Transportation Concept Report

State Route 130

District 4

November 7, 2016

Disclaimer: 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 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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Stakeholder Acknowledgement

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 collaboration of key stakeholders. This TCR represents a cooperative planning effort for State Route 130. Representatives of the Santa Clara Valley Transportation Authority (VTA), the City of San Jose, and the County of Santa Clara provided essential information, advice and feedback for the preparation of this document.

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

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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 evaluating conditions and proposing enhancements 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 District System Management Plan (DSMP) Project List. The District-wide **DSMP** is a strategic policy and planning document that focuses on maintaining, operating, managing, and developing the transportation system. The **TCR** is a 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 complex, multi-jurisdictional Planning document that identifies future needs within freeway 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 a list of planned and partially programmed transportation projects used to recommend projects for funding. These System Planning products are also intended as resources for stakeholders, the public, 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 CA Gov. Code §65086 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 safety and health; stewardship and efficiency; sustainability, livability, and economy; system performance; and, organizational excellence through integrated management of the transportation network, including the highway, transit, pedestrian, bicycle, freight, operational improvements and travel demand management components of the corridor.

STAKEHOLDER PARTICIPATION

Stakeholder participation was sought throughout the development of the State Route 130 TCR. During the information gathering stage for the TCR, stakeholders were contacted for initial input related to their particular interests, and to help verify data accuracy. As the document was finalized, stakeholders were asked to review the document for accuracy and consistency with regard to existing plans, policies, and procedures. The final document was presented to stakeholder groups as a method of information sharing. The process of including stakeholders adds value to the TCR by allowing for outside input and ideas to be reflected in the document and help strengthen public support.

EXECUTIVE SUMMARY

CONCEPT SUMMARY

State Route 130 (SR 130) is located entirely in central Santa Clara County. Starting at Post Mile (PM) 2.260 from the San Jose (the City) city limits at Manning/Millar Avenues, the route proceeds in a northeast/southeast direction for over 20 miles to the Lick Observatory (PM 22.502). On paper, the route continues to Route 33 near Patterson, but for the purposes of this TCR is not part of the State Highway System[1]. In 2011, the western portion of the SR 130 from US 101 to Manning/Millar Avenues (PM 0.000 to PM 2.260) was relinquished to the City initiated by a bus rapid transit project of the Santa Clara Valley Transportation Authority (VTA). The project, anticipated to be completed in 2016, will construct over seven miles of limited-stop bus rapid transit service from the Eastridge Transit Center in East San Jose to the Arena Station near the SAP Center in downtown San Jose using Capitol Expressway, Santa Clara Street and Alum Rock Avenue, including the relinquished SR 130 segment between US 101 and Capitol Expressway. The relinquished segment of SR 130 runs through a primarily commercial and residential area, and is a principal arterial on flat terrain.

As seen in Figure 1 on page 8, the first segment of the route after the relinquished portion, is part of Alum Rock Avenue and runs from Manning/Millar Avenues to the intersection of Alum Rock Avenue and Mount Hamilton Road. Located in a heavily developed commercial and residential area, this segment is a two-lane conventional highway. The second segment of SR 130 begins at the intersection of Alum Rock Avenue and Mount Hamilton Road, and proceeds up Mount Hamilton to the Lick Observatory. This segment is also known as Mt. Hamilton Road. Characterized by narrow mountainous lanes and short radii curves, this segment is a conventional two-lane highway with over 45 turnouts in both eastbound and westbound directions. Lick Observatory is a State-owned and operated facility, managed by the University of California. Beyond Lick Observatory, the route continues, though not as a State route, as San Antonio Valley Road until a sharp right turn, where the name changes to Del Puerto Canyon Road through to the Santa Clara/Stanislaus county line. The segment east of Lick Observatory to the county line is constructed, and is maintained by the County of Santa Clara. The base year and horizon year for this TCR are 2010 and 2040, respectively. The future concept represents a 25-year Planning horizon (from 2015), though no capacity changes to this route are envisioned.

Table ES 1. State Route 130 Segmentation and Concept Summary

Segment	Post Miles	Segment Description	Existing Facility	20-25 Year Capital Facility Concept	20-25 Year System Operations and Management Concept
1	SCL 130 2.26 - SCL 130 3.66	Manning/Millar Ave to Mt. Hamilton Road	2C	2C	Maintain Only
2	SCL 130 3.66 - SCL 130 22.50	Mt. Hamilton Road to Lick Observatory	2C	2C	Maintain Only

* C = Conventional Highway Lane

[1] California Streets and Highways Code, Section 430 (a), http://www.leginfo.ca.gov/cgi-bin/displaycode?section=shc&group=00001-01000&file=300-635

CONCEPT RATIONALE

A portion of the route has been relinquished to the City of San Jose to help achieve the community's vision of transforming this segment into a Complete Street, multimodal corridor that supports all transportation modes, including VTA's public transit system. Segment 1 mainly carries local traffic, while Segment 2 primarily carries traffic to Lick Observatory and recreational bicyclists. Both of these two segments are expected to continue the same role in the future. No major development is planned along these segments and any interregional traffic is not expected to increase significantly. Along Segment 1, there remains a variety of gaps in the pedestrian network, and these gaps must be addressed for the safety of pedestrians accessing the corridor in the future. District 4 will continue to maintain, operate and manage these segments as they remain under State ownership. The management strategies of Segments 1 and 2 mainly focus on maintenance.

PLANNED AND PROGRAMMED PROJECTS AND STRATEGIES

Table ES 2. Planned and Programmed Projects and Strategies, as of June 2016

Segment	Post Mile	Description	Planned or Programmed	Location	Source	EA Number
1	SCL 130 4.3 - SCL 130 6.9	Repair storm damage slip-outs with a rock slope protection buttress and retaining wall.	Programmed	Near San Jose, at 0.7 and 3.3 miles east of Alum Rock Avenue.	2014 SHOPP	3J810
2	SCL 130 5.6 - SCL 130 6.0	Construct Retaining Wall	Programmed	In Santa Clara County near San Jose from 0.1 mile east of Crothers Road to 0.06 mile west of Clayton Road.	2014 SHOPP	2G990
R & 1	SCL 130 2.16 - SCL 130 3.66	East San Jose Bicycle/Pedestrian Transit Connection	Programmed	On Alum Rock Avenue from S White Road to Miguelita Road.	OBAG 1, 2012	n/a

PROPOSED PROJECTS AND STRATEGIES

Table ES 3. Proposed Projects and Strategies

Segment	Description	Location
R	Support local initiative to make the segment safer for all modes	PM 0.00 – 2.26
1	Improve/develop pedestrian paths on both sides of SR 130	PM 2.26 – 3.66
1	Develop bicycle facilities along corridor	PM 2.26 – 3.66
1	Improve pavement conditions	PM 2.26 – 3.66
2	Better bicycle accommodation including high-quality signage	PM 2.66 – 22.50
2	Improve pavement conditions	PM 3.66 – 22.50

CORRIDOR OVERVIEW

ROUTE SEGMENTATION

Table 1. SR 130 Route Segmentation

Segment #	Location Description	County_Route_ Beg. PM	County_Route_ End PM
R	US 101 to Manning/Millar Ave	SCL 130 0.00	SCL 130 2.26
1	Manning/Millar Ave to Mt. Hamilton Road	SCL 130 2.26	SCL 130 3.66
2	Mt. Hamilton Road to Lick Observatory	SCL 130 3.66	SCL 130 22.50
C	Lick Observatory to SCL/STA County Line	SCL 130 22.50	SCL 130 43.30

C = County Maintained

Figure 1. SR 130 Segmentation Map

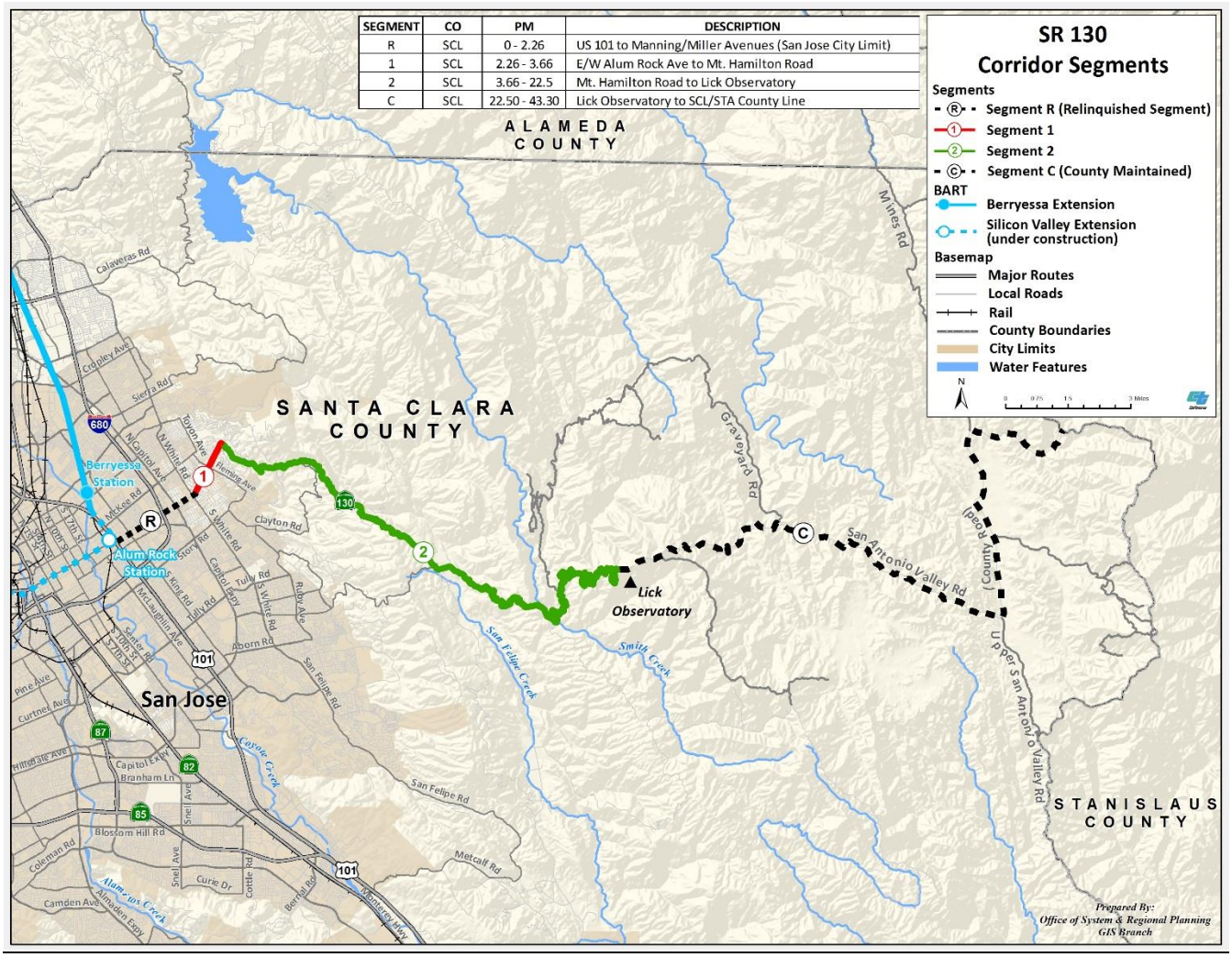
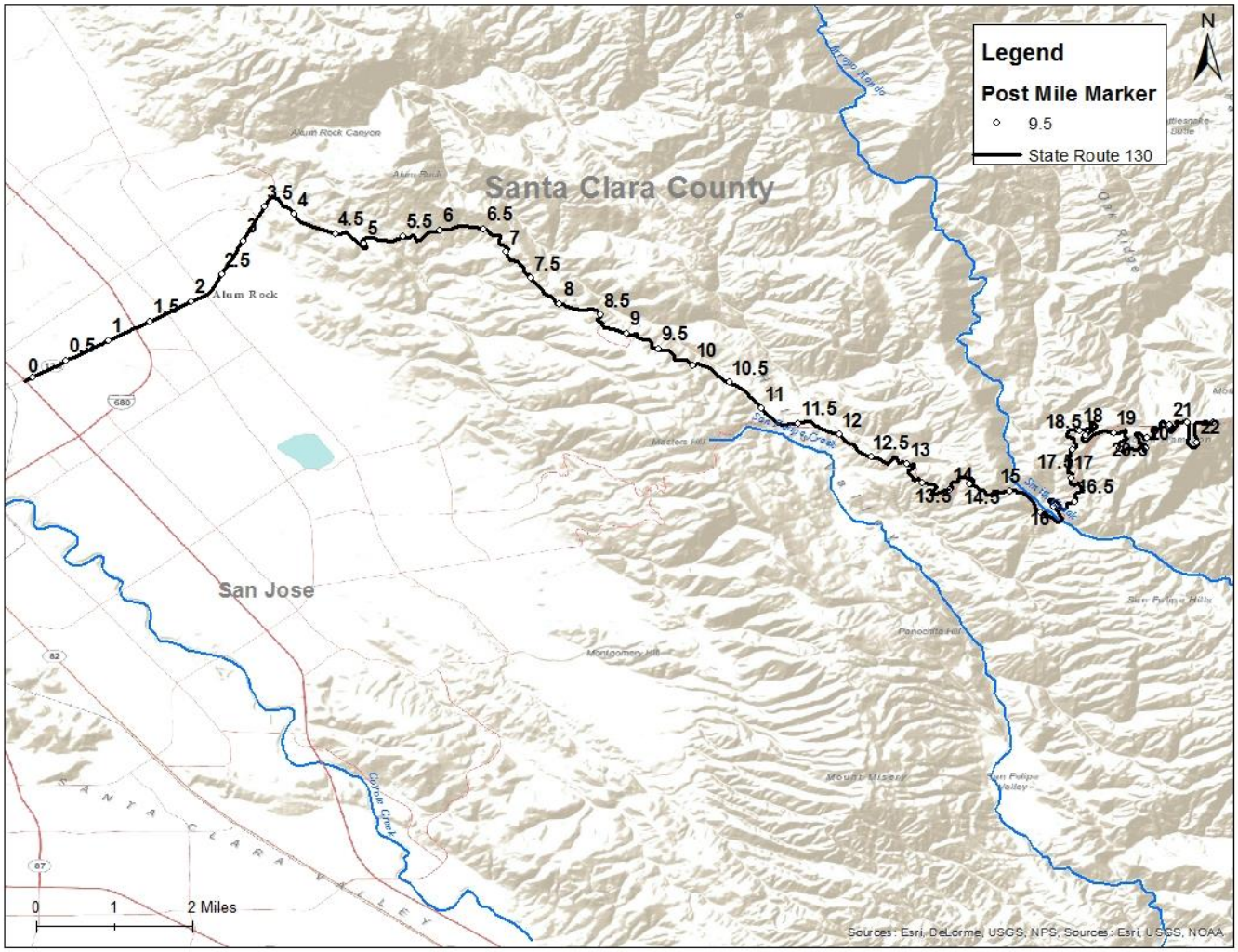


