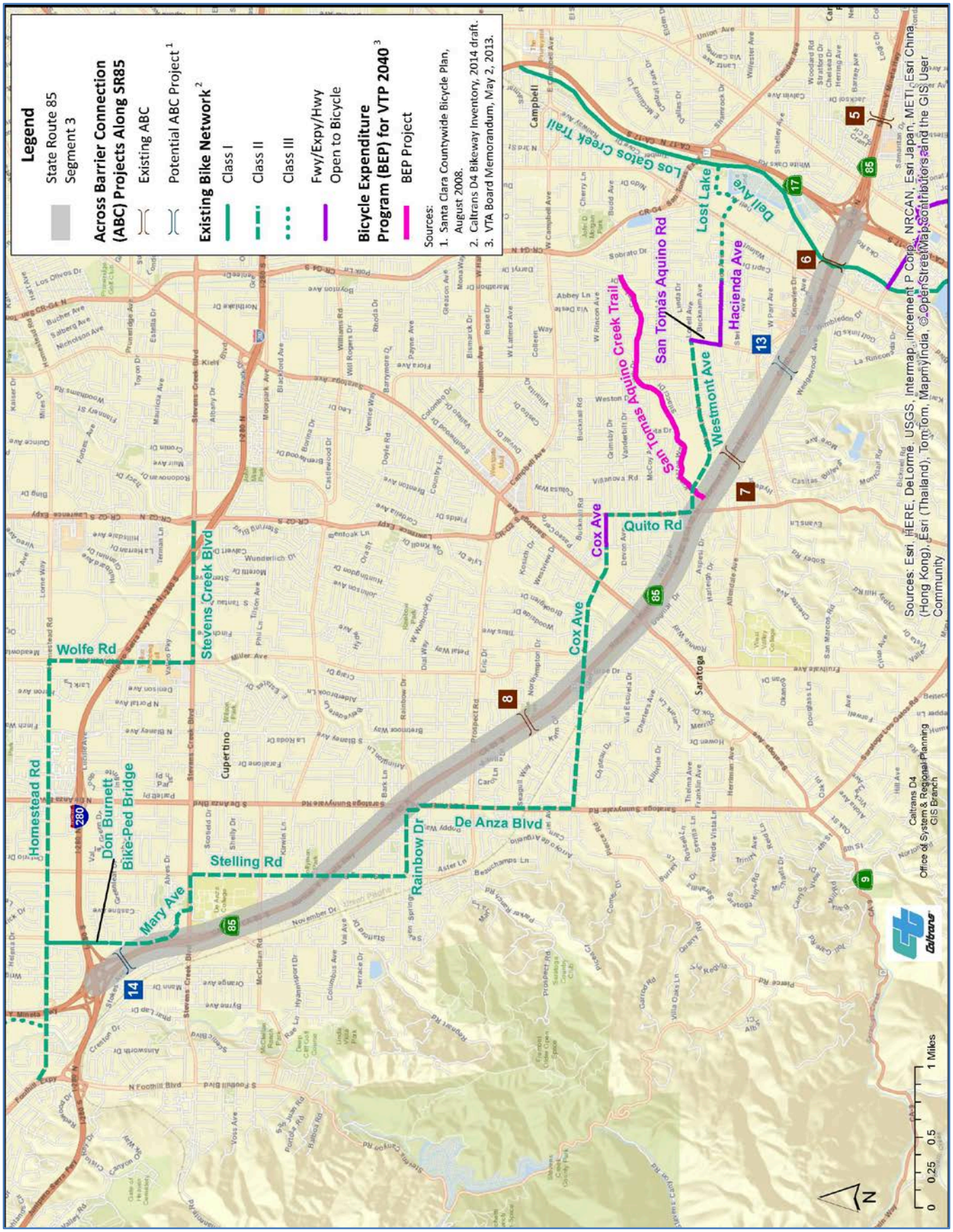
Appendix H1: Bicycle Facilities around SR 85 Section 1