Figure 2. SR 130 Post Mile Map



ROUTE DESCRIPTION

Route Location:

California Streets and Highways Code Section 430 defines "Route 130 is from the eastern city limit of the City of San Jose near Manning Avenue to Route 33 near Patterson via the vicinity of Mount Hamilton."[2] Within District 4, SR 130 is located entirely in unincorporated Santa Clara County. Starting at post mile (PM) 2.26 from the San Jose city limits at Manning/Millar Avenues, the route proceeds in a northeast/southeast direction for over twenty miles and terminates at the Lick Observatory (PM 22.50). The road continues on as a local facility and meanders to the Stanislaus/Santa Clara County line. For the purposes of this report, the corridor is divided into two segments (1 and 2).

Segment 1 between Manning/Millar Avenues and Mt. Hamilton Road (PM 2.26 to PM 3.66) runs on rolling terrain through the primary residential, but also commercially-zoned land uses of the Alum Rock neighborhood. Segment 1 is part of the Alum Rock Avenue, and is classified as a minor arterial.

[2] http://www.leginfo.ca.gov/cgi-bin/displaycode?section=shc&group=00001-01000&file=300-635 accessed July of 2016.

Segment 2 Alum Rock Avenue/Mt. Hamilton Road to Lick Observatory (PM 3.66 to PM 22.50) runs on hilly, mountainous terrain and concludes at the Lick Observatory on Mount Hamilton (el. 4,209 feet), which is owned and operated by the University of California.

Segment C, between PM 22.50 and PM 43.30 is not part of the State Highway System, but rather a segment of the road system that is owned and maintained by the County of Santa Clara. It runs from Lick Observatory east to the Santa Clara/Stanislaus County line. In District 5, the road continues east and connects to I-5.

In 2011, the western portion of the SR 130 from US 101 to Manning/Millar Avenues (PM 0.00 to PM 2.26) was relinquished (Segment R) to the City initiated by a Bus Rapid Transit project of the Santa Clara Valley Transportation Authority (VTA). The project, anticipated to be completed in 2016, will construct over seven miles of limited-stop Bus Rapid Transit service from the Eastridge Transit Center in East San Jose to the Arena Station near the SAP Center in downtown San Jose using Capitol Expressway, Santa Clara Street and Alum Rock Avenue, including the relinquished SR 130 segment between US 101 and Capitol Expressway. The relinquished segment of SR 130 runs through a primarily commercial and residential area, and is a principal arterial on flat terrain.

Though Segments R and C are discussed in this report, these segments are not part of the State Highway System, nor is there any plan to adopt them into the system. Thus, they're not included in the corridor analysis, or discussed in further detail in subsequent sections, but are included in maps to provide a larger context for the route in the region and state.

Segment C has been designated a traversable highway, which is a route that has been approved by the Legislature as a future State Highway route. Traversable highway routes, when constructed to Caltrans standards, must be adopted by the California Transportation Commission (CTC) as a State highway and Caltrans must maintain them with funds from State Highway account. Traversable highways are divided into four categories: "1) proposed adoption and assumption of maintenance, 2) current and proposed construction, 3) studies, and 4) with no activity." Segment C is classified as Category 4 "with no activity." It is classified as such because the existing roads are inadequate to meet State standards, and no projects are planned within the next five years, so State assumption of maintenance is unlikely in the next ten years.[3] This segment is currently maintained by the Santa Clara County Department of Roads and Airports.

Route Purpose and Local Initiatives:

Route 130 is a recreational and residential route that also has commercial establishments along Segment 1. The route in its entirety also serves as a connection of Interstate 5 to the City of San Jose and Santa Clara County, via SR 130 east to Del Puerto Canyon Road. Segment 2 of SR 130 is narrow with small radius curves, as such, this route should serve primarily local traffic and not thru traffic, especially for trucks. For trucks traveling between I-5 and Santa Clara County, the preferred routes are SR 152 and US 101 to the south and I-580 and I-680 to the north.

Traffic generators for the route include: Grant Ranch (which hosts run, road bike, and mountain bike race events, as well as Boy and Girl Scout events), St. John Vianney Church, the Homeless Veterans Emergency Housing Facility, schools along Kirk Avenue, and campgrounds with overnight camping. On Segment 1, congestion primarily occurs on the weekday, and is highly directional.

The route is also part of the Juan Bautista de Anza 1,200 mile national historic trail. The trail is now traversable via an auto route; an auto route runs along the entirety of SR 130 Segment's 1 and 2, which connects with the walkable historic trail corridor along San Antonio Valley Road.[4]

[3] http://www.dot.ca.gov/hq/tsip/hseb/products/TravHwy02.pdf accessed July of 2016.
[4] http://www.solideas.com/DeAnza/TrailGuide/Getting_Back/, accessed March of 2016.

San Jose has implemented the Vision Zero plan, which is a "street safety policy that strives for the elimination of traffic fatalities for all transportation modes."[5] Further safety improvements are being sought through data analytics, better street design, targeted enforcement, removing policy barriers, deploying crash avoidance technologies, and collaborative education. San Jose Vision Zero calls for investments in enhanced crosswalks, LED streetlight conversions, major "Complete Streets" improvements, "Safe Routes to School," new and enhanced bikeways, 12 new traffic signals, speed feedback signs, "Road Diets," ADA curb ramps, repair of sidewalks, and neighborhood traffic safety. Additionally, the relinquished segment of Alum Rock Avenue is designated one of fourteen "Safety Priority Street's," which serve as a priority for pedestrian improvements.

Additionally, the City of San Jose has adopted *Envision San Jose 2040*, the City's current General Plan. In this plan, five roadways have been identified as Grand Boulevards which have the "unique potential to connect multiple neighborhoods and act as urban design elements at a citywide scale. Alum Rock Avenue is one of the selected corridors for this initiative.

Stanislaus County lists Del Puerto Canyon Road as a "minor collector", and is seeking functional classification change to "major collector" within its jurisdiction, which will allow for the appropriation of federal funding as "minor collectors" in rural areas aren't eligible for federal aid.[6] Stanislaus County has approached Santa Clara County for consent in reclassifying San Antonio Valley Road.

Major Route Features:

Segment 1 is primarily flat and is two to four lanes. Once Segment 2 begins, the route becomes narrow and has many short radii curves. When snow collects at the Lick Observatory, SR 130 will typically close at the Joseph D. Grant County Park entrance past Quimby Road with Caltrans and California Highway Patrol vehicles blocking access to non-residents. Caltrans Maintenance also performs ice scraping as needed.

[5] https://www.sanjoseca.gov/DocumentCenter/View/42849
[6] http://www.morpc.org/transportation/highway/federal-aid-highway-classification-system/

Route Designations and Characteristics:

Table 2. Route Description by Segment

Segment #	1	2
Freeway & Expressway	No	No
National Highway System	No	No
Strategic Highway Network	No	No
Scenic Highway	No	No
Interregional Road System	No	No
Federal Functional Classification	Minor Arterial	Major Collector
Goods Movement Route	No	No
Truck Designation	CA Legal Advisory	CA Legal Advisory
Rural/Urban/Urbanized	Urban	Rural
Metropolitan Planning Organization	MTC	MTC
Regional Transportation Planning Agency	MTC	MTC
Congestion Management Agency	VTA	VTA
County Transportation Commission	VTA	VTA
Local Agency	Santa Clara County	Santa Clara County
Tribes	N/A	N/A
Air District	Bay Area Air Quality Management District	Bay Area Air Quality Management District
Terrain	Rolling	Mountainous

COMMUNITY CHARACTERISTICS

SR 130 travels out of one incorporated community, San Jose, and through one unincorporated census-designated place, the Alum Rock neighborhood. The City itself serves as a high technology employment sector, whose local government refers to itself as "(T)he Capital of Silicon Valley." See Table 4 below for more demographic data.

The relinquished segment is host to a variety of restaurants, retail shopping, and services for everyday needs. Segment 1 runs through predominantly low density, single-family housing developments in the Alum Rock neighborhood. No major population increase or employment growth is expected in this area as it is completely built out. Whereas Segment 2, which is entirely in unincorporated Santa Clara County, runs through a combination of low-density, single family housing, greenfield areas, and a County park until the segment ends at Lick Observatory on Mount Hamilton. On Segment 2, those who access the route, generally do so for recreation, and bicyclists who ride up to Lick Observatory will park at a dirt patch at the junction of Mt Hamilton Road and Alum Rock Avenue.