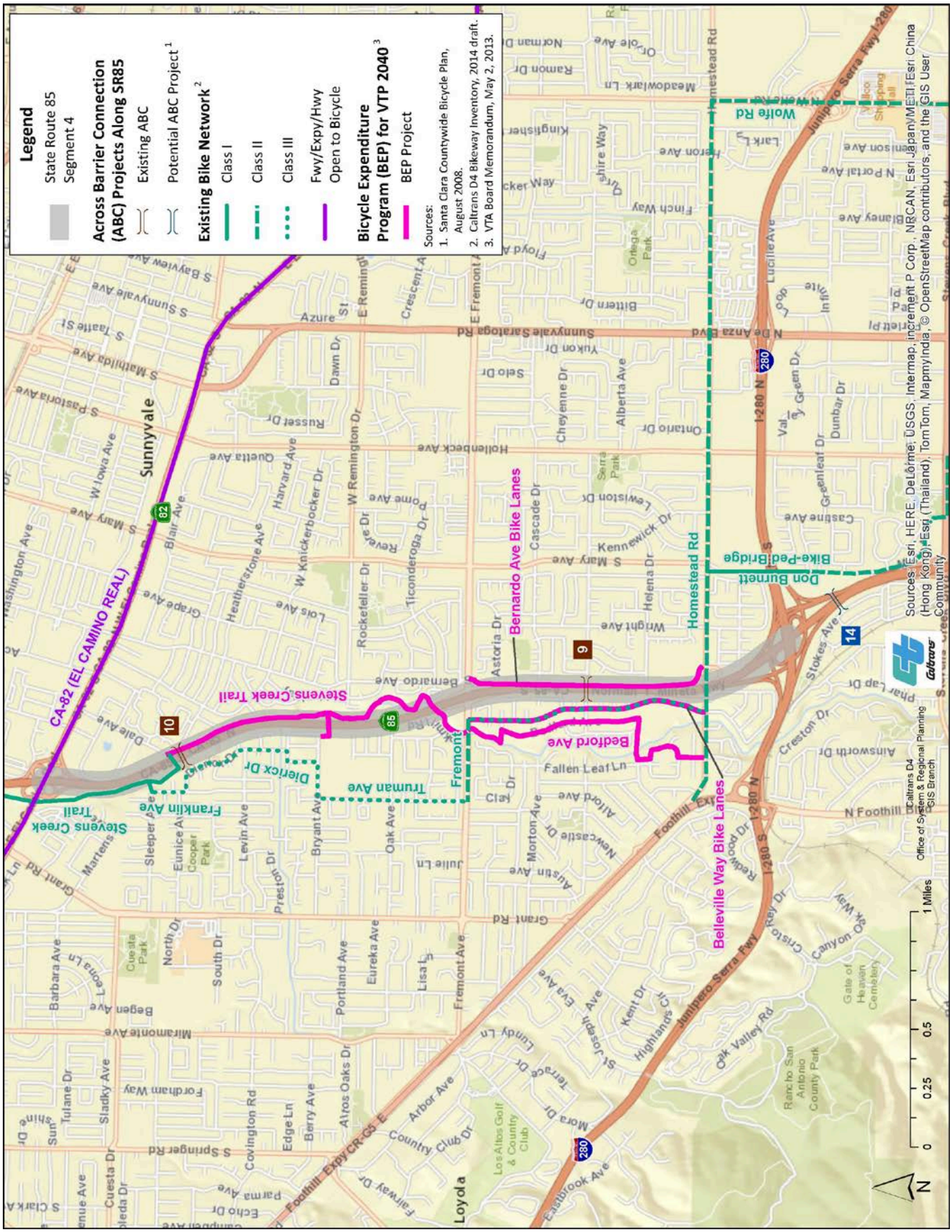
Appendix H2: Bicycle Facilities around SR 85 Section 2