Table 3. City of San Jose Demographics Compared to Santa Clara County

	City of San Jose	Santa Clara County
Total Population (2010)	952,576	1,871,672
Non-Hispanic White (2010)	273,389 (28.7%) [2010]	634,497 (33.9%) [2013]
Non-Hispanic Asian (2010)	304,824 (32.0%) [2010]	638,240 (34.1%) [2013]
Hispanic or Latino (2010)	316,255 (33.2%) [2010]	638,240 (26.8%) [2013]
Other (2010)*	87,637 (9.5%) [2010]	164,707 (8.8%) [2013]
Language Spoken at Home – English Only	43.9%	48.8%
Population Density (people/square mile)	5,358.7 [2010]	1,381.0 [2010]
Number of Households	306,952	609,377
Average Household Size	3.11	2.92
Number of Housing Units	314,038	642,663
Owner-Occupied Housing Units	58.0%	57.5%
Median Household Income	$81,829	$91,702
Drive Alone to Work	77.5%	76.4%
Mean Travel Time to Work (minutes)	25.9	25.0

Source: Data compiled from the U.S. Census Bureau. http://www.census.gov, accessed August 2015.
*Other includes: Black or African American, American Indian, Native Hawaiian or Pacific Islander, and Two or More Races.

LAND USE

The San Jose General Plan, Envision San Jose 2040, lists the various land uses and zoning type along the relinquished, first, and second segments of SR 130. Along the relinquished portion the primary land uses include "Neighborhood/Community Commercial," "Urban Village," "Open Space," "Mixed Use Neighborhood," "Urban Residential," and "Residential Neighborhood." This segment has also been recognized by VTA and Plan Bay Area (the Bay Area's Regional Transportation Plan) as a "Priority Development Area," which is where new development will support the day-to-day needs of residents and workers in a pedestrian-friendly environment served by transit.

On the Relinquished Segment, the Alum Rock Avenue Business District boundary ends at Manning/Millar Avenues, where Segment 1 begins.

Segment 1 runs through the Alum Rock neighborhood and primary land uses include "Residential Neighborhood," "Neighborhood/Community Commercial," and "Rural Residential."

Segment 2 includes "Rural Residential," "Lower Hillside," and "Open Hillside" land uses. SR 130 runs through open space in Segment 2, Joseph D. Grant County Park, Santa Clara County's largest regional park and recreation area.

There are no major development projects proposed along or in the vicinity of SR 130. Population and employment growth is expected to be moderate in the area to the west of the route. Traffic volumes along SR 130 are not expected to increase significantly in the future and there is no need for major capacity increasing projects. Further information on traffic data is provided in the "Corridor Performance" section on page 29.

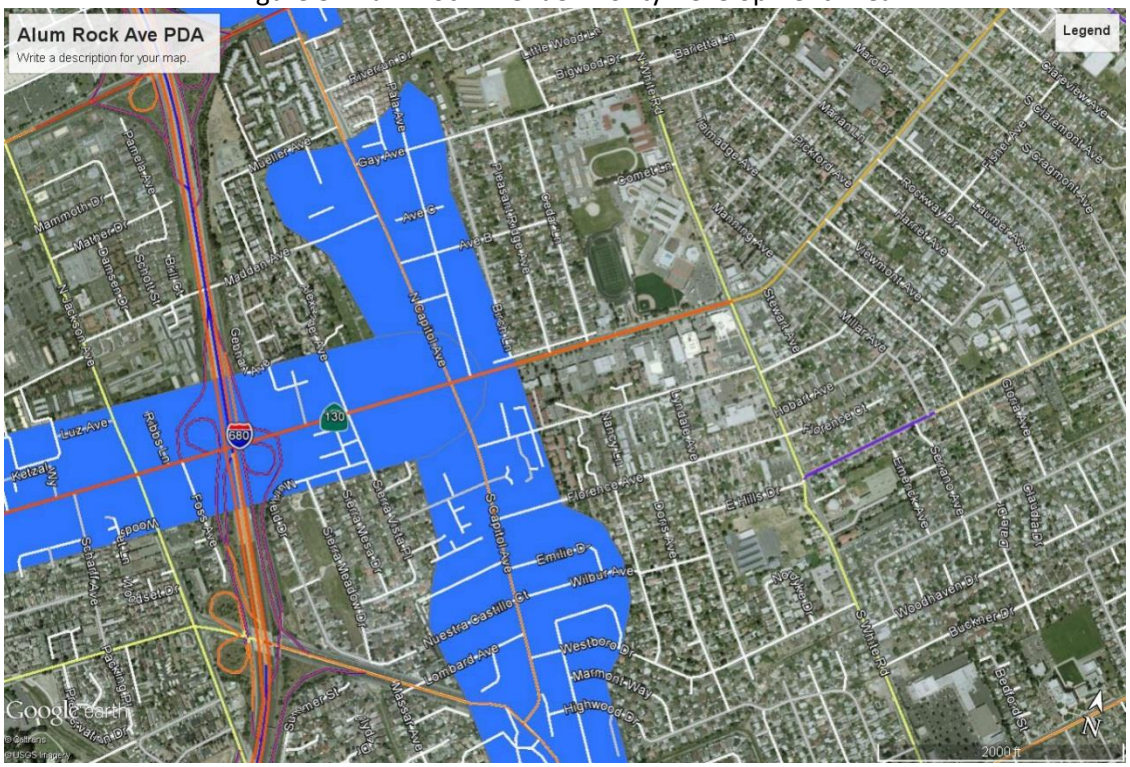
Priority Development Areas and Priority Conservation Areas

Beginning in 2006, the Bay Area's four regional agencies (the Bay Area Air Quality Management District (BAAQMD), the Association of Bay Area Governments (ABAG), the Metropolitan Transportation Commission (MTC), and the Bay Conservation and Development Commission (BCDC)) jointly sponsored a regional planning program called "FOCUS". FOCUS is a regional development and conservation strategy that links land use and transportation by encouraging the development of complete, livable communities in areas served by transit, and promotes conservation of the region's most significant resource lands. The program directs existing and future incentives to Priority Development Areas (PDAs) and Priority Conservation Areas (PCAs). PDAs are defined as locally-identified, infill development opportunity areas within existing communities that are near existing or planned fixed transit or served by comparable bus service. PCAs are defined as areas of regional significance that

have broad community support and an urgent need for protection. PCAs provide important agricultural, natural resource, historical, scenic, cultural, recreational, and/or ecological values and ecosystem functions.

Alum Rock Avenue in the relinquished segment has been identified as a PDA, as seen in Figure 2 below.[7] The Alum Rock Foothills has been identified as a PCA, refer to 'Figure 3. Environmental Factors Map' further below.[8]

Figure 3. Alum Rock Avenue Priority Development Area



Source: Google Earth

Sustainable Community Strategy

In support of linking land use with transportation, Senate Bill 375 (SB 375) was passed in 2008 and signed by then Governor Schwarzenegger. The bill requires the State's Metropolitan Transportation Organizations (MPO) to meet State-mandated greenhouse gas emission targets for automobiles and light trucks for Years 2020 and 2050. MPOs must accurately account for the environmental benefits of more compact development and reduced vehicle miles traveled. If regions develop integrated land use, housing and transportation plans that meet the emission reduction targets, new in-fill projects in these regions can be relieved of certain environmental review requirements of the California Environmental Quality Act (CEQA). The emission reduction targets apply to the 18 designated MPO regions in the State.

The currently approved Regional Transportation Plan (RTP), also known as Plan Bay Area (adopted July 18, 2013) by the Metropolitan Transportation Commission (MTC) includes a Sustainable Community Strategy (SCS) as required by SB 375. The legislation synchronizes the Regional Housing Needs Assessment (RHNA) process with the RTP process, requires local governments to rezone their General Plans consistent with the updated Housing Element within three years of adoption, and provides that RHNA (Regional Housing Needs Allocation) must be consistent with the development pattern in the SCS. The SCS lays out how greenhouse gas (GHG) emissions

[7] https://www.sanjoseca.gov/DocumentCenter/View/735, accessed September of 2015
[8] http://abag.ca.gov/priority/conservation/pdfs/Current_List_of_PCAs.pdf, accessed September of 2015

reduction targets will be met for cars and light trucks. This represents a dramatic change in how land use, transportation and future project selection will be prioritized.

California Transportation Plan

Senate Bill 391 (SB 391) of 2009 requires Caltrans to update the California Transportation Plan (CTP) by December 31, 2015 and every five years thereafter. The CTP shall identify the integrated multimodal transportation system needed to achieve maximum feasible greenhouse gas emissions reductions to 1990 levels by 2050 and 80 percent below 1990 levels by 2050 (as required by AB 32). In addition, SB 391 requires the CTP to incorporate transportation policies and system performance objectives from approved Regional Transportation Plans produced by the MPOs. Caltrans must also consult, coordinate, and make drafts of the CTP available for review and comment to the: California Transportation Commission, Strategic Growth Council, State Air Resources Board, State Energy Resources Conservation and Development Commission, Air Quality Management Districts, public transit operators, Regional Transportation Planning Agencies, MPOs and other interested parties. The current CTP was approved in June of 2016.

Smart Mobility Framework

In 2010 Caltrans introduced the concept of Smart Mobility to its Transportation Planning process and established the Smart Mobility Framework (SMF) for the State.[9] Smart Mobility is defined by moving people and freight while enhancing California's economic, environmental and human resources by emphasizing convenient and safe multimodal travel, speed suitability, accessibility, management of the circulation network, and efficient use of land. SMF is built on six principles: Location Efficiency, Reliable Mobility, Health and Safety, Environmental Stewardship, Social Equity, and Robust Economy. SMF is essentially a tool for planners to respond to the mobility needs of all users while balancing economic prosperity, environmental quality and social equity. It helps achieve the goals of reducing per capita vehicle miles traveled and addressing Climate Change challenges presented in AB 32 and SB 375.

Based on the Location Efficiency principle, SMF introduces seven "Place Types" to help inform transportation decision making. Each of the seven place types represent a distinct context where implementation of certain transportation investments, along with Planning and management strategies, will help improve location efficiency and achieve Smart Mobility benefits. Table 4 identifies the Place Types for each segment along the SR 130 Corridor and offers potential transportation programs and appropriate project ideas for each of them.

Update to Analysis of Transportation Impacts under CEQA

Governor Jerry Brown signed Senate Bill 743 (SB 743) in 2013, which creates a process to change the way that transportation impacts are analyzed under CEQA. SB 743 requires an amendment to CEQA Guidelines to provide an alternative to Level-of-Service (LOS) for evaluating transportation projects. Particularly applicable to areas served by transit, alternative criteria must promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses. Measurements of the transportation impacts may include vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated. Once the CEQA guidelines have been updated with the new criteria, auto delay will no longer be considered a significant impact under CEQA. SB 743 also creates a new exemption for certain projects that are consistent with a Specific Plan and, eliminates the need to evaluate aesthetic and parking impacts of a project, in some circumstances.

[9] Smart Mobility 2010 – A Call to Action for the New Decade, Caltrans, 2010

Table 4. Smart Mobility Framework Place Type by Segment

Segment	Place Type	Transportation Programs and Projects
1	*Suburban Communities-Neighborhoods*	*Investments that improve operational efficiency of existing arterials* *Connectivity improvements leading to shorter trip lengths and increased non-auto mode share* *Investments in Complete Streets*
2	*Suburban Communities-Neighborhoods*	*Investments that improve operation efficiency of existing arterials* *Access management and speed management on the arterial system.*
	Protected Lands	*Capacity and connectivity increase only when required* *Bicycle facility and trail projects where public access and recreational use is permitted.*

SYSTEM CHARACTERISTICS

The following sections will discuss various system characteristics of the SR 130 Corridor, including physical characteristics, bicycle facilities, pedestrian facilities, transit facilities, freight facilities, and environmental considerations.

Between 2011 and 2015, from PM 9.00 to PM 22.50, Caltrans resurfaced the pavement in a series of maintenance projects. Guardrails that were in a state of disrepair had been upgraded as part of these projects too.

Table 5. Existing and Future System Characteristics by Segment

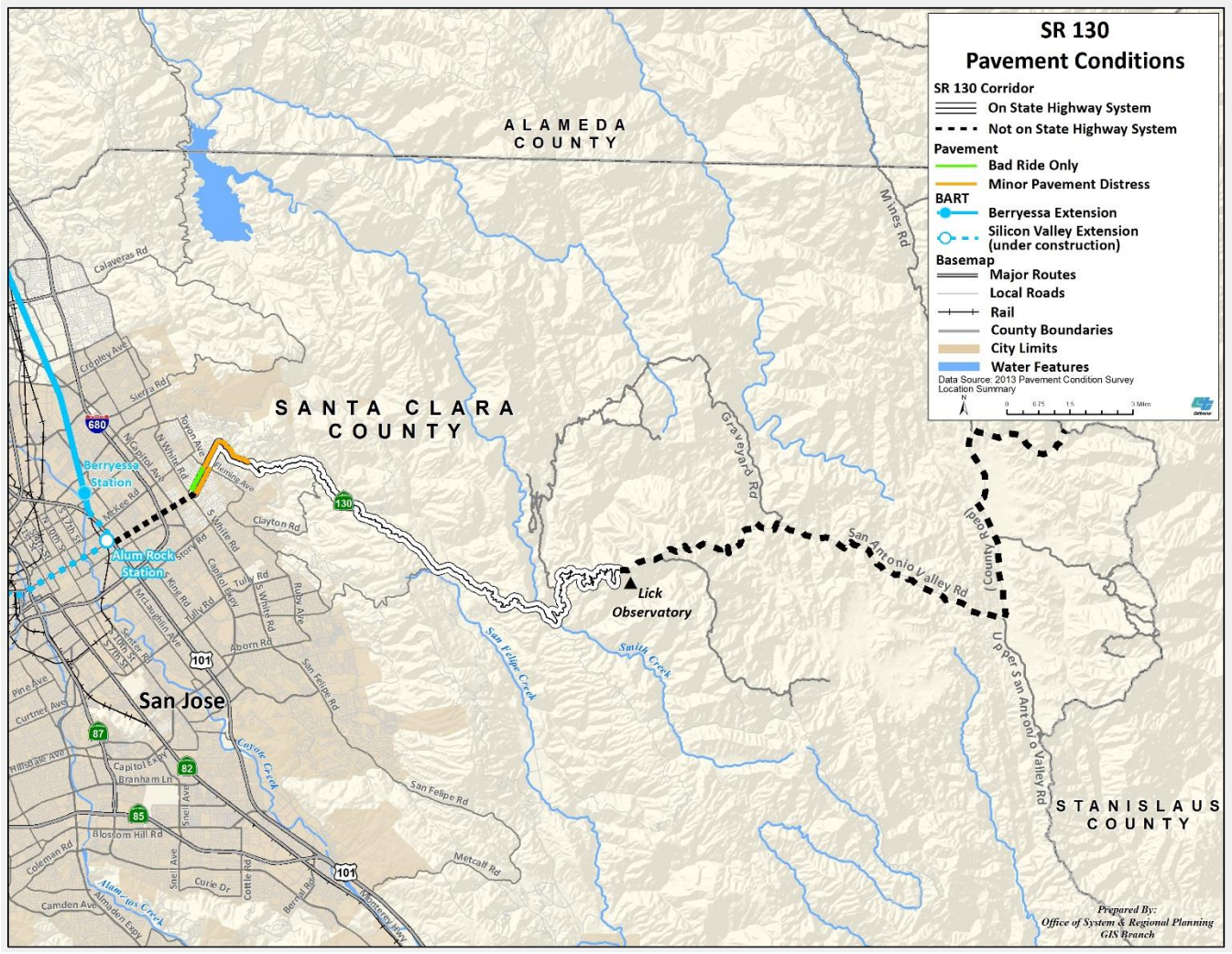
Segment #	1	**2**
Existing Facility		
Facility Type	C	C
General Purpose Lanes	2-4	2
Lane Miles	2.82	37.68
Centerline Miles	1.4	18.84
Median Width	1 ft	< 1 ft
Median Characteristics	Striped	Striped
BRT Lanes	0	0
Auxiliary Lanes	0%	0%
Passing Lanes	0	0
Truck Climbing Lanes	0	0
Current ROW	24 – 120 ft	16 – 40 ft
Concept Facility		
Facility Type	C	C
General Purpose Lanes	2-4	2
Lane Miles	2.82	37.68
Centerline Miles	1.4	18.84
Median Width	1 ft	< 1 ft
Median Characteristics	Striped	Striped
Facility Type	C	C
Aux Lanes	0%	0%
Passing Lanes	0%	0%
Truck Climbing Lanes	0%	0%
ROW Needs	24 – 120 ft	16 – 40 ft
TMS Elements		
TMS Elements (BY 2010)	Intersection Traffic Signal	n/a
TMS Elements (HY 2040)	Intersection Traffic Signal	n/a

C = Conventional Highway

The pavement conditions for the majority of SR 130 are listed in good condition. Segment 1 has a section that is "Bad Ride Only" (See Figure 4 for clarification). A portion of the Segment 1 is listed as "Minor Pavement Distress," and the remaining portion of the segment is "No Pavement Distress."

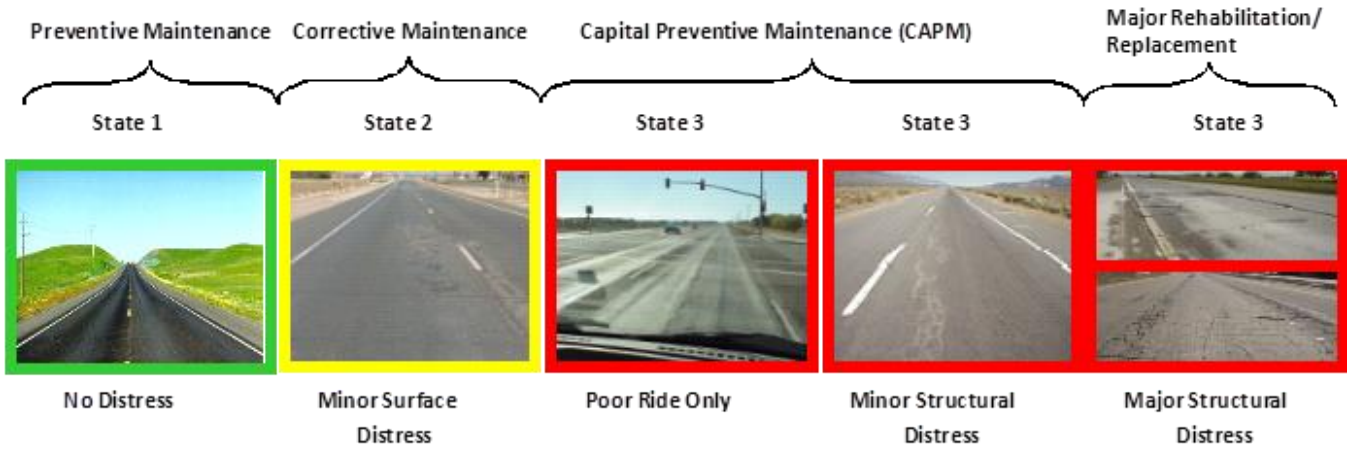
Segment 2, for the majority of the route, is classified as "No Pavement Distress" as well. Though, a small portion of the westbound lane is "Minor Pavement Distress" near the intersection of Mt Hamilton Road and Alum Rock Avenue.

Figure 4: Pavement Condition Map



The pavement conditions for a significant portion of Segment 1 receive a bad ride quality or minor pavement distress grade. As indicated in Figure 5 below, Poor Ride Only and Minor Structural Distress represent "States 3 and 4" of pavement distress levels. The corresponding treatment is called Capital Preventive Maintenance (CAPM), which should be applied to affected sections of Segment 1 on SR 130.

Figure 5: Pavement Distress Level and Corresponding Treatment



State 1: Good/excellent condition with few potholes or cracks ⇨ Preventive maintenance project

State 2: Fair condition with minor cracking or slab cracking ⇨ Corrective maintenance project

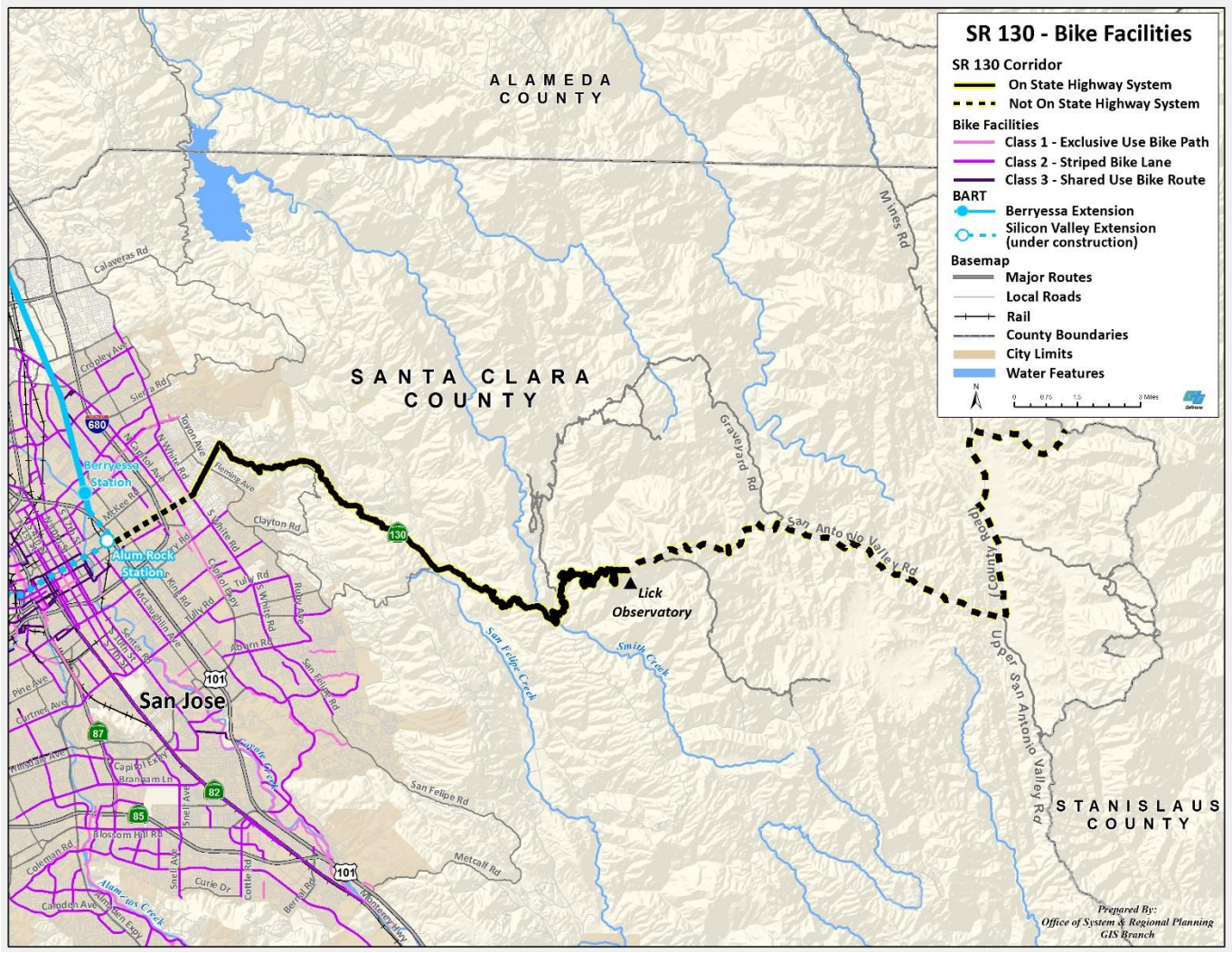
State 3: Poor condition with significant to extensive cracks or poor ride only ⇨ CAPM, rehabilitation or reconstruction project

BICYCLE FACILITY

Table 6 lists the bicycle facilities along (and adjacent) to SR 130. For discussion purposes, the SR 130 corridor is divided into two bicycle facility segments, which correspond to the two roadway segments respectively. Neither of the two segments have designated bikeways, but bicycles are permitted to share the road with other users. Segment 2 draws bicyclists to the winding, hilly highway. Strategically located turnouts provide room for vehicles to pass slower moving traffic. While SR 130 is not identified as part of the Cross County Bicycle Corridors in VTA's Countywide Bicycle Plan, many identified corridors cross SR 130. Identified corridors include:

- Ridgeline Corridor runs East-West just south of Alum Rock Avenue.
- Homestead/Hedding/Brokaw Corridor runs east-west just north of Alum Rock Ave.
- I-680 Corridor runs north-south through the Alum Rock neighborhood, with bike lanes.