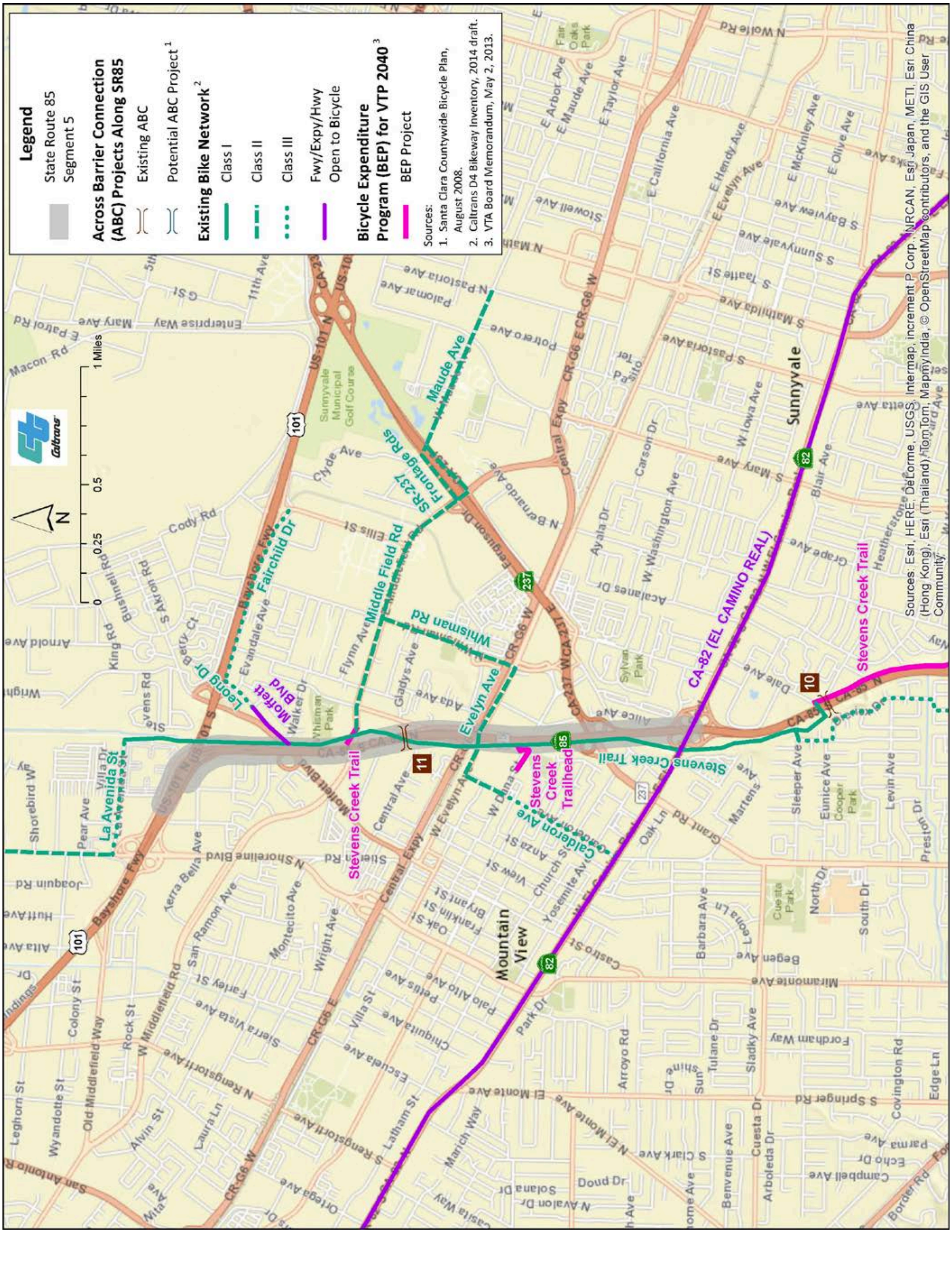
Appendix H3: Bicycle Facilities around SR 85 Section 3