Figure 6. Bicycle Facilities Map



While there are corridors that run adjacent to, parallel, and through the SR 130 route, there's an incomplete bike lane network in the surrounding area of the corridor. Opportunities for improvement consist of connecting the piecemeal bicycle lane facilities to complete an area wide network. A freeway-crossing arterial with no bikeway or shoulder exists at US 101 and Alum Rock Ave.

The City of San Jose has applied and been approved for the first cycle of One Bay Area Grant (OBAG 1) funding to develop 1.6 miles of a Class III sharrow bikeway as part of the East San Jose Bicycle/Pedestrian Transit Connection. The $2 million of OBAG funding provided by the Metropolitan Transportation Commission will construct about 60 miles of Class II and III bikeways in the City of San Jose in the 2017 timeframe, many of which will connect to Segment 1 of the SR 130 Corridor.

The *Alum Rock Avenue Bicycle and Pedestrian Trail Improvements Feasibility Study* is a collaborative effort between the City, County, and Caltrans to enhance the bicycle and pedestrian connectivity network along Alum Rock Avenue. The study is further discussed in the following Pedestrian Facility section.

Table 6. Bicycle Facilities by Segment

Segment	State Bicycle Facility									Parallel Bicycle Facility				
	Sub-Segment ID	Post Mile	Location Description	Bicycle Access Prohibited	Facility Type	Outside Paved Shoulder Width	Facility Description	Role	Posted Speed Limit	Parallel Facility Present	Seg ID	Name	Location Description	Facility Type
1	*A*	*2.26 – 3.66*	*Junction with Manning/Millar Ave's to Junction with Mt. Hamilton Rd*	*No*	*No Bikeway Designation*	*0 - 8 ft.*	*no obstacles*	*n/a*	*35 mph*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*
2	*B*	*3.66 – 22.50*	*Junction with Mt. Hamilton Rd to Lick Observatory*	*No*	*No Bikeway Designation*	*n/a*	*no obstacles*	*n/a*	*40 mph*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*

PEDESTRIAN FACILITY

Table 7, on page 24, lists the pedestrian facilities along SR 130. Similar to the Bicycle Facility section, pedestrian facilities are also divided into two segments, where Segment 1 now has three sidewalk sub-segments. Pedestrian facilities fully exist on the relinquished segment, partially exist for Segment 1, and are non-existent for Segment 2.

The relinquished segment is the most conducive to pedestrian travel as the majority of the sidewalk areas are paved, and marked crosswalks are present. There are also land use activities and amenities with which pedestrians might engage.

On Segment 1, Kirk Avenue and Fleming Avenue are part of north-south safe routes to school connections. As such, any proposed improvements at the staggered intersection of these streets with Alum Rock Avenue should include pedestrian and bicycle features.

Additionally, parallel to both Segments 1 and 2, the trail running along the ridgeline of the Diablo Range, just north of SR 130, is slated to become part of the regional Bay Area Ridge Trail, currently a 550-mile loop trail that will expand another 400 miles in the upcoming years. [10] The trail is designated as a hiking, off-road cycling, and equestrian trail.

In Sub-Segments 1C, 1D, and 1E (refer to Table 7 on page 24) the terrain is entirely flat and there exist issues of sidewalk connectivity and lack of pedestrian crossings, an issue many residents of Alum Rock Neighborhood have raised to local jurisdictions. The sidewalk connectivity on the north/west side of SR 130 on these segments is mostly intact, with small gaps in some sections. However, the south/east side of SR 130 has large gaps in the sidewalk infrastructure, and very rarely has consistency in sidewalk connectivity from block to block, an example of such portrayed below in Figures 7 and 8.

Sub-Segment 1C runs 0.35 miles, from Manning/Millar Avenues to Laumer Avenue. This sub-segment concludes at a pedestrian crossing facility that allows for pedestrians to cross north-south at Laumer Avenue, and to traverse east-west across Alum Rock Ave. There is a "School Crossing" signage that refers to the intended use of the pedestrian crosswalks to provide access to St. John Vianney School.

Sub-Segment 1D runs 0.45 miles, from Laumer Avenue to Kirk/Fleming Avenues. This sub-segment concludes at a signal controlled intersection, which includes pedestrian signalization infrastructure. At this offset four-way

[10] http://www.ridgetrail.org/, accessed June of 2016.

intersection, the pedestrian is able to traverse at two north-south locations across Alum Rock Avenue, east-west across Fleming Avenue on the south side of Alum Rock Avenue, and east-west across Kirk Avenue on the north side of Alum Rock Avenue.

Sub-Segment 1E runs 0.6 miles, from Kirk/Fleming Avenues to Mount Hamilton Road. This sub-segment concludes as SR 130 takes a right via a large radii curve onto Segment 2 of SR 130 towards Lick Observatory. There are no pedestrian crosswalk facilities.

Figure 7. Example of inconsistent pedestrian connectivity (at Sunnyslope Ave and Alum Rock Ave)

Source: Google Maps

Figure 8. Example of inconsistent pedestrian connectivity

Source: Google Maps

As of summer of 2016, Santa Clara County Department of Parks and Recreation is undergoing an Alum Rock Avenue Bicycle and Pedestrian Trail Improvements Feasibility Study, which could result in a local project to reconfigure SR 130 along Alum Rock Avenue from Manning/Millar Avenues to Mount Hamilton Road. The study development team is coordinating among the City of San Jose, the County Department of Roads and Airports, and Caltrans. Potential options include new bikeways, enhanced and new pedestrian facilities, and intersection modifications. Moving forward, the continued stakeholder coordination is critically important to project selection and implementation along the corridor.

Table 7. Pedestrian Facilities by Segment

Segment	Sub-Segment ID	Post mile	Location Description	Ped. Access Prohibited	Sidewalk Present	Sidewalk Width	Crossing Distance	Facility Description	Junction				Alt. Facility
									Location	Role	Type	Large Corner Radii	
1	C	2.26 - 2.50	Manning/Millar to Laumer Ave	No	Yes, with gaps	0 ft – 6 ft	40 ft – 70 ft	Many obstacles: unpaved sidewalks, multiple gaps in sidewalks, sidewalk non-existent on one side	Alum Rock Ave and Laumer Ave	n/a	At grade ped crossing, non-signalized	Yes	
	D	2.50 - 2.90	Laumer Ave to the Junction of Mt. Hamilton Road	No	Yes, with gaps	0 ft – 6 ft	30 ft – 120 ft	Many obstacles: unpaved sidewalks, multiple gaps in sidewalks, sidewalk non-existent on one side	Alum Rock Ave and Kirk/Fleming Aves	n/a	At grade ped crossing, non-signalized	Yes	
	E	2.90 - 3.66	Laumer Ave to the Junction of Mt. Hamilton Road	No	Yes, with gaps	0 ft – 6 ft	22 ft – 26 ft	Many obstacles: unpaved sidewalks, multiple gaps in sidewalks, sidewalk non-existent on one side	Alum Rock Ave and Mt Hamilton Rd	n/a	None	Yes	
2	F	3.66 – 22.50	Mt. Hamilton Rd. to Junction of Lick Observatory	No	No	n/a	n/a	n/a	No interchange	n/a	n/a	n/a	

TRANSIT

There is public transit that operates along the relinquished portion of SR 130, and the service is operated and maintained by VTA. Traditional bus service includes Route #522 Palo Alto Transit Center to Eastridge Transit Center, #45 Alum Rock Transit Center to Penitencia Creek Transit Center (and also operates along Segment 1), #23 DeAnza College to Alum Rock Transit Center (via Stevens Creek), and #25 DeAnza College to Alum Rock Transit Center (via Valley Medical Center). Light rail service includes Route #901 from Alum Rock to Santa Teresa. SR 130 in this vicinity was relinquished to the City of San Jose in 2011 to install independent lanes for the future operation of a Bus Rapid Transit (BRT) service, slated to begin operation in 2016. While not operating on the State Highway System, the BRT service will impact the SR 130 corridor as a whole, as it will provide a new high-capacity transit service accessible to the residents along Segment 1.

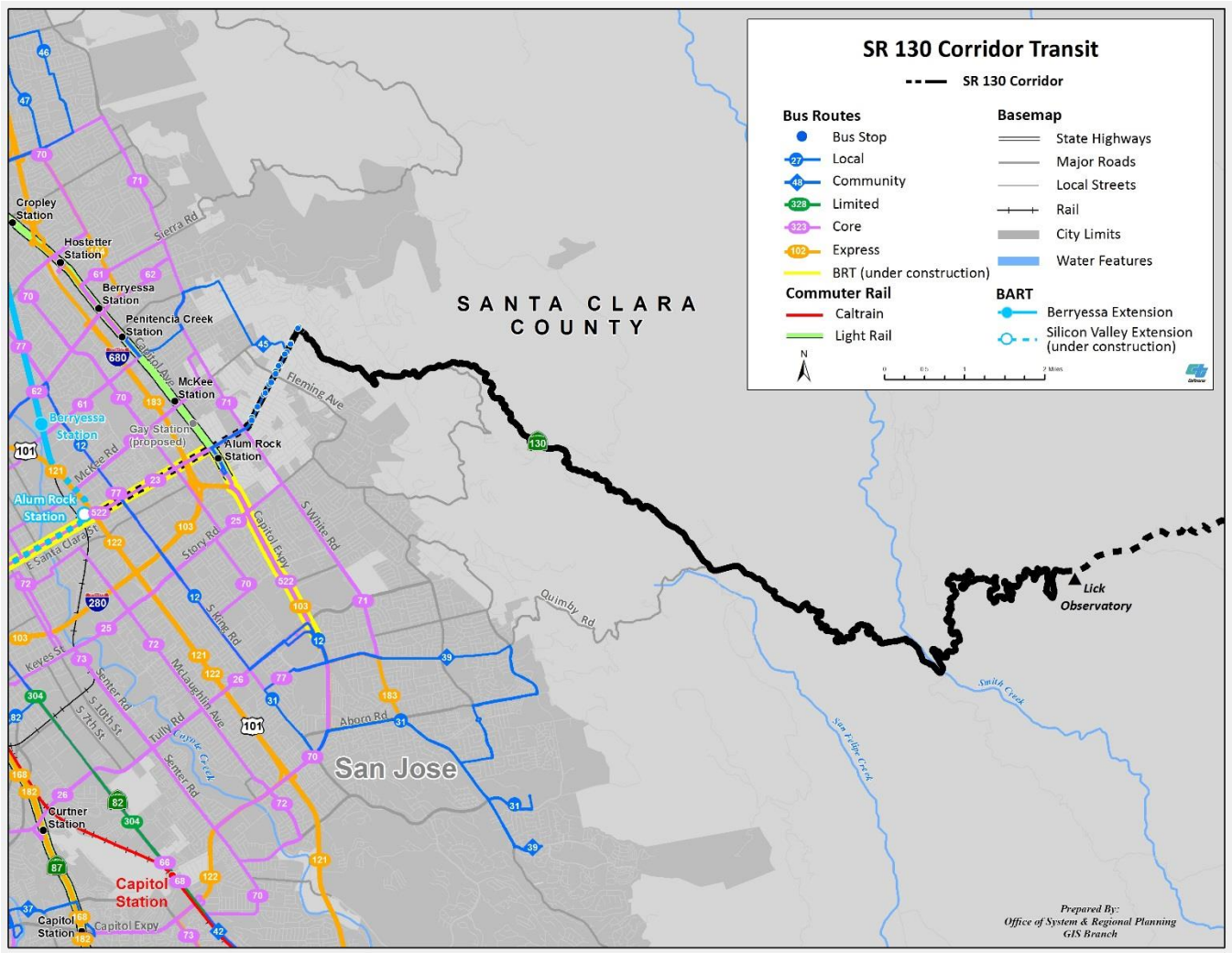
Average boarding and alighting on Bus Line 45 ranged from 0.8 to 31.5 along Segment 1 in March of 2016. VTA is currently studying possible changes to this service. Should Line 45 remain on Alum Rock Avenue between White Road (to the west) and McKee Road (to the east), Caltrans will need to coordinate on the design of the bike lanes

where they intersect with bus stops. Additionally, sidewalks at bus stops should be expanded to be a minimum of 8' wide to allow for ADA accessibility.

There is no transit service that operates on Segment 2, between Alum Rock neighborhood and Lick Observatory.

San Jose and the Bay Area Rapid Transit District (BART) are planning four station locations as part of VTA's BART Silicon Valley Extension project. The Alum Rock Station (see Figure 9) is planned to be located between US 101 and 28th Street in northeast San Jose as part of Phase II, and the station features will include a ground-level plaza, below-ground concourse and boarding platforms, bicycle storage facilities, passenger drop-off and pick-up areas, and integrated parking with development.[11] The Alum Rock BART Station is significant to the SR 130 corridor because residents of the Alum Rock neighborhood will have access to a regional transit service via multi-modal first and last mile connections, which may result in overall VMT reduction within the corridor.

Figure 9. SR 130 Transit Corridors



[11] http://www.vta.org/bart/stationsphaseII, accessed September of 2015

Table 8. Transit Facilities

Segment	Mode & Collateral Facility	Name	Route End Points	Headway	Operating Period	ITS & Technology	Stations	Amenities	Bikes Allowed on	Location Description	# Parking Spaces
							Name				
1	*Light Rail*	*Regional Transit: 901*	*Alum Rock to Santa Teresa*	*Short*	*Daily, 20 hrs*	*Transit signal priority*	*San Jose*	Park and Ride, Bicycle Parking, Bike Lockers, Lighting	*Yes*	n/a	110
	*Bus Rapid Transit***		*Santa Clara – Alum Rock*	*n/a*	*n/a*	*Transit signal priority, Real-time info*	*Alum Rock*	Park and Ride, Bicycle Parking, Bike Lockers, Lighting	*Yes*	n/a	110
							Jackson	*n/a*	*Yes*	n/a	n/a
							King	*n/a*	*Yes*	n/a	n/a
	Traditional Bus	*VTA #22*	*East ridge to Palo Alto*	*Short*	*Daily, 24 hrs*	n/a	*San Jose(multiple stops), Palo Alto (multiple stops)*	n/a	*2*	n/a	n/a
		VTA #23	*Alum Rock to De Anza College*	*Short*	*Daily, 20 hrs*	n/a	*Cupertino (multiple stops), San Jose (multiple stops)*	n/a	*2*	n/a	n/a
		VTA #45	*Alum Rock to Penitencia Creek Transit Center*	*Med*	*Daily, 12 hrs*	n/a	*4 Stops*	n/a	*2*	n/a	n/a
	Park & Ride	*VTA, Amtrak*	San Jose/Diridon Caltrain Station		*n/a*	*Real-time*	*San Jose*	Enclosed Waiting Area, Restrooms, Ticket Office		*Davis Amtrak Depot*	*581*
		VTA	Alum Rock Transit Center		*n/a*	*Real-time*	*San Jose*	*Bike Lockers, 2 Bike Racks*		*Mace Blvd.*	*110*

*Source: http://www.amtrak.com/ccurl/238/481/Amtrak-FY2014-Ridership-and-Revenue-ATK-14-096%20.pdf
**Planned service

FREIGHT

SR 130 has been designated a California Legal Advisory Route, while the relinquished segment has been classified as a California Legal Route. A Legal Advisory Route as defined, has a maximum kingpin-to-rear-axle (KPRA) of 40 feet, to use these highways. However, it is recommended that truckers not use the advisory routes unless their KPRA is less than the posted advisory length. For SR 130, the KPRA advisory length is 30 feet. Regarding traffic, trucks accounted for less than five percent of the Average Annual Daily Traffic (AADT) volume on Segment 1, and

fifteen percent of AADT on Segment 2.[12] The majority of truck traffic were smaller trucks for goods and service-related delivery to local residences and businesses. Heavy truck traffic (5+ axle) was non-existent, and 4+ axle very minimal. SR 130 connects to two other freight movement facilities, US 101 and I-680. Both I-680 and US 101 are the Surface Transportation Assistance Act (STAA) routes, which have a 40-foot KPRA maximum for two or more axles, and a 38-foot KPRA maximum for single-axle semi-trailers between 48 feet to 53 feet in length; but no recommended KPRA limit for semitrailers at or below 48 feet in length.[13] Additional truck traffic data is provided in the Corridor Performance Section.

Table 9. Freight Facilities[14]

Facility Type/Freight Generator	Location	Mode	Name
Highway	*SR 130 (Segments 1 & 2)*	*Truck*	*SR 130 (CA Legal Advisory Route)*
Highway	*US 101*	*Truck*	*National Network (STAA)*
Interstate	*I-680*	*Truck*	*National Network (STAA)*

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. The environmental factors have been categorized based on a scale of High-Medium-Low probability of an environmental resource issue and was determined by District 4 Transportation Planning staff.

Table 10 summarizes environmental resources and potential environmental issues along the Corridor. Figure 10 also shows where these resources are located. Below is a brief discussion of where environmental factors have a higher concentration and where potential issues are found within the Corridor.

- Potential Section 4(f) lands exist in Segment 2, primarily in and around Joseph D. Grant County Park and land surrounding Lick Observatory. No major development is expected along this segment, and the roadway is anticipated to remain in its current state.
- There is one historic bridge (built 1918) located in Segment 2, at Smith Creek, which intersects SR 130 near PM 15.8.
- SR 130 is located in a seismically-active area and crosses the following faults[15] (Figure 10):
    - Evergreen Fault
    - Quimby Fault
    - Hayward Fault
    - Arroyo Aguague Fault
    - Calaveras Fault (East Branch, Calaveras Section)
- Segment 1 has a handful of underground storage facilities located on or around the route, and Segment 2 has fewer located on the route.
- Species of concern found along the corridor are:
    - California Tiger Salamander

[12] 2013 Traffic Volumes on California State Highways, Caltrans, accessed September of 2015.
[13] http://www.dot.ca.gov/hq/traffops/trucks/truckmap/truck-legend.pdf, accessed September of 2015
[14] http://www.dot.ca.gov/hq/traffops/trucks/truckmap/truckmap-d04.pdf, accessed August of 2015
[15] http://www.cccarto.com/faults/sj_faults/, accessed August of 2015

- California Red-Legged Frog
- Rock Sanicle (herb)
- (According to Santa Clara County data) Stinkwort (Dittrichia Graveolens).

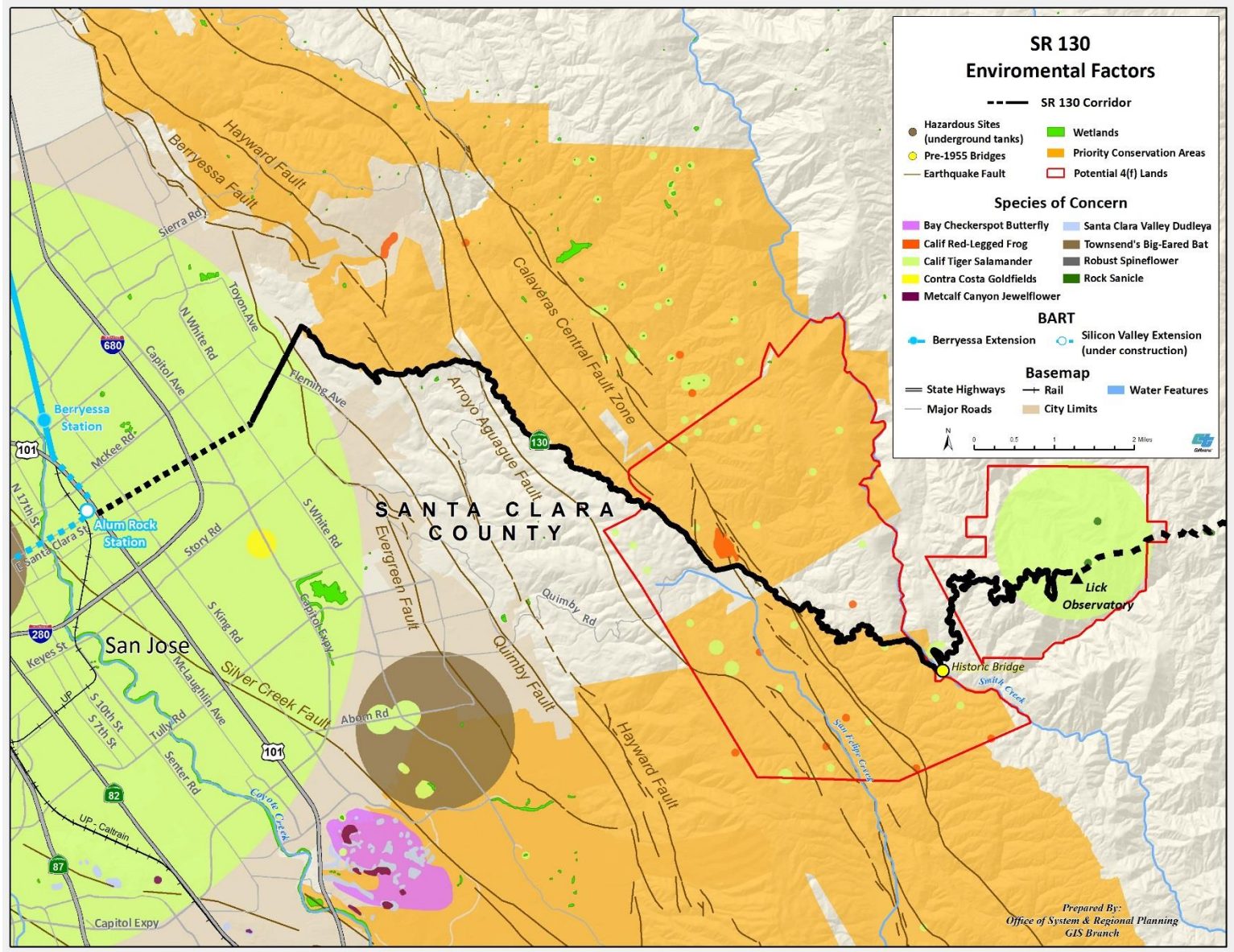
- Sensitive biological resources exist in Grant County Park and State Route 130 bisects the County Park. Therefore, vegetation on the State Route 130s right-of-way should be maintained in order to provide safe road conditions and prevent dispersal of invasive plant species.
- Several creeks/streams run either along or under SR 130, but none are wild and scenic rivers.[16] All waterways are potentially habitat for sensitive species.
- For habitat connectivity, Caltrans and the California Department of Fish and Wildlife jointly sponsored the California Essential Habitat Connectivity Project. The project identified all Essential Connectivity Areas (ECAs) in the State, which serve as principal connections between Natural Landscape Blocks within which land conservation and management actions should be prioritized to maintain and enhance ecological connectivity. Segment 2 has been identified as within an ECA. Additionally, there are no fish passage issues along the Corridor.
- The entire corridor is within the San Francisco Bay Area Air Basin, which is designated as a non-attainment area for ozone and for fine particulate matter (PM 2.5) by both the U.S. EPA and the California Air Resources Board. Additionally, PM 10 levels in the area do not meet the designations for the State ambient air quality standards.