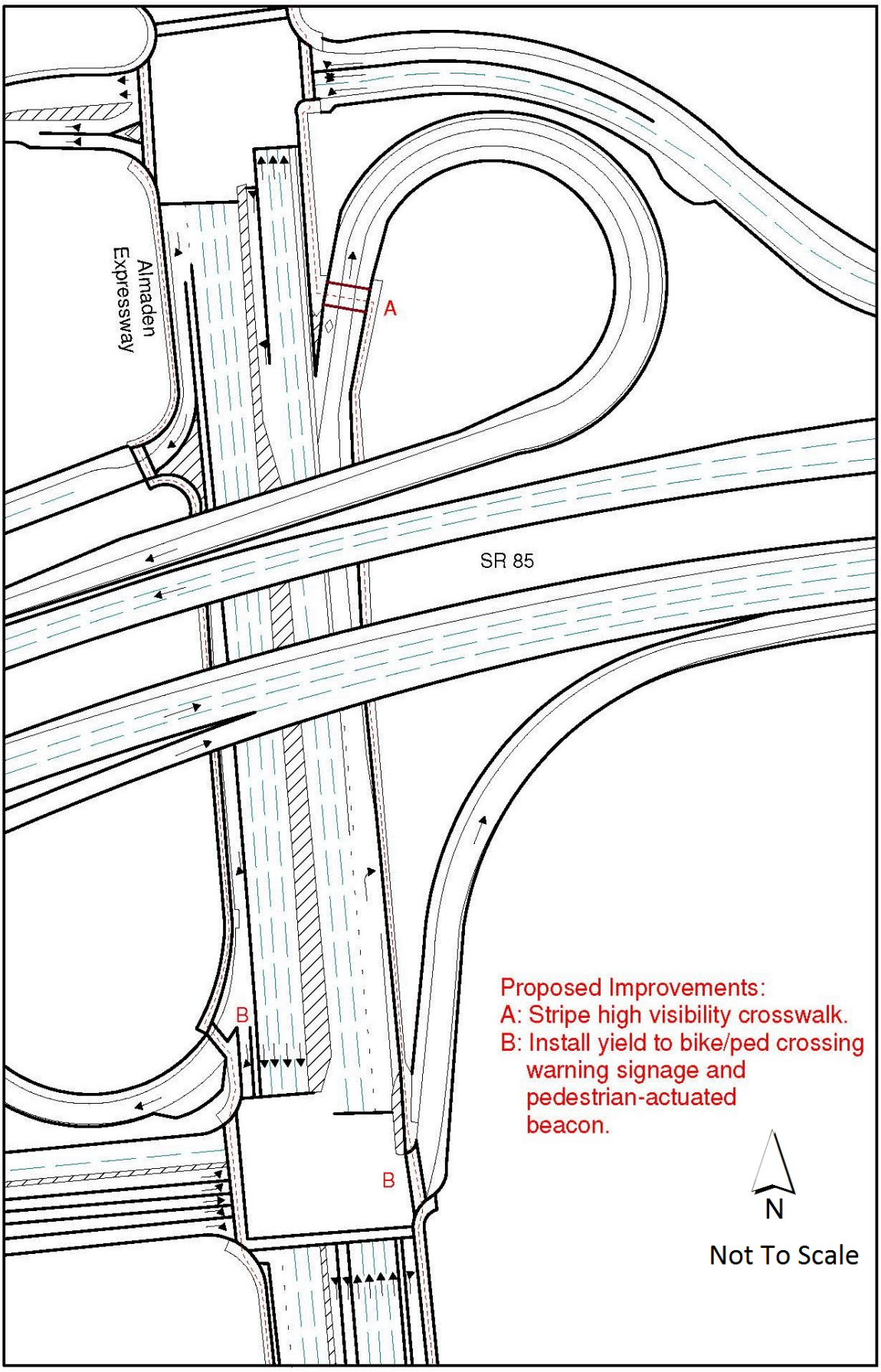
Appendix H4: Bicycle Facilities around SR 85 Section 4



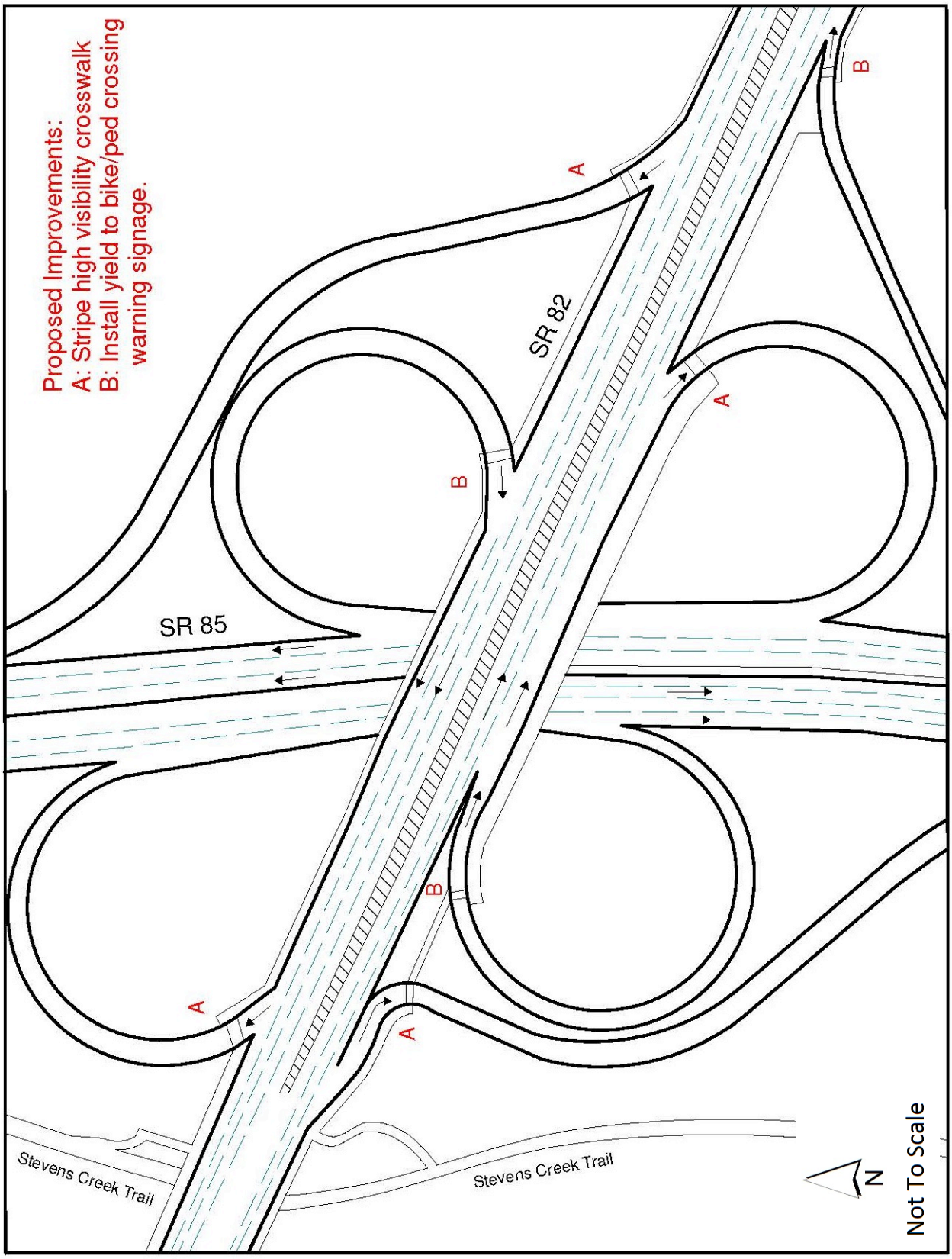
Appendix H5: Bicycle Facilities around SR 85 Section 5