Table 10. Environmental Factors

Seg	Section 4(f) Land	Coastal Zone	Farmland/ Timberland	Env. Justice[17]	Cultural Resources	Visual Aesthetics	Geology/Soils/ Seismic	Floodplain[18]	Climate Change and Sea Level Rise Vulnerability	Hazardous Materials	Naturally Occurring Asbestos[19]	Air Quality[20]				Noise	Waters and Wetlands	Wild and Scenic Rivers[21]	Special Status Species	Fish Passage[22]	Habitat Connectivity[23]
												Ozone	PM 2.5	PM 10	CO						
1	Low	No	Low	High	Low	Low	High	N/A	N/A	Low	Low	Non-Attainment	Non-Attainment	Non-Attainment/Unclassified	Attainment/Unclassifiable	Low	Med	N/A	N/A	N/A	Low
2	High		Med	N/A	Med	Med	High	N/A	N/A	Low	Low					Low	Med	N/A	Med	Low	High

[16] http://www.rivers.gov/california.php, accessed August of 2015
[17] https://www.sccgov.org/sites/sccphd/en-us/Partners/Data/Documents/City%20Profiles/San%20Jose%20Neighborhoods/AlumRock_neighprofilesPDF1502.pdf, accessed Sep of 2015
[18] http://msc.fema.gov/portal/search?AddressQuery=San%20Jose%2C%20CA#searchresultsanchor, accessed January of 2016
[19] http://onramp.dot.ca.gov/hq/maint/roadway_rehab/gis/nao.htm, accessed August of 2015
[20] http://arbis.arb.ca.gov/desig/adm/adm.htm, accessed September of 2015
[21] http://www.dot.ca.gov/ser/vol1/sec3/special/ch19wsrivers/chap19.htm#WildAgencies, accessed August of 2015
[22] http://www.calfish.org/ProgramsData/HabitatandBarriers/CaliforniaFishPassageAssessmentDatabase.aspx, accessed September of 2015
[23] BIOS, Essential Habitat Connectivity

Figure 10. Environmental Factors Map



CORRIDOR PERFORMANCE

Traffic performance data for SR 130 was provided by Caltrans District 4 Traffic Forecasting Branch. SR 130, in general, does not carry a very high volume of traffic. In 2010, there was no heavy truck traffic (5+ axles) measured in any of the segments.

Segments 1 and 2 serve primarily to provide *accessibility* to remote and sparsely populated areas. Although not an officially designated as a Scenic Highway, SR 130 serves as a *scenic and recreational* route in which the vistas and environment are enjoyed.

Caltrans travel demand forecasting model doesn't calculate roadway Level of Service (LOS) for SR 130. Alternative ways can be used to examine the traffic conditions of the road, however. For example, according to the Highway Capacity Manual 2010, two-lane highways have a theoretical capacity of 1,700 vehicles per hour (vph) in one

direction, with a limit of 3,200 vph for the total of both directions.[24] Under these capacity assumptions, the two-lane rural roadway in Segments 1 and 2 are operating well below capacity in both 2010 and 2040, resulting in no significant need for road widening. Additionally, according to VTA's 2014 Annual Monitoring and Conformance Report[25], a section of SR 130 (PM 6.0 – 22.5), east of Clayton Road, has been identified as a rural highway. The CMP uses the Highway Capacity Manual 2000 to analyze rural highways. Based on the Percent Time Spent Following (PTSF) other vehicles and average travel speed, this section of SR 130 operated at LOS A with a speed of 45 mph for both directions in 2012.

Overall, SR 130 is forecast to have little growth, though the relinquished segment will see an increase in traffic from base to horizon year. Given the fact that both existing and forecast volumes are within the roadway capacity, no major capacity increasing project is recommended for the Corridor. Meanwhile, the corridor management strategies should focus on maintenance and operational improvements. Timely maintenance can help preserve roadway integrity, thus capacity, and operational improvements can help maximize operational efficiency and reliability.

Table 11. Corridor Performance by Segment

Segment #	1	2
Basic System Operations		
AADT (BY 2010)	2,500	200
AADT (HY 2040)	3,000	200
AADT: Growth Rate/Year	0.66%	0%
VMT (BY)	3,700	3,800
VMT (HY)	4,900	3,800
Truck Traffic		
Total Average Annual Daily Truck Traffic (AADTT) (2010)	62	34
Total Average Annual Daily Truck Traffic (AADTT) (2040)	75	38
Total Trucks (% of AADT) (BY 2010)	2.95%	4.50%
Total Trucks (% of AADT)(HY 2040)	2.95%	4.50%
5+ Axle Average Annual Daily Truck Traffic (AADTT)(BY)	0%	0%
5+ Axle Average Annual Daily Truck Traffic (AADTT)(HY)	0%	0%
5+ Axle Trucks (as % of AADT)(BY)	0%	0%
5+ Axle Trucks (as % of AADT)(HY)	0%	0%

Source: Caltrans District 4 Project Level Forecasting Branch, August, 2015

ADDITIONAL TOPICS

Snowplow maintenance may be an occasional issue along the corridor as SR 130 is one of the two corridors in the Bay Area that shuts down for snow at the higher elevations of the route (the other is SR 17). Historically, closures take effect east of Quimby Road in the vicinity of Joseph D. Grant County Park. Caltrans is responsible for maintenance work of scraping snow and ice off the road as needed.

[24] Highway Capacity Manual 2010, Volume 2, page 15-5
[25] Santa Clara County Annual Monitoring and Conformance Report, 2014.

For Lick Observatory to continue their scientific exploration of the skies, a reduction in light pollution is necessary. The City of San Jose and eastern Santa Clara County have enacted the Dark Skies Initiative, which reduces the amount of out- and upward light pollution, implementing lighting technology that in which street lamps only enlighten the area below the lamp, not above or sideways. Lick Observatory has maintained a good relationship with San Jose, as in 1980 when Lick Observatory was included in the choice of replacing the mercury vapor street lights with low pressure sodium bulbs.[26]

KEY CORRIDOR ISSUES

COMPLETE STREETS

Caltrans Deputy Directive DD-64-R2 calls for Complete Streets to address the safety and mobility needs of all users in all Planning, programming, design, construction, operations, and maintenance activities on the State Highway System. Assembly Bill 1358 (California Complete Streets Act, 2008) also requires cities and counties to incorporate Complete Streets concepts into the development and update of local General Plans. Additional multimodal projects in the SR 130 Corridor are needed to ensure a Complete Streets environment. For example, there is a potential need for transit service (possibly paratransit) along the Corridor to aid travelers who do not or are not able to drive. No continuous sidewalks or pathways are currently present in portions of Segment 1 and the entirety of Segment 2, and there are a limited number of marked pedestrian crossings, both creating obstacles for pedestrians. No dedicated bike lanes exist in any of the segments, and bicyclists in each segment still have to share the road with motor vehicles, which may be particularly unnerving in sections of the road that don't provide adequate shoulder widths. The needs of all travelers represent a key issue when determining future improvements in the corridor.

The Santa Clara Valley Transportation Authority (VTA), in collaboration with Caltrans and the Metropolitan Transportation Commission (MTC), has developed a Complete Streets Program for Santa Clara County. The main objective of the program is to formulate a process for implementing incremental improvements to make the streets in Santa Clara County more complete through policy, education and outreach, and corridor studies. Additionally, VTA provides assistance to member agencies implementing complete streets in the areas of technical research, review of development proposals, development of specific area plans and community outreach.

CORRIDOR CONCEPT

CONCEPT RATIONALE

As discussed prior, a portion of the route has been relinquished to the City of San Jose based on the need for transit improvements. Segment 1 mainly carries local traffic, while Segment 2 primarily carries traffic to Lick Observatory and recreational bicyclists. Both of these two segments are expected to continue the same role in the future. No major development is planned along these segments and any interregional traffic is not expected to increase significantly. Along Segment 1, there remain a variety of gaps in the pedestrian network, and these gaps must be addressed for the safety of pedestrians accessing the Corridor in the future. District 4 will continue to maintain, operate and manage these segments as long as they remain under State ownership. The management strategies of Segments 1 and 2 mainly focus on maintenance.

[26] Lick Observatory and San Jose: A Model of Cooperation, https://mthamilton.ucolick.org/public/lighting/Cooperation2.html

Table 12. State Route 130 Segmentation and Concept Summary

Segment	Post Miles	Segment Description	Existing Facility	20-25 Year Capital Facility Concept	20-25 Year System Operations and Management Concept
1	SCL 130 2.26 - SCL 130 3.66	Manning/Millar Ave to Mt. Hamilton Road	2C	2C	Maintain Only
2	SCL 130 3.66 - SCL 130 22.50	Mt. Hamilton Road to Lick Observatory	2C	2C	Maintain Only

PLANNED AND PROGRAMMED PROJECTS AND STRATEGIES

Table 13. Planned or Programmed Projects along SR 130

Seg.	Post Mile	Description	Planned or Programmed	Location	Source	EA Number
1	SCL 130 4.3 - SCL 130 6.9	Repair storm damage slip-outs with a rock slope protection buttress and retaining wall.	Programmed	Near San Jose, at 0.7 and 3.3 miles east of Alum Rock Avenue.	2014 SHOPP	3J810
2	SCL 130 5.6 - SCL 130 6.0	Construct Retaining Wall	Programmed	In Santa Clara County near San Jose from 0.1 mile east of Crothers Road to 0.06 mile west of Clayton Road.	2014 SHOPP	2G990
R & 1	SCL 130 2.16 - SCL 130 3.66	East San Jose Bicycle/Pedestrian Transit Connection	Programmed	On Alum Rock Avenue from S White Road to Miguelita Road.	OBAG 1, 2012	n/a

PROJECTS AND STRATEGIES TO ACHIEVE CONCEPT

Local agencies seek Caltrans support when the City and County undertakes projects to develop Complete Streets along Segment 1. Also, Caltrans support is requested on providing high-quality signage on Segment 2 in order to encourage bicyclists & motorists to share the road.

For Segment 1, this TCR supports recommendations from the on-going Santa Clara County Parks Trail Study, and Caltrans direction is to better accommodate bicycle travel and to provide pedestrian access on both sides of Segment 1. For Segment 2, it has been suggested to Caltrans by local jurisdictions to use improved signage, to encourage bicyclists and motorists to share the road, similar to that found on North Gate Road, South Gate Road and Summit Road leading up to Mt. Diablo.

Table 14. Proposed Projects and Strategies

Segment	Description	Location
R	Support local initiative to make the segment safer for all modes	PM 0.00 – 2.26
1	Improve/develop pedestrian paths on both sides of SR 130	PM 2.26 – 3.66
1	Develop bicycle facilities along corridor	PM 2.26 – 3.66
1	Improve pavement conditions	PM 2.26 – 3.66
2	Better bicycle accommodation including high-quality signage for bicyclists and motorists to share the road	PM 2.66 – 22.50
2	Improve pavement conditions	PM 2.26 – 3.66

APPENDIX

APPENDIX A GLOSSARY OF TERMS AND ACRONYMS

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
CEC – California Energy Commission
CESA – California Endangered Species Act
CFAC – California Freight Advisory Committee
CFMP – California Freight Mobility Plan
CMA- Congestion Management Agencies
CMAQ – California 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
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
NCCP- Natural Community Conservation Plan
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
PTSF – Percent Time Spent Following
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
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.

Bikeway Class IV (Separated Bikeway/Cycle Track) – Provides for exclusive use for bicycles by separating bikeway from motor vehicle traffic.

Bottlenecks – A bottleneck is a location where traffic demand exceeds the effective carrying capacity of the roadway. In most cases, the cause of a bottleneck relates to a sudden reduction in capacity, such as a lane drop, merging and weaving, driver distractions, a surge in demand, or a combination of factors.

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.

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 fiscally 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.

Facility Concept – Describe 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.