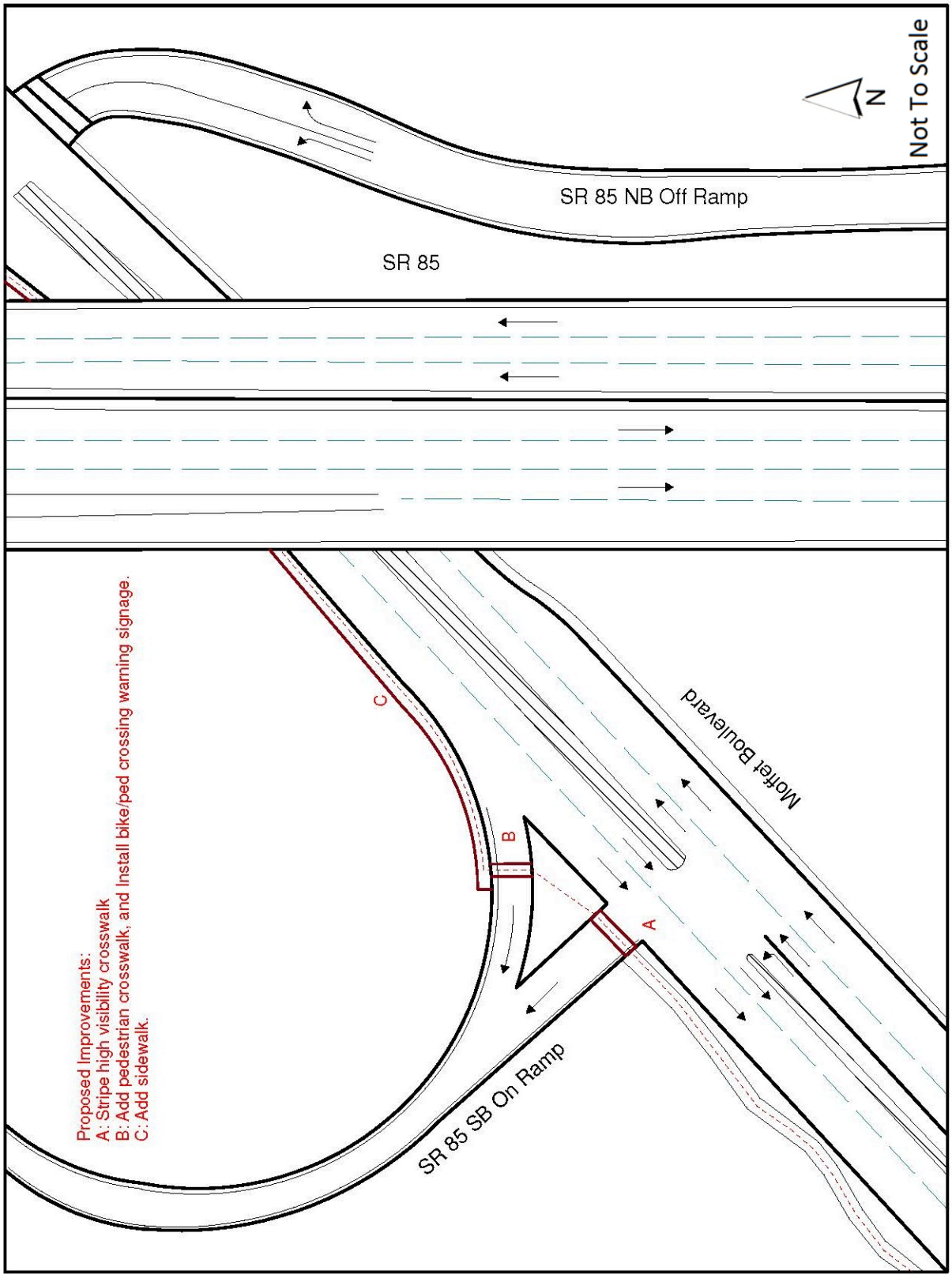
Appendix H6: Bicycle and Pedestrian Accessibility at SR 85 and Almaden Expressway Interchange



Appendix H7: Bicycle and Pedestrian Accessibility at SR 85 and El Camino Real Interchange



Appendix H8: Bicycle and Pedestrian Accessibility at SR 85 and Moffet Interchange



Appendix I:
RESOURCES

SR 85 description

http://en.wikipedia.org/wiki/California_State_Route_85

2013 Caltrans Counts

http://traffic-counts.dot.ca.gov/

Environmental Considerations

Caltrans, 2010, Project Study Report to Request Conceptual Approval on SR 85 and I-101

SR 85 Express Lanes Project Initial Study with Proposed Negative Declaration/Environmental Assessment (Caltrans, 2013)

SR 85 Express Lanes Project Location Hydraulic Study Report (WRECO, 2013)

Route restriction

http://www.leginfo.ca.gov/cgi-bin/displaycode?section=veh&group=35001-36000&file=35700-35722

Employment and Housing in the Bay Area

http://www.planbayarea.org/pdf/JHCS/May_2012_Jobs_Housing_Connection_Strategy_Main_Report.pdf

Median House Prices in Cities along SR 85

American Community Survey 2006-2010, http://www.bayareacensus.ca.gov/cities/cities.htm

Houses near Whisman Station-Whisman Light Rail Station

http://transitorienteddevelopment.dot.ca.gov/station/stateViewStationOverview.jsp?stationId=2

San José General Plan, Land Use Map

https://www.sanjoseca.gov/index.aspx?nid=2086

Cupertino General Plan Land Use Map

http://www.cupertino.org/Modules/ShowDocument.aspx?documentid=246

Sunnyvale General Plan Land Use Map

http://sunnyvale.ca.gov/Portals/0/Sunnyvale/CDD/Maps/General%20Plan-2013.pdf

Los Gatos General Plan Land Use Map

http://www.losgatosca.gov/DocumentCenter/View/13106

Saratoga General Plan Land Use Map

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SR 85 Ramp Metering Study After Study Report (Kimley-Horn, 2009)

Caltrans Ramp Metering Development Plan

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http://www.vta.org/projects-and-programs/planning/bikes-countywide-bicycle-plan-cbp

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BRT Image

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http://www.vta.org/getting-around/schedules/park-and-rides-lots-map

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2014 and 2016 SHOPP

PRSM monthly report