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

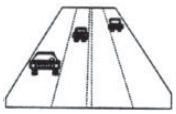
Freight Generator – Any facility, business, manufacturing plant, distribution center, industrial development, or other location (convergence of commodity and transportation system) that produces significant commodity flow, measured in tonnage, weight, carload, or truck volume.

Horizon Year – The year that the future (20-25 years) data is based on.

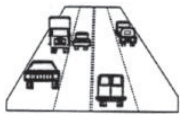
Intermodal Freight Facility – Intermodal transport requires more than one mode of transportation. An intermodal freight facility is a location where different transportation modes and networks connect and freight is transferred (or “transloaded”) from one mode, such as rail, to another, such as truck.

ITS – Intelligent Transportation System 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.

LOS – Level of Service is a qualitative measure describing operational conditions within a traffic stream and their perception by motorists. A LOS definition generally describes these conditions in terms of speed, travel time, freedom to maneuver, traffic interruption, comfort, and convenience. Six levels of LOS can generally be categorized as follows:



At **LOS A**, motorists experience high operating speeds on Class I highways and little difficulty in passing. Platoons of three or more vehicles are rare. On Class II highways, speed would be controlled primarily by roadway conditions. A small amount of platooning would be expected. On Class III highways, drivers should be able to maintain operating speeds close or equal to the free-flow speed (FFS) of the facility.



At **LOS B**, passing demand and passing capacity are balanced. On both Class I and Class II highways, the degree of platooning becomes noticeable. Some speed reductions are present on Class I highways. On

Class III highways, it becomes difficult to maintain FFS operation, but the speed reduction is still relatively small.

At **LOS** C, most vehicles are travelling in platoons. Speeds are noticeably curtailed on all three classes of highway.

At **LOS D**, platooning increases significantly. Passing demand is high on both Class I and II facilities, but passing capacity approaches zero. A high percentage vehicles are now traveling in platoons, and Percent Time Spent Following (PTSF) is quite noticeable. On Class III highways, the fall-off from FFS is now significant.

At **LOS E**, demand is approaching capacity. Passing on Class I and Class II highways is virtually impossible, and PTSF is more than 80%. Speeds are seriously curtailed. On Class III highways, speed is less than two-thirds the FFS. The lower limit of this LOS represents capacity.

At **LOS F**, exists whenever demand flow in one or both directions exceeds the capacity of the segment. Operating conditions are unstable, and heavy congestion exists on all classes of two-lane highway.

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

System Operations and Management Concept – Describe 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.

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 fiscally 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 county 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.

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.

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), 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

Segment – A portion of a facility between two points.

TDM – Transportation Demand Management programs designed to reduce or shift demand for transportation through various means, such as the use of public transportation, carpooling, telework, and alternative work hours. Transportation Demand Management strategies can be used to manage congestion during peak periods and mitigate environmental impacts.

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.

SR 130 Fact Sheet

Transportation Concept Report (TCR) is a Caltrans System Planning Document that:

- **Evaluates current and projected conditions along a route**
- **Provides a long range 25-year concept or vision for a route**
- **Communicates that vision for future development of a route**

State Route 130 TCR:

For the purpose of this TCR, SR 130 is located entirely within unincorporated Santa Clara County at the junction of Manning/Millar Avenue/SR 130 and ends at Lick Observatory on Mount Hamilton Road. Originally, Caltrans owned and operated the highway from the junction of US 101/SR 130 to Lick Observatory, but 2.26 miles of Alum Rock Avenue were relinquished to the City of San Jose in 2011. The first segment, from Manning/Millar Avenues to Mount Hamilton Road, is primarily a 2-lane road that runs through the residential community of Alum Rock. The second segment, from the Junction of Alum Rock Avenue and Mount Hamilton Road, is a 2-lane road that meanders heavily through open space to Lick Observatory. Regarding freight, the relinquished segment of SR 130 is a CA Legal Route and Segments 1 and 2 are both a CA Legal Advisory Route.

Route Segmentation

Segment #	Begin PM and Street	End PM and Street
1	2.26 Manning/Millar Avenues	3.66 Mount Hamilton Road
2	3.66 Mount Hamilton Road	22.50 Lick Observatory

Existing Conditions — 2015 Traffic Volumes*

Segment #	1	2
Basic System Operations		
AADT (2010)	2,500	200
AADT (2040)	3,000	200
AADT: Growth Rate/Year	0.66%	0%
VMT (2010)	3,700	3,800
VMT (2040)	4,900	3,800
Truck Traffic		
Total Average Annual Daily Truck Traffic (AADTT) (2010)	62	34
Total Average Annual Daily Truck Traffic (AADTT) (2040)	75	38
Total Trucks (% of AADT) (2010)	2.95%	4.50%
Total Trucks (% of AADT)(2040)	2.95%	4.50%
5+ Axle Average Annual Daily Truck Traffic (AADTT) (2010)	0%	0%
5+ Axle Average Annual Daily Truck Traffic (AADTT) (2040)	0%	0%
5+ Axle Trucks (as % of AADT)(2010)	0%	0%
5+ Axle Trucks (as % of AADT)(2040)	0%	0%

* Caltrans Traffic Data Branch

continued on the back

SR 130 Fact Sheet

Projects/Plans

VTA Bus Rapid Transit Program
Santa Clara/Alum Rock BRT: Project constructs enhancement in the County's highest ridership corridor, including two miles of dedicated lanes on the eastern half of the corridor and mixed flow operations in the western segments. The project will provide 7 miles of limited-stop service from the Eastridge Transit Center to the Arena Station in downtown San Jose using the Capitol Expressway, Alum Rock Ave, and Santa Clara Street. Construction to occur between 2014 through 2016 and revenue service to begin in late 2016.

Envision San Jose 2040 General Plan
Alum Rock Avenue/Santa Clara Street/The Alameda Grand Boulevard, one of seven corridors in San Jose appointed this designation. Because of their importance and location as major transportation routes, and because of the land uses they support, these Grand Boulevards play an important role in shaping the City's image for its residents, workers, and visitors and have the potential to act as major urban design elements at a citywide scale.

Alum Rock BART

The City of San Jose and Bay Area Rapid Transit (BART) are planning four stations as part of VTA's BART Silicon Valley Extension project. The Alum Rock station is planned between US 101 and 28th Street in northeast San Jose. As part of Phase II, the station features will include a ground-level plaza, below-ground concourse and boarding platforms, bicycle storage facilities, passenger drop-off and pick-up areas, and integrated parking.

Corridor Specific Issues

- Narrow and curvy road in mountainous area, resulting in road challenges between motor vehicles, motorcycles and bikes
- Gaps in bicycle and pedestrian facilities along the corridor

For questions regarding the SR-130 TCR, please contact D4 Transportation Planner **Dylan Grabowski** at 510-286-6304 or email at dylan.grabowski@dot.ca.gov

APPENDIX C RESOURCES

Association of Bay Area Governments, FOCUS
http://www.bayareavision.org/initiatives/index.html
Bay Conservancy & Development Commission
http://www.bcdc.ca.gov
California Department of Fish and Game, California Natural Diversity Database, Quickviewer
http://imaps.dfg.ca.gov/viewers/cnddb_quickviewer/app.asp
California Department of Fish and Game, Biogeographic Information and Observation System (BIOS)
http://imaps.dfg.ca.gov/viewers/biospublic/app.asp
California Natural Diversity Database (CNDD)
http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/TEAnimals.pdf
California Department of Transportation, 2010 Smart Mobility Handbook, Ch 3: Applying the Smart Mobility to Place Types
http://www.dot.ca.gov/hq/tpp/offices/ocp/smf_files/SmMblty_v6-3.22.10_150DPI.pdf
California Department of Transportation District 4, Highway Operations Division, Park and ride
http://www.dot.ca.gov/dist4/highwayops/parkandride/documents/park_ride_lots_master_list_12_14_09.pdf
California Department of Transportation, Division of Transportation System Information, California Road System ((CRS) Maps 05M34, 05M35, 05M45 and 06M41
http://dot.ca.gov/hq/tsip/hseb/crs_maps/
California Department of Transportation, Interregional Transportation Strategic Plan (ITSP), June 1998
http://www.dot.ca.gov/hq/transprog/ocip/te/itsp.pdf
California Department of Transportation, California Scenic Highway Program
http://www.dot.ca.gov/hq/LandArch/scenic_highways/scenic_hwy.htm
California Department of Transportation, Traffic Noise Protocol dated March 2011
http://www.dot.ca.gov/hq/env/noise/pub/ca_tnap_may2011.pdf
California, Department of Transportation, Traffic Operations Division, Traffic Data Branch, Traffic Volumes and Truck Traffic
http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/index.htm
California Department of Transportation, Truck Network on California State Highways, District 4 Map 1 of 1,
http://www.dot.ca.gov/hq/traffops/trucks/truckmap/truckmap-d04.pdf
California Department of Transportation, Truck Map Legend Truck Lengths and Routes,
http://www.dot.ca.gov/hq/traffops/trucks/truckmap/truck-legend.pdf
The California Environmental Protection Agency (CEPA), Air Resources Board (ARB) State Area Designation Maps: Maps, Ozone: http://www.arb.ca.gov/desig/adm/2011/state_o3.pdf
The California Environmental Protection Agency (CEPA), Air Resources Board (ARB) State Area Designation Maps, PM2.5: http://www.arb.ca.gov/desig/adm/2011/state_pm25.pdf
The California Environmental Protection Agency (CEPA), Air Resources Board (ARB) State Area Designation Maps, PM 10: http://www.arb.ca.gov/desig/adm/2011/state_pm10.pdf
The California Environmental Protection Agency (CEPA), Air Resources Board (ARB) State Area Designation Maps, Carbon Monoxide: http://www.arb.ca.gov/desig/adm/2011/state_co.pdf
The California Environmental Protection Agency (CEPA), Air Resources Board (ARB) National Area Designation Maps, 8 Hour Ozone: http://www.arb.ca.gov/desig/adm/2011/fed_o3.pdf
The California Environmental Protection Agency (CEPA), Air Resources Board (ARB) National Area Designation Maps, PM 2.5: http://www.arb.ca.gov/desig/adm/2011/fed_pm25.pdf
The California Environmental Protection Agency (CEPA), Air Resources Board (ARB) National Area Designation Maps, PM 10: http://www.arb.ca.gov/desig/adm/2011/fed_pm10.pdf
The California Environmental Protection Agency (CEPA), Air Resources Board (ARB) National Area Designation Maps, Carbon Monoxide: http://www.arb.ca.gov/desig/adm/2011/fed_co.pdf
The California Streets and Highways Code, Division 1, Chapter 2, Article 3; The State Highway Routes, Section 309
http://www.leginfo.ca.gov/cgi-bin/displaycode?section=shc&group=00001-01000&file=300-635
California Sea-Level Rise Interim Guidance Document
http://opc.ca.gov/webmaster/ftp/pdf/agenda_items/20110311/12.SLR_Resolution/SLR-Guidance-Document.pdf
The City of San Jose, General Plan
https://www.sanjoseca.gov/DocumentCenter/Home/View/474
The Santa Clara Valley Transportation Authority, Bus and Rail Map
http://www.vta.org/schedules/schedules_bymap.html

The Santa Clara Valley Transportation Authority, Congestion Management Program
http://www.vta.org/cmp/
The Santa Clara Valley Transportation Authority, Countywide Bicycle Plan
http://www.vta.org/schedules/bikeways_plan.html
The Santa Clara Valley Transportation Authority, Valley Transportation Plan 2040
http://www.vta.org/vtp/index.html
The Town of Los Gatos, General Plan
http://www.losgatosca.gov/index.aspx?nid=27
U.S. Census Bureau, United States Census 2010, State & County Quickfacts
http://quickfacts.census.gov/qfd/states/06000.html
U.S. Census Bureau, United States Census 2010, Community Facts
http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml
United State Geological Survey, Liquefaction Hazard Map,
http://earthquake.usgs.gov/regional/nca/qmap/